ENTERED

DEPARTMENT OF THE AIR FORCE
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CANNON AIR FORCE BASE NEW MEXICO

27 September 2013

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RECEIVED

SEP 30 2013

Hazardous Waste Bureau

Mr. Daniel Comeau
Hazardous Waste Bureau
New Mexico Environment Department
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Dear Mr. Comeau,

Attached is an updated Final *Comprehensive Site Evaluation (CSE) Phase II Military Munitions Response Program (MMRP) Report.* This report is being sent with updated appendices containing information regarding the public notice for the Munitions Response Site Prioritization Protocol (MRSPP). If you have any questions regarding this submittal, please contact Ms. Laura Peters, Restoration Program Manager at (575) 784-0490.

Sincerely

Laura Peters

Laura Peters
Environmental Restoration Manager

Attachment:
CSE Phase II MMRP Report

Prepared for:

US Air Force

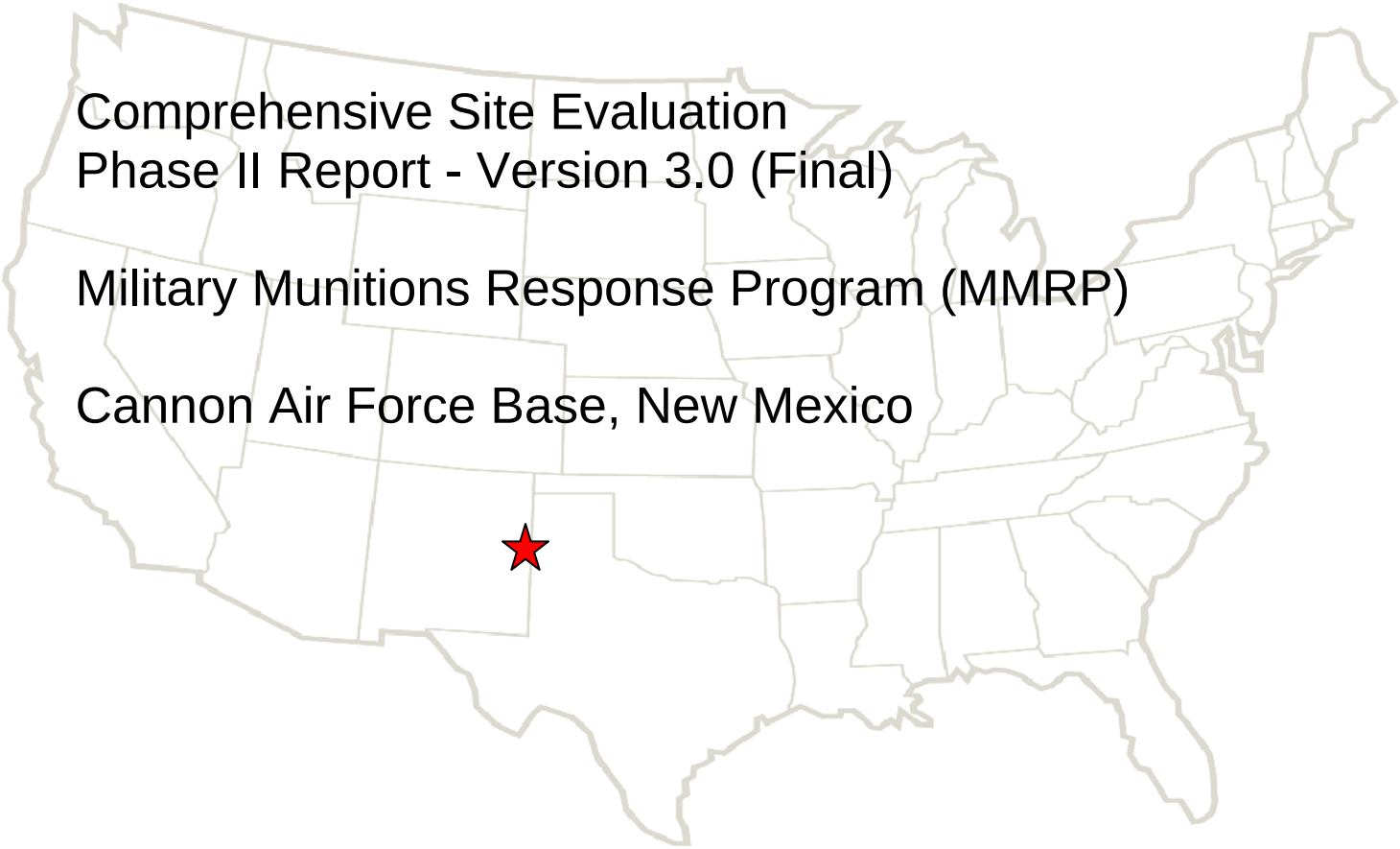
Prepared by:

US Army Corps of Engineers®
Omaha District

Comprehensive Site Evaluation
Phase II Report - Version 3.0 (Final)

Military Munitions Response Program (MMRP)

Cannon Air Force Base, New Mexico



September 2013

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Comprehensive Site Evaluation
Phase II Report
Version 3.0 (Final)

Military Munitions Response Program

Cannon Air Force Base, New Mexico

Prepared for:

Headquarters, Air Force Special Operations Command

Prepared by:
U. S. Army Corps of Engineers, Omaha District (USACE)

With support from:
Versar, Inc.
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Under USACE-Omaha Contract:
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1.0 INTRODUCTION

In support of the Military Munitions Response Program (MMRP) a Comprehensive Site Evaluation (CSE) Phase II was performed at Cannon Air Force Base (AFB). The goal of the U.S. Air Force (USAF) MMRP is to make Munitions Response Areas (MRAs) safe for reuse and to protect human health and the environment in the process. The MMRP addresses issues related to munitions and explosives of concern (MEC) and munitions constituents (MC) associated with MRAs, as well as related hazardous substances, pollutants, and potential contaminants of concern on other operational ranges. The MRA for Cannon AFB is presented on Figure 1-1.

1.1 Purpose

The USAF developed the CSE concept from existing data acquisition methods and data analysis, tracking, and reporting tools to serve as the initial site assessment [Comprehensive Environmental Restoration, Compensation, and Liability Act (CERCLA) Preliminary Assessment/Site Investigation (PA/SI)] for sites covered under the MMRP. The CSE is a holistic approach to munitions response and environmental restoration that assesses the unique challenges faced at MRAs, including explosives safety issues posed by MEC and associated releases of MC [e.g., hazardous substances; pollutants; contaminants; and petroleum, oil, and lubricants (POL)] to the environment. An MRA is defined as any area on a defense site that is known or suspected to contain MEC [including unexploded ordnance (UXO), discarded military munitions (DMM), and MC in high enough concentrations to pose an explosive hazard] or MC (e.g., former ranges or munitions burial areas). Based on information gathered during the CSE Phase II and depending on site-specific factors, each MRA may be designated as a single munitions response site (MRS), or it may be subdivided for the purposes of evaluation and response into multiple MRSs.

MRSs represent discrete locations within an MRA that, based on investigation or historical records, are known or suspected to contain MEC and/or MC and require a munitions response. Subdividing MRAs into multiple MRSs allows for more efficient characterization so that munitions responses specific to local conditions can be conducted.

The CSE process provides the historical, anecdotal, visual, analytical, and geophysical data that serves as the basis for USAF decision-making regarding follow-on munitions response actions. The CSE is conducted in two distinct phases: CSE Phase I generally will consist of historical records reviews (HRR) including aerial photographs, visual surveys, and interviews; CSE Phase II generally will consist of additional detailed visual surveys, environmental sampling, and geophysical surveys. The CSE Phase I and Phase II investigations differ from the traditional CERCLA PA and SI, however, with respect to data requirements. PA and SI activities primarily are focused on obtaining data to input into the Department of Defense (DoD) MRS Prioritization Protocol (MRSPP) and site-sequencing for cleanup. The CSE process utilizes an expanded array of analytical, tracking, and reporting tools to support decision-making, and therefore, has greater data requirements. Tools utilized as part of the CSE include:

- Conceptual site model (CSM) for project communication, hazard assessment, and data gap analysis;
- MRSPP to prioritize sites for further munitions response actions, based on relative risk;
- Hazard Ranking System (HRS) data elements;
- USAF Enterprise Environmental Safety and Occupational Health Management Information System (EESOH-MIS) Data Management Tool (DMT) for a range of program management functions, including data calls and audits; and
- Remedial Action Cost Engineering Requirements (RACER), MMRP Module for estimating the costs of future munitions response actions.

The objectives of this Cannon AFB CSE Phase II effort are to determine whether the single individual MRA within Cannon AFB warrants additional munitions response activities, definition as an MRS, or documentation for no further action (NFA) decisions.

1.2 Project Data Quality Objectives

The Data Quality Objectives (DQOs) for this investigation are based on data requirements specified in *Air Force Guide for Conducting the CSE Phase II at Air Force MRAs (Version 4.0)* (USAF, 2006) for completion of Phase II investigations. Collected data have been used to complete the EESOH-MIS and RACER DMT worksheets, presented in Appendices J and K.

1.3 Project Management

This CSE Phase II Report has been prepared by Versar, Inc. (Versar) for the Air Force Center for Engineering and the Environment (AFCEE) as well as the Air Force Special Operations Command (AFSOC) as part of the requirements of the U.S. Army Corps of Engineers (USACE), Omaha District Contract Number W9128F-08-D-0027, Task Order 0006. The USACE Project Manager is Mr. Glenn Marks, Project Management Professional (PMP).

1.4 Project Scope

One MRA was identified at Cannon AFB based on the *Modified CSE Phase I Report* (USACE, 2009). Data gaps (MC contamination, potential for off-site impacts, etc.) were identified for this MRA – the 1940s Skeet Range (SR). In addition, three components of the Cannon AFB Modified CSE Phase I were deferred to the CSE Phase II including the CSM, the MRSPP scoring elements, and the HRS scoring elements. The resulting Scope of Work (SOW), Proposed CSE Phase II Activities, and Proposed Path Forward for the MRA are summarized in Table 1-1.

Legend

MRA Boundary

Cannon AFB Boundary

Note: Imagery © 2011 Microsoft Corporation
Available Exclusivly by DigitalGlobe, Aquisition date: Oct- Dec 2010.

N

0 700 1,400 2,800 Feet

U.S. ARMY CORPS OF ENGINEERS

OMAHA DISTRICT

DESIGNED: D. Feiertag	DATE: 08/09/2011
DRAWN: A. Ryder	DATE: 08/09/2011

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SPRINGFIELD, VIRGINIA 22151
(703)750-3000

Military Munitions Response Program

Former 1940's Skeet Range - TS835 -

MRA Site Location

Cannon AFB, NM

PROJECT NO. - FIGURE: 1-1

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Table 1-1: Data Requirements for Cannon AFB CSE Phase II Activities

MRA	Scope	Proposed CSE Phase II Activities	Potential Results and Proposed Path Forward
1940s SR (TS835)	Evaluate whether site constituents of concern, including lead and PAHs, are present above applicable screening or regulatory levels.	Perform a visual survey of the MRA to evaluate the location and features of the site. Conduct on-site XRF analysis of surface and subsurface soil to evaluate if lead is present above the 400 ppm screening level at the SR. If lead is present above this level, delineate the lateral and vertical extent of these elevated lead concentrations. Correlate the XRF analysis with off-site laboratory analysis. Where there is evidence of clay target debris, conduct off-site laboratory analysis of soil to evaluate if PAHs are present above their respective screening levels. If PAHs are present above these levels, delineate the lateral and vertical extent of the clay target fragments. In areas of the site where no clay targets are present, no PAH sampling will be conducted.	If lead or PAHs are present above screening levels, recommend appropriate response actions. If lead and PAHs are not present above screening levels, propose NFA. Data collected in the field will be used to support the site CSM, MRSPP, and HRS. In addition, data will be used to populate the EESOH-MIS and RACER databases.

AFB = Air Force Base
CSE = Comprehensive Site Evaluation
CSM = Conceptual Site Model
EESOH-MIS = Enterprise Environmental, Safety, and Occupational Health Management Information System
HRS = Hazard Ranking System
MRA = Munitions Response Area
MRSPP = Munitions Response Site Prioritization Protocol
NFA = No Further Action
PAH = polynuclear (or polycyclic) aromatic hydrocarbons
ppm = parts per million
RACER = Remedial Action Cost Engineering Requirements
SR = skeet range
XRF = X-ray fluorescence

1.5 Report Organization

This report is composed of 14 sections as follows:

- **Section 1.0 – Introduction:** This section presents the introduction, objectives, and organization of this report.
- **Section 2.0 – Installation Background:** This section describes the history of activities and the physical description for Cannon AFB.
- **Section 3.0 – Physical and Environmental Setting:** This section describes the physical characteristics of Cannon AFB.
- **Section 4.0 – Investigation Scope and Approach:** This section describes the scope of work completed during the CSE Phase II and the procedures followed.
- **Section 5.0 – Munitions Response Site Characteristics:** This section describes the Cannon AFB MRA and presents the results of the CSE Phase II field effort.
- **Section 6.0 – Evaluation of Known/Suspected Munitions and Explosives of Concern:** This section describes the sources, release mechanisms, and associated MC for MEC at Cannon AFB.
- **Section 7.0 – Evaluation of Hazardous Waste/Substances:** This section summarizes the sources of hazardous waste/substance contamination at Cannon AFB.
- **Section 8.0 – Conceptual Site Model:** This section describes the CSM that was developed for Cannon AFB and evaluates the media and transport mechanisms associated with the potential MEC/MC present.
- **Section 9.0 – Screening Level Human Health Risk Assessment:** This section presents a qualitative assessment of the analytical data collected during the CSE Phase II to evaluate potential risks to human health.
- **Section 10.0 – Screening Level Ecological Risk Assessment:** This section presents a qualitative assessment of the analytical data collected during the CSE Phase II to evaluate potential risks to ecological receptors.
- **Section 11.0 – Munitions Response Site Prioritization Protocol:** This section presents the Explosive Hazard Evaluation (EHE), Chemical Warfare Material Hazard Evaluation (CHE), and Health Hazard Evaluation (HHE) scores and overall MRS Priority ratings for the Cannon AFB MRA/MRS.
- **Section 12.0 – Perchlorate Reporting:** Perchlorate sampling was not conducted under the CSE Phase II at Cannon AFB; although Cannon AFB has previously analyzed drinking water, soil, and surface water for perchlorate. No perchlorate sources were identified at this MRA.
- **Section 13.0 – Summary and Conclusions**
- **Section 14.0 – Recommendations**

Tables and figures are embedded in the text where first referenced. The appendices are provided consistent with the standard CSE Phase II report format outline provided in the CSE Phase II Work Plan. Definitions are presented in Appendix A, acronyms are located in Appendix B and references are contained in Appendix C. Supporting documentation from the field work (e.g., photos and forms/notes) is contained in Appendices D and E. Appendix F contains the Ordnance Technical Data Sheets. Appendix G contains off-site laboratory analytical data (on CD), and Appendix H contains hardcopies of the Data Validation Reports. Appendix I contains the Background Study and Site-to-Background Comparisons. Appendices J, K, and L contain the MRSPP tables, and RACER and EESOH-MIS Data Input Worksheets. Documentation of public participation support is provided in Appendix M.

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2.0 INSTALLATION BACKGROUND

This section presents background information on Cannon AFB and the MRA, in addition to background information that supported the implementation of the CSE Phase II effort presented in this report.

2.1 Location and Setting

Cannon AFB is located in Curry County, New Mexico, about 8 miles west of the City of Clovis, 12 miles north of the City of Portales, and 190 miles east-southeast of the City of Albuquerque (Figure 2-1). It is situated in New Mexico's high plains, near the Texas Panhandle. US Route 60/84 runs east-west and passes through the north end of the Base. Curry Road 7/Route 467 runs east-west just south of the Base. Cannon AFB is bordered to the east by Curry Road P and to the west by Curry Road R.

The Base is situated on 3,789 acres (5.9 square miles) of federally-owned land. Buildings and administrative areas are generally found in the northern portion of the Base, while the southern portion is comprised mainly of access roads and the flight line. Whispering Winds Golf Club is located in the northern portion of the Base. Off-base facilities include the Melrose Air Force Range (formerly Melrose Bombing Range), about 24 miles west-southwest of the Base, and the Conchas Lake Recreation Annex, about 80 miles northwest of the Base. The Melrose Range is the primary training range for Cannon AFB. It is located on approximately 60,010 acres and is currently active.

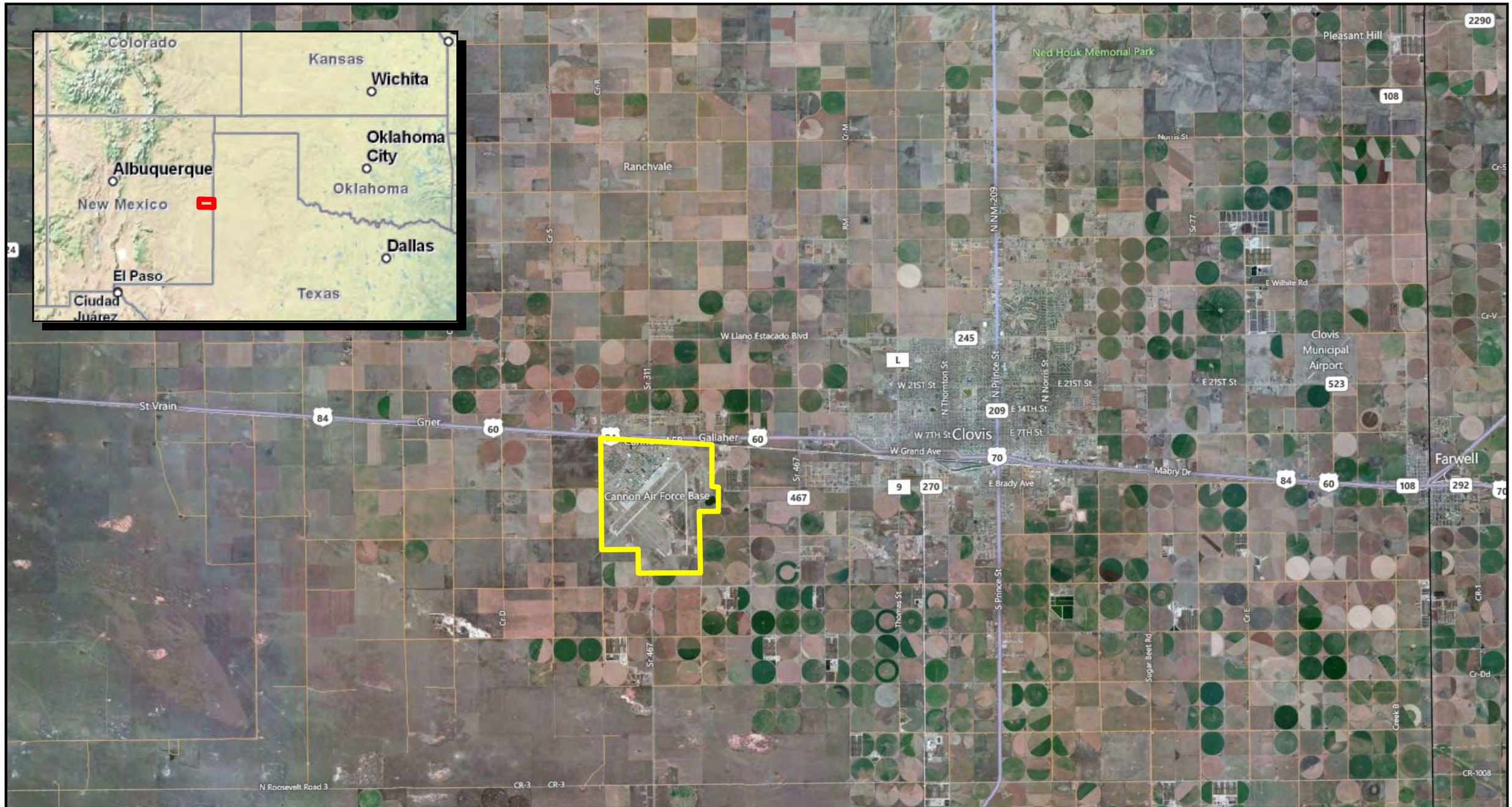
2.2 Installation Mission and Operational History

The history of Cannon AFB began in 1929 with the establishment of Portair Field (later Clovis Municipal Airport), a civilian passenger terminal for early commercial transcontinental flights. The Army Air Corps took control of the site in 1942, and it became known as Clovis Army Air Base (renamed Clovis Army Air Field in 1945, and later Clovis AFB). Through the end of World War II, the Base was used for flying, bombing, and gunnery classes. It was placed on reduced operational status in mid-1946 and flying activity decreased. The installation was deactivated in 1947. Up until that point, aircraft at Cannon AFB included B-17, B-24, and B-29 heavy bombers.

The Base was reassigned to the Tactical Air Command in mid-1951 and was reactivated later that year. Between 1951 and 1957, aircraft at the Base included the P-51 "Mustang" and F-86 "Sabre" fighter jets. The Base became a permanent installation in June 1957 and renamed Cannon AFB in honor of the late General John K. Cannon, a former commander of the Tactical Air Command. In 1959, the 312th Tactical Fighter Wing (TFW) was deactivated and replaced by the 27th TFW (which, by the mid-1970s, had become the principle USAF unit at Cannon AFB). In 1965, the Base's mission changed to that of a replacement training unit. Until recently, the function and operations of Cannon AFB has remained relatively unchanged.

In May 2005, the Secretary of Defense (SECDEF) recommended the closure of Cannon AFB to the Base Realignment and Closure Commission. The Commission's subsequent September 2005 final report to the President recommended that the Base remain open as an enclave until at least 31 December 2009 (or until a new mission was found) and that the 27th TFW be disestablished. The SECDEF designated Special Operations as the new mission at Cannon AFB on 19 June 2006, and the 27th SOW was activated under the control of AFSOC.

The AFSOC mission provides USAF Special Operations Forces (SOF) for worldwide deployment and assignment to regional unified commands. The AFSOC's core tasks have been grouped into four mission areas: forward presence and engagement, information operations, precision employment and strike, and SOF mobility. The 27th SOW is the host unit at Cannon AFB. It supports the USAF component of unified command, conducting sensitive special operations missions in response to SECDEF taskings.



Legend

Cannon AFB Boundary

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0 1 2 4 Miles

U.S. ARMY CORPS OF ENGINEERS

OMAHA DISTRICT

DESIGNED: D. Feiertag	DATE: 08/09/2011
DRAWN: A. Ryder	DATE: 08/09/2011

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Military Munitions Response Program

Cannon AFB Location Map

Cannon AFB, NM

PROJECT NO. - FIGURE: 2-1

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2.3 Summary of Munitions-Related Activities

Munitions-related activities have historically been conducted, and are currently being conducted, at Cannon AFB. Many of these were associated with the historical use of the base and adjacent range areas, beginning in 1942 with flying, bombing, and gunnery classes. Eighteen (18) potential MRAs were identified during completion of the off-site HRR and onsite records review for the Modified CSE Phase I at Cannon AFB. One additional potential MRA, the Munitions Debris Discovery Area, was identified in early 2009 at the time of the CSE Phase I field effort. Most of these potential MRAs are either active; involved indoor operation; or located off-site, such as at Formerly Used Defense Site (FUDS) properties; or previously achieved regulatory closure. Sites which have previously achieved closure under a separate regulatory program are not eligible for further investigation under the USAF MMRP. These MRAs were identified and discussed in detail in Section 2.3 of the Phase I Report.

Based on an evaluation of the site conditions and historical information for these sites, during the CSE Phase I field effort, only two (2) sites were further evaluated: the Former Chemical Warfare Area and the 1940s SR. After the CSE Phase I, the Former Chemical Warfare Area was not retained for further evaluation under the MMRP, as no evidence of MEC or CWM was observed and the site has been redeveloped as a parking lot. The 1940s SR was retained for further evaluation under the MMRP CSE Phase II as MRA TS835, as it was determined there is a potential for environmental impacts from MC to have occurred at this MRA. Table 2-1 summarizes the dates of operations and potential munitions used at the 1940s SR.

Table 2-1: Summary of Munitions Used at TS835 - Cannon AFB 1940s SR

Range or Facility	Dates of Operations	Known or Suspected Munitions Use
TS835 (1940s SR)	At least 1943 to at least 1946	Known = none identified Suspected = 12-, 16-, or 20-gauge shotgun with shells containing lead shot

2.3.1 Special Considerations

In addition to conventional ordnance contamination, the Modified CSE Phase I also examined Cannon AFB for the presence of special consideration MEC (i.e., Chemical Warfare Materiel [CWM] and depleted uranium [DU]). CWM was likely used at the Former Chemical Warfare Area situated across the Base to the west of TS835; however, no indications of special consideration MEC were discovered during the Phase I site visits, and the area has been completely renovated and paved over with a parking lot and several adjacent buildings. This area was the only other potential MRA site, in addition to TS835, evaluated further during the CSE Phase I field effort at Cannon AFB. Therefore, it has been determined that no CWM or DU is associated with TS835.

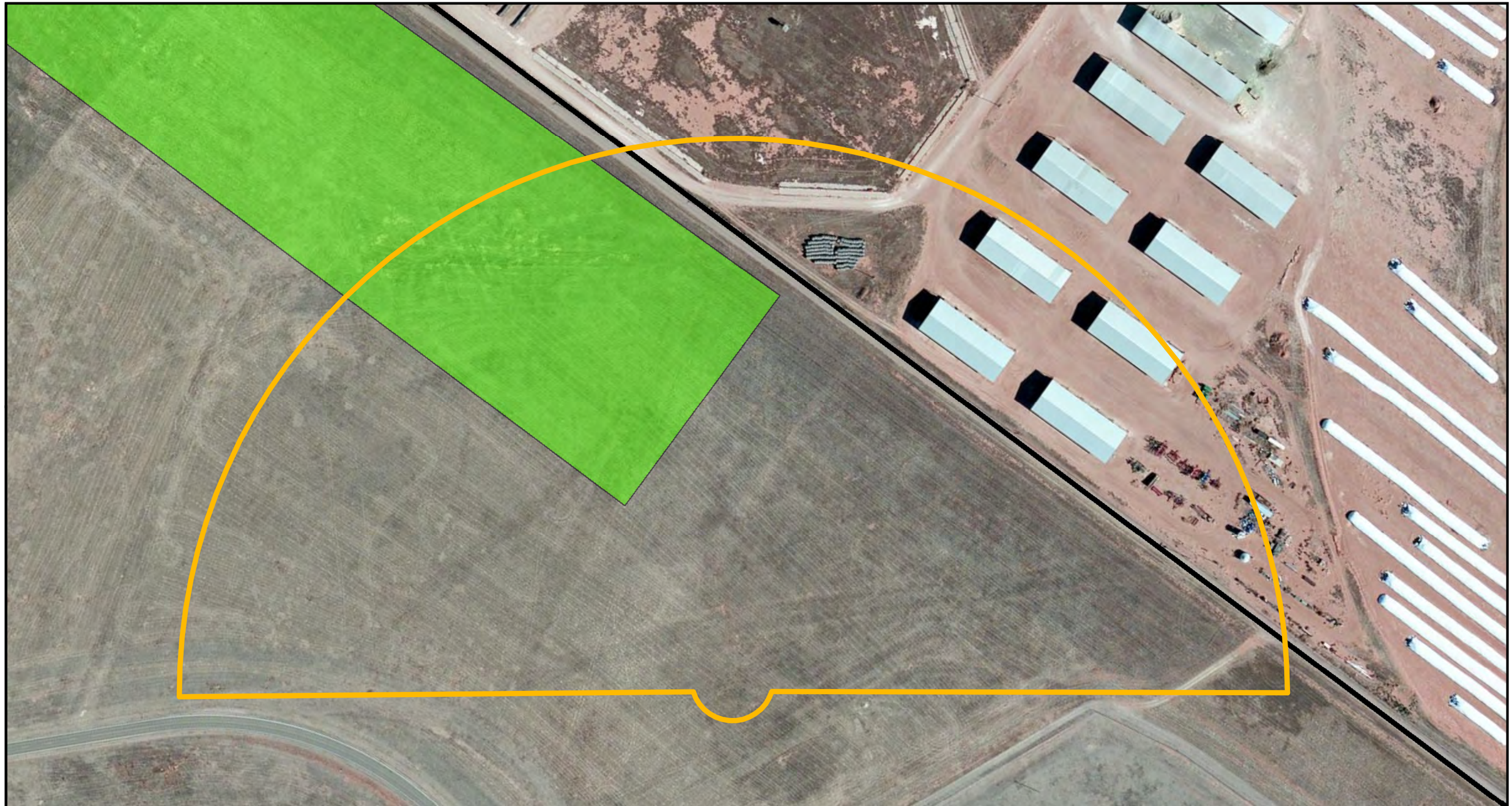
2.4 Identification of Munitions Response Areas

Of the 19 potential Cannon AFB sites associated with MEC-related activities, two (2) potential MRAs were further evaluated during the Modified CSE Phase I field effort at Cannon AFB: the Former Chemical Warfare Area and TS835. Because no evidence of MEC or CWM was observed and the site had been redeveloped as a parking lot, the Former Chemical Warfare Area was not retained for further evaluation under the CSE Phase II. The CSE Phase I Report recommended no further action (NFA) for this area (2.7 acres).

TS835 was retained for further evaluation under the MMRP CSE Phase II, based on visual identification of clay target fragments. The location of the former range is in the northeast portion of the Base, just north of the active ordnance area. The MRA footprint of this site occupies an area of 29.4 acres (Figure 1-1).

2.5 Identification of Munitions Response Subdivisions

MRA TS835 at Cannon AFB has not been subdivided into multiple MRSs to date. Therefore, the MRA was managed as single MRS for the CSE Phase II activities.



Legend

MRA Boundary

IRP Site LF-02

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N

0 100 200 400 Feet

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OMAHA DISTRICT

DESIGNED: D. Feiertag	DATE: 08/09/2011
DRAWN: A. Ryder	DATE: 08/09/2011

VERSAR
6850 VERSAR CENTER
SPRINGFIELD, VIRGINIA 22151
(703)750-3000

Military Munitions Response Program

Former 1940's Skeet Range
- TS835 -

MRA Layout

Cannon AFB, NM

PROJECT NO. - FIGURE: 2-2

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2.6 Previous Investigations

Previous investigations related to the potential MMRP MRA sites at Cannon AFB were limited to the Modified CSE Phase I, which identified 18 potential MRAs; an investigation of the Boresight Mound MRA, which led to regulatory closure; and a Cannon AFB Explosive Ordnance Disposal (EOD) response for the Munitions Debris Discovery Area MRA. These investigations are described below in Sections 2.6.1 through 2.6.3. Additional detail is presented in the *2009 Modified CSE Phase I, Cannon AFB, New Mexico* report (USACE, 2009). No previous environmental or munitions related investigations had been performed at the sole MRA identified for further investigation or action in the Modified CSE Phase I Report.

2.6.1 Comprehensive Site Evaluation Phase I

In support of the USAF MMRP, the CSE Phase I for Cannon AFB (USACE, 2009) was performed. The objectives of the CSE Phase I were to identify all potential MRAs on the installation, investigate these MRAs, and determine if additional munitions response actions were required or provide sufficient documentation to support NFA.

Under the CSE Phase I, information about Cannon AFB relating to the past military munitions activities and physical site conditions was compiled and evaluated. Information sources included archival records from Cannon AFB, interviews with Cannon AFB personnel, additional archival information collected from public sources, and observations made during field reconnaissance. This information was reviewed and used to evaluate the extent of MEC and/or potential for MC exposure at the site. No sampling was conducted under the CSE Phase I.

The CSE Phase I resulted in the collection, evaluation, and synthesis of a large amount of information regarding past military munitions-related activities at Cannon AFB, the current conditions on-site with respect to the presence of MEC, and the physical setting of the land. Consequently, only one MRA was recommended for further evaluation under the USAF MMRP CSE Phase II. A summary of the characteristics of the potential MRA, as investigated and determined during the Modified CSE Phase I, along with its recommendations for future military munitions response, is provided below.

TS835 is estimated to have been in use from at least 1943 to at least 1946, although the history of the range is not known. A 1944 map places the range, identified in a 1943 building index as Building T-2150, to the north of the Ordnance Storage Area, which is currently active as a Munitions Storage Area. The 1944 map appears to show a firing arc for a SR although it is oriented firing to the south towards the ordnance storage area. Because both the SR and ordnance storage area were active during the same time period, the direction of fire from the SR was most likely not toward the south. Review of a 1946 aerial photograph appears to show the firing direction to the north. A 1966 aerial photograph indicates the firing arc of the range based on the observable firing positions.

TS835 is 29.4 acres, measuring approximately 1,800 feet (ft) in length, 960 ft wide, and with a perimeter of approximately 4,700 ft. Figure 2-2 shows the approximate location of the MRA and the maximum theoretical shotfall zone for the ekeet range (radius from the firing point of up to approximately 900 feet). The MRA was re-oriented from the CSE Phase I report after a review of the report found a discrepancy between the reported orientation of TS835, and the orientation indicated by the position of the firing points visible in the 1966 aerial photograph. Based on the 1966 aerial photograph, the orientation of the range was rotated approximately 30° east (i.e., clockwise) for the Phase II investigation. Figure 2-2 shows the MRA in its adjusted position for the CSE Phase II. The area is located in the northeast portion of the Base, just north of the Munitions/Ordnance Storage Area, and extends beyond the installation boundary to the east onto the Rajen Dairy Property. The off-base portion of the area contains four buildings; the on-base portion of the area does not contain any structures. The MRA generally consists of an open field with a sparse vegetative cover of low grasses. During the CSE Phase I visual survey, clay target debris and several slabs of concrete were observed in the on-base portion of the MRA. Access to the on-base portion of the area is restricted to the general public but accessible to authorized personnel. The off-base portion of the area is located on private property, and would require right of entry approval by the landowner.

It was determined that this MRA should be retained for evaluation under the MMRP based on historical use and the potential for environmental impacts from MC. However, no known evidence of MC releases was identified during the CSE Phase I research that would indicate immediate action is warranted at this site. The Modified CSE Phase I report recommended sampling the potentially impacted media at locations where appreciable amounts of small arms and/or clay target debris are present and where the release or migration of metal and polynuclear aromatic hydrocarbon (PAH) constituents may be expected.

2.6.2 Boresight Mound/Firing-In Butt

As described in the Modified CSE Phase I report, a previous military munitions response investigation and action took place at the Boresight Mound at Cannon AFB. This area, also referred to as Firing-In Butt and designated DP-35 and Area of Concern F, is located east of the northeast-southwest runway. According to Environmental Restoration Program (ERP) documents, this range was in use from 1957 to 1971 to calibrate aircraft weapons. The site consisted of a large, earthen berm with limited amounts of expended small-caliber practice munitions and some construction material around the perimeter. This site was assessed in a 1998 SI (Woodward & Clyde, 1999). According to the 1999 SI report, the mound was irregularly shaped, approximately 15 ft high and consisted of fill material comprised of sandy soil with numerous rock fragments. A target support structure existed approximately 150 ft north of the berm. The target structure reportedly had projectiles imbedded in it at the time of the site inspection. The mound itself had small amounts of debris in it including telephone poles, small arms shell casings, metal pipes, projectiles from boresight operations, and several partially buried empty metal drums.

The 1998 SI under Resource Conservation and Recovery Act (RCRA) consisted of the collection of soil samples from a grid pattern on top of the mound, around the mound and around the target

structure. Soil samples were collected from 0-0.5, 1.5-2.0 and 3.5-4.0 ft below the surface of the mound. The soils collected around the target structure and around the mound were collected from 0-2.0 ft below the ground surface (bgs). These samples were analyzed for lead, antimony and arsenic. In total, 36 soil samples were collected and analyzed. The maximum level of lead detected was 151 milligrams per kilogram (mg/kg) and the maximum level of arsenic was 5 mg/kg. While these levels of arsenic and lead were above site-specific background levels, the results of the risk assessment showed acceptable levels of risk associated with these results. The SI report recommended NFA for the Boresight Mound. In 2000, the Air Force formally proposed NFA for the Boresight Mound under the IRP [Installation Restoration Program (URS, 2000)], as no evidence of serious contamination was identified in the 1998 PA/SI. The mound was subsequently removed although the exact date of removal was not available. In 2004, the New Mexico Environment Department (NMED) determined that the site qualified for NFA approval and it is currently closed. As this site achieved regulatory closure as part of a separate program, it will not be investigated further under the USAF MMRP.

2.6.3 Munitions Debris Discovery Area

This is a small area just south of South Playa Lake, as reported in the Modified CSE Phase I report for Cannon AFB. This area was being worked on to discourage bird nesting as part of the installation Bird Aircraft Strike Hazard (BASH) program. In February 2009, Cannon AFB EOD responded to a discovery of practice bombs in the area of South Playa Lake. The practice bombs were identified by EOD as BDU-8B practice bombs and reportedly did not contain any explosive charge. EOD removed the items, performed a sweep of the area, and did not identify any additional munitions debris. EOD has not been called to this area before or since this discovery. The South Playa is a RCRA site that is actively being addressed under RCRA as SWMU-28. Because the area has been cleared by EOD, this site was not addressed under the CSE Phase I or II, and will not be further addressed under the USAF MMRP.

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3.0 PHYSICAL AND ENVIRONMENTAL SETTING

3.1 Climate

The climate at Cannon AFB is mainly hot and dry. Monthly mean high temperatures range from 51 degrees Fahrenheit (°F) in January to 93°F in July. Monthly mean low temperatures range from 23°F in January to 64°F in July. Average annual precipitation is approximately 18 inches. Annual mean snowfall is approximately 12 inches. Table 3-1 reflects the average annual climate for nearby Clovis, NM (http://www.weatherbase.com/).

Table 3-1: Cannon AFB Climatological Data

Table 3-1: Cannon AFB Climatological Data		
Month	**Average Temperature (°F)**	**Average Precipitation (inches)**
January	38	0.4
February	42	0.4
March	48	0.6
April	57	1.2
May	66	2.3
June	75	2.5
July	77	2.7
August	76	2.8
September	69	2.1
October	59	1.9
November	47	0.5
December	39	0.6
Annual Average or Total	**58 (average)**	**17.9 (total)**

3.2 Topography

Cannon AFB is located in the Southern High Plains section of the Great Plains Region. The section is a plateau, bordered to the north by the Canadian River (approximately 60 miles north of the Base), to the east and west by escarpments rising up to 300 ft, and to the south by the Edwards Plateau in western Texas. Elevations at Cannon AFB range from 4,260 ft above mean sea level (amsl) in the southern portion of the Base to 4,330 ft above amsl in the northwest portion (CH2M Hill, 1983). The Base slopes slightly downward toward the southeast.

3.3 Hydrology

Hydrologic characteristics at Cannon AFB were noted in the *IRP Records Search for Cannon AFB, New Mexico* (CH2M Hill, 1983) and further determined as part of the modified CSE Phase I (USACE, 2009). Cannon AFB is situated near the headwaters of the Brazos River. However, due to low precipitation, high evapotranspiration, and gently-sloping terrain, little if any water ever reaches the river (CH2M Hill, 1983). Surface water streams are non-existent in the vicinity of the Base. Running Water Draw, the nearest drainage feature, is located about 10 miles north of the Base and is dry most of the time. Drainage in the vicinity of the Base is poorly developed due to low annual rainfall and lack of relief (CH2M Hill, 1983). The only significant surface water features at the Base are several playas and ponds, located in the northern, eastern, and southern portions of the Base (USACE, 2009)

3.4 Soil and Vegetation Types

Soil and vegetation characteristics surrounding Cannon AFB were determined as part of the Modified CSE Phase I (USACE, 2009). The majority of the Base contains Amarillo fine sandy loam. This soil is well-drained, and the depth to the underlying water table is about 250 ft (CH2M Hill, 1983).

The vegetation on Cannon AFB is typical of semiarid short grass prairies and is limited by water availability (CH2M Hill, 1983). The prairie grasslands are utilized by a variety of birds and mammals – several species of larks, hawks, waterfowl, rabbits, squirrels, and mice are found in the area. Two communities of black-tailed prairie dogs have been found on Base, one near the active munitions storage area and one near the runways (CH2M Hill, 1983). The black-tailed prairie dog is a Federal Endangered Species Act candidate animal. According to the CSE Phase I Report, the black-tailed prairie dog is not found at MRA TS835. There are no other known threatened or endangered species at Cannon AFB.

3.5 Geology and Hydrogeology

The geology beneath Cannon AFB mainly consists of a thick, 200 to 400 ft layer of unconsolidated sediments deposited over Triassic sandstone. The sandstone forms the base of the High Plains aquifer (regionally called the Ogallala aquifer), which is situated within the overlying gravel, sand, silt, and clay sediments (Black and Veatch, 2008). The unconfined aquifer beneath Cannon AFB is the sole source of water supply for the Base. Groundwater flow is typically east to southeast, and water table slope is approximately 7 to 15 ft per mile (Black and Veatch, 2008).

4.0 **INVESTIGATION SCOPE AND APPROACH**

The following sections discuss the CSE Phase II investigation and scope at Cannon AFB. The visual survey and soil sampling activities were conducted in accordance with the procedures outlined in the *CSE Phase II Work Plan – Version 2.0 for Cannon AFB* (USACE, 2010). CSE Phase II field activities were conducted at Cannon AFB from 15 March through 18 March 2011.

4.1 Site Reconnaissance

A visual survey was performed within and immediately adjacent to the MRA footprint at TS835 at Cannon AFB. The purpose of a visual survey is to identify visual evidence of MEC or other debris including clay target fragments that may have been associated with the former range, and to record findings for further investigation. Identification of clay target fragments, for example, was used to determine soil sample locations for PAH analysis.

The goal of the visual survey was to cover the entire MRA (100 percent) to the extent practical. However, because the off-base portion of the MRA is down range of the firing point and no samples near the fence line dividing the two properties were above the NMED Soil Screening Level (SSL) or USEPA Residential Regional Screening Level (RSL) for lead, the off-base portion of the MRA footprint was not surveyed. Additionally, the overlapping landfill (LF-02) portion of the MRA was not assessed as part of this CSE Phase II as determined with Cannon AFB, AFCEE, and USACE personnel. Visual transects for TS835 are presented on Figure 4-1. The visual survey results are discussed in Section 5.6.1.

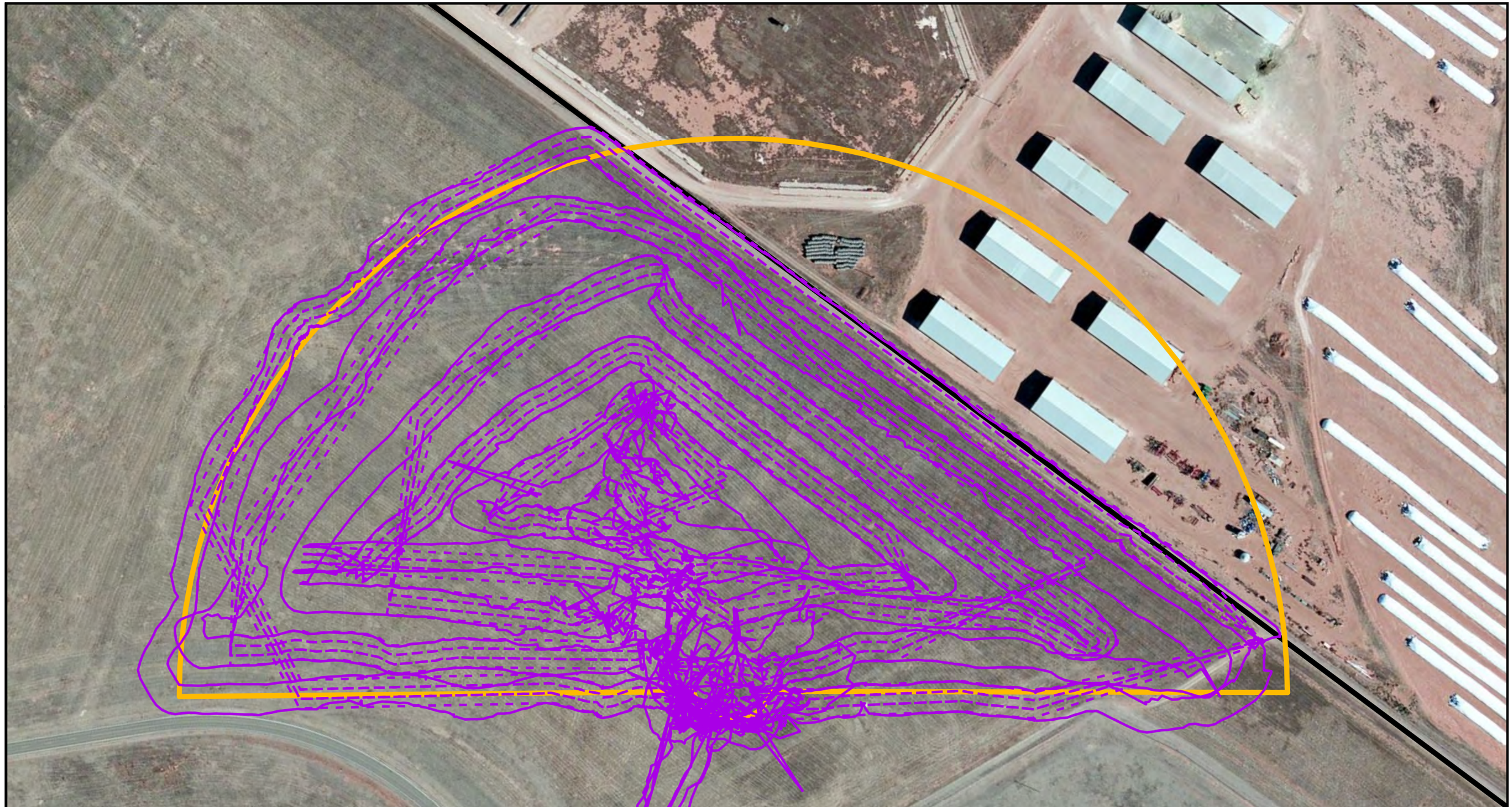
One team composed of four people was used to perform the visual survey at TS835. Spacing of the survey transects was determined in the field based on vegetation density, topography, and general ability to accurately survey 100 percent of the footprint of the MRA (Photo 4-1). For TS835 at Cannon AFB, a set spacing of 15 ft between surveyors was determined to be adequate, given the medium vegetative cover.

Photo 4-1: Visual Survey Using Rope to Space Transects at 15ft

Two handheld Trimble GeoXH Global Positioning System (GPS) units were used to provide visual transects and collect data during the visual survey at MRA TS835 at Cannon AFB. Prior to the visual survey, a site map with MRA boundaries was uploaded into the GPS units to ensure 100 percent coverage. Each GPS unit was held on either end of the survey line and placed in "Track" mode to record the path of the visual survey. Two other survey team personnel were positioned evenly-spaced between the two members holding the GPS units. Spacing was maintained by use of a marked rope, and the interpolated tracks of the two survey members are marked on Figure 4-1. Location and description data for visually identified MC as well as site features including firing points and topographic anomalies were recorded in the GPS as a waypoint. Descriptive information and photographs were collected for each waypoint, as appropriate, and recorded in a GPS and site logbook. GPS data was uploaded to a field laptop each evening to update site maps and provide for data gap analysis.

4.2 Geophysical Survey

Geophysical surveys were not required as part of the CSE Phase II field activities for TS835 at Cannon AFB based on its historic use as small arms firing range (USACE, 2009).



Legend

- Visual Survey Track (GPS)
- Visual Survey Track (Interpolated)
- MRA Boundary

Note: Imagery © 2011 Microsoft Corporation
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N

0 100 200 400 Feet

U.S. ARMY CORPS OF ENGINEERS

OMAHA DISTRICT

DESIGNED: D. Feiertag	DATE: 08/09/2011
DRAWN: A. Ryder	DATE: 08/09/2011

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Military Munitions Response Program

Former 1940's Skeet Range
- TS835 -
Visual Survey Tracks

Cannon AFB, NM

PROJECT NO. - FIGURE: 4-1

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4.3 Environmental Media Sampling and Analysis

Surface and subsurface soil samples were collected from TS835 for field analysis and laboratory analysis as part of the CSE Phase II investigation at Cannon AFB. The purpose of soil sampling at the MRA is to determine the nature and extent of MC associated with its historic use as a firing range.

The primary MC associated with TS835 include lead and PAH compounds. The source of lead at the former firing range is from ammunition, primarily shotgun ammunition, and is generally found within the maximum shot-fall zone of former SRs. While lead is the primary constituent in shot used at former SRs, a small percentage of antimony, copper, zinc, and/or arsenic were included in the composition for use as hardeners or other amendments. The source of PAH compounds are the clay targets generally used at SRs, and can be detected in soil immediately below visually identified clay fragments. The clay targets were manufactured with a mineral powder held together with an asphalt-like petroleum pitch binder that contains PAH compounds.

Soil samples were collected from pre-determined locations as well as locations determined based on field observations. No samples were collected within IRP site LF-02, as determined with Cannon AFB, AFCEE, and USACE personnel. In addition, because elevated lead concentrations were not detected in on-base samples, no samples were collected in the off-base area of the MRA (which is further downrange of the firing point than the on-base area). Samples collected for lead-only analysis were analyzed using a field portable X-ray fluorescence (XRF) unit, from which a subset of samples were also submitted to an off-site analytical laboratory for analysis to provide correlation to the XRF analytical results. Soil samples collected for PAH analysis were located in areas of visible clay target debris.

4.3.1 X-Ray Fluorescence

A field portable X-ray Fluorescence (XRF) unit was used to determine the horizontal and vertical extent of lead in soils at TS835. The purpose of using an XRF is to provide real-time lead concentration measurements in soil, and to use the field data to support site decisions. A screening level of 400 parts per million (ppm) was used to evaluate site conditions, and sample locations exceeding the screening level were considered for additional XRF delineation.

Ex-situ XRF soil samples were collected using a stainless steel slide hammer equipped with a dedicated, disposable 2-inch x 6-inch polybutyrate sample liner. The liner, housed inside a stainless steel cup assembly, was driven to the desired depth (Photo 4-2). The sample was then removed from the borehole and plastic liner, placed in a resealable plastic bag, labeled accordingly, and preserved in a cooler on ice for XRF analysis. The dedicated polybutyrate liner was discarded between each sample, and components of the slide hammer were decontaminated prior to collecting the next sample. Decontamination procedures included a dry decontamination process, in which the cutting shoe portion of the slide hammer was wiped with disposable paper toweling and/or a dry wire brush to remove adhered soil particles. Following receipt of lead results, investigation-derived waste (IDW), including decontamination waste and nitrile gloves,

was disposed of in a Base-approved dumpster. IDW soil from samples was returned to the site since ll samples were below the screening level of 400 ppm.

Photo 4-2: Collecting Soil Samples Using Slide Hammer

Soil samples collected for lead analysis at the locations shown in Figure 5-4, according to a pre-determined grid pattern in non-paved areas. Grid nodes at the SR were spaced radially from the firing point approximately 160 ft apart. Surface soils were collected at each grid node from 0 to 6 inches bgs. Subsurface samples (6 to 12 inches bgs and 12 to 18 inches bgs) were to be collected if the screening level of 400 ppm of lead was exceeded. A total of forty one (41) XRF samples were collected from TS835 according to the procedures outlined in the Work Plan (USACE, 2010). Samples were subsequently analyzed with the XRF per USACE-Omaha Small Arms Range Characterization of Lead Using XRF (USACE, 2008) procedures and the CSE Phase II Work Plan (USACE, 2010). These procedures are described in detail in the following paragraphs.

Preparation and analysis of the XRF soil sample was performed in accordance with the procedures described in Appendix G of the Work Plan in order to collect data of sufficient quantity and quality to determine the horizontal and vertical extent of lead concentrations present in soil above appropriate screening levels. Sample preparation included visual inspection and manual removal of gravels and other debris; soil moisture analysis and/or subsequent soil drying was not required for any of the Cannon AFB MRA XRF samples, as all soil was considered ‘dry’ during sample collection. The soil was then homogenized to provide a representative soil sample for XRF analysis.

The XRF was placed on top of the prepared soil in the plastic bag and analysis initiated. Duration of the XRF sampling run consisted of three individual runs at 30 seconds each, as this duration has a low standard deviation (error) and reliable accuracy. Three separate readings were taken from three distinct locations on the sample bag and recorded in an XRF data logbook as well as being stored electronically in the XRF data logger. The mean of the three readings

was calculated and the relative standard deviation (RSD) determined to ensure results had less than a 20 percent deviation. Additional readings were collected if the mean value exceeded 50 ppm and the RSD exceeded 20 percent pursuant to USACE guidance (USACE, 2008).

An Innov-X Delta series XRF monitor was used to perform the ex-situ lead concentration measurements at TS835. This model of XRF monitor uses an X-ray tube that is energized by a battery in the unit to generate the X-rays used in determining metal concentrations in the soil sample. Consequently, no radiological source is necessary in this model of XRF monitor. All data were stored and maintained on the unit in its original binary format in addition to being recorded by operators in the XRF logbook.

Of the 41 soil samples collected for XRF analysis at Cannon AFB, twelve (12) samples listed in Table 5-4 and shown on Figure 5-5 were selected for laboratory analysis by U.S. Environmental Protection Agency (USEPA) SW846 Method SW6010B to develop a correlation between the field XRF results and the off-site laboratory results. The laboratory samples were selected based on the relative high, medium, and low concentrations of lead as determined by the XRF. Additional details on lead correlation samples are presented in Section 4.5.2, and further discussion of XRF results is contained in Section 5.6.3 – Media Sampling Results.

4.3.2 Laboratory Analytical

In addition to laboratory lead correlation samples, analytical soil samples were collected for PAH analysis in areas of clay target debris as shown in Figures 5-2 and listed in Table 5-2. Additional soil samples were collected outside of the footprint of the MRA and analyzed for PAHs for use as background data as shown in Figure 4-2 and listed in Table 5-2. The number and types of analytical samples collected at Cannon AFB as part of the CSE Phase II investigation are presented in Table 4-1.

Table 4-1: Numbers and Type of Samples Collected and Analyzed for Cannon AFB CSE Phase II Activities

Parameter (Method)[1]	Media	# Samples Analyzed
1940s SR MRA		
Lead (XRF)	Surface and subsurface soil	41
Lead (ICP-AES)	Surface and subsurface soil - Correlation	12
PAHs (GC/MS)	Surface and subsurface soil	25
Background		
PAHs (GC/MS)	Surface soil	10
QC Evaluation		
Lead (XRF)	Surface soil - Field duplicate	2
Lead (ICP-AES)	Surface soil - Field duplicate	2
Lead (ICP-AES)	Surface soil – MS/MSD pair	1
PAHs (GC/MS)	Surface soil - Field duplicate	3
PAHs (GC/MS)	Surface soil – MS/MSD pair	2

[1]Analytical methods are detailed in Section 4.3.2

AES = atomic emission spectrometry
AFB = Air Force Base
CSE = Comprehensive Site Evaluation
SR = Skeet Range
GC/MS = gas chromatography/mass spectrometry
ICP = inductively coupled plasma
MRA = Munitions Response Area
MS/MSD = matrix spike/matrix spike duplicate
PAH = polynuclear aromatic hydrocarbons
XRF = X-ray fluorescence

Initial PAH sample locations at 1940s SR were determined based on the results of the visual survey, in areas where clay target debris was identified. Relative low and medium density areas of clay target debris were mapped using handheld GPS units and recorded in the site logbook (Appendix E). Medium and low density clay target debris was easily identifiable near the former locations of the low house and high house, identified from the Visual Survey Results and indicated on Figures 5-1 and 5-2, at the SR (Photo 4-3 and Photo 4-4). Once the density of clay target debris was identified, a representative number of surface soil samples (from 0 to 0.5 ft bgs) were collected to represent the concentrations of the different densities. Subsurface soil samples were collected from 0.5 to 1 ft bgs for vertical delineation. One subsurface soil sample was collected from 1.5 to 2 ft bgs due to small pieces of debris found in the sample at the 0.5 to 1 ft interval. A total of twenty five (25) soil samples were collected for PAH analysis by USEPA Method 8270C-selected ion monitoring (SIM) from the SR.

Photo 4-3: Representative Low Density Clay Target Debris

Photo 4-4: Representative Medium Density Clay Target Debris

All soil samples collected for PAH laboratory analysis were placed into new, aluminum pans for processing. Soil samples collected for lead analysis were placed in resealable plastic bags for XRF analysis and preserved on ice until the final off-site laboratory samples for lead analysis were selected. Each sample was processed before on-site field or off-site laboratory analysis by removing any debris, including vegetative matter, rocks, and target fragments. The target fragments found were photographed and described on a sample collection sheet (including the amount), which are included in Appendices D and E, respectively. No shot fragments were observed in any of the samples. Samples for off-site laboratory analysis were collected from the processed material and placed into new, clean, sample containers provided by the laboratory. The sample locations were given a sequential numerical designation, beginning with the prefix SR, and their location recorded with the GPS unit. The boreholes were backfilled at the end of the field investigation with residual soil.

Soil samples submitted for lead analysis were analyzed by USEPA SW846 Method SW6010B, which uses a technique involving inductively coupled plasma- (ICP) atomic emission spectrometry (AES) to determine trace elements (metals) in solution. The soil was digested under USEPA SW846 Method SW3051A using an acid to extract metals into a solution for analysis of metals by ICP-AES. All results were converted to a dry-weight basis using information from analysis of percent solids, which is determined using procedures from method American Society for Testing and Materials (ASTM) D2216-90, to report soil concentrations on a mass per unit weight basis (i.e. mg/kg).

Soil samples collected for PAHs were analyzed by USEPA SW846 Method SW8270C-SIM. USEPA SW846 Method SW8270C-SIM uses a technique involving analysis by gas chromatography/mass spectrometry (GC/MS) to determine semi-volatile organic compounds (SVOCs) in solution. The soil was extracted by USEPA SW846 Method SW3545 using an automated solvent extraction device for analysis by GC/MS. All results were converted to a dry-weight basis using information from analysis of percent solids, which is determined using procedures from method ASTM D2216-90, to report soil concentrations on a mass per unit weight basis (i.e., mg/kg).

4.3.3 Environmental Background Sampling

Background data for comparison of metals at Cannon AFB was previously compiled in Technical Memorandum No. ES01: Statistical Methodology for Evaluating Arsenic Concentrations in Soils at Cannon AFB, NM (Brown and Caldwell, 2008). The background value for lead in soil is included in Table 4-2 located in Section 4.4.

Background sampling of surface soil was conducted during the Phase II to characterize the anthropogenic background concentrations of PAHs in soil. The samples were collected in an on-base area believed to be uninfluenced by munitions activity at Cannon AFB, but otherwise as similar in setting as possible to that of the MRA. The MRA is an open field with no current use. Four off-installation buildings occur on private property within the downrange edge of the MRA. This area of the MRA was not assessed during the CSE Phase II because this area is located at

the very edge of the downrange portion of the MRA. No other buildings are located in the MRA (USACE, 2009).

The ten (10) background locations that were sampled are shown on Figure 4-2. The PAH background sampling area was selected based on similar geology, vegetative cover, access, and human impact (i.e., this is an unused field) to that of the MRA, and determined with input from the Base, NMED, AFCEE, and USACE. This area is approximately 500 ft south of the southern extent of MRA TS835. The PAH background samples were collected from 0 to 0.5 ft bgs, to be consistent with the proposed sample interval for the MRA samples, and submitted to an off-site laboratory for PAH analysis. Sampling locations were recorded in the field using a hand-held GPS unit and uploaded into the Cannon AFB Geographic Information System (GIS). The background sample locations were backfilled at the end of the field investigation with the residual soil.

10 of eighteen (18) PAH compounds had a sufficient number of detected values to statistically determine an anthropogenic background concentration; the eight (8) remaining PAH compounds were non-detect or the number of detections was too limited for statistical analysis. For PAH compounds with greater than two detections, final background concentrations for PAHs were computed as a 95 percent upper tolerance limit (UTL) with 95 percent coverage of the sample set to develop comparison values for each PAH analyte. Validated PAH data was entered into ProUCL 4.0® software to derive values. For PAH compounds with two detections or less, the greater of the limit of detection (LOD) concentrations for non-detect values were used as a conservative estimate for a background concentration. Background sample results were compared to field sample results to determine whether a release has occurred, and are presented in Table 4-2 located in Section 4.4. Background determination is further discussed in Section 5.6.4 and Appendix I.

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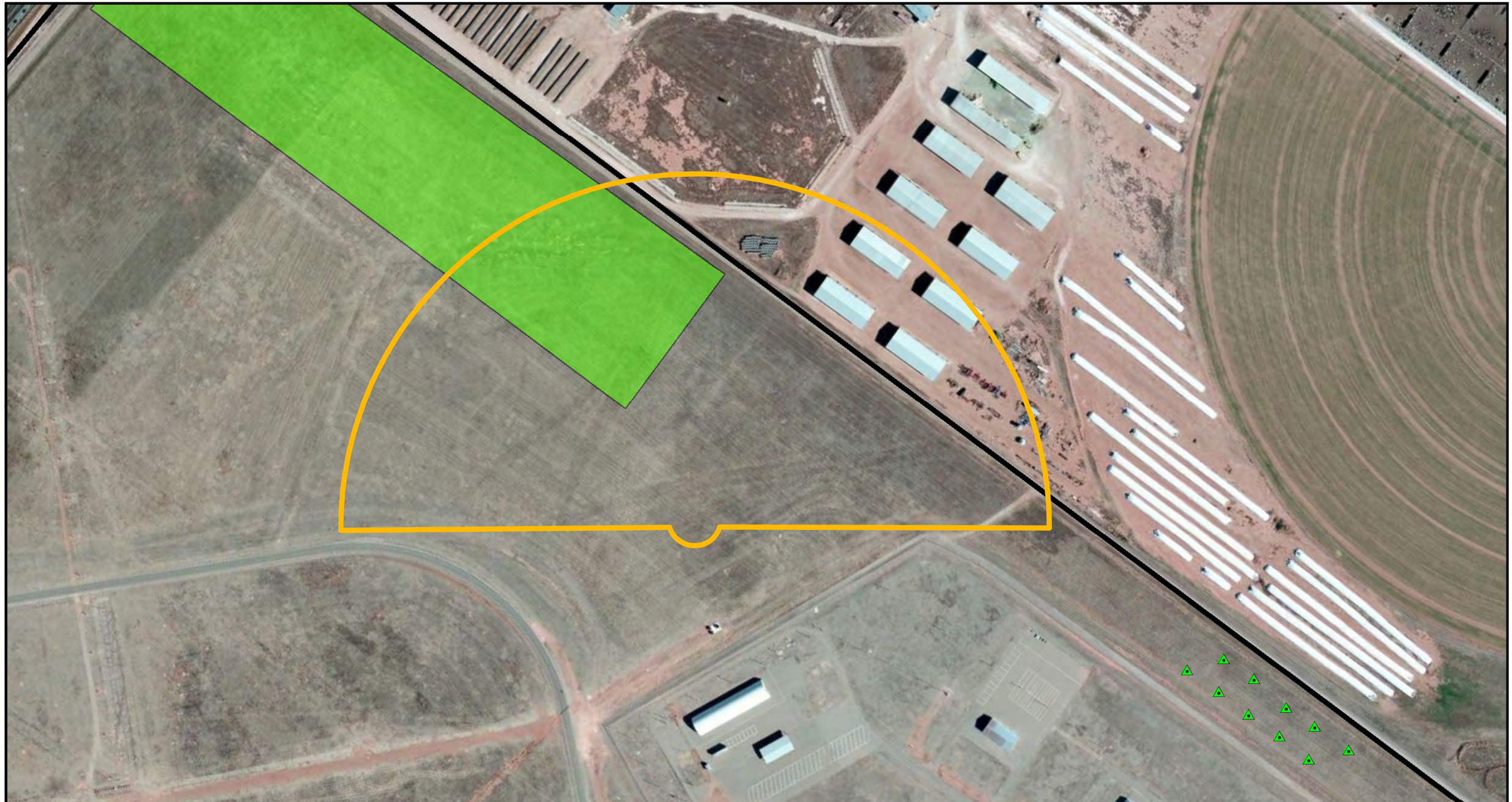

Legend

- Background PAH Samples
- MRA Boundary
- IRP Site LF-02

Note: Imagery © 2011 Microsoft Corporation
Available Exclusivly by DigitalGlobe, Aquisition date: Oct- Dec 2010.

N

0 155 310 620 Feet

U.S. ARMY CORPS OF ENGINEERS

OMAHA DISTRICT

DESIGNED: D. Feiertag	DATE: 08/09/2011
DRAWN: A. Ryder	DATE: 08/09/2011

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Military Munitions Response Program

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- TS835 -

Background Sample Locations

Cannon AFB, NM

PROJECT NO. -

FIGURE: 4-2

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4.4 Screening Levels

In this section, screening levels for environmental media investigated for the CSE Phase II (surface and subsurface soil) are identified. All analytical data were compared to regulatory screening levels, and to the background data that were obtained under the CSE Phase II, as shown in Table 4-2, to determine whether releases have occurred at concentrations exceeding levels of potential concern, as described in the following paragraphs. The regulatory screening levels were presented in the Work Plan and are listed in Table 4-2; the background data were collected and assessed under this CSE Phase II effort.

The PAH analytical results were compared to the background data set obtained under the CSE Phase II (Section 5.6.4.1). Lead results were compared to the background data values listed in Technical Memorandum No. ES01: Statistical Methodology for Evaluating Arsenic Concentrations in Soils at Cannon AFB, NM (Brown and Caldwell, 2008). The background values were used for site-to-background comparisons to identify constituents of concern at the sites and/or evaluate the nature and extent of site-related contamination, as presented in Table 4-2. A more detailed presentation and assessment of the background data set is presented in Appendix I.

In addition to the assessment of metals and PAH concentrations against the background data set, the CSE Phase II data were compared with applicable primary and secondary soil screening values, including the NMED Soil Screening Levels (SSLs) (NMED, 2009) and the USEPA Human Health Medium-Specific RSLs (USEPA, 2011). The NMED SSLs are derived using default exposure parameter values and chemical- and State of New Mexico-specific physical parameters. These default SSL values are assumed to be appropriately conservative and likely protective for the majority of site conditions relevant to soil exposures within New Mexico. The USEPA RSLs are defined as chemical-specific concentrations for individual contaminants in soil that may warrant further investigation or cleanup. The RSLs address exposures to soil due to direct contact via ingestion, dermal absorption, and inhalation.

Detected concentrations of lead and individual PAHs were compared to primary NMED and secondary USEPA screening values for soil presented in Table 4-2. As shown on Table 4-2, the current residential SSL/RSL for lead is 400 mg/kg and the industrial SSL/RSL is 800 mg/kg. To represent the most conservative assessment, residential values were used to evaluate unrestricted use. Table 4-2 also includes residential and industrial PAH SSLs/RSLs for comparison. These screening levels do not constitute regulation or guidance but are considered for identification of chemicals of potential concern.

Ecological exposure to MC in soil at the site is considered only marginally viable as discussed in the Work Plan. The probability of appreciable biotic impact from past munitions-related activities is low. Consequently, ecological risk assessments were not completed for the site and no ecological screening values are presented. In addition, because of the depth to groundwater (approximately 250 ft bgs) compared to the expected shallow impacts from munitions-related activities, no soil screening values for protection of groundwater are presented.

Table 4-2: Soil Screening Levels

Analyte	Cannon AFB Background (mg/kg)	NMED SSLs/USEPA RSLs[1] (mg/kg)	
		Residential	Industrial
Metals[2]			
Lead	5.6 – 7.4	400/400	800/800
PAHs[4]			
Acenaphthene[3]	0.0029[a]	3,440/3,400	36,700/33,000
Acenaphthylene	0.0029[a]	None	None
Anthracene	0.0029[a]	17,200/17,000	183,000/170,000
Benzo(a)anthracene	0.009998	6.21/0.15	23.4/2.1
Benzo(a)pyrene	0.00953	0.621/0.015	2.34/0.21
Benzo(b)fluoranthene	0.00929	6.21/0.15	23.4/2.1
Benzo(g,h,i)perylene	0.009904	None	None
Benzo(k)fluoranthene	0.0102	62.1/1.5	234/21
Chrysene	0.0104	621/15	2,340/210
Dibenz(a,h)anthracene	0.0029[a]	0.621/0.015	2.34/0.21
Fluoranthene	0.0226	2,290/2,300	24,400/22,000
Fluorene[3]	0.0029[a]	2,290/2,300	24,400/22,000
Indeno(1,2,3-cd)pyrene	0.008843	6.21/0.15	23.4/2.1
1-Methylnaphthalene[3]	0.0029[a]	None/22	None/99
2-Methylnaphthalene[3]	0.0029[a]	None/310	None/4,100
Naphthalene[3]	0.0029[a]	45/3.6	252/18
Phenanthrene	0.0133	1,830/None	20,500/None
Pyrene	0.0183	1,720/1,700	18,300/17,000

[1] The first value is the primary NMED SSL (2009); the second value is the secondary USEPA RSL for soil (2011).
[2] Background value for lead based on surface soil samples (4) listed in Technical Memorandum No. ES01: Statistical Methodology for Evaluating Arsenic Concentrations in Soils at Cannon AFB, NM (Brown and Caldwell, 2008); the highest detection in subsurface samples (37) was 10 mg/kg.
[3] Background values for non-detect PAHs based on highest limit of detection
[4] Background value for PAHs based on 95 percent UTL (unless otherwise noted) – source: ProUCL® (Appendix I).
[a] Fewer than 2 detected values; background value based on highest LOD (see Section 5.6.4.1).

AFB = Air Force Base
mg/kg = milligrams per kilogram
NMED = New Mexico Environment Department
RSL = Regional Screening Level
SSL = Soil Screening Level
USEPA = U.S. Environmental Protection Agency
< = less than

4.5 Data Quality

Quality assurance (QA) is defined as the overall system for assuring the reliability of data produced. The system integrates quality planning, assessment, and improvement efforts from various groups in an organization to provide and maintain an effective system for collection and analysis of environmental samples and related activities. The program encompasses the generation of valid and complete data through its subsequent review, validation, and documentation. This section summarizes the QA/quality control (QC) procedures and presents the results of the QC assessment (Appendix H) for the analytical data acquired during the March 2011 field effort at Cannon AFB. All procedures were conducted in accordance with the *Cannon AFB CSE Phase II Work Plan – Version 2.0* (USACE, 2010).

A Quality Assurance Project Plan (QAPP) was developed as part of the CSE Phase II Work Plan. The QAPP was implemented through the integration of well-defined QC elements for activities associated with the task assignment. The QC criteria defined for sampling and analysis activities were developed in accordance with specifications contained in the *USACE EM 200-1-3, Requirements for the Preparation of Sampling and Analysis Plans* (USACE, 2001), the *USEPA Guidance on Systematic Planning Using the Data Quality Objectives Process USEPA QA/G-4 (USEPA, 2006), and the DoD Quality Systems Manual (QSM) for Environmental Laboratories, Version 4.1* (DoD 2009a).

Documentation required for this project was reviewed and deficiencies, if any, were identified. Project documentation included the following:

- Field Logbooks/Forms: Hardback logbooks with numbered pages were used to log daily activities and data collected during the course of field activities. Soil Sampling Log forms were completed for each sample location. Daily QC Report Forms were also completed for each day of field work.
- Chain-of-Custody (COC): Samples were collected and relinquished under stringent COC protocols as specified in the project QAPP. A review of COC forms indicates that all sample collection, identification, and project information was correctly supplied.
- Laboratory Data: Documents provided for or generated by the Versar Team in support of laboratory analysis. These are described in detail in the following subsections.

Sampling activities were performed in compliance with standard operating procedures (SOP), and each individual performing sampling was aware of the requisite protocols for collection of environmental samples. Each sampler was experienced in soil characterization and sampling techniques for the media collected. Team members were provided with copies of the associated Work Plan which included the QAPP and Accident Prevention Plan (APP) and Site Safety and Health Plan (SSHP).

4.5.1 Data Quality Objectives

DQOs were developed concurrently with the Work Plan to ensure: 1) reliability of field sampling and chemical/field analyses; 2) collection of sufficient data; 3) the quality of data generated was acceptable for its intended use; and 4) valid assumptions could be inferred from the data. The DQO process for the CSE Phase II is detailed in the QAPP presented in Section 9.0 and summarized in Tables 9-1 through 9-3 of the CSE Phase II Work Plan for Cannon AFB (USACE, 2011).

Attainment of DQOs for the analytical data was assessed through evaluation of all data collected using the data quality indicators listed in Table 4-3. Data quality was assessed through an evaluation of sampling collection and field measurement data, as well as the off-site analytical laboratory results.

All field samples were collected and analyzed by XRF as described in the Work Plan. XRF analytical QC checks were performed in accordance with USACE-Omaha Guidance on Small Arms Range Characterization of Lead Using XRF (USACE, 2008) and the QAPP. XRF QC requirements included analysis of instrument blanks (e.g., quartz sand with no detectable lead), calibration checks [standard reference material (SRM)], and replicate analyses. Daily QC included the analysis of blanks, replicates, and check samples. All blanks were non-detect for lead. The SRMs used [National Institute of Standards and Technology (NIST) 2781, NIST 2702, and NIST 2709a] had known concentrations of 202.1 mg/kg ± 1.1 mg/kg, 132.8 mg/kg ± 1.1 mg/kg, and 17.3 mg/kg ± 0.1 mg/kg, respectively. The SRM daily calibration checks were within 20 percent of the certified value as required. The QC results were documented in the XRF logbook (Appendix E).

The off-site laboratory QC checks (e.g., method and instrument blanks, instrument calibrations, laboratory control samples) were evaluated during the data review process. The QC results are discussed in detail in the data review reports located in Appendix H.

Table 4-3: Data Quality Indicators

Data Quality Indicator	Definition	Goal	Sampling Assessment	Analytical Assessment
Precision	Quantitative measure of the variability of a group of measurements in comparison to the average value (RPD or %D)	Low RPD	Duplicate samples	MS/MSD, lab sample duplicate, field sample duplicate
Accuracy & Bias	Bias in a measurement system (%R)	Low bias	Blank contamination	Analysis spike results (LCS, MS/MSD, surrogates)
Representativeness	Degree to which the measured results accurately reflect the medium being sampled	100%	Holding times, blanks, associated documentation	Inferred from accuracy, precision, and completeness evaluation
Completeness	Percentage of measurements which are judged to be usable (%R)	>90%	Records review	Data review
Comparability	Qualitative parameter expressing the confidence with which one data set can be compared with another	High	Work plans, quality documents	Analytical methods
Sensitivity	Quantitative measure of the level of detection and quantitation	High	Review of analytical method or procedures and instrumentation	Analysis of LODs and RLs per analyte, analytical method, and matrix

LCS = lab control sample
LOD = limit of detection
MS/MSD = matrix spike/matrix spike duplicate
RL = reporting limit
RPD = relative percent difference
%D = percent difference
%R = % Recovery

4.5.2 Lead Correlation Sampling

A total of 12 soil samples were selected for lead analysis, based on XRF results, to be used for the development of a correlation coefficient. The samples, which exhibited a range of XRF results, were sent to Microbac Analytical Laboratories for ICP analysis. Nine of the 12 samples yielded XRF results less than 20 ppm, and 3 samples were above 20 ppm. The highest XRF result at TS835 was 26 ppm. Lead correlation results are discussed in Section 5.6.3.2.2.

4.5.3 Analytical Methodology

The off-site analytical laboratory services for the sampling effort were provided by Microbac Analytical Laboratories located in Marietta, Ohio, a DoD Environmental Laboratory Accreditation Program (ELAP) and a National Environmental Laboratory Approval Program (NELAP)-accredited laboratory. The laboratory analyzed the soil samples using Test Methods for Evaluating Solid Waste Physical/Chemical Methods [SW846 (USEPA, 1986], as well as laboratory SOPs for this project. The analytical scope included analysis for the expected MCs of potential concern, identified based on the history of the range. Analytical methods applied to the Cannon CSE Phase II included SW846 Method 6010B (lead) and SW846 Method 8270C (PAHs). The entire laboratory report is included as Appendix G.

Further discussion of analytical methodology may be found in the *Comprehensive Site Evaluation Phase II Work Plan – Version 2.0* for Cannon AFB, NM (USACE, 2010).

4.5.4 Data Review

All analytical data reports were provided to Versar by the laboratory with full raw data packages and Environmental Restoration Program Information Management System (ERPIMS)-formatted electronic data files. Target analytes detected below the reporting limit (RL) and above the limit of detection (LOD) were reported by the laboratory as estimated values.

Data obtained from the laboratory were reviewed by the Versar Project QC Supervisor to determine whether the project-specific DQOs, as defined in the associated Work Plan were met. Data review included verification, validation, and usability reviews of all on-site field and off-site laboratory data. Appropriate data qualifiers were applied by Versar during the data review process. The data review reports are provided in Appendix H. The data validation portion of the data review process is described in more detail in the following section.

4.5.5 Data Validation

Data validation is a method-specific assessment that substantiates whether analytical requirements have been met and that data qualifiers have been applied appropriately and consistently. The objectives of the data validation review step are to: 1) quantitatively reproduce a subset of the analytical results while confirming that the specified analytical procedures were followed as written, and 2) ensure that data qualifiers have been applied

appropriately and consistently based on the data quality indicators used to assess the measurement quality objectives for the project.

The standard level of data validation is 10 percent of the number of normal field samples and associated field QC samples [e.g., field sample duplicates and replicates, matrix spike/matrix spike duplicate (MS/MSD) samples, and field blanks] collected and analyzed for a given analytical method and matrix. The necessary level of data validation may be streamlined or increased based on the results of the data verification review, previous findings for analyses performed by the laboratory, and other technical and project considerations. Data validation was performed on at least one sample per laboratory report/sample group. The actual level of data validation is documented in each report contained in Appendix H; overall for this project, it met the standard level of 10 percent.

Versar validated the data according to the general requirements for chemical measurements and using the specific analytical method criteria listed in the DoD QSM, as described in the Work Plan/QAPP. Analytical results were assessed for accuracy and precision to determine the limitations and quality of data. Final data review flags were applied to analytical results as a result of data verification and data validation and upon completion of the data review process.

Sample results that have not been qualified (other than for non-detection of analytes) indicate the data meet all acceptance criteria. All results are considered usable unless specifically qualified as rejected “R” during the validation process. None of the Cannon AFB data were qualified as rejected. Samples qualified “J” are considered acceptable as estimated with an explanation provided in data review reports, presented in Appendix H.

4.6 Data Management

Data management began in the planning stages of this project, to ensure electronic, hard copy, and GIS data would support the successful implementation and completion of this project. This required coordination with the laboratory, on-site XRF analysis staff and other personnel. The primary types of project data that were generated included visual survey, sample collection, GIS, analytical results including on-site field and off-site laboratory measurements, and data review and usability assessment reports. As described below, all project information and sample data were fully documented.

4.6.1 Electronic Data

The electronic project files are stored within a specified project directory on Versar’s secure private network. Access to these files is restricted to only those personnel with key responsibilities to the project and who have been granted authority by the Versar Project Manager. These electronic files are backed-up daily, weekly, monthly, and yearly.

Sample results produced on-site using XRF instrumentation for lead, and sample results produced off-site using ICP-AES and GC/MS instrumentation for lead and PAHs respectively

were processed through the Environmental Resource Program Tools (ERPTools), which is a relational database tool that is used for the submission/delivery of electronic data in the ERPIMS format to the Air Force.

4.6.2 Hardcopy Data

Hard copy data generated during the project, including field notebooks, field forms, reports, correspondence, figures, and analytical data, are stored in the Cannon AFB project files located at the Versar office in Westminster, Colorado. Access to the office is limited to Versar personnel though a door security system. Hard copy documentation is contained in Appendices B,E,G and H

4.6.3 Geographic Information System Data

The GIS data layer files are stored on a separate directory within the Versar's secure private network. Access to these files is restricted to only those personnel with key responsibilities to the project and who have been granted explicit access rights by the Versar Project Manager. These electronic files also are backed-up daily, weekly, monthly, and yearly.

The conversion of raw data into the database and mapping software was performed at Versar's Colorado and Virginia offices. CSE Phase II data was stored and managed using GIS software. Field data collected during sampling was entered manually into the database and checked by another member of the field team. The output from the database was checked by the Versar Team QC Specialist to determine if it was consistent with the raw data.

5.0 **MUNITIONS RESPONSE SITE CHARACTERISTICS**

One MRA at Cannon AFB was evaluated under the CSE Phase II, based on potential sources of MC from munitions-related activities at TS835. This section presents the characteristics for this site, including a description, history of MEC activities, current land use, access controls, restrictions, field investigation results, identification of potential receptors, and natural resources.

5.1 Site Description

MRA TS835 is 29.4 acres, and located in the northeast portion of the Base, just north of the Former Ordnance/Current Munitions Storage Area (Figure 1-1). The range was oriented to the northeast. The MRA extends beyond the installation boundary to the east onto the Rajen Dairy property. The off-base portion of the area contains four buildings; the on-base portion of the area does not contain any structures. The area generally consists of an open field with a sparse vegetative cover of low grasses. The only remnants of the range observed on-base include clay target debris and several slabs of concrete. The topography is relatively flat, sloping gently to the southeast. The soil type at the MRA was generally fine sandy loam. The coordinates of the approximate center of the MRA are 34.398436 degrees latitude, -103.299443 degrees longitude. The site is 1,800 ft by 960 ft with a perimeter of 4,700 ft.

5.2 History of Munitions Related Activities

Based on the CSE Phase I review of historical documents and aerial photos, TS835 was likely active from at least 1943 to at least 1946. During operation, munitions use was suspected to be 12-, 16-, or 20-gauge shotgun with shells containing lead shot (Table 2-1). Clay targets contained various PAH compounds, as described in Section 4.3. Typical Army Air Force/AFB SRs were used for training and/or recreational target shooting. No further documentation has been provided regarding the history of munitions-related activities in this area.

5.3 Current Land Use

The on-base portion of TS835 is an open field with no wetlands. To the north, including a portion of the north edge of the MRA, is IRP Site LF-02 (SWMU82). This unlined, inactive cut-and-fill landfill was active from 1946 through 1947, then from 1952 through 1959, and is reportedly covered by 4 to 4.5 ft of cover material consisting of sandy clay (Figure 2-2; A. T. Kearney, 1987). The off-base portion of the MRA is a private property owned by Rajen Dairy. It has a few buildings and is mainly used for storage..

5.4 Access Controls

No fencing or other controls are associated with most of MRA TS835, although access to Cannon AFB requires admittance through the security gate (the perimeter of the installation is fenced). The TS835 area is accessible to anyone with access to Cannon AFB or the adjacent Rajen Dairy property. Access to the on-base portion of the area is restricted to the general public

but accessible to authorized personnel. The eastern edge of the MRA is located on private property, which can be accessed by Rajen Dairy personnel or their visitors.

5.5 Restrictions

There are no restrictions for TS835 with regard to its former use as a firing range.

5.6 Field Investigation Results

This section presents the results of the site reconnaissance, and the sampling and analysis conducted in March 2011.

5.6.1 Site Reconnaissance Observations

The visual survey for TS835 was conducted on 15 March 2010 according to the procedures outlined in Section 5.3.2.1 of the *CSE Phase II Work Plan – Version 2.0* (USACE, 2010), resulting in 100 percent visual coverage of the MRA excluding the off-base area. Items of cultural debris and evidence of previous range use were documented in the field logbook as points of interest (POI) and are discussed below.

During the visual survey, a shotgun casing, two Remington plastic shotgun shells, and another plastic shotgun shell were found. In addition, an apparent modern .50-caliber projectile was found near the southeast corner of the SR fan. These items can be seen in Figure 5-1.

Several areas of clay target debris were identified at varying densities near the firing points of the range and extending about 300 ft downrange as presented in Figure 5-2. The MRA boundary indicated in the Figure shows the theoretical maximum shotfall zone for the skeet range (radius from the firing point of up to approximately 900 feet). Clay targets were easily identifiable by their black color and rounded, molded features, in addition to yellow paint (See Photo 4-3 and Photo 4-4). The extent of clay target debris was mapped according to density, with fragments impacting a total of 2.45 acres. Areas representing low density included clay target debris below ground to a depth of approximately 6 inches bgs; pieces of debris were found in 1 sample (SR045) from 6 to 12 inches bgs; a subsurface sample was collected from this location from 12-12.5 inches; this subsurface sample did not contain target debris. Areas representing medium density included clay target debris below ground to a depth of approximately 6 inches bgs; no pieces of debris were found from 6 to 12 inches bgs in these samples. A total of 25 samples were collected from representative soils at 12 locations within the clay target debris area for potential PAH analysis. The results are presented in Section 5.6.3.2.

Four (4) concrete shooting pads (about 3 by 3 ft) and a larger high-house concrete foundation (about 5 by 8 ft) were observed within TS835 (Figure 5-1). These appeared to be in-place and matched the CSE Phase II assumed orientation of the range. Another overturned pad was also found. These locations were recorded with the GPS, and noted in the field logbook (Appendix E). Additional areas of concrete debris and pea gravel were found. A 1.5-inch diameter metal

pipe, bent into a 3-sided shape about 3 ft wide and 4 ft long was found near concrete, and may have been a marker for a firing point.

Construction type debris observed included wood debris, a metal fence post, and fragments of potential asbestos containing tiles. A monitoring well, with an unlabeled 4-inch diameter protective casing inset into a 3 ft diameter concrete pad with four bollards, was also identified.

In accordance with the methodology described in the Final CSE Phase II Work Plan, because visual survey results did not indicate munitions related impact (i.e., clay target debris or other visual evidence) at or approaching the fence line at the eastern boundary of the Base, and because the ground surface on the Rajen Dairy property had been visibly altered (i.e., there were hay storage structures and well-used dirt roads), a visual survey was not conducted on the off-base portion of MRA TS835.

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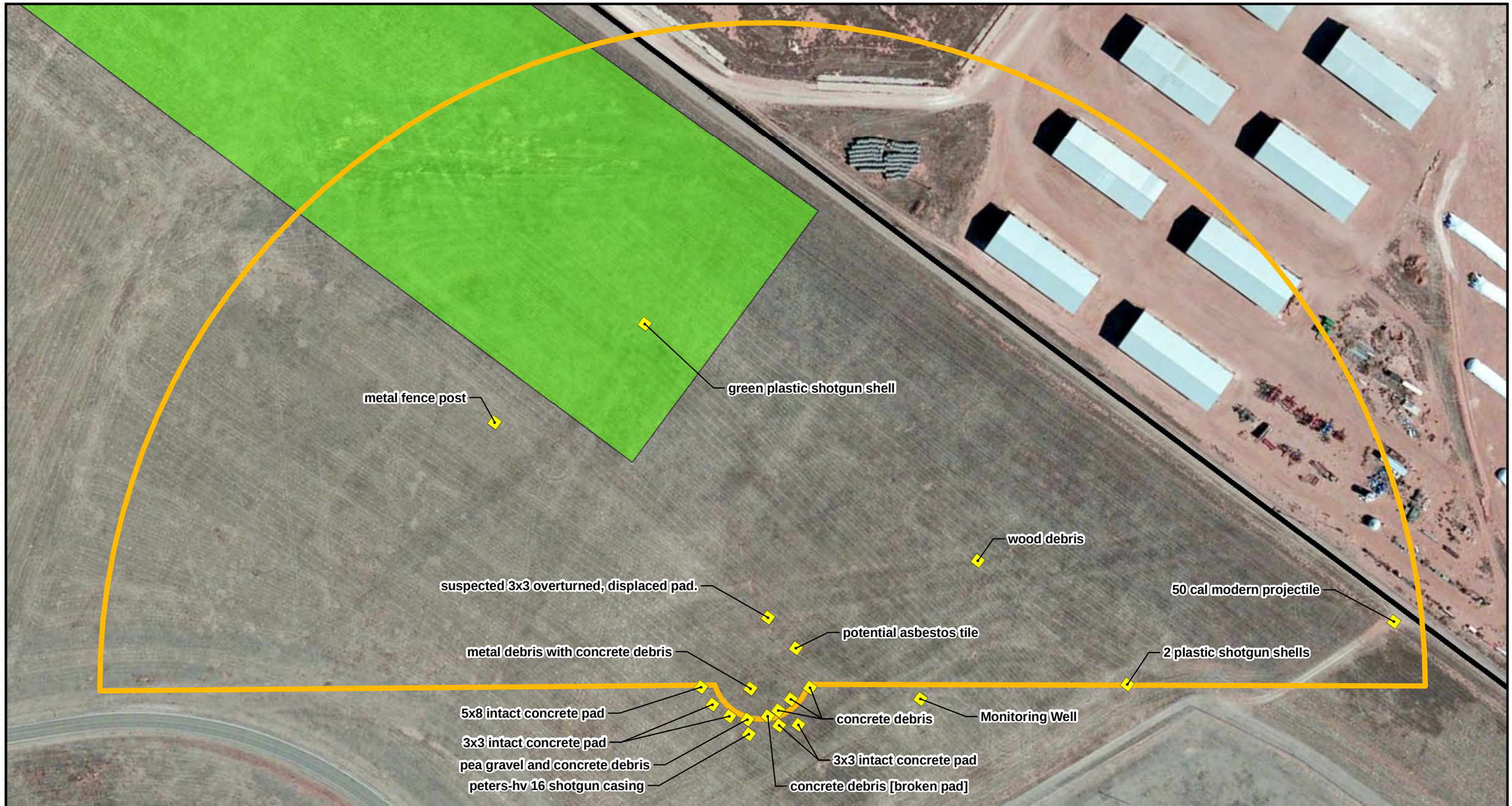

Legend

- Point of Interest
- MRA Boundary
- IRP Site LF-02

Note: Imagery © 2011 Microsoft Corporation
Available Exclusivly by DigitalGlobe, Aquisition date: Oct- Dec 2010.

N

0 75 150 300 Feet

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OMAHA DISTRICT

DESIGNED: D. Feiertag	DATE: 08/09/2011
DRAWN: A. Ryder	DATE: 08/09/2011

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Military Munitions Response Program
Former 1940's Skeet Range
- TS835 -
- Visual Survey Results -
Construction and Cultural Debris Locations
Cannon AFB, NM

PROJECT NO. - FIGURE: 5-1

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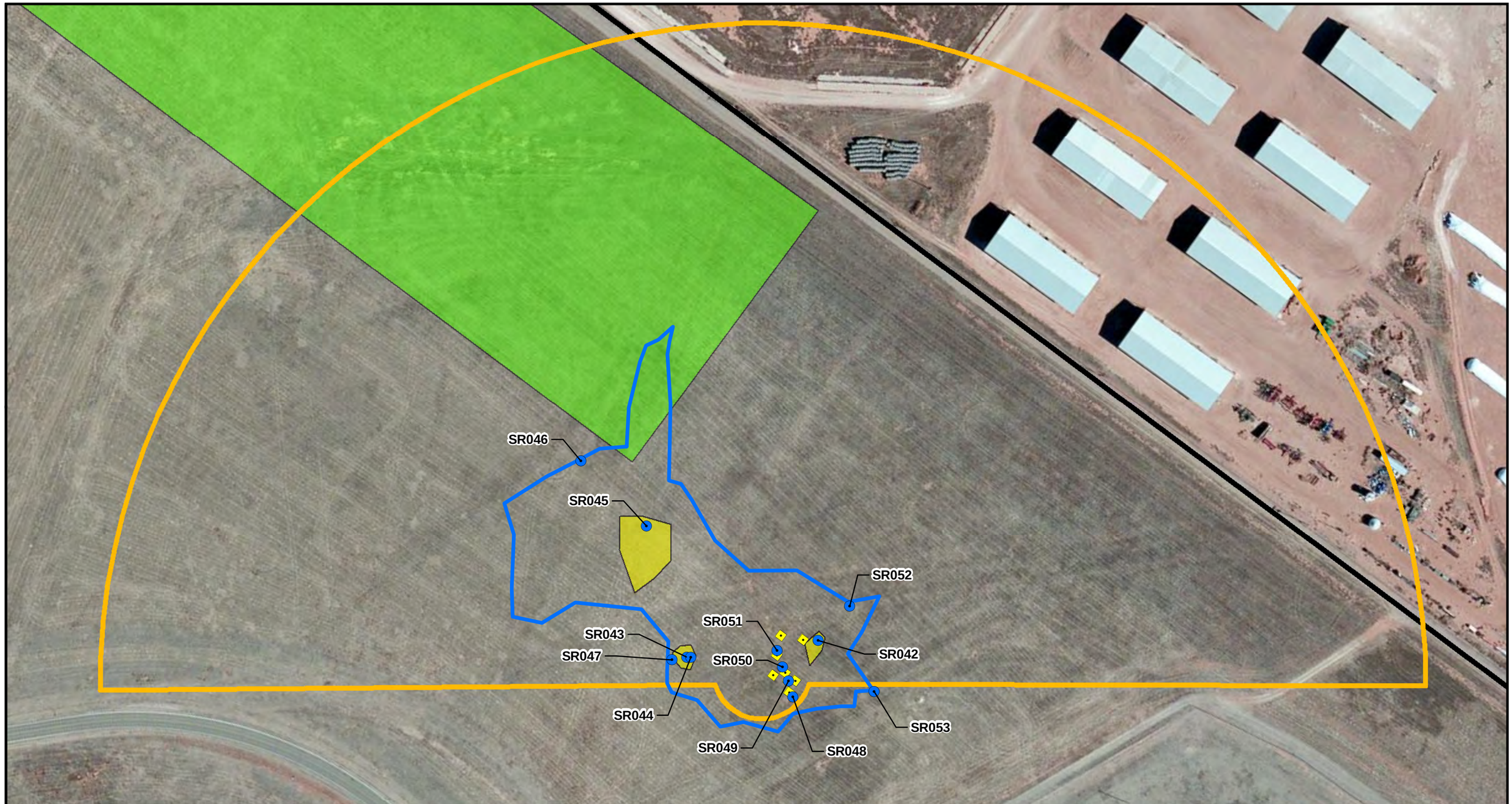

Legend

- PAH Samples
- Points of Medium Density Skeet Debris
- Total Extent of visible Skeet Debris
- Area of Low Density Skeet Debris
- MRA Boundary

0 100 200 400 Feet

N

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Military Munitions Response Program
Former 1940's Skeet Range
- TS835 -
Clay Target Debris and PAH Sample Locations
Cannon AFB, NM

PROJECT NO. - FIGURE: 5-2

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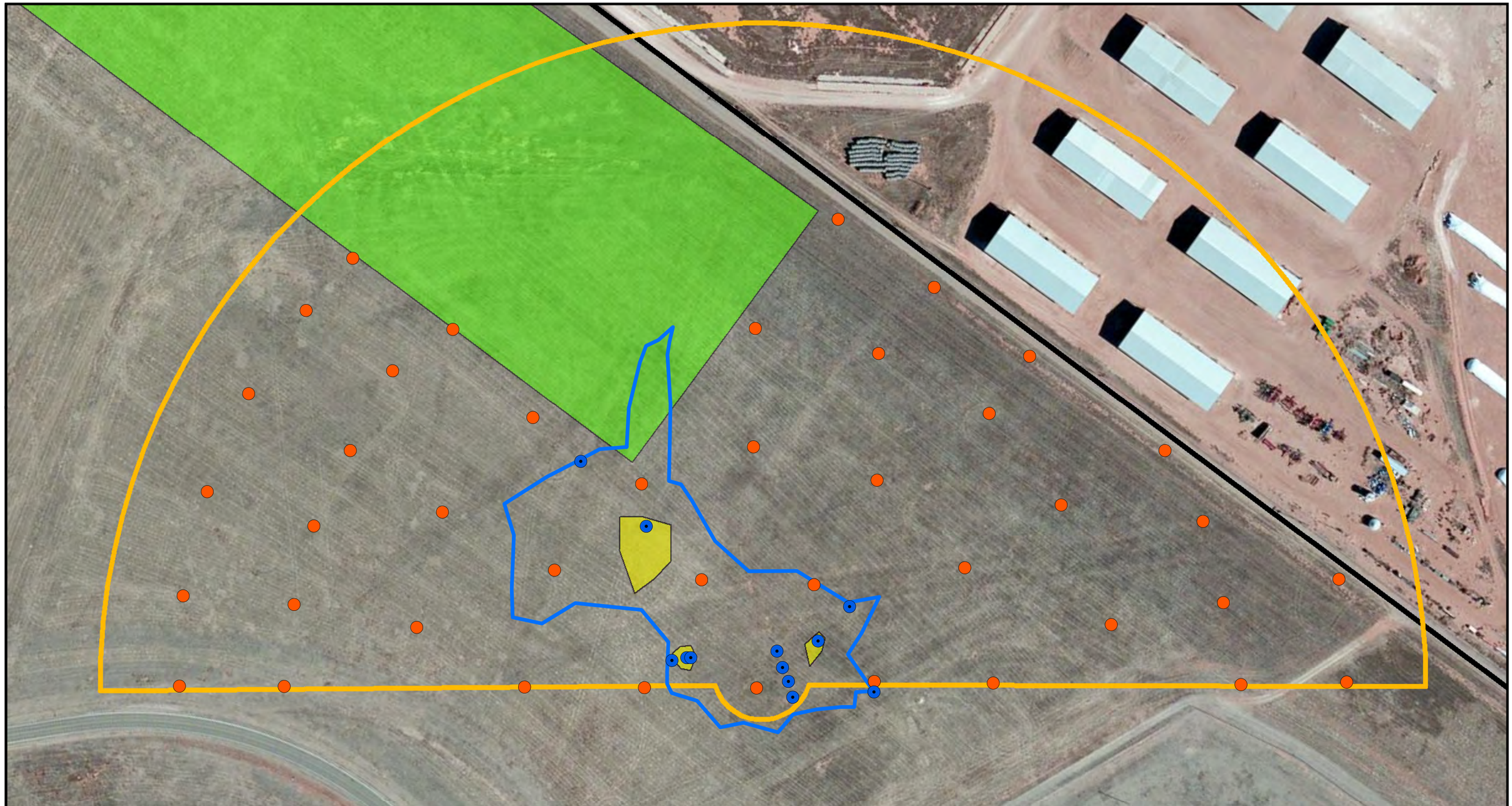

Legend

- PAH Samples
- Lead XRF Samples
- Total Extent of visible Skeet Debris
- Area of Low Density Skeet Debris
- MRA Boundary

0 100 200 400 Feet

N

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Military Munitions Response Program
Former 1940's Skeet Range
- TS835 -
Soil Sample Locations
Cannon AFB, NM

PROJECT NO. - FIGURE: 5-3

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5.6.2 Geophysical Survey Results

A geophysical survey was not performed for TS835 as it was not warranted to achieve the DQOs for this MRA.

5.6.3 Media Sampling Results

5.6.3.1 X-Ray Fluorescence Results

Sampling and on-site analysis of soil for lead contamination using a XRF was performed with the objective of identifying and delineating areas within the footprint of TS835 where lead was above the screening levels. The XRF sample locations and results for the MRA are presented in Figure 5-3 and Figure 5-4 respectively.

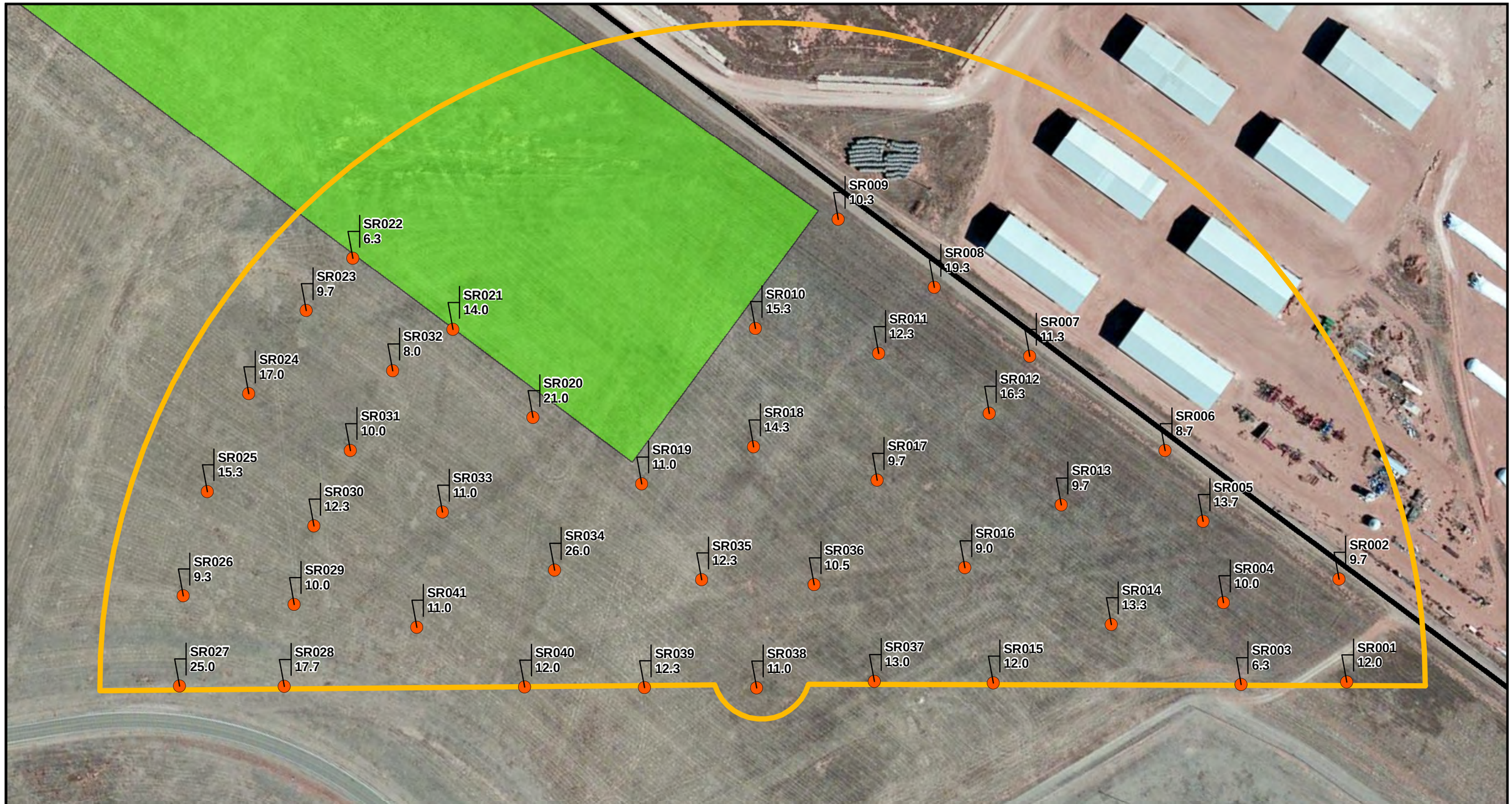
A total of 41 investigative samples were collected from TS835 and analyzed for lead by XRF. Because lead was not detected at elevated concentrations in the surface soil samples, no subsurface soil samples were collected. The soil lead results for the range are presented in Table 5-1. Lead was significantly below the primary NMED SSL and secondary USEPA RSL of 400 mg/kg for unrestricted/ residential land use in all samples collected from the MRA. All lead results were less than 50 ppm; the highest concentration of lead detected in any sample yielded an XRF concentration of 26 ppm. Results from samples submitted for off-site lead analysis to correlate to the XRF results are discussed in Section 5.6.3.2.2.

In accordance with the methodology described in the Final CSE Phase II Work Plan, because XRF results indicated that lead concentrations were well below screening levels at or approaching the fence line at the eastern boundary of the Base, no XRF samples were collected on the off-base portion of MRA TS835.

Table 5-1: XRF Results for 1940s SR, Surface Soil Samples (0 to 6 inches bgs)

Sample ID	Lead (ppm)	Sample ID	Lead (ppm)
SR001	12	SR022	6.3
SR002	9.7	SR023	9.7
SR003	6.3	SR024	17
SR004	10	SR025	15.3
SR005	13.7	SR026	9.3
SR006	8.7	SR027	25
SR007	11.3	SR028	17.7
SR008	19.3	SR029	10
SR009	10.3	SR030	12.3
SR010	15.3	SR031	10
SR011	12.3	SR032	8
SR012	16.3	SR033	11
SR013	9.7	SR034	26
SR014	13.3	SR035	12.3
SR015	12	SR036	10.5
SR016	9	SR037	13
SR017	9.7	SR038	11
SR018	14.3	SR039	12.3
SR019	11	SR040	12
SR020	21	SR041	11
SR021	14		

bgs = below ground surface
ID = identification
ppm = parts per million
SR = Skeet Range
XRF = X-ray fluorescence



Legend

XRF Sample Locations

MRA Boundary

15.0 - Lead XRF Results (ppm)*
* ppm- Parts Per Million

0 100 200 400 Feet

N

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Military Munitions Response Program
Former 1940's Skeet Range
- TS835 -
XRF Sample Locations
and Results
Cannon AFB, NM

PROJECT NO. - FIGURE: 5-4

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5.6.3.2 Laboratory Analytical Results

5.6.3.2.1 Polynuclear Aromatic Hydrocarbons Results

The PAH laboratory analytical results for the soil samples collected in March 2011 were compared to the primary NMED SSLs and the secondary USEPA RSLs for residential use presented in Table 4-2. The laboratory sample results for PAHs are compared to the NMED SSLs in Table 5-2 and to the USEPA RSLs in Table 5-3. In summary, 8 of 25 soil samples collected from TS835 at Cannon AFB and analyzed for PAHs yielded concentrations greater than the NMED SSLs, and 20 of the 25 samples yielded concentrations greater than the USEPA RSLs. Analytes detected at concentrations greater than the NMED SSLs and also greater than the USEPA RSLs include:

- Benzo(a)pyrene;
- Dibenz(a,h)anthracene; and
- Indeno(1,2,3-c,d)pyrene.

Analytes detected at concentrations greater than the USEPA RSLs include:

- Benzo(a)anthracene;
- Benzo(b)fluoranthene; and
- Benzo(k)fluoranthene.

As previously mentioned, low and medium densities of clay target debris were identified and mapped at TS835 prior to sample collection (Figures 5-2 and 5-3). Surface samples (0 to 0.5 ft bgs) and subsurface samples (0.5 to 1 ft bgs) were collected at every location, with a deeper interval (1 to 1.5 ft bgs) collected from a low density area with clay target debris in the 0.5 to 1 ft bgs sample. PAH compounds were detected at concentrations greater than the screening at all intervals.

In accordance with the Final CSE Phase II Work Plan, the observed target fragments, in addition to other debris (e.g., vegetative matter and rocks), were removed from the soil before it was containerized. PAH concentrations above SSLs/RSLs in surface soil in the target fragment area suggested the PAH concentrations may be associated with release of the target fragments to the environment. It should be noted that there are other potential sources of PAH contamination in this immediate area, including exhaust from vehicles; grass is maintained regularly using gas powered mowers.

Some PAH compounds were not detected at concentrations greater than SSLs/RSLs in the subsurface samples (0.5 to 1 ft bgs), and PAH concentrations detected in the background samples were less than in the surface soil samples at 1940s SR. The presence or absence of the clay target fragments on the ground surface during the March 2011 visual survey was used to define the extent of munitions-related PAH contamination.

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TABLE 5-2

PAH Results vs. NMED SSLs
TS835

Sample ID	Max Depth (in)	PARAMETER / NMED SSL (ug/kg) / Result (ug/kg)	1-METHYLNAPHTHALENE		2-METHYLNAPHTHALENE		ACENAPHTHENE		ACENAPHTHYLENE		ANTHRACENE		BENZO(a)ANTHRACENE		BENZO(a)PYRENE		BENZO(b)FLUORANTHENE		BENZO(g,h,i)PERYLENE		BENZO(k)FLUORANTHENE		CHRYSENE		DIBENZ(a,h)ANTHRACENE		FLUORANTHENE		FLUORENE		INDENO(1,2,3-c,d)PYRENE		NAPHTHALENE		PHENANTHRENE		PYRENE	
		NMED SSL (ug/kg)	None		None		3440000		None		17200000		6210		621		6210		None		62100		621000		621		2290000		2290000		6210		45000		1830000		1720000	
		Result (ug/kg)	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
SR042A	6		ND	U	28.3		749		ND	U	90.9		1640		5850		2900		5930		3630		1940		1660		776		41		5000		17.9	J	207		1080	
SR042B	12		ND	U	ND	U	27.9		ND	U	4.88	J	87.7		308		148		292		186		107		82.7		44.9		ND	U	268		ND	U	11.5		59.6	
SR043A	6		20.2	J	61.4	J	1450	J	15.5	J	168	J	2980	J	10200	J	4440	J	9420	J	6940	J	3490	J	3700	J	1450	J	80.9	J	8430	J	31.9	J	396	J	1920	J
SR043B	12		ND	U	ND	U	ND	U	ND	U	ND	U	4.14		15.3		8.38		16.4		11.5		5.19		5.72		2.48	J	ND	U	14.6		ND	U	ND	U	3.06	
SR044A	6		ND	U	ND	U	46.4		ND	U	8.14	J	183		657		331		682		447		234		182		96.4		ND	U	591		ND	U	24.4		129	
SR044B	12		ND	U	ND	U	1.71	J	ND	U	ND	U	6.18		23.3		12.6		24.9		18.7		8.01		8.79		3.56		ND	U	22.4		ND	U	ND	U	4.45	
SR045A	6		ND	U	8.49	J	47.1		ND	U	190		1840		2270		2170		1650		1930		2080		482		3080		23.9		1440		28		823		2230	
SR045B	12		6.91	J	9.16	J	39.3		ND	U	293		1710		1530		1580		940		1430		1860		377		3390		36.4		909		24.5		1290		2300	
SR045C	18		ND	U	ND	U	14.4		ND	U	25.9		482		602		591		431		528		564		163		562		ND	U	373		10.2	J	117		525	
SR046A	6		ND	U	ND	U	10.7	J	ND	U	18		486		661		656		520		542		581		130		628		ND	U	436		6.48	J	89.9		579	
SR046B	12		ND	U	ND	U	2.37	J	ND	U	4.31		46		55.6		47.3		36.9		53.1		60.2		14.6		65.8		ND	U	34.4		2.75		19.2		57	
SR047A	6		ND	U	ND	U	10.7		ND	U	3.3	J	58.3		190		110		203		130		75.6		53.2		44.8		ND	U	174		ND	U	12.1		49.5	
SR047B	12		ND	U	ND	U	16		ND	U	ND	U	65.6		240		116		240		151		81.7		86		33.2		ND	U	214		ND	U	7.52	J	45.5	
SR048A	6		ND	U	ND	U	8.39	J	ND	U	ND	U	40	J	144	J	69.5	J	148	J	102	J	50.2	J	37.9	J	21.5	J	ND	U	126	J	ND	U	5.83	J	27.8	J
SR048B	12		ND	U	ND	U	ND	U	ND	U	ND	U	3.51		10.9		5.61		11		8.65		4.25		3		ND	U	ND	U	10.1		ND	U	ND	U	3.22	
SR049A	6		ND	U	ND	U	133		ND	U	21.7	J	464		1630		749		1540		1170		562		431		221		ND	U	1370		ND	U	60.6		315	
SR049B	12		ND	U	ND	U	ND	U	ND	U	ND	U	2.55	J	7.93		4.45		8.42		5.93		2.85		2.31	J	ND	U	ND	U	7.51		ND	U	ND	U	1.55	J
SR050A	6		ND	U	2.68	J	59.9		ND	U	9.51		193		689		332		701		474		235		192		94.7		3.43	J	614		ND	U	22.7		128	
SR050B	12		ND	U	ND	U	22.4		ND	U	ND	U	87.4		323		169		310		224		106		86.4		40.8		ND	U	282		ND	U	8.87	J	ND	U
SR051A	6		ND	U	ND	U	27.7		ND	U	4.48	J	105		396		192		410		275		132		109		53.3		ND	U	357		ND	U	12.2		71.4	
SR051B	12		ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
SR052A	6		ND	U	ND	U	ND	U	ND	U	ND	U	11		31.4		18.6		33.8		24.1		15		8.59		12.5		ND	U	28.6		ND	U	4.92	J	13.1	
SR052B	12		ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	1.47	J	ND	U	1.51	J	ND	U	ND	U	ND	U	ND	U	ND	U	1.33	J	ND	U	ND	U	ND	U
SR053A	6		ND	U	ND	U	ND	U	ND	U	ND	U	2.82	J	4.05	J	4.47	J	4.03	J	3.94	J	4.05	J	ND	U	6.24		ND	U	3.69	J	ND	U	2.53	J	4.88	J
SR053B	12		ND	U	ND	U	10.3	J	ND	U	ND	U	35		126		64.8		126		89.4		40.9		33.1		17.9		ND	U	112		ND	U	ND	U	23.9	
BKG001A	6		ND	U	ND	U	ND	U	ND	U	ND	U	5.93		6.54		7.25		5.67		6.58		7.69		2.68	J	15.5		ND	U	5.2		ND	U	8.19		12.3	
BKG002A	6		ND	U	ND	U	ND	U	ND	U	ND	U	6.12		7.87		8.75		7.03		8.24		8.82		ND	U	18.5		ND	U	6.34		ND	U	7.01		13.6	
BKG003A	6		ND	U	ND	U	ND	U	ND	U	ND	U	4.42	J	5.35		6.69		4.66	J	4.89	J	6.41		ND	U	13.2		ND	U	4.25	J	ND	U	5.33		9.91	
BKG004A	6		ND	U	ND	U	ND	U	ND	U	ND	U	3.07	J	3.65	J	4.12	J	3.25	J	3.66	J	4.23	J	ND	U	7.9		ND	U	3.07	J	ND	U	3.61	J	6.12	
BKG005A	6		ND	U	ND	U	ND	U	ND	U	ND	U	2.74	J	3.27	J	3.78	J	2.88	J	3.48	J	3.76	J	ND	U	6.98		ND	UJ	2.73	J	ND	U	3.06	J	5.5	
BKG006A	6		ND	U	ND	U	ND	U	ND	U	ND	U	8.33		9.53		9.29		7.75		10.2		10.4		ND	U	22.6		ND	U	7.04		ND	U	10.9		18.3	
BKG007A	6		ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	3.2	J	3.74	J	ND	U	3.31	J	3.61	J	ND	U	6.7	J	ND	U	ND	U	ND	U	ND	U	5.35	J
BKG008A	6		ND	U	ND	U	ND	U	ND	U	ND	U	3.4	J	4.01	J	4.27	J	3.13	J	4.04	J	4.53	J	ND	U	8.07		ND	U	3.17	J	ND	U	3.17	J	6.59	
BKG009A	6		ND	U	ND	U	ND	U	ND	U	ND	U	3.36	J	4.21	J	5.05	J	3.25	J	4.46	J	4.83	J	ND	U	8.96		ND	U	3.34	J	ND	U	4.13	J	6.71	
BKG010A	6		ND	U	ND	U	ND	U	ND	U	ND	U	4.6	J	5.34		6.03		4.28	J	5.73		6.55		ND	U	13.4		ND	U	4.16	J	ND	U	6.89		10.5	

Notes:
Bold results indicate value exceeds NMED SSL
ND = not detected above limit of detection
NMED SSL = New Mexico Environmental Department Soil Screening Level
ug/kg = micrograms per kilogram
TS835 = Former 1940s Skeet Range
SR = Skeet Range sample
BKG = background sample
Qual = data qualifier
J = estimated value
U = not detected above method detection limit
all results and RSLs reported as ug/kg unless otherwise stated

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TABLE 5-3

PAH Results vs. EPA RSLs
TS835

Sample ID	Max Depth (in)	PARAMETER / EPA RSL (ug/kg) / Result (ug/kg)	1-METHYLNAPHTHALENE 22000		2-METHYLNAPHTHALENE 310000		ACENAPHTHENE 3400000		ACENAPHTHYLENE None		ANTHRACENE 17000000		BENZO(a)ANTHRACENE 150		BENZO(a)PYRENE 15		BENZO(b)FLUORANTHENE 150		BENZO(g,h,i)PERYLENE None		BENZO(k)FLUORANTHENE 1500		CHRYSENE 15000		DIBENZ(a,h)ANTHRACENE 15		FLUORANTHENE 2300000		FLUORENE 2300000		INDENO(1,2,3-c,d)PYRENE 150		NAPHTHALENE 3600		PHENANTHRENE None		PYRENE 1700000	
			Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
SR042A	6		ND	U	28.3		749		ND	U	90.9		1640		5850		2900		5930		3630		1940		1660		776		41		5000		17.9	J	207		1080	
SR042B	12		ND	U	ND	U	27.9		ND	U	4.88	J	87.7		308		148		292		186		107		82.7		44.9		ND	U	268		ND	U	11.5		59.6	
SR043A	6		20.2	J	61.4	J	1450	J	15.5	J	168	J	2980	J	10200	J	4440	J	9420	J	6940	J	3490	J	3700	J	1450	J	80.9	J	8430	J	31.9	J	396	J	1920	J
SR043B	12		ND	U	ND	U	ND	U	ND	U	ND	U	4.14		15.3		8.38		16.4		11.5		5.19		5.72		2.48	J	ND	U	14.6		ND	U	ND	U	3.06	
SR044A	6		ND	U	ND	U	46.4		ND	U	8.14	J	183		657		331		682		447		234		182		96.4		ND	U	591		ND	U	24.4		129	
SR044B	12		ND	U	ND	U	1.71	J	ND	U	ND	U	6.18		23.3		12.6		24.9		18.7		8.01		8.79		3.56		ND	U	22.4		ND	U	ND	U	4.45	
SR045A	6		ND	U	8.49	J	47.1		ND	U	190		1840		2270		2170		1650		1930		2080		482		3080		23.9		1440		28		823		2230	
SR045B	12		6.91	J	9.16	J	39.3		ND	U	293		1710		1530		1580		940		1430		1860		377		3390		36.4		909		24.5		1290		2300	
SR045C	18		ND	U	ND	U	14.4		ND	U	25.9		482		602		591		431		528		564		163		562		ND	U	373		10.2	J	117		525	
SR046A	6		ND	U	ND	U	10.7	J	ND	U	18		486		661		656		520		542		581		130		628		ND	U	436		6.48	J	89.9		579	
SR046B	12		ND	U	ND	U	2.37	J	ND	U	4.31		46		55.6		47.3		36.9		53.1		60.2		14.6		65.8		ND	U	34.4		2.75		19.2		57	
SR047A	6		ND	U	ND	U	10.7		ND	U	3.3	J	58.3		190		110		203		130		75.6		53.2		44.8		ND	U	174		ND	U	12.1		49.5	
SR047B	12		ND	U	ND	U	16		ND	U	ND	U	65.6		240		116		240		151		81.7		86		33.2		ND	U	214		ND	U	7.52	J	45.5	
SR048A	6		ND	U	ND	U	8.39	J	ND	U	ND	U	40	J	144	J	69.5	J	148	J	102	J	50.2	J	37.9	J	21.5	J	ND	U	126	J	ND	U	5.83	J	27.8	J
SR048B	12		ND	U	ND	U	ND	U	ND	U	ND	U	3.51		10.9		5.61		11		8.65		4.25		3		ND	U	ND	U	10.1		ND	U	ND	U	3.22	
SR049A	6		ND	U	ND	U	133		ND	U	21.7	J	464		1630		749		1540		1170		562		431		221		ND	U	1370		ND	U	60.6		315	
SR049B	12		ND	U	ND	U	ND	U	ND	U	ND	U	2.55	J	7.93		4.45		8.42		5.93		2.85		2.31	J	ND	U	ND	U	7.51		ND	U	ND	U	1.55	J
SR050A	6		ND	U	2.68	J	59.9		ND	U	9.51		193		689		332		701		474		235		192		94.7		3.43	J	614		ND	U	22.7		128	
SR050B	12		ND	U	ND	U	22.4		ND	U	ND	U	87.4		323		169		310		224		106		86.4		40.8		ND	U	282		ND	U	8.87	J	ND	U
SR051A	6		ND	U	ND	U	27.7		ND	U	4.48	J	105		396		192		410		275		132		109		53.3		ND	U	357		ND	U	12.2		71.4	
SR051B	12		ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
SR052A	6		ND	U	ND	U	ND	U	ND	U	ND	U	11		31.4		18.6		33.8		24.1		15		8.59		12.5		ND	U	28.6		ND	U	4.92	J	13.1	
SR052B	12		ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	1.47	J	ND	U	1.51	J	ND	U	ND	U	ND	U	ND	U	ND	U	1.33	J	ND	U	ND	U	ND	U
SR053A	6		ND	U	ND	U	ND	U	ND	U	ND	U	2.82	J	4.05	J	4.47	J	4.03	J	3.94	J	4.05	J	ND	U	6.24		ND	U	3.69	J	ND	U	2.53	J	4.88	J
SR053B	12		ND	U	ND	U	10.3	J	ND	U	ND	U	35		126		64.8		126		89.4		40.9		33.1		17.9		ND	U	112		ND	U	ND	U	23.9	
BKG001A	6		ND	U	ND	U	ND	U	ND	U	ND	U	5.93		6.54		7.25		5.67		6.58		7.69		2.68	J	15.5		ND	U	5.2		ND	U	8.19		12.3	
BKG002A	6		ND	U	ND	U	ND	U	ND	U	ND	U	6.12		7.87		8.75		7.03		8.24		8.82		ND	U	18.5		ND	U	6.34		ND	U	7.01		13.6	
BKG003A	6		ND	U	ND	U	ND	U	ND	U	ND	U	4.42	J	5.35		6.69		4.66	J	4.89	J	6.41		ND	U	13.2		ND	U	4.25	J	ND	U	5.33		9.91	
BKG004A	6		ND	U	ND	U	ND	U	ND	U	ND	U	3.07	J	3.65	J	4.12	J	3.25	J	3.66	J	4.23	J	ND	U	7.9		ND	U	3.07	J	ND	U	3.61	J	6.12	
BKG005A	6		ND	U	ND	U	ND	U	ND	U	ND	U	2.74	J	3.27	J	3.78	J	2.88	J	3.48	J	3.76	J	ND	U	6.98		ND	UJ	2.73	J	ND	U	3.06	J	5.5	
BKG006A	6		ND	U	ND	U	ND	U	ND	U	ND	U	8.33		9.53		9.29		7.75		10.2		10.4		ND	U	22.6		ND	U	7.04		ND	U	10.9		18.3	
BKG007A	6		ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	3.2	J	3.74	J	ND	U	3.31	J	3.61	J	ND	U	6.7	J	ND	U	ND	U	ND	U	ND	U	5.35	J
BKG008A	6		ND	U	ND	U	ND	U	ND	U	ND	U	3.4	J	4.01	J	4.27	J	3.13	J	4.04	J	4.53	J	ND	U	8.07		ND	U	3.17	J	ND	U	3.17	J	6.59	
BKG009A	6		ND	U	ND	U	ND	U	ND	U	ND	U	3.36	J	4.21	J	5.05	J	3.25	J	4.46	J	4.83	J	ND	U	8.96		ND	U	3.34	J	ND	U	4.13	J	6.71	
BKG010A	6		ND	U	ND	U	ND	U	ND	U	ND	U	4.6	J	5.34		6.03		4.28	J	5.73		6.55		ND	U	13.4		ND	U	4.16	J	ND	U	6.89		10.5	

Notes:
Bold results indicate value exceeds EPA RSL
ND = not detected above limit of detection
EPA RSL = US Environmental Protection Agency Residential Screening Level
ug/kg = micrograms per kilogram
TS835 = Former 1940s Skeet Range
SR = Skeet Range sample
BKG = background sample
Qual = data qualifier
J = estimated value
U = not detected above method detection limit
all results and RSLs reported as ug/kg unless otherwise stated

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5.6.3.2.2 Lead Correlation Results

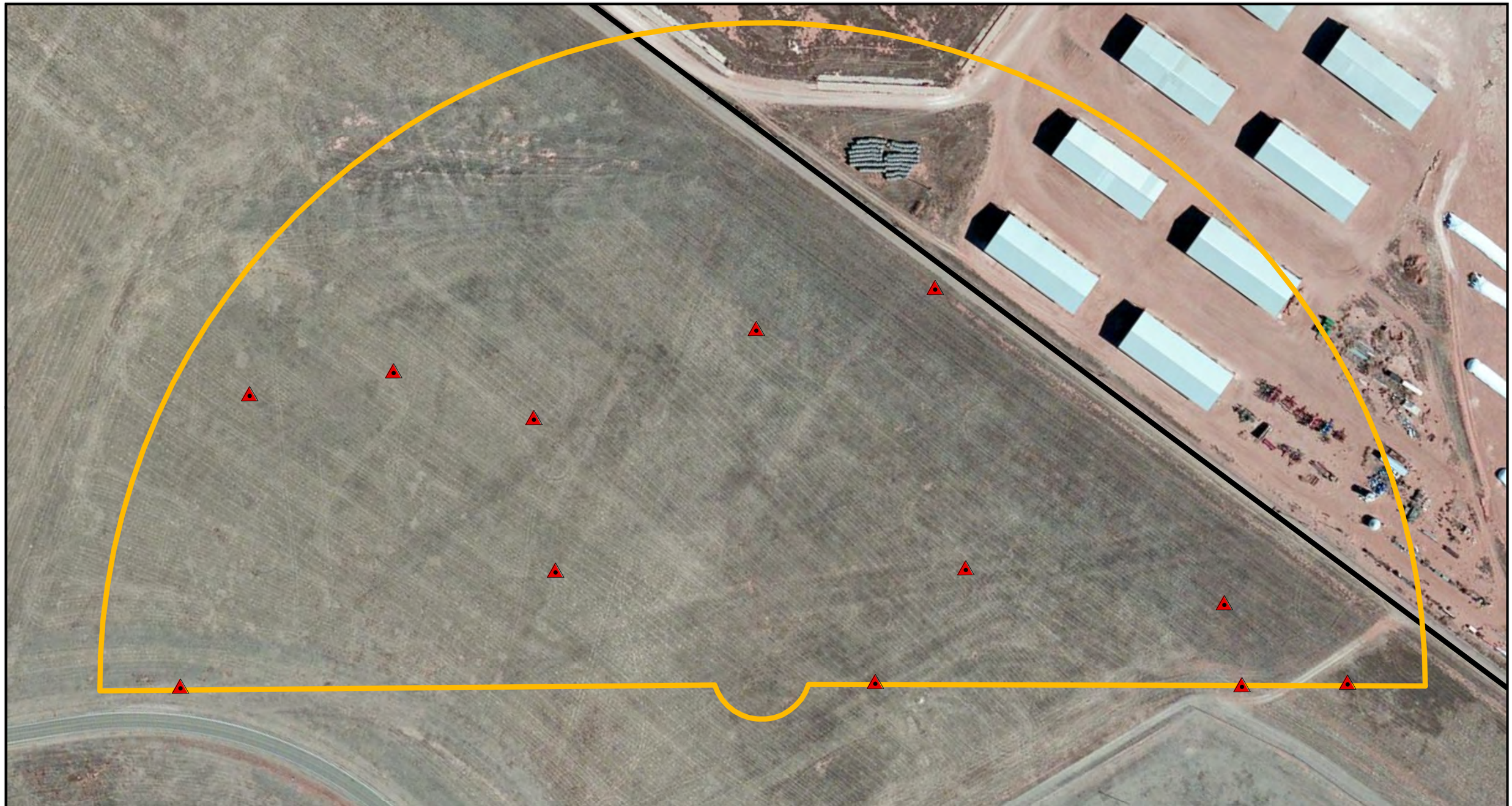
As previously mentioned, a total of 12 soil samples were selected for off-site lead analysis, based on XRF results, to develop a correlation between the field XRF results and the off-site laboratory results. The locations of the soil samples selected for off-site analysis are shown on Figure 5-5. The XRF and laboratory analysis results were plotted and evaluated for correlation for the specific site and sampling effort using a linear regression process to measure slope. The data used in the correlation plot are presented in Table 5-4. A graphical plot of the regression line and lead data is presented in Figure 5-6. The calculated positive correlation coefficient of 0.93 indicates that the XRF results may be considered definitive in accordance with USEPA SW846 Method 6200, and the correlation analyses can be used to verify the quality of the XRF data.

XRF analyses provide a measure of the amount of lead in a soil sample on an “as received” basis irrespective of the mass or weight of sample analyzed. The measured concentration is expressed as the number of lead-specific energy counts in a unit of time counted, which is represented in the proportional measure ppm. Laboratory-based ICP-AES analyses under USEPA SW846 Method SW6010B provide a measure of the amount of lead in a soil sample on a “dry-weight” basis, which takes into account the moisture content of the soil, for a specific mass or weight of sample analyzed. The measured concentration is expressed as the mass or weight of lead in a specific weight of dry soil and is represented in the unit weight measure mg/kg. As measures of lead in soil concentration, the proportional measure (i.e., ppm) is equivalent to the unit weight measure (i.e., mg/kg). For comparability, lead results in this report are typically presented as a unit weight measure (i.e., mg/kg) for both on-site XRF and off-site laboratory ICP-AES analyses.

Table 5-4: Lead Correlation Sample Results for Cannon AFB

Sample ID	Sample Depth (inches bgs)	Lead Concentration		RPD[1] (%)
		XRF ppm (Field)	ICP mg/kg (Lab)	
SR034A	0 - 6	26	22.7	13.6
SR027A	0 - 6	25	21.2	16.5
SR020A	0 - 6	21	17.9	15.9
SR008A	0 - 6	19.3	22.1	13.5
SR024A	0 - 6	17	20.6	19.1
SR010A	0 - 6	15.3	14.3	6.8
SR037A	0 - 6	13	11.4	13.1
SR001A	0 - 6	12	10.4	14.3
SR004A	0 - 6	10	8.02	22.0
SR016A	0 - 6	9	8.35	7.5
SR032A	0 - 6	8	10.6	28.0
SR003A	0 - 6	6.33	6.53	3.1

[1] –RPD is calculated for each individual result set using the absolute value of the difference between the XRF result and laboratory analytical result divided by the average of the two results multiplied by 100 percent.
AFB = Air Force Base
bgs = below ground surface
ICP = inductively coupled plasma
mg/kg = milligrams per kilogram
ppm = parts per million
RPD = relative percent difference
XRF = X-ray fluorescence



Legend

Lead Correlation Sample Locations

MRA Boundary

0 100 200 400 Feet

N

Note: Imagery © 2011 Microsoft Corporation
Available Exclusivly by DigitalGlobe, Aquisition date: Oct- Dec 2010.

U.S. ARMY CORPS OF ENGINEERS

OMAHA DISTRICT

DESIGNED: D. Feiertag	DATE: 08/09/2011
DRAWN: A. Ryder	DATE: 08/09/2011

VERSAR
6850 VERSAR CENTER
SPRINGFIELD, VIRGINIA 22151
(703)750-3000

Military Munitions Response Program
Former 1940's Skeet Range
- TS835 -
Lead Correlation
Soil Sample Locations
Cannon AFB, NM

PROJECT NO. - FIGURE: 5-5

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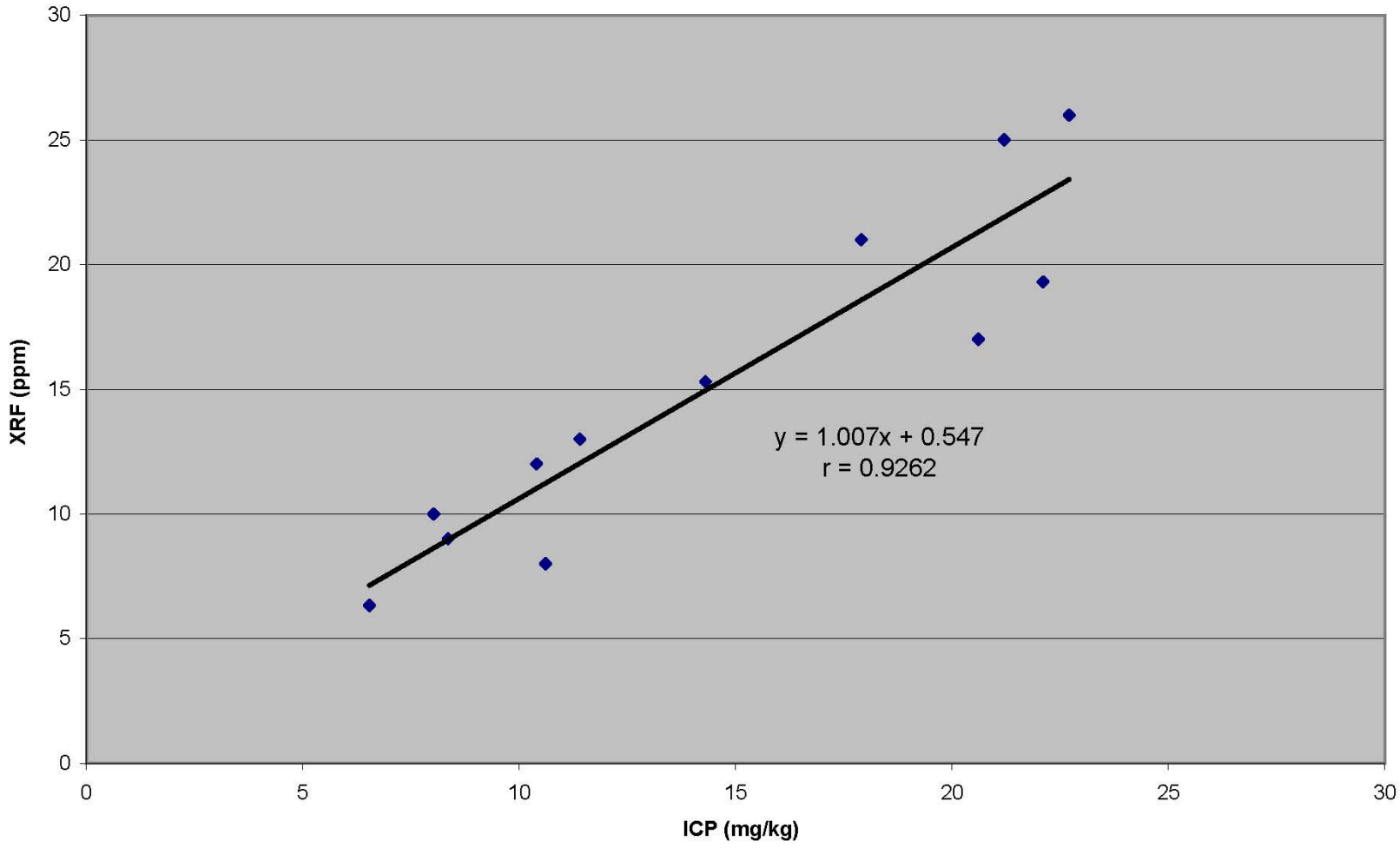
Figure 5-6: Cannon AFB Lead Samples – XRF vs. ICP



5.6.4 Background Determination

5.6.4.1 Polynuclear Aromatic Hydrocarbons

Under the CSE Phase II, 10 surface soil samples were collected from a designated background area and analyzed for PAHs to determine anthropogenic background concentrations. This area was similar in soil type and human impact to the MRA, with the exception that there was no historical munitions use at the background area. This area was a field similar to that of the MRA (i.e., it is currently unused and contains no buildings). The maximum background concentrations were initially used to screen the data from the range, to assess whether the concentrations at the range were elevated, potentially representing contamination from range activities. As described below, the PAH concentrations in soil at the range were higher than the background concentrations for several compounds.

For PAH compounds with more than two detections, background values for PAHs were applied to a 95 percent UTL with 95 percent coverage of the sample set to develop comparison values for each PAH analyte. Validated PAH data was entered into ProUCL® software to derive values. For PAH compounds with two detections or less, the greater of the LOD concentrations were used as a conservative estimate for a background value. Background results are presented in Table 5-5 and are compared to PAH soil samples collected at TS835.

Table 5-5: PAH Anthropogenic Background Comparison to TS835 at Cannon AFB

PAH	Background[1] Value (mg/kg)	Range Surface Soil		Range Subsurface Soil	
		# Samples above Background[2]	Max (mg/kg)	# Samples above Background[2]	Max (mg/kg)
1-Methylnaphthalene	0.0029[a]	1	0.0202	1	0.00691
2-Methylnaphthalene	0.0029[a]	3	0.0614	1	0.00916
Acenaphthene	0.0029[a]	10	1.45	6	0.0393
Acenaphthylene	0.0029[a]	1	0.0155	0	ND
Anthracene	0.0029[a]	9	0.19	4	0.293
Benzo(a)anthracene	0.0095	11	2.98	7	1.710
Benzo(a)pyrene	0.0095	12	10.2	10	1.53
Benzo(b)fluoranthene	0.0093	11	4.44	8	1.58
Benzo(g,h,i)perylene	0.0094	12	9.42	10	0.94
Benzo(k)fluoranthene	0.0102	11	6.94	9	1.43
Chrysene	0.0104	11	3.49	7	1.86
Dibenz(a,h)anthracene	0.0029[a]	11	3.7	11	0.377
Fluoranthene	0.0226	9	3.08	7	3.39
Fluorene	0.0029[a]	4	0.0809	1	0.0364
Indeno(1,2,3-cd)pyrene	0.0084	11	8.43	10	0.909
Naphthalene	0.0029[a]	4	0.0319	2	0.245
Phenanthrene	0.0129	7	0.823	3	1.29
Pyrene	0.0183	10	2.23	6	2.3

[1]Background value determination detailed in Section 5.6.4.
[2] Non-detect values assumed to be less than background concentration.
[a] Fewer than 2 detected values; background value based on highest LOD (see Section 5.6.4.1).

AFB = Air Force Base
mg/kg = milligrams per kilogram
ND = not detected
PAH = polynuclear (or polycyclic) aromatic hydrocarbons

5.6.4.2 Metals

Background metals data for soil contained in the Technical Memorandum No. ES01: Statistical Methodology for Evaluating Arsenic Concentrations in Soils at Cannon AFB, NM (Brown and Caldwell, 2008) was used to evaluate lead concentrations at 1940s SR. The soil sample data

from the MRA was compared to the background levels to determine whether the concentrations at the range were elevated due to range activities. Background values are presented in Table 5-6.

Of the 41 lead samples analyzed by XRF at TS835, two (2) samples yielded results between the background concentration of 5.6-7.4 mg/kg. All other samples (39 samples) yielded results above the background concentration. The highest value, SR034 at 26.0 ppm, was located approximately 300 ft northwest of the firing point. Although all but two (2) lead samples exceed the background value of 5.6-7.4 mg/kg, all samples collected and analyzed for lead at TS835 were well below the RSL of 400 mg/kg.

It should be noted that the detection limit (DL) of the XRF was near the background value for lead in soil. Of the 39 lead results above the Cannon AFB background range of 5.6 to 7.4 mg/kg, 37 detected results were less than 20 ppm.

Table 5-6: Metals Background Comparison for Cannon AFB

Analyte - Method	Background[1] (mg/kg)	Range Surface Soil	
		# Samples above Background/ Total	Max (mg/kg)
Lead	5.6-7.4	39/41[2]	26.0

[1] Background values for metals based on Technical Memorandum No. ES01: Statistical Methodology for Evaluating Arsenic Concentrations in Soils at Cannon AFB, NM (Brown and Caldwell, 2008).
[2] The approximate detection limit for the XRF was above the background value for lead (20 ppm); no samples yielded ND XRF concentrations for any of the analyses.
AFB = Air Force Base
mg/kg = milligrams per kilogram
ND = not detected above the detection limit
ppm = parts per million
XRF = X-ray fluorescence

5.7 Identification of Potential Receptors

TS835 is located amidst the active airfield, operational buildings, and recreational areas, in the area of maintained grasses. Current human receptors at SR could be base personnel, including those working in the vicinity performing grounds maintenance.

5.7.1 Nearby Population

Cannon AFB is located approximately 8 miles west of the city of Clovis, in Curry County, New Mexico.It had a population estimate of 32,863 people in 2009 (U.S. Census, 2011). In 2009, the population density of Curry County was 32 persons per square mile (U.S. Census, 2011).

5.7.2 Buildings Near/Within Munitions Response Area

No Cannon AFB operational buildings are located within the footprint of the MRA. The off-base portion of the MRA extending onto the Rajen Dairy Property contains four buildings. Numerous buildings are located within a one-mile radius of the MRA. There are more than 26 buildings within a 2-mile radius of TS835 (these numbers are a classification designation within the EHE module).

5.7.3 Utilities Near/Within Munitions Response Area

It is expected that there are underground utilities near or in MRA TS835, however, all utilities were buried greater than 1.5ft deep (the maximum sampling depth).

5.8 Natural Resources

5.8.1 Wetlands

No wetlands have been identified at or near MRA TS835 (CH2M Hill, 1983).

5.8.2 Rare, Threatened, or Endangered Species

There is one endangered species candidate, the black-tailed prairie dog, in the vicinity of Cannon AFB. The black-tailed prairie dog is not found at MRA TS835. There are no other known, threatened, endangered, or special status species identified near the SR at Cannon AFB, NM (USACE, 2009).

5.8.3 Cultural Resources

There are no archaeological sites or historic sites documented for MRA TS835 at Cannon AFB, NM (USACE, 2009).

6.0 EVALUATION OF KNOWN/SUSPECTED MEC

6.1 Munitions and Explosives of Concern Technical Data

Only evidence of small arms use was found at TS835 at Cannon AFB. As no historical or physical evidence of MEC present at these MRAs, no MEC technical data are provided.

6.2 Primary Sources and Release Mechanisms

As discussed above, there is no historical or physical evidence of MEC present at the Cannon AFB MRA. Therefore, no primary sources of MEC are identified for Cannon AFB.

6.3 Munitions and Explosives of Concern Locations (Secondary Sources)

As there is no historical or physical evidence of MEC present at the Cannon AFB MRA, secondary sources of MEC are not applicable to this installation.

6.4 Munitions and Explosives of Concern Penetration Estimates

As there is no historical or physical evidence of MEC present at the Cannon AFB MRA, penetration estimates are not applicable.

6.5 Special Consideration Munitions and Explosives of Concern

In addition to conventional ordnance contamination, the HRRs also examined the site for the presence of special consideration MEC (e.g., CWM, DU). Based upon evidence collected from archives research, no special consideration MEC was used at the Cannon AFB MRA.

6.6 Known/Suspected Munitions Constituents

The MCs associated with munitions used at TS835 include lead from ammunition and PAHs from clay targets. None of the MCs known or suspected to be present at Cannon AFB are considered to be an explosive concern, and therefore, do not fall under the definition of MEC.

6.7 Explosive Safety Submission Information

There are no known explosive hazards associated with the MRA at Cannon AFB. Therefore, an Explosive Safety Submission (ESS) is not required although an NFA-ESS document will be prepared if no other action is deemed appropriate for (portions of) TS835.

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7.0 EVALUATION OF HAZARDOUS WASTE/SUBSTANCES

7.1 Hazardous Waste Activities

There are approximately 56 active or closed IRP, CRP (Compliance Restoration Program), or compliance associated sites at Cannon AFB. One of these sites (LF-02) overlaps with the MRA being investigated under this CSE Phase II investigation. The locations of the current sites are shown on Figure 7-1.

7.2 Hazardous Waste Characteristics

The overlapping area of the landfill (LF-02) within the MRA was not sampled during this CSE Phase II investigation as it is a closed IRP site. Soil analysis results from LF-02 in 1985 showed lead levels below the current USEPA residential RSL of 400 ppm (A.T. Kearny, 1987). There is no apparent overlap between sampling for MC in soils during the MMRP investigation at 1940s SR or the contaminants found under the IRP investigations at any of the other IRP sites, as discussed in the previous section.

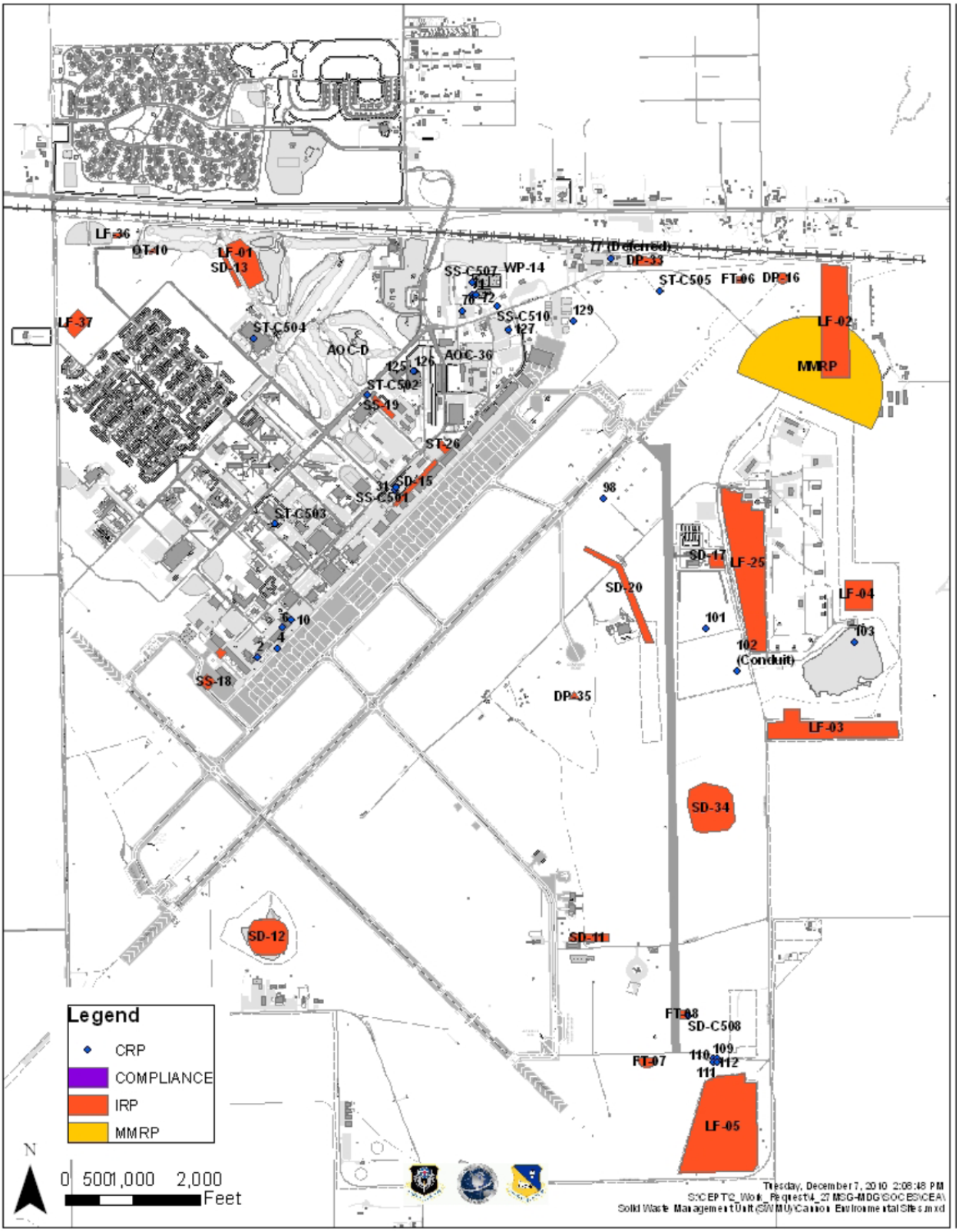
7.3 Identification of Source Areas

Based on soil analytical results from LF-02 (AT Kearny, 1987) there are no known continuing source areas associated with MRA TS835 at Cannon AFB that overlap with the MMRP investigation at TS835.

7.4 Characterization of Potential Contaminants of Concern Known/Suspected Releases

The CSE Phase II investigation did not identify any previously unidentified contaminants of potential concern (COPC) or known or suspected releases at Cannon AFB.

Figure 7-1: Current IRP Site Locations



8.0 **CONCEPTUAL SITE MODEL**

The CSM was developed to address potential MEC and/or MC environmental contamination. The CSM is a description of the site and its environment based on existing knowledge. It describes contamination sources and possible receptors, and the interactions that link them. The CSM is intended to assist in planning, interpreting data, and communicating, and evolves through an iterative process of further data collection or action. The following CSM information for Cannon AFB was refined through the CSE Phase II process.

8.1 Munitions and Explosives of Concern

Sources are those areas where MEC has entered (or may enter) the physical system. There were no validated sources of MEC at the Cannon AFB MRA, as described in Section 6.0. Munitions-related activities that are known to have occurred at Cannon AFB were associated with small arms use. None of the MC known or suspected to be present at the Cannon AFB MRA are considered to be an explosive concern, and therefore, do not fall under the definition of MEC.

Since there is no historical or physical evidence of MEC associated with the Cannon AFB MRA and no evidence of MEC was observed during the CSE Phase II investigation, the MEC exposure pathways are considered incomplete.

8.1.1 Munitions and Explosives of Concern Exposure Pathway Analysis

The information presented in the Interim CSM was used to identify all actual, potentially complete, or incomplete source-receptor interactions for the site, for both current and reasonably anticipated future land uses. An exposure pathway is the course a chemical or physical agent takes from a source to a receptor. As there is no evidence of MEC use at the Cannon AFB MRA, there are no MEC exposure pathways.

8.1.2 Transport Processes

As there is no evidence of MEC at the Cannon AFB MRA, an evaluation of transport process is not applicable.

8.1.3 Exposure Media and Accessibility

As there is no evidence of MEC at the Cannon AFB MRA, an evaluation of exposure media and accessibility is not applicable.

8.1.4 Munitions and Explosives of Concern Exposure Receptors

The receptors that were considered for Cannon AFB were: authorized installation personnel, authorized contractors and visitors, trespassers, and biota. However, as previously stated, there is no historical or physical evidence of MEC at the Cannon AFB MRA; therefore, the potential pathways associated with the above listed receptors are considered incomplete with respect to MEC.

8.1.5 Munitions and Explosives of Concern Exposure Conclusions

There is no historical or physical evidence of explosive MEC associated with TS835. Therefore, exposure to MEC is not applicable for this MRA. The only military munitions use identified at this MRA are associated with small arms. Once fired, these may result in release of MC.

8.2 Munitions Constituents, Hazardous Substances, Pollutants and Contaminants, and Other Constituents

An exposure pathway is the course a chemical or physical agent takes from a source to a receptor. At the Cannon AFB MRA, only terrestrial exposures are expected potentially to occur. The sources of MC at TS835 are the munitions-related activities associated with the SR as summarized in Section 5.2. Lead, detected above background concentrations at certain locations within the SR, is associated with shot and primer. PAHs detected in the surface and subsurface soil at the SR are from clay target fragments, which are composed of a mineral powder held together with an asphalt-like petroleum pitch binder that contains PAH compounds. MC may have been released directly to soil during the initial deposition activity or through weathering of munitions-related debris (e.g., lead shot or clay target fragments).

Prior to the CSE Phase II work, the Interim CSM was used to identify all actual, potentially complete, or incomplete source-receptor interactions for the site, for both current and reasonably anticipated future land uses, to design the sampling approach. Each MC pathway includes a source, an exposure medium, an exposure route, and a receptor. The MC pathways may also include a release mechanism and a transport medium if the point of exposure is not at the same location as the source. Environmental contaminants, such as MC, often undergo various processes (e.g., migration) such that media other than the source area can become contaminated. A combination of naturally-occurring and human activities increases the risk of exposure to MC. Natural occurrences, such as soil erosion due to high winds or water action, can loosen and displace soils, causing MC located on or beneath the ground surface at the MRAs to be moved or exposed. At the time of the MC release into the environment, the medium receiving the item was soil. The CSM for MC exposure at Cannon AFB is presented in Figure 8-1.

The fate and transport of the MC are dependent on a wide variety of factors. Contaminant fate refers to the expected final state that an element, compound, or group of compounds will achieve following release to the environment. Contaminant transport refers to the mechanisms and rates of migration of contaminants away from the source area. Migration pathways often include air,

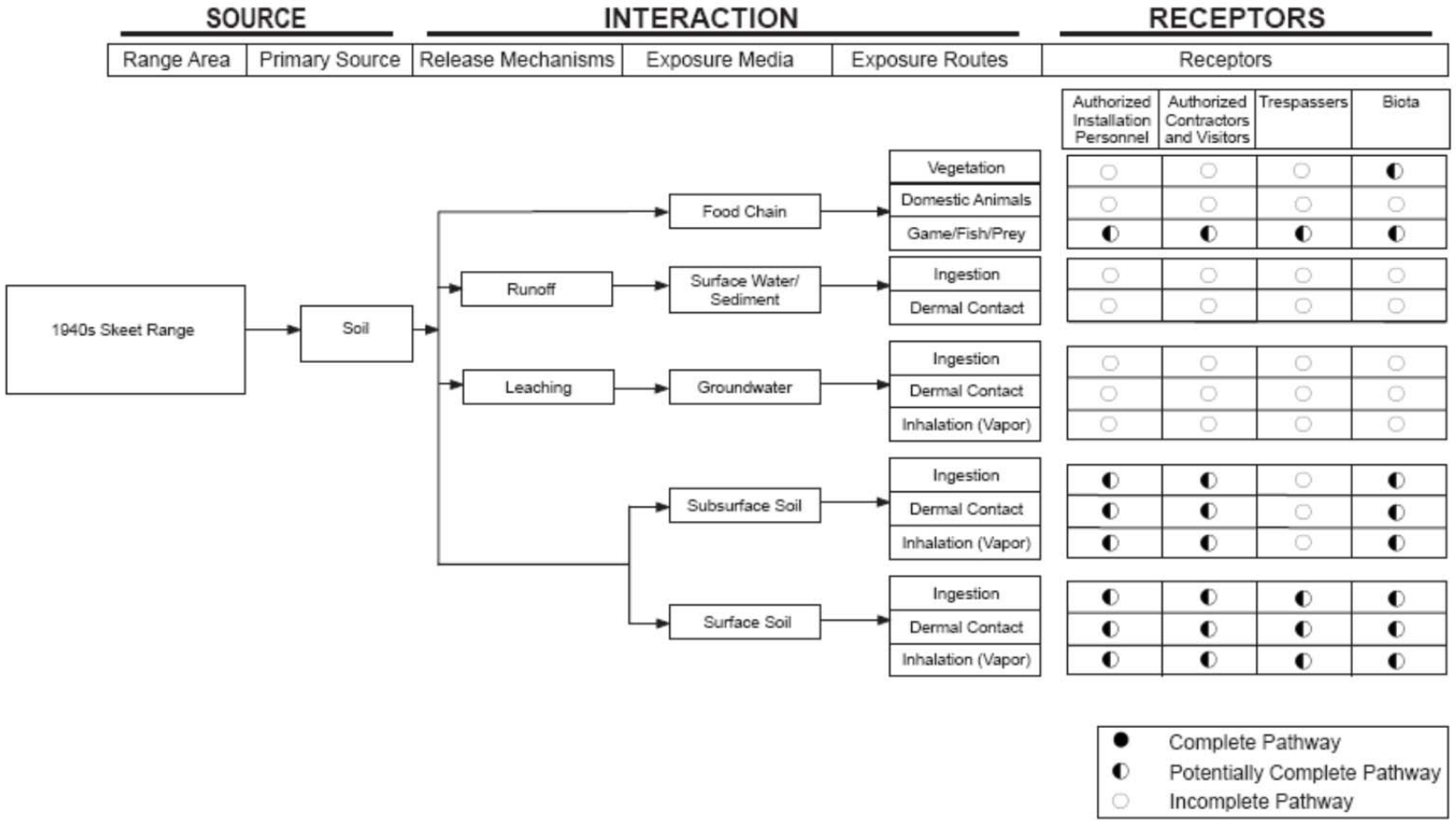
water, soil, and the interfaces between the phases of the contaminant (i.e., solid, liquid, or gas). The fate and transport of contaminants occurs in only one of the three potential environmental media: terrestrial (i.e., not aquatic or atmospheric).

The fate and transport of potential contaminants at Cannon AFB are strongly influenced by physical and chemical properties, as well as by environmental factors such as soil characteristics. For example, according to the Henry's Law Constants, a measure of the volatility of a compound is related to other physical properties of the compound, the most important of which are vapor pressure and water solubility. Compounds exhibiting high vapor pressures and low water solubilities tend to have high volatilization rates (and therefore, high Henry's Law Constants). The organic carbon partition coefficient (K_{oc}) value is a measure of the tendency of a chemical to be sorbed to the organic fraction of soil. The higher the value, the greater the sorption potential of the compound will be. The octanol water partition coefficient (K_{ow}) value is an indication of whether a compound will dissolve in a solvent (i.e., n-octanol) or water. The properties of the primary compounds of interest at Cannon AFB (metals and PAHs) are as follows:

Metals: Since most metals are indigenous to the earth, they are usually found at varying concentrations in most environmental media. In soil, metal contaminants are dissolved in the soil solution; adsorbed or ion-exchanged in inorganic soil constituents; complexed with soluble soil organic matter; and precipitated as pure or mixed solids. Metals in the soil solution are subject to movement with water particles and may be transported through the vadose zone to groundwater, and then either volatilized or consumed by plants and aquatic organisms. Unlike organic constituents, metals cannot be degraded; however, the mobility and toxicity of some metals can be altered due to changes in oxidation states. The solubility of lead is strongly influenced by negative log hydrogen ion concentration (pH). Under natural pH conditions, lead is relatively insoluble. Lead has a high affinity to be sorbed to surfaces on clay and iron and manganese oxide particles. The net effect is for lead to be primarily bound to the solid state. Lead is nonvolatile, but can become airborne via dust.

PAHs: PAH compounds tend to associate with the soil phase, because they have a strong affinity for organic matter (K_{ow} range from 10^4 to 10^7). This tendency is even greater when soil organic matter concentrations are large. Very little of the PAHs dissolves directly in water, but where water contains dissolved or particulate organic matter, there is a competition for association of the PAH between the aqueous organic matter and solid phase organic matter. Limited transport of PAHs in soil may occur if there is a high organic content in the soil pore water. PAHs are nonvolatile, but can become airborne via dust.

Figure 8-1: MC Exposure Pathway Analysis – 1940s SR (TS835)



8.2.1 Soil Pathway Exposure Analysis

8.2.1.1 Soil Exposure Receptors

Potential soil receptors that are typically evaluated include both human and ecological receptors. Human soil receptors at the Cannon AFB MRA that were considered for this evaluation include authorized installation personnel and Rajen Dairy property personnel (including current and future residents), authorized contractors and visitors, and trespassers. No ecological receptors were identified in the CSE Phase I or Phase II. The potential for human and ecological receptor exposure to the MC-impacted soil is negligible, because the on-base PAH-impacted site (1940s SR) is characterized by maintained (i.e., mowed) grassy areas and the Rajen Dairy property appears to be used primarily for equipment storage. Based on the CSE Phase I, it does not appear that dairy cattle are grazed or fed in that area. Clay target debris or pieces are not bioavailable to ecological receptors. Consequently, the exposure and migration of the contaminants is limited. No sensitive ecological populations, habitat, or natural resources are at or adjacent to the site. Consequently, a biological assessment for impact from past munitions-related activities is not warranted.

8.2.1.2 Soil Exposure Conclusions

Because the soil exposure pathway for human receptors was potentially complete, surface and subsurface soil sampling was performed for the Cannon AFB MRA during the CSE Phase II. This evaluation found that low levels of lead are present in soil at TS835, at concentrations significantly less than the NMED residential SSL and USEPA residential RSL of 400 mg/kg. Where clay target fragments were present, PAHs were found at concentrations greater than NMED residential SSLs and USEPA residential RSLs and at concentrations greater than background levels for various compounds at concentrations potentially harmful to human receptors. As previously described, the ecological exposure pathway at this MRA is limited.

8.2.2 Surface Water/Sediment Migration Pathway Analysis

8.2.2.1 Surface Water Receptors

There is no significant surface water in the vicinity of TS835 at Cannon AFB. Therefore, no surface water or sediment sampling were conducted for the CSE Phase II, and the results of the CSE Phase II soil investigation confirmed there was no impact from historic SR activities that would have the potential to impact surface water. Therefore, the surface water pathway is considered to be incomplete human, ecological, and all other receptors.

8.2.2.2 Surface Water Conclusions

There is no significant surface water in the vicinity of TS835, and MC concentrations at this MRA were low. Since virtually all areas are covered with vegetation that minimizes the potential for erosion, the impact of transported contaminated topsoil to surface water is

negligible. Therefore, it is unlikely any current or future receptor would be exposed to MC via a surface water exposure pathway. As such, surface water is considered an incomplete exposure route.

8.2.3 Groundwater Migration Pathway Analysis

8.2.3.1 Groundwater Receptors

Human and ecological receptors are not likely to come into contact with the groundwater medium at Cannon AFB. The Modified CSE Phase I (USACE, 2009) found that there is a there are no wetlands in the vicinity of the MRA, and the depth to groundwater is approximately 250 ft (CH2M Hill, 1983).

8.2.3.2 Groundwater Conclusions

No groundwater sampling was conducted for the CSE Phase II, because no significant impact to groundwater was expected. The results of the CSE Phase II soil investigation confirmed the MCs are not expected to impact groundwater. Groundwater occurs approximately 250 ft bgs at Cannon AFB. The physical properties of the MC (i.e., metals and PAHs) associated with the munitions activities at the MRA, in addition to the depth of water and the low concentrations, indicates MC transport to groundwater is unlikely. The potential MCs associated with the MRA generally have limited mobility in soil, due to their tendency to bind to organic matter. As a result, the groundwater pathway for MCs is considered to be incomplete.

9.0 **SCREENING LEVEL HUMAN HEALTH RISK ASSESSMENT**

9.1 General Approach

A screening-level Human Health Risk Assessment (HHRA) was performed for TS835 at Cannon AFB. As discussed in Section 8.0, a CSM was developed to address MC environmental contamination. The CSM describes sources of contamination, possible receptors, and possible exposure pathways. Potential current and future human exposure pathways were reviewed to determine whether the pathways associated with this MRA were complete. The pathways and receptors are summarized in Section 9.2.

To evaluate potential human health risks, the measured concentrations in environmental media (surface and subsurface soil) were compared with human health screening concentrations (USEPA RSLs). The sampling data and screening results for the environmental media investigated for the CSE Phase II have been previously presented in Section 5.6.3. Results and conclusions of the HHRA are discussed below. No surface water, sediment, or groundwater data were collected; therefore, no additional assessment of risk for these media is presented.

9.2 Pathways and Receptors

Cannon AFB employs over 600 civilian and over 4,000 military employees (Cannon AFB, 2011). Cannon AFB is located near the city of Clovis, NM, which had an estimated 2009 population of 32,863 (U.S. Census, 2011). Residential and commercial properties and agricultural fields are located around the base. Access to Cannon AFB requires admittance through a security gate, and there is a fence around the perimeter of the installation. Once inside Cannon AFB, there are no restrictions to entering the MRA boundaries. The portion of the MRA on Rajen Dairy property is private land with no security restrictions.

MRA TS835 is located near the northeast corner of the Base and is now divided into two main sections: the northeast half of the MRA is off-base private property owned by the Rajen Dairy; the remainder is an on-base open unused field. As previously mentioned, the range was in use from the early 1940s to the early 1950s. There are no current indications of the former use of this area as a range other than clay target debris identified during the visual survey (Section 5.6.1).

The pathway analysis for MC is discussed in Section 8.2 and illustrated in the CSM in Figure 8-1. As shown in Figure 8-1, potential receptors include authorized Cannon AFB, authorized contractors and visitors, possible trespassers and anyone with access to the Rajen Dairy property. Installation or other authorized personnel may access the area to perform grounds maintenance. Potential exposure routes to surface and subsurface soil include incidental ingestion, dermal contact, and inhalation of dust.

9.3 Soil

9.3.1 Lead

As shown in Table 5-1 through Table 5-3, 41 surface soil samples (0 to 0.5 ft bgs) were collected from TS835. All soil samples were analyzed for lead by XRF. As shown in Table 5-4, 12 surface soil samples (0 to 0.5 ft bgs) were collected and analyzed for lead by ICP. Results from the ICP analysis were used to develop a correlation with the XRF results. A positive direct correlation was established between the ICP and XRF analyses. Lead concentrations did not exceed the USEPA residential RSL in any of the samples.

9.3.2 Polynuclear Aromatic Hydrocarbons

As shown in Table 5-2 and Table 5-3, 12 surface soil samples were collected from 0 to 0.5 ft bgs, 12 subsurface soil samples were collected from 0.5 to 1 ft bgs, and 1 subsurface soil sample was collected from 1 to 1.5 ft bgs at TS835 and analyzed for PAH compounds by Method 8270C-SIM. Sample locations were selected based on low and medium density clay target fragments, as identified during the visual survey. Benzo(a)pyrene was found at concentrations exceeding the USEPA residential RSL in 11 surface and 9 subsurface soil samples. At least one additional PAH compound, including benzo(a)anthracene; benzo(b)fluoranthene; dibenz(a,h)anthracene; dibenz(a,h)anthracene; and indeno(1,2,3-c,d)pyrene, had detections above the USEPA residential and industrial standard in surface and subsurface samples as well.

As shown in Figure 5-2, the horizontal extent of visually-identified clay target fragments were recorded with the site GPS. Vertical and horizontal delineation of MC has not been confirmed with laboratory analyses as part of the CSE Phase II; soil samples were collected solely based on the visual confirmation of clay target debris.

9.4 Human Health Risk Assessment Conclusions and Recommendations

Concentrations of lead in soil do not exceed the USEPA residential RSLs at TS835. Based on results of human health screening, no further evaluation of lead in soil is recommended at this location.

Concentrations of PAHs in remaining soil at TS835 exceed the USEPA residential RSLs at concentrations potentially harmful to human health. The total impacted area totals 2.45 acres, all of which falls within the SR boundary.

An Engineering Evaluation (EE)/Cost Analysis (CA) with subsequent non-time-critical removal action (RA) is recommended at TS835 to remove clay target fragments and PAH-impacted soils to levels below residential standards. Additional details are presented in Section 13.0 – Summary and Conclusions.

10.0 SCREENING LEVEL ECOLOGICAL RISK ASSESSMENT

10.1 General Approach

A screening-level ecological risk assessment (SLERA) based on comparison to ecological risk screening levels was not performed for TS835 at Cannon AFB, as determined in the Work Plan. No ecological receptors were identified in the CSE Phase I, and none were identified based on the CSE Phase II work. As discussed in Section 8.0, a CSM was developed to address MC environmental contamination, and the ecological pathway was determined to be limited. Additional information on the habitat is described below.

10.2 Habitat and Receptors

Most of the vegetation at the site is grass typical of semiarid short grass prairies (CH2M Hill, 1983). The black-tailed prairie dog is a Federal Endangered Species Act candidate animal that has been found at the Base, however, according to the CSE Phase I, no black-tailed prairie dogs were found to be present at TS835 (USACE, 2009). Most biota would not likely find suitable habitat in the grassy areas with limited cover. The current land use of TS835 is an unused field on the on-base portion of the MRA and private property mainly used for storage on the off-base portion of the MRA. Therefore, no ecological receptors are considered for the SR.

10.3 Soil

The results of the CSE Phase II investigation confirm ecological exposure to contaminated soil or MD is limited. Lead in soil was below USEPA RSL levels at the MRA,and clay target debris is not bio-available to ecological receptors.

As previously mentioned no threatened or endangered species are known to occupy TS835.

10.4 Surface Water

Surface water was found in Section 8.2.2 to be an incomplete exposure pathway and therefore is not further evaluated.

10.5 Groundwater

Groundwater was found in Section 8.2.3 to be an incomplete exposure pathway and therefore is not further evaluated.

10.6 Additional Ecological Issues

There are no additional ecological issues to consider for TS835.

10.7 Screening Level Ecological Risk Assessment Conclusions and Recommendations

A SLERA for MRA TS835 at Cannon AFB is not warranted because of the limited exposure pathway. Clay target debris or pieces are not bio-available to ecological receptors. No further ecological evaluation is recommended for this site.

11.0 MUNITIONS RESPONSE SITE PRIORITIZATION PROTOCOL

DoD proposed the MRSPP [32 Code of Federal Regulations (CFR) Part 179] to assign a relative risk priority to each defense site in the MMRP Inventory for response activities. These response activities are to be based on the overall conditions at each location and taking into consideration various factors related to explosive safety and environmental hazards (68 Federal Register 50900). The application of the MRSPP applies to all locations:

- That are or were owned, leased to, or otherwise possessed or used by DoD;
- That are known to or are suspected of containing MEC or MC; and
- That are included in the MMRP Inventory (DoD 2009b).

In assigning a relative priority for response activities, DoD generally considers MRSs posing the greatest hazard as being the highest priority. In the USAF program, the MRS priority will be one factor in determining the sequence in which munitions response actions are funded.

The MRSPP tables for Cannon AFB are presented as Appendix J. Following EESOH-MIS nomenclature rules, the 1940s SR MRA is identified as TS835. This is the designation used in the MRSPP tables. Separate MRSPP scores were issued for each of the three MRSs that MRA TS835 was divided into [see Sections 14.2 and 14.3]: MRS TS835 (area showing elevated PAH concentrations), MRS TS835a (on-base area showing no elevated COC concentrations), and MRS TS835b (off-base area). A summary of the results is presented in Section 13.4.

11.1 Explosive Hazard Evaluation Module

The EHE module assesses the presence of known or suspected explosive hazards. The EHE module is composed of three factors, each of which has two to four data elements that are intended to assess the specific conditions at an MRS. These factors are as follows:

1. **Explosive Hazard**, which has the data elements *Munitions Type and Source of Hazard*.
2. **Accessibility**, which has the data elements *Location of Munitions*, *Ease of Access*, and *Status of Property*.
3. **Receptors**, which has the data elements *Population Density*, *Population Near Hazard*, *Types of Activities/Structures*, and *Ecological and/or Cultural Resources*.

Based on site-specific information, each data element is assigned a numeric value, and the sum of these values is the EHE module score. The EHE module score results in an MRS receiving a rating.

There is no historical or physical evidence of explosive MEC associated with TS835 at Cannon AFB. Therefore, all three MRSs at this MRA received a module rating of “G,” which is the lowest priority rating.

11.2 Chemical Warfare Materiel Hazard Evaluation Module

The CHE module provides an evaluation of the chemical hazards associated with the physiological effects of CWM. The CHE module is used only when CWM in the form of MEC or MC, are known or suspected of being present at an MRA. Like the EHE module, the CHE module has three factors, each of which has two to four data elements that are intended to assess the conditions at an MRA. These factors are as follows:

1. **CWM Hazard**, which has the data elements, *CWM Configuration and Sources of CWM*.
2. **Accessibility**, which focuses on the potential for receptors to encounter the CWM known or suspected to be present on an MRA. This factor consists of three data elements: *Location of CWM, Ease of Access,* and *Status of Property*.
3. **Receptor**, which focuses on the human and ecological populations that may be impacted by the presence of CWM. It has the data elements: *Population Density, Population Near Hazard, Types of Activities/Structures,* and *Ecological and/or Cultural Resources*.

Similar to the EHE module, each data element is assigned a numeric value, and the sum of these values (i.e., the CHE module score) is used to determine the CHE rating. There is no history of CWM use at the Cannon AFB MRA, nor did the CSE Phase II identify any evidence of CWM. Therefore the CHE module does not apply to TS835. All three MRS at this MRA received the alternative module rating of "No Known or Suspected CWM Hazard."

11.3 Health Hazard Evaluation Module

The HHE module provides a consistent DoD-wide approach for evaluating the relative risk to human health and the environment posed by contaminants (i.e., MCs) present at an MRA. The module has three factors that are as follows:

1. **Contamination Hazard Factor (CHF)**, which indicates contaminants present. This factor contributes a level of *High (H), Middle (M),* or *Low (L)* based on *Significant, Moderate,* or *Minimal* contaminants present, respectively.
2. **Receptor Factor (RF)**, which indicates the receptors. This factor contributes a level of *H, M,* or *L* based on *Identified, Potential,* or *Limited* receptors, respectively.
3. **Migration Pathway Factor (MPF)**, which indicates environmental migration pathways, and contributes a level of *H, M,* or *L* based on *Evident, Potential,* or *Confined* pathways, respectively.

The HHE builds on the Relative Risk Site Evaluation (RRSE) framework that is used in the IRP. The CHF, RF, and MPF are based on a quantitative evaluation of MCs and/or CERCLA hazardous substances, and a qualitative evaluation of pathways and human and ecological receptors in groundwater, surface water, sediment, and surface soils. The HHE does not address subsurface soils. However, as the depth appropriate for evaluation in the MRSPP per DoD

guidance is 0 to 2 ft, and the soil samples collected from Cannon AFB were 0 to 0.5 ft, 0.5 to 1 ft, and 1.0 to 1.5 ft, all soil results obtained from Cannon AFB were used in the HHE module. In addition, the HHE does not consider air as a pathway, because the risk through this medium from DoD MMRP sites with soil contamination generally is minimal.

The H, M, and L levels for the CHF, RF, and MPF are combined in a matrix to obtain composite three-letter combination levels that integrate considerations of all three factors. The three-letter combination levels are organized by frequency, and the resulting frequencies result in an HHE rating. The ratings for each of the HHE modules of the MRSPP are compiled in Appendix I and summarized in Table 11-1.

Table 11-1: Summary of HHE Data Element Scores

Specific Data Element	TS835	TS835a	TS835b
Contaminant Hazard Factor	H	L	NA
Receptor Factor	M	L	NA
Migration Pathway Factor	M	L	NA
HHE Combination Level	**HMM**	**LLL**	**NA**
Total HHE Module Rating[1]	**C**	**G**	**No Known or Suspected Hazard**

[1] A through G represents a rating where A is the highest priority rating and G is the lowest priority rating.
HHE = Health Hazard Evaluation
H/M/L = high/medium/low
NA = not applicable

11.4 Munitions Response Site Prioritization Protocol Score

Each MRA or discrete MRS is assigned a MRS Priority ranging from 1 to 8. Priority 1 indicates the highest potential hazard and Priority 8 indicates the lowest potential hazard. Only a site with a CW hazard can receive a MRS Priority of 1. The MRS Priority is determined by selecting the highest rating from amongst the EHE, CHE, and HHE modules. For example, if the EHE rating is 2, the CHE rating is 5, and the HHE rating is 4; the MRS Priority assigned would be 2. The MRS Priority will be used to determine the future funding sequence of MRAs and/or MRSs for further munitions response action. The MRS Priority for the Cannon AFB MRA is presented in Table 11-2.

Table 11-2: Priority Rating for Cannon AFB MRSs

Specific Data Element	TS835	TS835a	TS835b
EHE Module Rating	8	8	8
CHE Module Rating	NA[1]	NA[1]	NA[1]
HHE Module Rating	4	8	NA[1]
Priority[2]	**4**	**8**	**8**
Total HHE Module Rating[3]	**C**	**G**	**No Known or Suspected Hazard**[4]

[1] - not applicable because the Rating/Priority is "No Known or Suspected Hazard"
[2] - no priority rating was developed during the *Modified CSE Phase I Report* (USACE, 2009) and instead it was deferred to this CSE Phase II investigation.
[3] - A through G represents a rating where A is the highest priority rating and G is the lowest priority rating.
[4] - Alternate rating.

AFB = Air Force Base
CHE = Chemical Warfare Material Hazard Evaluation
CSE = Comprehensive Site Evaluation
EHE = Explosive Hazard Evaluation
MRS = Munitions Response Site
NA = not applicable
HHE = Health Hazard Evaluation

12.0 PERCHLORATE REPORTING

Perchlorate sampling has previously been performed at Cannon AFB. Previously analyzed drinking water and surface water samples were found to be above the USEPA and DoD Preliminary Remediation Goal of 15 ppb (parts per billion). Soil concentrations were not found to be above the USEPA Region VI residential soil screening level of 55,000 ppb (parts per billion) and the industrial soil screening level of 720,000 ppb. Cannon AFB has developed a Perchlorate Action Plan to address perchlorate levels (DENIX, 2011).

No perchlorate sources were identified at Cannon AFB MRA TS835. Therefore, sampling for perchlorate was not warranted for this MRA and is not proposed to be completed in the future.

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13.0 SUMMARY AND CONCLUSIONS

This section summarizes the significant results obtained and conclusions reached as a result of CSE Phase II activities conducted at Cannon AFB. Only the most significant findings are presented in this section and are reproduced directly or abstracted from information contained in this report. The conclusions provide general and comparative interpretations of the findings, in terms of the general objectives of the CSE Phase II.

13.1 Summary of Comprehensive Site Evaluation Phase II Activities

This CSE Phase II activity compiled and evaluated information on Cannon AFB relating to the possible presence of potentially explosive MEC and associated contamination of environmental media from MC. Sources of this information were observations during detailed visual surveys and environmental media sampling. This information was reviewed and used to develop and refine the CSM of potential exposures to MEC and MC. The CSM related the indicated sources of MEC/MC to potential direct contact exposures to people at Cannon AFB in consideration of both the current and projected future land uses. These relationships, or potentially complete exposure pathways, also considered the possible transport or migration of MEC and MC from place to place as the result of natural processes or the activities of people, as appropriate. These land use scenarios were evaluated with respect to how people would interact with the land at Cannon AFB. The compiled information was then used to conduct an assessment of the potential explosive and environmental hazards at the MRA.

13.2 Summary of Comprehensive Site Evaluation Phase II Findings

The CSE Phase II resulted in the collection, evaluation, and synthesis of information regarding past ordnance-related activities at Cannon AFB, current conditions on-site with respect to the presence of MEC and MC, physical setting of the land, and plans for the future use of the property. A summary of the findings, based on data collected during the CSE Phase II, is provided in this section.

13.2.1 MRA TS835 – 1940s Skeet Range

TS835, active from 1940 to the 1950s, occupies an original footprint of approximately 29.4 acres (CH2M Hill, 1983). The eastern portion of the site extends beyond the installation boundary onto Rajen Dairy private property and appears to primarily be used for storage. The acreage of this site includes both on-base and off-base property, and includes approximately 4.5 acres that are overlapped by IRP Site LF-02. The on-base area is an unused field.

A visual survey was performed on 15 March 2011 to characterize TS835. Varying densities of clay target fragments were observed, and the localized areas of these fragments were delineated according to medium and low density. Based on GPS records, the total area impacted by clay target debris is estimated at 2.45 acres.

Surface and subsurface soil sampling was performed to evaluate whether MC, including lead and PAHs associated with the shooting activities within TS835, have impacted the environmental media. In addition, surface soil sampling was performed south of the SR to evaluate installation background concentration of PAHs. Lead was significantly less than the NMED and USEPA residential screening level of 400 mg/kg in all 41 surface samples collected at the SR. PAHs were determined to be above NMED residential SSLs and USEPA residential RSLs and background concentrations in surface and subsurface samples from all areas where clay target fragments were observed. Samples were collected up to 1.5 ft bgs in areas of visible clay target debris; however, vertical delineation of PAH contamination at SR has not been completed.

Based on the results of the soil sampling activities performed for the CSE Phase II, lead from small arms ammunition are not considered to be a contaminant of concern at TS835. However, PAHs exceed NMED residential SSLs and USEPA residential RSLs in areas where clay target debris was visibly observed, indicating that the targets used for skeet practice are the source of localized PAH contamination. Recommendations for the SR are presented in Section 14.5.

13.3 Assessment of Potential Munitions Constituents Releases

Results of the environmental medium sampling indicated that impacts to soil greater than the NMED residential SSLs, and greater than USEPA residential RSLs are present for PAHs at TS835 thereby presenting a human health risk based on this MC release. Removal of PAH-contaminated soil at SR is recommended, with confirmation sampling to confirm the PAH concentrations in soil at the horizontal and vertical limits of excavation remain below the residential land use scenario.

Lead investigated at TS835 yielded results that do not pose unacceptable risks under any potential land use scenarios.

13.4 Summary of the Munitions Response Site Prioritization Protocol

MRA TS835 at Cannon AFB was scored using the MRSPP, however, individual scores were created for each of the multiple MRSs that the MRA was subdivided into as described in Section 14. The results of this assessment indicated the following (Note: Priority 1 indicates the highest potential hazard and Priority 8 indicates the lowest potential hazard.):

- MRS TS835: *Priority 4*

MRS TS835 scored a priority of 4. Only small arms and clay targets were used at MRA TS835. The reason for an elevated priority ranking for this MRS is primarily due to the CHF (several PAH compounds exceeded their respective USEPA RSLs). Since no historical evidence suggests this range was used as anything but a skeet range, no explosive or CWM hazard are considered associated with this MRS. Lead concentrations were well below the applicable screening levels.

- MRS TS835a: *Priority 8*

MRS TS835a scored a priority of 8. Only small arms and clay targets were used at MRA TS835. Within this MRS, lead concentrations were well below screening levels and there was no visible evidence to indicate PAH impact from clay targets. Since no historical evidence suggests this range was used as anything but a skeet range, no explosive or CWM hazard are considered associated with this MRS.

- MRS TS835b: *Priority 8*

MRS TS835b (the off-base portion of MRA TS835) scored a priority of 8. Only small arms and clay targets were used at MRA TS835. Data collected within the MRA indicated that there is no evidence of munitions impact at or near the fence line at the Base boundary [see Sections 4.1 and 5.6]. Consequently, MRS TS835b is given an alternate HHE score of "No Known or Suspected Hazard."

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14.0 RECOMMENDATIONS

14.1 Cohort Assigment

To comply with USAF Knowledge Driven/Performance-Based Management initiative, MRAs are subdivided into seven "cohorts." The assignment of MRA to different cohorts supports the streamlining of the restoration process, including the development and implementation of munitions response actions for specific cohort types. The cohort type will be reflected in the site description in EESOH-MIS. The seven USAF MMRP cohorts are shown in Table 14-1.

Table 14-1: Air Force MMRP Cohort Assignments

Cohort	Description
A	Small Arms Ranges
B	Bore-sight Ranges
C	EOD Ranges and OB/OD Sites
D	CWM Sites
E	Pyrotechnic/Practice Sites
F	All Other Sites
G	Munitions Constituents

CWM = chemical warfare material
EOD = explosive ordnance disposal
MMRP = Military Munitions Response Program
OB/OD = open burn/open detonation

As the USAF MMRP evolves, the cohort assignments may be expanded or consolidated to reflect what has been learned about the MRA. In implementation of the CSE Phase II, the cohort type was defined by the range-type as designated in documentation. As warranted, the cohort assignment is further refined based on field investigation in future phases. Any MRA with a site description of "multi-use" in EESOH-MIS shall be assigned a site description that reflects a specific cohort. The site description shall be revised to the range-type designated in documentation. Reassignments of cohort or site descriptions may be required in the future and will be based on the types of munitions found during future fieldwork.

The cohort types assigned to the Cannon AFB MRA is as follows:

- 1940s SR (TS835): A (Small Arms Ranges)

14.2 Process Streamlining Opportunities

The separation of the 1940s SR (MRA TS835) into three MRSs, as detailed in the following section, is recommended as a process streamlining measure. The purpose of three separate MRSs is to allow for management of three separate MMRP actions at the single MRA (Figure 14-1).

14.3 Additional Munition Response Site

Based on information gathered during the CSE Phase II and depending on site-specific factors, each MRA may be designated as a single MRS, or it may be subdivided for the purposes of evaluation and response into multiple MRSs. Subdividing MRAs into multiple MRSs allows for more efficient characterization so that munitions responses specific to local conditions can be conducted.

An MRA must be composed of at least one MRS, but may contain multiple MRSs. The total area of all MRSs contained within an MRA must, however, equal the area of the MRA. This will ensure that the total acreage within an MRA was investigated during the CSE Phases I and II. Typical site-specific factors that may be considered during subdivision of MRAs into MRSs include:

- The prevalence of MEC or the extent of MC-contaminated media present within different areas of the MRA;
- The type of MEC or MC present within the MRA;
- Physical features (vegetation, topography, land areas versus water bodies, accessibility, and location of receptors that may be potentially exposed to MEC, etc.); and
- Geological and hydrogeological characteristics.

Areas within the MRA where the presence of MEC is not suspected or has not been confirmed during the CSE Phase II can be aggregated into a single MRS.

Based on the results of the CSE Phase II, a separate MRS designation of the PAH-contaminated soil at the 1940s SR as described in Section 14.2 is recommended. Additionally, a separate MRS is recommended for the off-base portion of the MRA. Figure 14-1 shows the delineation of the visual extent of clay target debris, which is proposed as a boundary representing the lateral extent of PAH contamination. This figure also shows the delineation of the IRP site LF-02 as well as the three MRSs described below.

MRS TS835, defined as the area of PAH-impacted soils at the 1940s SR, measures approximately 2.45 acres based on visual confirmation of clay target debris.

MRS TS835a, defined as the remaining on-base portion of the original MRA not impacted by PAH or lead-contaminated soil, occupies a footprint of approximately 15.7 acres.

MRS TS835b, defined as the off-base portion of the original MRA, occupies a footprint of approximately 6.32 acres.

Approximately 4.5 acres of IRP Site LF-02 overlap the original definition of the MRA. This area is excluded from the MMRP.

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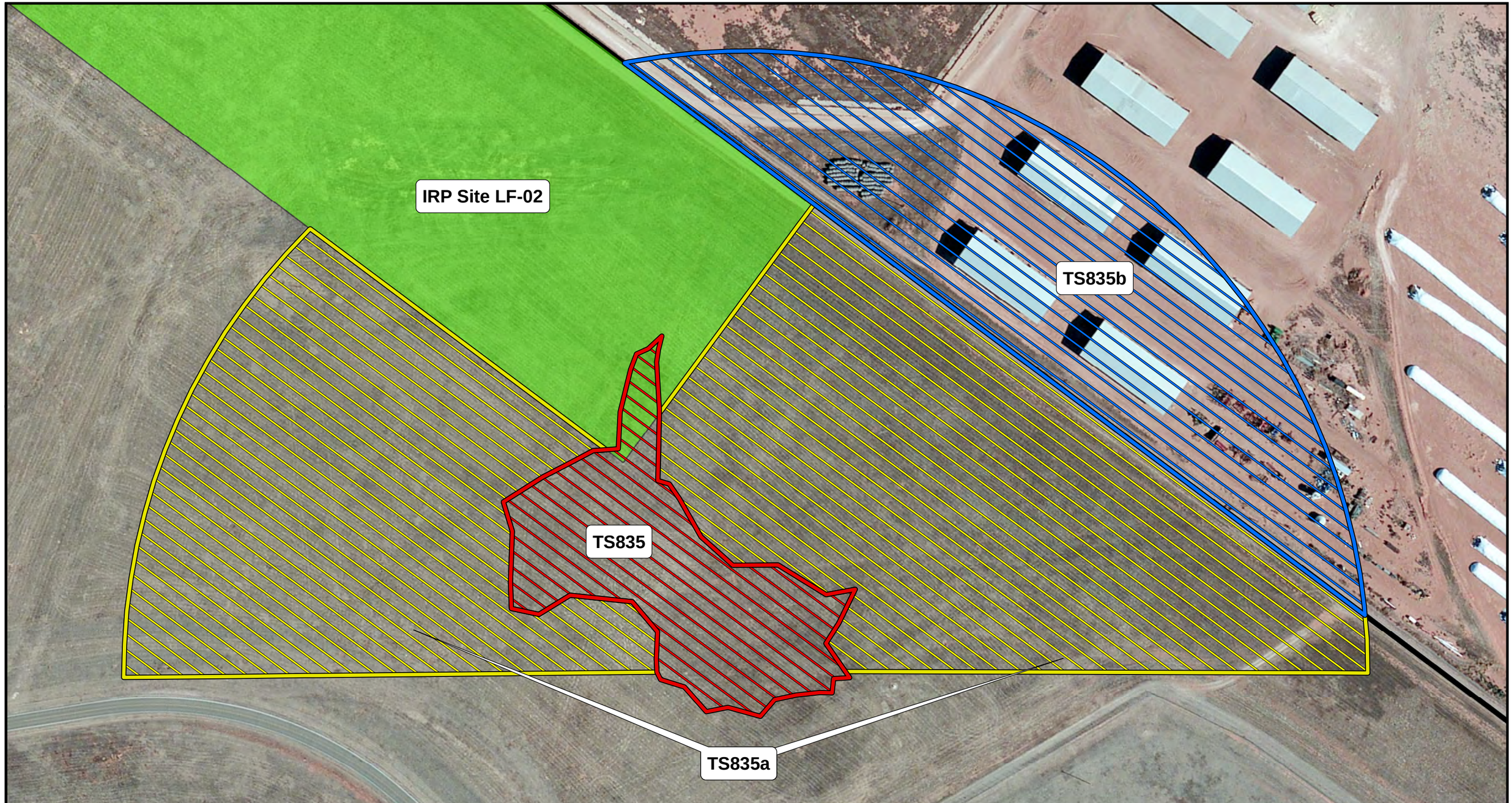

Legend

- TS835
- TS835b
- TS835a
- IRP Site LF-02

0 100 200 400 Feet

N

Note: Imagery © 2011 Microsoft Corporation
Available Exclusivly by DigitalGlobe, Aquisition date: Oct- Dec 2010.

U.S. ARMY CORPS OF ENGINEERS

OMAHA DISTRICT

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Military Munitions Response Program
Former 1940's Skeet Range
- TS835 -
MRS Designations
TS835, TS835a, and TS835b
Cannon AFB, NM

PROJECT NO. - FIGURE: 14-1

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14.4 Change to Munition Response Area/Munition Response Site Footprint

Based on the results of the CSE Phase II, the defined footprint of MRA TS835 should be adjusted to reflect the removal of the LF-02 area, and the addition of the small portion of the PAH-impacted area that extends beyond the original boundary of the firing arc**.** The revised area of MRA TS835 is 24.5 acres.

As discussed in the Final CSE Phase II Work Plan, and in Section 2.6.1 above, the orientation of the MRA should also be rotated approximately 30 degrees clockwise, as compared to the footprint used during the Modified CSE Phase I. The figures shown in this CSE Phase II report utilize the revised orientation.

14.5 Future Response Actions and Objectives

NFA is recommended for MRS TS835a at Cannon AFB, NM. MEC and MC were not detected in soils at concentrations exceeding the applicable USEPA or NMED screening levels for the COCs.

NFA is recommended for MRS TS835b at Cannon AFB, NM. There is no indication that MEC or MC are present in the off-base portion of the MRA.

Additional munitions response, e.g. an EE/CA with a subsequent non-time-critical RA of PAH-contaminated soil and clay target debris, is recommended for MRS TS835 at Cannon AFB based on initial soil sampling results. Additional horizontal and vertical delineation at MRS TS835 will provide more accurate contaminated soil quantities.

Conclusions and recommendations for the 1940s SR from the CSE Phase II investigation are summarized as Table 14-2 located in Section 14.8.

14.6 Identify Gaps in Conseptual Site Model

The CSM for the Cannon AFB MRAs is well defined. No gaps in the CSM were identified.

14.7 Department of Defense Munitions Response Site Prioritization Protocol Priority

The DoD MSRPP Priority for the MRSs at Cannon AFB is as follows:

- MRS TS835: MRSPP Priority 4; an EE/CA with a subsequent non-time-critical RA is recommended
- MRS TS835a: MRSPP Priority 8; NFA is recommended
- MRS TS835b: MRSPP Priority 8; NFA is recommended

14.8 Site Sequencing Considerations

There are no applicable site sequencing considerations for the MRSs at Cannon AFB proposed for NFA (TS835a and TS835b), or for the MRS proposed for future munitions response (TS835).

Table 14-2: Conclusions and Recommendations

MRA	Conclusions	Recommendation
1940s SR (MRA TS835)	**MEC Results:** No MEC discovered during the site surveys. **MC Results**: A total of 12 surface soil samples and 13 subsurface soil samples were collected where clay target debris was identified and analyzed for PAH compounds. All samples yielded values greater than the NMED SSLs and USEPA RSL for the respective PAH compounds. A total of 41 surface samples were collected according to predetermined locations within the 1940s SR and analyzed for lead via XRF. All samples yielded values less than the NMED SSL and USEPA RSL for lead. **MRSPP Scores:** • **MRS TS835**: 4 • **MRS TS835a**: 8 • **MRS TS835b**: 8	Divide the MRA into three MRSs to include the visible footprint of clay target debris (TS835), the remaining on-base portion (TS835a), and the off-base area (TS835b). Future Munitions Response Actions at **MRS TS835** – *EE/CA with subsequent RA*. Future Munitions Response Actions at **MRS TS835a** – *NFA*. Future Munitions Response Actions at **MRS TS835b** – *NFA*.

CA = Cost Analysis
EE = Engineering Evaluation
MC = munitions constituents
MEC = munitions and explosives of concern
MRA = Munitions Response Area
MRS = Munitions Response Site
MRSPP = Munitions Response Sites Prioritization Protocol
USEPA = U.S. Environmental Protection Agency
XRF = X-ray fluorescence
NFA = No Further Action
NMED = New Mexico Environment Department
PAH = polynuclear aromatic hydrocarbon
RA = Removal Action
RSL = Regional Screening Levels (USEPA 2009)
SR = Skeet Range
SSL = Soil Screening Levels

APPENDIX A

Definitions

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DEFINITIONS

Anomaly – Any identified subsurface mass that may be geologic in origin, unexploded ordnance (UXO), or some other man-made material. Such identification is made through geophysical investigation and reflects the response of the sensor used to conduct the investigation. (Handbook on the Management of Munitions Response Actions, Interim Final, EPA, May 2005)

Anomaly Avoidance –Techniques employed on property known or suspected to contain unexploded ordnance, other munitions that may have experienced abnormal environments (e.g., discarded military munitions), munitions constituents in high enough concentrations to pose an explosive hazard, or chemical agents, regardless of configuration, to avoid contact with potential surface or subsurface explosive or chemical agent (CA) hazards, to allow entry to the area for the performance of required operations. (AF Manual 91-201 and DoD 6055.9-STD)

Applicable or Relevant and Appropriate Requirements – Applicable requirements are cleanup standards, standards of control, and other substantive environmental protection requirements promulgated under Federal or state environmental law that specifically address a hazardous substance, pollutant, contaminant, remedial action, location or other circumstance found at a CERCLA site. Relevant and appropriate requirements are cleanup standards that, while not "applicable," address situations sufficiently similar to those encountered at a CERCLA site where their use is well suited to the particular site. (NCP, 40 CFR Part 300, July 2005)

Chemical Agent (CA) – An agent that, through its chemical properties, produces lethal or other damaging effects on human beings, except that such term does not include riot control agents, chemical herbicides, smoke, and other obscuration materials. This definition is based on the definition of "chemical agent and munition" in 50 U.S.C. 1521(j)(1).

Chemical Warfare Materiel (CWM) – Items generally configured as a munition containing a chemical compound that is intended to kill, seriously injure, or incapacitate a person through its physiological effects. CWM includes V- and G-series nerve agents or H-series (mustard) and L-series (lewisite) blister agents in other-than-munition configurations; and certain industrial chemicals (e.g., hydrogen cyanide [AC], cyanogen chloride [CK], or carbonyl dichloride [called phosgene or CG]) configured as a military munition. CWM does not include riot control devices, chemical defoliants and herbicides, industrial chemicals (e.g., AC, CK, or CG) not configured as a munition, smoke and other obscuration producing items, flame and incendiary producing items, or soil, water, debris or other media contaminated with low concentrations of chemical agents where no CA hazards exist. (MRSPP, 32 CFR Part 179, October 2005)

CWM contains the following four subcategories:

1) CWM, explosively configured – All UXO or discarded military munitions (DMM) that contain a CA fill and any explosive component. Examples are M55 rockets with CA, the M23 VX mine, and the M360 105-mm GB artillery cartridge.

2) CWM, nonexplosively configured – All UXO or DMM that contain a CA fill but that do not contain any explosive components. Examples are any chemical munitions that do not contain explosive components and VX or mustard agent spray canisters.

3) CWM, bulk container – All discarded (e.g., buried) non-munitions-configured containers of CA (e.g., a ton container) and CAIS K941, toxic gas set M-1 and K942, toxic gas set M-2/E11.

4) Chemical Agent Identification Sets (CAIS) – Military training aids containing small quantities of various CA and other chemicals. All forms of CAIS are scored the same in this rule, except CAIS K941, toxic gas set M-1; and CAIS K942, toxic gas set M-2/E11, which are considered forms of CWM, bulk container, due to the relatively large quantities of agent contained in those types of sets.

Closed Range – A military range that has been taken out of service as a range and that either has been put to new uses that are incompatible with range activities or is not considered by the military to be a potential range area. A closed range is still under the control of a DoD Component. (MGDERP, September 2001)

Defense Sites – Locations that are or were owned by, leased to, or otherwise possessed or used by the Department of Defense. The term does not include any operational range, operating storage or manufacturing facility, or facility that is used for or was permitted for the treatment or disposal of military munitions. (10 U.S.C. 2710(e)(1))

Department of Defense (DoD) Components – The Office of the Secretary of Defense (OSD), the Military Departments, the Defense Agencies, the Department Field Activities, and any other Department organizational entity or instrumentality established to perform a government function. (MRSPP, 32 CFR Part 179, October 2005)

Discarded Military Munitions (DMM) – Military munitions that have been abandoned without proper disposal or removed from storage in a military magazine or other storage area for the purpose of disposal. The term does not include unexploded ordnance, military munitions that are being held for future use or planned disposal, or military munitions that have been properly disposed of consistent with applicable environmental laws and regulations. (10 U.S.C. 2710(e)(2))

Explosive Ordnance Disposal (EOD) Personnel – Active duty military personnel of any military service branch that are trained in the detection, identification, field evaluation, safe rendering, recovery, and final disposal of explosive ordnance and of other munitions that have become an imposing danger, for example, by damage or deterioration. (Handbook on the Management of Munitions Response Actions, Interim Final, EPA, May 2005)

Facility – A building, structure, or other improvement to real property, in relation to work classification. (10 U.S.C. 2801)

Formerly Used Defense Sites (FUDS) – Facility or site (property) that was under the jurisdiction of the Secretary of Defense and owned by, leased to, or otherwise possessed by the United States at the time of actions leading to the contamination by hazardous substances. By the DoD Environmental Restoration Program (ERP) policy, the FUDS program is limited to those real properties that were transferred from DoD control prior to 17 October 1986. FUDS properties can be located within the 50 States, District of Columbia, Territories, Commonwealths, and possessions of the United States. (FUDS Program Policy, ER 200 3-1, May 2004)

Hazardous Substance – (A) Any substance designated pursuant to Section 1321(b)(2)(A) of Title 33; (B) any element, compound, mixture, solution, or substance designated pursuant to Section 9602 of this title; (C) any hazardous waste having the characteristics identified under or listed pursuant to Section 3001 of the Solid Waste Disposal Act (42 U.S.C. 6921) (but not including any waste the regulation of which under the Solid Waste Disposal Act [42 U.S.C. 6901 et seq.] has been suspended by Act of Congress); (D) any toxic pollutant listed under section 1317(a) of Title 33; (E) any hazardous air pollutant listed under Section 112 of the Clean Air Act (42 U.S.C. 7412); and (F) any imminently hazardous chemical substance or mixture with respect to which the Administrator has taken action pursuant to Section 2606 of Title 15. The term does not include petroleum, including crude oil or any fraction thereof, which is not otherwise specifically listed or designated as a hazardous substance under subparagraphs (A) through (F) of this paragraph, and the term does not include natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas). (CERCLA, 42 U.S.C. § 9601 et seq.)

Installation (as defined by the Restoration Management Information System [RMIS] Data Element Dictionary for a Federal Facility Identification [FFID]) – The FFID number is a unique identifier, assigned to an installation/property in RMIS. The 14-character aggregate string is used in RMIS as the key column for each data table and is used to track all associated records for each installation. An installation may have a single range or multiple ranges (and each range may have more than one site contained within its boundaries) and a single or multiple sites, not associated with a range. (Management Guidance for the Defense Environmental Restoration Program, September 2001)

Land Use Controls (LUCs) – Physical, legal, or administrative mechanisms that restrict the use of, or limit access to, contaminated property in order to reduce risk to human health and the environment. Physical mechanisms encompass a variety of engineered remedies to contain or reduce contamination and/or physical barriers to limit access to property, such as fences or signs. The legal mechanisms are generally the same as those used for institution controls (ICs) as discussed in the NCP. ICs are a subset of LUCs and are primarily legal mechanisms imposed to ensure the continued effectiveness of land use restrictions imposed as part of a remedial decision. Legal mechanisms include restrictive covenants, negative easements, equitable servitudes, and deed notices. Administrative mechanisms include notices, adopted local land use plans and ordinances, construction permitting, or other existing land use management systems that may be used to ensure compliance with use restrictions. (MGDERP, September 2001)

Material That Potentially Presents an Explosive Hazard (MPPEH) – Material potentially containing explosives or munitions (e.g., munitions containers and packaging material; munitions

debris remaining after munitions use, demilitarization, or disposal; and range-related debris), or material potentially containing a high enough concentration of explosives such that the material presents an explosive hazard (e.g., equipment, drainage systems, holding tanks, piping, or ventilation ducts that were associated with munitions production, demilitarization or disposal operations). Excluded from MPPEH are munitions within DoD's established munitions management system and other hazardous items that may present explosion hazards (e.g., gasoline cans, compressed gas cylinders) that are not munitions and are not intended for use as munitions. (DoD Instruction 4140.62, Management and Disposition of MPPEH, December 2004)

Military Installation – A base, camp, post, station, yard, center, or other activity under the jurisdiction of the Secretary of a Military Department, or, in the case of an activity in a foreign country, under the operational control of the Secretary of a military department or the Secretary of Defense, without regard to the duration of operational control. (10 U.S.C. 2801)

Military Munitions – All ammunition products and components produced for or used by the Armed Forces for national defense and security, including ammunition products or components under the control of the Department of Defense, the Coast Guard, the Department of Energy, and the National Guard. The term includes confined gaseous, liquid, and solid propellants; explosives, pyrotechnics, chemical and riot control agents, smokes, and incendiaries, including bulk explosives and chemical warfare agents; chemical munitions, rockets, guided and ballistic missiles, bombs, warheads, mortar rounds, artillery ammunition, small arms ammunition, grenades, mines, torpedoes, depth charges, cluster munitions and dispensers, and demolition charges; and devices and components of any item thereof. The term does not include wholly inert items, improvised explosive devices, and nuclear weapons, nuclear devices, nuclear components, other than non-nuclear components of nuclear devices that are managed under the nuclear weapons program of the Department of Energy after all required sanitization operations under the Atomic Energy Act of 1954 (42 U.S.C. 2011 et seq.) have been completed. (10 U.S.C. 101(e)(4))

Military Range – Designated land and water areas set aside, managed, and used to research, develop, test, and evaluate military munitions, other ordnance, or weapon systems, or to train military personnel in their use and handling. Ranges include firing lines and positions, maneuver areas, firing lanes, test pads, detonation pads, impact areas, and buffer zones with restricted access and exclusionary areas. (40 CFR 266.201)

Munitions and Explosives of Concern (MEC) – Military munitions that are 1) unexploded ordnance, as defined in 10 U.S.C. 101(e)(5); 2) abandoned or discarded, as defined in 10 U.S.C. 2710(e)(2); 3) MC (e.g., TNT, RDX) present in soil, facilities, equipment, or other materials in high enough concentrations so as to pose an explosive hazard. (MRSPP, 32 CFR Part 179, October 2005)

Munitions Constituent (MC) – Any material that originates from UXO, DMM, or other military munitions, including explosive and non-explosive materials, and emission, degradation, or breakdown elements of such ordnance or munitions. (10 U.S.C. 2710(e)(4))

Munitions Debris – Remnants of munitions (e.g., fragments, penetrators, projectiles, shell casings, links, fins) remaining after munitions use, demilitarization, or disposal. (DoD 6055.9-STD)

Munitions Response – Response actions, including investigation, removal actions, and remedial actions, to address the explosives safety, human health, or environmental risks presented by UXO, DMM, or MC or to support a determination that no removal or remedial action is required. (MRSPP, 32 CFR Part 179, October 2005)

Munitions Response Area (MRA) – Any area on a defense site that is known or suspected to contain UXO, DMM, or MC. Examples include former ranges and munitions burial areas. A munitions response area is comprised of one or more munitions response sites. (MRSPP, 32 CFR Part 179, October 2005)

Munitions Response Site (MRS) – A discrete location within an MRA that is known to require a munitions response. (MRSPP, 32 CFR Part 179, October 2005)

Outlier – An outlier is an observation that lies an abnormal distance from other values in a random sample from a population. In a sense, this definition leaves it up to the analyst (or a consensus process) to decide what will be considered abnormal. Before abnormal observations can be singled out, it is necessary to characterize normal observations.

Operational Range – A range that is under the jurisdiction, custody, or control of the Secretary of Defense and that is used for range activities, or although not currently being used for range activities, that is still considered by the Secretary to be a range and has not been put to a new use that is incompatible with range activities. (10 U.S.C. 101(e)(3))

Pollutant and Contaminant – These terms include, but are not be limited to, any element, substance, compound, or mixture, including disease-causing agents, which after release into the environment and upon exposure, ingestion, inhalation, or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will or may reasonably be anticipated to cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malfunctions (including malfunctions in reproduction) or physical deformations, in such organisms or their offspring; except that the term pollutant or contaminant shall not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance under subparagraphs (A) through (F) of paragraph (14) and shall not include natural gas, liquefied natural gas, or synthetic gas of pipeline quality (or mixtures of natural gas and such synthetic gas). (CERCLA, 42 U.S.C. § 9601 et seq.)

Range Activities – Research, development, testing, and evaluation of military munitions, other ordnance, and weapons systems; and the training of members of the Armed Forces in the use and handling of military munitions, other ordnance, and weapons systems. (10 U.S.C. 101(3)(2))

Range-Related Debris – Debris, other than munitions debris, collected from operational ranges or from former ranges (e.g., targets, military munitions packaging and crating material) . (DoD 6055.9-STD)

Range Residue – Material, including but not limited to, parts and sections of practice bombs, artillery, small arms, mortars, projectiles, bombs, missiles, rockets, rocket mortars, targets, grenades, incendiary devices, experimental items, demolition devices, and any other material fired on or discovered on a range. (AFI 13-212, Range Planning and Operations, August 2001)

Real Property – Real estate owned by the United States and under the control of the DoD. Includes lands, buildings, structures, utilities systems, improvements and appurtenances thereto. Includes equipment attached to and made part of buildings and structures (such as heating systems) but not moveable equipment (such as plant equipment). (MGDERP, September 2001)

Relative Risk – The evaluation of individual sites to determine high, medium, or low relative risk to human health and the environment, based on contaminant hazards, migration pathways and receptors, in accordance with the DoD's *Risk-Based Site Evaluation Primer*. (MGDERP, September 2001)

Removal – The cleanup or removal of released hazardous substances from the environment. Such actions may be taken in the event of the threat of release of hazardous substances into the environment, as may be necessary to monitor, assess, and evaluate the release or threat of release of hazardous substances, the disposal of removed material, or the taking of such other actions as may be necessary to prevent, minimize, or mitigate damage to the public health or welfare or to the environment, which may otherwise result from a release or threat of release. The term includes, in addition, without being limited to, security fencing or other measures to limit access, provision of alternative water supplies, temporary evacuation and housing of threatened individuals not otherwise provided for, action taken under Section 9604(b) of this title, and any emergency assistance which may be provided under the Disaster Relief and Emergency Assistance Act [42 U.S.C. 5121 et seq.] The requirements for removal actions are addressed in 40 CFR §§300.410 and 300.415. The three types of removals are emergency, time-critical, and non-time critical removals (CERCLA, 42 U.S.C. § 9601 et seq.):

1) Emergency – Emergency removal or response is performed when an immediate or imminent danger to public health or the environment is present and action is required within hours. Trained responders identify the explosive threat and make the decision as to whether the munitions and explosive of concern should be moved or blown in place and ensure the threat is removed safely and expeditiously.

2) Time-critical – A response to a release or threat of release that poses such a risk to public health (serious injury or death), or the environment, that cleanup or stabilization actions must be initiated within six months.

3) Non-time critical – An action initiated in response to a release or threat of a release that poses a risk to human health and welfare, or the environment. Initiation of removal cleanup actions may be delayed for six months or more.

Risk Reduction – The movement of any site from a higher to lower relative risk category as a result of natural attenuation, interim remedial, remedial, or removal actions taken. (DoD Instruction 4715.7, Environmental Restoration Program, April 1996)

Site (as defined in the Restoration Management Information System Data Element Dictionary for a SITE_ID) – A unique name given to a distinct area of an installation containing one or more releases or threatened releases of hazardous substances treated as a discreet entity or consolidated grouping for response purposes. Includes any building, structure, impoundment, landfill, storage container, or other site or area where a hazardous substance was or has come to be located, including formerly used sites eligible for building demolition/debris removal. Installations and ranges may have more than one site. (MGDERP, September 2001)

Stakeholder – Groups or individuals interested in, concerned about, affected by, having a vested interest in, or may be involved in the munitions response at an MRA/MRS.

Unexploded Ordnance (UXO) – Military munitions that have been primed, fuzed, armed, or otherwise prepared for action and have been fired, dropped, launched, projected, or placed in such a manner as to constitute a hazard to operations, installations, personnel, or material, and remain unexploded either by malfunction, design, or any other cause. (10 U.S.C. 101(e)(5))

UXO Technicians – Personnel who are qualified for and filling Department of Labor, Service Contract Act, Directory of Occupations, and contractor positions of UXO Technician I, UXO Technician II, and UXO Technician III. (Department of Defense Explosive Safety Board TP18, December 2004).

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APPENDIX B

Acronyms

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ACRONYMS AND ABBREVIATIONS

AES	Atomic Emission Spectrometry
AFB	Air Force Base
AFCEE	Air Force Center for Engineering and the Environment (formerly Air Force Center for Environmental Excellence)
AFSOC	Air Force Special Operations Command
amsl	above mean sea level
APP	Accident Prevention Plan
ASTM	American Society for Testing and Materials
BASH	Bird Aircraft Strike Hazard
bgs	below ground surface
BKG	background
CA	Cost Analysis
CERCLA	Comprehensive Environmental Restoration, Compensation, and Liability Act
CFR	Code of Federal Regulations
CHE	Chemical Warfare Materiel Hazard Evaluation
CHF	Contamination Hazard Factor
COC	Chain-of-Custody
COPC	contaminants of potential concern
CSE	Comprehensive Site Evaluation
CSM	Conceptual Site Model
CWM	Chemical Warfare Materiel
DL	detection limit
DMM	discarded military munitions
DMT	Data Management Tool
DoD	Department of Defense
DQO	Data Quality Objective
DU	Depleted Uranium
EE	Engineering Evaluation
EESOH-MIS	U.S. Air Force Enterprise Environmental Safety and Occupational Health Management Information System
EHE	Explosive Hazard Evaluation
ELAP	Environmental Laboratory Accreditation
EOD	Explosive Ordnance Disposal
ERP	Environmental Restoration Program
ERPIMS	Environmental Resources Program Information Management System
ERPTools	Environmental Resource Program Tools
ESS	Explosive Safety Submission

ft	feet
FUDS	Formerly Used Defense Site
GC/MS	Gas Chromatography/Mass Spectrometry
GIS	Geographic Information System
GPS	Global Positioning System
H	High
HHE	Health Hazard Evaluation
HHRA	human health risk assessment
HRR	historical records review
HRS	Hazard Ranking System
in	inches
ICP	Inductively Coupled Plasma
ID	identification
IDW	investigation derived waste
IRP	Installation Restoration Program
J	estimated value; detected at a concentration less than the reporting limit
K_{oc}	organic carbon/water partition coefficient
K_{ow}	octanol/water partition coefficient
L	low
LCS	laboratory control sample
LF-02	Landfill No. 2
LOD	limit of detection
M	medium
MC	Munitions Constituents
MEC	Munitions and Explosives of Concern
mg/kg	milligram per kilogram
MMRP	Military Munitions Response Program
MPF	Migration Pathway Factor
MRA	Munitions Response Area
MRS	Munitions Response Site
MRSPP	Munitions Response Site Prioritization Protocol
MS/MSD	matrix spike/matrix spike duplicate
msl	mean sea level
NA	not applicable
ND	not-detected above the method detection limit
NELAP	National Environmental Laboratory Approval Program
NFA	No Further Action

NIST	National Institute of Standards and Technology
NM	New Mexico
NMED	New Mexico Environment Department
OB/OD	Open Burn/Open Detonation
PA	Preliminary Assessment
PAH	polynuclear aromatic hydrocarbons
pH	negative of log hydrogen ion concentration
PMP	Project Management Professional
POL	petroleum, oil, and lubricants
Ppb	parts per billion
ppm	part per million
PT	physical training
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QC	Quality Control
QSM	Quality Systems Manual
RA	Removal Action
RACER	Remedial Action Cost Engineering Requirements
RCRA	Resource Conservation and Recovery Act
RF	receptor factor
RL	reporting limit
RPD	relative percent difference
RRSE	Relative Risk Site Evaluation
RSD	Relative Standard Deviation
RSL	Regional Screening Level
SECDEF	Secretary of Defense
SI	Site Investigation
SIM	Selected Ion Monitoring
SLERA	screening-level ecological risk assessment
SOF	Special Operations Forces
SOP	Standard Operating Procedure
SOW	Scope of Work
SR	skeet range
SRM	standard reference material
SS	spill sites
SSHP	Site-Specific Health and Safety Plan
SSL	Soil Screening Level
ST	storage tank
SVOC	semivolatile organic compound

TFW	Tactical Fighter Wing
USACE	U.S. Army Corps of Engineers
USAF	U.S. Air Force
USEPA	U.S. Environmental Protection Agency
UTL	upper tolerance limit
UXO	unexploded ordnance
Versar	Versar, Inc.
XRF	X-ray fluorescence
°F	degrees Fahrenheit
%D	percent difference
%R	percent recovery

APPENDIX C

References

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APPENDIX D

Photo-Documentation Log

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Photographic Documentation
CSE Phase II for Former Clay Target Range
Cannon Air Force Base (AFB), New Mexico (NM)

Photographic Log Registry – Photographs 1 – 30

Photograph No.	Date	Description
1	3/15/11	Metal pipe and concrete debris in area to west and north. Possibly from low and high houses.
2	3/15/11	Metal pipe and concrete debris in area to west and north. Possibly from low and high houses.
3	3/15/11	Metal pipe pictured with butt in place.
4	3/15/11	POI001 – Concrete pad 1. Approximately 3' x 3'. Photo looking northwest.
5	3/16/11	Presumed high house location. Photo looking northwest.
6	3/16/11	Looking from SR007 sample location (foreground) east toward Rajen Dairy Property beyond security access road and fence.
7	3/16/11	Looking from SR007 sample location (foreground) toward Rajen Dairy Property beyond security access road and fence.Photo looking northeast.
8	3/16/11	Concrete Pad 6.
9	3/16/11	Concrete Pad 6.
10	3/16/11	POI011 – Asbestos tile.
11	3/16/11	POI008 – Concrete debris.
12	3/16/11	POI012 – Wood debris.
13	3/16/11	POI012 – Wood debris.
14	3/16/11	Low density clay target fragments.
15	3/16/11	POI015 – Medium density clay target fragments.
16	3/16/11	POI016 – Low density clay target fragments.
17	3/16/11	Low density clay target fragments.
18	3/16/11	Western edge of landfill and just north of the MRA looking southeast at presumed former landfill.
19	3/17/11	Corner of AOI002 – Low density clay target debris.
20	3/17/11	SR042A Sample – Representative medium density clay target fragments.
21	3/17/11	SR042A Sample location. Sample was sieved.
22	3/17/11	SR043A Sample location. Photo looking northwest.
23	3/17/11	SR045 Sample location. Clay target fragments at sample surface.
24	3/17/11	Representative of disturbed piles within AOI004.
25	3/17/11	SR050A Sample location.
26	3/17/11	SR051A Sample location.

Photograph No.	Date	Description
27	3/16/11	.50 caliber projectile found at southern edge of MRA.
28	3/16/11	SR052A Sample location.
29	3/16/11	SR053A Sample location.
30	3/15/11	Visual survey of MRA using rope to mark off 15’ transect spacing.

Photograph No. 01
Date: 3/15/11

Metal pipe and concrete debris in area to west and north. Possibly from low and high houses.

Photograph No. 02
Date: 3/15/11

Metal pipe and concrete debris in area to west and north. Possibly from low and high houses.

Photograph No. 03
Date: 3/15/11

Metal pipe pictured with butt in place.

Photograph No. 04
Date: 3/15/11

POI001 – Concrete pad 1. Approximately 3' x 3'. Photo looking northwest.

Photograph No. 05
Date: 3/16/11

Presumed high house location. Photo looking northwest.

Photograph No. 06
Date: 3/16/11

Looking from SR007 sample location (foreground) east toward Rajen Dairy Property beyond security access road and fence.

Photograph No. 07
Date: 3/16/11

Looking from SR007 sample location (foreground) toward Rajen Dairy Property beyond security access road and fence. Photo looking northeast.

Photograph No. 08
Date: 3/16/11

Concrete Pad 6.

Photograph No. 09
Date: 3/16/11

Concrete Pad 6.

Photograph No. 10
Date: 3/16/11

POI011 – Asbestos tile.

Photograph No. 11
Date: 3/16/11

POI008 – Concrete debris.

Photograph No. 12
Date: 3/16/11

POI012 – Wood debris.

Photograph No. 13
Date: 3/16/11

POI012 – Wood debris.

Photograph No. 14
Date: 3/16/11

Low density clay target fragments.

Photograph No. 15
Date: 3/16/11

POI015 – Medium density clay target fragments.

Photograph No. 16
Date: 3/16/11

POI016 – Low density clay target fragments.

Photograph No. 17
Date: 3/16/11

Low density clay target fragments.

Photograph No. 18
Date: 3/16/11

Western edge of landfill and just north of the MRA looking southeast at presumed former landfill.

Photograph No. 19
Date: 3/17/11

Corner of AOI002 – Low density clay target debris.

Photograph No. 20
Date: 3/17/11

SR042A Sample – Representative medium density clay target fragments.

Photograph No. 21
Date: 3/17/11

SR042A Sample location. Sample was sieved.

Photograph No. 22
Date: 3/17/11

SR043A Sample location. Photo looking northwest.

Photograph No. 23
Date: 3/17/11

SR045 Sample location. Clay target fragments at sample surface.

Photograph No. 24
Date: 3/17/11

Representative of disturbed piles within AOI004.

Photograph No. 25
Date: 3/17/11

SR050A Sample location.

Photograph No. 26
Date: 3/17/11

SR051A Sample location.

Photograph No. 27
Date: 3/17/11

.50 caliber projectile found at southern edge of MRA.

Photograph No. 28
Date: 3/17/11

SR052A Sample location.

Photograph No. 29
Date: 3/17/11

SR053A Sample location.

Photograph No. 30
Date: 3/17/11

Visual survey of MRA using rope to mark off 15' transect spacing.

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APPENDIX E

Field Notes and Field Forms

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Versar

CHAIN OF CUSTODY RECORD

№ 0156

PROJECT NO.	PROJECT NAME	LAB:
111736.0006	CANNON AFB CSC PHASE II	MICROBAC

SAMPLERS: *(Signature)* [signature] **(Printed)** [illegible], CRAIG KISH

FIELD SAMPLE NUMBER	DATE	TIME	MATRIX	METH.	LOCATION ID	NO. OF CONTAINERS	VOC 8270						SBD (ft)	SED (ft)	SACODE	LOTCTLNUM	Preservative
EK6001A	3/17/11	1300	SO		EK6001	1	X						0.0	0.5	N	-	-
EK6002A	3/17/11	1335	SO		EK6002	1	X						0.0	0.5	N	-	-
EK6003A	3/17/11	1340	SO		EK6003	1	X						0.0	0.5	N	-	-
EK6004A	3/17/11	1245	SO		EK6004	1	X						0.0	0.5	N	-	-
EK6005A	3/17/11	1350	SO		EK6005	1	X						0.0	0.5	N	-	-
EK6005M ~~MS~~ MS	3/17/11	1350	SO		EK6005	1	X						0.0	0.5	MS	-	-
EK6005 ~~SA~~ SA MSD	3/17/11	1350	SO		EK6005	1	X						0.0	0.5	D	-	-
EK6006A	3/17/11	1355	SO		EK6006	1	X						0.0	0.5	N	-	-
EK6007A	3/17/11	1400	SO		EK6007	1	X						0.0	0.5	N	-	-
EK6007AD UP	3/17/11	1400	SO		EK6007	1	X						0.0	0.5	FD	-	-
EK6008A	3/17/11	1405	SO		EK6008	1	X						0.0	0.5	N	-	-
EK6009A	3/17/11	1410	SO		EK6009	1	X						0.0	0.5	N	-	-

Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Date / Time
[signature]	3/17/11 1630	FED EX	
(Printed) AR TOF		(Printed)	
Relinquished by: *(Signature)*	**Date / Time**	**Received for Laboratory by:** *(Signature)*	**Date / Time**
(Printed)		(Printed)	

Remarks: ALL GAS [illegible] 720.2 [illegible] 2 [illegible]

Temp Received

Turn-Around-Time 14 DAY

FedEx Airbill #

Distribution: Original Plus One Accompanies Shipment (white and yellow); Copy to Coordinator Field Files (pink).

Versar

CHAIN OF CUSTODY RECORD

№ 0157

PROJECT NO.	PROJECT NAME	LAB:
11726.0006	CANNON AFB CSE PHASE II	MICROBAC

SAMPLERS: *(Signature)* [signature]

(Printed) PATRICK LAWLIS, CRAIG MOON

FIELD SAMPLE NUMBER	DATE	TIME	MATRIX	METH.	LOCATION ID	NO. OF CONTAINERS	RAW SW8270C						SBD (ft)	SED (ft)	SACODE	LOTCTLNUM	Preservative
BKG01DA	3/17/11	1415	SD		BKG010	1	X						0.0	0.5	N	-	—

Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Date / Time
[signature]	3/17/11 1430	FEDEX	
(Printed) CAR, TOMT		(Printed)	
Relinquished by: *(Signature)*	**Date / Time**	**Received for Laboratory by:** *(Signature)*	**Date / Time**
(Printed)		(Printed)	

Remarks: CALL CAR. TOMT W/ QUESTIONS 720 231 6022 (CELL)

Temp Received

Turn-Around-Time 14 DAY

FedEx Airbill #

Distribution: Original Plus One Accompanies Shipment (white and yellow); Copy to Coordinator Field Files (pink).

Versar

CHAIN OF CUSTODY RECORD

№ 0158

PROJECT NO.	PROJECT NAME	LAB:

SAMPLERS: *(Signature)* (Printed)

FIELD SAMPLE NUMBER	DATE	TIME	MATRIX	METH.	LOCATION ID	NO. OF CONTAINERS							SBD (ft)	SED (ft)	REMARKS SACODE	LOTCTLNUM	Preservative
[illegible]-A	[illegible]	[illegible]	[illegible]		[illegible]-042								[illegible]	[illegible]	N		[illegible]
[illegible]-A	[illegible]	[illegible]	[illegible]		[illegible]-043										N		[illegible]
[illegible]	[illegible]	[illegible]	[illegible]		[illegible]-043										N/D		[illegible]
[illegible]-44A	[illegible]	[illegible]	[illegible]		[illegible]-044										N		[illegible]
[illegible]-45A	[illegible]	[illegible]	[illegible]		[illegible]-045										N		[illegible]
[illegible]-46A	[illegible]		[illegible]		[illegible]-046										N		[illegible]
[illegible]-47A	[illegible]	[illegible]	[illegible]		[illegible]-047										N		[illegible]
[illegible]	[illegible]		[illegible]		[illegible]										N		[illegible]
[illegible]	[illegible]	[illegible]			[illegible]-048										FD		[illegible]
[illegible]	[illegible]				[illegible]										N		[illegible]
[illegible]	[illegible]		[illegible]		[illegible]										N		[illegible]
[illegible]-051A	[illegible]	[illegible]	[illegible]		[illegible]-051										N		[illegible]

Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Date / Time
[illegible]	3/17/11 1430	FED EX	
(Printed) Gary Tort		(Printed)	
Relinquished by: *(Signature)*	**Date / Time**	**Received for Laboratory by:** *(Signature)*	**Date / Time**
(Printed)		(Printed)	

Remarks: QUESTIONS - ALL GARY TORT 720.231.8022 (cell)

Temp Received

Turn-Around-Time 7 DAYS

FedEx Airbill #

Distribution: Original Plus One Accompanies Shipment (white and yellow); Copy to Coordinator Field Files (pink).

Versar

CHAIN OF CUSTODY RECORD

№ 0159

PROJECT NO.	PROJECT NAME	LAB:
111736.0006	CANNON AFB CSE PHASE II	MICROBAC

SAMPLERS: *(Signature)* [illegible]

(Printed) PATRICK LOWLER, CRAIG KISK

FIELD SAMPLE NUMBER	DATE	TIME	MATRIX	METH.	LOCATION ID	NO. OF CONTAINERS	[illegible]							SBD (ft)	SED (ft)	SACODE	LOTCTLNUM	Preservative
[illegible]	[illegible]	[illegible]	[illegible]		SK-052	1	Y							[illegible]	[illegible]	N		4°C
[illegible]	[illegible]	[illegible]	[illegible]		SK-052	1	Y							↓	↓	MS		4°C
[illegible]	[illegible]	[illegible]	[illegible]		SK-052	1	Y							↓	↓	MSD		4°C
[illegible]	[illegible]	1530	[illegible]		SK-053	1	Y							↓	↓	N		4°C

Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Date / Time
[illegible]	3/17/11 1430	FED EX	
(Printed) Gary Tolf		(Printed)	
Relinquished by: *(Signature)*	**Date / Time**	**Received for Laboratory by:** *(Signature)*	**Date / Time**
(Printed)		(Printed)	

Remarks: CALL GARY TOLF WITH QUESTIONS 720.231.8022

Temp Received

Turn-Around-Time 7 DAYS

FedEx Airbill #

Distribution: Original Plus One Accompanies Shipment (white and yellow); Copy to Coordinator Field Files (pink).

Versar

CHAIN OF CUSTODY RECORD

№ 0160

PROJECT NO.	PROJECT NAME	LAB:
11736.0006	CANNON AFB CSC PHASE II	MICROBAC

SAMPLERS: *(Signature)* [illegible]

(Printed) [illegible]

PARAMETERS: RAH, 8270C

HOLD ALL

FIELD SAMPLE NUMBER	DATE	TIME	MATRIX	METH.	LOCATION ID	NO. OF CONTAINERS	RAH	8270C						SBD (ft)	SED (ft)	SACODE	LOTCTLNUM	Preservative
[illegible]	3/17/11	[illegible]	SO		[illegible]	1	X							1.5	1.0	N	-	-
[illegible]	↓	[illegible]	↓		[illegible]	1	X							↓	↓	N	-	-
[illegible]		[illegible]			[illegible]	1	X									N	-	-
[illegible]					[illegible]	1										N	-	-
[illegible]		[illegible]			[illegible]	1	X							1.0	1.5	N	-	-
[illegible]		[illegible]			[illegible]	1	X							1.5	1.0	N	-	-
[illegible]		[illegible]			[illegible]	1	X									N	-	-
[illegible]		[illegible]			[illegible]	1	X									N	-	-
[illegible]		[illegible]			[illegible]	1	X									N	-	-
[illegible]		[illegible]			[illegible]	1	X									N	-	-
[illegible]		[illegible]			[illegible]	1	X									N	-	-
[illegible]	↓	[illegible]	↓		[illegible]	1	X							↓	↓	N	-	-

Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Date / Time
[illegible]	3/17/11 1430	FED EX	
(Printed) Gary Torf		(Printed)	
Relinquished by: *(Signature)*	**Date / Time**	**Received for Laboratory by:** *(Signature)*	**Date / Time**
(Printed)		(Printed)	

Remarks: CALL GARY TORF WITH QUESTIONS 720 231 8022 (CELL)

Temp Received

Turn-Around-Time HOLD ALL SAMPLE ANALYSIS

FedEx Airbill #

Distribution: Original Plus One Accompanies Shipment (white and yellow); Copy to Coordinator Field Files (pink).

Versar

CHAIN OF CUSTODY RECORD

№ 0161

PROJECT NO.	PROJECT NAME	LAB:
1111736.0006	CANNON AFB CSE PHASE II	MICROBAC

SAMPLERS: *(Signature)*

(Printed) Patrick Lanier, Craig Kirk

FIELD SAMPLE NUMBER	DATE	TIME	MATRIX	METH.	LOCATION ID	NO. OF CONTAINERS	PAH 8270C						SBD (ft)	SED (ft)	SACODE	LOTCTLNUM	Preservative
SR053B	3/17/11	1325	SO		SR053	1	X						0.5	1.0	N	–	–

PARAMETERS

REMARKS: HOLD ALL

Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Date / Time
Gary Torf	3/17/11 1430	FEDEX	
(Printed) Gary Torf		(Printed)	
Relinquished by: *(Signature)*	**Date / Time**	**Received for Laboratory by:** *(Signature)*	**Date / Time**
(Printed)		(Printed)	

Remarks: CALL GARY TORF WITH QUESTIONS 720.231.8022 (CELL)

Temp Received

Turn-Around-Time HOLD ALL SAMPLE ANALYSIS

FedEx Airbill #

Distribution: Original Plus One Accompanies Shipment (white and yellow); Copy to Coordinator Field Files (pink).

Versar

CHAIN OF CUSTODY RECORD

№ 0154

PROJECT NO.	PROJECT NAME	LAB:
11172.0000	CANNON AFB CSE PHASE II	MICROBAC

SAMPLERS: (Signature) [illegible]

(Printed) PATRICK LAWLER / CRAIG KICK

FIELD SAMPLE NUMBER	DATE	TIME	MATRIX	METH.	LOCATION ID	NO. OF CONTAINERS	LEAD 6010B							SBD (ft)	SED (ft)	REMARKS SACODE	LOTCTLNUM	Preservative
SR001A	3/10/11	1033	SO		SR001	1	X							0.0	0.5	N	–	–
SR001AMS	3/10/11	1033	SO		SR001	1	X							0.0	0.5	MS	–	–
SR001AMSD	3/10/11	1033	SO		SR001	1	X							0.0	0.5	SD	–	–
SR003A	3/10/11	1044	SO		SR003	1	X							0.0	0.5	N	–	–
SR004A	3/10/11	1050	SO		SR004	1	X							0.0	0.5	N	–	–
SR008A	3/10/11	1110	SO		SR008	1	X							0.0	0.5	N	–	–
SR010A	3/10/11	1120	SO		SR010	1	X							0.0	0.5	N	–	–
SR016A	3/10/11	1320	SO		SR016	1	X							0.0	0.5	N	–	–
SR020A	3/10/11	1338	SO		SR020	1	X							0.0	0.5	N	–	–
SR024A	3/10/11	1355	SO		SR024	1	X							0.0	0.5	N	–	–
SR027A	3/10/11	1415	SO		SR027	1	X							0.0	0.5	N	–	–
SR027ADUP	3/10/11	1415	SO		SR027	1	X							0.0	0.5	FD	–	–

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time
Gary Tort	3/17/11 1630	FEDEX	
(Printed) GARY TORT		(Printed)	
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time
(Printed)		(Printed)	

Remarks: PRESTON CALL GARY TORT 720.231.8022 (CELL)

Temp Received

Turn-Around-Time 14 DAY

FedEx Airbill #

Distribution: Original Plus One Accompanies Shipment (white and yellow); Copy to Coordinator Field Files (pink).

Versar

CHAIN OF CUSTODY RECORD

№ 0155

PROJECT NO.	PROJECT NAME	LAB:
111734.0006	CANNON AFB CSE PHASE II	MICROBAC

SAMPLERS: (Signature) [signature] (Printed) Patrick Lowler, Craig Fisk

FIELD SAMPLE NUMBER	DATE	TIME	MATRIX	METH.	LOCATION ID	NO. OF CONTAINERS	LEAD 6010B						SBD (ft)	SED (ft)	REMARKS SACODE	LOTCTLNUM	Preservative
SR032A	3/16/11	1455	SO		SR032	1	X						0.0	0.5	N	-	-
SR034A	3/16/11	1505	SO		SR034	1	X						0.0	0.5	N	-	-
SR034ADUP	3/16/11	1505	SO		SR034	1	X						0.0	0.5	FD	-	-
SR037A	3/16/11	1525	SO		SR037	1	X						0.0	0.5	N	-	-

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time
[signature]	3/17/11 1630	FED EX	
(Printed) GARY TORT		(Printed)	
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time
(Printed)		(Printed)	

Remarks: QUESTIONS CALL GARY TORT 720.231.8022 (CELL)

Temp Received

Turn-Around-Time 14 DAY

FedEx Airbill #

Distribution: Original Plus One Accompanies Shipment (white and yellow); Copy to Coordinator Field Files (pink).

Location _____ Date _____

Project / Client _____

Location CANNON AFB Date 3/15/11

Project / Client CSE PHASE II FIELD WORK

FORMER 1940s SKEET RANGE

1200 SAFETY BRIEFING AT SR (Skeet Range)

- Gary Torf
- David Feiertag } Varsar
- Patrick Lawler
- Craig Kish } Jacobs

- HOSPITAL ROUTE
- SLIP/TRIP/FALL
- WX, BIOLOGICAL HAZ.
- SUNSCREEN, WATER/ELECTROLYTES

1215 BEGIN VISUAL SURVEY

SPACING = 15.0 ft

4-man VS crew.

1230. FOUND CONCRETE PADS (BROKEN) & 3-SIDED 1½" PIPE ABOUT 3' WIDE x 4' LONG NEAR OLD FIRING AREA/FIRING POSITION. MIGHT HAVE BEEN A MARKER FOR A FIRING POSITION.

POI ØØ1 - POINT OF INTEREST FOR PIPE.

ALSO TOOK PHOTO BOTH IN PLACE & STANDING UP. (PHOTOS 1 & 2).

FOUND CONCRETE OBJECTS IN AREA TO WEST & NORTH. POSSIBLY FROM COW/HOG HOUSES. ONE IS ~55' SOUTH OF PIPE & OTHER ARE ~50' W & SW. LARGEST CONCRETE (~4' x 4') IS ~60' NW.

Location: CANNON AFB Date: 3/15/11

Project / Client: CSU PH. 2 FIELD WORK - FORMER STORE FARMS VISUAL SURVEY

POI 002 - SHOTGUN CASING. PISTOLS HV 16 MARKED ON BOTTOM. FOUND TO WEST OF FORMER CONCRETE FOUNDATIONS.

PAD 1 - MARKED AS A POI IN GPS. FULL CONCRETE PAD (~3' BY 3'). SOUTHERN MOST PAD.
PHOTO 3: PAD 1 (PHOTO LOOKING NW).

PAD 2 - MARKED AS POI IN GPS. FULL CONCRETE PAD (~3' BY 3'). ABOUT 25' NW OF PAD 1.

PAD 3 - SAME AS PADS 1 & 2. LOCATED ~60' NW OF PAD 2. FOUND A LOT OF GRAVEL GROUND BETWEEN PADS 2 & 3 WHERE ANOTHER PAD MIGHT HAVE BEEN LOCATED.

PAD 4 - SAME AS PADS 1-3. LOCATED ~25' NNW OF PAD 3.

PAD 5 - LARGER PAD THAN PADS 1-4. LOCATED ~30' N OF PAD 4. 5' WIDE (ALONG NE/SW AXIS) X 8' (ALONG NW/SE AXIS). SEEMS TO BE LINED UP ~~ALONG~~ ALONG FRONT LINE, WHICH ABOUT FROM THE AREA OF THE PREVIOUSLY MOTED RD CURVE & MUNITIONS STORAGE FENCE. THIS IS LIKELY THE HIGH HOUSE (PRESUMED LOCATION).
PHOTO 4: LOOKING ~~NE~~ NW AT PRESUMED HIGH HOUSE FOUNDATION.

13^{25}. ANITA STOPPED AT SITE TO GIVE US KEYS.

PAD 6: OVERTURNED PAD FOUND ~120' WEST OF PAD 5. MAY BE THE MISSING PAD BETWEEN PADS 2 & 3. FOUND IRREGULAR CONCRETE SURFACE SO EXPLORED A PIECE

Location: CANNON AFB Date: 3/15/11

Project / Client: CSU PH. 2 FIELDWORK - FORMER STORE FARMS VISUAL SURVEY

OVAL; FOUND THE BOTTOM WAS A SMOOTH FINISHED SURFACE W/ A STRAIGHT AND SHARP EDGE.

1340 - STARTED ~~TRANSECT~~ TRANSECT VISUAL SURVEY. UP UNTIL 1340, WE DID A MEANDERING SURVEY BY INDIVIDUALS TO FIND PADS & GENERAL LAYOUT.

POI 003: 50-CAL ALUMINUM FOUND NEAR SE CORNER OF FAR. MODERN ROUND.

POI 004: TWO PLASTIC SHOTGUN SHELLS (REMINGTON).

POI 005: MONITORING WELL ON ~3' X 3' PAD W/ 4 TRAFFIC BOLLARDS. NO WELL ID. 14"OD WELL PROTECTED W/ ~27" STICKUP.

POI 006: CONCRETE DEBRIS SE OF PAD 1.

POI 007: CONCRETE DEBRIS NE OF PAD 1 (NEAR OTHER CONCRETE DEBRIS).

POI 008: FOUR PIECES OF CONCRETE DEBRIS. (BROKEN PAD)

Location CANNON AFB Date 3/15/11

Project / Client CSG PH II Groundwater Cannon Skeet Range

VISUAL SURVEY

AOI 009: CONCRETE DEBRIS. SINGLE PIECE.

AOI 010: PER GLADE: SOME CONCRETE DEBRIS

AOI 011: POTENTIAL ASBESTOS-CONTAINING TILE - BROKEN SEVERAL FRAGMENTS (~25 PIECES RANGING FROM ~3"x3" TO LESS THAN 1"x1").

AOI 012: WOOD DEBRIS.

AOI 013: METAL ~~POST FOR~~ FENCE POST. BENT OVER, BUT STILL IN PLACE.

AOI 014: SHOTGUN SHELL (PLASTIC).

1705 - FINISHED VISUAL SURVEY

AOI 001: EXTENT OF SKEET DEBRIS DISCOVERED DURING VISUAL SURVEY. INCLUDES ANY SKEET FRAGMENTS; SO IS CONSIDERED LOW DENSITY. GPS DIDN'T WORK, SO RECORDED AUTOMAT.

1750 - LEFT SKEET RANGE.

1805 - AT EOD IN BLDG 355.

Location UNKNOWN Date 3/16/11 (WED)

Project / Client CSG PH II Groundwater Cannon Skeet Range

LOAD SAMPLING

0830 - AT BLDG 355 FOR SUPPLIES.

DAVID FIGHTING HAD CONVERSATIONS W/ USACE, AFCEC, & BTV ABOUT DOWNING LOAD SAMPLING FROM FORMER LANDFILL ALONG FENCELINE PREVIOUSLY INVESTIGATED BY USCA. GOT OK.

CREW: SAME AS 3/15/11 (P. 59)

EQP: SLIDE HAMMER, LINERS, BAGGIES, & OTHER SAMPLING EQP. USING GPS UNIT A TO RECORD SAMPLE LOCN.

PURPOSE: COLLECT LOAD SAMPLES & ASSESS MOD DENSITY SKEET FRAGMENTS FOR PAH SAMPLING.

WEATHER: SUNNY, 60°F W/ HIGH DEGREES TO 80°F. 5-10 MPH WIND FROM SOUTH.

H&S: USE OF SLIDE HAMMER. ROTATE CREW TO AVOID FATIGUE.

MOB. TO SOUTH CORNER TO START SAMPLING NORTH ALONG FENCELINE.

Location CANNON AFB Date 3/16/11

Project / Client CSE PH. I. Groundwork, Common Stock Range, Load Simulate

10:33 SR001A Collect 0-6" BGS soil for XRF
Grassy area behind fence line (base boundary)
~ munitions storage fence.
Dark silty soil. No MD.
5 Blows.

10:40 SR002A Collect 0-6" BGS soil for XRF
Grassy area about 4' S/W of secondary
access rd.
Reddish brown silt, dry, well sorted.
5 Blows.
~~10:44~~ ok
No MD noted.

10:44 SR003A 0-6" BGS soil for XRF
Grassy area about 50' E of munitions
storage area fence corner.
Same soil as SR002.
12 Blows.
No MD noted

10:50 SR004A 0-6" BGS soil for XRF
Grassy area betw. 2 munitions
storage fence; base fence to north

Location CANNON AFB Date 3/16/11

Project / Client CSE PH. II Groundwork, Common Stock Range, Load Simulate

of SR003. Same soil as others.
8 Blows.
No MD.

10:55 SR005A 0-6" BGS soil for XRF
Grassy area NE of SR004.
Same soil description as others.
3 Blows
No MD.

11:00 SR006A 0-6" BGS soil for XRF
Grassy area, NE of SR005 & ~4' west of
the access rd. Same soil description
as others.
8 Blows No MD.

11:05 SR007A 0-6" BGS soil for XRF
Grassy area N of SR006 & ~10' west of
the access rd. Same soil description
as others. (west of Andy's Hangar)
14 Blows. No MD.

Location CANNON AFB Date 3/16/11

Project / Client CSE PH. II FIELDWORK, FORMER SKEET RANGE LEAD SAMPLING

PHOTO 5: LOOKING E AT SR0007 LOCA W/ SECURITY ACCESS RD, FENCE, & ORDNANCE HAY STACK IN SR0007

PHOTO 6: SAME AS PHOTO 5. LOOKING NE.

1110 SR0008A 0-6" BGS SOIL FOR XRF.
GRASSY AREA NORTH OF SR0007 ABOUT 10' WEST OF SECURITY ACCESS RD. WEST OF THE ROTATION END OF THE ORDNANCE HAY STACK.
SAME SOIL DESCRIPTION AS OTHERS.
18 BLOWS.
NO MD.

1115 SR0009A 0-6" BGS SOIL FOR XRF.
GRASSY AREA NORTH OF SR0008 ABOUT 10' W OF ROAD. SAME SOIL AS OTHERS
8 BLOWS. NO MD.

1120 SR0010A 0-6" BGS SOIL FOR XRF.
GRASSY AREA TO WEST OF SR0009. SAME SOIL.
8 BLOWS. NO MD (GRAVEL CLIP IN LOG).

1125 SR0011A 0-6" BGS SOIL FOR XRF.
GRASSY AREA W OF SR0008. SAME SOIL.
8 BLOWS. NO MD.

Location CANNON AFB Date 3/16/11

Project / Client CSE PH. II FIELDWORK, FORMER SKEET RANGE LEAD SAMPLING

1130 SR0012A 0-6" BGS SOIL FOR XRF.
GRASSY AREA WEST OF SR0007. SAME SOIL.
6 BLOWS. NO MD.

DAVID NOTED THAT WE FOUND SOME SKEET FRAGMENTS W/ DOWNWIND OF FORMER IRP LANDFILL. AREA IS MOWED, SO SKEET MAY HAVE BEEN MOVED ACROSS COMPLETE LANDFILL BY MOWING OR FORMER W OPS. WE ARE NOT SAMPLE BUT WILL NOTE OUTSIDE OF SKEET.

1135 SR0013A 0-6" BGS SOIL FOR XRF
GRASSY AREA SOUTH OF SR0012. SAME SOIL.
8 BLOWS. NO MD

1140 SR0014A. 0-6" BGS SOIL FOR XRF.
GRASSY AREA SOUTH OF SR0013. SAME SOIL.
8 BLOWS. NO MD

LUNCH. LEFT CAMP AT BLDG. 355 TO START THE XRF ANALYSIS OF SAMPLES COLLECTED THIS AM.

1315 SR0015A 0-6" BGS SOIL FOR XRF.
GRASSY AREA WEST OF SR0014, NORTH OF ~~SOUTH SECURITY~~

Location CANNON AFB Date 3/16/11

Project / Client CSE PHASE II GROUNDWATER FORMER SKEET RANGE LEAD SAMPLING

MUNITIONS STORAGE AREA AND SE OF THE MONITORING WELL. 6 BLOWS. NO MD. SAME SOIL TYPE.

1320 SR0164 0-6" BGS SOIL FOR XRF. LOCATED NORTH OF SR015. GRASSY AREA W/ MODERATE COVER. NO MD. 10 BLOWS. SAME SOIL TYPE.

1330 SR017A 0-6" BGS SOIL FOR XRF. LOCATED NORTH OF SR016. GRASSY AREA W/ MODERATE COVER. NO MD. 10 BLOWS. SAME SOIL TYPE.

1332 SR018A 0-6" BGS SOIL FOR XRF. LOCATED NNW OF SR017. GRASSY AREA W/ MODERATE COVER. NO MD. SAME SOIL TYPE. 5 BLOWS.

1335 SR019A 0-6" BGS SOIL FOR XRF, LOCATED NW OF SR018. GRASSY AREA OF MODERATE COVER. NO MD. SAME SOIL TYPE. 8 BLOWS.

1333 SR020A 0-6" BGS SOIL FOR XRF. LOCATED NORTH OF SR019. SAME VEGETATION AND SOIL TYPE AS SR019A. 9 BLOWS.

Location CANNON AFB Date

Project / Client CSE PHASE II FORMER SKEET RANGE LEAD SAMPLING

1341 SR021A 0"-6" BGS SOIL FOR XRF. LOCATED NORTH OF SR020. SAME VEGETATION AND SOIL TYPE AS SR020A. 4 BLOWS.

1344 SR022A 0-6" BGS SOIL FOR XRF. LOCATED NORTH OF SR021. SAME VEG & SOIL TYPE. 32 BLOWS. NOTE SOME DRY, COMPACTED CLAY W/ GRAVEL TO 1/4", MOD. POORLY SORTED. GRAVEL IS SUBANGULAR. SAMPLED AT ~2 1/2" BGS. NO MD.

1347 SR023A 0-6" BGS SOIL FOR XRF. LOCATED WEST OF SR022 IN GRASSY AREA W/ MOD TO GOOD COVER. 24 BLOWS. SOIL IS SILT W/ GRAVEL TO 3/4", SUBANGULAR, MOD POORLY SORTED. NO CLAY DETECTED. NO MD.

1355 SR024A 0-6" BGS SOIL FOR XRF. LOCATED WEST OF SR023 IN GRASSY AREA W/ GOOD COVER. 15 BLOWS. SILT, REDDISH BROWN (SAME AS SR004-011). NO MD.

Location CANNON AFB Date 3/16/11

Project / Client CSG AH II FIELDWORK FORMER SKEET RANGE USED SAMPLING

1405 - SR025A. 0-6" BGS SOIL FOR XRF.
LOCATED IN GRASSY AREA W/ MOD TO GOOD COVER, WEST OF SR024. 11 BLOWS. SILT (REDDISH BROWN).
NO MD.

1410 SR026A. 0-6" BGS SOIL FOR XRF.
LOCATED IN GRASSY AREA W/ MOD COVER TO WEST OF SR025. 14 BLOWS. SILT.
NO MD.

1415 SR027A. 0-6" BGS SOIL FOR XRF.
LOCATED TO WEST OF SR026 IN MOD. GRASSY AREA ABOUT 40' FROM ROW MOTOR RD. FOUND SOME GLASS, SO MAY HAVE SOME BURIAL. NO RECORDS EXISTS 12" TO EAST. ~25 BLOWS. SANDY SILT W/ ANGULAR GRAVEL TO 1/2", MOD. WELL SORTED.
NO MD.

1420 SR028A. 0-6" BGS SOIL FOR XRF.
LOCATED SOUTH OF SR027 ; ~75' EAST OF RUN MOTOR ROAD. USED SHOVEL TO DIG TO 6" & COLLECT FROM THE SIDEWALL. ALL IS LIKELY IN TOP 2". DARK BROWN SILT. ALL IS SILT W/ GRAVEL TO 1/2" ANGULAR.
NO MD.

Location CANNON AFB Date 3/16/11

Project / Client CSG AH II FIELDWORK FORMER SKEET RANGE USED SAMPLING

1435 - SR029A. 0-6" BGS SOIL FOR XRF.
LOCATED TO EAST OF SR028 IN MOD. TO GOOD VEG. COVER (GRASS). SILT. REDDISH BROWN.
13 BLOWS. NO MD.

1445 SR030A. 0-6" BGS SOIL FOR XRF.
LOCATED EAST OF SR029 IN MOD. COVER (GRASS). REDDISH BROWN SILT.
15 BLOWS. NO MD.

1450 SR031A. 0-6" BGS SOIL FOR XRF.
LOCATED EAST OF SR030 IN GRASS W/ MOD. COVER. REDDISH BROWN SILT.
12 BLOWS. NO MD.

1455 SR032A. 0-6" BGS SOIL FOR XRF.
LOCATED EAST OF SR031 IN GRASSY AREA W/ MOD. COVER. REDDISH BROWN SILT.
10 BLOWS. NO MD.

1500 SR033A. 0-6" BGS SOIL FOR XRF.
LOCATED SOUTHWEST OF SR032. GRASSY AREA. REDDISH BROWN SILT. 12 BLOWS. NO MD.

Location CANNON AFB Date 3/16/11

Project / Client CSS PH II FIELDWORK, FORMER SKEET RANGE

LEAD SAMPLING

1505 SR034A 0-6" BGS SOIL FOR XRF.
LOCATED SOUTH OF SR033 IN GRASSY AREA
W/ MOD. COVER. REDDISH BROWN SILT.
14 BLOWS. NO MD.

1510 SR035A. 0-6" BGS SOIL FOR XRF.
LOCATION SSE OF SR034 IN GRASSY AREA W/
MOD. COVER. W/ GENERAL AREA OF SKEET
FRAGMENTS, BUT NONE AT THIS LOC'N.
REDDISH BROWN SILT. 10 BLOWS.
NO MD AT IMMED. LOC'N.

1515 SR036A. 0-6" BGS SOIL FOR XRF.
LOC'D SE OF SR035 IN GRASS W/ MOD COVER
NEAR DOWNHILL OF BOTTOM OF SKEET. SILT.
11 BLOWS. NO SKEET AT IMMED LOC'N. NO MD.

1525 SR037A 0-6" BGS SOIL FOR XRF.
LOC'D SOUTH OF SR036 IN GRASS W/ MOD COVER.
LOC'D NEAR DOWNHILL OF SKEET DETECT, BUT NO
SKEET IN IMMED. LOC'N. 9 BLOWS. NO MD.
REDDISH BROWN SILT.

Location CANNON AFB Date 3/16/11

Project / Client CSS PH II FIELDWORK, FORMER SKEET RANGE

LEAD SAMPLING

1530 SR038A. 0-6" BGS SOIL FOR XRF.
LOC'D ~5' FROM PAD (PD1 PD1); NW OF SR037
IN GRASSY AREA W/ MOD COVER. WE HAVE SKEET
FRAGMENTS W/ ABOUT 2' OF THE LOC'N, BUT NONE IN
THE IMMED. LOC'N. 12 BLOWS. NO MD AT IMMED
LOC'N. SILT.

1535 SR039A. 0-6" BGS SOIL FOR XRF.
LOC'D NW OF SR038 IN GRASS W/ GOOD COVER.
14 BLOWS. NO MD. REDDISH BROWN SILT.

1540 SR040A. 0-6" BGS SOIL FOR XRF.
LOC'D NW OF SR039 IN GRASS W/ MOD TO GOOD
COVER. 6 BLOWS. REDDISH BROWN SILT.
NO MD.

1545 SR041A 0-6" BGS SOIL FOR XRF.
LOC'D NW OF SR040 IN GRASS W/ MOD COVER.
14 BLOWS. REDDISH BROWN SILT. NO MD.

DONE SAMPLING TO GROUP TO PERFORM XRF.
RETURN TO SITE TO DELINEATE PAH/SKEET
FRAGMENT AREAS.

Location CANNON AFB Date

Project / Client CSE PH II FIELDWORK - FORMER SKEET RANGE

AL TAKES GPS TO SIMULATE EXTENT OF SKEET FRAGMENTS.
AOI 001 WILL BE AREA OF SKEET LIMITS

PHOTO 7: PA06 AS FOUND
PHOTO 8: PA06
PHOTO 9: ASBESTOS TILE (POI 011).
~~PHOTO 10: ASBESTOS TILE (POI 011).~~ OK
PHOTO 11: CONCRETE DOORS (AOI 004)
PHOTO 12: WOOD DOORS (POI 012)
PHOTO 13: SAME AS PHOTO 12 (POI 012).
PHOTO 14: ~~MODERATE~~ LOW DENSITY SKEET FRAGMENTS

POI 015: ~~MODERATE~~ LOW DENSITY SKEET FRAGMENTS.
PHOTO 15: POI 015 (MEDIUM DENSITY SKEET)

POI 016: ~~MODERATE~~ LOW DENSITY SKEET.
PHOTO 16: POI 016.

POI 017: PHOTO 16: ~~MOD~~ LOW DENS. SKEET.

POI 018 (NO PHOTO).

PHOTO 17: AS WESTERN EDGE OF LANDFILL; DUST MONITOR

Location CANNON AFB Date 3/16/11

Project / Client CSE PH II FIELDWORK, FORMER SKEET RANGE

OF THE MRA LOOKING SE AT SINKHOLES/DEPRESSIONS IN PRESUMED FORMER LANDFILL.

LAST POI FOR ~~MOD~~ LOW DENSITY SKEET WAS AOI 002 (POI 015 THROUGH AOI 022).
ALSO HAD AOI 002 FOR ~~MOD~~ LOW DENSITY AREA.

PHOTO 18: ~~MOD~~ LOW DENSITY SKEET (CONTAINED IN AOI 002).
REPRESENTATIVE OF MEDIUM DENSITY SKEET.
1805 - OF ROTATING FLASHING RADIO FOR OAY.
1815 - BACK AT BLDG 355. CAMPA HAS 2 LOAD ANTHUSES LEFT SO WE'RE WAITING FOR AIR.

Location: CANNON AFB Date: 3/17/11 (THU.)

Project / Client: CSE AH II FIELDWORK - FORMER SKEET RANGE

CREW: SAME AS 3/15/11. ALL CONTRACTOR HELPING COLLECT SAMPLES.

ACTIVITY: COLLECT AH SAMPLES & AH BACKGROUND SAMPLES TO EAST OF MUNITION STORAGE AREA.

EQP: GPS, SLIDE HAMMER, AUGERS, SCOOPS, COOLERS; OTHER SAMPLING EQP.

WEATHER: SUNNY, 65°F w/ HIGH OF 85°F EXPECTED, 10-15 mph WIND FROM SW.

H&S: PROPER LIFTING TECHNIQUES, USE OF SLIDE HAMMER w/ HEARING PROTECTION.

0930. AT SITE AFTER LOADING EQP.

1010 SR042A 0-6" BGS SOIL FOR PAH ONLY. (SW8270C) LOCATED IN GRASSY AREA w/ AOI002 (NEAR CENTER). THIS IS REPRESENTATIVE OF A MEDIUM DENSITY CLAY TARGET (SKEET) FRAGMENT AREA. 7 BLOWS. REDDISH BROWN SILT. FOUND MANY SMALL SKEET FRAGMENTS RANGING FROM ~1/8" TO ~1/2". (PHOTO: 020). SAMPLE WAS SIEVED FOLLOWING SAMPLE COLLECTION WITH A #10 (2mm) SIEVE. MINIMAL CLAY TARGET DEBRIS OBSERVED IN SIEVE.

Location: CANNON AFB Date: 3/17/11

Project / Client: CSE AH II FIELDWORK - FORMER SKEET RANGE PAH SAMPLING

0950 COLLECT P01023 AT MEDIUM DENSITY CLAY TARGET DEBRIS; NORTH OF FORMER HIGH HOUSE. PHOTO: 019

1020 COLLECT SR042B 6"-12" bgs FOR PAH ONLY. SAMPLE WILL BE HELD PENDING "A" INTERVAL RESULTS. 32 BLOWS. USED HAND TROWEL TO CLEAR HOLE TO 6" BGS TO AVOID SLOUGH IN 6"-12" SAMPLE. NOTED SKEET FRAGMENTS IN SIEVEALL TO ~4" BGS. SOIL TYPE WAS THE SAME. NO OBSERVED SKEET IN THE 6"-12" BGS INTERVAL.

1030 SR043A 0-6" BGS SOIL FOR PAH. (SW8270C) LOCATED AT P01023 IN GRASSY AREA w/ MEDIUM DENSITY SKEET. 8 BLOWS. REDDISH BROWN SILT. NO SKEET FRAGMENTS FOUND.

PHOTO 20, 21: SAMPLING AT SR043; LOOKING NW.

SR043ADUP FIELD DUPLICATE SAMPLE SPLIT AT LOCN SR043 FROM 0-6" BGS. DESIGNATED DUP. ACC. NO SKEET FRAGMENTS IN SOIL.

Location Cannon AFB Date 3/17/11

Project / Client CSE, Inc II Fieldwork, Former Skeet Range, RAH Sampling

1035 SR043B. 6"-12" BGS soil for RAH. (SW8270C) Sample will be held pending analysis of 0-6" BGS sample (i.e., analyzed only if 0-6" interval is over the standard). No odors. 18 blows. Some silt.

1040 SR044A. 0-6" BGS soil for RAH. (SW8270C). Located ~6' SE of SR043 in low density skeet fragments. Grassy area w/ moderate cover. 10 blows. Some silt as SR043. Note a few pieces of skeet in soil, & also a 45-cal slug (photo 22).

Photo 22: Skeet & 45 cal projectile in SR044A.

1045 SR044B. 6"-12" BGS soil for RAH (SW8270C). Sample will be held pending analysis of the 0-6" BGS interval.

~~photo # 22 45 cal bullet~~ ~~found in SR~~ See above 3/17/11

No MD in SR044B

AOI 003. Area of ~~med~~ low density skeet surrounding AOI 023, which was a med. density area

Location Cannon AFB Date 3/17/11

Project / Client CSE, Inc II, Fieldwork. Former Skeet Range, RAH Sampling.

AOI 004 - Area containing pockets of low & med density skeet fragments. Disturbed earth from burrowing animals (e.g., rabbits). Fragments are typically larger fragments than in other areas.

1105 SR045A. 0-6" soil for RAH (SW8270C). Located w/ AOI 004 in grassy area w/ animal burrows. 3 blows. Soil is reddish brown silt. Found skeet fragments in 0-6" interval. Saw skeet in sidewall to 5" BGS. Found both larger fragments (~1/2") but also tiny fragments that cannot all be removed. Numerous tiny fragments in the sample.

Photo 23: Skeet on ground at SR045.

1110 SR045B. 6-12" BGS soil for RAH (SW8270C). Sample will be held pending analytical results from 0-6" interval.
Numerous tiny fragments ~ 1/16"

Location CANNON AFB Date 3-17-11

Project / Client CSE PHASE II FIELDWORK

FORMER SKEET RANGE PAH SAMPLING

1125 SR045C 12"-18" bgs for soil 8270C PAHs
Sample will be held pending analytical results of SR045A
No fragments observed

PHOTO #24 Representative of disturbed piles w/in AOI004

PHOTO #25 closeup of pile w/in AOI004 at center of previous photo showing target debris (see photo #24)

1130 SR046A 0"-6" bgs for soil 8270C PAHs
A few small pieces ~ 3/8" target debris
a few smaller flecks of target debris

1135 SR046B 6"-12" bgs for soil 8270C PAHs
Sample will be held pending analysis/results of SR046A
No Target debris observed in sample

1145 SR047A 0"-6" bgs for soil 8270C PAHs
Several small fragments. A few smaller flecks of Target debris < 1/16"

Location CANNON AFB Date 3-17-11

Project / Client CSE PHASE II FIELDWORK

FORMER SKEET RANGE SAMPLING

1150 SR047B 6"-12" bgs for soil PAHs 8270C
SAMPLE will be held pending results of SR047A. A few small flecks observed in sample

1200 COLLECT SR048A 0"-6" FOR PAH 8270C. NO SKEET DEBRIS OBSERVED.
COLLECT SR048A DUP AT THIS LOCATION AS WELL.

1205 COLLECT SR048B 6"-12" BGS FOR PAH 8270C. NO SKEET DEBRIS OBSERVED. SAMPLE WILL BE HELD PENDING RESULTS OF SR048A.

1215 COLLECT SR049A 0"-6" BGS FOR PAH 8270C. SOME SKEET DEBRIS (< 1/2") AND SEVERAL SKEET FLAKES (< 1/16") IDENTIFIED IN SAMPLE ALIQUOT.

1220 COLLECT SR049B 6"-12" BGS FOR PAH 8270C. NO SKEET DEBRIS IDENTIFIED. HOLD PENDING RESULTS OF SR049A

Location CANNON AFB Date 3/17/11

Project / Client CSE PHASE II

FORMER SKEET RANGE PAH SAMPLING

12^25 SR050A. 0-6" BGS SOIL FOR PAH (SW8270C)
COLLECTED IN GRASSY AREA W/ MOD. COVER. REPRESENTING
LOW SKEET DENSITY. REDDISH BROWN SILT. 12 BLOWS.
PHOTO TAKEN SHOWING SKEET & SAMPLE CONTAINER
LID W/ SAMPLE LOC'N.
NOTE SMALL PIECES OF 1/4" - 1/2" SKEET, BUT VERY
FEW SIMILAR PIECES, ALTHOUGH SOME MIGHT HAVE GOTTEN
INTO THE SAMPLE

12^30 SR050A. 6"-12" BGS SOIL FOR PAH (SW8270C).
SAMPLE WILL BE HELD PENDING ANALYTICAL
RESULTS FOR THE 0-6" SAMPLE.
NO SKEET FOUND IN SAMPLE.

12^35 SR051A. 0-6" BGS SOIL FOR PAH (SW8270C).
COLLECTED IN GRASSY AREA ~30' NW OF SR050.
IN LOW SKEET DENSITY. PHOTO TAKEN OF SKEET
& SAMPLE LID. SAME REDDISH BROWN SILT.
FOUND SLIGHTLY LARGER SKEET FRAGMENTS TO 1/2" AS WELL
AS MANY SMALL SKEET PIECES THAT COULD NOT BE
EXCLUDED FROM THE SAMPLE.

12^40 SR051B 6"-12" SOIL FOR PAH (SW8270C).
SAMPLE WILL BE HELD PENDING ANALYTICAL

Location CANNON AFB Date 3/17/11

Project / Client CSE PHASE II

FORMER SKEET RANGE PAH SAMPLING

RESULTS FOR THE 0-6" BGS INTERVAL.
NO SKEET FOUND IN SAMPLE SOIL FOR SR051B.

13^10 SR052A. 0-6" BGS SOIL FOR PAH (SW8270C)
VERY SMALL, MINIMAL SKEET (< 1/16")
IDENTIFIED IN SAMPLE. PHOTO OF SKEET
AND SAMPLE LID.
SR052A MS AND SR052A MSD
COLLECTED IN THIS LOCATION AS WELL.

1315 SR052B 6-12" BGS SOIL FOR
PAH 8270C. NO TARGET DEBRIS
IDENTIFIED. HOLD PENDING RESULTS
OF SR052A.

13^20 SR053A. 0-6" BGS SOIL FOR PAH (SW8270C).
GRASSY AREA W/ MOD. COVER. REPRESENTATIVE OF
THE VISIBLE EXTENT. 6 BLOWS. SAME SILT AS
SR052. NO SKEET FRAGMENTS FOUND IN SOIL.
PHOTO OF AREA W/ SAMPLE LID.

13^25 SR053B 6"-12" BGS SOIL FOR PAH (SW8270C).
WILL HOLD SAMPLE PENDING ANALYTICAL RESULTS FOR
0-6" BGS, NO SKEET FOUND IN SAMPLE.

Location CANNON AFB Date 3/17/11

Project / Client CSG PH. II, FIELD WORK - FORMER SKEET RANGE. PAH SAMPLING (BKGD).

1330 - BKG001A 0-6" BGS SOIL FOR PAH (SW8270C). PROV REPRESENTS A BACKGROUND LOC'N FOR PAH. LOCATED IN GRASSY AREA W/ MOD TO GOOD COVER BETWEEN MUNITIONS STORAGE AREA & OAKS FARM, ~550' SOUTH OF THE NE CORNER OF THE FENCE TO THE MUNITIONS STORAGE AREA. SOIL IS THE SAME REDDISH BROWN SILT AS AT THE STUDY AREA. NO MD.

1335 - BKG002A SAME SAMPLING DESCRIPTION AND SOIL TYPE AS BKG001. LOCATED APPROX. 100' SE OF BKG001.

1340 COLLECT BKG003A SAME SAMPLING DESCRIPTION AND SOIL TYPE AS BKG001. LOCATED APPROX. 100' SW OF BKG002.

1345 COLLECT BKG004A SAME AS BKG001, 002 & 003. LOC'D APPROX ~100' SOUTH OF BKG002. NO MD.

1350 COLLECT BKG005A SAME AS BKG001 - BKG004. LOCATED APPROX 100' SW OF BKG004. NO MD. ALSO MS/MSD (3 x 4oz CONTAINERS).

Location CANNON AFB Date 3/17/11

Project / Client CSG PH. II FIELDWORK - FORMER SKEET RANGE PAH BACKGROUND SAMPLING.

1355 BKG006A 0-6" BGS SOIL FOR PAH (SW8270C). SOIL TYPE IS SAME SILT. LOC'D ~100' SOUTH OF BKG004. NO MD

1400 BKG007A 0-6" BGS SOIL FOR PAH 8270C. SAME SOIL TYPE AS BKG006. NO MD.
BKG007ADUP ~~BKG007DUP~~. FIELD DUPLICATE AT LOC'N BKG007.

1405 BKG008A 0-6" BGS SOIL FOR PAH (SW8270C). SAME SOIL TYPE (SILT). NO MD.

1410 BKG009A 0-6" BGS SOIL FOR PAH 8270C. SAME SOIL TYPE AS BKG008. NO MD.

1415 BKG010A 0-6" BGS SOIL FOR PAH 8270C. SAME SOIL TYPE AS BKG009. NO MD.

VERSAR

Soil Sampling Log

LOCID
SR001

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	03-16-11	1033

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF, GT, PI, CK	Versar/Jacobs	☒ Slide Hammer w/ disposable sleeve ☐ Hand Auger ☐ Other:	

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date
NO MD dried field cover, native grasses, semi-maintained	

Location: Circle Y(es) or N(o)				Reason:
	Moved from planned location?	Y	(N)	
	New (unplanned) location?	Y	(N)	
	New coordinates recorded, if applicable?	Y	(N)	
	Background Area?	Y	(N)	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
		silty, dry		N		DRY	(A)	12.0		
	0.5						B			
	1.0						C			
	1.5						D			
	2.0						E			
	2.5						F			
	3.0	ADDITIONAL NOTES:								

VERSAR

Soil Sampling Log

LOCID
SR002

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3-16-11	1040

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF, GT, DL, CK	Versar/Jacobs	[X] Slide Hammer w/ disposable sleeve [ ] Hand Auger [ ] Other:	

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date
No MD DRIED field cover, native grasses	

Location:				
Circle Y(es) or N(o)	Moved from planned location?	Y	N	Reason:
	New (unplanned) location?	Y	N	
	New coordinates recorded, if applicable?	Y	N	
	Background Area?	Y	N	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
		SILTY, DRY		N		D	A	9.67		
	0.5						B			
	1.0						C			
	1.5						D			
	2.0						E			
	2.5						F			
	3.0	ADDITIONAL NOTES:								

VERSAR

Soil Sampling Log

LOCID
SR003

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3-16-11	1044

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF, PL, GA, CK	Versar/Jacobs	☒ Slide Hammer w/ disposable sleeve ☐ Hand Auger ☐ Other:	

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date
DRY FIELD COVER NO MD Next to dirt Road	

Location: Circle Y(es) or N(o)				
	Moved from planned location?	Y	N	Reason:
	New (unplanned) location?	Y	N	
	New coordinates recorded, if applicable?	Y	N	
	Background Area?	Y	N	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
		SILTY, DRY		N		D	A	6.33		
	0.5						B			
	1.0						C			
	1.5						D			
	2.0						E			
	2.5						F			
	3.0	ADDITIONAL NOTES:								

VERSAR

Soil Sampling Log

LOCID
SR004

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3-16-11	1050

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF PL GT CK	Versar/Jacobs	[X] Slide Hammer w/ disposable sleeve [ ] Hand Auger [ ] Other:	

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date
No MD Dry field cover	

Location:				
Circle Y(es) or N(o)	Moved from planned location?	Y	N	Reason:
	New (unplanned) location?	Y	N	
	New coordinates recorded, if applicable?	Y	N	
	Background Area?	Y	N	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
		Dry Silty		N			A	10.0		
	0.5						B			
	1.0						C			
	1.5						D			
	2.0						E			
	2.5						F			
	3.0	ADDITIONAL NOTES:								

VERSAR

Soil Sampling Log

LOCID
SRP05

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3-16-11	1055

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF GT / PL CK	Versar/Jacobs	[X] Slide Hammer w/ disposable sleeve [ ] Hand Auger [ ] Other:	

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date
NO MD DRY FIELD COVER, NATIVE GRASSES	

Location:				Reason:
Circle Y(es) or N(o)	Moved from planned location?	Y	N	
	New (unplanned) location?	Y	N	
	New coordinates recorded, if applicable?	Y	N	
	Background Area?	Y	N	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
		DRY, SILTY		N		D	A	13.7		
	0.5						B			
	1.0						C			
	1.5						D			
	2.0						E			
	2.5						F			
	3.0	ADDITIONAL NOTES:								

VERSAR

Soil Sampling Log

LOCID
SR206

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006		1100

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF PL GT CK	Versar/Jacobs	☐ Slide Hammer w/ disposable sleeve ☐ Hand Auger ☐ Other:	

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date
Next to road west of N/S fence No MD Dry vegetative cover	

Location:				
Circle Y(es) or N(o)	Moved from planned location?	Y	(N)	Reason:
	New (unplanned) location?	Y	(N)	
	New coordinates recorded, if applicable?	Y	(N)	
	Background Area?	Y	(N)	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
		DRY SILTY		N		D	(A)	8.7		
	0.5						B			
	1.0						C			
	1.5						D			
	2.0						E			
	2.5						F			
	3.0	ADDITIONAL NOTES:								

VERSAR

Soil Sampling Log

LOCID
SR007

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3-16-11	1105

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DI, PC, GT, CR	Versar/Jacobs	☒ Slide Hammer w/ disposable sleeve ☐ Hand Auger ☐ Other:	

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date
WEST OF HAYSHED ~15 FT from gravel road PHOTO taken ~ 1110	

Location:				
Circle Y(es) or N(o)	Moved from planned location?	Y	(N)	Reason:
	New (unplanned) location?	Y	(N)	
	New coordinates recorded, if applicable?	Y	(N)	
	Background Area?	Y	(N)	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
		DRY SILTY		N		D	(A)	11.3		
	0.5						B			
	1.0						C			
	1.5						D			
	2.0						E			
	2.5						F			
	3.0	ADDITIONAL NOTES: (2) PHOTOS TAKEN ~ 1110								

VERSAR

Soil Sampling Log

LOCID
SR008

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3-16-11	1110

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF, GT, PL, CK	Versar/Jacobs	☒ Slide Hammer w/ disposable sleeve ☐ Hand Auger ☐ Other:	

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date
Next to Gravel road Dry vegetative cover	

Location: Circle Y(es) or N(o)				
	Moved from planned location?	Y	N	Reason:
	New (unplanned) location?	Y	N	
	New coordinates recorded, if applicable?	Y	N	
	Background Area?	Y	N	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
		DRY SILTY		N		D	A	19.3		
	0.5									
							B			
	1.0									
							C			
	1.5									
							D			
	2.0									
							E			
	2.5									
							F			
	3.0	ADDITIONAL NOTES:								

VERSAR

Soil Sampling Log

LOCID
SR009

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3-16-11	1115

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DI PL GT CK	Versar/Jacobs	☒ Slide Hammer w/ disposable sleeve ☐ Hand Auger ☐ Other:	

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date
next to gravel road dry vegetative cover No MD	

Location: Circle Y(es) or N(o)				Reason:
	Moved from planned location?	Y	N	
	New (unplanned) location?	Y	N	
	New coordinates recorded, if applicable?	Y	N	
	Background Area?	Y	N	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
		DRY SILTY		N		D	A	10.3		
	0.5						B			
	1.0						C			
	1.5						D			
	2.0						E			
	2.5						F			
	3.0	ADDITIONAL NOTES:								

VERSAR

Soil Sampling Log

LOCID
SR010

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3-16-11	1120

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
~~DF~~ PL GT CK	Versar/Jacobs	☒ Slide Hammer w/ disposable sleeve ☐ Hand Auger ☐ Other:	

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date
DRY vegetative field cover NO MD	

Location: Circle Y(es) or N(o)				Reason:
	Moved from planned location?	Y	N	
	New (unplanned) location?	Y	N	
	New coordinates recorded, if applicable?	Y	N	
	Background Area?	Y	N	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
		SILTY DRY		N		D	A	15.3		
	0.5						B			
	1.0						C			
	1.5						D			
	2.0						E			
	2.5						F			
	3.0	ADDITIONAL NOTES:								

VERSAR

Soil Sampling Log

LOCID
SR011

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3-16-11	1125

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
~~DP~~ PL ~~GT~~ CK	Versar/Jacobs	☒ Slide Hammer w/ disposable sleeve ☐ Hand Auger ☐ Other:	

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date
DRY vegetative field cover no MD	

Location: Circle Y(es) or N(o)				Reason:
	Moved from planned location?	Y	N	
	New (unplanned) location?	Y	N	
	New coordinates recorded, if applicable?	Y	N	
	Background Area?	Y	N	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
		DRY SILTY		N		D	A	12.3		
	0.5						B			
	1.0						C			
	1.5						D			
	2.0						E			
	2.5						F			
	3.0	ADDITIONAL NOTES:								

VERSAR

Soil Sampling Log

LOCID
SR012

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3-16-11	1130

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF PL GT CK	Versar/Jacobs	☒ Slide Hammer w/ disposable sleeve ☐ Hand Auger ☐ Other:	

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date
DRY field vegetative cover native grasses No MD	

Location: Circle Y(es) or N(o)				Reason:
	Moved from planned location?	Y	N	
	New (unplanned) location?	Y	N	
	New coordinates recorded, if applicable?	Y	N	
	Background Area?	Y	N	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
	0.5	DRY SILTY		N		D	A	16.3		
	1.0						B			
	1.5						C			
	2.0						D			
	2.5						E			
	3.0						F			

ADDITIONAL NOTES:

VERSAR

Soil Sampling Log

LOCID
SR013

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3-16-11	1135

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF PL GT CK	Versar/Jacobs	☒ Slide Hammer w/ disposable sleeve ☐ Hand Auger ☐ Other:	

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date
DRY Vegetative Cover No MD	

Location:				
Circle Y(es) or N(o)	Moved from planned location?	Y	N	Reason:
	New (unplanned) location?	Y	N	
	New coordinates recorded, if applicable?	Y	N	
	Background Area?	Y	N	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
		DRY SILTY		N		D	A	9.7		
	0.5						B			
	1.0						C			
	1.5						D			
	2.0						E			
	2.5						F			
	3.0	ADDITIONAL NOTES:								

VERSAR

Soil Sampling Log

LOCID
SR014

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3-16-11	1140

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF PL GT CK	Versar/Jacobs	[X] Slide Hammer w/ disposable sleeve [ ] Hand Auger [ ] Other:	

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date
DRY vegetative cover No MD	

Location: Circle Y(es) or N(o)				Reason:
	Moved from planned location?	Y	N	
	New (unplanned) location?	Y	N	
	New coordinates recorded, if applicable?	Y	N	
	Background Area?	Y	N	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
		DRY SILTY		N		D	A	13.3		
	0.5						B			
	1.0						C			
	1.5						D			
	2.0						E			
	2.5						F			
	3.0	ADDITIONAL NOTES:								

VERSAR

Soil Sampling Log

LOCID
SR015Acc

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3/16/11	1315

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF (PL) GT (CK)	Versar/Jacobs	☑ Slide Hammer w/ disposable sleeve ☐ Hand Auger ☐ Other:	0.5

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date
GRASS'D AREA, MODERATE COVER.	

Location: Circle Y(es) or N(o)				Reason:
	Moved from planned location?	Y	(N)	NA
	New (unplanned) location?	Y	(N)	
	New coordinates recorded, if applicable?	Y	N	
	Background Area?	Y	(N)	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
		SILT, Reddish Brown	N	N	NA	D	A	12.0		
	0.5						B			
	1.0						C			
	1.5						D			
	2.0						E			
	2.5						F			
	3.0									

ADDITIONAL NOTES:

6 BLOWS TO GET TO 6" BGS

VERSAR

Soil Sampling Log

LOCID
SED16

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3/16/11	1320

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF (PI) GT (CK)	Versar/Jacobs	☑ Slide Hammer w/ disposable sleeve ☐ Hand Auger ☐ Other:	

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date
GRASSY AREA w/ MODERATE COVER	

Location:				Reason:
Circle Y(es) or N(o)	Moved from planned location?	Y	(N)	NA
	New (unplanned) location?	Y	(N)	
	New coordinates recorded, if applicable?	Y	(N)	
	Background Area?	Y	(N)	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
		SILT, REDDISH-BROWN	N	N	NA	D	A	9.0		
	0.5						B			
	1.0						C			
	1.5						D			
	2.0						E			
	2.5						F			
	3.0	ADDITIONAL NOTES:								

VERSAR

Soil Sampling Log

LOCID
S12P17

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3/16/11	1330

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF PL GT CK	Versar/Jacobs	☑ Slide Hammer w/ disposable sleeve ☐ Hand Auger ☐ Other:	

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date
GRASSY AREA w/ MODERATE COVER	

Location:				
Circle Y(es) or N(o)	Moved from planned location?	Y	(N)	Reason: NA
	New (unplanned) location?	Y	(N)	
	New coordinates recorded, if applicable?	Y	(N)	
	Background Area?	Y	(N)	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
		SILT REDDISH-BROWN	N	N	NA	✓	A	9.7		
	0.5						B			
	1.0						C			
	1.5						D			
	2.0						E			
	2.5						F			
	3.0	ADDITIONAL NOTES: 10 BGS TO 6" BGS.								

VERSAR

Soil Sampling Log

LOCID
1332

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3/16/11	5R0JB

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF PL GT CK	Versar/Jacobs	☑ Slide Hammer w/ disposable sleeve ☐ Hand Auger ☐ Other:	

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date
GRASSY w/ MODERATE COVER	

Location:				Reason:
Circle Y(es) or N(o)	Moved from planned location?	Y	N	NA
	New (unplanned) location?	Y	N	
	New coordinates recorded, if applicable?	Y	N	
	Background Area?	Y	N	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
1332		SILT Yellowish Brown	N	N	NA	D	A	14.3		
	0.5						B			
	1.0						C			
	1.5						D			
	2.0						E			
	2.5						F			
	3.0	ADDITIONAL NOTES:								

VERSAR

Soil Sampling Log

LOCID
SR019

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3/10/11	1335

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF (PI) GT (CK)	Versar/Jacobs	☑ Slide Hammer w/ disposable sleeve ☐ Hand Auger ☐ Other:	

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date
GRASS w/ MODERATE COVER	

Location:				Reason:
Circle Y(es) or N(o)	Moved from planned location?	Y	(N)	NA
	New (unplanned) location?	Y	(N)	
	New coordinates recorded, if applicable?	Y	(N)	
	Background Area?	Y	(N)	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
1335		SILT Reddish Brown	N	N	NONE	D	(A)	11.0		
	0.5						B			
	1.0						C			
	1.5						D			
	2.0						E			
	2.5						F			
	3.0	ADDITIONAL NOTES:								

VERSAR

Soil Sampling Log

LOCID
SLD24

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3/16/11	1338

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF (PL) GT (CK)	Versar/Jacobs	☑ Slide Hammer w/ disposable sleeve ☐ Hand Auger ☐ Other:	

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date
GRASS w/ MODERATE COVER	

Location:				Reason:
Circle Y(es) or N(o)	Moved from planned location?	Y	(N)	NA
	New (unplanned) location?	Y	(N)	
	New coordinates recorded, if applicable?	Y	(N)	
	Background Area?	Y	(N)	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
1330	0.5	SILT LIGHT BROWN	N	N	NA	D	A	21.0		
	1.0						B			
	1.5						C			
	2.0						D			
	2.5						E			
	3.0						F			

ADDITIONAL NOTES:

VERSAR

Soil Sampling Log

LOCID
SB-021

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3/16/11	1341

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF (FL) GT (CK)	Versar/Jacobs	☑ Slide Hammer w/ disposable sleeve ☐ Hand Auger ☐ Other:	

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date
Grass w/ moderate cover	

Location: Circle Y(es) or N(o)				Reason:
	Moved from planned location?	Y	(N)	NA
	New (unplanned) location?	Y	(N)	
	New coordinates recorded, if applicable?	Y	(N)	
	Background Area?	Y	(N)	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
1341		SILT reddish brown	N	N	NA	D	A	14.0		
	0.5						B			
	1.0						C			
	1.5						D			
	2.0						E			
	2.5						F			
	3.0	ADDITIONAL NOTES:								

VERSAR

Soil Sampling Log

LOCID
SA022

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3/16/11	1344

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF (PI) GT (CK)	Versar/Jacobs	☑ Slide Hammer w/ disposable sleeve ☐ Hand Auger ☐ Other:	

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date
GRASS w/ MODERATE COVER	

Location: Circle Y(es) or N(o)				Reason:
	Moved from planned location?	Y	(N)	NA
	New (unplanned) location?	Y	(N)	
	New coordinates recorded, if applicable?	Y	(N)	
	Background Area?	Y	(N)	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
		SILT LIGHT BROWN SOME ROOTS PRES.	N	N	NA	D	(A)	6.3		
	0.5						B			
	1.0						C			
	1.5						D			
	2.0						E			
	2.5						F			
	3.0									

ADDITIONAL NOTES:

32 BLOWS. PART OF SOIL HAD A MAT, COMPACTED CLAY. SOME GRAVEL TO 1/4", SUBANGULAR, ~~MODERATE~~ MODERATELY POORLY SORTED.

VERSAR

Soil Sampling Log

LOCID
SR023

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3/16/11	1347

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF PL GT CK	Versar/Jacobs	☑ Slide Hammer w/ disposable sleeve ☐ Hand Auger ☐ Other:	

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date
GRASS w/ MODERATE COVER	

Location:				Reason:
Circle Y(es) or N(o)	Moved from planned location?	Y	N	
	New (unplanned) location?	Y	N	
	New coordinates recorded, if applicable?	Y	N	
	Background Area?	Y	N	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
1347		SILT BROWN w/	N	N	NA	D	A	9.7		
	0.5	10% GRAVEL LESS THAN 1-INCH SUB-ANGULAR,					B			
	1.0						C			
	1.5						D			
	2.0						E			
	2.5						F			
	3.0	ADDITIONAL NOTES:								

VERSAR

Soil Sampling Log

LOCID
SR024

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3/16/11	1355

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF (PI) GT (TK)	Versar/Jacobs	[X] Slide Hammer w/ disposable sleeve [ ] Hand Auger [ ] Other:	

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date
GRASS W/ MODERATE COVER	

Location:				
Circle Y(es) or N(o)	Moved from planned location?	Y	(N)	Reason:
	New (unplanned) location?	Y	(N)	
	New coordinates recorded, if applicable?	Y	(N)	
	Background Area?	Y	(N)	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
1355		SILT REDDISH BROWN	N	N	NA	D	(A)	17.0		
	0.5						B			
	1.0						C			
	1.5						D			
	2.0						E			
	2.5						F			
	3.0	ADDITIONAL NOTES:								

VERSAR

Soil Sampling Log

LOCID
SR025

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3/16/11	1405

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF PL GT CR	Versar/Jacobs	[x] Slide Hammer w/ disposable sleeve [ ] Hand Auger [ ] Other:	

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date
GRASSY AREA W/ MODERATE COVER	

Location:				
Circle Y(es) or N(o)	Moved from planned location?	Y	N	Reason:
	New (unplanned) location?	Y	N	
	New coordinates recorded, if applicable?	Y	N	
	Background Area?	Y	N	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
1405		SILT (REDDISH BROWN)	N	N	NA	D	A	15.3		
	0.5									
							B			
	1.0									
							C			
	1.5									
							D			
	2.0									
							E			
	2.5									
							F			
	3.0	ADDITIONAL NOTES:								

VERSAR

Soil Sampling Log

LOCID
SR 026

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3/16/11	1410

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF (PI) GT (CK)	Versar/Jacobs	[X] Slide Hammer w/ disposable sleeve [ ] Hand Auger [ ] Other:	

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date
GRASSY AREA w/ MODERATE COVER	

Location:				
Circle Y(es) or N(o)	Moved from planned location?	Y	(N)	Reason:
	New (unplanned) location?	Y	(N)	
	New coordinates recorded, if applicable?	Y	(N)	
	Background Area?	Y	(N)	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
1410		SILT (REDDISH-BROWN)	N	N	NA	D	(A)	9.3		
	0.5						B			
	1.0						C			
	1.5						D			
	2.0						E			
	2.5						F			
	3.0	ADDITIONAL NOTES:								

VERSAR

Soil Sampling Log

LOCID
SR027

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3/16/11	1415

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF DL GT CK	Versar/Jacobs	[X] Slide Hammer w/ disposable sleeve [X] Hand Auger [X] Other:	

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date

Location: Circle Y(es) or N(o)				Reason:
	Moved from planned location?	Y	N	OFFSET 12" EAST BECAUSE WE GOT NO RECOVERY AT INITIAL LOCN.
	New (unplanned) location?	Y	N	
	New coordinates recorded, if applicable?	Y	N	
	Background Area?	Y	N	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
1415		SANDY SILT w/ GRAVEL TO 1/2" ANGULAR. REDDISH BROWN (MOLE BROWN DARK OTHERS)	Y	N	NA	D	A	25.0		
	0.5						B			
	1.0						C			
	1.5						D			
	2.0						E			
	2.5						F			
	3.0									

ADDITIONAL NOTES:

FOUND GLASS IN INITIAL LOCN, SO MAY BE BACKFILL.

VERSAR

Soil Sampling Log

LOCID
SR028

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3/16/11	1420

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF (PD) GT (CK)	Versar/Jacobs	[X] Slide Hammer w/ disposable sleeve [ ] Hand Auger [ ] Other:	

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date
GRASSY AREA W/ MODERATE COVER	

Location:				Reason:
Circle Y(es) or N(o)	Moved from planned location?	Y	(N)	
	New (unplanned) location?	Y	(N)	
	New coordinates recorded, if applicable?	Y	(N)	
	Background Area?	Y	(N)	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
		FILL to 2" SOIL (GRAVELLY SILT to ½" ANGULAR), SILT from 2"-6"	Y	N	NA	D	(A)	17.7		
	0.5						B			
	1.0						C			
	1.5						D			
	2.0						E			
	2.5						F			
	3.0									

ADDITIONAL NOTES:

GRAVELLY SOIL APPROXIMATELY 60-70' NORTHEAST OF PERIMETER ROAD. POTENTIAL FILL MATERIAL.

VERSAR

Soil Sampling Log

LOCID
SR029

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3/16/11	1435

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF (P) GT (G)	Versar/Jacobs	[X] Slide Hammer w/ disposable sleeve [ ] Hand Auger [ ] Other:	

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date
GRASSY AREA W/ MODERATE DENSITY	

Location:				Reason:
Circle Y(es) or N(o)	Moved from planned location?	Y	(N)	
	New (unplanned) location?	Y	(N)	
	New coordinates recorded, if applicable?	Y	(N)	
	Background Area?	Y	(N)	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
1435		SILT REDDISH BROWN	N	N	NA	D	(A)	10.0		
	0.5						B			
	1.0						C			
	1.5						D			
	2.0						E			
	2.5						F			
	3.0	ADDITIONAL NOTES:								

VERSAR

Soil Sampling Log

LOCID
SR030

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3/16/11	1445

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF (PL) GT (CK)	Versar/Jacobs	☑ Slide Hammer w/ disposable sleeve ☐ Hand Auger ☐ Other:	

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date
GRASSY AREA EAST of SR029.	

Location:				Reason:
Circle Y(es) or N(o)	Moved from planned location?	Y	(N)	NA
	New (unplanned) location?	Y	(N)	
	New coordinates recorded, if applicable?	Y	(N)	
	Background Area?	Y	(N)	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
1445		SILT Reddish Brown	N	N	NA	D	(A)	12.3		
	0.5						B			
	1.0						C			
	1.5						D			
	2.0						E			
	2.5						F			
	3.0	ADDITIONAL NOTES:								

VERSAR

Soil Sampling Log

LOCID
SR031

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3/16/11	1450

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF (PJ) GT (PK)	Versar/Jacobs	☑ Slide Hammer w/ disposable sleeve ☐ Hand Auger ☐ Other:	

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date
GRASSY AREA 70 EAST OF SR031	

Location:				Reason:
Circle Y(es) or N(o)	Moved from planned location?	Y	(N)	NA
	New (unplanned) location?	Y	(N)	
	New coordinates recorded, if applicable?	Y	(N)	
	Background Area?	Y	(N)	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
1450		SILT REDDISH BROWN	N	N	NA	D	(A)	10.0		
	0.5						B			
	1.0						C			
	1.5						D			
	2.0						E			
	2.5						F			
	3.0	ADDITIONAL NOTES:								

VERSAR

Soil Sampling Log

LOCID
SR032

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3/16/11	1455

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF (PL) GT (CK)	Versar/Jacobs	[X] Slide Hammer w/ disposable sleeve [ ] Hand Auger [ ] Other:	

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date
GRASSY AREA W/ MODERATE COVER	

Location: Circle Y(es) or N(o)				Reason:
	Moved from planned location?	Y	N	
	New (unplanned) location?	Y	N	
	New coordinates recorded, if applicable?	Y	N	
	Background Area?	Y	N	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
1455		SILT REDDISH BROWN	N	N	NA	D	A	8.0		
	0.5						B			
	1.0						C			
	1.5						D			
	2.0						E			
	2.5						F			
	3.0	ADDITIONAL NOTES:								

VERSAR

Soil Sampling Log

LOCID
SR033

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3/16/11	1500

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF (P) GT (R)	Versar/Jacobs	[X] Slide Hammer w/ disposable sleeve [ ] Hand Auger [ ] Other:	

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date
GRASSY AREA W/MODERATE COVER. 4'x4' BARE AREA 3' NW OF SAMPLE LOCATION.	

Location: Circle Y(es) or N(o)				Reason:
	Moved from planned location?	Y	(N)	
	New (unplanned) location?	Y	(N)	
	New coordinates recorded, if applicable?	Y	(N)	
	Background Area?	Y	(N)	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
1500		SILT REDDISH BROWN	N	N	NA	D	(A)	11.0		
	0.5						B			
	1.0						C			
	1.5						D			
	2.0						E			
	2.5						F			
	3.0	ADDITIONAL NOTES:								

VERSAR

Soil Sampling Log

LOCID
SR034

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3/16/11	1505

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF (D) GT (G)	Versar/Jacobs	[X] Slide Hammer w/ disposable sleeve [ ] Hand Auger [ ] Other:	

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date
GRASSY AREA W/ MODERATE COVER	

Location: Circle Y(es) or N(o)				Reason:
	Moved from planned location?	Y	N	
	New (unplanned) location?	Y	N	
	New coordinates recorded, if applicable?	Y	N	
	Background Area?	Y	N	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
1505		SILT REDDISH BROWN	N	N	NA	D	A	26.0		
	0.5						B			
	1.0						C			
	1.5						D			
	2.0						E			
	2.5						F			
	3.0	ADDITIONAL NOTES:								

VERSAR

Soil Sampling Log

LOCID
SR035

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3/16/11	1510

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF (PL) GT (K)	Versar/Jacobs	[x] Slide Hammer w/ disposable sleeve [ ] Hand Auger [ ] Other:	

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date
GRASSY AREA w/ MODERATE CONCRETE	

Location:				Reason:
Circle Y(es) or N(o)	Moved from planned location?	Y	(N)	
	New (unplanned) location?	Y	(N)	
	New coordinates recorded, if applicable?	Y	(N)	
	Background Area?	Y	(N)	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
1510		SILT REDDISH BROWN	N	N	NA	D	(A)	12.3		
	0.5						B			
	1.0						C			
	1.5						D			
	2.0						E			
	2.5						F			
	3.0									

ADDITIONAL NOTES:

CLAY TARGET DEBRIS IDENTIFIED APPROXIMATELY 3' NORTHEAST OF SAMPLE; NONE IDENTIFIED AT SAMPLE LOCATION.

VERSAR

Soil Sampling Log

LOCID
SR036

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3/16/11	1515

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF PT GT CK	Versar/Jacobs	☑ Slide Hammer w/ disposable sleeve ☐ Hand Auger ☐ Other:	

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date
GRASSY AREA w/ MODERATE COVERAGE	

Location: Circle Y(es) or N(o)				Reason:
	Moved from planned location?	Y	N	
	New (unplanned) location?	Y	N	
	New coordinates recorded, if applicable?	Y	N	
	Background Area?	Y	N	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
1515		SILT REDDISH BROWN	N	N	NA	D	A	10.5		
	0.5						B			
	1.0						C			
	1.5						D			
	2.0						E			
	2.5						F			
	3.0									

ADDITIONAL NOTES:

CLAY TARGET DEBRIS IDENTIFIED IN VICINITY, BUT NOT AT SAMPLE LOCATION.

VERSAR

Soil Sampling Log

LOCID
SR037

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3/16/11	1525

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF (PD) GT (CK)	Versar/Jacobs	☑ Slide Hammer w/ disposable sleeve ☐ Hand Auger ☐ Other:	

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date
GRASSY AREA w/ MODERATE COVERAGE	

Location: Circle Y(es) or N(o)				Reason:
	Moved from planned location?	Y	N	
	New (unplanned) location?	Y	N	
	New coordinates recorded, if applicable?	Y	N	
	Background Area?	Y	N	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
1525		SILT REDDISH BROWN	N	N	NA	D	A	13.0		
	0.5						B			
	1.0						C			
	1.5						D			
	2.0						E			
	2.5						F			
	3.0	ADDITIONAL NOTES:								

VERSAR

Soil Sampling Log

LOCID
SR038

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3/16/11	1530

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF (PI) GT (OK)	Versar/Jacobs	[X] Slide Hammer w/ disposable sleeve [ ] Hand Auger [ ] Other:	

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date
GRASSY AREA W/ MODERATE COVERAGE	

Location: Circle Y(es) or N(o)				Reason:
	Moved from planned location?	Y	N	
	New (unplanned) location?	Y	N	
	New coordinates recorded, if applicable?	Y	N	
	Background Area?	Y	N	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
1530	0.5	SILT REDDISH BROWN	N	N*	NA	D	A	110		
	1.0						B			
	1.5						C			
	2.0						D			
	2.5						E			
	3.0						F			

ADDITIONAL NOTES:

CLAY TARGET DEBRIS IDENTIFIED APPROX. 2' FROM SAMPLE LOCATION; NONE WITHIN SAMPLE ALIQUOT.

VERSAR

Soil Sampling Log

LOCID
SR039

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3/16/11	1535

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF PL GT GK	Versar/Jacobs	☑ Slide Hammer w/ disposable sleeve ☐ Hand Auger ☐ Other:	

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date
GRASSY AREA W/ GOOD COVER.	

Location:				Reason:
Circle Y(es) or N(o)	Moved from planned location?	Y	N	NA
	New (unplanned) location?	Y	N	
	New coordinates recorded, if applicable?	Y	N	
	Background Area?	Y	N	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
1535		SILT REDDISH BROWN	N	N	NA	D	A	12.3		
	0.5						B			
	1.0						C			
	1.5						D			
	2.0						E			
	2.5						F			
	3.0	ADDITIONAL NOTES:								

VERSAR

Soil Sampling Log

LOCID
SR040

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3/16/11	1540

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF (DJ) GT (GR)	Versar/Jacobs	[x] Slide Hammer w/ disposable sleeve [ ] Hand Auger [ ] Other:	

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date
GRASSY AREA W/ MODERATE COVERAGE	

Location: Circle Y(es) or N(o)				Reason:
	Moved from planned location?	Y	N	
	New (unplanned) location?	Y	N	
	New coordinates recorded, if applicable?	Y	N	
	Background Area?	Y	N	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
1540		SILT REDDISH BROWN	N	N	NA	D	A	12.0		
	0.5						B			
	1.0						C			
	1.5						D			
	2.0						E			
	2.5						F			
	3.0	ADDITIONAL NOTES:								

VERSAR

Soil Sampling Log

LOCID
SR041

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3/16/11	1545

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF PL GT CK	Versar/Jacobs	☒ Slide Hammer w/ disposable sleeve ☐ Hand Auger ☐ Other:	

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date
GRASSY AREA W/ MODERATE DENSITY	

Location: Circle Y(es) or N(o)				Reason:
	Moved from planned location?	Y	N	
	New (unplanned) location?	Y	N	
	New coordinates recorded, if applicable?	Y	N	
	Background Area?	Y	N	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
1545		SILT REDDISH BROWN	N	N	NA	D	A	110		
	0.5						B			
	1.0						C			
	1.5						D			
	2.0						E			
	2.5						F			
	3.0	ADDITIONAL NOTES:								

VERSAR

Soil Sampling Log

LOCID
SR042

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3/17/11	1010

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF PL GT CK	Versar/Jacobs	☒ Slide Hammer w/ disposable sleeve ☐ Hand Auger ☐ Other:	1.0

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date
med. density skeet debris, grassy area [inside AOI002].	

Location: Circle Y(es) or N(o)				Reason:
	Moved from planned location?	Y	N	
	New (unplanned) location?	Y	N	
	New coordinates recorded, if applicable?	Y	N	
	Background Area?	Y	N	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
		red-brown silt	N	Y	med density skeet debris	D	A	—	N	Y
1020	0.5	"	N	N	—	D	B	—	N	Y
	1.0						C			
	1.5						D			
	2.0						E			
	2.5						F			
	3.0									

ADDITIONAL NOTES:

B sample on Hold, pending A results.

VERSAR

Soil Sampling Log

LOCID
SR043

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3/17/11	

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF PL GT CK	Versar/Jacobs	☑ Slide Hammer w/ disposable sleeve ☐ Hand Auger ☐ Other:	1.0

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date

Location:				Reason:
Circle Y(es) or N(o)	Moved from planned location?	Y	N	
	New (unplanned) location?	Y	N	
	New coordinates recorded, if applicable?	Y	N	
	Background Area?	Y	N	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
		red-brown silt	/	Y		D	A	—	N	Y
	0.5	"	/	N	—	D	B	—	N	Y
	1.0						C			
	1.5						D			
	2.0						E			
	2.5						F			
	3.0									

ADDITIONAL NOTES:

B sample on hold pending analytical results of A sample.

* Dup sample collected at A.

VERSAR

Soil Sampling Log

LOCID
SR044

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3/17/11	

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF PL GT CK	Versar/Jacobs	☒ Slide Hammer w/ disposable sleeve ☐ Hand Auger ☐ Other:	1.0

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date

Location:				Reason:
Circle Y(es) or N(o)	Moved from planned location?	Y	N	
	New (unplanned) location?	Y	N	
	New coordinates recorded, if applicable?	Y	N	
	Background Area?	Y	N	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
		red-brown silt	✓	Y		D	A	—	N	Y
	0.5	"	✓	N	—	D	B	—	N	~~Y~~
	1.0						C			
	1.5						D			
	2.0						E			
	2.5						F			
	3.0									

ADDITIONAL NOTES:

B sample on hold pending A results

VERSAR

Soil Sampling Log

LOCID
SR045

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3/17/11	

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF PL GT CK	Versar/Jacobs	☒ Slide Hammer w/ disposable sleeve ☐ Hand Auger ☐ Other:	1.5

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date

Location:				
Circle Y(es) or N(o)	Moved from planned location?	Y	N	Reason:
	New (unplanned) location?	Y	N	
	New coordinates recorded, if applicable?	Y	N	
	Background Area?	Y	N	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
		red-brown silt	/	Y		D	A	—	N	Y
	0.5	"	/	Y		D	B	—	N	Y
	1.0	"	/	N	—	D	C	—	N	Y
	1.5						D			
	2.0						E			
	2.5						F			
	3.0									

ADDITIONAL NOTES:

B & C sample on hold pending A results

VERSAR

Soil Sampling Log

LOCID
SR046

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3/17/11	

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF PL GT CK	Versar/Jacobs	☒ Slide Hammer w/ disposable sleeve ☐ Hand Auger ☐ Other:	1.0

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date

Location:				
Circle Y(es) or N(o)	Moved from planned location?	Y	N	Reason:
	New (unplanned) location?	Y	N	
	New coordinates recorded, if applicable?	Y	N	
	Background Area?	Y	N	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
		red-brown silt	/	Y		D	A	—	N	Y
	0.5	"	/	N	—	D	B	—	N	Y
	1.0						C			
	1.5						D			
	2.0						E			
	2.5						F			
	3.0									

ADDITIONAL NOTES:

B sample on hold pending A result.

VERSAR

Soil Sampling Log

LOCID
SR047

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3/17/11	

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF PL GT CK	Versar/Jacobs	☒ Slide Hammer w/ disposable sleeve ☐ Hand Auger ☐ Other:	1.0

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date

Location:				
Circle Y(es) or N(o)	Moved from planned location?	Y	N	Reason:
	New (unplanned) location?	Y	N	
	New coordinates recorded, if applicable?	Y	N	
	Background Area?	Y	N	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
		red-brown silt	/	Y		D	A	—	N	Y
	0.5	"	/	N	—	D	B	—	N	Y
	1.0						C			
	1.5						D			
	2.0						E			
	2.5						F			
	3.0									

ADDITIONAL NOTES:

B sample on hold pending A result.

VERSAR

Soil Sampling Log

LOCID
SR048

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3/17/11	

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF PL GT CK	Versar/Jacobs	☑ Slide Hammer w/ disposable sleeve ☐ Hand Auger ☐ Other:	1.0

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date

Location:				
Circle Y(es) or N(o)	Moved from planned location?	Y	N	Reason:
	New (unplanned) location?	Y	N	
	New coordinates recorded, if applicable?	Y	N	
	Background Area?	Y	N	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
		red-brown silt		Y		D	A	—	N	Y
	0.5	"		N	—	D	B	—	N	Y
	1.0						C			
	1.5						D			
	2.0						E			
	2.5						F			
	3.0									

ADDITIONAL NOTES:

B sample on hold pending A result.

VERSAR

Soil Sampling Log

LOCID
SR049

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3/17/11	

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF PL GT CK	Versar/Jacobs	☒ Slide Hammer w/ disposable sleeve ☐ Hand Auger ☐ Other:	1.0

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date

Location:				
Circle Y(es) or N(o)	Moved from planned location?	Y	N	Reason:
	New (unplanned) location?	Y	N	
	New coordinates recorded, if applicable?	Y	N	
	Background Area?	Y	N	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
		red-brown silt	/	Y		D	A	—	N	Y
	0.5	"	/	N	—	D	B	—	N	Y
	1.0						C			
	1.5						D			
	2.0						E			
	2.5						F			
	3.0									

ADDITIONAL NOTES:

B sample on hold pending A result.

VERSAR

Soil Sampling Log

LOCID
SR050

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3/17/11	

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF PL GT CK	Versar/Jacobs	☒ Slide Hammer w/ disposable sleeve ☐ Hand Auger ☐ Other:	1.0

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date

Location:				
Circle Y(es) or N(o)	Moved from planned location?	Y	N	Reason:
	New (unplanned) location?	Y	N	
	New coordinates recorded, if applicable?	Y	N	
	Background Area?	Y	N	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
		red-brown silt	/	Y		D	A	—	N	Y
	0.5	"	/	N	—	D	B	—	N	Y
	1.0						C			
	1.5						D			
	2.0						E			
	2.5						F			
	3.0									

ADDITIONAL NOTES:

B sample on hold pending A result.

VERSAR

Soil Sampling Log

LOCID
SR051

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3/17/11	

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF PL GT CK	Versar/Jacobs	☒ Slide Hammer w/ disposable sleeve ☐ Hand Auger ☐ Other:	1.0

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date

Location:				Reason:
Circle Y(es) or N(o)	Moved from planned location?	Y	N	
	New (unplanned) location?	Y	N	
	New coordinates recorded, if applicable?	Y	N	
	Background Area?	Y	N	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
		red-brown silt	/	Y		D	A	—	N	Y
	0.5	"	/	N	—	D	B	—	N	Y
	1.0						C			
	1.5						D			
	2.0						E			
	2.5						F			
	3.0									

ADDITIONAL NOTES:

B sample on hold pending A result.

VERSAR

Soil Sampling Log

LOCID
SR052

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3/17/11	

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF PL GT CK	Versar/Jacobs	☒ Slide Hammer w/ disposable sleeve ☐ Hand Auger ☐ Other:	1.0

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date

Location:				
Circle Y(es) or N(o)	Moved from planned location?	Y	N	Reason:
	New (unplanned) location?	Y	N	
	New coordinates recorded, if applicable?	Y	N	
	Background Area?	Y	N	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
	0.5	red-brown silt	/	Y		D	A	—	N	Y
	1.0	"	/	N	—	D	B	—	N	Y
	1.5						C			
	2.0						D			
	2.5						E			
	3.0						F			

ADDITIONAL NOTES:

B sample on hold pending A result

VERSAR

Soil Sampling Log

LOCID
SR053

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3/17/11	

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF PL GT CK	Versar/Jacobs	☒ Slide Hammer w/ disposable sleeve ☐ Hand Auger ☐ Other:	1.0

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date

Location:				
Circle Y(es) or N(o)	Moved from planned location?	Y	N	Reason:
	New (unplanned) location?	Y	N	
	New coordinates recorded, if applicable?	Y	N	
	Background Area?	Y	N	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
	0.5	red-brown silt	/	Y		D	A	—	N	Y
	1.0	"	/	N	—	D	B	—	N	Y
	1.5						C			
	2.0						D			
	2.5						E			
	3.0						F			

ADDITIONAL NOTES:

B sample on hold, pending A result.

VERSAR

Soil Sampling Log

LOCID
BKG 001

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3/17/11	

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF PL GT CK	Versar/Jacobs	☒ Slide Hammer w/ disposable sleeve ☐ Hand Auger ☐ Other:	0.5

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date

Location: Circle Y(es) or N(o)				
	Moved from planned location?	Y	N	Reason:
	New (unplanned) location?	Y	N	
	New coordinates recorded, if applicable?	Y	N	
	Background Area?	Y	N	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
		red-brown silt	/	N	—	D	A	—	N	Y
	0.5						B			
	1.0						C			
	1.5						D			
	2.0						E			
	2.5						F			
	3.0	ADDITIONAL NOTES:								

VERSAR

Soil Sampling Log

LOCID
BKG 002

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3/17/11	

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF PL GT CK	Versar/Jacobs	☒ Slide Hammer w/ disposable sleeve ☐ Hand Auger ☐ Other:	0.5

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date

Location:				
Circle Y(es) or N(o)	Moved from planned location?	Y	N	Reason:
	New (unplanned) location?	Y	N	
	New coordinates recorded, if applicable?	Y	N	
	Background Area?	Y	N	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
		red-brown silt	/	N	—	D	A	—	N	Y
	0.5						B			
	1.0						C			
	1.5						D			
	2.0						E			
	2.5						F			
	3.0	ADDITIONAL NOTES:								

VERSAR

Soil Sampling Log

LOCID
BKG 003

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3/17/11	

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF PL GT CK	Versar/Jacobs	☒ Slide Hammer w/ disposable sleeve ☐ Hand Auger ☐ Other:	0.5

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date

Location:				
Circle Y(es) or N(o)	Moved from planned location?	Y	N	Reason:
	New (unplanned) location?	Y	N	
	New coordinates recorded, if applicable?	Y	N	
	Background Area?	Y	N	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
		red-brown silt	/	N	—	D	A	—	N	Y
	0.5						B			
	1.0						C			
	1.5						D			
	2.0						E			
	2.5						F			
	3.0	ADDITIONAL NOTES:								

VERSAR

Soil Sampling Log

LOCID
BKG 004

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3/17/11	

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF PL GT CK	Versar/Jacobs	☒ Slide Hammer w/ disposable sleeve ☐ Hand Auger ☐ Other:	0.5

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date

Location:				
Circle Y(es) or N(o)	Moved from planned location?	Y	N	Reason:
	New (unplanned) location?	Y	N	
	New coordinates recorded, if applicable?	Y	N	
	Background Area?	Y	N	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
		red-brown silt	/	N	—	D	A	—	N	Y
	0.5						B			
	1.0						C			
	1.5						D			
	2.0						E			
	2.5						F			
	3.0	ADDITIONAL NOTES:								

VERSAR

Soil Sampling Log

LOCID
BKG 005

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3/17/11	

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF PL GT CK	Versar/Jacobs	☒ Slide Hammer w/ disposable sleeve ☐ Hand Auger ☐ Other:	0.5

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date

Location:				
Circle Y(es) or N(o)	Moved from planned location?	Y	N	Reason:
	New (unplanned) location?	Y	N	
	New coordinates recorded, if applicable?	Y	N	
	Background Area?	Y	N	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
		red brown silt	/	N	—	D	A	—	N	Y
	0.5						B			
	1.0						C			
	1.5						D			
	2.0						E			
	2.5						F			
	3.0	ADDITIONAL NOTES:								

VERSAR

Soil Sampling Log

LOCID
BKG 006

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3/17/11	

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF PL GT CK	Versar/Jacobs	☒ Slide Hammer w/ disposable sleeve ☐ Hand Auger ☐ Other:	0.5

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date

Location:				
Circle Y(es) or N(o)	Moved from planned location?	Y	N	Reason:
	New (unplanned) location?	Y	N	
	New coordinates recorded, if applicable?	Y	N	
	Background Area?	Y	N	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
		red-brown clay	/	N	—	D	A	—	N	Y
	0.5						B			
	1.0						C			
	1.5						D			
	2.0						E			
	2.5						F			
	3.0	ADDITIONAL NOTES:								

VERSAR

Soil Sampling Log

LOCID
BKG 007

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3/17/11	

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF PL GT CK	Versar/Jacobs	☒ Slide Hammer w/ disposable sleeve ☐ Hand Auger ☐ Other:	0.5

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date

Location:				
Circle Y(es) or N(o)	Moved from planned location?	Y	N	Reason:
	New (unplanned) location?	Y	N	
	New coordinates recorded, if applicable?	Y	N	
	Background Area?	Y	N	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
		red-brown silt	✓	N	—	D	A	—	N	Y
	0.5						B			
	1.0						C			
	1.5						D			
	2.0						E			
	2.5						F			
	3.0	ADDITIONAL NOTES:								

VERSAR

Soil Sampling Log

LOCID
BKG 008

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3/17/11	

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF PL GT CK	Versar/Jacobs	☒ Slide Hammer w/ disposable sleeve ☐ Hand Auger ☐ Other:	0.5

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date

Location:				
Circle Y(es) or N(o)	Moved from planned location?	Y	N	Reason:
	New (unplanned) location?	Y	N	
	New coordinates recorded, if applicable?	Y	N	
	Background Area?	Y	N	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
		red-brown silt	/	N	—	D	A	—	N	Y
	0.5						B			
	1.0						C			
	1.5						D			
	2.0						E			
	2.5						F			
	3.0	ADDITIONAL NOTES:								

VERSAR

Soil Sampling Log

LOCID
BKG 009

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3/17/11	

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DE PL GT CK	Versar/Jacobs	☑ Slide Hammer w/ disposable sleeve ☐ Hand Auger ☐ Other:	0.5

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date

Location: Circle Y(es) or N(o)				Reason:
	Moved from planned location?	Y	N	
	New (unplanned) location?	Y	N	
	New coordinates recorded, if applicable?	Y	N	
	Background Area?	Y	N	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
	0.5	red-brown silt	/	N	—	D	A	—	N	Y
	1.0						B			
	1.5						C			
	2.0						D			
	2.5						E			
	3.0						F			

ADDITIONAL NOTES:

VERSAR

Soil Sampling Log

LOCID
BKG 010

Project Name	Project Number	Sampling Date	Time Sampling Started
Cannon AFB CSE Phase II	11.1736.0006	3/17/11	

Sampler(s)	Company	Sampling Equipment	Total Depth Sampled (ft)
DF PL GT CK	Versar/Jacobs	☒ Slide Hammer w/ disposable sleeve ☐ Hand Auger ☐ Other:	0.5

Location - Ground surface description (munitions debris and amount/extent, vegetation)	Checked by/Date

Location:				
Circle Y(es) or N(o)	Moved from planned location?	Y	N	Reason:
	New (unplanned) location?	Y	N	
	New coordinates recorded, if applicable?	Y	N	
	Background Area?	Y	N	

TIME	Depth (ft)	Lithology	Potential Fill Material? (Y/N)	Munitions Debris Present? (Y/N)	Munitions Debris Description (types, amounts)	Moisture (D[ry], M[oist], W[et])	Sample Collected/ Interval Designation (circle)	XRF Lead Result (ppm)	Off-site Lead Analysis? (Y/N)	PAH Analysis? (Y/N)
		red-brown silt	/	N	—	D	A	—	N	Y
	0.5						B			
	1.0						C			
	1.5						D			
	2.0						E			
	2.5						F			
	3.0	ADDITIONAL NOTES:								

3-16-2011 CANNON AFB

INNOV-X SYSTEMS MODEL Delta S-4000
Serial # 500301 Date of MFG 10-10

Gary Tay 1300

DATE/TIME	RUN #	MODE	TYPE	LOC ID	LEAD Pb	%RSD

3-16-11

Initializing system. HW fail. Called Eric Paulk at Pine Environmental for reset code.
when trying to perform initial Calibration, error stating "Warning" Please unlock the trigger before standardizing.
Trigger will not unlock.

Code #-998, #-1000

Password 1234

Reset unit.
#1 Change batteries
#2 Take battery out for 2 minutes, to reset.

1405 Replaced battery, restarted unit.

Cal check passed Rate CPS 30425
Resolution (cv) 156.

NIST 2709a TV= 17.3 ± 0.1
2781 TV= 202.1 ± 6.5
2702 TV= 132.8 ± 1.1

Date/Time	Run #	# MODE	TYPE	LOC ID	Result	$\bar{x}$	% RSD
3-16 1415	#2	3-beam	Soil	standard	2709a		
	#2-1		↓	↓	11±2		
	#2-2				10±2		
	#2-3				8±2	9.67	15.8%
	#3-1	standard		NIST 2781	202±4		
	#3-2	↓		↓	194±4	199	2.1%
	#3-3				201±4	98.4% of Expected	
1427	#4-1	↓		NIST 2709a	10±2		
	#4-2			↓	10±2		
	#4-3				12±2	10.67	10.8%
1430	#5-1	↓		NIST 2702	113±4		
	#5-2			NIST 2702	116±4		
	#5-3			NIST 2702	107±4	112.0	4.1%
						84.3% of Expected	
	#6-1	Hand	standard	SiO_2	Not detected		
	#6-2	↓	↓	↓	Not detected		
	#6-3				Not detected		
1445	#7-1	SR00IA	1033		11±2		
	#7-2				13±2		
	#7-3				12±2	12.0	8.33% RSD
1449	#8-1	Soil	3 Beam	SR002A	10±2		
	#8-2	↓	↓	↓	10±2		
	#8-3				9±2	9.67	5.97% RSD

Date/Time	Type	LOCID	RESULT	$\bar{x}$	% RSD
3-16 1454	SOIL	SR003A	7±1		
	↓	RUN 9-2	7±1		
		RUN 9-3	5±1	6.33	18.2% RSD

Date/Time	RUN#	TYPE	LOCID	RESULT	$\bar{x}$	% RSD
3-16 1459	10-1	SOIL	SR004A	9±2		
	10-2	↓	↓	11±2	10.0	10% RSD
	10-3			10±2		
1504	11-1	SOIL	SR005A	12±2		
	11-2	↓	↓	15±2		
	11-3			14±2	13.7	11.2% RSD
1507	12-1	SOIL	SR006A	8±1		
	12-2	↓	↓	10±2		
	12-3			8±1	8.7	13.3% RSD
1510	13-1	SOIL	SR007A	12±2		
	13-2	↓	↓	9±2		
	13-3			13±2	11.3	18.4% RSD
1514	14-1	SOIL	SR008A	14±2		
	14-2	↓	↓	20±2		
	14-3			24±2	19.3	26.0% RSD
	→					<50ppm ok
1517	15-1	SOIL	SR009A	9±1		
	15-2	↓	↓	12±2		
	15-3			10±1	10.3	14.7% RSD
1522	16-1	SOIL	SR010A	11±2		
	16-2	↓	↓	19±2		
	16-3			16±2	15.3	26.4% RSD ESQ ok

DATE/TIME	RUN #	TYPE	LOC ID	RESULT	$\bar{X}$	%RSD
3-16 1526	17-1	SOIL	SRØ12A	15±2		
	17-2	↓	↓	16±2		
	17-3			18±2	16.3	9.4% RSD
1529	18-1	SOIL	SRØ11A	12±2		
	18-2	↓	↓	14±2		
~~1529~~	18-3			11±2	12.3	12.4% RSD
1533	19-1	SOIL	SRØ13A	10±2		
	19-2	↓	↓	9±2		
	19-3			10±2	9.7	5.97% RSD
1536	20-1	SOIL	SRØ14A	4±2		
	20-2	↓	↓	12±2		
	20-3			17±2	13.3	24.1% RSD
						<50ppm OK
1543	2Ø-1	SOIL	SR008A DUP	16±2		
	2Ø-2	↓	↓	24±2		
	2Ø-3			19±2	19.7	20.5% RSD
						<50ppm OK
	SR008A DUP		19.3/19.7 RPD = 2.1% RPD			
1546	22-1	STD	NIST 2781	199±4		
	22-2	↓	↓	205±4		
	22-3			194±4	199.3	2.76% RSD
					199.3/TV202.1 = 98.6% RECOVERY	

DATE/TIM
3-16 155
3-16 1556
3-16 1632
1636
1639
~~1647~~
1647

	DATE/TIME	RUN#	TYPE	LOCID	$\bar{X}$	% RSD	
SD	3-16 1552	23-1	STANDARD	NIST 2702	108±4		
		23-2	↓	↓	107±4		
o RSD		23-3			114±4	109.7	3.45% RSD
					109.7/TV 132.8 = 82.6% of Exp		
	3-16 1556	24-1	BLANK	STANDARD S102	Not detected		
4% RSD		24-2	↓	↓	Not detected		
		24-3			Not detected		
97% RSD	3-16 1632	25-1	SOIL	SRØ15A	15±2		
		25-2	↓	↓	10±2		
		25-3			11±2	12.0	22.0% RSD
.1% RSD		→					<50ppm OK
OK	1636	26-1	SOIL	SRØ16A	6±1		
		26-2	↓	↓	12±2		
		26-3			9±2	9.0	33.3% RSD
0.5% RSD		→					<50ppm OK
OK	1639	27-1	SOIL	SRØ17A	11±2		
		27-2	↓	↓	11±2		
		27-3			7±2	9.7	23.9% RSD
		→					<50ppm OK
2.76% RSD	~~1647~~	28-1	SOIL	SRØ18A	15±2		
= 98.6%		28-2	↓	↓	13±2		
RECOVERY		28-3			15±2	14.3	8.06% RSD
	1647	29-1	SOIL	SRØ19A	13±2		
		29-2	↓	↓	10±2		
		29-3			10±2	11.0	15.7% RSD

DATE/TIME	RUN#	TYPE	LOCID	RESULT	$\bar{X}$	% RSD	DATE/TI
3-16 1652	30-1	SOIL	SRØ20A	22±2			3-16 172
	30-2	↓	↓	23±2			
	30-3			18±2	21.0	12.6% RSD	
1656	31-1	SOIL	SRØ21A	17±2			
	31-2	↓	↓	10±2			1724
	31-3			15±2	14.0	25.8% RSD	
						<50ppm OK	
1659	32-1	SOIL	SRØ22A	6±2			
	32-2	↓	↓	6±2			1727
	32-3			7±2	6.3	9.1% RSD	
1703	33-1	SOIL	SRØ23A	10±2			
	33-2	↓	↓	10±2			1731
	33-3			9±2	9.7	5.0% RSD	
1707	34-1	SOIL	SRO24A	13±2			
	34-2	↓	↓	39±2			
	34-3			28±2	26.7	48.9% RSD	1735
	35-1	SOIL	SRO24A REPEAT	20±2			
	35-2	↓	↓	20±2			
1713	35-3			11±2	17.0	30.6% RSD	
					<50ppm OK		1739
1715	36-1	SOIL	SRØ25A	21±2			
	36-2	↓	↓	8±2			
	36-3			17±2	15.3	43.4% RSD	1742
					<50ppm OK		

DATE/TIME	RUN#	TYPE	LOCID	RESULT	$\bar{x}$	% RSD
3-16 1720	37-1	SOIL	SRØ26A	10±2		
	37-2	↓	↓	7±1		
	37-3			11±2	9.3	22.3% RSD
	→ <50ppm OK					
1724	38-1	SOIL	SRØ27A	19±2		
	38-2	↓	↓	36±2		
	38-3			20±2	25.0	38% RSD
	→ <50ppm OK					
1727	39-1	SOIL	SRØ28A	16±2		
	39-2	↓	↓	16±2		
	39-3			21±2	17.7	16.3% RSD
1731	40-1	SOIL	SRØ29A	13±2		
	40-2	↓	↓	8±2		
	40-3			9±2	10.0	26.4% RSD
	→ <50ppm ok					
1735	41-1	SOIL	SRØ30A	14±2		
	41-2	↓	↓	9±1		
	41-3			14±2	12.3	23.4% RSD
	→ <50ppm ok					
1739	42-1	SOIL	SRØ31A	11±2		
	42-2	↓	↓	10±2		
	42-3			9±2	10.0	10% RSD
1742	43-1	SOIL	SRØ32A	7±1		
	43-2	↓	↓	11±2		
	43-3			6±1	8.0	33.1% RSD
	→ <50ppm OK					

SD
6% RSD
.8% RSD
OK
% RSD
% RSD
% RSD
% RSD
4% RSD
OK

DATE/TIME	RUN#	TYPE	LOCID	RESULT	$\bar{x}$	% RSD
3-16 1746	44-1	SOIL	SRØ33A	10±2		
	44-2	↓	↓	14±2		
	44-3			9±2	11.0	24.1% RSD
	→				<50ppm OK	
1750	45-1	SOIL	SRØ34A	25±2		
	45-2	↓	↓	22±2		
	45-3			31±2	26.0	17.6% RSD
1754	46-1	SOIL	SRØ35A	13±2		
	46-2	↓	↓	14±2		
	46-3			10±2	12.3	16.9% RSD
1758	47-1	SOIL	SRØ36A	10±2		
	47-2	↓	↓	11±2		
	47-3			ABORTED RUN	10.5	6.7% RSD
1802	48-1	SOIL	SRØ37A	17±2		
	48-2	↓		12±2		
	48-3			10±2	13.0	27.7% RSD
	→				<50ppm OK	
1806	49-1	SOIL	SRØ38A	12±2		
	49-2	↓	↓	12±2		
	49-3			9±2	11.0	15.7% RSD
1810	50-1	SOIL	SRØ39A	14±2		
	50-2	↓	↓	13±2		
	50-3			10±2	12.3	16.9% RSD

DATE/TIM
3-16 181
182
1826
1829

DATE/TIME	RUN#	TYPE	LOCID	RESULT	$\bar{X}$	%RSD
3-16 1815	51-1	SOIL	SR940A	12±2		
	51-2	↓	↓	12±2		
	51-3			12±2	12.0	8%
1822	52-1	SOIL	SR941A	8±1		
	52-2	↓	↓	12±2		
	52-3			13±2	11.0	24.1 %RSD
→						<50ppm OK
1826	53-1	STANDARD	NIST 2702	112±4		
	53-2	↓	↓	118±4		
	53-3			107±4	110.7	2.9% RSD
→						110.7/TV 1328 = 83% of expected VM
1829	54-1	BLANK	STANDARD SIO2	Not detected		
	54-2	↓	↓	Not detected		
	54-3			Not detected		

Caylor
3-16-11
1833

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APPENDIX F

Ordnance Technical Data Sheets

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ORDNANCE TECHNICAL DATA SHEETS

Not Applicable to the Cannon AFB CSE Phase II Report

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APPENDIX G

Off-Site Laboratory Analytical Data Sheets

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158 Starlite Drive, Marietta, OH 45750 • T:740-373-4071 • F:740-373-4835 • http://www.microbac.com

Laboratory Report Number: L11030658

Client: Gary Torf, 12050 N. Pecos Street, Westminster, CO, 80234

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories.

Review and compilation of your report was completed by Microbac's Sales and Service Team. If you have questions, comments or require further assistance regarding this report, please contact your team member noted in the reviewed box below at 800-373-4071. Team member e-mail addresses also appear here for your convenience.

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This report was reviewed on March 30, 2011.

Stephanie Mossburg

Stephanie Mossburg - Team Chemist/Data Specialist

I certify that all test results meet all of the requirements of the accrediting authority listed below. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

This report was certified on March 30, 2011.

David E. Vandenberg

David Vandenberg - Managing Director

State of origin: New Mexico
Accrediting authority: N/A ID:N/A
QAPP: DOD Ver 4.1
This report contains a total of 351 pages.

Look closer. Go further. Do more.

Microbac REPORT L11030658
PREPARED FOR Versar Inc
WORK ID:

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1.0 Introduction

LABORATORY REPORT

L11030658

03/30/11 14:17

Submitted By

Microbac Laboratories Inc.
158 Starlite Drive
Marietta , OH 45750
(740) 373 - 4071

For

Account Name: Versar Inc
12050 N. Pecos Street
Suite 300
Westminster, CO 80234
Attention: Gary Torf

Project Number: 2415.036
Project: Cannon AFB
Site: CANNON AFB

Sample Summary

Client ID	Lab ID	Date Collected	Date Received
SR042A	L11030658-01	03/17/2011 10:10	03/18/2011
SR043A	L11030658-02	03/17/2011 10:30	03/18/2011
SR043ADUP	L11030658-03	03/17/2011 10:30	03/18/2011
SR044A	L11030658-04	03/17/2011 10:40	03/18/2011
SR045A	L11030658-05	03/17/2011 11:05	03/18/2011
SR046A	L11030658-06	03/17/2011 11:30	03/18/2011
SR047A	L11030658-07	03/17/2011 11:45	03/18/2011
SR048A	L11030658-08	03/17/2011 12:00	03/18/2011
SR048ADUP	L11030658-09	03/17/2011 12:00	03/18/2011
SR049A	L11030658-10	03/17/2011 12:15	03/18/2011
SR050A	L11030658-11	03/17/2011 12:25	03/18/2011
SR051A	L11030658-12	03/17/2011 12:35	03/18/2011
SR052A	L11030658-13	03/17/2011 13:10	03/18/2011
SR052AMS	L11030658-14	03/17/2011 13:10	03/18/2011
SR052AMSD	L11030658-15	03/17/2011 13:10	03/18/2011
SR053A	L11030658-16	03/17/2011 13:20	03/18/2011

L1_A_PROD_COVER - Modified 02/06/2008
PDF File ID: 1953144
Report generated: 03/30/2011 14:17

Report Number: **L11030658**
Report Date : **March 30, 2011**

Sample Number: **L11030658-01**
Client ID: **SR042A**
Matrix: **Soil**
Workgroup Number: **WG359519**
Collect Date: **03/17/2011 10:10**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **10**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/21/2011 08:15**
Cal Date: **02/15/2011 12:28**
Run Date: **03/22/2011 16:08**
File ID: **15M04108**
Percent Solid: **96.8**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3	17.9	J	25.8	12.9
Acenaphthylene	208-96-8		U	25.8	12.9
Acenaphthene	83-32-9	749		25.8	12.9
Fluorene	86-73-7	41.0		25.8	12.9
Phenanthrene	85-01-8	207		25.8	12.9
Anthracene	120-12-7	90.9		25.8	12.9
Fluoranthene	206-44-0	776		25.8	12.9
Pyrene	129-00-0	1080		25.8	12.9
Benzo(a)anthracene	56-55-3	1640		25.8	12.9
Chrysene	218-01-9	1940		25.8	12.9
Benzo(b)fluoranthene	205-99-2	2900		25.8	12.9
Benzo(k)fluoranthene	207-08-9	3630		25.8	12.9
Benzo(a)pyrene	50-32-8	5730	J	25.8	12.9
Indeno(1,2,3-cd)pyrene	193-39-5	5000		25.8	12.9
Dibenzo(a,h)anthracene	53-70-3	1660		25.8	12.9
Benzo(g,h,i)perylene	191-24-2	5510	J	25.8	12.9
1-Methylnaphthalene	90-12-0		U	25.8	12.9
2-Methylnaphthalene	91-57-6	28.3		25.8	12.9

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	80.3	35	100	
2-Fluorobiphenyl	97.4	45	105	
p-Terphenyl-d14	121	30	125	

J Estimated value ; the analyte concentration was greater than the highest standard
J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Sample Number: **L11030658-01**
Client ID: **SR042A**
Matrix: **Soil**
Workgroup Number: **WG359519**
Collect Date: **03/17/2011 10:10**
Sample Tag: **DL02**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **100**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/21/2011 08:15**
Cal Date: **02/15/2011 12:28**
Run Date: **03/23/2011 10:41**
File ID: **15M04115**
Percent Solid: **96.8**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	258	129
Acenaphthylene	208-96-8		U	258	129
Acenaphthene	83-32-9	730		258	129
Fluorene	86-73-7		U	258	129
Phenanthrene	85-01-8	200	J	258	129
Anthracene	120-12-7		U	258	129
Fluoranthene	206-44-0	776		258	129
Pyrene	129-00-0	1210		258	129
Benzo(a)anthracene	56-55-3	1630		258	129
Chrysene	218-01-9	2000		258	129
Benzo(b)fluoranthene	205-99-2	2840		258	129
Benzo(k)fluoranthene	207-08-9	3810		258	129
Benzo(a)pyrene	50-32-8	5850		258	129
Indeno(1,2,3-cd)pyrene	193-39-5	5190		258	129
Dibenzo(a,h)anthracene	53-70-3	1620		258	129
Benzo(g,h,i)perylene	191-24-2	5930		258	129
1-Methylnaphthalene	90-12-0		U	258	129
2-Methylnaphthalene	91-57-6		U	258	129

Report Number: **L11030658**
Report Date : **March 30, 2011**

Sample Number: **L11030658-01**
Client ID: **SR042A**
Matrix: **Soil**
Workgroup Number: **WG359519**
Collect Date: **03/17/2011 10:10**
Sample Tag: **DL02**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **100**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/21/2011 08:15**
Cal Date: **02/15/2011 12:28**
Run Date: **03/23/2011 10:41**
File ID: **15M04115**
Percent Solid: **96.8**

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5		35	100	DL
2-Fluorobiphenyl		45	105	DL
p-Terphenyl-d14		30	125	DL

DL Surrogate or spike compound was diluted out
J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Sample Number: **L11030658-01**
Client ID: **SR042A**
Matrix: **Soil**
Workgroup Number: **WG359746**
Collect Date: **03/17/2011 10:10**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/24/2011 13:27**
Cal Date:
Run Date: **03/24/2011 13:27**
File ID: **B1.359746-0119**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	96.8		1.00	1.00

Sample Number: **L11030658-02**
Client ID: **SR043A**
Matrix: **Soil**
Workgroup Number: **WG359519**
Collect Date: **03/17/2011 10:30**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **10**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/21/2011 08:15**
Cal Date: **02/15/2011 12:28**
Run Date: **03/23/2011 09:45**
File ID: **15M04113**
Percent Solid: **94.4**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3	31.9		26.4	13.2
Acenaphthylene	208-96-8	15.5	J	26.4	13.2
Acenaphthene	83-32-9	1450		26.4	13.2
Fluorene	86-73-7	80.9		26.4	13.2
Phenanthrene	85-01-8	396		26.4	13.2
Anthracene	120-12-7	168		26.4	13.2
Fluoranthene	206-44-0	1450		26.4	13.2
Pyrene	129-00-0	1920		26.4	13.2
Benzo(a)anthracene	56-55-3	2980		26.4	13.2
Chrysene	218-01-9	3490		26.4	13.2
Benzo(b)fluoranthene	205-99-2	4440		26.4	13.2
Benzo(k)fluoranthene	207-08-9	6550	J	26.4	13.2
Benzo(a)pyrene	50-32-8	9230	J	26.4	13.2
Indeno(1,2,3-cd)pyrene	193-39-5	7850	J	26.4	13.2
Dibenzo(a,h)anthracene	53-70-3	3700		26.4	13.2
Benzo(g,h,i)perylene	191-24-2	8500	J	26.4	13.2
1-Methylnaphthalene	90-12-0	20.2	J	26.4	13.2
2-Methylnaphthalene	91-57-6	61.4		26.4	13.2

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	82.3	35	100	
2-Fluorobiphenyl	103	45	105	
p-Terphenyl-d14	117	30	125	

J Estimated value ; the analyte concentration was greater than the highest standard
J Estimated value ; the analyte concentration was less than the low standard (LOQ)

Report Number: **L11030658**
Report Date : **March 30, 2011**

Sample Number: **L11030658-02**
Client ID: **SR043A**
Matrix: **Soil**
Workgroup Number: **WG359519**
Collect Date: **03/17/2011 10:30**
Sample Tag: **DL02**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **100**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/21/2011 08:15**
Cal Date: **02/15/2011 12:28**
Run Date: **03/23/2011 11:09**
File ID: **15M04116**
Percent Solid: **94.4**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	264	132
Acenaphthylene	208-96-8		U	264	132
Acenaphthene	83-32-9	1420		264	132
Fluorene	86-73-7		U	264	132
Phenanthrene	85-01-8	383		264	132
Anthracene	120-12-7	144	J	264	132
Fluoranthene	206-44-0	1470		264	132
Pyrene	129-00-0	2200		264	132
Benzo(a)anthracene	56-55-3	3070		264	132
Chrysene	218-01-9	3710		264	132
Benzo(b)fluoranthene	205-99-2	4960		264	132
Benzo(k)fluoranthene	207-08-9	6940		264	132
Benzo(a)pyrene	50-32-8	10200		264	132
Indeno(1,2,3-cd)pyrene	193-39-5	8430		264	132
Dibenzo(a,h)anthracene	53-70-3	2650		264	132
Benzo(g,h,i)perylene	191-24-2	9420		264	132
1-Methylnaphthalene	90-12-0		U	264	132
2-Methylnaphthalene	91-57-6		U	264	132

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5		35	100	DL
2-Fluorobiphenyl		45	105	DL
p-Terphenyl-d14		30	125	DL

DL Surrogate or spike compound was diluted out
J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Sample Number: **L11030658-02**
Client ID: **SR043A**
Matrix: **Soil**
Workgroup Number: **WG359746**
Collect Date: **03/17/2011 10:30**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/24/2011 13:27**
Cal Date:
Run Date: **03/24/2011 13:27**
File ID: **B1.359746-0120**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	94.4		1.00	1.00

Sample Number: **L11030658-03**
Client ID: **SR043ADUP**
Matrix: **Soil**
Workgroup Number: **WG359519**
Collect Date: **03/17/2011 10:30**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **5**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/21/2011 08:15**
Cal Date: **02/15/2011 12:28**
Run Date: **03/22/2011 13:47**
File ID: **15M04103**
Percent Solid: **94.6**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	13.0	6.52
Acenaphthylene	208-96-8		U	13.0	6.52
Acenaphthene	83-32-9	44.3		13.0	6.52
Fluorene	86-73-7		U	13.0	6.52
Phenanthrene	85-01-8	23.8		13.0	6.52
Anthracene	120-12-7	7.34	J	13.0	6.52

Report Number: **L11030658**
Report Date : **March 30, 2011**

Sample Number: **L11030658-03**
Client ID: **SR043ADUP**
Matrix: **Soil**
Workgroup Number: **WG359519**
Collect Date: **03/17/2011 10:30**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **5**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/21/2011 08:15**
Cal Date: **02/15/2011 12:28**
Run Date: **03/22/2011 13:47**
File ID: **15M04103**
Percent Solid: **94.6**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Fluoranthene	206-44-0	93.4		13.0	6.52
Pyrene	129-00-0	117		13.0	6.52
Benzo(a)anthracene	56-55-3	157		13.0	6.52
Chrysene	218-01-9	204		13.0	6.52
Benzo(b)fluoranthene	205-99-2	307		13.0	6.52
Benzo(k)fluoranthene	207-08-9	403		13.0	6.52
Benzo(a)pyrene	50-32-8	580		13.0	6.52
Indeno(1,2,3-cd)pyrene	193-39-5	519		13.0	6.52
Dibenzo(a,h)anthracene	53-70-3	158		13.0	6.52
Benzo(g,h,i)perylene	191-24-2	600		13.0	6.52
1-Methylnaphthalene	90-12-0		U	13.0	6.52
2-Methylnaphthalene	91-57-6		U	13.0	6.52

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	72.4	35	100	
2-Fluorobiphenyl	79.2	45	105	
p-Terphenyl-d14	108	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Sample Number: **L11030658-03**
Client ID: **SR043ADUP**
Matrix: **Soil**
Workgroup Number: **WG359746**
Collect Date: **03/17/2011 10:30**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/24/2011 13:27**
Cal Date:
Run Date: **03/24/2011 13:27**
File ID: **B1.359746-0121**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	94.6		1.00	1.00

Sample Number: **L11030658-04**
Client ID: **SR044A**
Matrix: **Soil**
Workgroup Number: **WG359519**
Collect Date: **03/17/2011 10:40**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **5**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/21/2011 08:15**
Cal Date: **02/15/2011 12:28**
Run Date: **03/22/2011 14:15**
File ID: **15M04104**
Percent Solid: **95.3**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	13.1	6.55
Acenaphthylene	208-96-8		U	13.1	6.55
Acenaphthene	83-32-9	46.4		13.1	6.55
Fluorene	86-73-7		U	13.1	6.55
Phenanthrene	85-01-8	24.4		13.1	6.55
Anthracene	120-12-7	8.14	J	13.1	6.55
Fluoranthene	206-44-0	96.4		13.1	6.55
Pyrene	129-00-0	129		13.1	6.55
Benzo(a)anthracene	56-55-3	183		13.1	6.55
Chrysene	218-01-9	234		13.1	6.55
Benzo(b)fluoranthene	205-99-2	331		13.1	6.55
Benzo(k)fluoranthene	207-08-9	447		13.1	6.55
Benzo(a)pyrene	50-32-8	657		13.1	6.55

Report Number: **L11030658**
Report Date : **March 30, 2011**

Sample Number: **L11030658-04**
Client ID: **SR044A**
Matrix: **Soil**
Workgroup Number: **WG359519**
Collect Date: **03/17/2011 10:40**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **5**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/21/2011 08:15**
Cal Date: **02/15/2011 12:28**
Run Date: **03/22/2011 14:15**
File ID: **15M04104**
Percent Solid: **95.3**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Indeno(1,2,3-cd)pyrene	193-39-5	591		13.1	6.55
Dibenzo(a,h)anthracene	53-70-3	182		13.1	6.55
Benzo(g,h,i)perylene	191-24-2	682		13.1	6.55
1-Methylnaphthalene	90-12-0		U	13.1	6.55
2-Methylnaphthalene	91-57-6		U	13.1	6.55

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	62.6	35	100	
2-Fluorobiphenyl	71.0	45	105	
p-Terphenyl-d14	112	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Sample Number: **L11030658-04**
Client ID: **SR044A**
Matrix: **Soil**
Workgroup Number: **WG359746**
Collect Date: **03/17/2011 10:40**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/24/2011 13:27**
Cal Date:
Run Date: **03/24/2011 13:27**
File ID: **B1.359746-0122**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	95.3		1.00	1.00

Sample Number: **L11030658-05**
Client ID: **SR045A**
Matrix: **Soil**
Workgroup Number: **WG359519**
Collect Date: **03/17/2011 11:05**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **5**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/21/2011 08:15**
Cal Date: **02/15/2011 12:28**
Run Date: **03/22/2011 15:12**
File ID: **15M04106**
Percent Solid: **97.0**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3	28.0		12.6	6.31
Acenaphthylene	208-96-8		U	12.6	6.31
Acenaphthene	83-32-9	47.1		12.6	6.31
Fluorene	86-73-7	23.9		12.6	6.31
Phenanthrene	85-01-8	823		12.6	6.31
Anthracene	120-12-7	190		12.6	6.31
Fluoranthene	206-44-0	2590	J	12.6	6.31
Pyrene	129-00-0	2230		12.6	6.31
Benzo(a)anthracene	56-55-3	1840		12.6	6.31
Chrysene	218-01-9	2080		12.6	6.31
Benzo(b)fluoranthene	205-99-2	2170		12.6	6.31
Benzo(k)fluoranthene	207-08-9	1930		12.6	6.31
Benzo(a)pyrene	50-32-8	2270		12.6	6.31
Indeno(1,2,3-cd)pyrene	193-39-5	1440		12.6	6.31
Dibenzo(a,h)anthracene	53-70-3	482		12.6	6.31
Benzo(g,h,i)perylene	191-24-2	1650		12.6	6.31
1-Methylnaphthalene	90-12-0		U	12.6	6.31
2-Methylnaphthalene	91-57-6	8.49	J	12.6	6.31

Report Number: **L11030658**
Report Date : **March 30, 2011**

Sample Number: **L11030658-05**
Client ID: **SR045A**
Matrix: **Soil**
Workgroup Number: **WG359519**
Collect Date: **03/17/2011 11:05**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **5**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/21/2011 08:15**
Cal Date: **02/15/2011 12:28**
Run Date: **03/22/2011 15:12**
File ID: **15M04106**
Percent Solid: **97.0**

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	63.0	35	100	
2-Fluorobiphenyl	69.8	45	105	
p-Terphenyl-d14	116	30	125	

J Estimated value ; the analyte concentration was greater than the highest standard
J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Sample Number: **L11030658-05**
Client ID: **SR045A**
Matrix: **Soil**
Workgroup Number: **WG359519**
Collect Date: **03/17/2011 11:05**
Sample Tag: **DL02**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **50**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/21/2011 08:15**
Cal Date: **02/15/2011 12:28**
Run Date: **03/23/2011 10:13**
File ID: **15M04114**
Percent Solid: **97.0**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	126	63.1
Acenaphthylene	208-96-8		U	126	63.1
Acenaphthene	83-32-9		U	126	63.1
Fluorene	86-73-7		U	126	63.1
Phenanthrene	85-01-8	885		126	63.1
Anthracene	120-12-7	187		126	63.1
Fluoranthene	206-44-0	3080		126	63.1
Pyrene	129-00-0	2670		126	63.1
Benzo(a)anthracene	56-55-3	2060		126	63.1
Chrysene	218-01-9	2370		126	63.1
Benzo(b)fluoranthene	205-99-2	2470		126	63.1
Benzo(k)fluoranthene	207-08-9	2070		126	63.1
Benzo(a)pyrene	50-32-8	2490		126	63.1
Indeno(1,2,3-cd)pyrene	193-39-5	1580		126	63.1
Dibenzo(a,h)anthracene	53-70-3	510		126	63.1
Benzo(g,h,i)perylene	191-24-2	1860		126	63.1
1-Methylnaphthalene	90-12-0		U	126	63.1
2-Methylnaphthalene	91-57-6		U	126	63.1

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5		35	100	DL
2-Fluorobiphenyl		45	105	DL
p-Terphenyl-d14		30	125	DL

DL Surrogate or spike compound was diluted out
U Analyte was not detected. The concentration is below the reported LOD.

Sample Number: **L11030658-05**
Client ID: **SR045A**
Matrix: **Soil**
Workgroup Number: **WG359746**
Collect Date: **03/17/2011 11:05**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/24/2011 13:27**
Cal Date:
Run Date: **03/24/2011 13:27**
File ID: **B1.359746-0123**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	97.0		1.00	1.00

Report Number: **L11030658**
Report Date : **March 30, 2011**

Sample Number: **L11030658-06**
Client ID: **SR046A**
Matrix: **Soil**
Workgroup Number: **WG359519**
Collect Date: **03/17/2011 11:30**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **5**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/21/2011 08:15**
Cal Date: **02/15/2011 12:28**
Run Date: **03/22/2011 14:43**
File ID: **15M04105**
Percent Solid: **97.4**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3	6.48	J	12.8	6.41
Acenaphthylene	208-96-8		U	12.8	6.41
Acenaphthene	83-32-9	10.7	J	12.8	6.41
Fluorene	86-73-7		U	12.8	6.41
Phenanthrene	85-01-8	89.9		12.8	6.41
Anthracene	120-12-7	18.0		12.8	6.41
Fluoranthene	206-44-0	628		12.8	6.41
Pyrene	129-00-0	579		12.8	6.41
Benzo(a)anthracene	56-55-3	486		12.8	6.41
Chrysene	218-01-9	581		12.8	6.41
Benzo(b)fluoranthene	205-99-2	656		12.8	6.41
Benzo(k)fluoranthene	207-08-9	542		12.8	6.41
Benzo(a)pyrene	50-32-8	661		12.8	6.41
Indeno(1,2,3-cd)pyrene	193-39-5	436		12.8	6.41
Dibenzo(a,h)anthracene	53-70-3	130		12.8	6.41
Benzo(g,h,i)perylene	191-24-2	520		12.8	6.41
1-Methylnaphthalene	90-12-0		U	12.8	6.41
2-Methylnaphthalene	91-57-6		U	12.8	6.41

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	52.3	35	100	
2-Fluorobiphenyl	57.7	45	105	
p-Terphenyl-d14	111	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Sample Number: **L11030658-06**
Client ID: **SR046A**
Matrix: **Soil**
Workgroup Number: **WG359746**
Collect Date: **03/17/2011 11:30**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/24/2011 13:27**
Cal Date:
Run Date: **03/24/2011 13:27**
File ID: **B1.359746-0124**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	97.4		1.00	1.00

Sample Number: **L11030658-07**
Client ID: **SR047A**
Matrix: **Soil**
Workgroup Number: **WG359519**
Collect Date: **03/17/2011 11:45**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/21/2011 08:15**
Cal Date: **02/15/2011 12:28**
Run Date: **03/22/2011 12:22**
File ID: **15M04100**
Percent Solid: **95.7**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	5.23	2.61
Acenaphthylene	208-96-8		U	5.23	2.61
Acenaphthene	83-32-9	10.7		5.23	2.61
Fluorene	86-73-7		U	5.23	2.61
Phenanthrene	85-01-8	12.1		5.23	2.61
Anthracene	120-12-7	3.30	J	5.23	2.61
Fluoranthene	206-44-0	44.8		5.23	2.61

Report Number: **L11030658**
Report Date : **March 30, 2011**

Sample Number: **L11030658-07**
Client ID: **SR047A**
Matrix: **Soil**
Workgroup Number: **WG359519**
Collect Date: **03/17/2011 11:45**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/21/2011 08:15**
Cal Date: **02/15/2011 12:28**
Run Date: **03/22/2011 12:22**
File ID: **15M04100**
Percent Solid: **95.7**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Pyrene	129-00-0	49.5		5.23	2.61
Benzo(a)anthracene	56-55-3	58.3		5.23	2.61
Chrysene	218-01-9	75.6		5.23	2.61
Benzo(b)fluoranthene	205-99-2	110		5.23	2.61
Benzo(k)fluoranthene	207-08-9	130		5.23	2.61
Benzo(a)pyrene	50-32-8	190		5.23	2.61
Indeno(1,2,3-cd)pyrene	193-39-5	174		5.23	2.61
Dibenzo(a,h)anthracene	53-70-3	53.2		5.23	2.61
Benzo(g,h,i)perylene	191-24-2	203		5.23	2.61
1-Methylnaphthalene	90-12-0		U	5.23	2.61
2-Methylnaphthalene	91-57-6		U	5.23	2.61

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	61.8	35	100	
2-Fluorobiphenyl	63.4	45	105	
p-Terphenyl-d14	107	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Sample Number: **L11030658-07**
Client ID: **SR047A**
Matrix: **Soil**
Workgroup Number: **WG359746**
Collect Date: **03/17/2011 11:45**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/24/2011 13:27**
Cal Date:
Run Date: **03/24/2011 13:27**
File ID: **B1.359746-0125**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	95.7		1.00	1.00

Sample Number: **L11030658-08**
Client ID: **SR048A**
Matrix: **Soil**
Workgroup Number: **WG359519**
Collect Date: **03/17/2011 12:00**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/21/2011 08:15**
Cal Date: **02/15/2011 12:28**
Run Date: **03/22/2011 10:00**
File ID: **15M04095**
Percent Solid: **95.1**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	5.05	2.53
Acenaphthylene	208-96-8		U	5.05	2.53
Acenaphthene	83-32-9	8.39		5.05	2.53
Fluorene	86-73-7		U	5.05	2.53
Phenanthrene	85-01-8	5.83		5.05	2.53
Anthracene	120-12-7		U	5.05	2.53
Fluoranthene	206-44-0	21.5		5.05	2.53
Pyrene	129-00-0	27.8		5.05	2.53
Benzo(a)anthracene	56-55-3	40.0		5.05	2.53
Chrysene	218-01-9	50.2		5.05	2.53
Benzo(b)fluoranthene	205-99-2	69.5		5.05	2.53
Benzo(k)fluoranthene	207-08-9	102		5.05	2.53
Benzo(a)pyrene	50-32-8	144		5.05	2.53
Indeno(1,2,3-cd)pyrene	193-39-5	126		5.05	2.53

Report Number: **L11030658**
Report Date : **March 30, 2011**

Sample Number: **L11030658-08**
Client ID: **SR048A**
Matrix: **Soil**
Workgroup Number: **WG359519**
Collect Date: **03/17/2011 12:00**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/21/2011 08:15**
Cal Date: **02/15/2011 12:28**
Run Date: **03/22/2011 10:00**
File ID: **15M04095**
Percent Solid: **95.1**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Dibenzo(a,h)anthracene	53-70-3	37.9		5.05	2.53
Benzo(g,h,i)perylene	191-24-2	148		5.05	2.53
1-Methylnaphthalene	90-12-0		U	5.05	2.53
2-Methylnaphthalene	91-57-6		U	5.05	2.53

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	59.7	35	100	
2-Fluorobiphenyl	65.2	45	105	
p-Terphenyl-d14	98.3	30	125	

U Analyte was not detected. The concentration is below the reported LOD.

Sample Number: **L11030658-08**
Client ID: **SR048A**
Matrix: **Soil**
Workgroup Number: **WG359746**
Collect Date: **03/17/2011 12:00**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/24/2011 13:27**
Cal Date:
Run Date: **03/24/2011 13:27**
File ID: **B1.359746-0126**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	95.1		1.00	1.00

Sample Number: **L11030658-09**
Client ID: **SR048ADUP**
Matrix: **Soil**
Workgroup Number: **WG359519**
Collect Date: **03/17/2011 12:00**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/21/2011 08:15**
Cal Date: **02/15/2011 12:28**
Run Date: **03/22/2011 09:31**
File ID: **15M04094**
Percent Solid: **95.6**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	5.20	2.60
Acenaphthylene	208-96-8		U	5.20	2.60
Acenaphthene	83-32-9		U	5.20	2.60
Fluorene	86-73-7		U	5.20	2.60
Phenanthrene	85-01-8		U	5.20	2.60
Anthracene	120-12-7		U	5.20	2.60
Fluoranthene	206-44-0	4.55	J	5.20	2.60
Pyrene	129-00-0	4.99	J	5.20	2.60
Benzo(a)anthracene	56-55-3	5.60		5.20	2.60
Chrysene	218-01-9	7.61		5.20	2.60
Benzo(b)fluoranthene	205-99-2	10.1		5.20	2.60
Benzo(k)fluoranthene	207-08-9	14.2		5.20	2.60
Benzo(a)pyrene	50-32-8	18.8		5.20	2.60
Indeno(1,2,3-cd)pyrene	193-39-5	17.3		5.20	2.60
Dibenzo(a,h)anthracene	53-70-3	5.26		5.20	2.60
Benzo(g,h,i)perylene	191-24-2	20.0		5.20	2.60
1-Methylnaphthalene	90-12-0		U	5.20	2.60
2-Methylnaphthalene	91-57-6		U	5.20	2.60

Report Number: **L11030658**
Report Date : **March 30, 2011**

Sample Number: **L11030658-09**
Client ID: **SR048ADUP**
Matrix: **Soil**
Workgroup Number: **WG359519**
Collect Date: **03/17/2011 12:00**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/21/2011 08:15**
Cal Date: **02/15/2011 12:28**
Run Date: **03/22/2011 09:31**
File ID: **15M04094**
Percent Solid: **95.6**

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	55.8	35	100	
2-Fluorobiphenyl	57.3	45	105	
p-Terphenyl-d14	89.1	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Sample Number: **L11030658-09**
Client ID: **SR048ADUP**
Matrix: **Soil**
Workgroup Number: **WG359746**
Collect Date: **03/17/2011 12:00**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/24/2011 13:27**
Cal Date:
Run Date: **03/24/2011 13:27**
File ID: **B1.359746-0127**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	95.6		1.00	1.00

Sample Number: **L11030658-10**
Client ID: **SR049A**
Matrix: **Soil**
Workgroup Number: **WG359519**
Collect Date: **03/17/2011 12:15**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **10**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/21/2011 08:15**
Cal Date: **02/15/2011 12:28**
Run Date: **03/22/2011 15:40**
File ID: **15M04107**
Percent Solid: **93.2**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	26.4	13.2
Acenaphthylene	208-96-8		U	26.4	13.2
Acenaphthene	83-32-9	133		26.4	13.2
Fluorene	86-73-7		U	26.4	13.2
Phenanthrene	85-01-8	60.6		26.4	13.2
Anthracene	120-12-7	21.7	J	26.4	13.2
Fluoranthene	206-44-0	221		26.4	13.2
Pyrene	129-00-0	315		26.4	13.2
Benzo(a)anthracene	56-55-3	464		26.4	13.2
Chrysene	218-01-9	562		26.4	13.2
Benzo(b)fluoranthene	205-99-2	749		26.4	13.2
Benzo(k)fluoranthene	207-08-9	1170		26.4	13.2
Benzo(a)pyrene	50-32-8	1630		26.4	13.2
Indeno(1,2,3-cd)pyrene	193-39-5	1370		26.4	13.2
Dibenzo(a,h)anthracene	53-70-3	431		26.4	13.2
Benzo(g,h,i)perylene	191-24-2	1540		26.4	13.2
1-Methylnaphthalene	90-12-0		U	26.4	13.2
2-Methylnaphthalene	91-57-6		U	26.4	13.2

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	59.2	35	100	
2-Fluorobiphenyl	75.5	45	105	
p-Terphenyl-d14	109	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Report Number: **L11030658**
Report Date : **March 30, 2011**

Sample Number: **L11030658-10**
Client ID: **SR049A**
Matrix: **Soil**
Workgroup Number: **WG359746**
Collect Date: **03/17/2011 12:15**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/24/2011 13:27**
Cal Date:
Run Date: **03/24/2011 13:27**
File ID: **B1.359746-0128**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	93.2		1.00	1.00

Sample Number: **L11030658-11**
Client ID: **SR050A**
Matrix: **Soil**
Workgroup Number: **WG359519**
Collect Date: **03/17/2011 12:25**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/21/2011 08:15**
Cal Date: **02/15/2011 12:28**
Run Date: **03/22/2011 12:50**
File ID: **15M04101**
Percent Solid: **96.5**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	5.14	2.57
Acenaphthylene	208-96-8		U	5.14	2.57
Acenaphthene	83-32-9	59.9		5.14	2.57
Fluorene	86-73-7	3.43	J	5.14	2.57
Phenanthrene	85-01-8	22.7		5.14	2.57
Anthracene	120-12-7	9.51		5.14	2.57
Fluoranthene	206-44-0	94.7		5.14	2.57
Pyrene	129-00-0	128		5.14	2.57
Benzo(a)anthracene	56-55-3	193		5.14	2.57
Chrysene	218-01-9	235		5.14	2.57
Benzo(b)fluoranthene	205-99-2	332		5.14	2.57
Benzo(k)fluoranthene	207-08-9	474		5.14	2.57
Benzo(a)pyrene	50-32-8	689		5.14	2.57
Indeno(1,2,3-cd)pyrene	193-39-5	614		5.14	2.57
Dibenzo(a,h)anthracene	53-70-3	192		5.14	2.57
Benzo(g,h,i)perylene	191-24-2	701		5.14	2.57
1-Methylnaphthalene	90-12-0		U	5.14	2.57
2-Methylnaphthalene	91-57-6	2.68	J	5.14	2.57

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	60.0	35	100	
2-Fluorobiphenyl	66.7	45	105	
p-Terphenyl-d14	104	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Sample Number: **L11030658-11**
Client ID: **SR050A**
Matrix: **Soil**
Workgroup Number: **WG359746**
Collect Date: **03/17/2011 12:25**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/24/2011 13:27**
Cal Date:
Run Date: **03/24/2011 13:27**
File ID: **B1.359746-0129**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	96.5		1.00	1.00

Report Number: **L11030658**
Report Date : **March 30, 2011**

Sample Number: **L11030658-12**
Client ID: **SR051A**
Matrix: **Soil**
Workgroup Number: **WG359519**
Collect Date: **03/17/2011 12:35**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/21/2011 08:15**
Cal Date: **02/15/2011 12:28**
Run Date: **03/22/2011 13:18**
File ID: **15M04102**
Percent Solid: **95.1**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	5.05	2.52
Acenaphthylene	208-96-8		U	5.05	2.52
Acenaphthene	83-32-9	27.7		5.05	2.52
Fluorene	86-73-7		U	5.05	2.52
Phenanthrene	85-01-8	12.2		5.05	2.52
Anthracene	120-12-7	4.48	J	5.05	2.52
Fluoranthene	206-44-0	53.3		5.05	2.52
Pyrene	129-00-0	71.4		5.05	2.52
Benzo(a)anthracene	56-55-3	105		5.05	2.52
Chrysene	218-01-9	132		5.05	2.52
Benzo(b)fluoranthene	205-99-2	192		5.05	2.52
Benzo(k)fluoranthene	207-08-9	275		5.05	2.52
Benzo(a)pyrene	50-32-8	396		5.05	2.52
Indeno(1,2,3-cd)pyrene	193-39-5	357		5.05	2.52
Dibenzo(a,h)anthracene	53-70-3	109		5.05	2.52
Benzo(g,h,i)perylene	191-24-2	410		5.05	2.52
1-Methylnaphthalene	90-12-0		U	5.05	2.52
2-Methylnaphthalene	91-57-6		U	5.05	2.52

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	60.7	35	100	
2-Fluorobiphenyl	63.1	45	105	
p-Terphenyl-d14	104	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Sample Number: **L11030658-12**
Client ID: **SR051A**
Matrix: **Soil**
Workgroup Number: **WG359746**
Collect Date: **03/17/2011 12:35**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/24/2011 13:27**
Cal Date:
Run Date: **03/24/2011 13:27**
File ID: **B1.359746-0130**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	95.1		1.00	1.00

Sample Number: **L11030658-13**
Client ID: **SR052A**
Matrix: **Soil**
Workgroup Number: **WG359878**
Collect Date: **03/17/2011 13:10**
Sample Tag: **REDL1**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/23/2011 14:12**
Cal Date: **02/15/2011 12:28**
Run Date: **03/24/2011 16:23**
File ID: **15M04123**
Percent Solid: **97.2**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	5.79	2.89
Acenaphthylene	208-96-8		U	5.79	2.89
Acenaphthene	83-32-9		U	5.79	2.89
Fluorene	86-73-7		U	5.79	2.89
Phenanthrene	85-01-8	4.92	J	5.79	2.89
Anthracene	120-12-7		U	5.79	2.89
Fluoranthene	206-44-0	12.5		5.79	2.89

Report Number: **L11030658**
Report Date : **March 30, 2011**

Sample Number: **L11030658-13**
Client ID: **SR052A**
Matrix: **Soil**
Workgroup Number: **WG359878**
Collect Date: **03/17/2011 13:10**
Sample Tag: **REDL1**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/23/2011 14:12**
Cal Date: **02/15/2011 12:28**
Run Date: **03/24/2011 16:23**
File ID: **15M04123**
Percent Solid: **97.2**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Pyrene	129-00-0	13.1		5.79	2.89
Benzo(a)anthracene	56-55-3	11.0		5.79	2.89
Chrysene	218-01-9	15.0		5.79	2.89
Benzo(b)fluoranthene	205-99-2	18.6		5.79	2.89
Benzo(k)fluoranthene	207-08-9	24.1		5.79	2.89
Benzo(a)pyrene	50-32-8	31.4		5.79	2.89
Indeno(1,2,3-cd)pyrene	193-39-5	28.6		5.79	2.89
Dibenzo(a,h)anthracene	53-70-3	8.59		5.79	2.89
Benzo(g,h,i)perylene	191-24-2	33.8		5.79	2.89
1-Methylnaphthalene	90-12-0		U	5.79	2.89
2-Methylnaphthalene	91-57-6		U	5.79	2.89

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	62.6	35	100	
2-Fluorobiphenyl	72.4	45	105	
p-Terphenyl-d14	117	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Sample Number: **L11030658-13**
Client ID: **SR052A**
Matrix: **Soil**
Workgroup Number: **WG359746**
Collect Date: **03/17/2011 13:10**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/24/2011 13:27**
Cal Date:
Run Date: **03/24/2011 13:27**
File ID: **B1.359746-0131**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	97.2		1.00	1.00

Sample Number: **L11030658-14**
Client ID: **SR052AMS**
Matrix: **Soil**
Workgroup Number: **WG359878**
Collect Date: **03/17/2011 13:10**
Sample Tag: **REDL1**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/23/2011 14:12**
Cal Date: **02/15/2011 12:28**
Run Date: **03/24/2011 16:51**
File ID: **15M04124**
Percent Solid: **97.2**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3	28.6		5.67	2.84
Acenaphthylene	208-96-8	31.4		5.67	2.84
Acenaphthene	83-32-9	33.9		5.67	2.84
Fluorene	86-73-7	35.5		5.67	2.84
Phenanthrene	85-01-8	50.8		5.67	2.84
Anthracene	120-12-7	52.4		5.67	2.84
Fluoranthene	206-44-0	66.9		5.67	2.84
Pyrene	129-00-0	64.5		5.67	2.84
Benzo(a)anthracene	56-55-3	64.7		5.67	2.84
Chrysene	218-01-9	70.0		5.67	2.84
Benzo(b)fluoranthene	205-99-2	68.7		5.67	2.84
Benzo(k)fluoranthene	207-08-9	73.6		5.67	2.84
Benzo(a)pyrene	50-32-8	83.1		5.67	2.84
Indeno(1,2,3-cd)pyrene	193-39-5	79.7		5.67	2.84

Report Number: **L11030658**
Report Date : **March 30, 2011**

Sample Number: **L11030658-14**
Client ID: **SR052AMS**
Matrix: **Soil**
Workgroup Number: **WG359878**
Collect Date: **03/17/2011 13:10**
Sample Tag: **REDL1**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/23/2011 14:12**
Cal Date: **02/15/2011 12:28**
Run Date: **03/24/2011 16:51**
File ID: **15M04124**
Percent Solid: **97.2**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Dibenzo(a,h)anthracene	53-70-3	65.6		5.67	2.84
Benzo(g,h,i)perylene	191-24-2	83.7		5.67	2.84
1-Methylnaphthalene	90-12-0	27.6		5.67	2.84
2-Methylnaphthalene	91-57-6	29.4		5.67	2.84

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	50.6	35	100	
2-Fluorobiphenyl	54.5	45	105	
p-Terphenyl-d14	108	30	125	

Sample Number: **L11030658-14**
Client ID: **SR052AMS**
Matrix: **Soil**
Workgroup Number: **WG359746**
Collect Date: **03/17/2011 13:10**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/24/2011 13:27**
Cal Date:
Run Date: **03/24/2011 13:27**
File ID: **B1.359746-0132**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	97.2		1.00	1.00

Sample Number: **L11030658-15**
Client ID: **SR052AMSD**
Matrix: **Soil**
Workgroup Number: **WG359878**
Collect Date: **03/17/2011 13:10**
Sample Tag: **REDL1**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/23/2011 14:12**
Cal Date: **02/15/2011 12:28**
Run Date: **03/24/2011 17:19**
File ID: **15M04125**
Percent Solid: **97.2**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3	25.4		5.59	2.80
Acenaphthylene	208-96-8	29.2		5.59	2.80
Acenaphthene	83-32-9	31.2		5.59	2.80
Fluorene	86-73-7	31.6		5.59	2.80
Phenanthrene	85-01-8	41.8		5.59	2.80
Anthracene	120-12-7	42.9		5.59	2.80
Fluoranthene	206-44-0	56.1		5.59	2.80
Pyrene	129-00-0	52.8		5.59	2.80
Benzo(a)anthracene	56-55-3	53.9		5.59	2.80
Chrysene	218-01-9	58.8		5.59	2.80
Benzo(b)fluoranthene	205-99-2	64.9		5.59	2.80
Benzo(k)fluoranthene	207-08-9	63.2		5.59	2.80
Benzo(a)pyrene	50-32-8	74.4		5.59	2.80
Indeno(1,2,3-cd)pyrene	193-39-5	70.0		5.59	2.80
Dibenzo(a,h)anthracene	53-70-3	55.4		5.59	2.80
Benzo(g,h,i)perylene	191-24-2	73.9		5.59	2.80
1-Methylnaphthalene	90-12-0	25.1		5.59	2.80
2-Methylnaphthalene	91-57-6	26.8		5.59	2.80

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	45.1	35	100	
2-Fluorobiphenyl	51.7	45	105	
p-Terphenyl-d14	88.2	30	125	

Report Number: **L11030658**
Report Date : **March 30, 2011**

Sample Number: **L11030658-15**
Client ID: **SR052AMSD**
Matrix: **Soil**
Workgroup Number: **WG359746**
Collect Date: **03/17/2011 13:10**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/24/2011 13:27**
Cal Date:
Run Date: **03/24/2011 13:27**
File ID: **B1.359746-0133**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	97.2		1.00	1.00

Sample Number: **L11030658-16**
Client ID: **SR053A**
Matrix: **Soil**
Workgroup Number: **WG359878**
Collect Date: **03/17/2011 13:20**
Sample Tag: **REDL1**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/23/2011 14:12**
Cal Date: **02/15/2011 12:28**
Run Date: **03/24/2011 17:46**
File ID: **15M04126**
Percent Solid: **97.2**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	5.01	2.51
Acenaphthylene	208-96-8		U	5.01	2.51
Acenaphthene	83-32-9		U	5.01	2.51
Fluorene	86-73-7		U	5.01	2.51
Phenanthrene	85-01-8	2.53	J	5.01	2.51
Anthracene	120-12-7		U	5.01	2.51
Fluoranthene	206-44-0	6.24		5.01	2.51
Pyrene	129-00-0	4.88	J	5.01	2.51
Benzo(a)anthracene	56-55-3	2.82	J	5.01	2.51
Chrysene	218-01-9	4.05	J	5.01	2.51
Benzo(b)fluoranthene	205-99-2	4.47	J	5.01	2.51
Benzo(k)fluoranthene	207-08-9	3.94	J	5.01	2.51
Benzo(a)pyrene	50-32-8	4.05	J	5.01	2.51
Indeno(1,2,3-cd)pyrene	193-39-5	3.69	J	5.01	2.51
Dibenzo(a,h)anthracene	53-70-3		U	5.01	2.51
Benzo(g,h,i)perylene	191-24-2	4.03	J	5.01	2.51
1-Methylnaphthalene	90-12-0		U	5.01	2.51
2-Methylnaphthalene	91-57-6		U	5.01	2.51

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	54.3	35	100	
2-Fluorobiphenyl	58.6	45	105	
p-Terphenyl-d14	98.2	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Sample Number: **L11030658-16**
Client ID: **SR053A**
Matrix: **Soil**
Workgroup Number: **WG359746**
Collect Date: **03/17/2011 13:20**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/24/2011 13:27**
Cal Date:
Run Date: **03/24/2011 13:27**
File ID: **B1.359746-0134**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	97.2		1.00	1.00

Login Number: L11030658

Department: Login

Chain of Custody:

Shipment Conditions

COC #	Cooler #	Temperature
0156 0157 0158 0159	0013041	3.0
0154 0155 0160 0161	0014958	3.0

Sample Management: All samples were received intact.

Sample Identification

Lab ID	Client ID
L11030658-01	SR042A
L11030658-02	SR043A
L11030658-03	SR043ADUP
L11030658-04	SR044A
L11030658-05	SR045A
L11030658-06	SR046A
L11030658-07	SR047A
L11030658-08	SR048A
L11030658-09	SR048ADUP
L11030658-10	SR049A
L11030658-11	SR050A
L11030658-12	SR051A
L11030658-13	SR052A
L11030658-14	SR052AMS
L11030658-15	SR052AMSD
L11030658-16	SR053A

Narrative ID: 23792
Approved By: Stephanie Mossburg
Stephanie Mossburg

2.0 Full Sample Data Package

2.1 Semivolatiles Data

2.1.1 Semivolatiles GC/MS Data (827-PAHL)

2.1.1.1 Summary Data

Login Number: L11030658

Department: Semivolatiles

Analyst: Cassie A. Augenstein

METHOD

Preparation 3545

Analysis SW-846 8270C

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: For all compounds that yielded a %RSD greater than 15%, linear or higher order equations were applied. All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Continuing Calibration and Tune: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: Samples 01-16 were analyzed at a dilution due to the dark color and viscosity of the extract. Samples 01, 02 and 05 required an additional dilution to be within calibration range.

Samples 13-16 were re-extracted due to a spiking error; only the re-extraction data was reported.

Internal Standards: All acceptance criteria were met.

Surrogates: All acceptance criteria were met.

Manual Integration Reason Codes

Reason #1: Data System Fails to Select Correct Peak In some cases the chromatography system selects and integrates the 'wrong peak'. In this case the analyst must correct the selection and force the system to integrate the proper peak. Other times the system may miss the peak completely.

Reason #2: Data System Splits the Peak Incorrectly or Integrates a False Peak as a Rider Peak This phenomena is common at low concentrations where the signal:noise ratio is low. A single compound (peak) is incorrectly split into multiple peaks or integrated as a main peak with one or more rider peaks resulting in low area counts for the target compound.

Reason #3: Improperly Integrated Isomers and/or coeluting compounds. This system often fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations are wrong, and they must be corrected by manual integration. Prime examples are benzo(k)fluoranthene and benzo(b)fluoranthene which are often unresolved and integrated improperly when both are present at low concentrations in standards or samples.

Reason #4: System Establishes Incorrect Baseline There are numerous situations in chromatography where the system establishes the baseline incorrectly. Some baseline errors will be obvious to the analyst and should be corrected via manual procedures.

Reason #5: Miscellaneous Other situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the laboratory management. If the form of manual integration is not clearly covered by these four cases, then review and approval by the Managing Director or the QAO will be required.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 24271
Approved By: Mike Cochran

LABORATORY REPORT

L11030658

03/30/11 14:17

Submitted By

Microbac Laboratories Inc.
158 Starlite Drive
Marietta , OH 45750
(740) 373 - 4071

For

Account Name: Versar Inc
12050 N. Pecos Street
Suite 300
Westminster, CO 80234
Attention: Gary Torf

Project Number: 2415.036
Project: Cannon AFB
Site: CANNON AFB

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
SR042A	L11030658-01	8270C	10	18-MAR-11
SR042A	L11030658-01	8270C	100	18-MAR-11
SR043A	L11030658-02	8270C	10	18-MAR-11
SR043A	L11030658-02	8270C	100	18-MAR-11
SR043ADUP	L11030658-03	8270C	5	18-MAR-11
SR044A	L11030658-04	8270C	5	18-MAR-11
SR045A	L11030658-05	8270C	5	18-MAR-11
SR045A	L11030658-05	8270C	50	18-MAR-11
SR046A	L11030658-06	8270C	5	18-MAR-11
SR047A	L11030658-07	8270C	2	18-MAR-11
SR048A	L11030658-08	8270C	2	18-MAR-11
SR048ADUP	L11030658-09	8270C	2	18-MAR-11
SR049A	L11030658-10	8270C	10	18-MAR-11
SR050A	L11030658-11	8270C	2	18-MAR-11
SR051A	L11030658-12	8270C	2	18-MAR-11
SR052A	L11030658-13	8270C	2	18-MAR-11
SR052AMS	L11030658-14	8270C	2	18-MAR-11
SR052AMSD	L11030658-15	8270C	2	18-MAR-11
SR053A	L11030658-16	8270C	2	18-MAR-11

Report Number: **L11030658**
Report Date : **March 30, 2011**

Sample Number: **L11030658-01**
Client ID: **SR042A**
Matrix: **Soil**
Workgroup Number: **WG359519**
Collect Date: **03/17/2011 10:10**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **10**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/21/2011 08:15**
Cal Date: **02/15/2011 12:28**
Run Date: **03/22/2011 16:08**
File ID: **15M04108**
Percent Solid: **96.8**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3	17.9	J	25.8	12.9
Acenaphthylene	208-96-8		U	25.8	12.9
Acenaphthene	83-32-9	749		25.8	12.9
Fluorene	86-73-7	41.0		25.8	12.9
Phenanthrene	85-01-8	207		25.8	12.9
Anthracene	120-12-7	90.9		25.8	12.9
Fluoranthene	206-44-0	776		25.8	12.9
Pyrene	129-00-0	1080		25.8	12.9
Benzo(a)anthracene	56-55-3	1640		25.8	12.9
Chrysene	218-01-9	1940		25.8	12.9
Benzo(b)fluoranthene	205-99-2	2900		25.8	12.9
Benzo(k)fluoranthene	207-08-9	3630		25.8	12.9
Benzo(a)pyrene	50-32-8	5730	J	25.8	12.9
Indeno(1,2,3-cd)pyrene	193-39-5	5000		25.8	12.9
Dibenzo(a,h)anthracene	53-70-3	1660		25.8	12.9
Benzo(g,h,i)perylene	191-24-2	5510	J	25.8	12.9
1-Methylnaphthalene	90-12-0		U	25.8	12.9
2-Methylnaphthalene	91-57-6	28.3		25.8	12.9

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	80.3	35	100	
2-Fluorobiphenyl	97.4	45	105	
p-Terphenyl-d14	121	30	125	

J Estimated value ; the analyte concentration was greater than the highest standard
J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Report Number: **L11030658**
Report Date : **March 30, 2011**

Sample Number: **L11030658-01**
Client ID: **SR042A**
Matrix: **Soil**
Workgroup Number: **WG359519**
Collect Date: **03/17/2011 10:10**
Sample Tag: **DL02**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **100**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/21/2011 08:15**
Cal Date: **02/15/2011 12:28**
Run Date: **03/23/2011 10:41**
File ID: **15M04115**
Percent Solid: **96.8**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	258	129
Acenaphthylene	208-96-8		U	258	129
Acenaphthene	83-32-9	730		258	129
Fluorene	86-73-7		U	258	129
Phenanthrene	85-01-8	200	J	258	129
Anthracene	120-12-7		U	258	129
Fluoranthene	206-44-0	776		258	129
Pyrene	129-00-0	1210		258	129
Benzo(a)anthracene	56-55-3	1630		258	129
Chrysene	218-01-9	2000		258	129
Benzo(b)fluoranthene	205-99-2	2840		258	129
Benzo(k)fluoranthene	207-08-9	3810		258	129
Benzo(a)pyrene	50-32-8	5850		258	129
Indeno(1,2,3-cd)pyrene	193-39-5	5190		258	129
Dibenzo(a,h)anthracene	53-70-3	1620		258	129
Benzo(g,h,i)perylene	191-24-2	5930		258	129
1-Methylnaphthalene	90-12-0		U	258	129
2-Methylnaphthalene	91-57-6		U	258	129

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5		35	100	DL
2-Fluorobiphenyl		45	105	DL
p-Terphenyl-d14		30	125	DL

DL Surrogate or spike compound was diluted out
J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Report Number: **L11030658**
Report Date : **March 30, 2011**

Sample Number: **L11030658-02**
Client ID: **SR043A**
Matrix: **Soil**
Workgroup Number: **WG359519**
Collect Date: **03/17/2011 10:30**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **10**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/21/2011 08:15**
Cal Date: **02/15/2011 12:28**
Run Date: **03/23/2011 09:45**
File ID: **15M04113**
Percent Solid: **94.4**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3	31.9		26.4	13.2
Acenaphthylene	208-96-8	15.5	J	26.4	13.2
Acenaphthene	83-32-9	1450		26.4	13.2
Fluorene	86-73-7	80.9		26.4	13.2
Phenanthrene	85-01-8	396		26.4	13.2
Anthracene	120-12-7	168		26.4	13.2
Fluoranthene	206-44-0	1450		26.4	13.2
Pyrene	129-00-0	1920		26.4	13.2
Benzo(a)anthracene	56-55-3	2980		26.4	13.2
Chrysene	218-01-9	3490		26.4	13.2
Benzo(b)fluoranthene	205-99-2	4440		26.4	13.2
Benzo(k)fluoranthene	207-08-9	6550	J	26.4	13.2
Benzo(a)pyrene	50-32-8	9230	J	26.4	13.2
Indeno(1,2,3-cd)pyrene	193-39-5	7850	J	26.4	13.2
Dibenzo(a,h)anthracene	53-70-3	3700		26.4	13.2
Benzo(g,h,i)perylene	191-24-2	8500	J	26.4	13.2
1-Methylnaphthalene	90-12-0	20.2	J	26.4	13.2
2-Methylnaphthalene	91-57-6	61.4		26.4	13.2

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	82.3	35	100	
2-Fluorobiphenyl	103	45	105	
p-Terphenyl-d14	117	30	125	

J Estimated value ; the analyte concentration was greater than the highest standard
J Estimated value ; the analyte concentration was less than the low standard (LOQ)

Report Number: **L11030658**
Report Date : **March 30, 2011**

Sample Number: **L11030658-02**
Client ID: **SR043A**
Matrix: **Soil**
Workgroup Number: **WG359519**
Collect Date: **03/17/2011 10:30**
Sample Tag: **DL02**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **100**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/21/2011 08:15**
Cal Date: **02/15/2011 12:28**
Run Date: **03/23/2011 11:09**
File ID: **15M04116**
Percent Solid: **94.4**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	264	132
Acenaphthylene	208-96-8		U	264	132
Acenaphthene	83-32-9	1420		264	132
Fluorene	86-73-7		U	264	132
Phenanthrene	85-01-8	383		264	132
Anthracene	120-12-7	144	J	264	132
Fluoranthene	206-44-0	1470		264	132
Pyrene	129-00-0	2200		264	132
Benzo(a)anthracene	56-55-3	3070		264	132
Chrysene	218-01-9	3710		264	132
Benzo(b)fluoranthene	205-99-2	4960		264	132
Benzo(k)fluoranthene	207-08-9	6940		264	132
Benzo(a)pyrene	50-32-8	10200		264	132
Indeno(1,2,3-cd)pyrene	193-39-5	8430		264	132
Dibenzo(a,h)anthracene	53-70-3	2650		264	132
Benzo(g,h,i)perylene	191-24-2	9420		264	132
1-Methylnaphthalene	90-12-0		U	264	132
2-Methylnaphthalene	91-57-6		U	264	132

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5		35	100	DL
2-Fluorobiphenyl		45	105	DL
p-Terphenyl-d14		30	125	DL

DL Surrogate or spike compound was diluted out
J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Report Number: **L11030658**
Report Date : **March 30, 2011**

Sample Number: **L11030658-03**
Client ID: **SR043ADUP**
Matrix: **Soil**
Workgroup Number: **WG359519**
Collect Date: **03/17/2011 10:30**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **5**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/21/2011 08:15**
Cal Date: **02/15/2011 12:28**
Run Date: **03/22/2011 13:47**
File ID: **15M04103**
Percent Solid: **94.6**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	13.0	6.52
Acenaphthylene	208-96-8		U	13.0	6.52
Acenaphthene	83-32-9	44.3		13.0	6.52
Fluorene	86-73-7		U	13.0	6.52
Phenanthrene	85-01-8	23.8		13.0	6.52
Anthracene	120-12-7	7.34	J	13.0	6.52
Fluoranthene	206-44-0	93.4		13.0	6.52
Pyrene	129-00-0	117		13.0	6.52
Benzo(a)anthracene	56-55-3	157		13.0	6.52
Chrysene	218-01-9	204		13.0	6.52
Benzo(b)fluoranthene	205-99-2	307		13.0	6.52
Benzo(k)fluoranthene	207-08-9	403		13.0	6.52
Benzo(a)pyrene	50-32-8	580		13.0	6.52
Indeno(1,2,3-cd)pyrene	193-39-5	519		13.0	6.52
Dibenzo(a,h)anthracene	53-70-3	158		13.0	6.52
Benzo(g,h,i)perylene	191-24-2	600		13.0	6.52
1-Methylnaphthalene	90-12-0		U	13.0	6.52
2-Methylnaphthalene	91-57-6		U	13.0	6.52

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	72.4	35	100	
2-Fluorobiphenyl	79.2	45	105	
p-Terphenyl-d14	108	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Report Number: **L11030658**
Report Date : **March 30, 2011**

Sample Number: **L11030658-04**
Client ID: **SR044A**
Matrix: **Soil**
Workgroup Number: **WG359519**
Collect Date: **03/17/2011 10:40**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **5**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/21/2011 08:15**
Cal Date: **02/15/2011 12:28**
Run Date: **03/22/2011 14:15**
File ID: **15M04104**
Percent Solid: **95.3**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	13.1	6.55
Acenaphthylene	208-96-8		U	13.1	6.55
Acenaphthene	83-32-9	46.4		13.1	6.55
Fluorene	86-73-7		U	13.1	6.55
Phenanthrene	85-01-8	24.4		13.1	6.55
Anthracene	120-12-7	8.14	J	13.1	6.55
Fluoranthene	206-44-0	96.4		13.1	6.55
Pyrene	129-00-0	129		13.1	6.55
Benzo(a)anthracene	56-55-3	183		13.1	6.55
Chrysene	218-01-9	234		13.1	6.55
Benzo(b)fluoranthene	205-99-2	331		13.1	6.55
Benzo(k)fluoranthene	207-08-9	447		13.1	6.55
Benzo(a)pyrene	50-32-8	657		13.1	6.55
Indeno(1,2,3-cd)pyrene	193-39-5	591		13.1	6.55
Dibenzo(a,h)anthracene	53-70-3	182		13.1	6.55
Benzo(g,h,i)perylene	191-24-2	682		13.1	6.55
1-Methylnaphthalene	90-12-0		U	13.1	6.55
2-Methylnaphthalene	91-57-6		U	13.1	6.55

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	62.6	35	100	
2-Fluorobiphenyl	71.0	45	105	
p-Terphenyl-d14	112	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Report Number: **L11030658**
Report Date : **March 30, 2011**

Sample Number: **L11030658-05**
Client ID: **SR045A**
Matrix: **Soil**
Workgroup Number: **WG359519**
Collect Date: **03/17/2011 11:05**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **5**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/21/2011 08:15**
Cal Date: **02/15/2011 12:28**
Run Date: **03/22/2011 15:12**
File ID: **15M04106**
Percent Solid: **97.0**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3	28.0		12.6	6.31
Acenaphthylene	208-96-8		U	12.6	6.31
Acenaphthene	83-32-9	47.1		12.6	6.31
Fluorene	86-73-7	23.9		12.6	6.31
Phenanthrene	85-01-8	823		12.6	6.31
Anthracene	120-12-7	190		12.6	6.31
Fluoranthene	206-44-0	2590	J	12.6	6.31
Pyrene	129-00-0	2230		12.6	6.31
Benzo(a)anthracene	56-55-3	1840		12.6	6.31
Chrysene	218-01-9	2080		12.6	6.31
Benzo(b)fluoranthene	205-99-2	2170		12.6	6.31
Benzo(k)fluoranthene	207-08-9	1930		12.6	6.31
Benzo(a)pyrene	50-32-8	2270		12.6	6.31
Indeno(1,2,3-cd)pyrene	193-39-5	1440		12.6	6.31
Dibenzo(a,h)anthracene	53-70-3	482		12.6	6.31
Benzo(g,h,i)perylene	191-24-2	1650		12.6	6.31
1-Methylnaphthalene	90-12-0		U	12.6	6.31
2-Methylnaphthalene	91-57-6	8.49	J	12.6	6.31

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	63.0	35	100	
2-Fluorobiphenyl	69.8	45	105	
p-Terphenyl-d14	116	30	125	

J Estimated value ; the analyte concentration was greater than the highest standard
J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Report Number: **L11030658**
Report Date : **March 30, 2011**

Sample Number: **L11030658-05**
Client ID: **SR045A**
Matrix: **Soil**
Workgroup Number: **WG359519**
Collect Date: **03/17/2011 11:05**
Sample Tag: **DL02**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **50**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/21/2011 08:15**
Cal Date: **02/15/2011 12:28**
Run Date: **03/23/2011 10:13**
File ID: **15M04114**
Percent Solid: **97.0**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	126	63.1
Acenaphthylene	208-96-8		U	126	63.1
Acenaphthene	83-32-9		U	126	63.1
Fluorene	86-73-7		U	126	63.1
Phenanthrene	85-01-8	885		126	63.1
Anthracene	120-12-7	187		126	63.1
Fluoranthene	206-44-0	3080		126	63.1
Pyrene	129-00-0	2670		126	63.1
Benzo(a)anthracene	56-55-3	2060		126	63.1
Chrysene	218-01-9	2370		126	63.1
Benzo(b)fluoranthene	205-99-2	2470		126	63.1
Benzo(k)fluoranthene	207-08-9	2070		126	63.1
Benzo(a)pyrene	50-32-8	2490		126	63.1
Indeno(1,2,3-cd)pyrene	193-39-5	1580		126	63.1
Dibenzo(a,h)anthracene	53-70-3	510		126	63.1
Benzo(g,h,i)perylene	191-24-2	1860		126	63.1
1-Methylnaphthalene	90-12-0		U	126	63.1
2-Methylnaphthalene	91-57-6		U	126	63.1

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5		35	100	DL
2-Fluorobiphenyl		45	105	DL
p-Terphenyl-d14		30	125	DL

DL Surrogate or spike compound was diluted out
U Analyte was not detected. The concentration is below the reported LOD.

Report Number: **L11030658**
Report Date : **March 30, 2011**

Sample Number: **L11030658-06**
Client ID: **SR046A**
Matrix: **Soil**
Workgroup Number: **WG359519**
Collect Date: **03/17/2011 11:30**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **5**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/21/2011 08:15**
Cal Date: **02/15/2011 12:28**
Run Date: **03/22/2011 14:43**
File ID: **15M04105**
Percent Solid: **97.4**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3	6.48	J	12.8	6.41
Acenaphthylene	208-96-8		U	12.8	6.41
Acenaphthene	83-32-9	10.7	J	12.8	6.41
Fluorene	86-73-7		U	12.8	6.41
Phenanthrene	85-01-8	89.9		12.8	6.41
Anthracene	120-12-7	18.0		12.8	6.41
Fluoranthene	206-44-0	628		12.8	6.41
Pyrene	129-00-0	579		12.8	6.41
Benzo(a)anthracene	56-55-3	486		12.8	6.41
Chrysene	218-01-9	581		12.8	6.41
Benzo(b)fluoranthene	205-99-2	656		12.8	6.41
Benzo(k)fluoranthene	207-08-9	542		12.8	6.41
Benzo(a)pyrene	50-32-8	661		12.8	6.41
Indeno(1,2,3-cd)pyrene	193-39-5	436		12.8	6.41
Dibenzo(a,h)anthracene	53-70-3	130		12.8	6.41
Benzo(g,h,i)perylene	191-24-2	520		12.8	6.41
1-Methylnaphthalene	90-12-0		U	12.8	6.41
2-Methylnaphthalene	91-57-6		U	12.8	6.41

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	52.3	35	100	
2-Fluorobiphenyl	57.7	45	105	
p-Terphenyl-d14	111	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Report Number: **L11030658**
Report Date : **March 30, 2011**

Sample Number: **L11030658-07**
Client ID: **SR047A**
Matrix: **Soil**
Workgroup Number: **WG359519**
Collect Date: **03/17/2011 11:45**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/21/2011 08:15**
Cal Date: **02/15/2011 12:28**
Run Date: **03/22/2011 12:22**
File ID: **15M04100**
Percent Solid: **95.7**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	5.23	2.61
Acenaphthylene	208-96-8		U	5.23	2.61
Acenaphthene	83-32-9	10.7		5.23	2.61
Fluorene	86-73-7		U	5.23	2.61
Phenanthrene	85-01-8	12.1		5.23	2.61
Anthracene	120-12-7	3.30	J	5.23	2.61
Fluoranthene	206-44-0	44.8		5.23	2.61
Pyrene	129-00-0	49.5		5.23	2.61
Benzo(a)anthracene	56-55-3	58.3		5.23	2.61
Chrysene	218-01-9	75.6		5.23	2.61
Benzo(b)fluoranthene	205-99-2	110		5.23	2.61
Benzo(k)fluoranthene	207-08-9	130		5.23	2.61
Benzo(a)pyrene	50-32-8	190		5.23	2.61
Indeno(1,2,3-cd)pyrene	193-39-5	174		5.23	2.61
Dibenzo(a,h)anthracene	53-70-3	53.2		5.23	2.61
Benzo(g,h,i)perylene	191-24-2	203		5.23	2.61
1-Methylnaphthalene	90-12-0		U	5.23	2.61
2-Methylnaphthalene	91-57-6		U	5.23	2.61

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	61.8	35	100	
2-Fluorobiphenyl	63.4	45	105	
p-Terphenyl-d14	107	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Report Number: **L11030658**
Report Date : **March 30, 2011**

Sample Number: **L11030658-08**
Client ID: **SR048A**
Matrix: **Soil**
Workgroup Number: **WG359519**
Collect Date: **03/17/2011 12:00**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/21/2011 08:15**
Cal Date: **02/15/2011 12:28**
Run Date: **03/22/2011 10:00**
File ID: **15M04095**
Percent Solid: **95.1**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	5.05	2.53
Acenaphthylene	208-96-8		U	5.05	2.53
Acenaphthene	83-32-9	8.39		5.05	2.53
Fluorene	86-73-7		U	5.05	2.53
Phenanthrene	85-01-8	5.83		5.05	2.53
Anthracene	120-12-7		U	5.05	2.53
Fluoranthene	206-44-0	21.5		5.05	2.53
Pyrene	129-00-0	27.8		5.05	2.53
Benzo(a)anthracene	56-55-3	40.0		5.05	2.53
Chrysene	218-01-9	50.2		5.05	2.53
Benzo(b)fluoranthene	205-99-2	69.5		5.05	2.53
Benzo(k)fluoranthene	207-08-9	102		5.05	2.53
Benzo(a)pyrene	50-32-8	144		5.05	2.53
Indeno(1,2,3-cd)pyrene	193-39-5	126		5.05	2.53
Dibenzo(a,h)anthracene	53-70-3	37.9		5.05	2.53
Benzo(g,h,i)perylene	191-24-2	148		5.05	2.53
1-Methylnaphthalene	90-12-0		U	5.05	2.53
2-Methylnaphthalene	91-57-6		U	5.05	2.53

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	59.7	35	100	
2-Fluorobiphenyl	65.2	45	105	
p-Terphenyl-d14	98.3	30	125	

U Analyte was not detected. The concentration is below the reported LOD.

Report Number: **L11030658**
Report Date : **March 30, 2011**

Sample Number: **L11030658-09**
Client ID: **SR048ADUP**
Matrix: **Soil**
Workgroup Number: **WG359519**
Collect Date: **03/17/2011 12:00**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/21/2011 08:15**
Cal Date: **02/15/2011 12:28**
Run Date: **03/22/2011 09:31**
File ID: **15M04094**
Percent Solid: **95.6**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	5.20	2.60
Acenaphthylene	208-96-8		U	5.20	2.60
Acenaphthene	83-32-9		U	5.20	2.60
Fluorene	86-73-7		U	5.20	2.60
Phenanthrene	85-01-8		U	5.20	2.60
Anthracene	120-12-7		U	5.20	2.60
Fluoranthene	206-44-0	4.55	J	5.20	2.60
Pyrene	129-00-0	4.99	J	5.20	2.60
Benzo(a)anthracene	56-55-3	5.60		5.20	2.60
Chrysene	218-01-9	7.61		5.20	2.60
Benzo(b)fluoranthene	205-99-2	10.1		5.20	2.60
Benzo(k)fluoranthene	207-08-9	14.2		5.20	2.60
Benzo(a)pyrene	50-32-8	18.8		5.20	2.60
Indeno(1,2,3-cd)pyrene	193-39-5	17.3		5.20	2.60
Dibenzo(a,h)anthracene	53-70-3	5.26		5.20	2.60
Benzo(g,h,i)perylene	191-24-2	20.0		5.20	2.60
1-Methylnaphthalene	90-12-0		U	5.20	2.60
2-Methylnaphthalene	91-57-6		U	5.20	2.60

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	55.8	35	100	
2-Fluorobiphenyl	57.3	45	105	
p-Terphenyl-d14	89.1	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Report Number: **L11030658**
Report Date : **March 30, 2011**

Sample Number: **L11030658-10**
Client ID: **SR049A**
Matrix: **Soil**
Workgroup Number: **WG359519**
Collect Date: **03/17/2011 12:15**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **10**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/21/2011 08:15**
Cal Date: **02/15/2011 12:28**
Run Date: **03/22/2011 15:40**
File ID: **15M04107**
Percent Solid: **93.2**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	26.4	13.2
Acenaphthylene	208-96-8		U	26.4	13.2
Acenaphthene	83-32-9	133		26.4	13.2
Fluorene	86-73-7		U	26.4	13.2
Phenanthrene	85-01-8	60.6		26.4	13.2
Anthracene	120-12-7	21.7	J	26.4	13.2
Fluoranthene	206-44-0	221		26.4	13.2
Pyrene	129-00-0	315		26.4	13.2
Benzo(a)anthracene	56-55-3	464		26.4	13.2
Chrysene	218-01-9	562		26.4	13.2
Benzo(b)fluoranthene	205-99-2	749		26.4	13.2
Benzo(k)fluoranthene	207-08-9	1170		26.4	13.2
Benzo(a)pyrene	50-32-8	1630		26.4	13.2
Indeno(1,2,3-cd)pyrene	193-39-5	1370		26.4	13.2
Dibenzo(a,h)anthracene	53-70-3	431		26.4	13.2
Benzo(g,h,i)perylene	191-24-2	1540		26.4	13.2
1-Methylnaphthalene	90-12-0		U	26.4	13.2
2-Methylnaphthalene	91-57-6		U	26.4	13.2

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	59.2	35	100	
2-Fluorobiphenyl	75.5	45	105	
p-Terphenyl-d14	109	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Report Number: **L11030658**
Report Date : **March 30, 2011**

Sample Number: **L11030658-11**
Client ID: **SR050A**
Matrix: **Soil**
Workgroup Number: **WG359519**
Collect Date: **03/17/2011 12:25**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/21/2011 08:15**
Cal Date: **02/15/2011 12:28**
Run Date: **03/22/2011 12:50**
File ID: **15M04101**
Percent Solid: **96.5**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	5.14	2.57
Acenaphthylene	208-96-8		U	5.14	2.57
Acenaphthene	83-32-9	59.9		5.14	2.57
Fluorene	86-73-7	3.43	J	5.14	2.57
Phenanthrene	85-01-8	22.7		5.14	2.57
Anthracene	120-12-7	9.51		5.14	2.57
Fluoranthene	206-44-0	94.7		5.14	2.57
Pyrene	129-00-0	128		5.14	2.57
Benzo(a)anthracene	56-55-3	193		5.14	2.57
Chrysene	218-01-9	235		5.14	2.57
Benzo(b)fluoranthene	205-99-2	332		5.14	2.57
Benzo(k)fluoranthene	207-08-9	474		5.14	2.57
Benzo(a)pyrene	50-32-8	689		5.14	2.57
Indeno(1,2,3-cd)pyrene	193-39-5	614		5.14	2.57
Dibenzo(a,h)anthracene	53-70-3	192		5.14	2.57
Benzo(g,h,i)perylene	191-24-2	701		5.14	2.57
1-Methylnaphthalene	90-12-0		U	5.14	2.57
2-Methylnaphthalene	91-57-6	2.68	J	5.14	2.57

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	60.0	35	100	
2-Fluorobiphenyl	66.7	45	105	
p-Terphenyl-d14	104	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Report Number: **L11030658**
Report Date : **March 30, 2011**

Sample Number: **L11030658-12**
Client ID: **SR051A**
Matrix: **Soil**
Workgroup Number: **WG359519**
Collect Date: **03/17/2011 12:35**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/21/2011 08:15**
Cal Date: **02/15/2011 12:28**
Run Date: **03/22/2011 13:18**
File ID: **15M04102**
Percent Solid: **95.1**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	5.05	2.52
Acenaphthylene	208-96-8		U	5.05	2.52
Acenaphthene	83-32-9	27.7		5.05	2.52
Fluorene	86-73-7		U	5.05	2.52
Phenanthrene	85-01-8	12.2		5.05	2.52
Anthracene	120-12-7	4.48	J	5.05	2.52
Fluoranthene	206-44-0	53.3		5.05	2.52
Pyrene	129-00-0	71.4		5.05	2.52
Benzo(a)anthracene	56-55-3	105		5.05	2.52
Chrysene	218-01-9	132		5.05	2.52
Benzo(b)fluoranthene	205-99-2	192		5.05	2.52
Benzo(k)fluoranthene	207-08-9	275		5.05	2.52
Benzo(a)pyrene	50-32-8	396		5.05	2.52
Indeno(1,2,3-cd)pyrene	193-39-5	357		5.05	2.52
Dibenzo(a,h)anthracene	53-70-3	109		5.05	2.52
Benzo(g,h,i)perylene	191-24-2	410		5.05	2.52
1-Methylnaphthalene	90-12-0		U	5.05	2.52
2-Methylnaphthalene	91-57-6		U	5.05	2.52

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	60.7	35	100	
2-Fluorobiphenyl	63.1	45	105	
p-Terphenyl-d14	104	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Report Number: **L11030658**
Report Date : **March 30, 2011**

Sample Number: **L11030658-13**
Client ID: **SR052A**
Matrix: **Soil**
Workgroup Number: **WG359878**
Collect Date: **03/17/2011 13:10**
Sample Tag: **REDL1**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/23/2011 14:12**
Cal Date: **02/15/2011 12:28**
Run Date: **03/24/2011 16:23**
File ID: **15M04123**
Percent Solid: **97.2**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	5.79	2.89
Acenaphthylene	208-96-8		U	5.79	2.89
Acenaphthene	83-32-9		U	5.79	2.89
Fluorene	86-73-7		U	5.79	2.89
Phenanthrene	85-01-8	4.92	J	5.79	2.89
Anthracene	120-12-7		U	5.79	2.89
Fluoranthene	206-44-0	12.5		5.79	2.89
Pyrene	129-00-0	13.1		5.79	2.89
Benzo(a)anthracene	56-55-3	11.0		5.79	2.89
Chrysene	218-01-9	15.0		5.79	2.89
Benzo(b)fluoranthene	205-99-2	18.6		5.79	2.89
Benzo(k)fluoranthene	207-08-9	24.1		5.79	2.89
Benzo(a)pyrene	50-32-8	31.4		5.79	2.89
Indeno(1,2,3-cd)pyrene	193-39-5	28.6		5.79	2.89
Dibenzo(a,h)anthracene	53-70-3	8.59		5.79	2.89
Benzo(g,h,i)perylene	191-24-2	33.8		5.79	2.89
1-Methylnaphthalene	90-12-0		U	5.79	2.89
2-Methylnaphthalene	91-57-6		U	5.79	2.89

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	62.6	35	100	
2-Fluorobiphenyl	72.4	45	105	
p-Terphenyl-d14	117	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Report Number: **L11030658**
Report Date : **March 30, 2011**

Sample Number: **L11030658-14**
Client ID: **SR052AMS**
Matrix: **Soil**
Workgroup Number: **WG359878**
Collect Date: **03/17/2011 13:10**
Sample Tag: **REDL1**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/23/2011 14:12**
Cal Date: **02/15/2011 12:28**
Run Date: **03/24/2011 16:51**
File ID: **15M04124**
Percent Solid: **97.2**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3	28.6		5.67	2.84
Acenaphthylene	208-96-8	31.4		5.67	2.84
Acenaphthene	83-32-9	33.9		5.67	2.84
Fluorene	86-73-7	35.5		5.67	2.84
Phenanthrene	85-01-8	50.8		5.67	2.84
Anthracene	120-12-7	52.4		5.67	2.84
Fluoranthene	206-44-0	66.9		5.67	2.84
Pyrene	129-00-0	64.5		5.67	2.84
Benzo(a)anthracene	56-55-3	64.7		5.67	2.84
Chrysene	218-01-9	70.0		5.67	2.84
Benzo(b)fluoranthene	205-99-2	68.7		5.67	2.84
Benzo(k)fluoranthene	207-08-9	73.6		5.67	2.84
Benzo(a)pyrene	50-32-8	83.1		5.67	2.84
Indeno(1,2,3-cd)pyrene	193-39-5	79.7		5.67	2.84
Dibenzo(a,h)anthracene	53-70-3	65.6		5.67	2.84
Benzo(g,h,i)perylene	191-24-2	83.7		5.67	2.84
1-Methylnaphthalene	90-12-0	27.6		5.67	2.84
2-Methylnaphthalene	91-57-6	29.4		5.67	2.84

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	50.6	35	100	
2-Fluorobiphenyl	54.5	45	105	
p-Terphenyl-d14	108	30	125	

Report Number: **L11030658**
Report Date : **March 30, 2011**

Sample Number: **L11030658-15**
Client ID: **SR052AMSD**
Matrix: **Soil**
Workgroup Number: **WG359878**
Collect Date: **03/17/2011 13:10**
Sample Tag: **REDL1**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/23/2011 14:12**
Cal Date: **02/15/2011 12:28**
Run Date: **03/24/2011 17:19**
File ID: **15M04125**
Percent Solid: **97.2**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3	25.4		5.59	2.80
Acenaphthylene	208-96-8	29.2		5.59	2.80
Acenaphthene	83-32-9	31.2		5.59	2.80
Fluorene	86-73-7	31.6		5.59	2.80
Phenanthrene	85-01-8	41.8		5.59	2.80
Anthracene	120-12-7	42.9		5.59	2.80
Fluoranthene	206-44-0	56.1		5.59	2.80
Pyrene	129-00-0	52.8		5.59	2.80
Benzo(a)anthracene	56-55-3	53.9		5.59	2.80
Chrysene	218-01-9	58.8		5.59	2.80
Benzo(b)fluoranthene	205-99-2	64.9		5.59	2.80
Benzo(k)fluoranthene	207-08-9	63.2		5.59	2.80
Benzo(a)pyrene	50-32-8	74.4		5.59	2.80
Indeno(1,2,3-cd)pyrene	193-39-5	70.0		5.59	2.80
Dibenzo(a,h)anthracene	53-70-3	55.4		5.59	2.80
Benzo(g,h,i)perylene	191-24-2	73.9		5.59	2.80
1-Methylnaphthalene	90-12-0	25.1		5.59	2.80
2-Methylnaphthalene	91-57-6	26.8		5.59	2.80

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	45.1	35	100	
2-Fluorobiphenyl	51.7	45	105	
p-Terphenyl-d14	88.2	30	125	

Report Number: **L11030658**
Report Date : **March 30, 2011**

Sample Number: **L11030658-16**
Client ID: **SR053A**
Matrix: **Soil**
Workgroup Number: **WG359878**
Collect Date: **03/17/2011 13:20**
Sample Tag: **REDL1**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/23/2011 14:12**
Cal Date: **02/15/2011 12:28**
Run Date: **03/24/2011 17:46**
File ID: **15M04126**
Percent Solid: **97.2**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	5.01	2.51
Acenaphthylene	208-96-8		U	5.01	2.51
Acenaphthene	83-32-9		U	5.01	2.51
Fluorene	86-73-7		U	5.01	2.51
Phenanthrene	85-01-8	2.53	J	5.01	2.51
Anthracene	120-12-7		U	5.01	2.51
Fluoranthene	206-44-0	6.24		5.01	2.51
Pyrene	129-00-0	4.88	J	5.01	2.51
Benzo(a)anthracene	56-55-3	2.82	J	5.01	2.51
Chrysene	218-01-9	4.05	J	5.01	2.51
Benzo(b)fluoranthene	205-99-2	4.47	J	5.01	2.51
Benzo(k)fluoranthene	207-08-9	3.94	J	5.01	2.51
Benzo(a)pyrene	50-32-8	4.05	J	5.01	2.51
Indeno(1,2,3-cd)pyrene	193-39-5	3.69	J	5.01	2.51
Dibenzo(a,h)anthracene	53-70-3		U	5.01	2.51
Benzo(g,h,i)perylene	191-24-2	4.03	J	5.01	2.51
1-Methylnaphthalene	90-12-0		U	5.01	2.51
2-Methylnaphthalene	91-57-6		U	5.01	2.51

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	54.3	35	100	
2-Fluorobiphenyl	58.6	45	105	
p-Terphenyl-d14	98.2	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

2.1.1.2 QC Summary Data

Example 8270 Calculations

1.0 Calculating the Response Factor (RF) from the initial calibration (ICAL) data:

RF = [(Ax) (Cis)] / [(Ais) (Cx)]

where:

	Example
Ax = Area of the characteristic ion for the compound being measured:	1261197
Cis = Concentration of the specific internal standard (ug/mL)	40
Ais = Area of the characteristic ion of the specific internal standard	608044
Cx = Concentration of the compound in the standard being measured (ug/mL)	50
RF = Calculated Response Factor	**1.65935**

2.0 Calculating the concentration (C) of a compound in water using the data from the prep log and quantitation report: *

Cx = [(Ax) (Cis) (Vf) (D)] / [(Ais) (RF) (Vi)]

where:

	Example
Ax = Area of the characteristic ion for the compound being measured	367250
Cis = Concentration of the specific internal standard (ug/mL)	40
Vf = Final volume of sample extract from prep log (mL)	1
D = Dilution factor for sample as a multiplier (10x = 10)	1
Ais = Area of the characteristic ion of the specific internal standard	511641
RF = Average RF from the ICAL	1.65935
Vi = Initial volume of sample extracted from prep log (mL)	1021
Cx = Concentration of the compound in the sample being measured (ug/mL)	0.016947
Cx = Concentration of the compound in the sample being measured (ug/L)	**16.947**

3.0 Calculating the concentration (C) of a compound in soil using the data from the prep log and quantitation report: *

Cx = [(Ax) (Cis) (Vf) (D)] / [(Ais) (RF) (Wi)]

where:

	Example
Ax = Area of the characteristic ion for the compound being measured	367250
Cis = Concentration of the specific internal standard (ug/mL)	40
Vf = Final volume of sample extract from prep log (mL)	1
D = Dilution factor for sample as a multiplier (10x = 10)	1
Ais = Area of the characteristic ion of the specific internal standard	511641
RF = Average RF from the ICAL	1.65935
Wi = Initial weight of sample extracted (g) from prep log	30
Cx = Concentration of the compound in the sample being measured (ug/g)	0.576763
Cx = Concentration of the compound in the sample being measured (ug/kg)	**576.7627**

Dry weight correction:

Percent solids (PCT_S)	50
Cd = (Cx) (100)/PCT_S	**1153.525** ug/kg

* Concentrations appearing on the instrument quantitation reports are on-column results and do not take into account initial volume, final volume, and the dilution factor.

4.0 Concentration from Linear Regression

Step 1: Retrieve Curve Data From Plot, y = mx + b

y = response ratio = response of analyte / response of IS = Ax/Ais

x = amount ratio = concentration analyte/concentration internal standard = Cx / Cis

m = slope from curve plot

b = intercept from curve plot

Step 2: Calculate y from Quantitation Report

y = 16790/784838 = 0.02139

Step 3: Solve for x

x = (y - b)/m = [(0.02139 -(- 0.0435)]/ 0.0783 = 0.829

Step 4: Solve for analyte concentration Cx

Cx = Cis (x) = (25.0)(0.829) = 20.72 ug/L

Example Spreadsheet Calculation:

Slope from curve, m:	0.0783	
Intercept from curve, b:	-0.0435	
Area of analyte, Ax:	16790	
Area of Internal Standard , Ais:	784484	
Concentration of IS, Cis	25.00	ug/L
Response Ratio (y) :	0.021403	
Amount Ratio:	0.828897	
Concentration (Cx):	20.72241	ug/L

5.0 Concentration from Quadratic Regression

Step 1 - Retrieve Curve Data from Plot, y = Ax^2 + Bx + C
Where:
Ax^2 + Bx + (C - y) = 0
A, B, C = constants from the ICAL quadratic regression
y = Response ratio = Area of analyte/Area of internal standard (IS)
x = Amount ratio = Concentration of analyte/concentration of IS

Step 2: Calculate y from Quantitation Report

y = Ax/Ais

Step 3: Solve for x using the quadratic formula
Ax^2 + Bx + C - y = 0

$$x = \frac{b \pm \sqrt{\left(b^2 - 4a(c - y)\right)}}{2a}$$ (Two possible solutions)

Step 4: Solve for analyte concentration Cx

Cx = (Cis)(Amount ratio)

Example Spreadsheet Calculation:

Value of A from plot:	**0.0259**	
Value of B from plot:	**0.0596**	
Value of C from plot:	**-0.0165**	
Area of analyte from quantitation report:	**203233**	
Area of IS from quantiation report:	**1425653**	
Response ratio, y:	**0.142554**	
C - y:	**-0.15905**	
Root 1 - Computed amount ratio , X1:	**-3.88278**	
Root 2 - Computed amount ratio , X2:	**1.581623**	use this solution
Concentration of IS, Cis:	**40.00**	
Concentration of analyte, Cx:	**63.26**	ug/L

Microbac Laboratories Inc.
Sample Extract Log

Workgroup: WG359445
Analyst: RAH
Spike Analyst: RAH
Method: 3545
Run Date: 03/21/2011 08:15
SOP: ASE01 Revison 8
Spike Witness: CPD
Surr Solution: STD42350

Methylene Chloride Lot #: COA15249
Purified Lab Sand Lot #: COA14882
Diatomaceous Earth Lot #: COA14693
Sodium Sulfate,Anhydrous,Granular (Lot #: COA15226

	SAMPLE #	Type	Reference	pH	Prod	Init Amnt	Surr Amnt	Spike Amnt	Spike Sol	Final Vol	Color
1	L11030658-01	SAMP			827-PAHL	20.04 g	.25 mL			1 mL	Opaque
2	L11030658-02	SAMP			827-PAHL	20.04 g	.25 mL			1 mL	Opaque
3	L11030658-03	SAMP			827-PAHL	20.26 g	.25 mL			1 mL	Opaque
4	L11030658-04	SAMP			827-PAHL	20.02 g	.25 mL			1 mL	Opaque
5	L11030658-05	SAMP			827-PAHL	20.44 g	.25 mL			1 mL	Opaque
6	L11030658-06	SAMP			827-PAHL	20.03 g	.25 mL			1 mL	Opaque
7	L11030658-07	SAMP			827-PAHL	20 g	.25 mL			1 mL	Colored
8	L11030658-08	SAMP			827-PAHL	20.81 g	.25 mL			1 mL	Colored
9	L11030658-09	SAMP			827-PAHL	20.13 g	.25 mL			1 mL	Colored
10	L11030658-10	SAMP			827-PAHL	20.29 g	.25 mL			1 mL	Opaque
11	L11030658-11	SAMP			827-PAHL	20.18 g	.25 mL			1 mL	Colored
12	L11030658-12	SAMP			827-PAHL	20.84 g	.25 mL			1 mL	Colored
13	L11030658-13	RS01			827-PAHL	20.06 g	.25 mL			1 mL	Colored
14	L11030658-14	MS01	L11030658-13		827-PAHL	20.09 g	.25 mL	1 mL	STD43935	1 mL	Colored
15	L11030658-15	SD01	L11030658-13		827-PAHL	20.06 g	.25 mL	1 mL	STD43935	1 mL	Colored
16	L11030658-16	SAMP			827-PAHL	20.07 g	.25 mL			1 mL	Colored
17	WG359445-01	REF	L11030658-13		827-PAHL	20.06 g	.25 mL			1 mL	Colored
18	WG359445-02	BLANK			827-PAHL	20 g	.25 mL			1 mL	Transparent
19	WG359445-03	LCS			827-PAHL	20 g	.25 mL	1 mL	STD43935	1 mL	Transparent
20	WG359445-04	MS	L11030658-13		827-PAHL	20.09 g	.25 mL	1 mL	STD43935	1 mL	Colored
21	WG359445-05	MSD	L11030658-13		827-PAHL	20.06 g	.25 mL	1 mL	STD43935	1 mL	Colored

Analyst: [signature]

Reviewer: Chris Hill

EXTRACT - Modified 10/22/2008
PDF ID: 1950053
Report generated: 03/21/2011 14:31

Microbac Laboratories Inc.
Sample Extract Log

Workgroup: WG359747
Analyst: RAH
Spike Analyst: RAH
Method: 3545
Run Date: 03/23/2011 14:12
SOP: ASE01 Revison 8
Spike Witness: CPD
Surr Solution: STD42350

Methylene Chloride Lot #: COA15249
Purified Lab Sand Lot #: COA14882
Diatomaceous Earth Lot #: COA14693
Sodium Sulfate,Anhydrous,Granular (Lot #: COA15226

	SAMPLE #	Type	Reference	pH	Prod	Init Amnt	Surr Amnt	Spike Amnt	Spike Sol	Final Vol	Color
1	L11030658-13	RS01			827-PAHL	17.78 g	.25 mL			1 mL	Colored
2	L11030658-14	MS01	L11030658-13		827-PAHL	18.14 g	.25 mL	1 mL	STD43935	1 mL	Colored
3	L11030658-15	SD01	L11030658-13		827-PAHL	18.41 g	.25 mL	1 mL	STD43935	1 mL	Colored
4	L11030658-16	SAMP			827-PAHL	20.52 g	.25 mL			1 mL	Colored
5	L11030669-01	SAMP			827-PAHL	20.16 g	.25 mL			1 mL	Colored
6	L11030669-02	SAMP			827-PAHL	18.92 g	.25 mL			1 mL	Colored
7	L11030669-03	SAMP			827-PAHL	19.35 g	.25 mL			1 mL	Colored
8	L11030669-04	SAMP			827-PAHL	17.98 g	.25 mL			1 mL	Colored
9	L11030669-05	RS01			827-PAHL	20.88 g	.25 mL			1 mL	Colored
10	L11030669-06	MS01	L11030669-05		827-PAHL	19.51 g	.25 mL	1 mL	STD43935	1 mL	Colored
11	L11030669-07	SD01	L11030669-05		827-PAHL	21.36 g	.25 mL	1 mL	STD43935	1 mL	Colored
12	L11030669-08	SAMP			827-PAHL	19.62 g	.25 mL			1 mL	Colored
13	L11030669-09	SAMP			827-PAHL	17.94 g	.25 mL			1 mL	Colored
14	L11030669-10	SAMP			827-PAHL	19.18 g	.25 mL			1 mL	Colored
15	L11030669-11	SAMP			827-PAHL	20.51 g	.25 mL			1 mL	Colored
16	L11030669-12	SAMP			827-PAHL	20.16 g	.25 mL			1 mL	Colored
17	L11030669-13	SAMP			827-PAHL	20.06 g	.25 mL			1 mL	Colored
18	WG359747-01	REF	L11030658-13		827-PAHL	17.78 g	.25 mL			1 mL	Colored
19	WG359747-02	REF	L11030669-05		827-PAHL	20.88 g	.25 mL			1 mL	Colored
20	WG359747-03	BLANK			827-PAHL	20 g	.25 mL			1 mL	Transparent
21	WG359747-04	LCS			827-PAHL	20 g	.25 mL	1 mL	STD43935	1 mL	Transparent
22	WG359747-05	MS	L11030658-13		827-PAHL	18.14 g	.25 mL	1 mL	STD43935	1 mL	Colored
23	WG359747-06	MSD	L11030658-13		827-PAHL	18.41 g	.25 mL	1 mL	STD43935	1 mL	Colored
24	WG359747-07	MS	L11030669-05		827-PAHL	19.51 g	.25 mL	1 mL	STD43935	1 mL	Colored
25	WG359747-08	MSD	L11030669-05		827-PAHL	21.36 g	.25 mL	1 mL	STD43935	1 mL	Colored

Entire batch are reextracts in hold

Analyst: [signature]

Reviewer: Chris Hill

EXTRACT - Modified 10/22/2008
PDF ID: 1952867
Report generated: 03/24/2011 13:42

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS15 Dataset: 021511
Analyst1: CAA Analyst2: NA
Method: 8270L SOP: MSS03 Rev: 9

Maintenance Log ID: 36452 Syringe Filter Lot#:

Column 1 ID: RXI-5MS Column 2 ID: NA

Workgroups: WG356524

CCV Std: LCS STD:
Internal STD: COA14927 Surrogate STD: NA Calibration STD:

Comments: Ran ICAL due to new column.

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	15M03931	BAKEOUT	1	1		02/15/11 07:56
2	15M03932	10PPM STD CHECK	1	1		02/15/11 08:24
3	15M03933	WG356529-01 5ppm DFTPP STD	1	1	STD41383	02/15/11 08:57
4	15M03934	WG356529-01 5ppm DFTPP STD	1	1	STD41383	02/15/11 09:19
5	15M03935	WG356529-02 1ppm PAHL STD	1	1	STD41768	02/15/11 09:38
6	15M03936	WG356529-03 10ppm PAHL STD	1	1	STD41768	02/15/11 10:06
7	15M03937	WG356529-04 5ppm PAHL STD	1	1	STD41768	02/15/11 10:34
8	15M03938	WG356529-05 2.5ppm PAHL STD	1	1	STD41768	02/15/11 11:02
9	15M03939	WG356529-06 0.5ppm PAHL STD	1	1	STD41768	02/15/11 11:30
10	15M03940	WG356529-07 0.1ppm PAHL STD	1	1	STD41768	02/15/11 11:59
11	15M03941	WG356529-08 0.05ppm PAHL STD	1	1	STD41768	02/15/11 12:28
12	15M03942	WG356529-09 1ppm PAHL Alt Src STD	1	1	STD43326	02/15/11 12:56
13	15M03943	WG356462-01 BLK 02/14	7	1	SOIL	02/15/11 13:24
14	15M03944	WG356462-02 LCS 02/14	7	1	SOIL	02/15/11 13:52
15	15M03945	WG356462-03 LCS DUP 02/14	7	1	SOIL	02/15/11 14:21
16	15M03946	L11020314-24 827-PAHL	7	1	SOIL	02/15/11 14:50
17	15M03947	L11020314-25 827-PAHL	7	1	SOIL	02/15/11 15:18
18	15M03948	L11020314-26 827-PAHL	7	1	SOIL	02/15/11 15:46
19	15M03949	L11020314-27 827-PAHL	7	1	SOIL	02/15/11 16:14
20	15M03950	L11020314-28 827-PAHL	7	1	SOIL	02/15/11 16:42
21	15M03951	L11020314-21 827-PAHL	7	1	SOIL	02/15/11 17:10
22	15M03952	L11020314-23 827-PAHL	7	1	SOIL	02/15/11 17:38
23	15M03953	L11020314-22 827-PAHL	7	1	SOIL	02/15/11 18:06
24	15M03954	L11020124-17 RE 827-PAHL	7	1	SOIL	02/15/11 18:33

Comments

Seq.	Rerun	Dil.	Reason	Analytes
3	X			
	WG356529-01 5ppm DFTPP STD - Tune failed.			
16				
	L11020314-24 827-PAHL - SS FBP low, needs re-extracted.			
17				
	L11020314-25 827-PAHL - SS FBP low, needs re-extracted.			
22				

Page: 1 Approved: 16-FEB-11

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS15 Dataset: 021511
Analyst1: CAA Analyst2: NA
Method: 8270L SOP: MSS03 Rev: 9

Maintenance Log ID: 36452 Syringe Filter Lot#:

Column 1 ID: RXI-5MS Column 2 ID: NA

Workgroups: WG356524

CCV Std: LCS STD:
Internal STD: COA14927 Surrogate STD: NA

Comments

Seq.	Rerun	Dil.	Reason	Analytes

L11020314-23 827-PAHL - SS FBP low, needs re-extracted.

Page: 2 Approved: 16-FEB-11

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS15 Dataset: 032211
Analyst1: CAA Analyst2: NA
Method: 8270L SOP: MSS03 Rev: 9

Maintenance Log ID: 36807 Syringe Filter Lot#:

Column 1 ID: RXI-5MS Column 2 ID: NA

Workgroups: WG359519

CCV Std: LCS STD:

Internal STD: COA15233 Surrogate STD: NA Calibration STD

Comments: Samples were analyzed at a dilution due to the extracts' dark color and viscosity.

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	15M04088	BAKEOUT	1	1		03/22/11 07:03
2	15M04089	WG359552-01 5ppm DFTPP STD	1	1	STD41383	03/22/11 07:26
3	15M04090	WG359552-01 5ppm DFTPP STD	1	1	STD41383	03/22/11 07:45
4	15M04091	WG359552-02 1ppm PAHL STD	1	1	STD41768	03/22/11 08:06
5	15M04092	WG359445-02 BLK 03/21	7	1	SOIL	03/22/11 08:34
6	15M04093	WG359445-03 LCS 03/21	7	1	SOIL	03/22/11 09:02
7	15M04094	L11030658-09 2X 827-PAHL	7	2	SOIL	03/22/11 09:31
8	15M04095	L11030658-08 2X 827-PAHL	7	2	SOIL	03/22/11 10:00
23	15M04096	L11030658-13 REF 2X 827-PAHL	7	2	SOIL	03/22/11 10:28
24	15M04097	L11030658-14 MS 2X 827-PAHL	7	2	SOIL	03/22/11 10:56
25	15M04098	L11030658-15 MSD 2X 827-PAHL	7	2	SOIL	03/22/11 11:25
12	15M04099	L11030658-16 2X 827-PAHL	7	2	SOIL	03/22/11 11:53
13	15M04100	L11030658-07 2X 827-PAHL	7	2	SOIL	03/22/11 12:22
14	15M04101	L11030658-11 2X 827-PAHL	7	2	SOIL	03/22/11 12:50
15	15M04102	L11030658-12 2X 827-PAHL	7	2	SOIL	03/22/11 13:18
26	15M04103	L11030658-03 5X 827-PAHL	7	5	SOIL	03/22/11 13:47
17	15M04104	L11030658-04 5X 827-PAHL	7	5	SOIL	03/22/11 14:15
18	15M04105	L11030658-06 5X 827-PAHL	7	5	SOIL	03/22/11 14:43
19	15M04106	L11030658-05 5X 827-PAHL	7	5	SOIL	03/22/11 15:12
20	15M04107	L11030658-10 10X 827-PAHL	7	10	SOIL	03/22/11 15:40
21	15M04108	L11030658-01 10X 827-PAHL	7	10	SOIL	03/22/11 16:08
22	15M04109	L11030658-02 10X 827-PAHL	7	10	SOIL	03/22/11 16:36

Comments

Seq.	Rerun	Dil.	Reason	Analytes
2	X			
	WG359552-01 5ppm DFTPP STD - Tune failed.			
23				
	L11030658-13 REF 2X 827-PAHL - Needs re-extracted.			
24				
	L11030658-14 MS 2X 827-PAHL - Not spiked, needs re-extracted.			
25				
	L11030658-15 MSD 2X 827-PAHL - Needs re-extracted.			
12				

Page: 1 Approved: 24-MAR-11

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS15 Dataset: 032211
Analyst1: CAA Analyst2: NA
Method: 8270L SOP: MSS03 Rev: 9

Maintenance Log ID: 36807 Syringe Filter Lot#:

Column 1 ID: RXI-5MS Column 2 ID: NA

Workgroups: WG359519

CCV Std: LCS STD:
Internal STD: COA15233 Surrogate STD: NA

Comments

Seq.	Rerun	Dil.	Reason	Analytes
	L11030658-16 2X 827-PAHL - Spiked, needs re-extracted.			
19	X	50	Over Calibration Range	#14
	L11030658-05 5X 827-PAHL			
21	X	100	Over Calibration Range	#23, 26
	L11030658-01 10X 827-PAHL			
22	X	10	Internal standard failure	No istd.
	L11030658-02 10X 827-PAHL			

Page: 2 Approved: 24-MAR-11

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS15 Dataset: 032311
Analyst1: CAA Analyst2: NA
Method: 8270L SOP: MSS03 Rev: 9

Maintenance Log ID: 36817 Syringe Filter Lot#:

Column 1 ID: RXI-5MS Column 2 ID: NA

Workgroups: WG359519

CCV Std: LCS STD:

Internal STD: COA15233 Surrogate STD: NA Calibration STD

Comments:

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	15M04110	BAKEOUT	1	1		03/23/11 08:22
2	15M04111	WG359668-01 5ppm DFTPP STD	1	1	STD41383	03/23/11 08:58
3	15M04112	WG359668-02 1ppm PAHL STD	1	1	STD41768	03/23/11 09:17
4	15M04113	L11030658-02 10X 827-PAHL	7	10	SOIL	03/23/11 09:45
5	15M04114	L11030658-05 50X 827-PAHL	7	50	SOIL	03/23/11 10:13
6	15M04115	L11030658-01 100X 827-PAHL	7	100	SOIL	03/23/11 10:41
7	15M04116	L11030658-02 100X 827-PAHL	7	100	SOIL	03/23/11 11:09

Comments

Seq.	Rerun	Dil.	Reason	Analytes
4	X	100	Over Calibration Range	#22, 23, 24, 26
	L11030658-02 10X 827-PAHL - Sample was analyzed at a dilution due to the extracts' dark color and viscosity.			

Page: 1 Approved: 25-MAR-11

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS15 Dataset: 032411
Analyst1: CAA Analyst2: NA
Method: 8270L SOP: MSS03 Rev: 9

Maintenance Log ID: 36830 Syringe Filter Lot#:

Column 1 ID: RXI-5MS Column 2 ID: NA

Workgroups: WG359878

CCV Std: LCS STD:
Internal STD: COA15233 Surrogate STD: NA Calibration STD

Comments: Samples were analyzed at a diltuion due to the extracts' dark color.

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	15M04117	BAKEOUT	1	1		03/24/11 14:00
2	15M04118	WG359868-01 5ppm DFTPP STD	1	1	STD41383	03/24/11 14:23
3	15M04119	WG359868-01 5ppm DFTPP STD	1	1	STD41383	03/24/11 14:41
4	15M04120	WG359868-02 1ppm PAHL STD	1	1	STD41768	03/24/11 14:59
5	15M04121	WG359747-03 BLK 03/23	7	1	SOIL	03/24/11 15:27
6	15M04122	WG359747-04 LCS 03/23	7	1	SOIL	03/24/11 15:55
7	15M04123	L11030658-13 REF 2X RE 827-PAHL	7	2	SOIL	03/24/11 16:23
8	15M04124	L11030658-14 MS 2X RE 827-PAHL	7	2	SOIL	03/24/11 16:51
9	15M04125	L11030658-15 MSD 2X RE 827-PAHL	7	2	SOIL	03/24/11 17:19
10	15M04126	L11030658-16 2X RE 827-PAHL	7	2	SOIL	03/24/11 17:46
11	15M04127	L11030669-01 2X RE 827-PAHL	7	2	SOIL	03/24/11 18:14
12	15M04128	L11030669-02 2X RE 827-PAHL	7	2	SOIL	03/24/11 18:42
13	15M04129	L11030669-03 2X RE 827-PAHL	7	2	SOIL	03/24/11 19:10
14	15M04130	L11030669-04 2X RE 827-PAHL	7	2	SOIL	03/24/11 19:38
15	15M04131	L11030669-05 REF 2X RE 827-PAHL	7	2	SOIL	03/24/11 20:06
16	15M04132	L11030669-06 MS 2X RE 827-PAHL	7	2	SOIL	03/24/11 20:35
17	15M04133	L11030669-07 MSD 2X RE 827-PAHL	7	2	SOIL	03/24/11 21:03
18	15M04134	L11030669-08 2X RE 827-PAHL	7	2	SOIL	03/24/11 21:31
19	15M04135	L11030669-09 2X RE 827-PAHL	7	2	SOIL	03/24/11 21:59
20	15M04136	L11030669-10 2X RE 827-PAHL	7	2	SOIL	03/24/11 22:27
21	15M04137	L11030669-11 2X RE 827-PAHL	7	2	SOIL	03/24/11 22:55
22	15M04138	L11030669-12 2X RE 827-PAHL	7	2	SOIL	03/24/11 23:23
23	15M04139	L11030669-13 2X RE 827-PAHL	7	2	SOIL	03/24/11 23:51

Comments

Seq.	Rerun	Dil.	Reason	Analytes
2	X			
	WG359868-01 5ppm DFTPP STD - Tune failed.			
9				
	L11030658-15 MSD 2X RE 827-PAHL - 1 compound marginally low.			

Page: 1 Approved: 25-MAR-11

Microbac Laboratories Inc.

Data Checklist

Date: 15-FEB-2011
Analyst: CAA
Analyst: NA
Method: 8270L
Instrument: HPMS15
Curve Workgroup: NA
Runlog ID: 39037
Analytical Workgroups: L11020314, L11020124

ANALYTICAL	
System Performance Check	X
DFTPP (MS)	X
Endrin/DDT breakdown (8081/MS)	NA
Pentachlorophenol/benzidine tailing (MS)	NA
Eluent check (IC)/system pressure (HPLC)	NA
Window standard (FID)	NA
Initial Calibration	X
Average RF	X
Linear regression or higher order curve	NA
Alternate source standard (ICV) % Difference	X
Continuing Calibration (CCV)	NA
% D/% Drift	NA
Minimum response factors (MS)	NA
Continuing calibration blank (CCB) (IC)	NA
Special standards	NA
Blanks	X
TCL hits	X
Surrogate recoveries	X
LCS/LCSD (Laboratory Control Sample)	X
Recoveries	X
Surrogate recoveries	X
MS/MSD/Sample duplicates	NA
Recoveries	NA
%RPD	NA
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	X
Surrogate recoveries	X
Internal standard areas (MS)	X
Library searches (MS)	NA
Calculations & correct factors	X
Compounds above calibration range	NA
Reruns	NA
Manual integrations	X
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	NA
Check for completeness	X
Primary Reviewer	CAA
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	MDC

Primary Reviewer:
16-FEB-2011

Secondary Reviewer:
16-FEB-2011

CHECKLIST1 - Modified 03/05/2008
Generated: FEB-16-2011 10:23:21

Microbac Laboratories Inc.

Data Checklist

Date: 22-MAR-2011
Analyst: CAA
Analyst: NA
Method: 8270L
Instrument: HPMS15
Curve Workgroup: NA
Runlog ID: 39616
Analytical Workgroups: L11030658

ANALYTICAL	
System Performance Check	X
DFTPP (MS)	X
Endrin/DDT breakdown (8081/MS)	NA
Pentachlorophenol/benzidine tailing (MS)	NA
Eluent check (IC)/system pressure (HPLC)	NA
Window standard (FID)	NA
Initial Calibration	NA
Average RF	NA
Linear regression or higher order curve	NA
Alternate source standard (ICV) % Difference	NA
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (MS)	X
Continuing calibration blank (CCB) (IC)	NA
Special standards	NA
Blanks	X
TCL hits	X
Surrogate recoveries	X
LCS/LCSD (Laboratory Control Sample)	X
Recoveries	X
Surrogate recoveries	X
MS/MSD/Sample duplicates	NA
Recoveries	NA
%RPD	NA
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	X
Surrogate recoveries	X
Internal standard areas (MS)	X
Library searches (MS)	NA
Calculations & correct factors	X
Compounds above calibration range	X
Reruns	NA
Manual integrations	X
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	NA
Check for completeness	X
Primary Reviewer	CAA
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	ECL

Primary Reviewer:
23-MAR-2011

Secondary Reviewer:
24-MAR-2011

CHECKLIST1 - Modified 03/05/2008
Generated: MAR-24-2011 12:37:39

Microbac Laboratories Inc.

Data Checklist

Date: 23-MAR-2011
Analyst: CAA
Analyst: NA
Method: 8270L
Instrument: HPMS15
Curve Workgroup: NA
Runlog ID: 39642
Analytical Workgroups: L11030658

ANALYTICAL	
System Performance Check	X
DFTPP (MS)	X
Endrin/DDT breakdown (8081/MS)	NA
Pentachlorophenol/benzidine tailing (MS)	NA
Eluent check (IC)/system pressure (HPLC)	NA
Window standard (FID)	NA
Initial Calibration	NA
Average RF	NA
Linear regression or higher order curve	NA
Alternate source standard (ICV) % Difference	NA
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (MS)	X
Continuing calibration blank (CCB) (IC)	NA
Special standards	NA
Blanks	NA
TCL hits	NA
Surrogate recoveries	NA
LCS/LCSD (Laboratory Control Sample)	NA
Recoveries	NA
Surrogate recoveries	NA
MS/MSD/Sample duplicates	NA
Recoveries	NA
%RPD	NA
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	X
Surrogate recoveries	X
Internal standard areas (MS)	X
Library searches (MS)	NA
Calculations & correct factors	X
Compounds above calibration range	X
Reruns	X
Manual integrations	X
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	NA
Check for completeness	X
Primary Reviewer	CAA
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	ECL

Primary Reviewer:
24-MAR-2011

Secondary Reviewer:
25-MAR-2011

CHECKLIST1 - Modified 03/05/2008
Generated: MAR-25-2011 09:22:45

Microbac Laboratories Inc.

Data Checklist

Date: 24-MAR-2011
Analyst: CAA
Analyst: NA
Method: 8270L
Instrument: HPMS15
Curve Workgroup: NA
Runlog ID: 39666
Analytical Workgroups: L11030658, L11030669

ANALYTICAL	
System Performance Check	X
DFTPP (MS)	X
Endrin/DDT breakdown (8081/MS)	NA
Pentachlorophenol/benzidine tailing (MS)	NA
Eluent check (IC)/system pressure (HPLC)	NA
Window standard (FID)	NA
Initial Calibration	NA
Average RF	NA
Linear regression or higher order curve	NA
Alternate source standard (ICV) % Difference	NA
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (MS)	X
Continuing calibration blank (CCB) (IC)	NA
Special standards	NA
Blanks	X
TCL hits	X
Surrogate recoveries	X
LCS/LCSD (Laboratory Control Sample)	X
Recoveries	X
Surrogate recoveries	X
MS/MSD/Sample duplicates	X
Recoveries	X
%RPD	X
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	X
Surrogate recoveries	X
Internal standard areas (MS)	X
Library searches (MS)	NA
Calculations & correct factors	X
Compounds above calibration range	NA
Reruns	NA
Manual integrations	X
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	NA
Check for completeness	X
Primary Reviewer	CAA
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	ECL

Primary Reviewer:
25-MAR-2011

Secondary Reviewer:
25-MAR-2011

CHECKLIST1 - Modified 03/05/2008
Generated: MAR-25-2011 09:34:51

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 8270C

AAB#: WG359519

Login Number: L11030658

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
SR042A	01	03/17/11					03/21/11	3.9	14		03/22/11	1.3	40	
SR042A	01	03/17/11					03/21/11	3.9	14		03/23/11	2.1	40	
SR043A	02	03/17/11					03/21/11	3.9	14		03/23/11	2.1	40	
SR043A	02	03/17/11					03/21/11	3.9	14		03/23/11	2.1	40	
SR043ADUP	03	03/17/11					03/21/11	3.9	14		03/22/11	1.2	40	
SR044A	04	03/17/11					03/21/11	3.9	14		03/22/11	1.2	40	
SR045A	05	03/17/11					03/21/11	3.9	14		03/23/11	2.1	40	
SR045A	05	03/17/11					03/21/11	3.9	14		03/22/11	1.3	40	
SR046A	06	03/17/11					03/21/11	3.9	14		03/22/11	1.3	40	
SR047A	07	03/17/11					03/21/11	3.9	14		03/22/11	1.2	40	
SR048A	08	03/17/11					03/21/11	3.8	14		03/22/11	1.1	40	
SR048ADUP	09	03/17/11					03/21/11	3.8	14		03/22/11	1.1	40	
SR049A	10	03/17/11					03/21/11	3.8	14		03/22/11	1.3	40	
SR050A	11	03/17/11					03/21/11	3.8	14		03/22/11	1.2	40	
SR051A	12	03/17/11					03/21/11	3.8	14		03/22/11	1.2	40	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 1953641
Report generated 03/25/2011 12:49

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 8270C

AAB#: WG359878

Login Number: L11030658

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
SR052A	13	03/17/11					03/23/11	6	14		03/24/11	1.1	40	
SR052AMS	14	03/17/11					03/23/11	6	14		03/24/11	1.1	40	
SR052AMSD	15	03/17/11					03/23/11	6	14		03/24/11	1.1	40	
SR053A	16	03/17/11					03/23/11	6	14		03/24/11	1.1	40	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 1953641
Report generated 03/25/2011 12:49

Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L11030658
Instrument Id: HPMS15
Workgroup (AAB#): WG359519

Method: 8270L
CAL ID: HPMS15-15-FEB-11
Matrix: Soil

Sample Number	Dilution	Tag	1	2	3
L11030658-01	10.0	DL01	97.4	80.3	121
L11030658-01	100	DL02	DL	DL	DL
L11030658-02	10.0	DL01	103	82.3	117
L11030658-02	100	DL02	DL	DL	DL
L11030658-03	5.00	DL01	79.2	72.4	108
L11030658-04	5.00	DL01	71.0	62.6	112
L11030658-05	5.00	DL01	69.8	63.0	116
L11030658-05	50.0	DL02	DL	DL	DL
L11030658-06	5.00	DL01	57.7	52.3	111
L11030658-07	2.00	DL01	63.4	61.8	107
L11030658-08	2.00	DL01	65.2	59.7	98.3
L11030658-09	2.00	DL01	57.3	55.8	89.1
L11030658-10	10.0	DL01	75.5	59.2	109
L11030658-11	2.00	DL01	66.7	60.0	104
L11030658-12	2.00	DL01	63.1	60.7	104
WG359445-02	1.00	01	59.9	61.5	98.3
WG359445-03	1.00	01	61.6	62.0	100

Surrogates	Surrogate Limits		
1 - 2-Fluorobiphenyl	45	-	105
2 - Nitrobenzene-d5	35	-	100
3 - p-Terphenyl-d14	30	-	125

Underline = Result out of surrogate limits

DL = surrogate diluted out
ND = surrogate not detected

SURROGATES - Modified 03/06/2008
PDF File ID: 1951238
Report generated: 03/25/2011 12:49

Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L11030658
Instrument Id: HPMS15
Workgroup (AAB#): WG359878

Method: 8270L
CAL ID: HPMS15-15-FEB-11
Matrix: Soil

Sample Number	Dilution	Tag	1	2	3
L11030658-13	2.00	REDL1	72.4	62.6	117
L11030658-14	2.00	REDL1	54.5	50.6	108
L11030658-15	2.00	REDL1	51.7	45.1	88.2
L11030658-16	2.00	REDL1	58.6	54.3	98.2
WG359747-03	1.00	01	56.6	54.2	102
WG359747-04	1.00	01	64.7	62.3	105

Surrogates	Surrogate Limits		
1 - 2-Fluorobiphenyl	45	-	105
2 - Nitrobenzene-d5	35	-	100
3 - p-Terphenyl-d14	30	-	125

Underline = Result out of surrogate limits

DL = surrogate diluted out
ND = surrogate not detected

SURROGATES - Modified 03/06/2008
PDF File ID: 1951238
Report generated: 03/25/2011 12:49

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L11030658
Blank File ID: 15M04092
Prep Date: 03/21/11 08:15
Analyzed Date: 03/22/11 08:34
Analyst: CAA

Work Group: WG359519
Blank Sample ID: WG359445-02
Instrument ID: HPMS15
Method: 8270C

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG359445-03	15M04093	03/22/11 09:02	01
SR048ADUP	L11030658-09	15M04094	03/22/11 09:31	DL01
SR048A	L11030658-08	15M04095	03/22/11 10:00	DL01
SR047A	L11030658-07	15M04100	03/22/11 12:22	DL01
SR050A	L11030658-11	15M04101	03/22/11 12:50	DL01
SR051A	L11030658-12	15M04102	03/22/11 13:18	DL01
SR043ADUP	L11030658-03	15M04103	03/22/11 13:47	DL01
SR044A	L11030658-04	15M04104	03/22/11 14:15	DL01
SR046A	L11030658-06	15M04105	03/22/11 14:43	DL01
SR045A	L11030658-05	15M04106	03/22/11 15:12	DL01
SR049A	L11030658-10	15M04107	03/22/11 15:40	DL01
SR042A	L11030658-01	15M04108	03/22/11 16:08	DL01
SR043A	L11030658-02	15M04113	03/23/11 09:45	DL01
SR045A	L11030658-05	15M04114	03/23/11 10:13	DL02
SR042A	L11030658-01	15M04115	03/23/11 10:41	DL02
SR043A	L11030658-02	15M04116	03/23/11 11:09	DL02

Report Name: BLANK_SUMMARY
PDF File ID: 1953640
Report generated 03/25/2011 12:49

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L11030658
Blank File ID: 15M04121
Prep Date: 03/23/11 14:12
Analyzed Date: 03/24/11 15:27
Analyst: CAA

Work Group: WG359878
Blank Sample ID: WG359747-03
Instrument ID: HPMS15
Method: 8270C

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG359747-04	15M04122	03/24/11 15:55	01
SR052A	L11030658-13	15M04123	03/24/11 16:23	REDL1
SR052AMS	L11030658-14	15M04124	03/24/11 16:51	REDL1
SR052AMSD	L11030658-15	15M04125	03/24/11 17:19	REDL1
SR053A	L11030658-16	15M04126	03/24/11 17:46	REDL1

Report Name: BLANK_SUMMARY
PDF File ID: 1953640
Report generated 03/25/2011 12:49

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L11030658 Prep Date: 03/21/11 08:15 Sample ID: WG359445-02
Instrument ID: HPMS15 Run Date: 03/22/11 08:34 Prep Method: 3545
File ID: 15M04092 Analyst: CAA Method: 8270C
Workgroup (AAB#): WG359519 Matrix: Soil Units: ug/kg
Contract #: Cal ID: HPMS15-15-FEB-11

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Naphthalene	1.25	2.50	1.25	1	U
Acenaphthylene	1.25	2.50	1.25	1	U
Acenaphthene	1.25	2.50	1.25	1	U
Fluorene	1.25	2.50	1.25	1	U
Phenanthrene	1.25	2.50	1.25	1	U
Anthracene	1.25	2.50	1.25	1	U
Fluoranthene	1.25	2.50	1.25	1	U
Pyrene	1.25	2.50	1.25	1	U
Benzo(a)anthracene	1.25	2.50	1.25	1	U
Chrysene	1.25	2.50	1.25	1	U
Benzo(b)fluoranthene	1.25	2.50	1.25	1	U
Benzo(k)fluoranthene	1.25	2.50	1.25	1	U
Benzo(a)pyrene	1.25	2.50	1.25	1	U
Indeno(1,2,3-cd)pyrene	1.25	2.50	1.25	1	U
Dibenzo(a,h)anthracene	1.25	2.50	1.25	1	U
Benzo(g,h,i)perylene	1.25	2.50	1.25	1	U
1-Methylnaphthalene	1.25	2.50	1.25	1	U
2-Methylnaphthalene	1.25	2.50	1.25	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
Nitrobenzene-d5	61.5	35 - 100	PASS
2-Fluorobiphenyl	59.9	45 - 105	PASS
p-Terphenyl-d14	98.3	30 - 125	PASS

LOD Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name: BLANK
PDF ID: 1951235
25-MAR-2011 12:49

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L11030658 Prep Date: 03/23/11 14:12 Sample ID: WG359747-03
Instrument ID: HPMS15 Run Date: 03/24/11 15:27 Prep Method: 3545
File ID: 15M04121 Analyst: CAA Method: 8270C
Workgroup (AAB#): WG359878 Matrix: Soil Units: ug/kg
Contract #: Cal ID: HPMS15-15-FEB-11

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Naphthalene	1.25	2.50	1.25	1	U
Acenaphthylene	1.25	2.50	1.25	1	U
Acenaphthene	1.25	2.50	1.25	1	U
Fluorene	1.25	2.50	1.25	1	U
Phenanthrene	1.25	2.50	1.25	1	U
Anthracene	1.25	2.50	1.25	1	U
Fluoranthene	1.25	2.50	1.25	1	U
Pyrene	1.25	2.50	1.25	1	U
Benzo(a)anthracene	1.25	2.50	1.25	1	U
Chrysene	1.25	2.50	1.25	1	U
Benzo(b)fluoranthene	1.25	2.50	1.25	1	U
Benzo(k)fluoranthene	1.25	2.50	1.25	1	U
Benzo(a)pyrene	1.25	2.50	1.25	1	U
Indeno(1,2,3-cd)pyrene	1.25	2.50	1.25	1	U
Dibenzo(a,h)anthracene	1.25	2.50	1.25	1	U
Benzo(g,h,i)perylene	1.25	2.50	1.25	1	U
1-Methylnaphthalene	1.25	2.50	1.25	1	U
2-Methylnaphthalene	1.25	2.50	1.25	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
Nitrobenzene-d5	54.2	35 - 100	PASS
2-Fluorobiphenyl	56.6	45 - 105	PASS
p-Terphenyl-d14	102	30 - 125	PASS

LOD Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name: BLANK
PDF ID: 1951235
25-MAR-2011 12:49

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L11030658 Run Date: 03/22/2011 Sample ID: WG359445-03
Instrument ID: HPMS15 Run Time: 09:02 Prep Method: 3545
File ID: 15M04093 Analyst: CAA Method: 8270C
Workgroup (AAB#): WG359519 Matrix: Soil Units: ug/kg
QC Key: DOD4 Lot#: STD43935 Cal ID: HPMS15-15-FEB-11

Analytes	Expected	Found	% Rec	LCS Limits	Q
Naphthalene	50.0	28.8	57.7	40 - 105	
Acenaphthylene	50.0	27.5	55.0	45 - 105	
Acenaphthene	50.0	28.7	57.4	45 - 110	
Fluorene	50.0	27.7	55.5	50 - 110	
Phenanthrene	50.0	32.5	65.0	50 - 110	
Anthracene	50.0	35.4	70.8	55 - 105	
Fluoranthene	50.0	45.1	90.2	55 - 115	
Pyrene	50.0	41.6	83.2	45 - 125	
Benzo(a)anthracene	50.0	44.5	88.9	50 - 110	
Chrysene	50.0	46.0	91.9	55 - 110	
Benzo(b)fluoranthene	50.0	43.5	86.9	45 - 115	
Benzo(k)fluoranthene	50.0	42.3	84.6	45 - 125	
Benzo(a)pyrene	50.0	46.3	92.5	50 - 110	
Indeno(1,2,3-cd)pyrene	50.0	44.9	89.8	40 - 120	
Dibenzo(a,h)anthracene	50.0	44.8	89.6	40 - 125	
Benzo(g,h,i)perylene	50.0	45.7	91.3	40 - 125	
1-Methylnaphthalene	50.0	26.4	52.9	35 - 100	
2-Methylnaphthalene	50.0	28.0	56.1	45 - 105	

Surrogates	% Recovery	Surrogate Limits	Qualifier
Nitrobenzene-d5	62.0	35 - 100	PASS
2-Fluorobiphenyl	61.6	45 - 105	PASS
p-Terphenyl-d14	100	30 - 125	PASS

* EXCEEDS %REC LIMIT

LCS - Modified 03/06/2008
PDF File ID: 1951236
Report generated: 03/25/2011 12:49

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L11030658 Run Date: 03/24/2011 Sample ID: WG359747-04
Instrument ID: HPMS15 Run Time: 15:55 Prep Method: 3545
File ID: 15M04122 Analyst: CAA Method: 8270C
Workgroup (AAB#): WG359878 Matrix: Soil Units: ug/kg
QC Key: DOD4 Lot#: STD43935 Cal ID: HPMS15-15-FEB-11

Analytes	Expected	Found	% Rec	LCS Limits	Q
Naphthalene	50.0	30.0	59.9	40 - 105	
Acenaphthylene	50.0	29.8	59.7	45 - 105	
Acenaphthene	50.0	30.1	60.2	45 - 110	
Fluorene	50.0	30.9	61.8	50 - 110	
Phenanthrene	50.0	36.0	72.0	50 - 110	
Anthracene	50.0	39.2	78.4	55 - 105	
Fluoranthene	50.0	45.7	91.5	55 - 115	
Pyrene	50.0	43.5	87.1	45 - 125	
Benzo(a)anthracene	50.0	46.6	93.2	50 - 110	
Chrysene	50.0	48.7	97.4	55 - 110	
Benzo(b)fluoranthene	50.0	45.8	91.7	45 - 115	
Benzo(k)fluoranthene	50.0	48.1	96.3	45 - 125	
Benzo(a)pyrene	50.0	48.5	97.1	50 - 110	
Indeno(1,2,3-cd)pyrene	50.0	47.5	95.0	40 - 120	
Dibenzo(a,h)anthracene	50.0	47.5	95.0	40 - 125	
Benzo(g,h,i)perylene	50.0	47.5	95.0	40 - 125	
1-Methylnaphthalene	50.0	28.7	57.4	35 - 100	
2-Methylnaphthalene	50.0	31.0	61.9	45 - 105	

Surrogates	% Recovery	Surrogate Limits	Qualifier
Nitrobenzene-d5	62.3	35 - 100	PASS
2-Fluorobiphenyl	64.7	45 - 105	PASS
p-Terphenyl-d14	105	30 - 125	PASS

* EXCEEDS %REC LIMIT

LCS - Modified 03/06/2008
PDF File ID: 1951236
Report generated: 03/25/2011 12:49

Microbac Laboratories Inc.

MS/MSD REPORT

Loginnum: L11030658 Cal ID: HPMS15- 15-FEB-11 Worknum: WG359878

Instrument ID: HPMS15 Contract #: Prep Method: 3545

Parent ID: L11030658-13 File ID: 15M04123 Dil: 2 Method: 8270C

Sample ID: L11030658-14 MS File ID: 15M04124 Dil: 2 Matrix: Soil

Sample ID: L11030658-15 MSD File ID: 15M04125 Dil: 2 Units: ug/kg

Percent Solid: 97.2

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Naphthalene	U	56.7	28.6	50.5	55.9	25.4	45.4	12.1	40 - 105	30	
Acenaphthylene	U	56.7	31.4	55.3	55.9	29.2	52.2	7.29	45 - 105	30	
Acenaphthene	U	56.7	33.9	59.7	55.9	31.2	55.9	8.04	45 - 110	30	
Fluorene	U	56.7	35.5	62.5	55.9	31.6	56.5	11.5	50 - 110	30	
Phenanthrene	4.92	56.7	50.8	80.9	55.9	41.8	66	19.3	50 - 110	30	
Anthracene	U	56.7	52.4	92.4	55.9	42.9	76.8	20.0	55 - 105	30	
Fluoranthene	12.5	56.7	66.9	95.7	55.9	56.1	77.9	17.6	55 - 115	30	
Pyrene	13.1	56.7	64.5	90.6	55.9	52.8	71	19.9	45 - 125	30	
Benzo(a)anthracene	11.0	56.7	64.7	94.6	55.9	53.9	76.7	18.2	50 - 110	30	
Chrysene	15.0	56.7	70.0	96.9	55.9	58.8	78.2	17.5	55 - 110	30	
Benzo(b)fluoranthene	18.6	56.7	68.7	88.2	55.9	64.9	82.8	5.60	45 - 115	30	
Benzo(k)fluoranthene	24.1	56.7	73.6	87.2	55.9	63.2	69.9	15.2	45 - 125	30	
Benzo(a)pyrene	31.4	56.7	83.1	91.1	55.9	74.4	76.9	11.0	50 - 110	30	
Indeno(1,2,3-cd)pyrene	28.6	56.7	79.7	90.1	55.9	70.0	74.1	13.0	40 - 120	30	
Dibenzo(a,h)anthracene	8.59	56.7	65.6	100	55.9	55.4	83.8	16.7	40 - 125	30	
Benzo(g,h,i)perylene	33.8	56.7	83.7	87.8	55.9	73.9	71.6	12.4	40 - 125	30	
1-Methylnaphthalene	U	56.7	27.6	48.6	55.9	25.1	45	9.13	35 - 100	30	
2-Methylnaphthalene	U	56.7	29.4	51.9	55.9	26.8	47.9	9.49	45 - 105	30	

* FAILS %REC LIMIT

\# FAILS RPD LIMIT

MS_MSD - Modified 03/06/2008
PDF File ID: 1951237
Report generated 03/25/2011 12:49

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

DFTPP

Login Number: L11030658
Instrument: HPMS15
Analyst: CAA
Workgroup: WG356529

Tune ID: WG356529-01
Run Date: 02/15/2011
Run Time: 09:19
File ID: 15M03934
Cal ID: HPMS15 - 15-FEB-11

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51.0	198	30.0	60.0	47.4	4927	PASS
68.0	69.0	0	2.00	0	0	PASS
69.0	198	0	100	51.2	5320	PASS
70.0	69.0	0	2.00	0	0	PASS
127	198	40.0	60.0	56.1	5830	PASS
197	198	0	1.00	0	0	PASS
198	198	100	100	100	10393	PASS
199	198	5.00	9.00	6.34	659	PASS
275	198	10.0	30.0	24.9	2588	PASS
365	198	1.00	100	1.91	198	PASS
441	443	0.0100	100	80.7	1085	PASS
442	198	40.0	100	70.5	7322	PASS
443	442	17.0	23.0	18.4	1344	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG356529-02	STD-CCV	01	02/15/2011 09:38	
WG356529-03	STD	01	02/15/2011 10:06	
WG356529-04	STD	01	02/15/2011 10:34	
WG356529-05	STD	01	02/15/2011 11:02	
WG356529-06	STD	01	02/15/2011 11:30	
WG356529-07	STD	01	02/15/2011 11:59	
WG356529-08	STD	01	02/15/2011 12:28	
WG356529-09	SSCV	01	02/15/2011 12:56	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 1953647
Report generated 03/25/2011 12:49

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

DFTPP

Login Number: L11030658
Instrument: HPMS15
Analyst: CAA
Workgroup: WG359552

Tune ID: WG359552-01
Run Date: 03/22/2011
Run Time: 07:45
File ID: 15M04090
Cal ID: HPMS15 - 15-FEB-11

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51.0	198	30.0	60.0	40.8	7451	PASS
68.0	69.0	0	2.00	1.94	152	PASS
69.0	198	0	100	42.9	7837	PASS
70.0	69.0	0	2.00	0	0	PASS
127	198	40.0	60.0	50.5	9236	PASS
197	198	0	1.00	0.367	67	PASS
198	198	100	100	100	18274	PASS
199	198	5.00	9.00	6.57	1200	PASS
275	198	10.0	30.0	28.7	5243	PASS
365	198	1.00	100	3.35	612	PASS
441	443	0.0100	100	77.7	2512	PASS
442	198	40.0	100	91.5	16725	PASS
443	442	17.0	23.0	19.3	3232	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG359552-02	CCV	01	03/22/2011 08:06	
WG359445-02	BLANK	01	03/22/2011 08:34	
WG359445-03	LCS	01	03/22/2011 09:02	
L11030658-09	SR048ADUP	DL01	03/22/2011 09:31	
L11030658-08	SR048A	DL01	03/22/2011 10:00	
L11030658-07	SR047A	DL01	03/22/2011 12:22	
L11030658-11	SR050A	DL01	03/22/2011 12:50	
L11030658-12	SR051A	DL01	03/22/2011 13:18	
L11030658-03	SR043ADUP	DL01	03/22/2011 13:47	
L11030658-04	SR044A	DL01	03/22/2011 14:15	
L11030658-06	SR046A	DL01	03/22/2011 14:43	
L11030658-05	SR045A	DL01	03/22/2011 15:12	
L11030658-10	SR049A	DL01	03/22/2011 15:40	
L11030658-01	SR042A	DL01	03/22/2011 16:08	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 1953647
Report generated 03/25/2011 12:49

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

DFTPP

Login Number: L11030658
Instrument: HPMS15
Analyst: CAA
Workgroup: WG359668

Tune ID: WG359668-01
Run Date: 03/23/2011
Run Time: 08:58
File ID: 15M04111
Cal ID: HPMS15 - 15-FEB-11

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51.0	198	30.0	60.0	39.0	5298	PASS
68.0	69.0	0	2.00	0.923	53	PASS
69.0	198	0	100	42.3	5744	PASS
70.0	69.0	0	2.00	0	0	PASS
127	198	40.0	60.0	52.7	7164	PASS
197	198	0	1.00	0.464	63	PASS
198	198	100	100	100	13591	PASS
199	198	5.00	9.00	7.28	989	PASS
275	198	10.0	30.0	26.4	3591	PASS
365	198	1.00	100	2.84	386	PASS
441	443	0.0100	100	81.5	1747	PASS
442	198	40.0	100	79.3	10779	PASS
443	442	17.0	23.0	19.9	2143	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG359668-02	CCV	01	03/23/2011 09:17	
L11030658-02	SR043A	DL01	03/23/2011 09:45	
L11030658-05	SR045A	DL02	03/23/2011 10:13	
L11030658-01	SR042A	DL02	03/23/2011 10:41	
L11030658-02	SR043A	DL02	03/23/2011 11:09	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 1953647
Report generated 03/25/2011 12:49

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

DFTPP

Login Number: L11030658
Instrument: HPMS15
Analyst: CAA
Workgroup: WG359868

Tune ID: WG359868-01
Run Date: 03/24/2011
Run Time: 14:41
File ID: 15M04119
Cal ID: HPMS15 - 15-FEB-11

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51.0	198	30.0	60.0	41.9	5632	PASS
68.0	69.0	0	2.00	0	0	PASS
69.0	198	0	100	43.5	5853	PASS
70.0	69.0	0	2.00	0	0	PASS
127	198	40.0	60.0	51.6	6942	PASS
197	198	0	1.00	0	0	PASS
198	198	100	100	100	13443	PASS
199	198	5.00	9.00	7.07	951	PASS
275	198	10.0	30.0	25.2	3391	PASS
365	198	1.00	100	3.00	403	PASS
441	443	0.0100	100	75.3	1485	PASS
442	198	40.0	100	72.2	9706	PASS
443	442	17.0	23.0	20.3	1971	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG359868-02	CCV	01	03/24/2011 14:59	
WG359747-03	BLANK	01	03/24/2011 15:27	
WG359747-04	LCS	01	03/24/2011 15:55	
L11030658-13	SR052A	REDL1	03/24/2011 16:23	
L11030658-14	SR052AMS	REDL1	03/24/2011 16:51	
L11030658-15	SR052AMSD	REDL1	03/24/2011 17:19	
L11030658-16	SR053A	REDL1	03/24/2011 17:46	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 1953647
Report generated 03/25/2011 12:49

Microbac Laboratories Inc.

INITIAL CALIBRATION SUMMARY

Login Number: L11030658
Analytical Method: 8270C
ICAL Workgroup: WG356529

Instrument ID: HPMS15
Initial Calibration Date: 15-FEB-11 12:28
Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD (R^2)
Acenaphthene	CCC	1.156	2.99		
Benzo[a]pyrene	CCC	1.075	3.95		
Fluoranthene	CCC	1.166	4.85		
1-Methylnaphthalene		0.6820	5.88		
2-Methylnaphthalene		0.6832	2.92		
Acenaphthylene		1.800	4.23		
Anthracene		1.020	7.96		
Benzo[a]anthracene		1.005	4.70		
Benzo[b]fluoranthene		1.147	4.59		
Benzo[ghi]perylene		1.088	1.29		
Benzo[k]fluoranthene		1.069	5.13		
Chrysene		1.004	6.99		
Dibenz[ah]anthracene		1.059	2.31		
Fluorene		1.389	3.73		
Indeno[1,2,3-cd]pyrene		1.302	2.35		
Naphthalene		1.017	4.98		
Phenanthrene		1.123	4.45		
Pyrene		1.152	5.79		

R = Correlation coefficient; 0.995 minimum
R^2 = Coefficient of determination; 0.99 minimum

If the %RSD is greater than the limit specified by the method or project QAP, then linear or quadratic equations will be used.

INT_CAL - Modified 03/06/2008
PDF File ID: 1953642
Report generated 03/25/2011 12:49

Microbac Laboratories Inc.

INITIAL CALIBRATION DATA

Login Number: L11030658

Analytical Method: 8270C

Instrument ID: HPMS15

Initial Calibration Date: 15-FEB-11 12:28

Column ID: F

Analyte	WG356529-02			WG356529-03			WG356529-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Acenaphthene	1.00	55901.0000	1.162	10.0	515990.000	1.081	5.00	252303.000	1.174
Benzo[a]pyrene	1.00	95643.0000	1.115	10.0	831739.000	1.052	5.00	408968.000	1.114
Fluoranthene	1.00	103341.000	1.219	10.0	869452.000	1.061	5.00	444739.000	1.192
1-Methylnaphthalene	1.00	59184.0000	0.6693	10.0	533197.000	0.6207	5.00	260773.000	0.6816
2-Methylnaphthalene	1.00	60084.0000	0.6795	10.0	556360.000	0.6477	5.00	269638.000	0.7048
Acenaphthylene	1.00	89545.0000	1.861	10.0	805577.000	1.687	5.00	402547.000	1.873
Anthracene	1.00	91598.0000	1.080	10.0	799456.000	0.9755	5.00	407287.000	1.092
Benzo[a]anthracene	1.00	99178.0000	1.061	10.0	823674.000	0.9106	5.00	416510.000	0.9959
Benzo[b]fluoranthene	1.00	104367.000	1.217	10.0	868681.000	1.099	5.00	425074.000	1.158
Benzo[ghi]perylene	1.00	94509.0000	1.102	10.0	839944.000	1.063	5.00	403279.000	1.098
Benzo[k]fluoranthene	1.00	96028.0000	1.120	10.0	760576.000	0.9622	5.00	391713.000	1.067
Chrysene	1.00	97835.0000	1.046	10.0	782700.000	0.8653	5.00	404263.000	0.9666
Dibenz[ah]anthracene	1.00	92293.0000	1.076	10.0	829407.000	1.049	5.00	398702.000	1.086
Fluorene	1.00	67555.0000	1.404	10.0	622508.000	1.304	5.00	309109.000	1.438
Indeno[1,2,3-cd]pyrene	1.00	113930.000	1.328	10.0	1016708.00	1.286	5.00	489686.000	1.334
Naphthalene	1.00	91469.0000	1.035	10.0	778561.000	0.9063	5.00	386454.000	1.010
Phenanthrene	1.00	97820.0000	1.154	10.0	829719.000	1.013	5.00	421873.000	1.131
Pyrene	1.00	110884.000	1.186	10.0	915378.000	1.012	5.00	470868.000	1.126

INT_CAL - Modified 03/06/2008
PDF File ID: 1953642
Report generated 03/25/2011 12:49

Microbac Laboratories Inc.

INITIAL CALIBRATION DATA

Login Number: L11030658

Analytical Method: 8270C

Instrument ID: HPMS15

Initial Calibration Date: 15-FEB-11 12:28

Column ID: F

Analyte	WG356529-05			WG356529-06			WG356529-07		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Acenaphthene	2.50	133157.000	1.172	0.500	24450.0000	1.185	0.100	4875.00000	1.157
Benzo[a]pyrene	2.50	217848.000	1.114	0.500	38493.0000	1.085	0.100	7293.00000	1.023
Fluoranthene	2.50	241657.000	1.217	0.500	43841.0000	1.195	0.100	8432.00000	1.140
1-Methylnaphthalene	2.50	136971.000	0.6884	0.500	25808.0000	0.7014	0.100	5687.00000	0.7517
2-Methylnaphthalene	2.50	140078.000	0.7041	0.500	25540.0000	0.6941	0.100	5119.00000	0.6766
Acenaphthylene	2.50	213321.000	1.878	0.500	37377.0000	1.811	0.100	7272.00000	1.726
Anthracene	2.50	218887.000	1.102	0.500	38480.0000	1.049	0.100	6950.00000	0.9394
Benzo[a]anthracene	2.50	226217.000	1.019	0.500	40826.0000	1.037	0.100	7870.00000	1.000
Benzo[b]fluoranthene	2.50	227373.000	1.163	0.500	42517.0000	1.199	0.100	7646.00000	1.073
Benzo[ghi]perylene	2.50	214196.000	1.096	0.500	38834.0000	1.095	0.100	7677.00000	1.077
Benzo[k]fluoranthene	2.50	212133.000	1.085	0.500	37128.0000	1.047	0.100	8027.00000	1.126
Chrysene	2.50	220901.000	0.9952	0.500	40923.0000	1.039	0.100	8262.00000	1.050
Dibenz[ah]anthracene	2.50	211035.000	1.079	0.500	37737.0000	1.064	0.100	7258.00000	1.018
Fluorene	2.50	163374.000	1.438	0.500	29439.0000	1.427	0.100	5743.00000	1.363
Indeno[1,2,3-cd]pyrene	2.50	259827.000	1.329	0.500	46403.0000	1.308	0.100	8948.00000	1.256
Naphthalene	2.50	204347.000	1.027	0.500	38428.0000	1.044	0.100	7874.00000	1.041
Phenanthrene	2.50	229277.000	1.155	0.500	42051.0000	1.146	0.100	8355.00000	1.129
Pyrene	2.50	257557.000	1.160	0.500	47177.0000	1.198	0.100	9317.00000	1.184

INT_CAL - Modified 03/06/2008
PDF File ID: 1953642
Report generated 03/25/2011 12:49

Microbac Laboratories Inc.

INITIAL CALIBRATION DATA

Login Number: L11030658

Analytical Method: 8270C

Instrument ID: HPMS15

Initial Calibration Date: 15-FEB-11 12:28

Column ID: F

Analyte	WG356529-08		
	CONC	RESP	RF
Acenaphthene	0.0500	2622.00000	1.164
Benzo[a]pyrene	0.0500	3937.00000	1.022
Fluoranthene	0.0500	4571.00000	1.142
1-Methylnaphthalene	0.0500	2674.00000	0.6608
2-Methylnaphthalene	0.0500	2735.00000	0.6759
Acenaphthylene	0.0500	3968.00000	1.762
Anthracene	0.0500	3597.00000	0.8989
Benzo[a]anthracene	0.0500	4384.00000	1.015
Benzo[b]fluoranthene	0.0500	4309.00000	1.118
Benzo[ghi]perylene	0.0500	4181.00000	1.085
Benzo[k]fluoranthene	0.0500	4148.00000	1.077
Chrysene	0.0500	4601.00000	1.065
Dibenz[ah]anthracene	0.0500	4005.00000	1.039
Fluorene	0.0500	3035.00000	1.348
Indeno[1,2,3-cd]pyrene	0.0500	4912.00000	1.275
Naphthalene	0.0500	4265.00000	1.054
Phenanthrene	0.0500	4549.00000	1.137
Pyrene	0.0500	5174.00000	1.198

INT_CAL - Modified 03/06/2008
PDF File ID: 1953642
Report generated 03/25/2011 12:49

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L11030658 Run Date: 02/15/2011 Sample ID: WG356529-09
Instrument ID: HPMS15 Run Time: 12:56 Method: 8270C
File ID: 15M03942 Analyst: CAA QC Key: DOD4
ICal Workgroup: WG356529 Cal ID: HPMS15 - 15-FEB-11

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Acenaphthene	CCC	1000	946	ug/L	1.09	5.40	30	
Fluoranthene	CCC	1000	934	ug/L	1.09	6.60	30	
Benzo[a]pyrene	CCC	1000	954	ug/L	1.03	4.60	30	
Naphthalene		1000	956	ug/L	0.972	4.40	30	
Acenaphthylene		1000	912	ug/L	1.64	8.80	30	
Fluorene		1000	928	ug/L	1.29	7.20	30	
Phenanthrene		1000	935	ug/L	1.05	6.50	30	
Anthracene		1000	1010	ug/L	1.03	0.700	30	
Pyrene		1000	922	ug/L	1.06	7.80	30	
Benzo[a]anthracene		1000	888	ug/L	0.893	11.2	30	
Chrysene		1000	945	ug/L	0.949	5.50	30	
Benzo[b]fluoranthene		1000	869	ug/L	0.997	13.1	30	
Benzo[k]fluoranthene		1000	942	ug/L	1.01	5.80	30	
Indeno[1,2,3-cd]pyrene		1000	894	ug/L	1.16	10.6	30	
Dibenz[ah]anthracene		1000	886	ug/L	0.938	11.5	30	
Benzo[ghi]perylene		1000	929	ug/L	1.01	7.10	30	
1-Methylnaphthalene		1000	902	ug/L	0.615	9.80	30	
2-Methylnaphthalene		1000	936	ug/L	0.639	6.40	30	

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 1953645
Report generated 03/25/2011 12:49

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11030658
Run Date: 03/22/2011
Sample ID: WG359552-02
Instrument ID: HPMS15
Run Time: 08:06
Method: 8270C
File ID: 15M04091
Analyst: CAA
QC Key: DOD4
Workgroup (AAB#): WG359519
Cal ID: HPMS15 - 15-FEB-11
Matrix: SOIL

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Acenaphthene	CCC	1000	1090	ug/L	1.26	9.17	20	
Fluoranthene	CCC	1000	1200	ug/L	1.40	19.7	20	
Benzo[a]pyrene	CCC	1000	1110	ug/L	1.19	10.9	20	
Naphthalene		1000	1090	ug/L	1.10	8.51	20	
Acenaphthylene		1000	1090	ug/L	1.97	9.24	20	
Fluorene		1000	1090	ug/L	1.51	8.70	20	
Phenanthrene		1000	1110	ug/L	1.24	10.8	20	
Anthracene		1000	1180	ug/L	1.21	18.3	20	
Pyrene		1000	1120	ug/L	1.29	12.2	20	
Benzo[a]anthracene		1000	1110	ug/L	1.12	11.4	20	
Chrysene		1000	1120	ug/L	1.12	11.6	20	
Benzo[b]fluoranthene		1000	1050	ug/L	1.20	4.92	20	
Benzo[k]fluoranthene		1000	1090	ug/L	1.17	9.48	20	
Indeno[1,2,3-cd]pyrene		1000	1060	ug/L	1.38	5.96	20	
Dibenz[ah]anthracene		1000	1030	ug/L	1.09	2.96	20	
Benzo[ghi]perylene		1000	1080	ug/L	1.17	7.66	20	
1-Methylnaphthalene		1000	1090	ug/L	0.742	8.83	20	
2-Methylnaphthalene		1000	1070	ug/L	0.734	7.40	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 1953648
Report generated 03/25/2011 12:49

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11030658
Run Date: 03/23/2011
Sample ID: WG359668-02
Instrument ID: HPMS15
Run Time: 09:17
Method: 8270C
File ID: 15M04112
Analyst: CAA
QC Key: DOD4
Workgroup (AAB#): WG359519
Cal ID: HPMS15 - 15-FEB-11
Matrix: SOIL

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Acenaphthene	CCC	1000	1070	ug/L	1.24	7.34	20	
Fluoranthene	CCC	1000	1170	ug/L	1.36	16.7	20	
Benzo[a]pyrene	CCC	1000	1110	ug/L	1.19	10.5	20	
Naphthalene		1000	1050	ug/L	1.07	5.36	20	
Acenaphthylene		1000	1070	ug/L	1.92	6.92	20	
Fluorene		1000	1090	ug/L	1.51	9.03	20	
Phenanthrene		1000	1100	ug/L	1.24	10.4	20	
Anthracene		1000	1130	ug/L	1.15	13.2	20	
Pyrene		1000	1140	ug/L	1.32	14.2	20	
Benzo[a]anthracene		1000	1130	ug/L	1.14	13.0	20	
Chrysene		1000	1110	ug/L	1.12	11.2	20	
Benzo[b]fluoranthene		1000	1110	ug/L	1.27	11.1	20	
Benzo[k]fluoranthene		1000	1120	ug/L	1.20	12.0	20	
Indeno[1,2,3-cd]pyrene		1000	1120	ug/L	1.45	11.5	20	
Dibenz[ah]anthracene		1000	1100	ug/L	1.16	9.99	20	
Benzo[ghi]perylene		1000	1110	ug/L	1.21	11.4	20	
1-Methylnaphthalene		1000	1070	ug/L	0.732	7.34	20	
2-Methylnaphthalene		1000	1100	ug/L	0.754	10.4	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 1953648
Report generated 03/25/2011 12:49

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11030658
Run Date: 03/24/2011
Sample ID: WG359868-02
Instrument ID: HPMS15
Run Time: 14:59
Method: 8270C
File ID: 15M04120
Analyst: CAA
QC Key: DOD4
Workgroup (AAB#): WG359878
Cal ID: HPMS15 - 15-FEB-11
Matrix: SOIL

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Acenaphthene	CCC	1000	1060	ug/L	1.23	6.09	20	
Fluoranthene	CCC	1000	1160	ug/L	1.35	15.7	20	
Benzo[a]pyrene	CCC	1000	1100	ug/L	1.18	9.88	20	
Naphthalene		1000	1050	ug/L	1.07	4.76	20	
Acenaphthylene		1000	1030	ug/L	1.86	3.38	20	
Fluorene		1000	1080	ug/L	1.49	7.52	20	
Phenanthrene		1000	1090	ug/L	1.22	8.84	20	
Anthracene		1000	1110	ug/L	1.13	10.8	20	
Pyrene		1000	1140	ug/L	1.31	14.1	20	
Benzo[a]anthracene		1000	1120	ug/L	1.13	12.0	20	
Chrysene		1000	1130	ug/L	1.14	13.2	20	
Benzo[b]fluoranthene		1000	1100	ug/L	1.26	9.89	20	
Benzo[k]fluoranthene		1000	1060	ug/L	1.13	5.96	20	
Indeno[1,2,3-cd]pyrene		1000	1110	ug/L	1.45	11.2	20	
Dibenz[ah]anthracene		1000	1100	ug/L	1.17	10.1	20	
Benzo[ghi]perylene		1000	1120	ug/L	1.22	11.9	20	
1-Methylnaphthalene		1000	1090	ug/L	0.742	8.85	20	
2-Methylnaphthalene		1000	1090	ug/L	0.744	8.83	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 1953648
Report generated 03/25/2011 12:49

Microbac Laboratories Inc.

INTERNAL STANDARD AREA SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L11030658
Instrument ID: HPMS15
Workgroup (AAB#): WG359519

ICAL CCV Number: WG356529-02
CAL ID: HPMS15-15-FEB-11
Matrix: SOLID

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3	IS-4	IS-5
WG356529-02	NA	NA	48126	93522	88421	85766	84788
Upper Limit	NA	NA	96252	187044	176842	171532	169576
Lower Limit	NA	NA	24063	46761	44211	42883	42394
L11030658-01	10.0	DL01	32127	61564	57971	63551	53992
L11030658-01	100	DL02	32239	60258	57296	61210	55828
L11030658-02	10.0	DL01	33186	68678	59732	71381	58084
L11030658-02	100	DL02	31229	58820	55531	59671	53939
L11030658-03	5.00	DL01	38380	75279	70182	72506	63500
L11030658-04	5.00	DL01	36515	70293	67247	73080	60920
L11030658-05	5.00	DL01	37916	74232	69466	71572	64105
L11030658-05	50.0	DL02	32210	63303	58062	63256	54849
L11030658-06	5.00	DL01	37239	72216	68038	72184	62401
L11030658-07	2.00	DL01	39706	78768	72207	78846	66194
L11030658-08	2.00	DL01	38289	75602	70174	75935	64045
L11030658-09	2.00	DL01	37997	74427	69982	70913	63222
L11030658-10	10.0	DL01	34681	65158	64392	65497	58404
L11030658-11	2.00	DL01	38158	77636	70096	78555	63923
L11030658-12	2.00	DL01	37704	74432	68970	73169	62829
WG359445-02	1.00	01	35359	68857	64760	67684	59255
WG359445-03	1.00	01	35280	70901	63805	70434	58612

IS-1 - Acenaphthene-d10
IS-2 - Chrysene-d12
IS-3 - Naphthalene-d8
IS-4 - Perylene-d12
IS-5 - Phenanthrene-d10

Underline = Response outside limits

INTERNAL_STD_ICAL - Modified 03/06/2008
PDF File ID: 1953649
Report generated 03/25/2011 12:49

Microbac Laboratories Inc.

INTERNAL STANDARD AREA SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L11030658
Instrument ID: HPMS15
Workgroup (AAB#): WG359878

ICAL CCV Number: WG356529-02
CAL ID: HPMS15 - 15-FEB-11
Matrix: SOLID

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3	IS-4	IS-5
WG356529-02	NA	NA	48126	93522	88421	85766	84788
Upper Limit	NA	NA	96252	187044	176842	171532	169576
Lower Limit	NA	NA	24063	46761	44211	42883	42394
L11030658-13	2.00	REDL1	57186	111785	103813	113400	97519
L11030658-14	2.00	REDL1	59484	118367	109829	117518	101888
L11030658-15	2.00	REDL1	65419	133881	121630	132307	113479
L11030658-16	2.00	REDL1	59125	118524	109988	118073	102063
WG359747-03	1.00	01	53291	105347	96518	106078	90929
WG359747-04	1.00	01	55065	109230	100187	109891	93645

IS-1 - Acenaphthene-d10
IS-2 - Chrysene-d12
IS-3 - Naphthalene-d8
IS-4 - Perylene-d12
IS-5 - Phenanthrene-d10

Underline = Response outside limits

INTERNAL_STD_ICAL - Modified 03/06/2008
PDF File ID: 1953649
Report generated 03/25/2011 12:49

Microbac Laboratories Inc.

INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L11030658
Instrument ID: HPMS15
Workgroup (AAB#): WG359519

ICAL CCV Number: WG356529-02
CAL ID: HPMS15-15-FEB-11
Matrix: SOLID

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3	IS-4	IS-5
WG356529-02	NA	NA	8.14	13.35	5.95	15.49	9.99
Upper Limit	NA	NA	8.64	13.85	6.45	15.99	10.49
Lower Limit	NA	NA	7.64	12.85	5.45	14.99	9.49
L11030658-01	10.0	DL01	8.093	13.306	5.915	15.415	9.95
L11030658-01	100	DL02	8.093	13.306	5.916	15.415	9.95
L11030658-02	10.0	DL01	8.093	13.306	5.916	15.42	9.95
L11030658-02	100	DL02	8.093	13.306	5.916	15.415	9.95
L11030658-03	5.00	DL01	8.093	13.306	5.916	15.415	9.95
L11030658-04	5.00	DL01	8.093	13.306	5.916	15.415	9.95
L11030658-05	5.00	DL01	8.093	13.306	5.916	15.415	9.95
L11030658-05	50.0	DL02	8.093	13.306	5.916	15.415	9.95
L11030658-06	5.00	DL01	8.093	13.306	5.916	15.415	9.95
L11030658-07	2.00	DL01	8.093	13.306	5.916	15.415	9.95
L11030658-08	2.00	DL01	8.093	13.306	5.916	15.415	9.95
L11030658-09	2.00	DL01	8.093	13.306	5.916	15.415	9.95
L11030658-10	10.0	DL01	8.093	13.306	5.916	15.415	9.95
L11030658-11	2.00	DL01	8.093	13.306	5.916	15.415	9.95
L11030658-12	2.00	DL01	8.093	13.306	5.916	15.415	9.95
WG359445-02	1.00	01	8.093	13.306	5.916	15.415	9.95
WG359445-03	1.00	01	8.093	13.306	5.916	15.42	9.95

IS-1 - Acenaphthene-d10
IS-2 - Chrysene-d12
IS-3 - Naphthalene-d8
IS-4 - Perylene-d12
IS-5 - Phenanthrene-d10

Underline = Response outside limits

INTERNAL_STD_RT_ICAL - Modified 03/06/2008
PDF File ID: 1953650
Report generated: 03/25/2011 12:50

Microbac Laboratories Inc.

INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L11030658
Instrument ID: HPMS15
Workgroup (AAB#): WG359878

ICAL CCV Number: WG356529-02
CAL ID: HPMS15-15-FEB-11
Matrix: SOLID

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3	IS-4	IS-5
WG356529-02	NA	NA	8.14	13.35	5.95	15.49	9.99
Upper Limit	NA	NA	8.64	13.85	6.45	15.99	10.49
Lower Limit	NA	NA	7.64	12.85	5.45	14.99	9.49
L11030658-13	2.00	REDL1	8.093	13.301	5.91	15.41	9.944
L11030658-14	2.00	REDL1	8.088	13.301	5.91	15.41	9.944
L11030658-15	2.00	REDL1	8.093	13.301	5.91	15.41	9.944
L11030658-16	2.00	REDL1	8.093	13.301	5.91	15.41	9.944
WG359747-03	1.00	01	8.093	13.301	5.916	15.41	9.944
WG359747-04	1.00	01	8.093	13.301	5.911	15.41	9.945

IS-1 - Acenaphthene-d10
IS-2 - Chrysene-d12
IS-3 - Naphthalene-d8
IS-4 - Perylene-d12
IS-5 - Phenanthrene-d10

Underline = Response outside limits

INTERNAL_STD_RT_ICAL - Modified 03/06/2008
PDF File ID: 1953650
Report generated: 03/25/2011 12:50

2.1.1.3 Sample Data

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032211\
Data File : 15M04108.D
Acq On : 22 Mar 2011 4:08 pm
Operator : CAA
Sample : L11030658-01 10X 827-PAHL
Misc : 7,10 SOIL
ALS Vial : 19 Sample Multiplier: 10

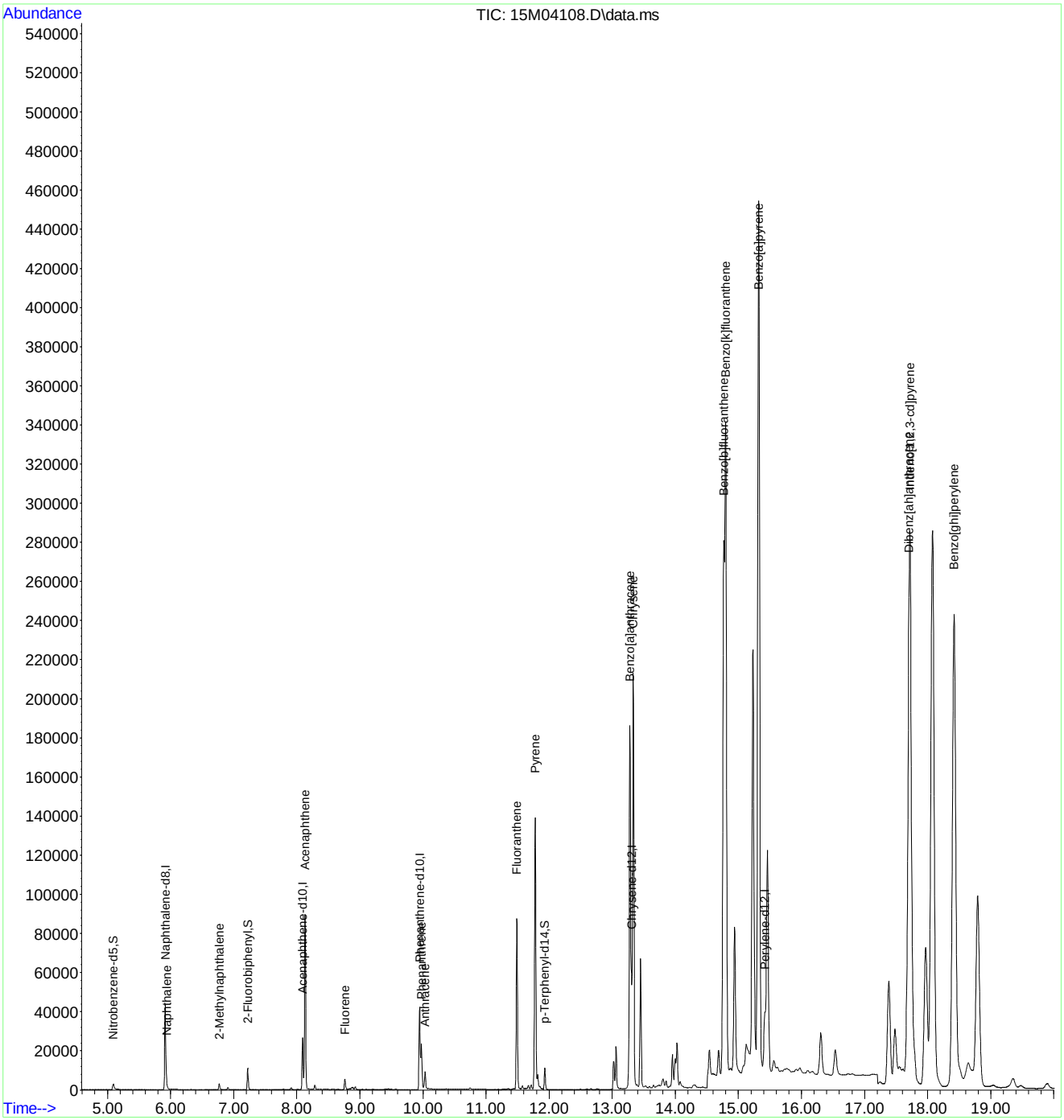
Quant Time: Mar 23 08:19:58 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Wed Mar 23 08:10:15 2011
Response via : Initial Calibration

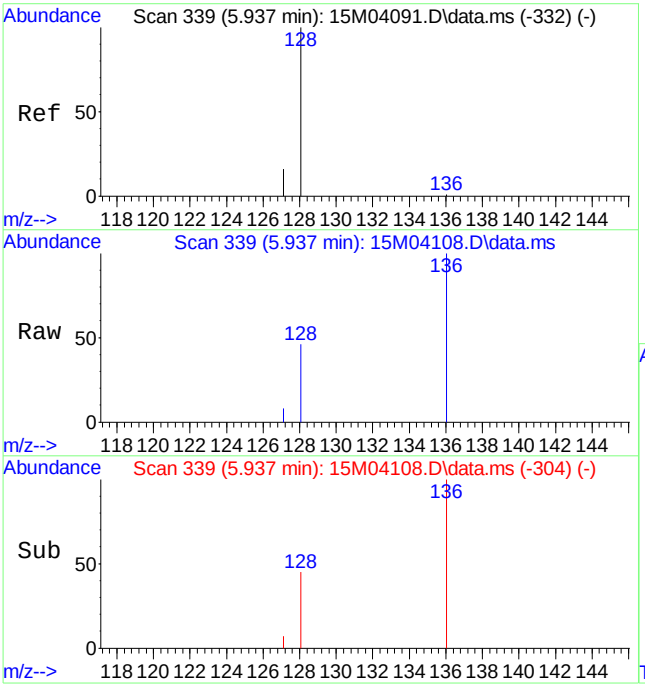
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8	5.915	136	57971	1.00	ug/mL	0.00
6) Acenaphthene-d10	8.093	164	32127	1.00	ug/mL	-0.01
11) Phenanthrene-d10	9.950	188	53992	1.00	ug/mL	0.00
15) Chrysene-d12	13.306	240	61564	1.00	ug/mL	0.00
20) Perylene-d12	15.415	264	63551	1.00	ug/mL	-0.01
System Monitoring Compounds						
2) Nitrobenzene-d5	5.092	82	3977	2.01	ug/mL	-0.02
Spiked Amount 2.500	Range 23 - 120		Recovery	=	80.40%	
7) 2-Fluorobiphenyl	7.223	172	10329	2.43	ug/mL	-0.01
Spiked Amount 2.500	Range 30 - 115		Recovery	=	97.20%	
17) p-Terphenyl-d14	11.930	244	12242	3.01	ug/mL	-0.01
Spiked Amount 2.500	Range 18 - 137		Recovery	=	120.40%	
Target Compounds						Qvalue
3) Naphthalene	5.937	128	2047	0.0347	ug/mL	99
4) 2-Methylnaphthalene	6.771	142	2178	0.0550	ug/mL	99
9) Acenaphthene	8.130	154	54016	1.4540	ug/mL	99
10) Fluorene	8.764	166	3553	0.0796	ug/mL	95
12) Phenanthrene	9.976	178	24417	0.4026	ug/mL	100
13) Anthracene	10.035	178	9705	0.1763	ug/mL	100
14) Fluoranthene	11.489	202	94780	1.5049	ug/mL	99
16) Pyrene	11.779	202	148127	2.0888	ug/mL#	70
18) Benzo[a]anthracene	13.279	228	196529	3.1752	ug/mL	97
19) Chrysene	13.333	228	232751	3.7660	ug/mL	99
21) Benzo[b]fluoranthene	14.769	252	409403	5.6183	ug/mL#	75
22) Benzo[k]fluoranthene	14.798	252	478585m	7.0444	ug/mL	
23) Benzo[a]pyrene	15.324	252	759448	11.1153	ug/mL#	73
24) Indeno[1,2,3-cd]pyrene	17.718	276	802567	9.6975	ug/mL#	100
25) Dibenz[ah]anthracene	17.703	278	216197	3.2127	ug/mL#	100
26) Benzo[ghi]perylene	18.421	276	739460	10.6952	ug/mL	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\032211\
Data File : 15M04108.D
Acq On : 22 Mar 2011 4:08 pm
Operator : CAA
Sample : L11030658-01 10X 827-PAHL
Misc : 7,10 SOIL
ALS Vial : 19 Sample Multiplier: 10

Quant Time: Mar 23 08:19:58 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Wed Mar 23 08:10:15 2011
Response via : Initial Calibration

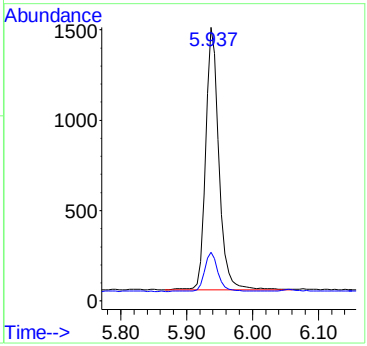


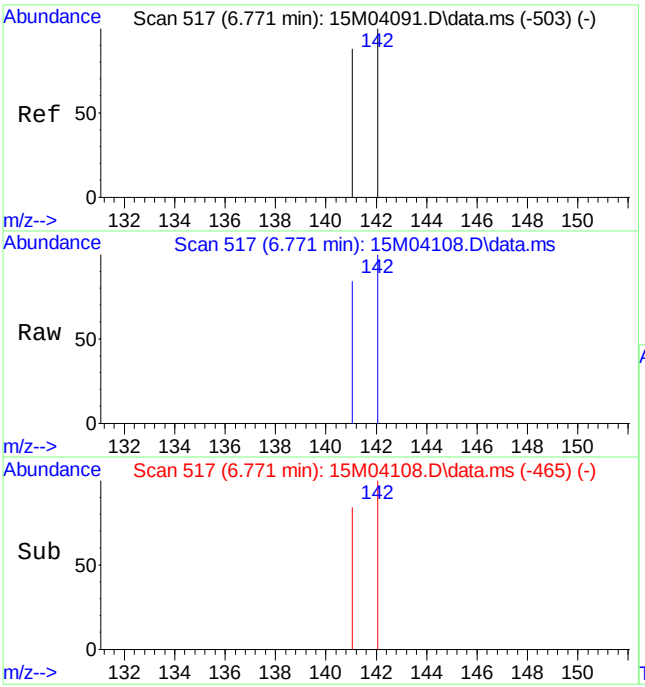


#3
Naphthalene
Concen: 0.0347 ug/mL
RT: 5.937 min Scan# 339
Delta R.T. -0.011 min
Lab File: 15M04108.D
Acq: 22 Mar 2011 4:08 pm

Tgt Ion:128 Resp: 2047

Ion	Ratio	Lower	Upper
128	100		
127	15.0	9.3	21.7

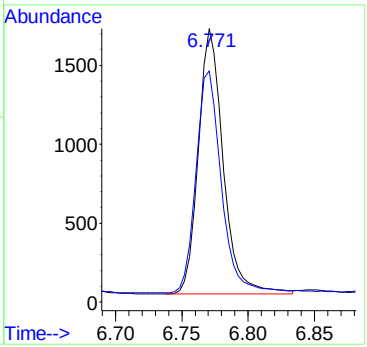


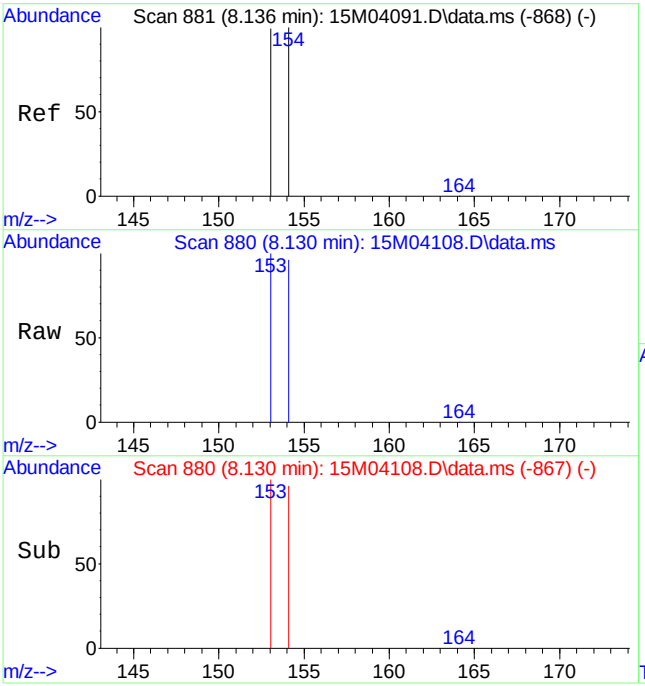


#4
2-Methylnaphthalene
Concen: 0.0550 ug/mL
RT: 6.771 min Scan# 517
Delta R.T. -0.010 min
Lab File: 15M04108.D
Acq: 22 Mar 2011 4:08 pm

Tgt Ion:142 Resp: 2178

Ion	Ratio	Lower	Upper
142	100		
141	84.9	51.7	120.7

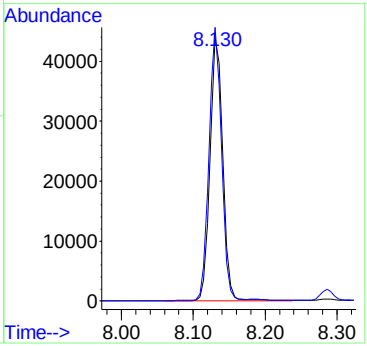


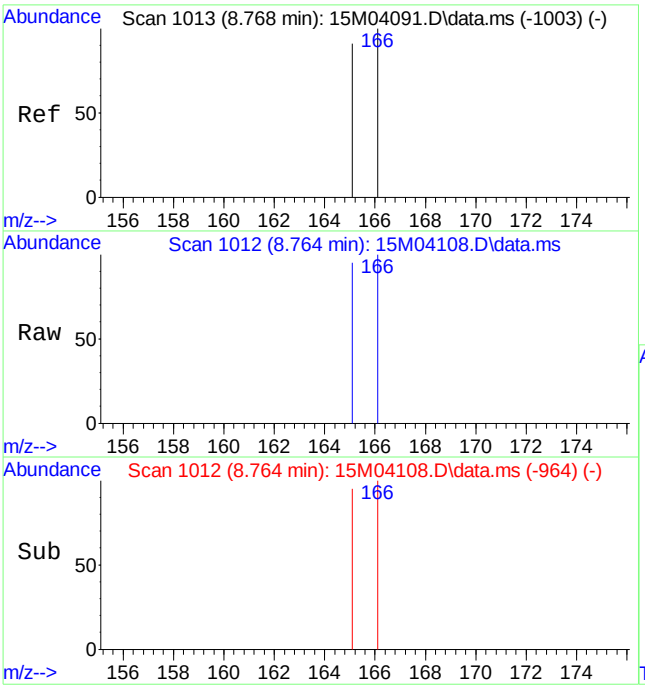


#9
Acenaphthene
Concen: 1.4540 ug/mL
RT: 8.130 min Scan# 880
Delta R.T. -0.016 min
Lab File: 15M04108.D
Acq: 22 Mar 2011 4:08 pm

Tgt Ion:154 Resp: 54016

Ion	Ratio	Lower	Upper
154	100		
153	101.9	61.8	144.2

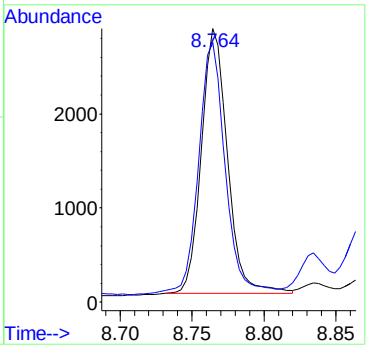


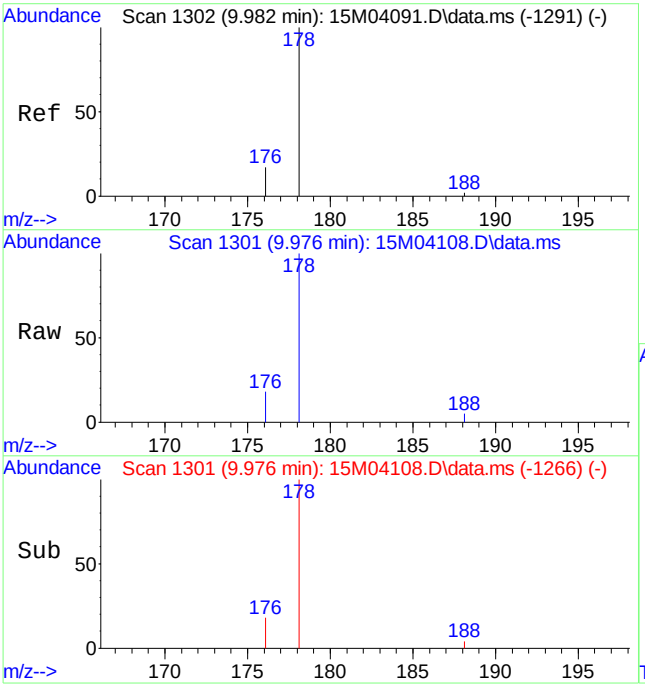


#10
Fluorene
Concen: 0.0796 ug/mL
RT: 8.764 min Scan# 1012
Delta R.T. -0.015 min
Lab File: 15M04108.D
Acq: 22 Mar 2011 4:08 pm

Tgt Ion:166 Resp: 3553

Ion	Ratio	Lower	Upper
166	100		
165	98.8	56.6	132.0

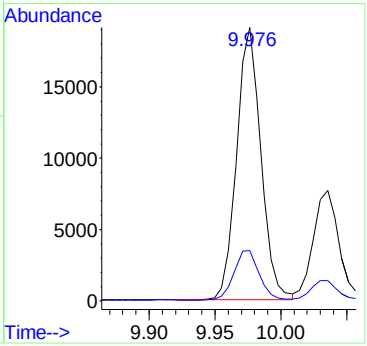


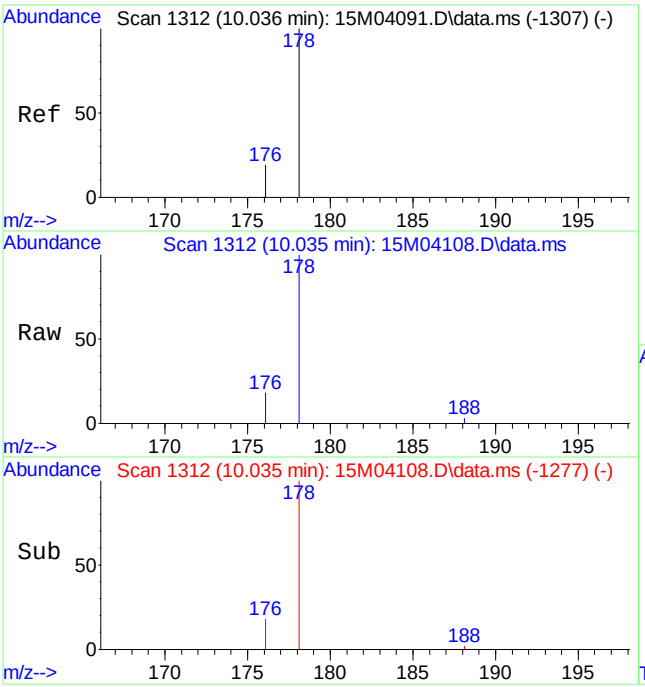


#12
Phenanthrene
Concen: 0.4026 ug/mL
RT: 9.976 min Scan# 1301
Delta R.T. -0.011 min
Lab File: 15M04108.D
Acq: 22 Mar 2011 4:08 pm

Tgt Ion:178 Resp: 24417

Ion	Ratio	Lower	Upper
178	100		
176	18.8	11.4	26.6

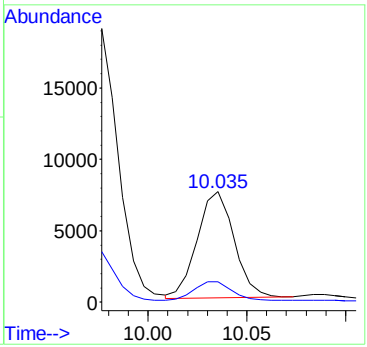


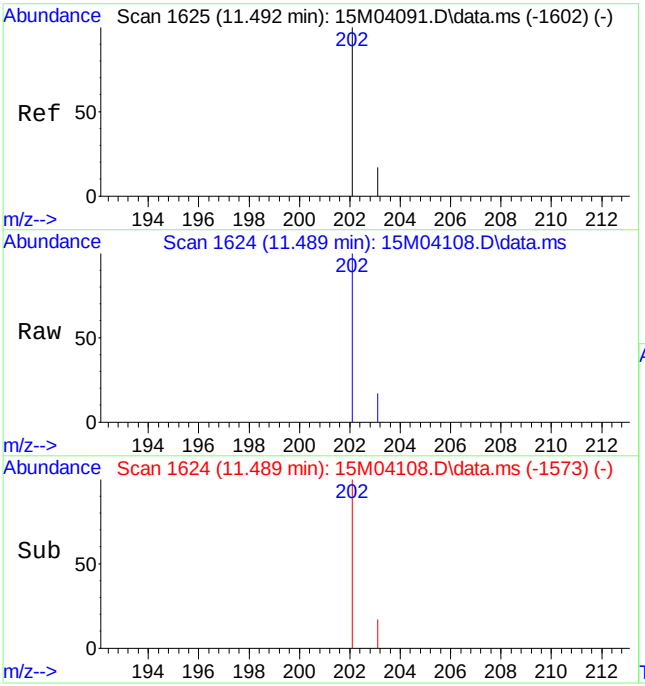


#13
Anthracene
Concen: 0.1763 ug/mL
RT: 10.035 min Scan# 1312
Delta R.T. -0.011 min
Lab File: 15M04108.D
Acq: 22 Mar 2011 4:08 pm

Tgt Ion:178 Resp: 9705

Ion	Ratio	Lower	Upper
178	100		
176	18.5	11.0	25.6

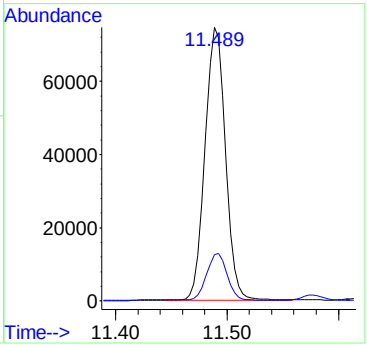


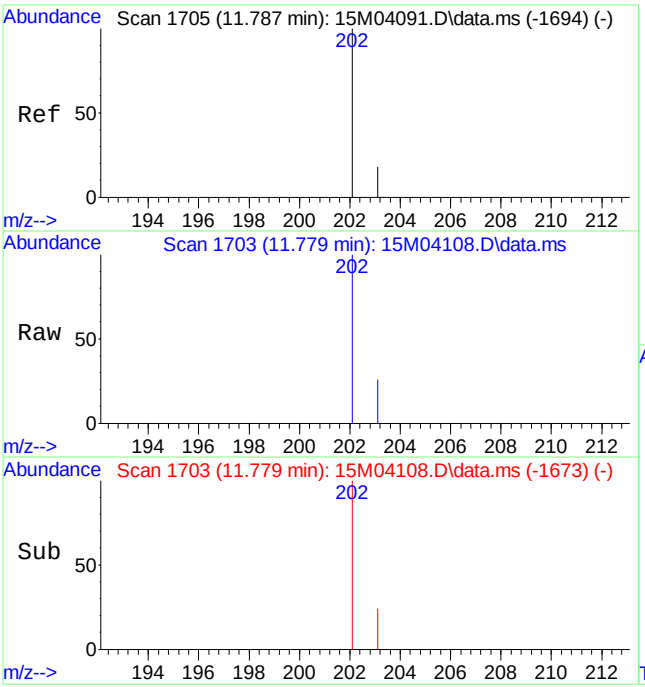


#14
Fluoranthene
Concen: 1.5049 ug/mL
RT: 11.489 min Scan# 1624
Delta R.T. -0.011 min
Lab File: 15M04108.D
Acq: 22 Mar 2011 4:08 pm

Tgt Ion:202 Resp: 94780

Ion	Ratio	Lower	Upper
202	100		
203	17.1	10.4	24.4

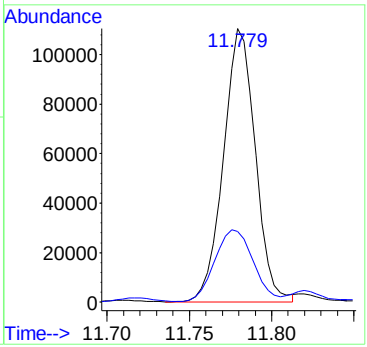


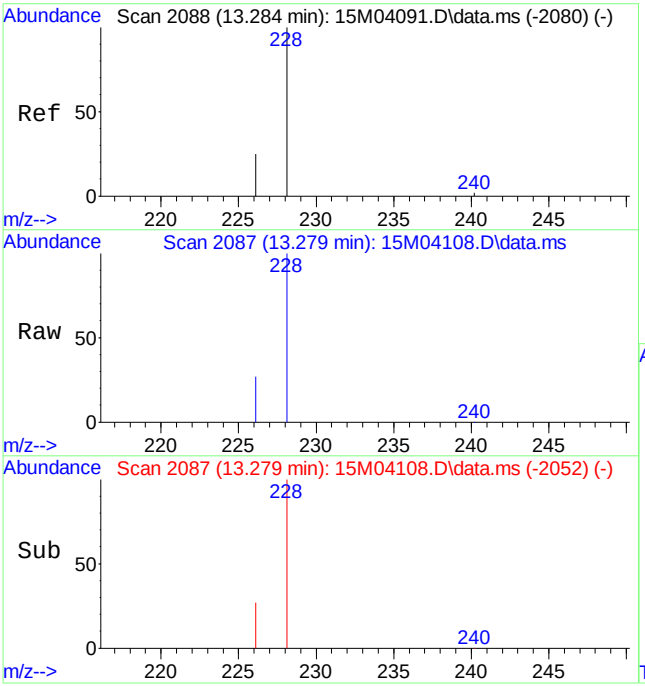


#16
Pyrene
Concen: 2.0888 ug/mL
RT: 11.779 min Scan# 1703
Delta R.T. -0.015 min
Lab File: 15M04108.D
Acq: 22 Mar 2011 4:08 pm

Tgt Ion:202 Resp: 148127

Ion	Ratio	Lower	Upper
202	100		
203	31.8	11.0	25.6#

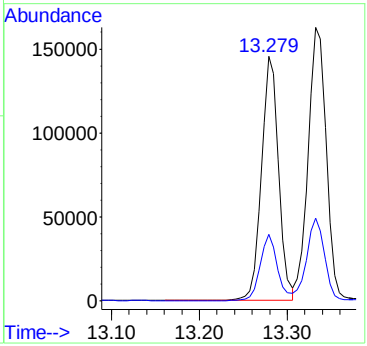


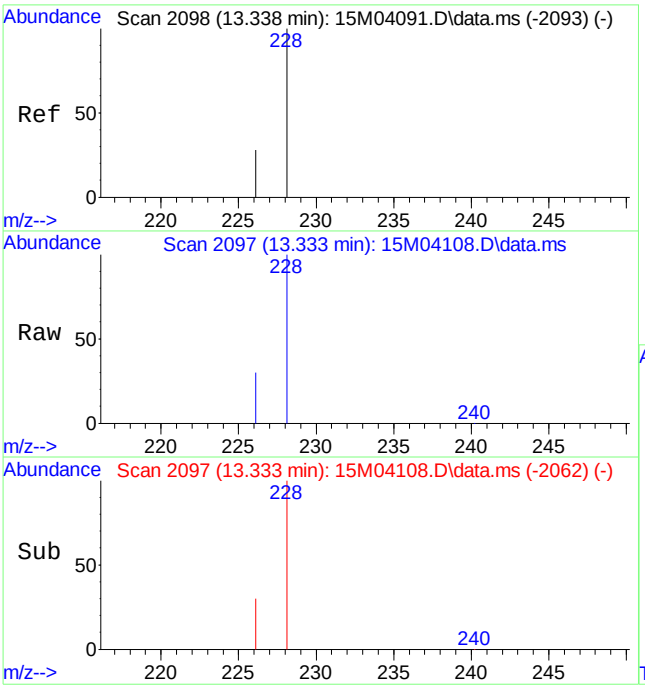


#18
Benzo[a]anthracene
Concen: 3.1752 ug/mL
RT: 13.279 min Scan# 2087
Delta R.T. -0.011 min
Lab File: 15M04108.D
Acq: 22 Mar 2011 4:08 pm

Tgt Ion:228 Resp: 196529

Ion	Ratio	Lower	Upper
228	100		
226	27.5	15.7	36.5

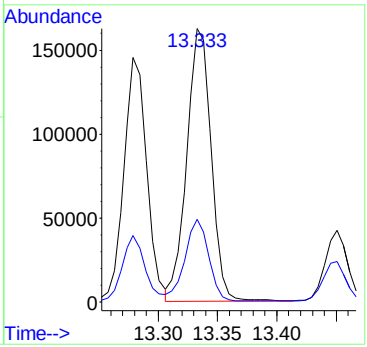


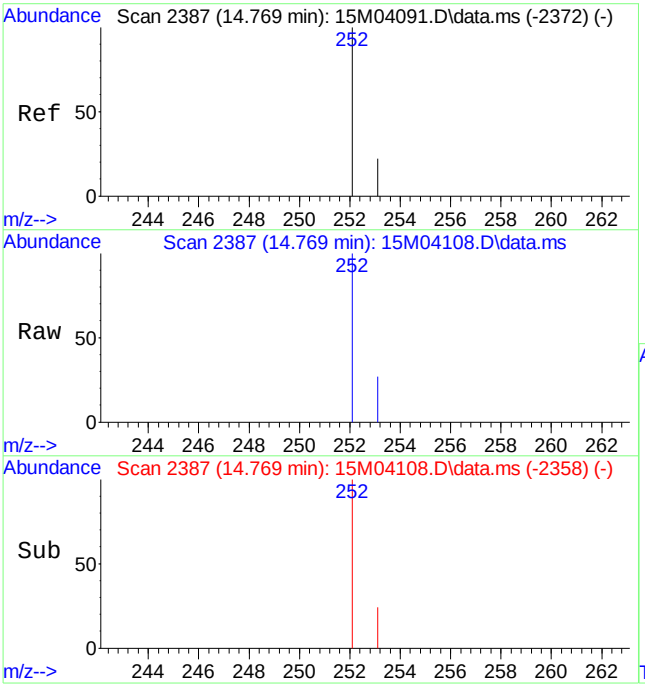


#19
Chrysene
Concen: 3.7660 ug/mL
RT: 13.333 min Scan# 2097
Delta R.T. -0.011 min
Lab File: 15M04108.D
Acq: 22 Mar 2011 4:08 pm

Tgt Ion:228 Resp: 232751

Ion	Ratio	Lower	Upper
228	100		
226	29.0	17.0	39.8

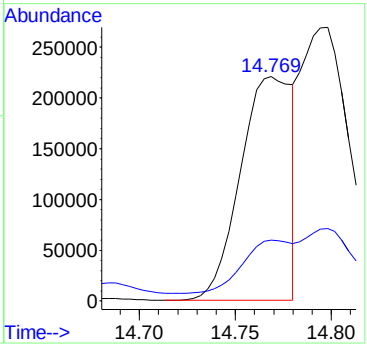


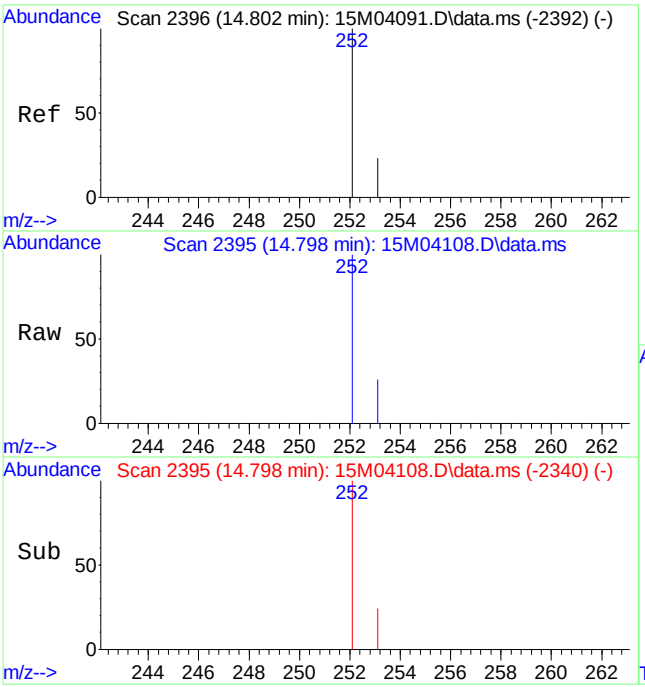


#21
Benzo[b]fluoranthene
Concen: 5.6183 ug/mL
RT: 14.769 min Scan# 2387
Delta R.T. -0.008 min
Lab File: 15M04108.D
Acq: 22 Mar 2011 4:08 pm

Tgt Ion:252 Resp: 409403

Ion	Ratio	Lower	Upper
252	100		
253	22.8	22.8	53.2#

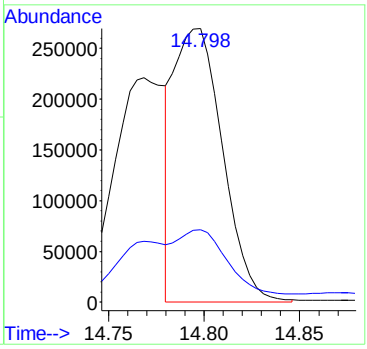


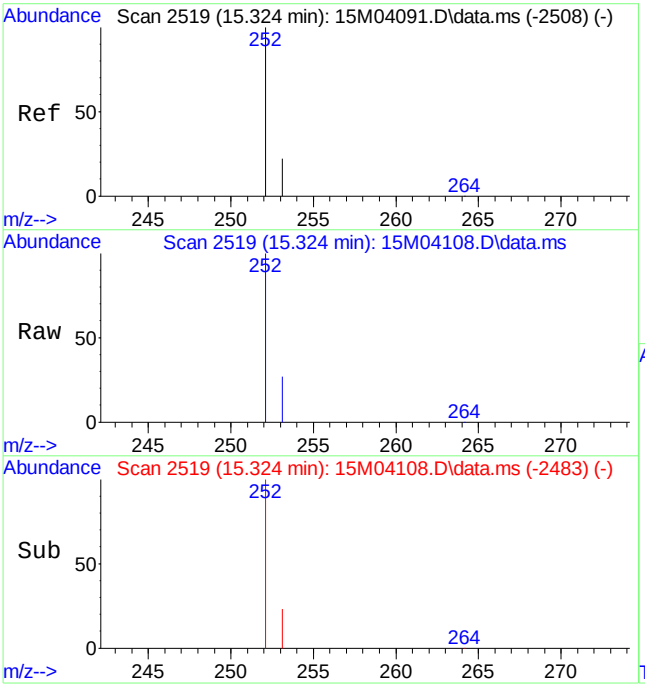


#22
Benzo[k]fluoranthene
Concen: 7.0444 ug/mL m
RT: 14.798 min Scan# 2395
Delta R.T. -0.011 min
Lab File: 15M04108.D
Acq: 22 Mar 2011 4:08 pm

Tgt Ion:252 Resp: 478585

Ion	Ratio	Lower	Upper
252	100		
253	19.5	23.0	53.6#

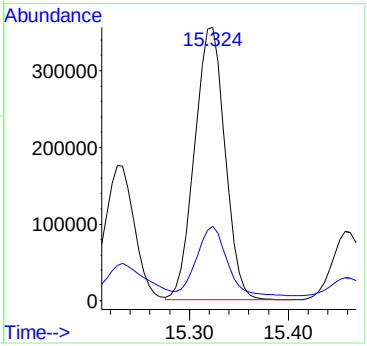


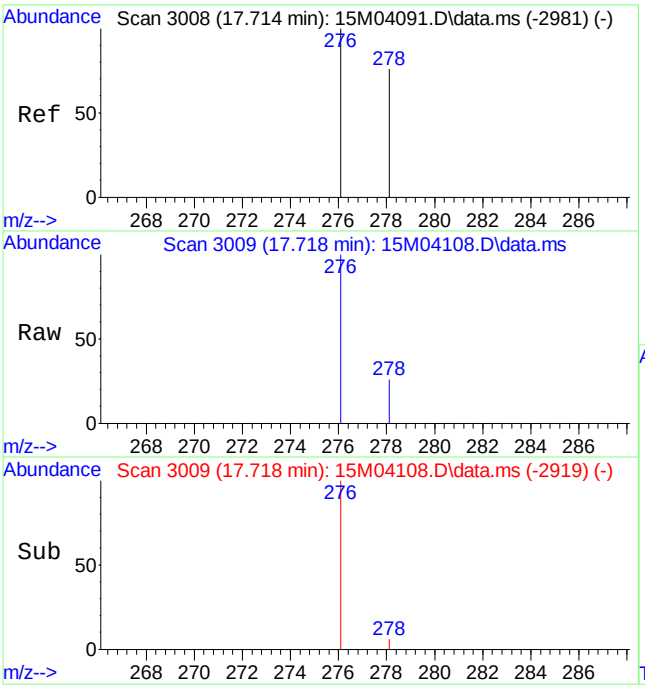


#23
Benzo[a]pyrene
Concen: 11.1153 ug/mL
RT: 15.324 min Scan# 2519
Delta R.T. -0.006 min
Lab File: 15M04108.D
Acq: 22 Mar 2011 4:08 pm

Tgt Ion:252 Resp: 759448

Ion	Ratio	Lower	Upper
252	100		
253	24.9	25.2	58.8#

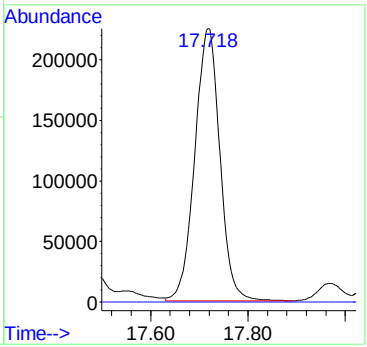


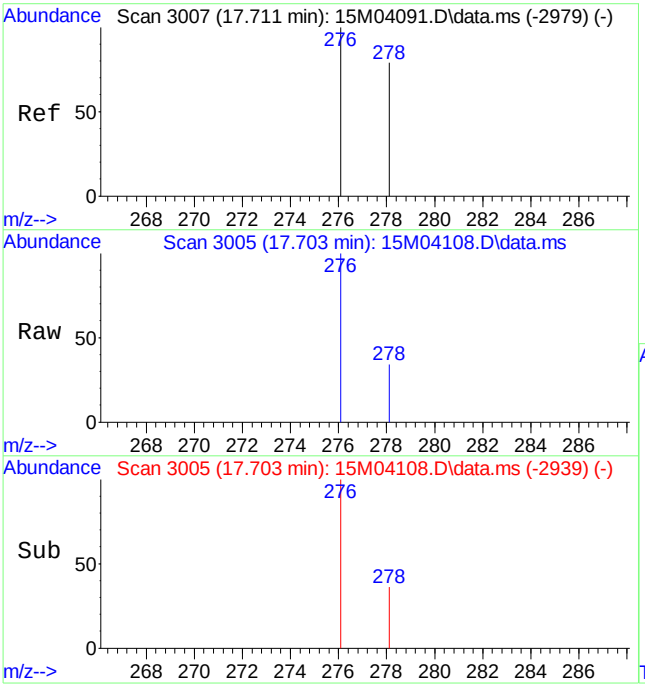


#24
Indeno[1,2,3-cd]pyrene
Concen: 9.6975 ug/mL
RT: 17.718 min Scan# 3009
Delta R.T. -0.008 min
Lab File: 15M04108.D
Acq: 22 Mar 2011 4:08 pm

Tgt Ion:276 Resp: 802567

Ion	Ratio	Lower	Upper
276	100		
277	0.0	0.0	0.0

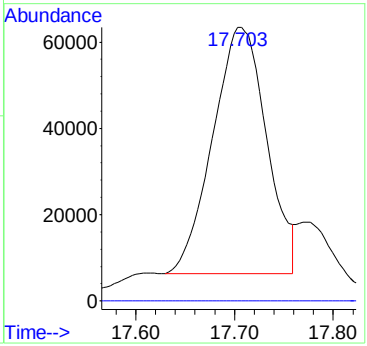


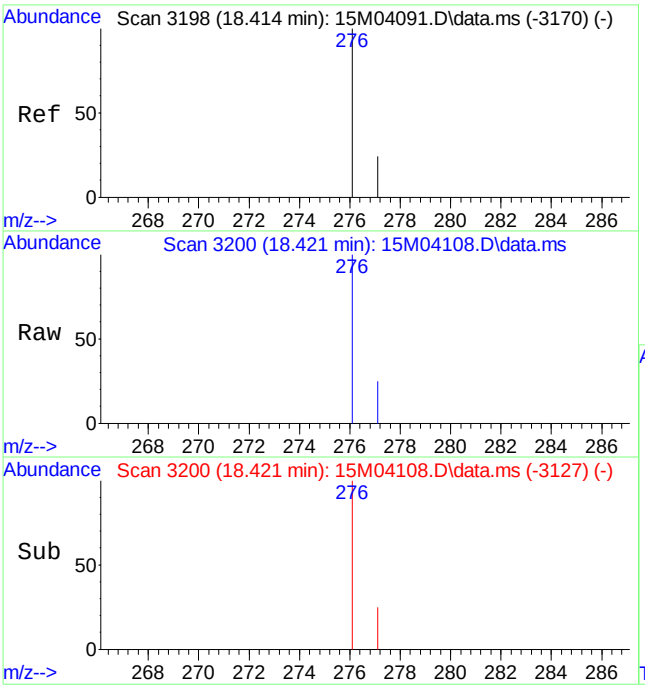


#25
Dibenz[ah]anthracene
Concen: 3.2127 ug/mL
RT: 17.703 min Scan# 3005
Delta R.T. -0.019 min
Lab File: 15M04108.D
Acq: 22 Mar 2011 4:08 pm

Tgt Ion:278 Resp: 216197

Ion	Ratio	Lower	Upper
278	100		
279	0.0	0.0	0.0

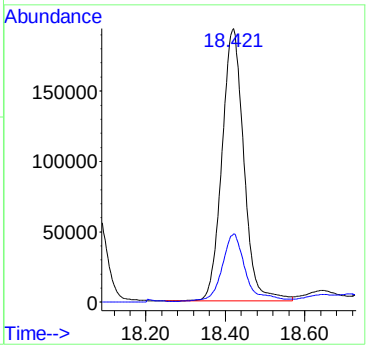




#26
Benzo[ghi]perylene
Concen: 10.6952 ug/mL
RT: 18.421 min Scan# 3200
Delta R.T. -0.004 min
Lab File: 15M04108.D
Acq: 22 Mar 2011 4:08 pm

Tgt Ion:276 Resp: 739460

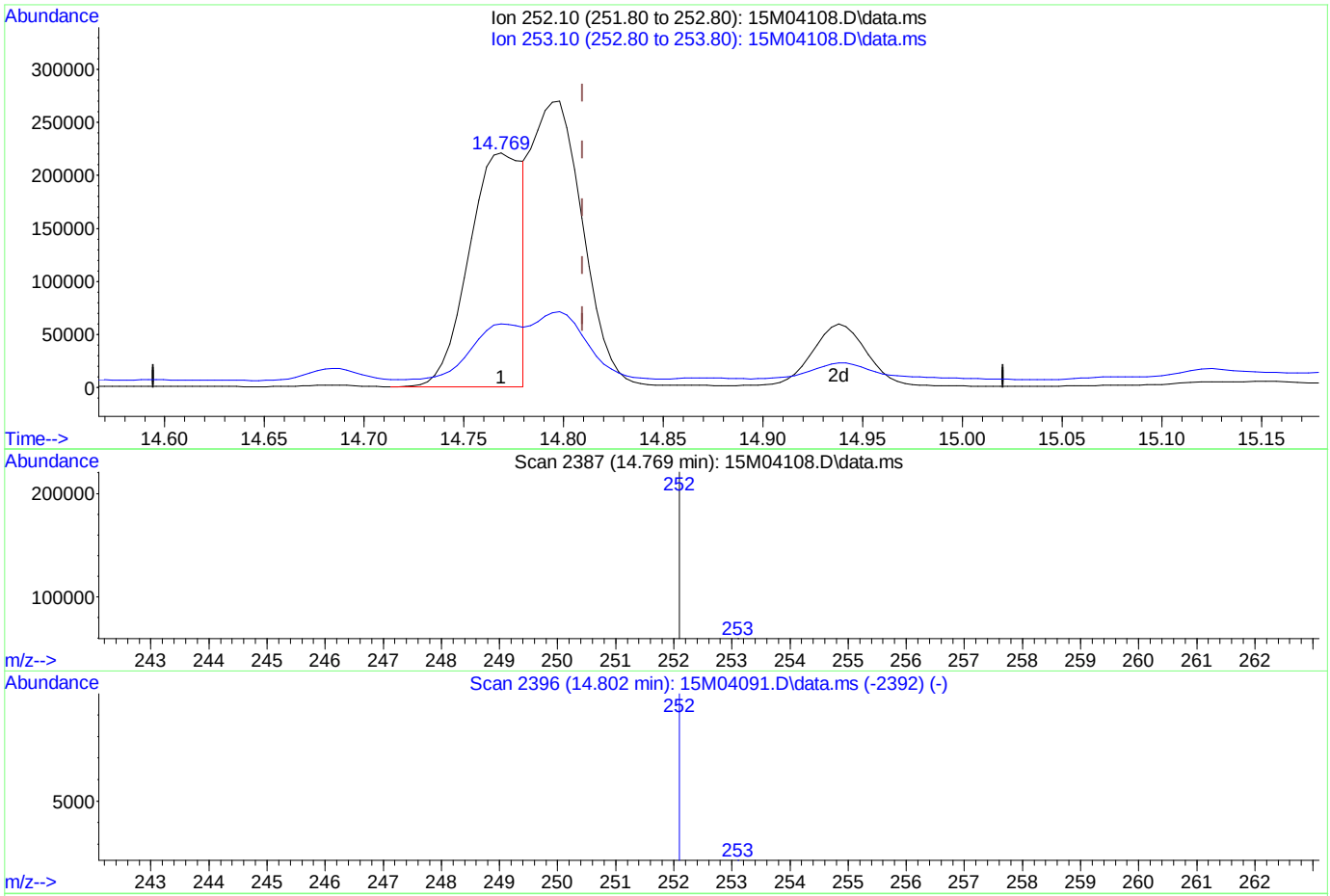
Ion	Ratio	Lower	Upper
276	100		
277	25.8	14.5	33.7



Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\032211\
Data File : 15M04108.D
Acq On : 22 Mar 2011 4:08 pm
Operator : CAA
Sample : L11030658-01 10X 827-PAHL
Misc : 7,10 SOIL
ALS Vial : 19 Sample Multiplier: 10

Quant Time: Mar 23 08:11:00 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Wed Mar 23 08:10:15 2011
Response via : Initial Calibration



TIC: 15M04108.D\data.ms

(22) Benzo[k]fluoranthene

14.769min (-0.041) 6.03 ug/mL

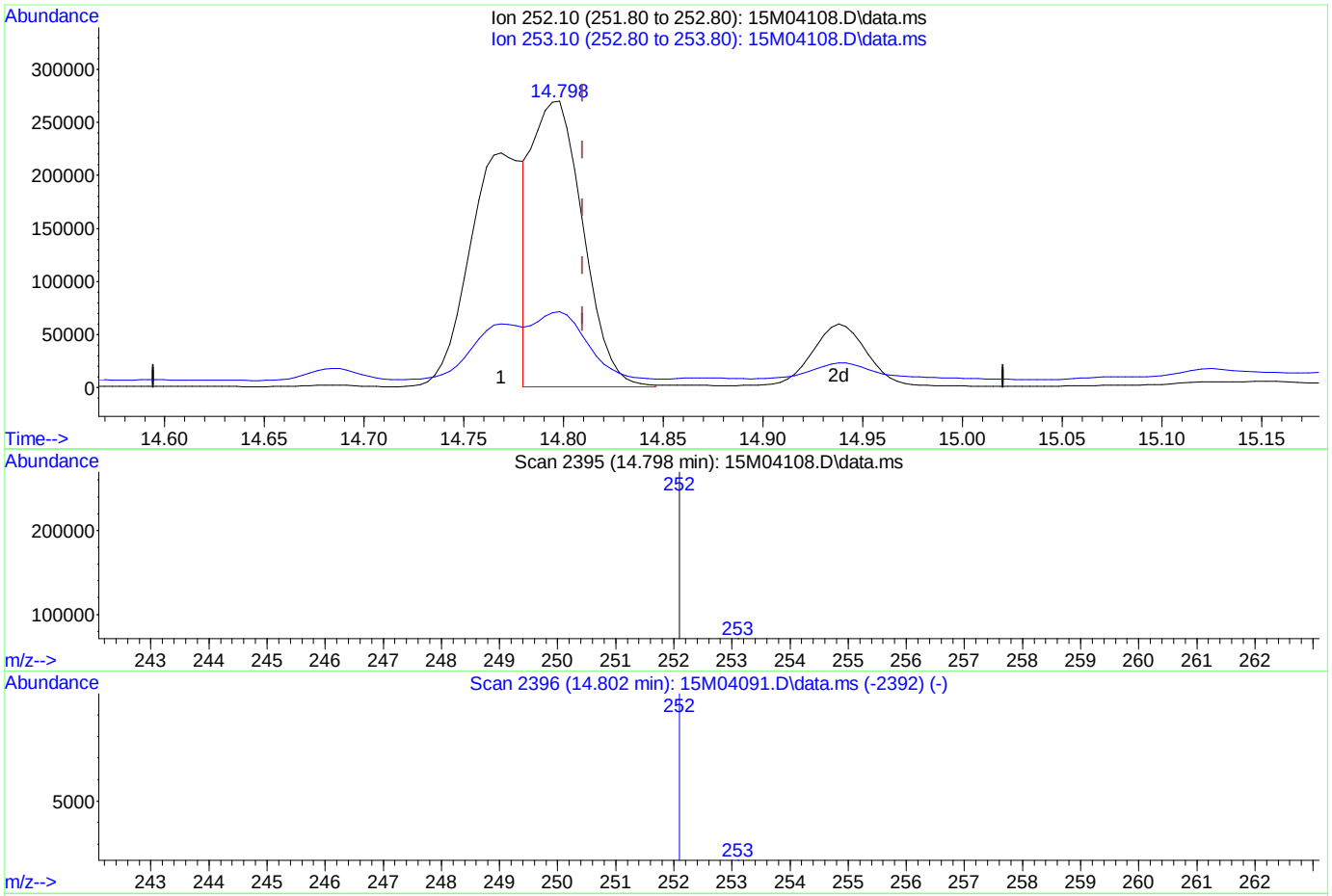
response 409403

Ion	Exp%	Act%
252.10	100	100
253.10	38.30	22.77#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\032211\
Data File : 15M04108.D
Acq On : 22 Mar 2011 4:08 pm
Operator : CAA
Sample : L11030658-01 10X 827-PAHL
Misc : 7,10 SOIL
ALS Vial : 19 Sample Multiplier: 10

Quant Time: Mar 23 08:11:00 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Wed Mar 23 08:10:15 2011
Response via : Initial Calibration



TIC: 15M04108.D\data.ms

(22) Benzo[k]fluoranthene

14.798min (-0.011) 7.04 ug/mL mint

response 478585

Ion	Exp%	Act%
252.10	100	100
253.10	38.30	19.48#
0.00	0.00	0.00
0.00	0.00	0.00

Analyst: 03/23/2011 09:48 Supervisor: 03/24/2011 12:27

#3 - Improperly integrated isomers and/or coeluting compounds

PAHQUANT.M Wed Mar 23 08:20:00 2011

Page: 1

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032311\
Data File : 15M04115.D
Acq On : 23 Mar 2011 10:41 am
Operator : CAA
Sample : L11030658-01 100X 827-PAHL
Misc : 7,100 SOIL
ALS Vial : 5 Sample Multiplier: 100

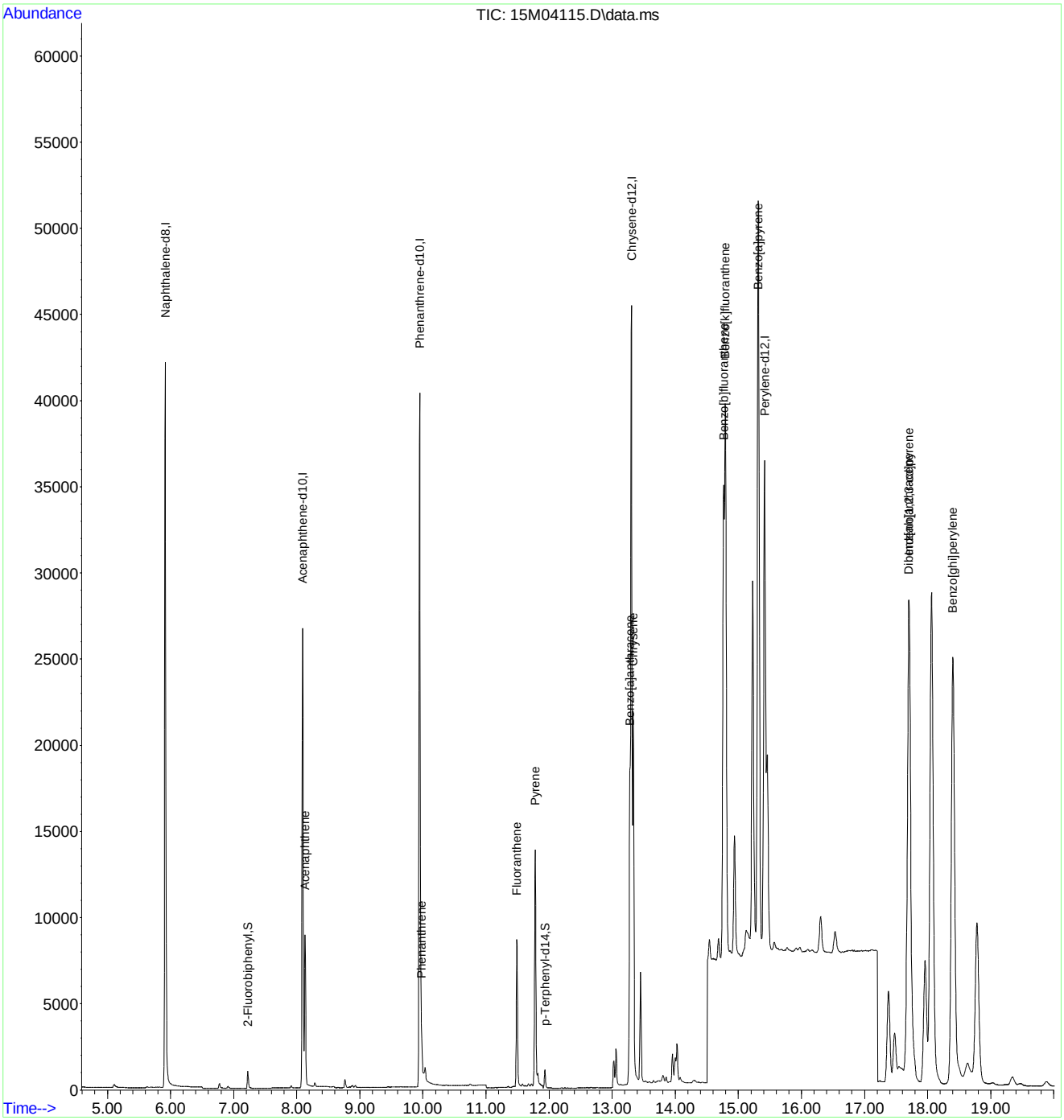
Quant Time: Mar 24 08:47:23 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Thu Mar 24 08:44:54 2011
Response via : Initial Calibration

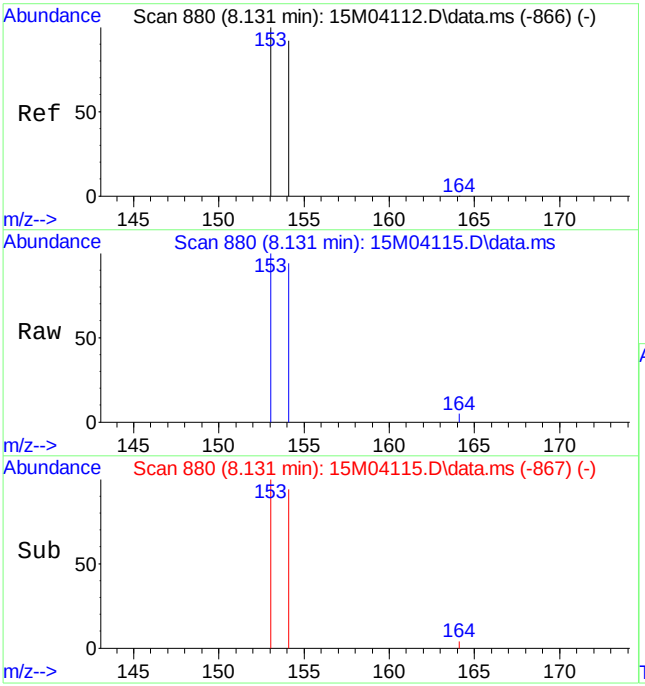
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8	5.916	136	57296	1.00	ug/mL	0.00
6) Acenaphthene-d10	8.093	164	32239	1.00	ug/mL	-0.01
11) Phenanthrene-d10	9.950	188	55828	1.00	ug/mL	0.00
15) Chrysene-d12	13.306	240	60258	1.00	ug/mL	0.00
20) Perylene-d12	15.415	264	61210	1.00	ug/mL	-0.01
System Monitoring Compounds						
2) Nitrobenzene-d5	5.103	82	320	1.63	ug/mL	0.00
Spiked Amount 2.500	Range 23 - 120		Recovery = 65.20%			
7) 2-Fluorobiphenyl	7.224	172	1018	2.39	ug/mL	-0.01
Spiked Amount 2.500	Range 30 - 115		Recovery = 95.60%			
17) p-Terphenyl-d14	11.934	244	1519	3.82	ug/mL	0.00
Spiked Amount 2.500	Range 18 - 137		Recovery = 152.80%#			
Target Compounds						Qvalue
9) Acenaphthene	8.131	154	5279	0.1416	ug/mL	97
12) Phenanthrene	9.977	178	2439	0.0389	ug/mL	99
14) Fluoranthene	11.489	202	9802	0.1505	ug/mL	99
16) Pyrene	11.780	202	16258	0.2342	ug/mL#	75
18) Benzo[a]anthracene	13.279	228	19106	0.3154	ug/mL	97
19) Chrysene	13.333	228	23484	0.3882	ug/mL	99
21) Benzo[b]fluoranthene	14.765	252	38679	0.5511	ug/mL#	73
22) Benzo[k]fluoranthene	14.791	252	48434m	0.7402	ug/mL	
23) Benzo[a]pyrene	15.313	252	74660	1.1345	ug/mL#	70
24) Indeno[1,2,3-cd]pyrene	17.704	276	80292	1.0073	ug/mL#	100
25) Dibenz[ah]anthracene	17.696	278	20376	0.3144	ug/mL#	100
26) Benzo[ghi]perylene	18.399	276	76635	1.1508	ug/mL	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\032311\
Data File : 15M04115.D
Acq On : 23 Mar 2011 10:41 am
Operator : CAA
Sample : L11030658-01 100X 827-PAHL
Misc : 7,100 SOIL
ALS Vial : 5 Sample Multiplier: 100

Quant Time: Mar 24 08:47:23 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Thu Mar 24 08:44:54 2011
Response via : Initial Calibration

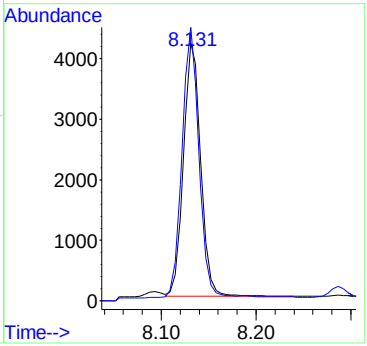


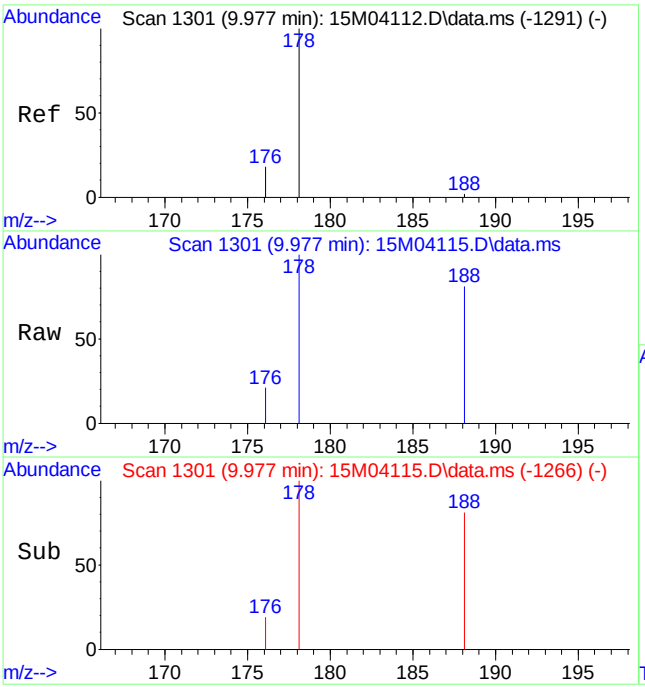


#9
Acenaphthene
Concen: 0.1416 ug/mL
RT: 8.131 min Scan# 880
Delta R.T. -0.016 min
Lab File: 15M04115.D
Acq: 23 Mar 2011 10:41 am

Tgt Ion:154 Resp: 5279

Ion	Ratio	Lower	Upper
154	100		
153	105.9	61.8	144.2

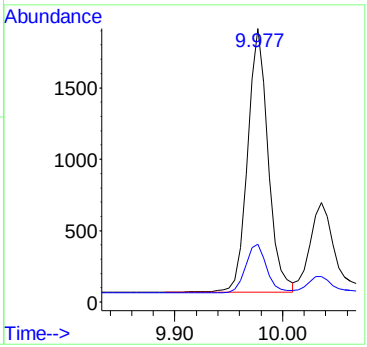


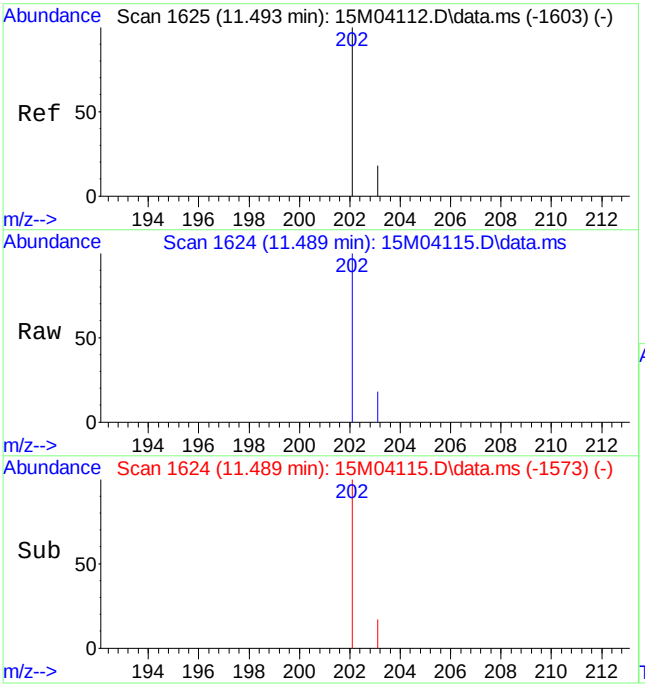


#12
Phenanthrene
Concen: 0.0389 ug/mL
RT: 9.977 min Scan# 1301
Delta R.T. -0.011 min
Lab File: 15M04115.D
Acq: 23 Mar 2011 10:41 am

Tgt Ion:178 Resp: 2439

Ion	Ratio	Lower	Upper
178	100		
176	18.7	11.4	26.6

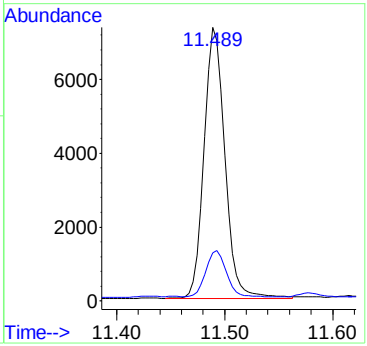


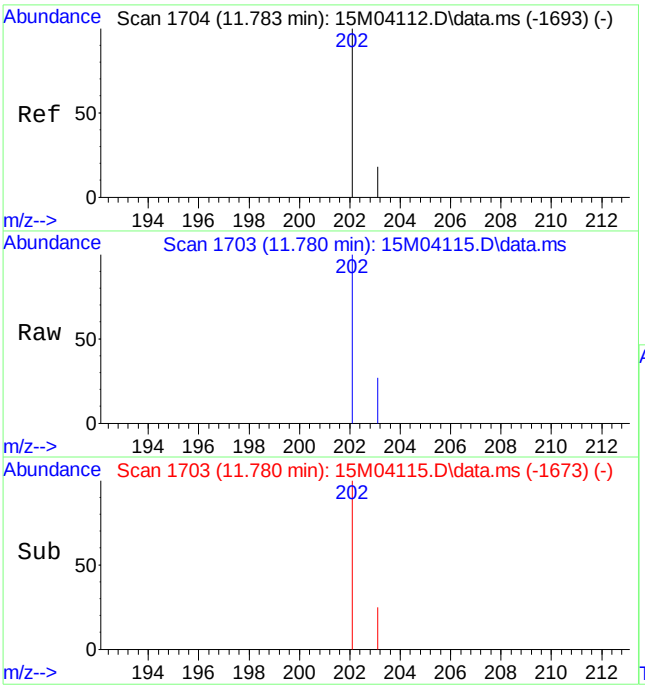


#14
Fluoranthene
Concen: 0.1505 ug/mL
RT: 11.489 min Scan# 1624
Delta R.T. -0.011 min
Lab File: 15M04115.D
Acq: 23 Mar 2011 10:41 am

Tgt Ion:202 Resp: 9802

Ion	Ratio	Lower	Upper
202	100		
203	16.9	10.4	24.4

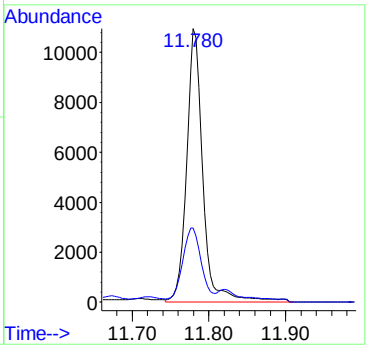


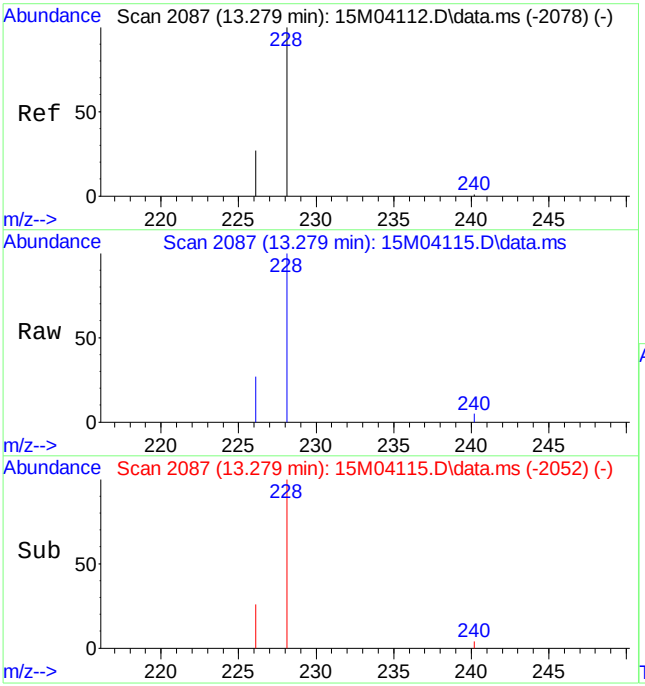


#16
Pyrene
Concen: 0.2342 ug/mL
RT: 11.780 min Scan# 1703
Delta R.T. -0.014 min
Lab File: 15M04115.D
Acq: 23 Mar 2011 10:41 am

Tgt Ion:202 Resp: 16258

Ion	Ratio	Lower	Upper
202	100		
203	29.3	11.0	25.6#

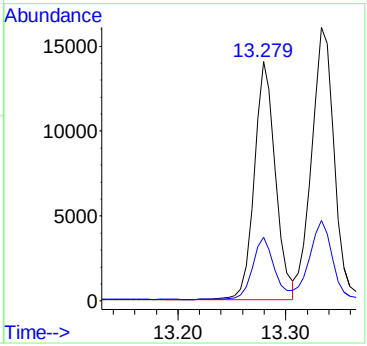


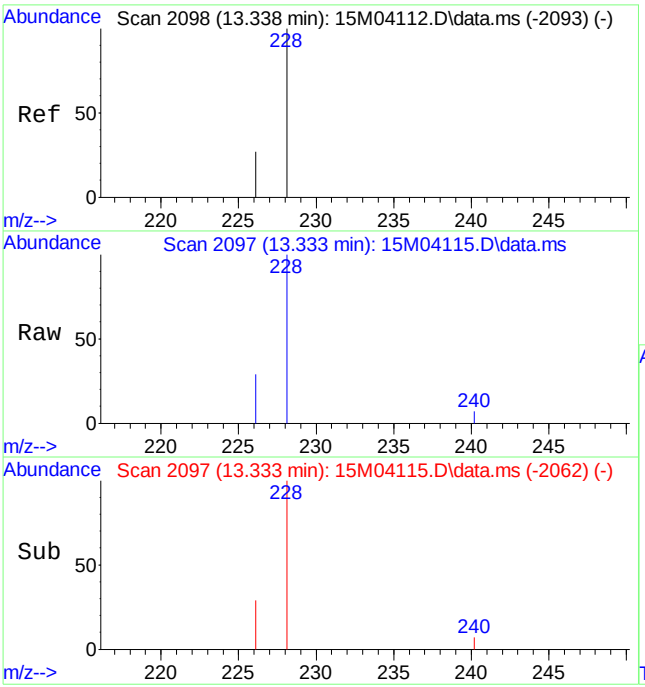


#18
Benzo[a]anthracene
Concen: 0.3154 ug/mL
RT: 13.279 min Scan# 2087
Delta R.T. -0.011 min
Lab File: 15M04115.D
Acq: 23 Mar 2011 10:41 am

Tgt Ion:228 Resp: 19106

Ion	Ratio	Lower	Upper
228	100		
226	27.4	15.7	36.5

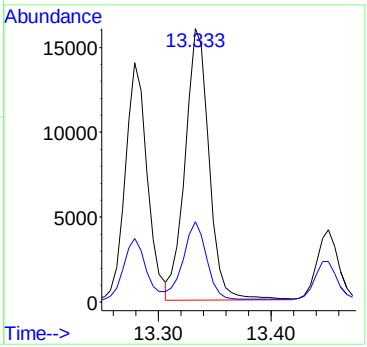


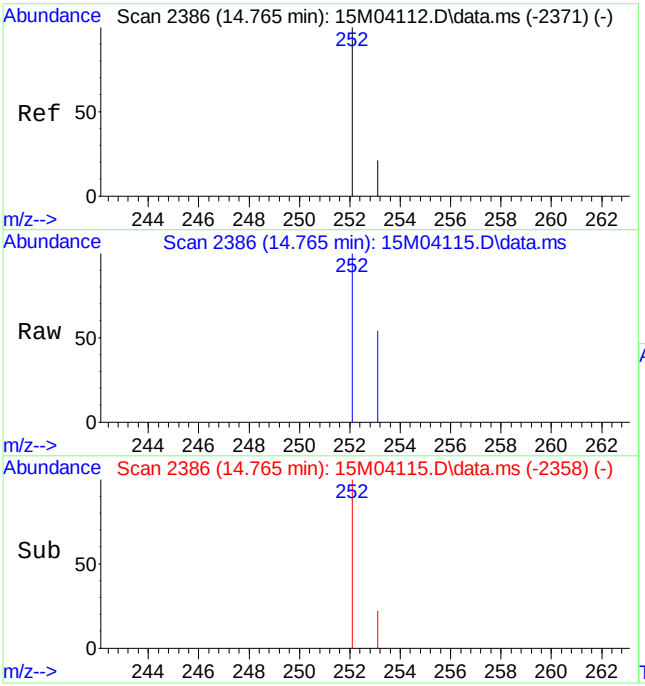


#19
Chrysene
Concen: 0.3882 ug/mL
RT: 13.333 min Scan# 2097
Delta R.T. -0.011 min
Lab File: 15M04115.D
Acq: 23 Mar 2011 10:41 am

Tgt Ion:228 Resp: 23484

Ion	Ratio	Lower	Upper
228	100		
226	27.7	17.0	39.8

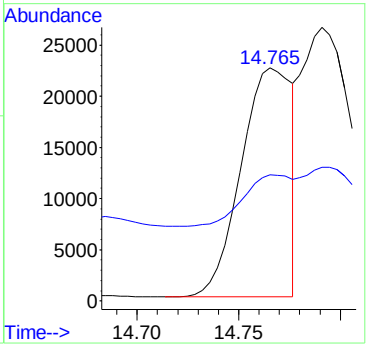


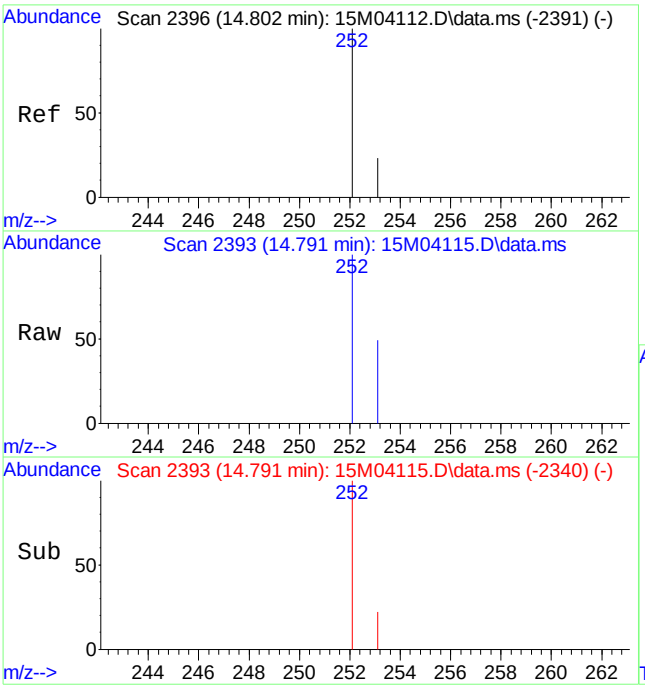


#21
Benzo[b]fluoranthene
Concen: 0.5511 ug/mL
RT: 14.765 min Scan# 2386
Delta R.T. -0.011 min
Lab File: 15M04115.D
Acq: 23 Mar 2011 10:41 am

Tgt Ion:252 Resp: 38679

Ion	Ratio	Lower	Upper
252	100		
253	21.6	22.8	53.2#

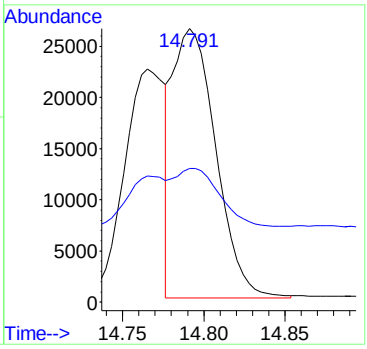


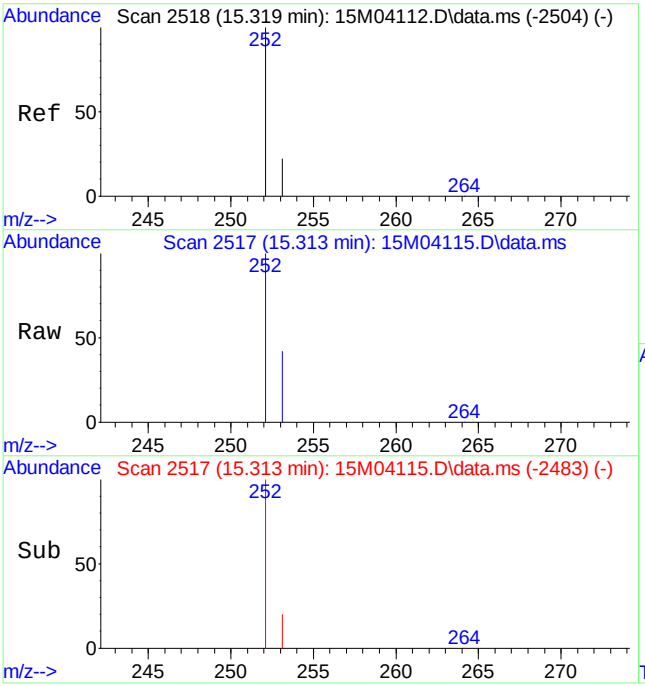


#22
Benzo[k]fluoranthene
Concen: 0.7402 ug/mL m
RT: 14.791 min Scan# 2393
Delta R.T. -0.018 min
Lab File: 15M04115.D
Acq: 23 Mar 2011 10:41 am

Tgt Ion:252 Resp: 48434

Ion	Ratio	Lower	Upper
252	100		
253	17.3	23.0	53.6#

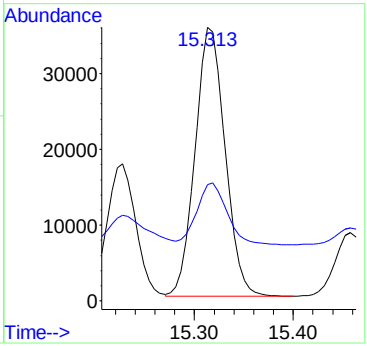


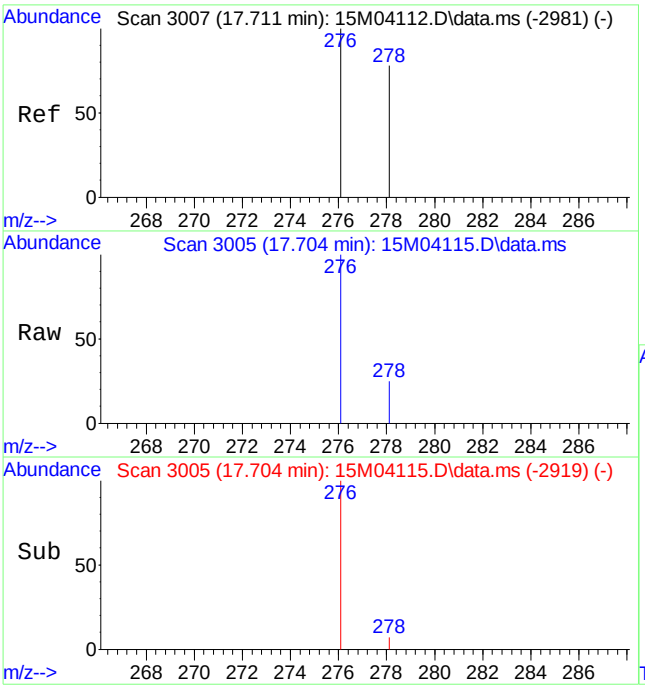


#23
Benzo[a]pyrene
Concen: 1.1345 ug/mL
RT: 15.313 min Scan# 2517
Delta R.T. -0.016 min
Lab File: 15M04115.D
Acq: 23 Mar 2011 10:41 am

Tgt Ion:252 Resp: 74660

Ion	Ratio	Lower	Upper
252	100		
253	23.2	25.2	58.8#

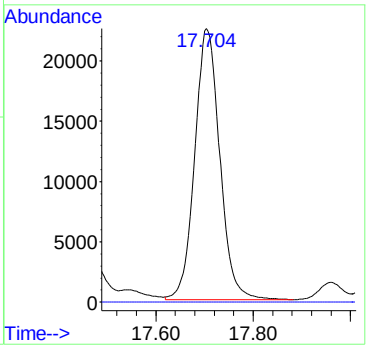


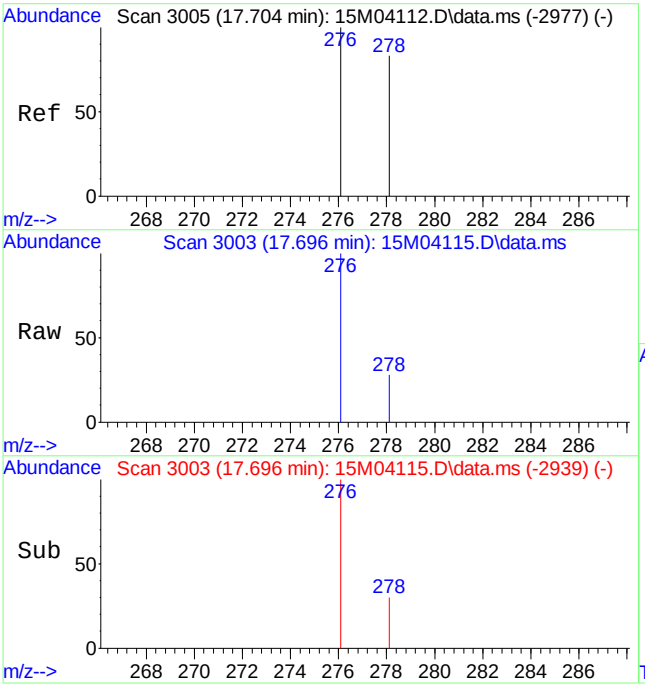


#24
Indeno[1,2,3-cd]pyrene
Concen: 1.0073 ug/mL
RT: 17.704 min Scan# 3005
Delta R.T. -0.022 min
Lab File: 15M04115.D
Acq: 23 Mar 2011 10:41 am

Tgt Ion:276 Resp: 80292

Ion	Ratio	Lower	Upper
276	100		
277	0.0	0.0	0.0

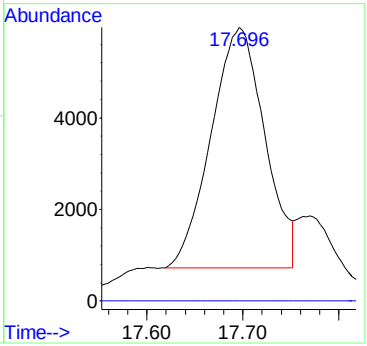


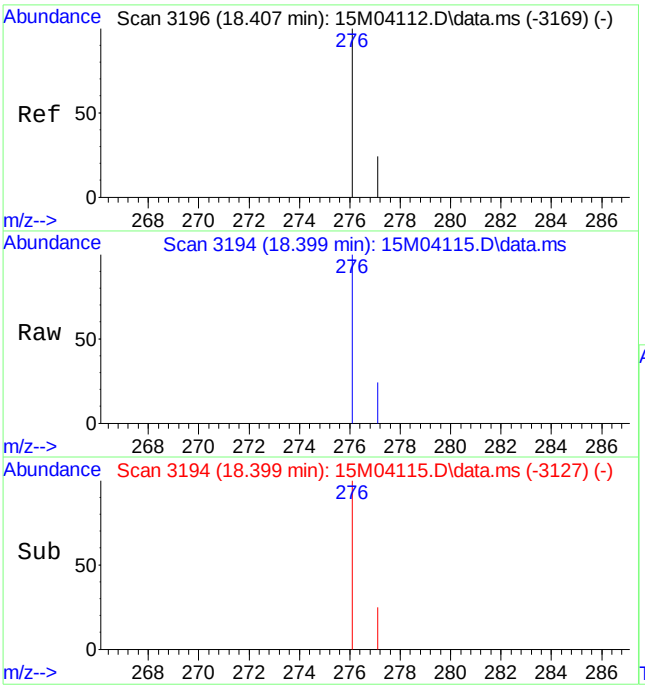


#25
Dibenz[ah]anthracene
Concen: 0.3144 ug/mL
RT: 17.696 min Scan# 3003
Delta R.T. -0.026 min
Lab File: 15M04115.D
Acq: 23 Mar 2011 10:41 am

Tgt Ion:278 Resp: 20376

Ion	Ratio	Lower	Upper
278	100		
279	0.0	0.0	0.0

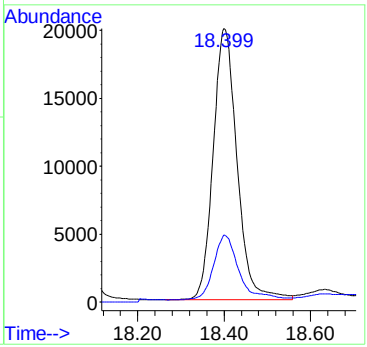




#26
Benzo[ghi]perylene
Concen: 1.1508 ug/mL
RT: 18.399 min Scan# 3194
Delta R.T. -0.026 min
Lab File: 15M04115.D
Acq: 23 Mar 2011 10:41 am

Tgt Ion:276 Resp: 76635

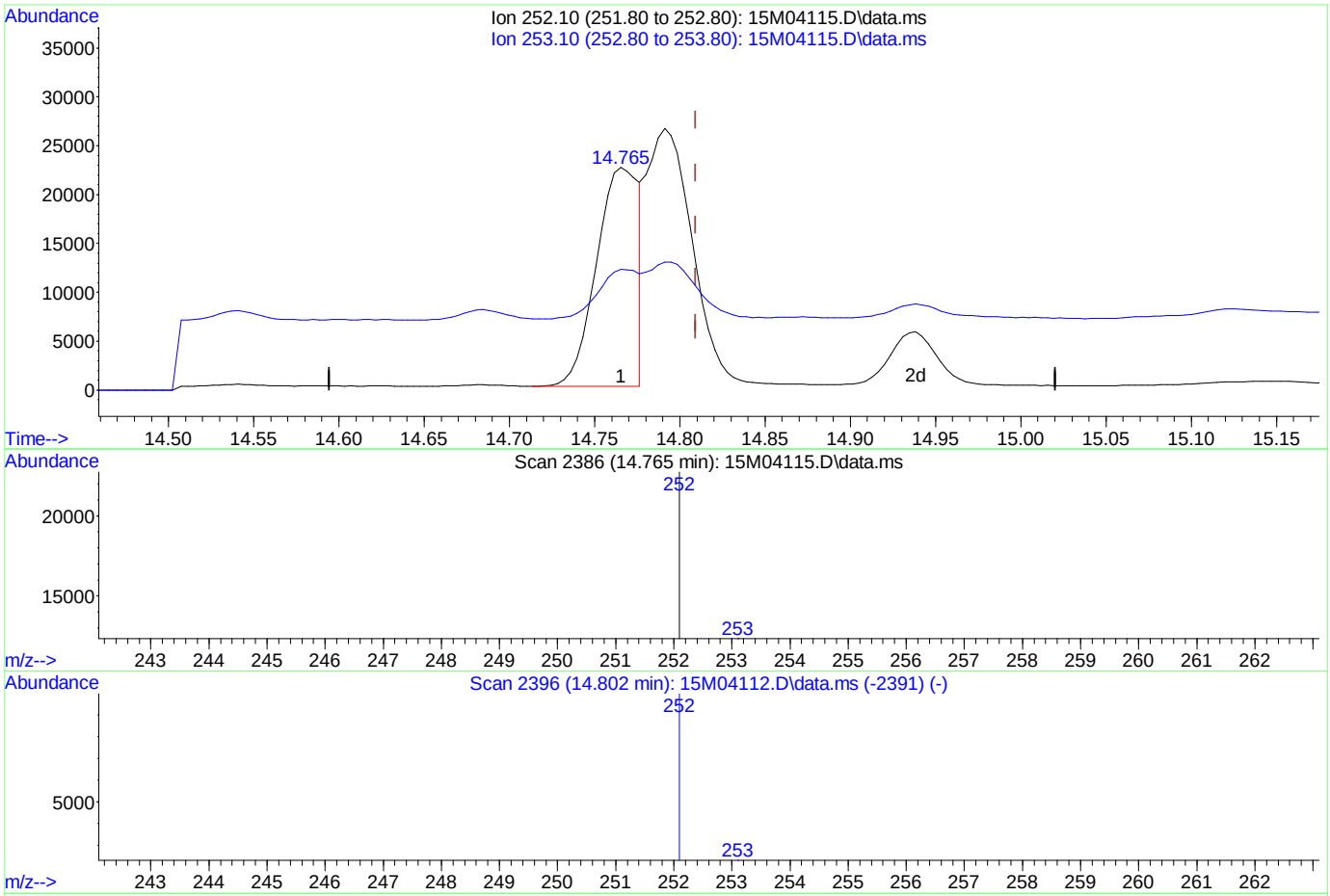
Ion	Ratio	Lower	Upper
276	100		
277	23.7	14.5	33.7



Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\032311\
Data File : 15M04115.D
Acq On : 23 Mar 2011 10:41 am
Operator : CAA
Sample : L11030658-01 100X 827-PAHL
Misc : 7,100 SOIL
ALS Vial : 5 Sample Multiplier: 100

Quant Time: Mar 24 08:45:10 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Thu Mar 24 08:44:54 2011
Response via : Initial Calibration



(22) Benzo[k]fluoranthene

14.765min (-0.044) 0.59 ug/mL

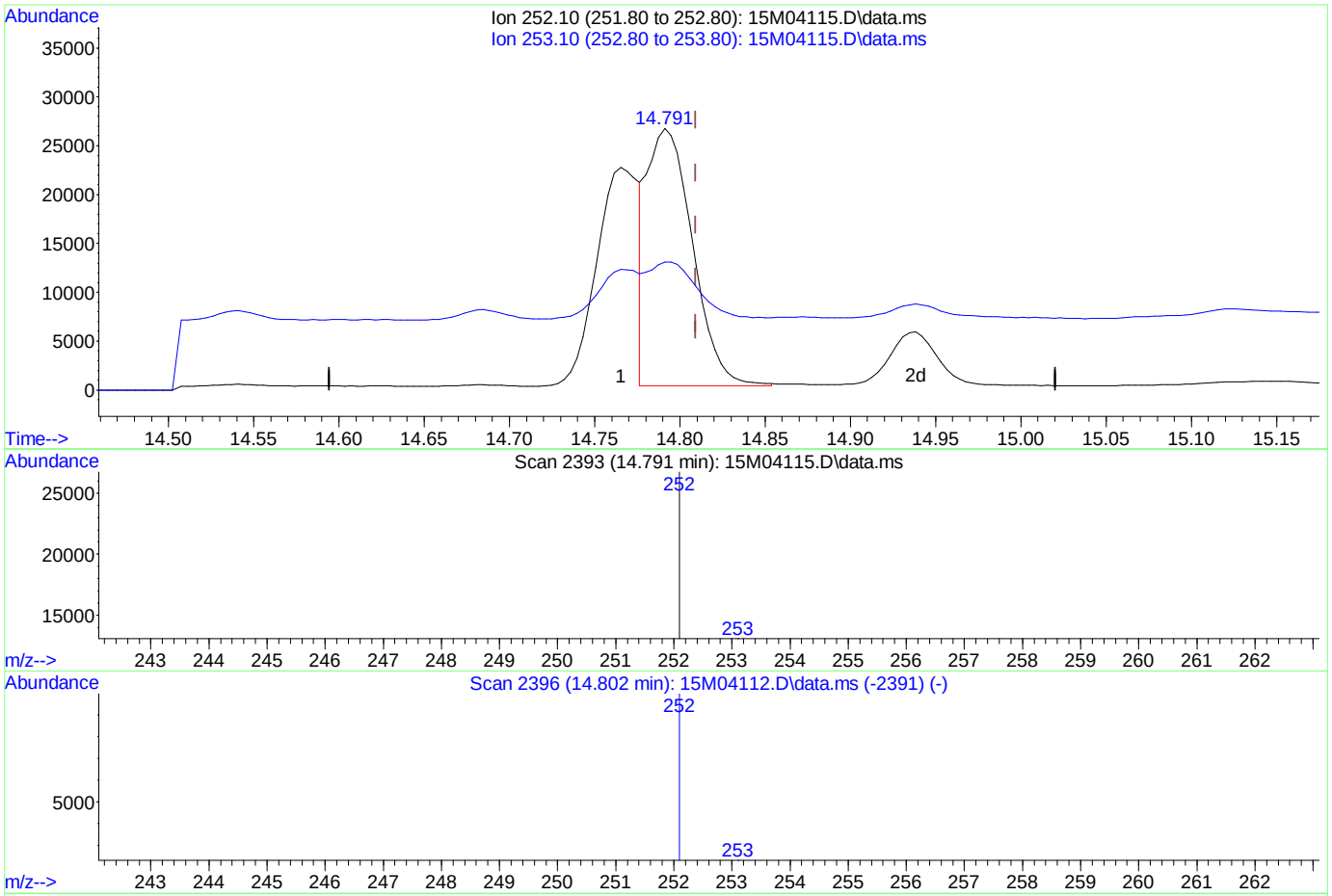
response 38679

Ion	Exp%	Act%
252.10	100	100
253.10	38.30	21.64#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\032311\
Data File : 15M04115.D
Acq On : 23 Mar 2011 10:41 am
Operator : CAA
Sample : L11030658-01 100X 827-PAHL
Misc : 7,100 SOIL
ALS Vial : 5 Sample Multiplier: 100

Quant Time: Mar 24 08:45:10 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Thu Mar 24 08:44:54 2011
Response via : Initial Calibration



(22) Benzo[k]fluoranthene

14.791min (-0.018) 0.74 ug/mL mint

response 48434

Ion	Exp%	Act%
252.10	100	100
253.10	38.30	17.29#
0.00	0.00	0.00
0.00	0.00	0.00

Analyst: 03/24/2011 09:12 Supervisor: 03/25/2011 09:17

#3 - Improperly integrated isomers and/or coeluting compounds

PAHQUANT.M Thu Mar 24 08:47:25 2011

Page: 1

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032311\
Data File : 15M04113.D
Acq On : 23 Mar 2011 9:45 am
Operator : CAA
Sample : L11030658-02 10X 827-PAHL
Misc : 7,10 SOIL
ALS Vial : 3 Sample Multiplier: 10

Quant Time: Mar 24 08:47:01 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Thu Mar 24 08:44:54 2011
Response via : Initial Calibration

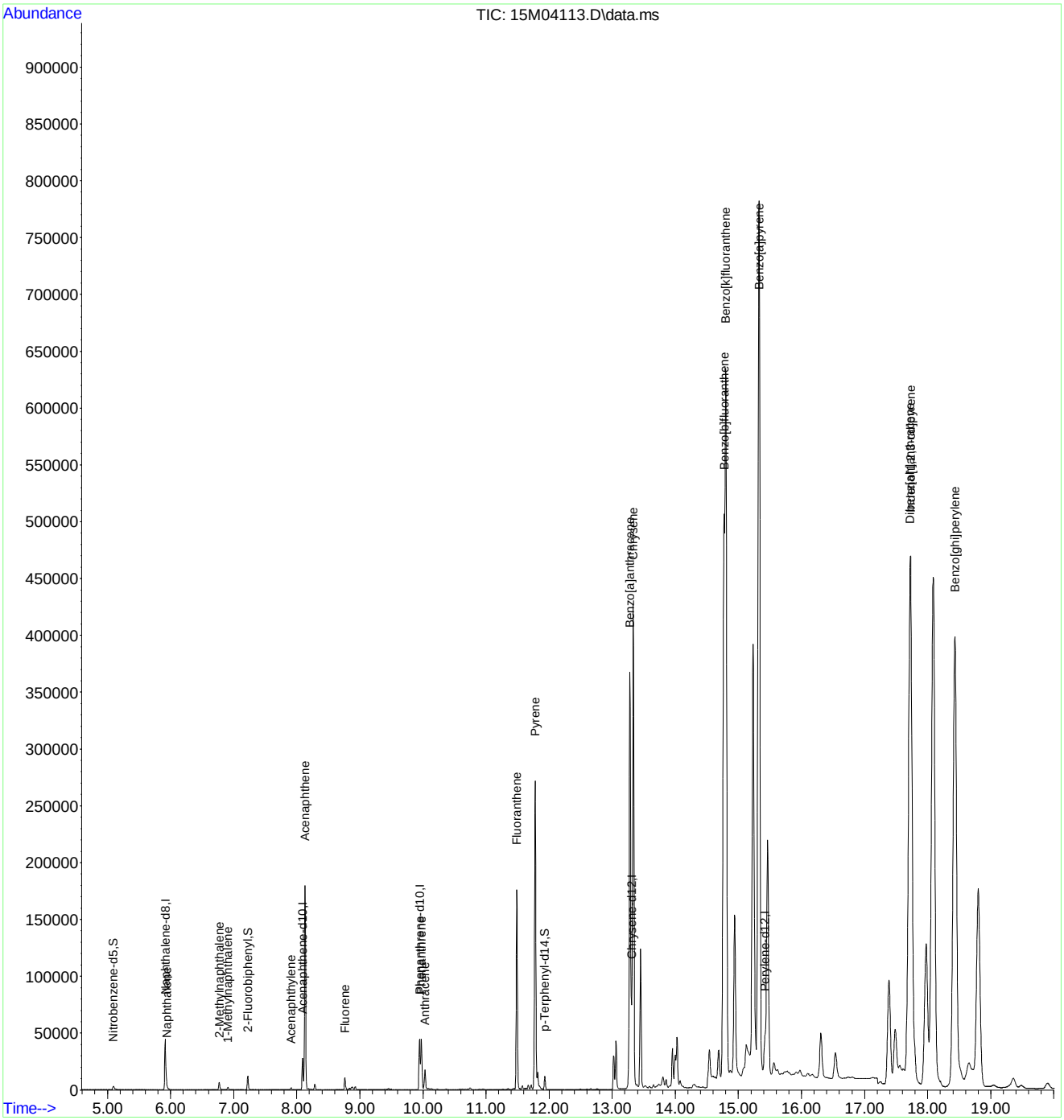
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8	5.916	136	59732	1.00	ug/mL	0.00
6) Acenaphthene-d10	8.093	164	33186	1.00	ug/mL	-0.01
11) Phenanthrene-d10	9.950	188	58084	1.00	ug/mL	0.00
15) Chrysene-d12	13.306	240	68678	1.00	ug/mL	0.00
20) Perylene-d12	15.420	264	71381	1.00	ug/mL	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5	5.092	82	4198	2.06	ug/mL	-0.02
Spiked Amount 2.500	Range 23 - 120		Recovery	=	82.40%	
7) 2-Fluorobiphenyl	7.223	172	11251	2.57	ug/mL	-0.01
Spiked Amount 2.500	Range 30 - 115		Recovery	=	102.80%	
17) p-Terphenyl-d14	11.930	244	13196	2.91	ug/mL	-0.01
Spiked Amount 2.500	Range 18 - 137		Recovery	=	116.40%	
Target Compounds						Qvalue
3) Naphthalene	5.937	128	3668	0.0604	ug/mL	98
4) 2-Methylnaphthalene	6.771	142	4737	0.1161	ug/mL	99
5) 1-Methylnaphthalene	6.907	142	1559	0.0383	ug/mL	99
8) Acenaphthylene	7.908	152	1749	0.0293	ug/mL	99
9) Acenaphthene	8.131	154	105566	2.7509	ug/mL	100
10) Fluorene	8.765	166	7056	0.1531	ug/mL	100
12) Phenanthrene	9.977	178	48862	0.7489	ug/mL	99
13) Anthracene	10.030	178	18832	0.3180	ug/mL	100
14) Fluoranthene	11.489	202	185775	2.7419	ug/mL	100
16) Pyrene	11.780	202	286942	3.6271	ug/mL#	70
18) Benzo[a]anthracene	13.279	228	388863	5.6318	ug/mL	96
19) Chrysene	13.333	228	454955	6.5988	ug/mL	97
21) Benzo[b]fluoranthene	14.772	252	687754	8.4029	ug/mL	77
22) Benzo[k]fluoranthene	14.798	252	946000m	12.3970	ug/mL	
23) Benzo[a]pyrene	15.329	252	1339218	17.4508	ug/mL	76
24) Indeno[1,2,3-cd]pyrene	17.729	276	1380995	14.8563	ug/mL#	100
25) Dibenz[ah]anthracene	17.718	278	528407	6.9908	ug/mL#	100
26) Benzo[ghi]perylene	18.432	276	1249043	16.0838	ug/mL	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

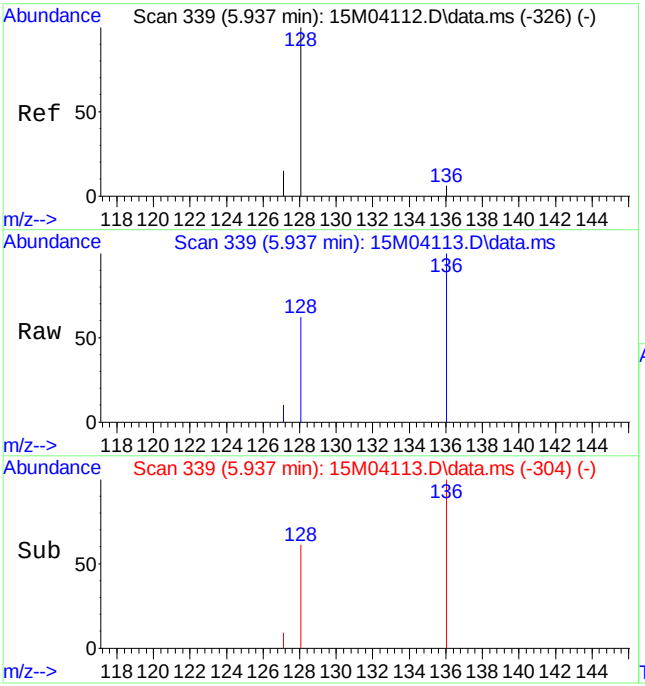
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032311\
Data File : 15M04113.D
Acq On : 23 Mar 2011 9:45 am
Operator : CAA
Sample : L11030658-02 10X 827-PAHL
Misc : 7,10 SOIL
ALS Vial : 3 Sample Multiplier: 10

Quant Time: Mar 24 08:47:01 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Thu Mar 24 08:44:54 2011
Response via : Initial Calibration



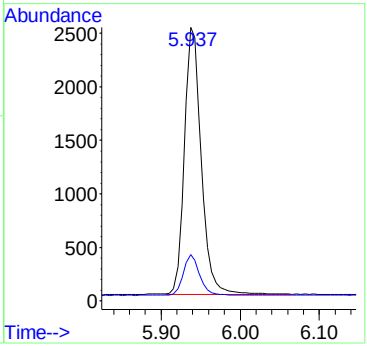
PAHQUANT.M Thu Mar 24 08:47:51 2011 Page: 2

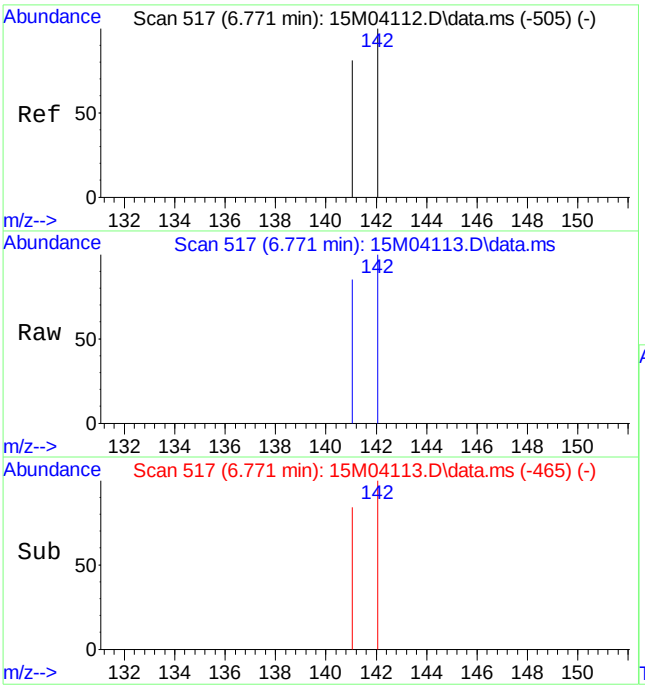


#3
Naphthalene
Concen: 0.0604 ug/mL
RT: 5.937 min Scan# 339
Delta R.T. -0.011 min
Lab File: 15M04113.D
Acq: 23 Mar 2011 9:45 am

Tgt Ion:128 Resp: 3668

Ion	Ratio	Lower	Upper
128	100		
127	14.7	9.3	21.7

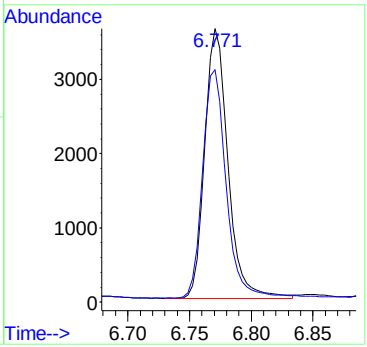


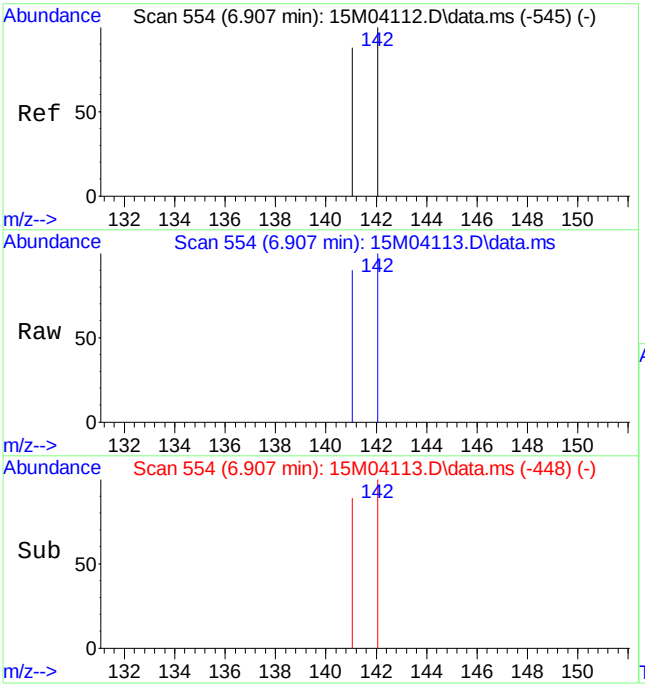


#4
2-Methylnaphthalene
Concen: 0.1161 ug/mL
RT: 6.771 min Scan# 517
Delta R.T. -0.010 min
Lab File: 15M04113.D
Acq: 23 Mar 2011 9:45 am

Tgt Ion:142 Resp: 4737

Ion	Ratio	Lower	Upper
142	100		
141	86.7	51.7	120.7

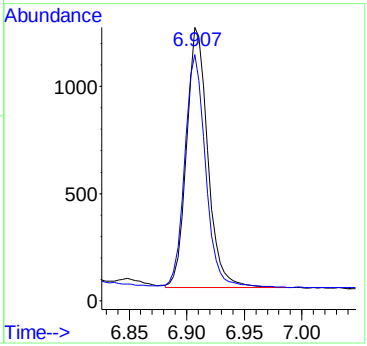


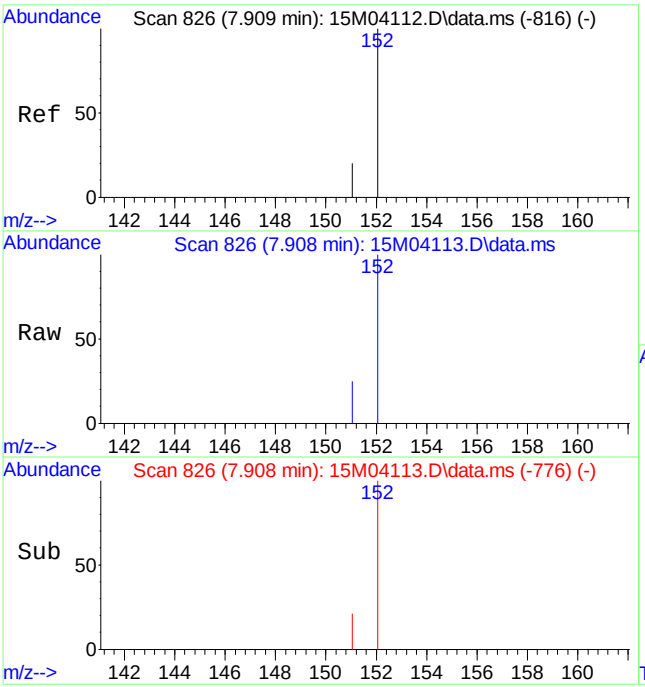


#5
1-Methylnaphthalene
Concen: 0.0383 ug/mL
RT: 6.907 min Scan# 554
Delta R.T. -0.009 min
Lab File: 15M04113.D
Acq: 23 Mar 2011 9:45 am

Tgt Ion:142 Resp: 1559

Ion	Ratio	Lower	Upper
142	100		
141	88.9	71.8	107.6

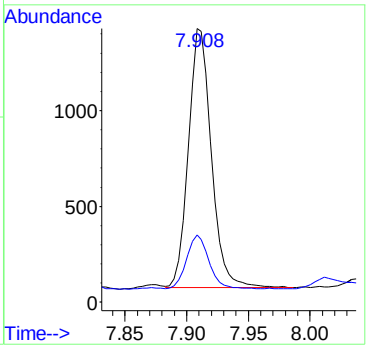


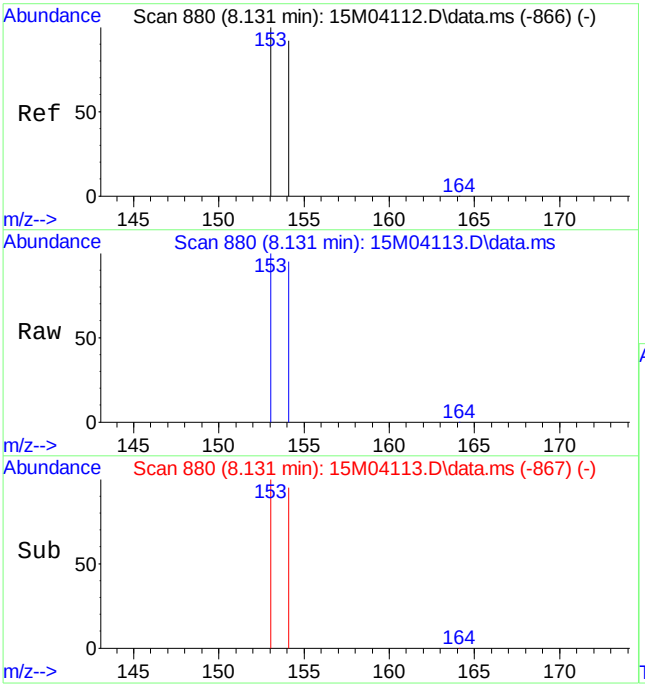


#8
Acenaphthylene
Concen: 0.0293 ug/mL
RT: 7.908 min Scan# 826
Delta R.T. -0.014 min
Lab File: 15M04113.D
Acq: 23 Mar 2011 9:45 am

Tgt Ion:152 Resp: 1749

Ion	Ratio	Lower	Upper
152	100		
151	20.4	12.5	29.1

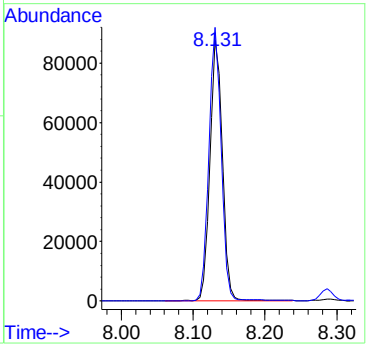


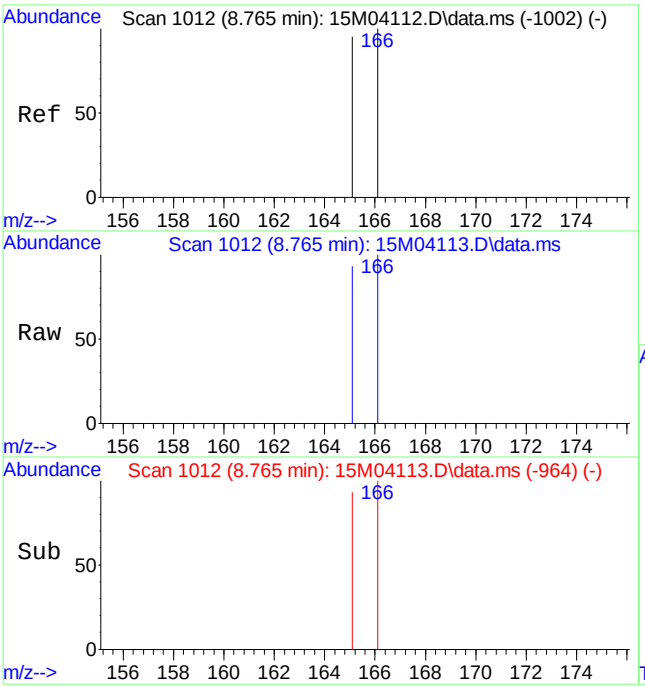


#9
Acenaphthene
Concen: 2.7509 ug/mL
RT: 8.131 min Scan# 880
Delta R.T. -0.016 min
Lab File: 15M04113.D
Acq: 23 Mar 2011 9:45 am

Tgt Ion:154 Resp: 105566

Ion	Ratio	Lower	Upper
154	100		
153	103.3	61.8	144.2

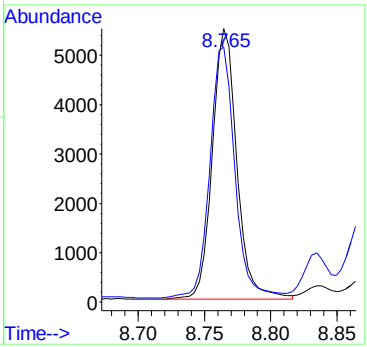


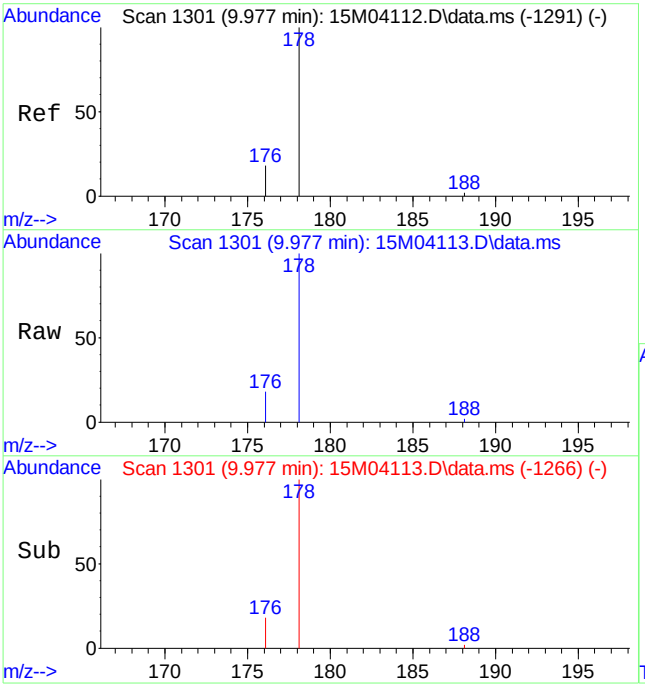


#10
Fluorene
Concen: 0.1531 ug/mL
RT: 8.765 min Scan# 1012
Delta R.T. -0.015 min
Lab File: 15M04113.D
Acq: 23 Mar 2011 9:45 am

Tgt Ion:166 Resp: 7056

Ion	Ratio	Lower	Upper
166	100		
165	94.3	56.6	132.0

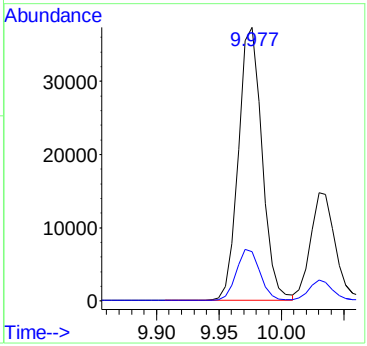


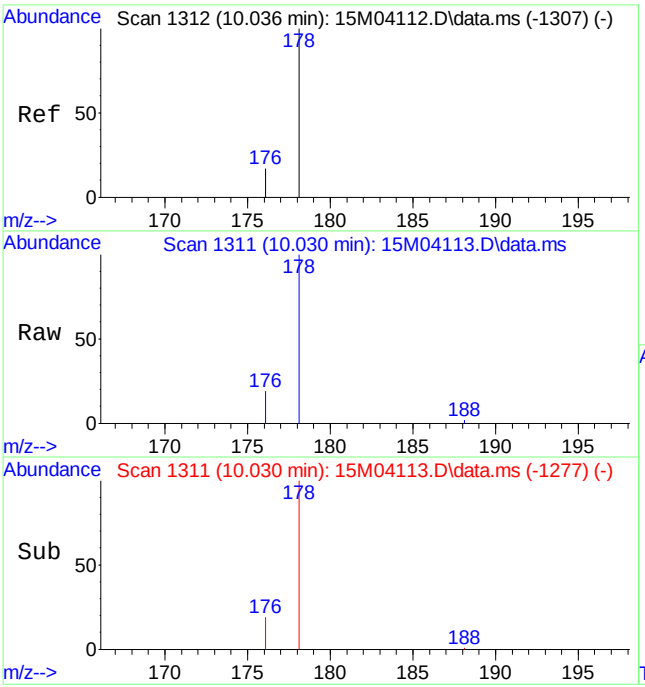


#12
Phenanthrene
Concen: 0.7489 ug/mL
RT: 9.977 min Scan# 1301
Delta R.T. -0.011 min
Lab File: 15M04113.D
Acq: 23 Mar 2011 9:45 am

Tgt Ion:178 Resp: 48862

Ion	Ratio	Lower	Upper
178	100		
176	18.7	11.4	26.6

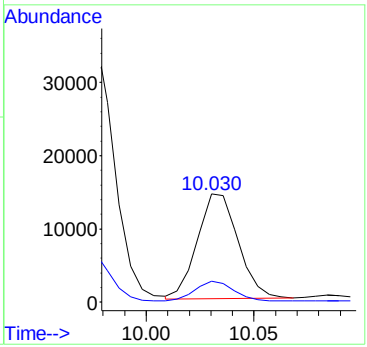


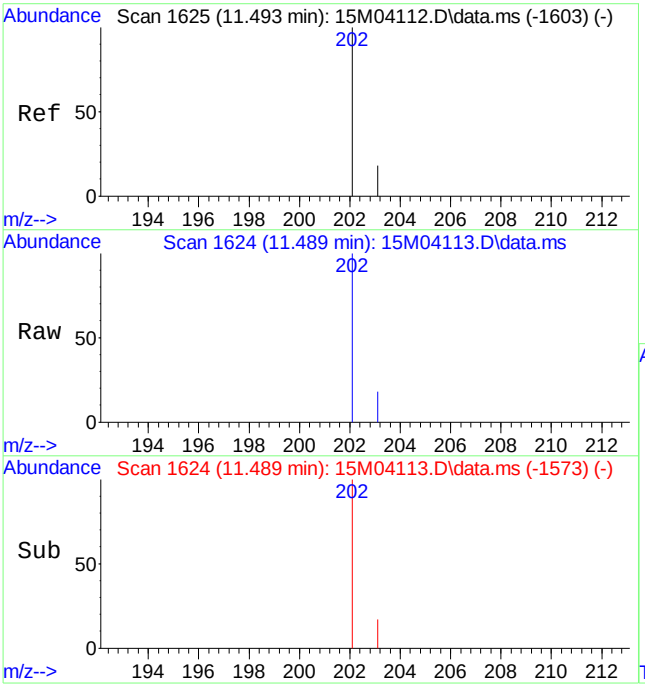


#13
Anthracene
Concen: 0.3180 ug/mL
RT: 10.030 min Scan# 1311
Delta R.T. -0.016 min
Lab File: 15M04113.D
Acq: 23 Mar 2011 9:45 am

Tgt Ion:178 Resp: 18832

Ion	Ratio	Lower	Upper
178	100		
176	18.4	11.0	25.6

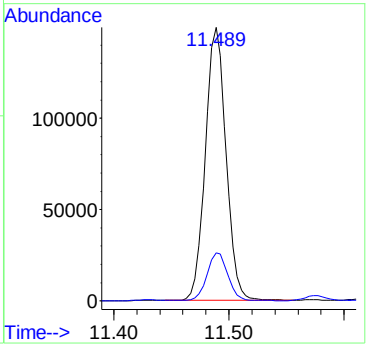


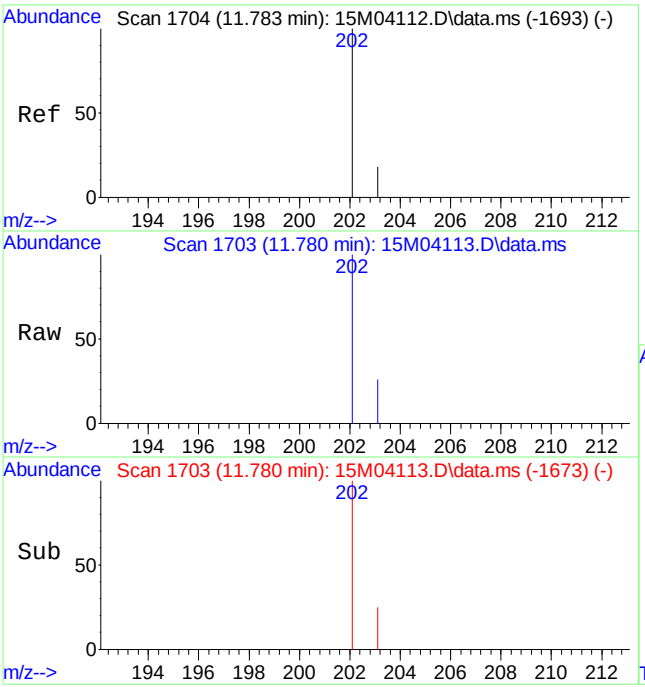


#14
Fluoranthene
Concen: 2.7419 ug/mL
RT: 11.489 min Scan# 1624
Delta R.T. -0.011 min
Lab File: 15M04113.D
Acq: 23 Mar 2011 9:45 am

Tgt Ion:202 Resp: 185775

Ion	Ratio	Lower	Upper
202	100		
203	17.4	10.4	24.4

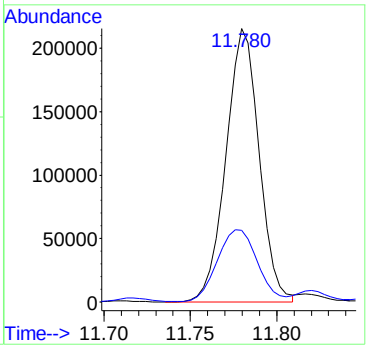


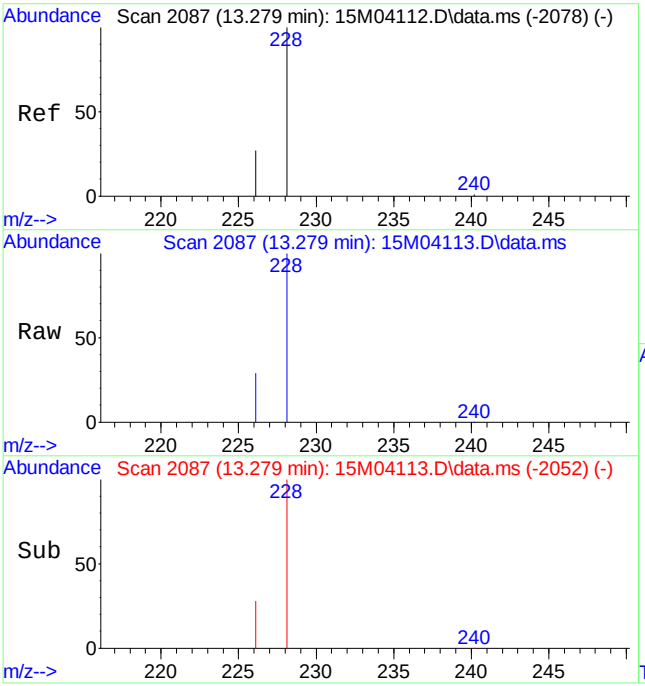


#16
Pyrene
Concen: 3.6271 ug/mL
RT: 11.780 min Scan# 1703
Delta R.T. -0.015 min
Lab File: 15M04113.D
Acq: 23 Mar 2011 9:45 am

Tgt Ion:202 Resp: 286942

Ion	Ratio	Lower	Upper
202	100		
203	31.8	11.0	25.6#

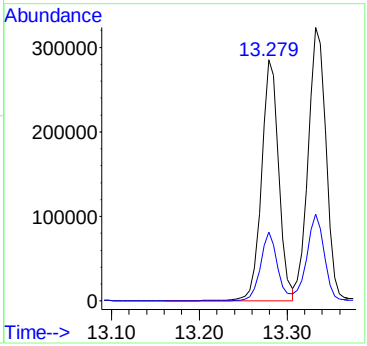


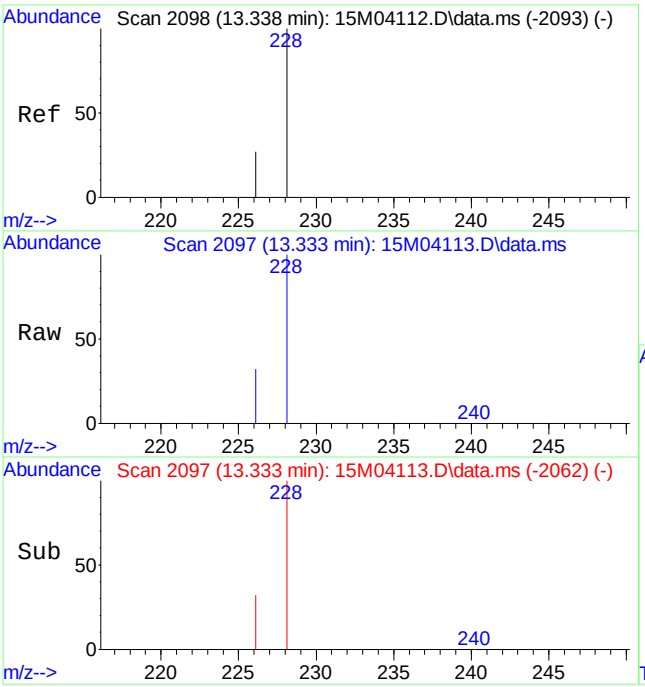


#18
Benzo[a]anthracene
Concen: 5.6318 ug/mL
RT: 13.279 min Scan# 2087
Delta R.T. -0.011 min
Lab File: 15M04113.D
Acq: 23 Mar 2011 9:45 am

Tgt Ion:228 Resp: 388863

Ion	Ratio	Lower	Upper
228	100		
226	28.3	15.7	36.5

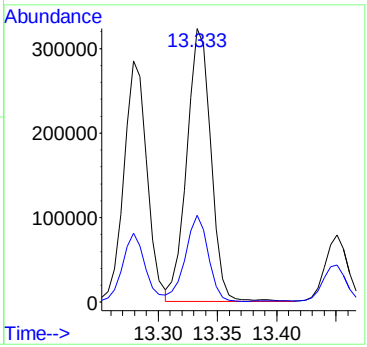


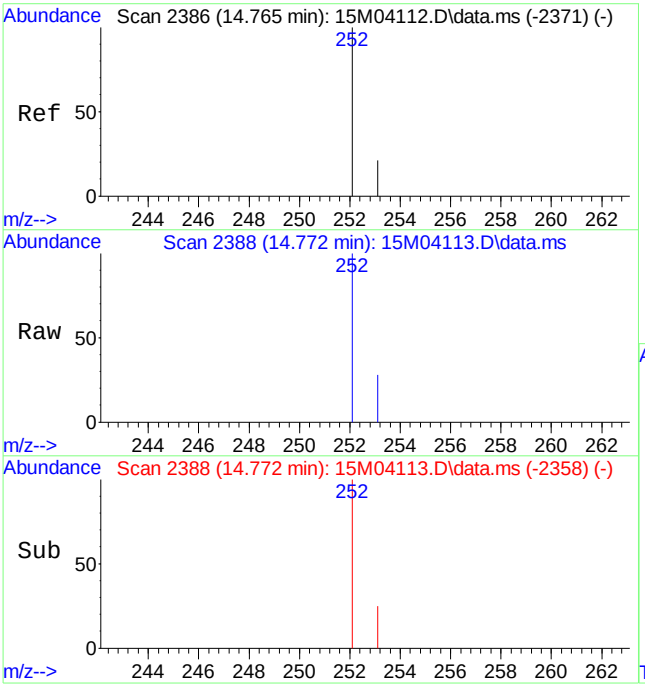


#19
Chrysene
Concen: 6.5988 ug/mL
RT: 13.333 min Scan# 2097
Delta R.T. -0.011 min
Lab File: 15M04113.D
Acq: 23 Mar 2011 9:45 am

Tgt Ion:228 Resp: 454955

Ion	Ratio	Lower	Upper
228	100		
226	29.9	17.0	39.8

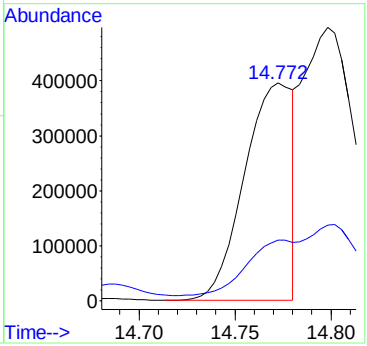


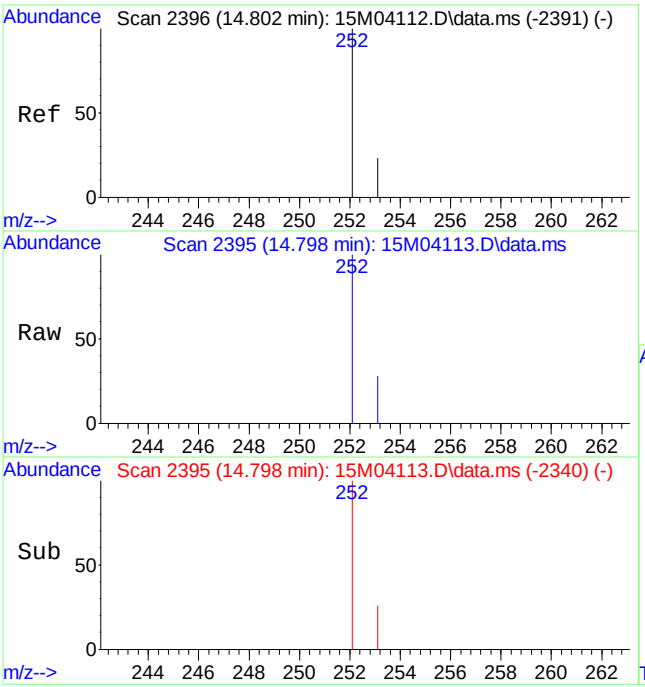


#21
Benzo[b]fluoranthene
Concen: 8.4029 ug/mL
RT: 14.772 min Scan# 2388
Delta R.T. -0.004 min
Lab File: 15M04113.D
Acq: 23 Mar 2011 9:45 am

Tgt Ion:252 Resp: 687754

Ion	Ratio	Lower	Upper
252	100		
253	24.1	22.8	53.2

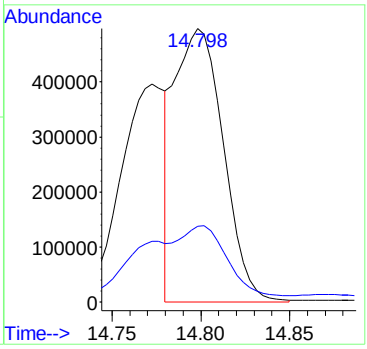


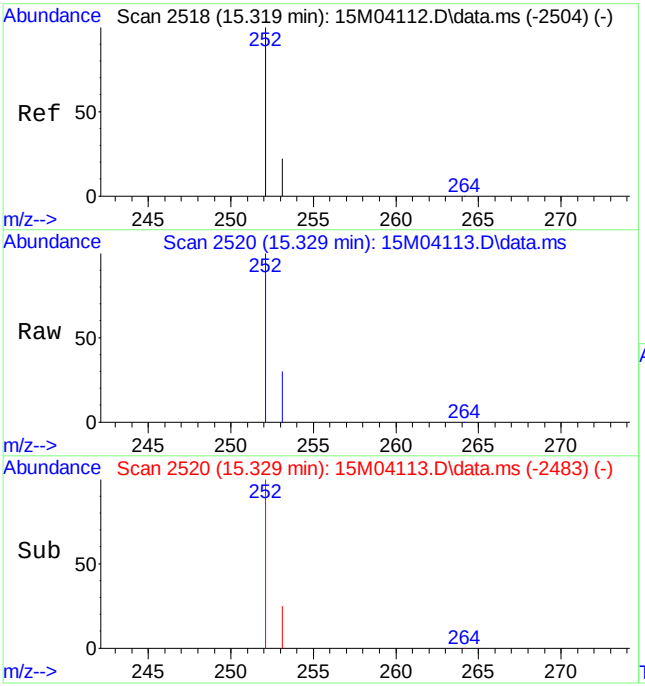


#22
Benzo[k]fluoranthene
Concen: 12.3970 ug/mL m
RT: 14.798 min Scan# 2395
Delta R.T. -0.011 min
Lab File: 15M04113.D
Acq: 23 Mar 2011 9:45 am

Tgt Ion:252 Resp: 946000

Ion	Ratio	Lower	Upper
252	100		
253	17.5	23.0	53.6#

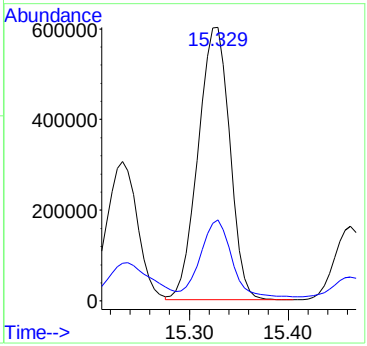


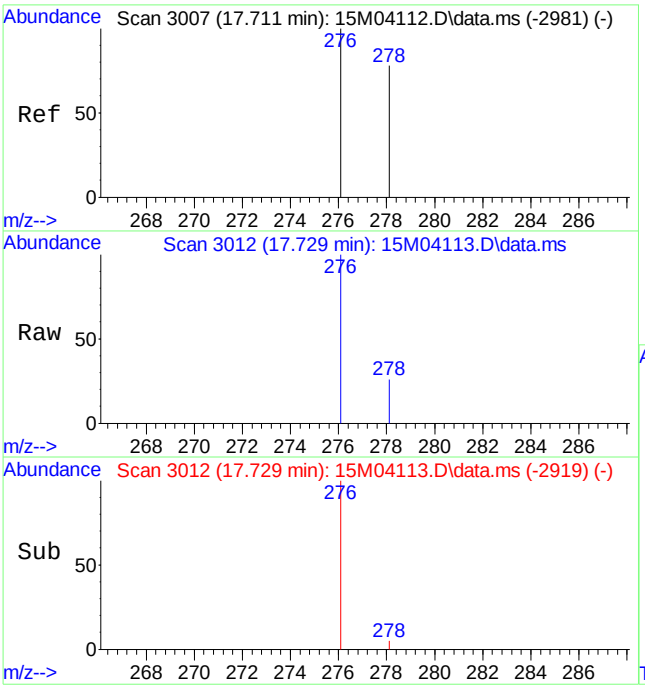


#23
Benzo[a]pyrene
Concen: 17.4508 ug/mL
RT: 15.329 min Scan# 2520
Delta R.T. -0.000 min
Lab File: 15M04113.D
Acq: 23 Mar 2011 9:45 am

Tgt Ion:252 Resp: 1339218

Ion	Ratio	Lower	Upper
252	100		
253	27.0	25.2	58.8

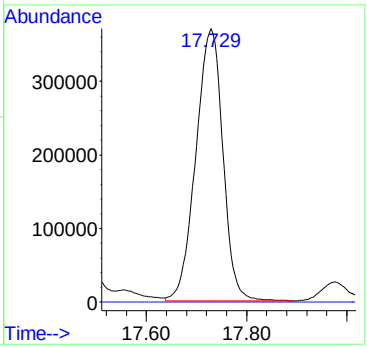


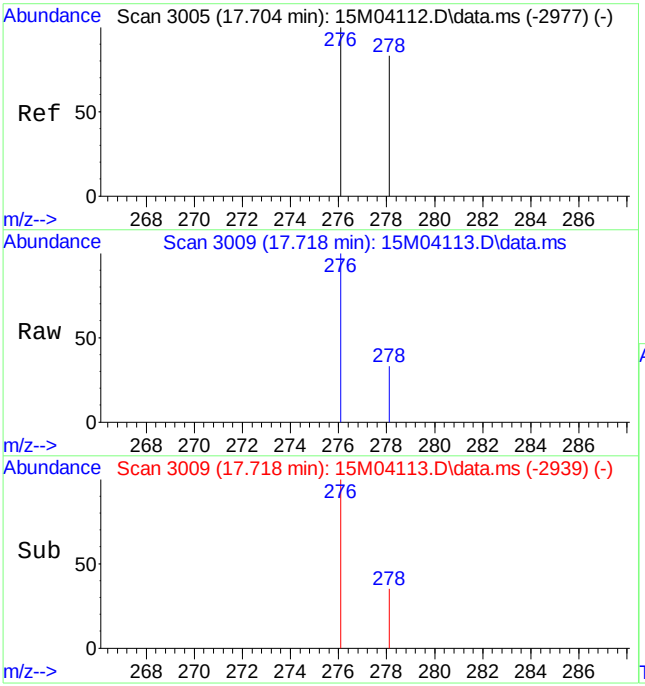


#24
Indeno[1,2,3-cd]pyrene
Concen: 14.8563 ug/mL
RT: 17.729 min Scan# 3012
Delta R.T. 0.004 min
Lab File: 15M04113.D
Acq: 23 Mar 2011 9:45 am

Tgt Ion:276 Resp: 1380995

Ion	Ratio	Lower	Upper
276	100		
277	0.0	0.0	0.0

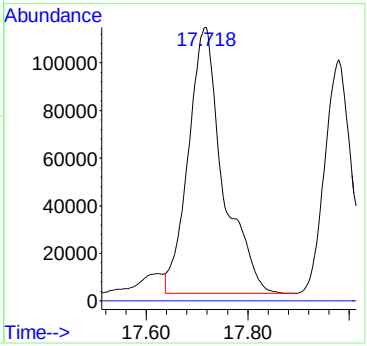


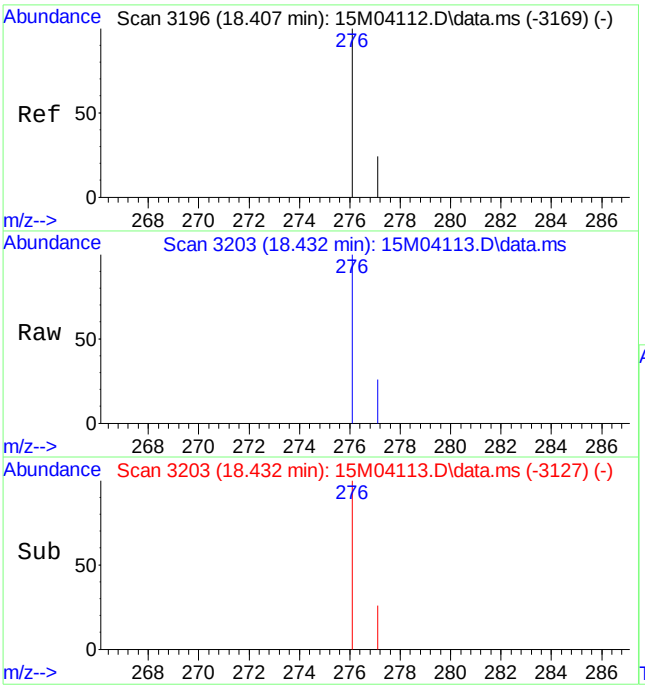


#25
Dibenz[ah]anthracene
Concen: 6.9908 ug/mL
RT: 17.718 min Scan# 3009
Delta R.T. -0.004 min
Lab File: 15M04113.D
Acq: 23 Mar 2011 9:45 am

Tgt Ion:278 Resp: 528407

Ion	Ratio	Lower	Upper
278	100		
279	0.0	0.0	0.0

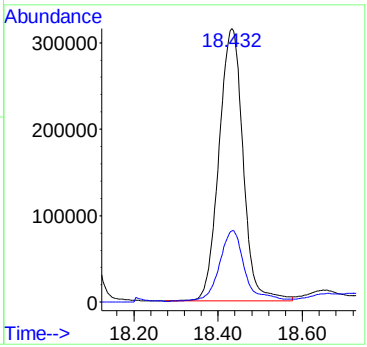




#26
Benzo[ghi]perylene
Concen: 16.0838 ug/mL
RT: 18.432 min Scan# 3203
Delta R.T. 0.007 min
Lab File: 15M04113.D
Acq: 23 Mar 2011 9:45 am

Tgt Ion:276 Resp: 1249043

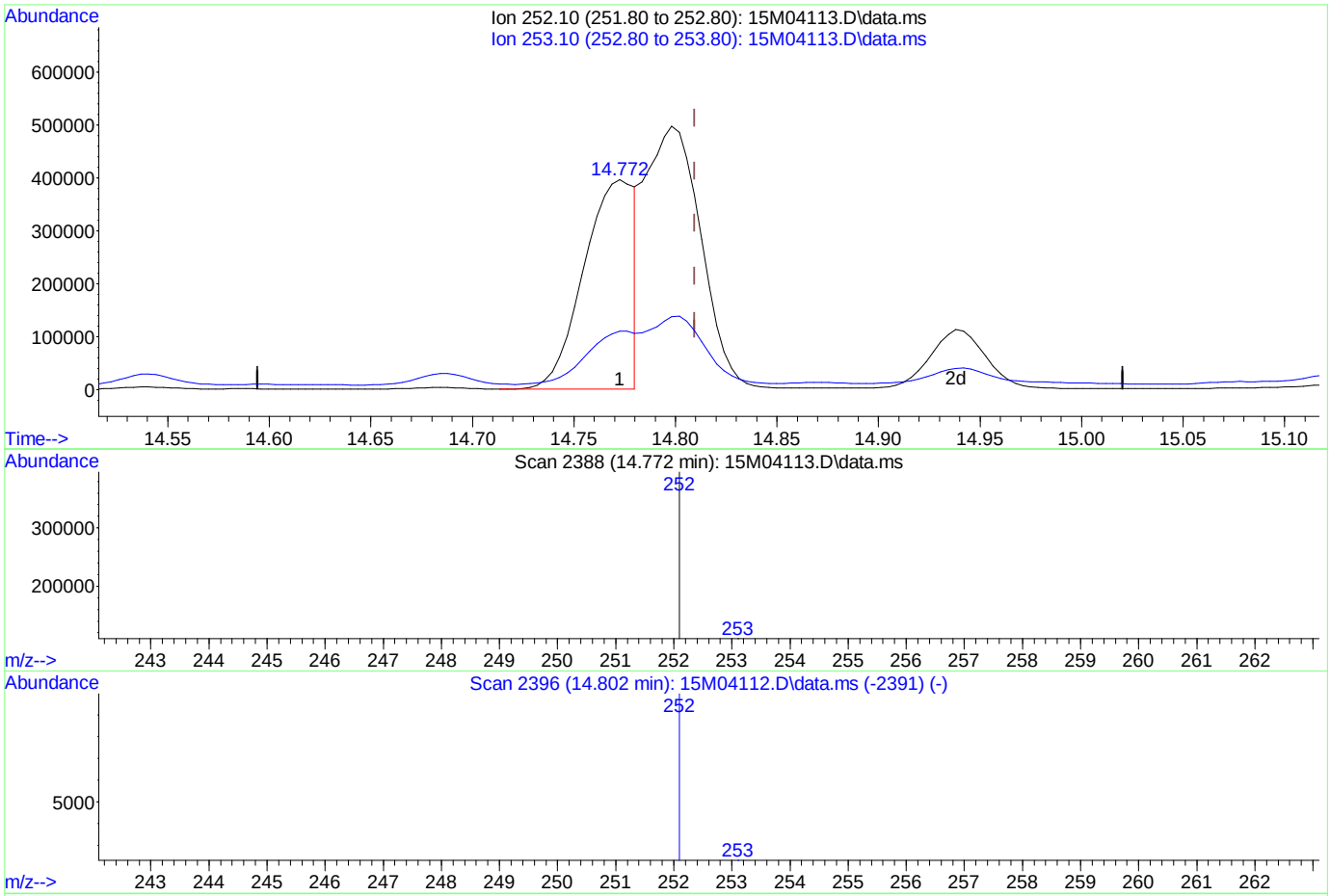
Ion	Ratio	Lower	Upper
276	100		
277	26.4	14.5	33.7



Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\032311\
Data File : 15M04113.D
Acq On : 23 Mar 2011 9:45 am
Operator : CAA
Sample : L11030658-02 10X 827-PAHL
Misc : 7,10 SOIL
ALS Vial : 3 Sample Multiplier: 10

Quant Time: Mar 24 08:45:06 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Thu Mar 24 08:44:54 2011
Response via : Initial Calibration



(22) Benzo[k]fluoranthene

14.772min (-0.037) 9.01 ug/mL

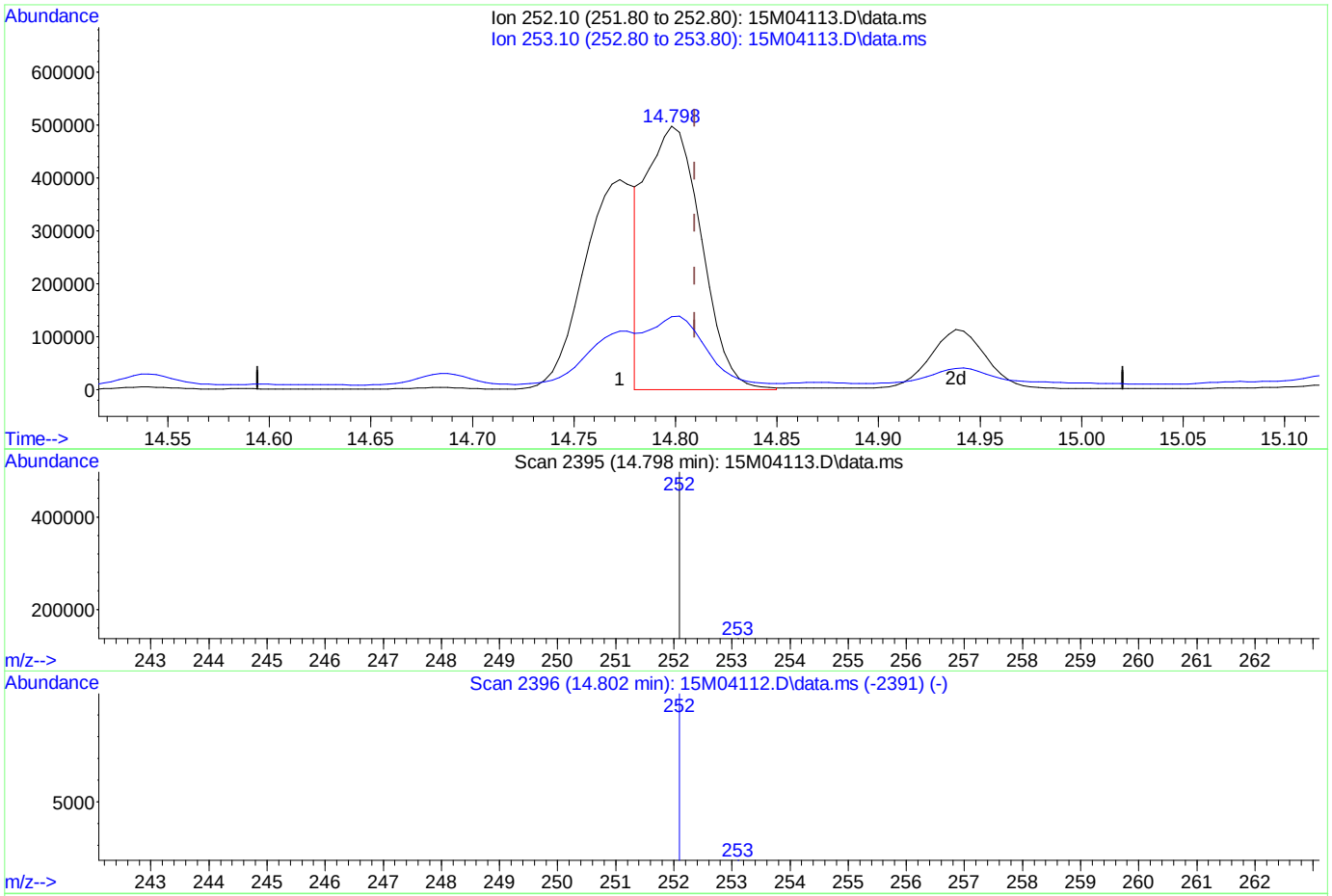
response 687754

Ion	Exp%	Act%
252.10	100	100
253.10	38.30	24.05
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\032311\
Data File : 15M04113.D
Acq On : 23 Mar 2011 9:45 am
Operator : CAA
Sample : L11030658-02 10X 827-PAHL
Misc : 7,10 SOIL
ALS Vial : 3 Sample Multiplier: 10

Quant Time: Mar 24 08:45:06 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Thu Mar 24 08:44:54 2011
Response via : Initial Calibration



TIC: 15M04113.D\data.ms

(22) Benzo[k]fluoranthene

14.798min (-0.011) 12.40 ug/mL mint

response 946000

Ion	Exp%	Act%
252.10	100	100
253.10	38.30	17.49#
0.00	0.00	0.00
0.00	0.00	0.00

Analyst: 03/24/2011 09:12 Supervisor: 03/25/2011 09:17

#3 - Improperly integrated isomers and/or coeluting compounds

PAHQUANT.M Thu Mar 24 08:47:03 2011

Page: 1

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032311\
Data File : 15M04116.D
Acq On : 23 Mar 2011 11:09 am
Operator : CAA
Sample : L11030658-02 100X 827-PAHL
Misc : 7,100 SOIL
ALS Vial : 6 Sample Multiplier: 100

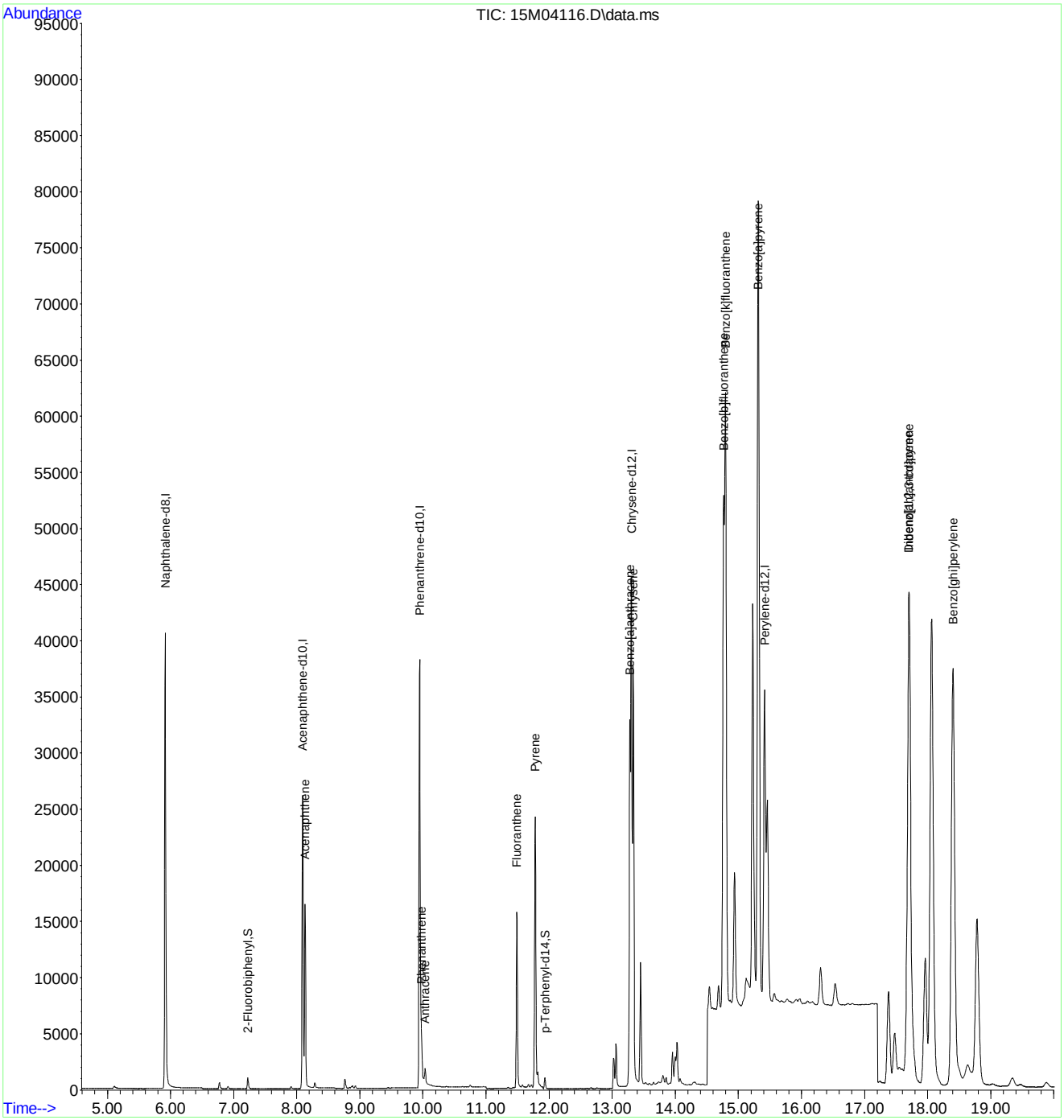
Quant Time: Mar 24 08:47:35 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Thu Mar 24 08:44:54 2011
Response via : Initial Calibration

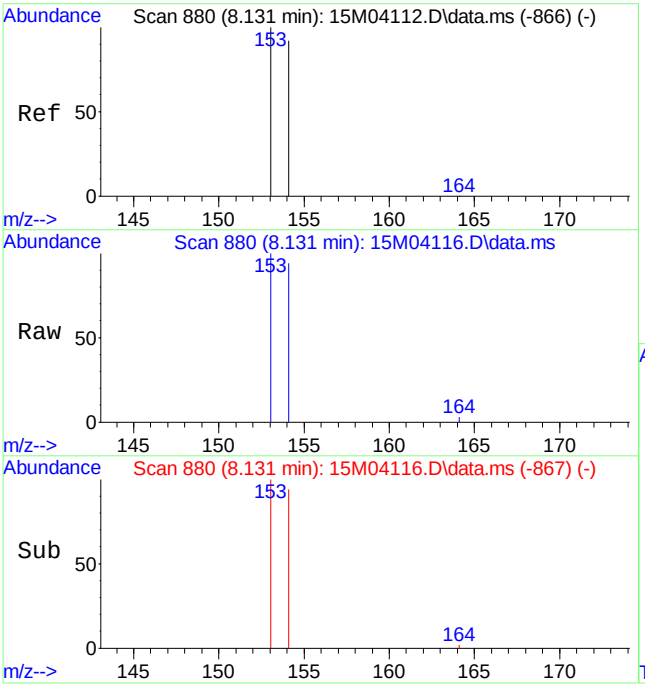
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8	5.916	136	55531	1.00	ug/mL	0.00
6) Acenaphthene-d10	8.093	164	31229	1.00	ug/mL	-0.01
11) Phenanthrene-d10	9.950	188	53939	1.00	ug/mL	0.00
15) Chrysene-d12	13.306	240	58820	1.00	ug/mL	0.00
20) Perylene-d12	15.415	264	59671	1.00	ug/mL	-0.01
System Monitoring Compounds						
2) Nitrobenzene-d5	5.103	82	333	1.76	ug/mL	0.00
Spiked Amount 2.500	Range 23 - 120		Recovery = 70.40%			
7) 2-Fluorobiphenyl	7.224	172	1040	2.52	ug/mL	-0.01
Spiked Amount 2.500	Range 30 - 115		Recovery = 100.80%			
17) p-Terphenyl-d14	11.934	244	1525	3.93	ug/mL	0.00
Spiked Amount 2.500	Range 18 - 137		Recovery = 157.20%#			
Target Compounds						Qvalue
9) Acenaphthene	8.131	154	9716	0.2691	ug/mL	97
12) Phenanthrene	9.977	178	4386	0.0724	ug/mL	99
13) Anthracene	10.036	178	1501	0.0273	ug/mL	98
14) Fluoranthene	11.489	202	17482	0.2778	ug/mL	99
16) Pyrene	11.780	202	28249	0.4169	ug/mL#	75
18) Benzo[a]anthracene	13.279	228	34339	0.5807	ug/mL	99
19) Chrysene	13.333	228	41413	0.7013	ug/mL	100
21) Benzo[b]fluoranthene	14.765	252	64191	0.9382	ug/mL#	73
22) Benzo[k]fluoranthene	14.795	252	83704m	1.3122	ug/mL	
23) Benzo[a]pyrene	15.313	252	124010	1.9330	ug/mL#	70
24) Indeno[1,2,3-cd]pyrene	17.707	276	123847	1.5938	ug/mL#	100
25) Dibenz[ah]anthracene	17.700	278	31674	0.5013	ug/mL#	100
26) Benzo[ghi]perylene	18.403	276	115707	1.7823	ug/mL	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\032311\
Data File : 15M04116.D
Acq On : 23 Mar 2011 11:09 am
Operator : CAA
Sample : L11030658-02 100X 827-PAHL
Misc : 7,100 SOIL
ALS Vial : 6 Sample Multiplier: 100

Quant Time: Mar 24 08:47:35 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Thu Mar 24 08:44:54 2011
Response via : Initial Calibration

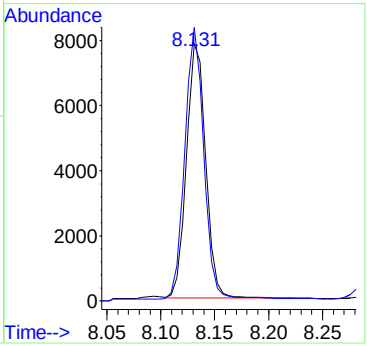


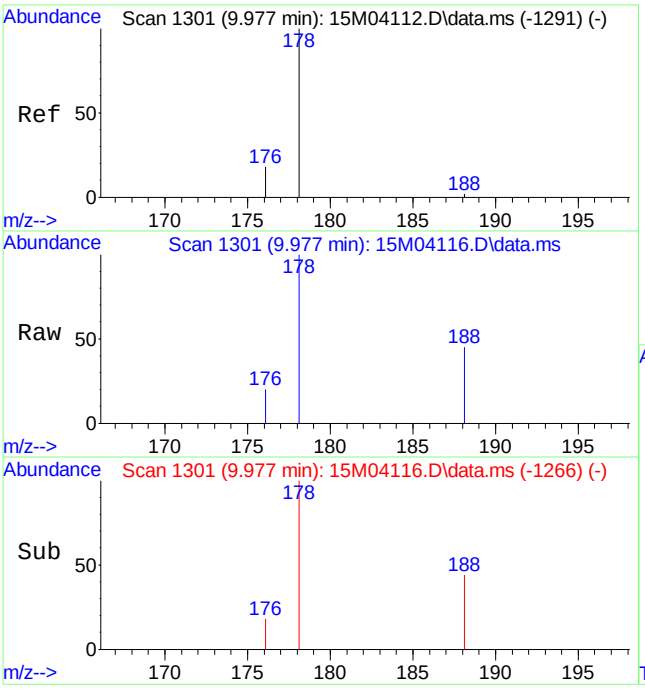


#9
Acenaphthene
Concen: 0.2691 ug/mL
RT: 8.131 min Scan# 880
Delta R.T. -0.016 min
Lab File: 15M04116.D
Acq: 23 Mar 2011 11:09 am

Tgt Ion:154 Resp: 9716

Ion	Ratio	Lower	Upper
154	100		
153	105.8	61.8	144.2

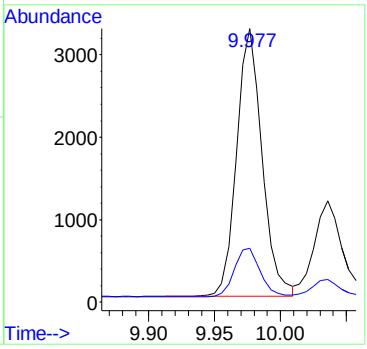


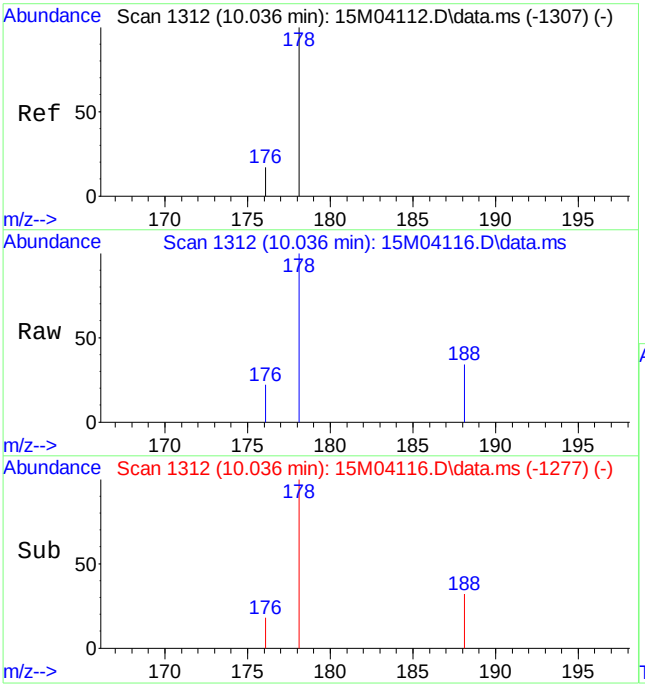


#12
Phenanthrene
Concen: 0.0724 ug/mL
RT: 9.977 min Scan# 1301
Delta R.T. -0.011 min
Lab File: 15M04116.D
Acq: 23 Mar 2011 11:09 am

Tgt Ion:178 Resp: 4386

Ion	Ratio	Lower	Upper
178	100		
176	18.5	11.4	26.6

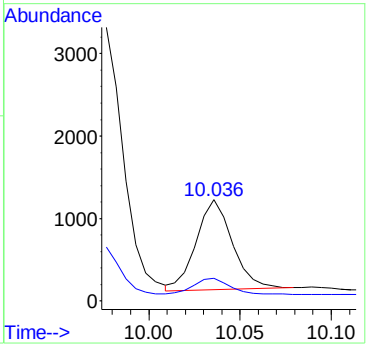


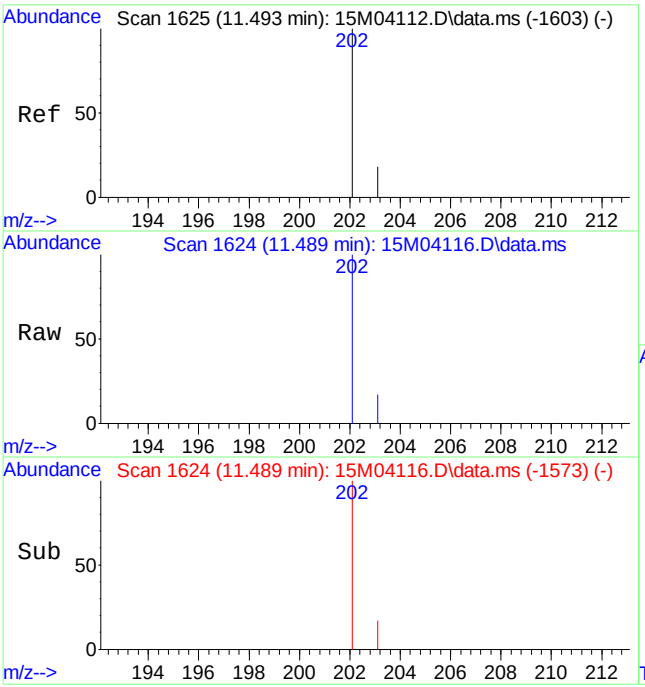


#13
Anthracene
Concen: 0.0273 ug/mL
RT: 10.036 min Scan# 1312
Delta R.T. -0.010 min
Lab File: 15M04116.D
Acq: 23 Mar 2011 11:09 am

Tgt Ion:178 Resp: 1501

Ion	Ratio	Lower	Upper
178	100		
176	19.1	11.0	25.6

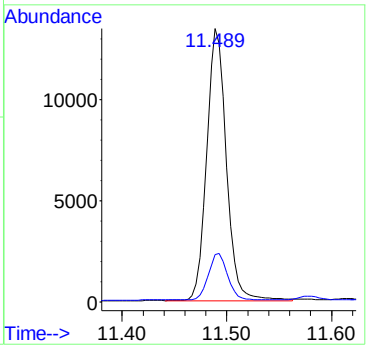


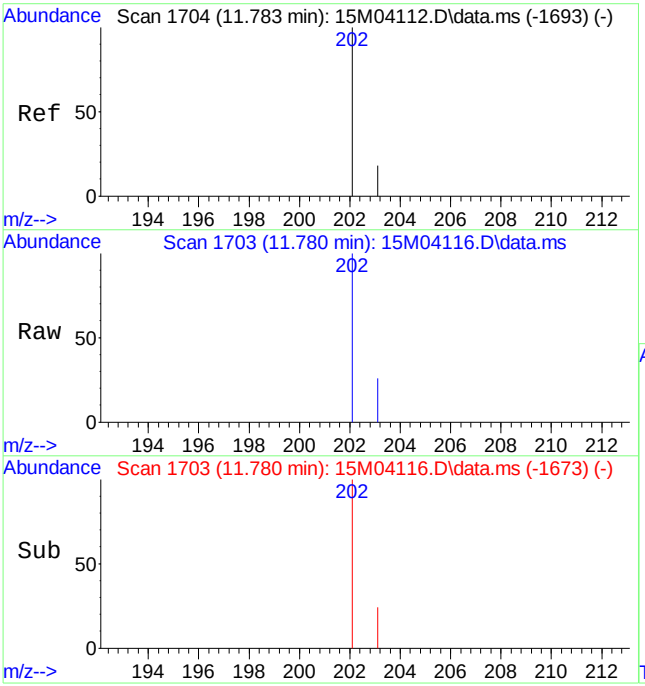


#14
Fluoranthene
Concen: 0.2778 ug/mL
RT: 11.489 min Scan# 1624
Delta R.T. -0.011 min
Lab File: 15M04116.D
Acq: 23 Mar 2011 11:09 am

Tgt Ion:202 Resp: 17482

Ion	Ratio	Lower	Upper
202	100		
203	17.0	10.4	24.4

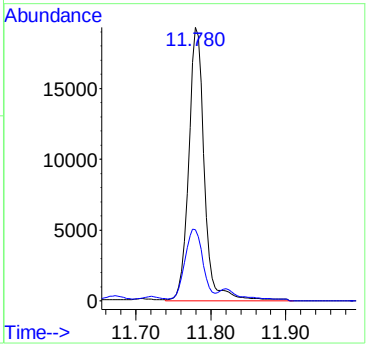


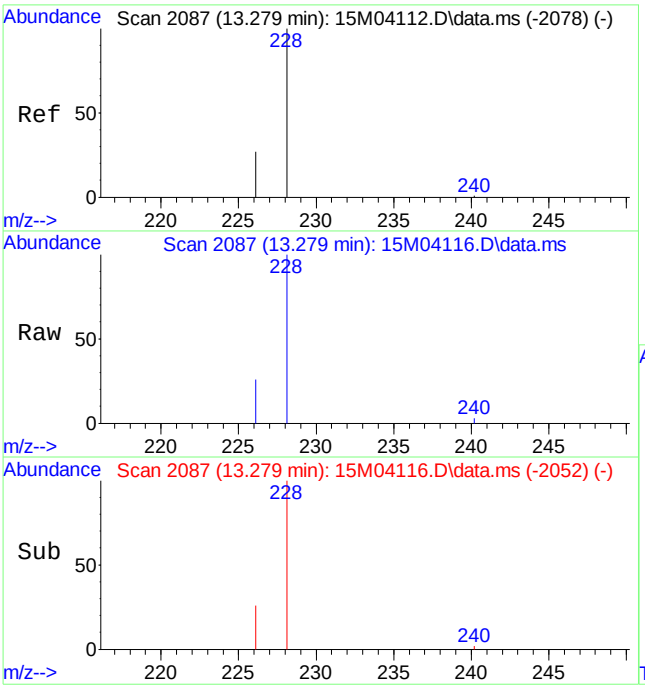


#16
Pyrene
Concen: 0.4169 ug/mL
RT: 11.780 min Scan# 1703
Delta R.T. -0.015 min
Lab File: 15M04116.D
Acq: 23 Mar 2011 11:09 am

Tgt Ion:202 Resp: 28249

Ion	Ratio	Lower	Upper
202	100		
203	29.3	11.0	25.6#

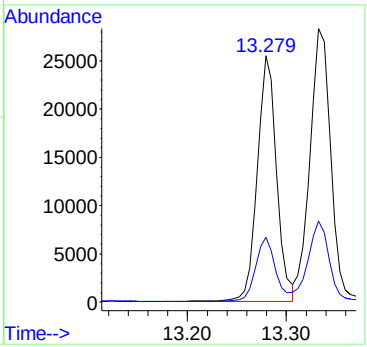


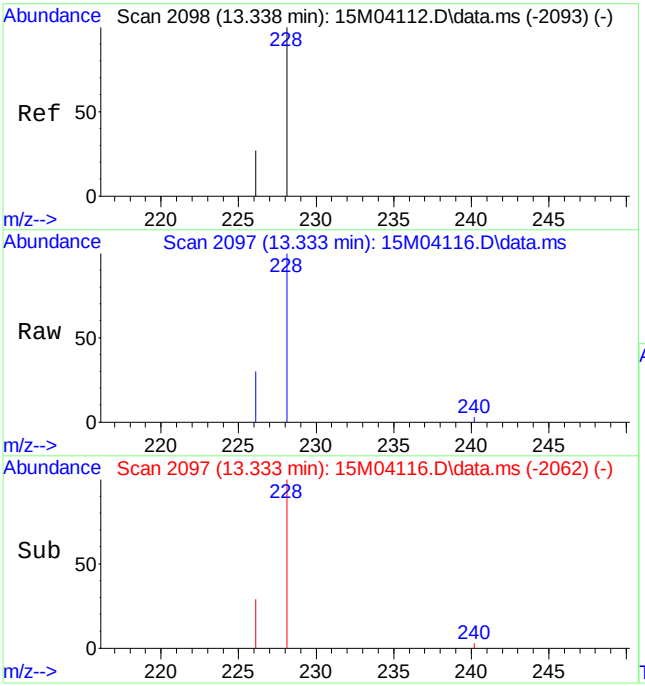


#18
Benzo[a]anthracene
Concen: 0.5807 ug/mL
RT: 13.279 min Scan# 2087
Delta R.T. -0.011 min
Lab File: 15M04116.D
Acq: 23 Mar 2011 11:09 am

Tgt Ion:228 Resp: 34339

Ion	Ratio	Lower	Upper
228	100		
226	26.4	15.7	36.5

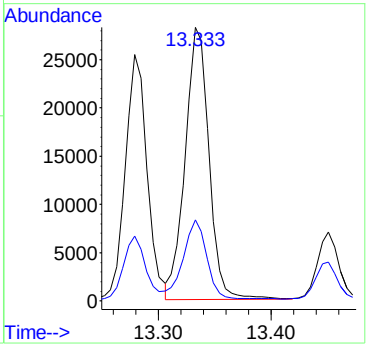


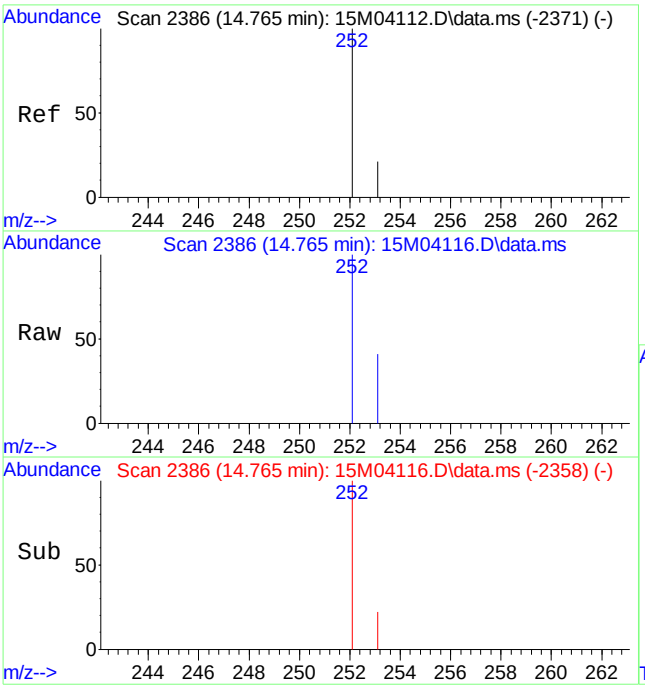


#19
Chrysene
Concen: 0.7013 ug/mL
RT: 13.333 min Scan# 2097
Delta R.T. -0.011 min
Lab File: 15M04116.D
Acq: 23 Mar 2011 11:09 am

Tgt Ion:228 Resp: 41413

Ion	Ratio	Lower	Upper
228	100		
226	28.7	17.0	39.8

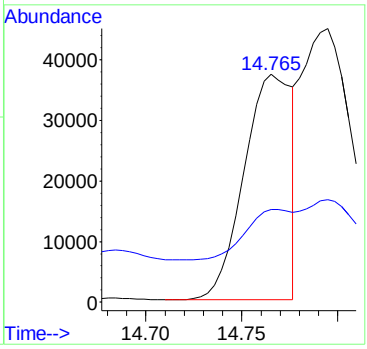


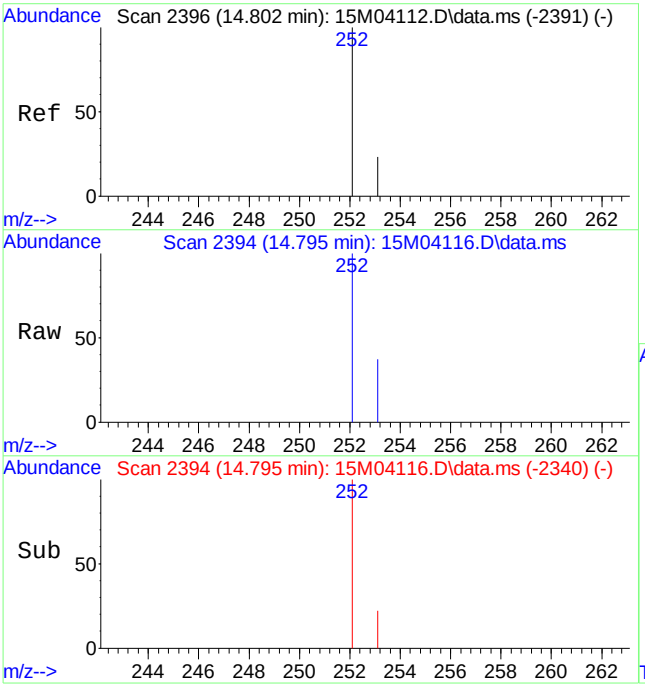


#21
Benzo[b]fluoranthene
Concen: 0.9382 ug/mL
RT: 14.765 min Scan# 2386
Delta R.T. -0.011 min
Lab File: 15M04116.D
Acq: 23 Mar 2011 11:09 am

Tgt Ion:252 Resp: 64191

Ion	Ratio	Lower	Upper
252	100		
253	21.8	22.8	53.2#

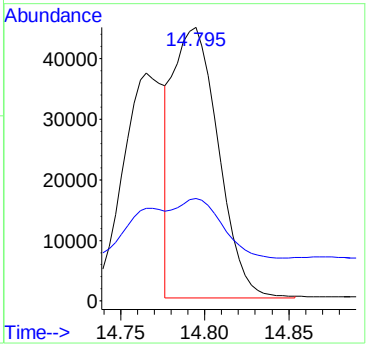


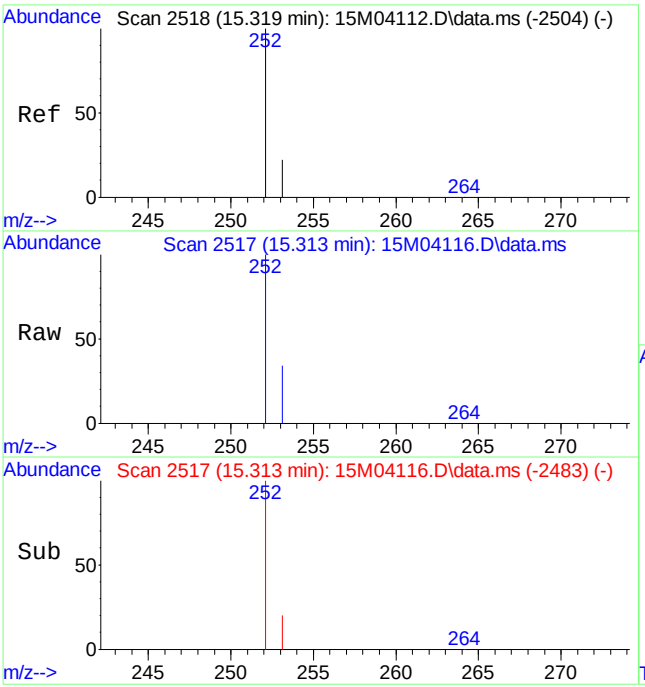


#22
Benzo[k]fluoranthene
Concen: 1.3122 ug/mL m
RT: 14.795 min Scan# 2394
Delta R.T. -0.015 min
Lab File: 15M04116.D
Acq: 23 Mar 2011 11:09 am

Tgt Ion:252 Resp: 83704

Ion	Ratio	Lower	Upper
252	100		
253	16.7	23.0	53.6#

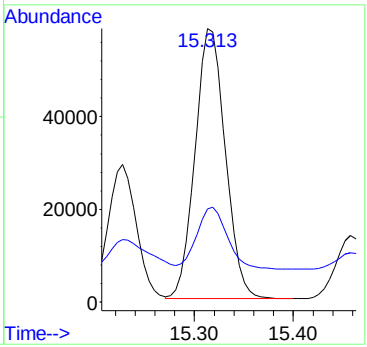


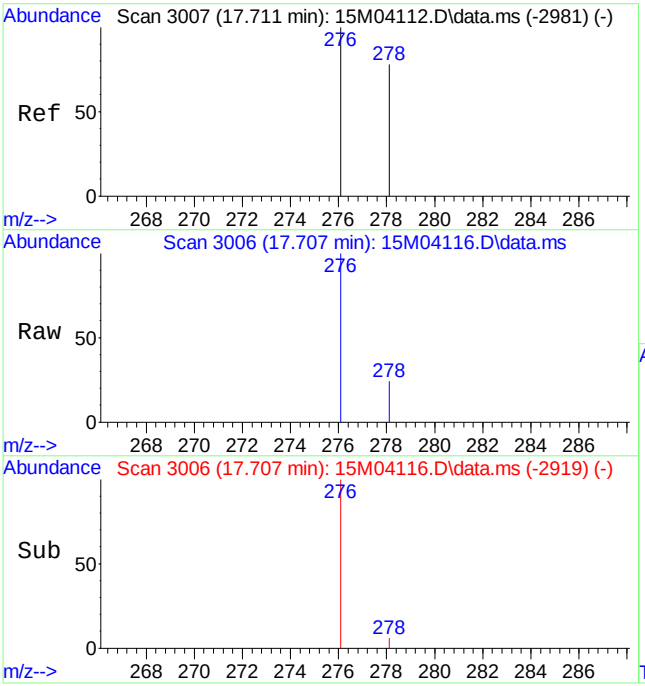


#23
Benzo[a]pyrene
Concen: 1.9330 ug/mL
RT: 15.313 min Scan# 2517
Delta R.T. -0.016 min
Lab File: 15M04116.D
Acq: 23 Mar 2011 11:09 am

Tgt Ion:252 Resp: 124010

Ion	Ratio	Lower	Upper
252	100		
253	23.3	25.2	58.8#

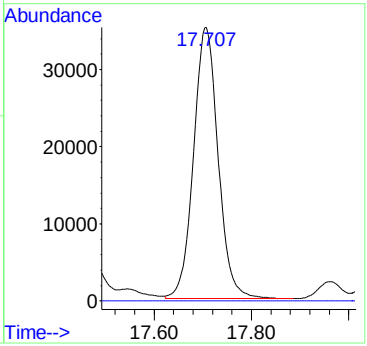


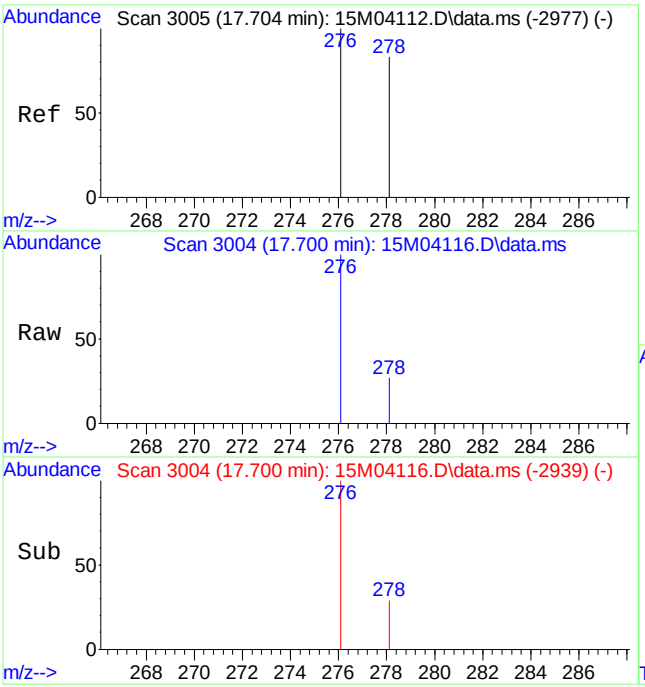


#24
Indeno[1,2,3-cd]pyrene
Concen: 1.5938 ug/mL
RT: 17.707 min Scan# 3006
Delta R.T. -0.018 min
Lab File: 15M04116.D
Acq: 23 Mar 2011 11:09 am

Tgt Ion:276 Resp: 123847

Ion	Ratio	Lower	Upper
276	100		
277	0.0	0.0	0.0

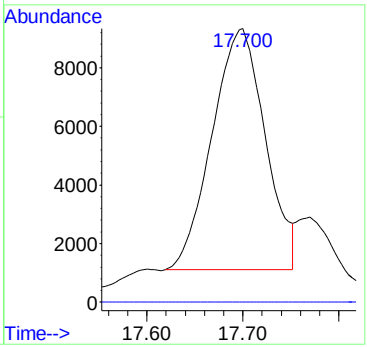


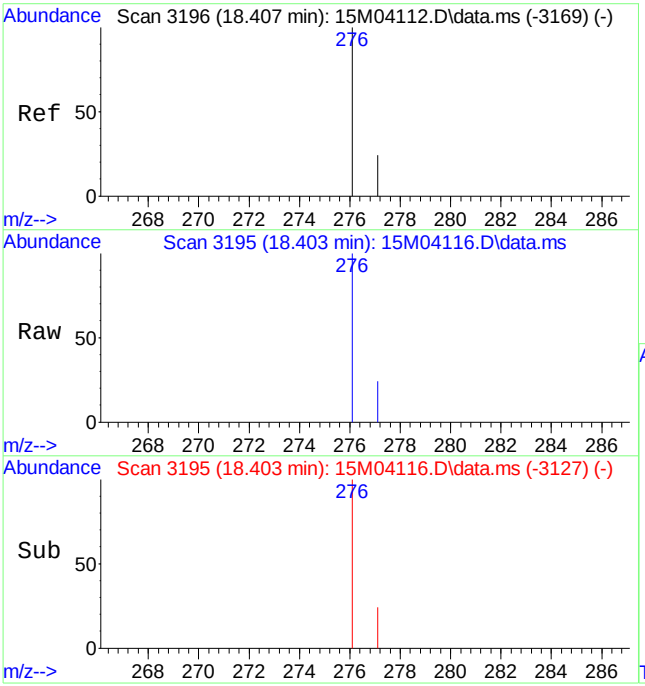


#25
Dibenz[ah]anthracene
Concen: 0.5013 ug/mL
RT: 17.700 min Scan# 3004
Delta R.T. -0.022 min
Lab File: 15M04116.D
Acq: 23 Mar 2011 11:09 am

Tgt Ion:278 Resp: 31674

Ion	Ratio	Lower	Upper
278	100		
279	0.0	0.0	0.0

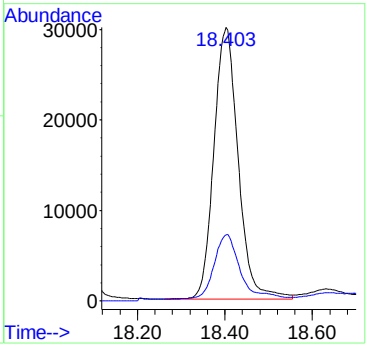




#26
Benzo[ghi]perylene
Concen: 1.7823 ug/mL
RT: 18.403 min Scan# 3195
Delta R.T. -0.022 min
Lab File: 15M04116.D
Acq: 23 Mar 2011 11:09 am

Tgt Ion:276 Resp: 115707

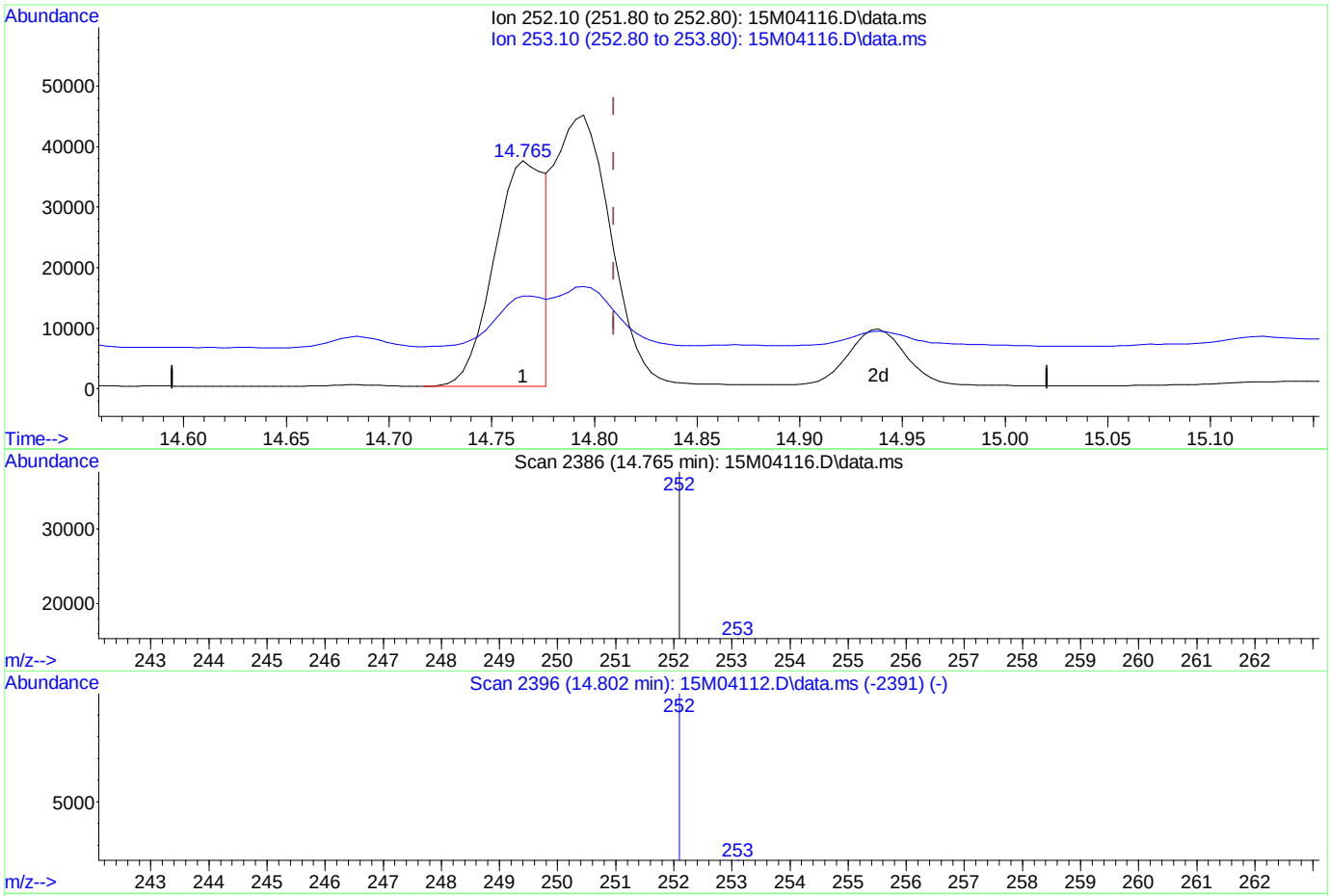
Ion	Ratio	Lower	Upper
276	100		
277	23.4	14.5	33.7



Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\032311\
Data File : 15M04116.D
Acq On : 23 Mar 2011 11:09 am
Operator : CAA
Sample : L11030658-02 100X 827-PAHL
Misc : 7,100 SOIL
ALS Vial : 6 Sample Multiplier: 100

Quant Time: Mar 24 08:45:12 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Thu Mar 24 08:44:54 2011
Response via : Initial Calibration



(22) Benzo[k]fluoranthene

14.765min (-0.044) 1.01 ug/mL

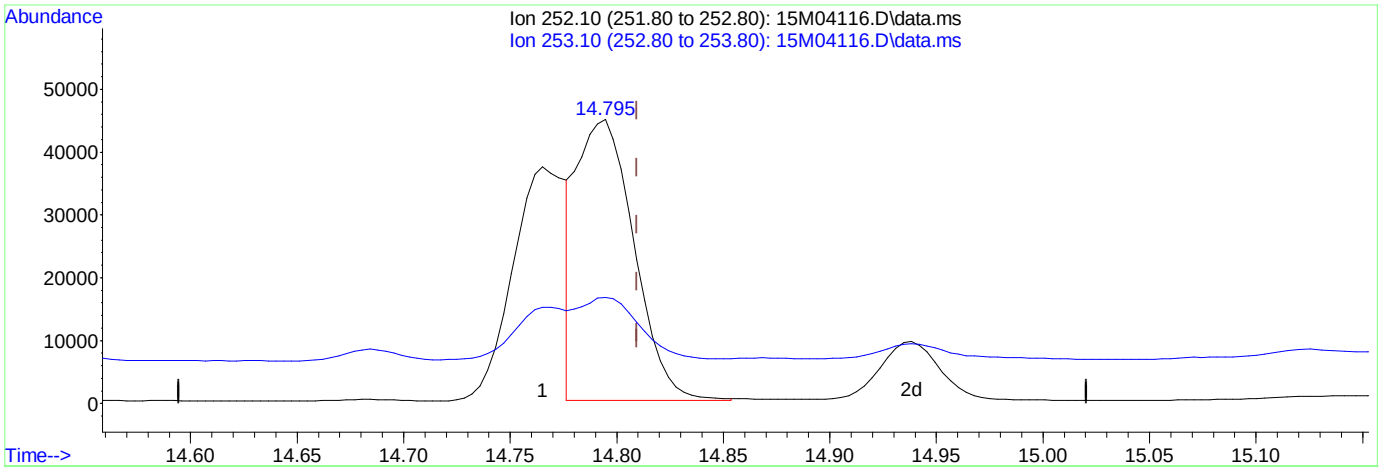
response 64178

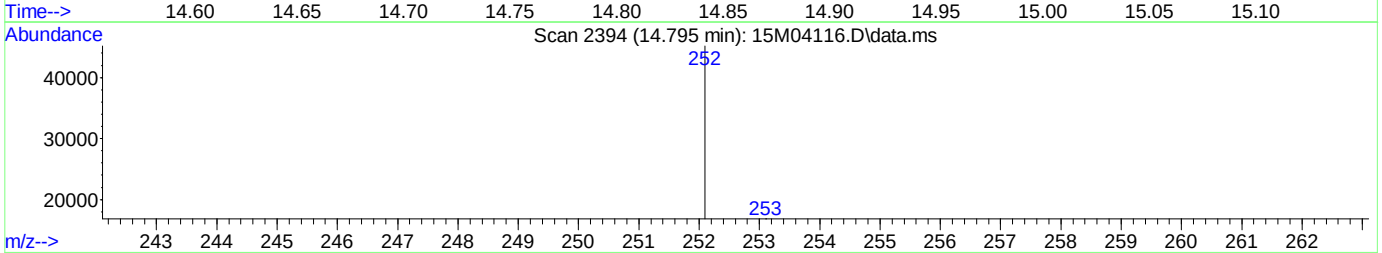
Ion	Exp%	Act%
252.10	100	100
253.10	38.30	21.84#
0.00	0.00	0.00
0.00	0.00	0.00

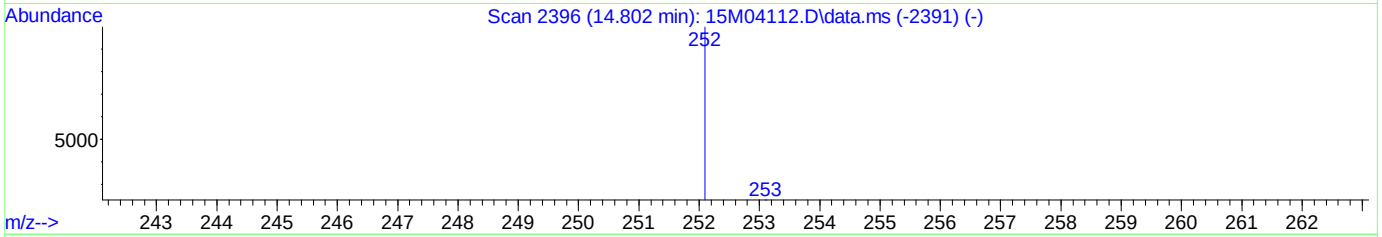
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\032311\
Data File : 15M04116.D
Acq On : 23 Mar 2011 11:09 am
Operator : CAA
Sample : L11030658-02 100X 827-PAHL
Misc : 7,100 SOIL
ALS Vial : 6 Sample Multiplier: 100

Quant Time: Mar 24 08:45:12 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Thu Mar 24 08:44:54 2011
Response via : Initial Calibration







TIC: 15M04116.D\data.ms

(22) Benzo[k]fluoranthene

14.795min (-0.015) 1.31 ug/mL mint

response 83704

Ion	Exp%	Act%
252.10	100	100
253.10	38.30	16.74#
0.00	0.00	0.00
0.00	0.00	0.00

Analyst: 03/24/2011 09:12 Supervisor: 03/25/2011 09:17

#3 - Improperly integrated isomers and/or coeluting compounds

PAHQUANT.M Thu Mar 24 08:47:37 2011

Page: 1

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032211\
Data File : 15M04103.D
Acq On : 22 Mar 2011 1:47 pm
Operator : CAA
Sample : L11030658-03 5X 827-PAHL
Misc : 7,5 SOIL
ALS Vial : 14 Sample Multiplier: 5

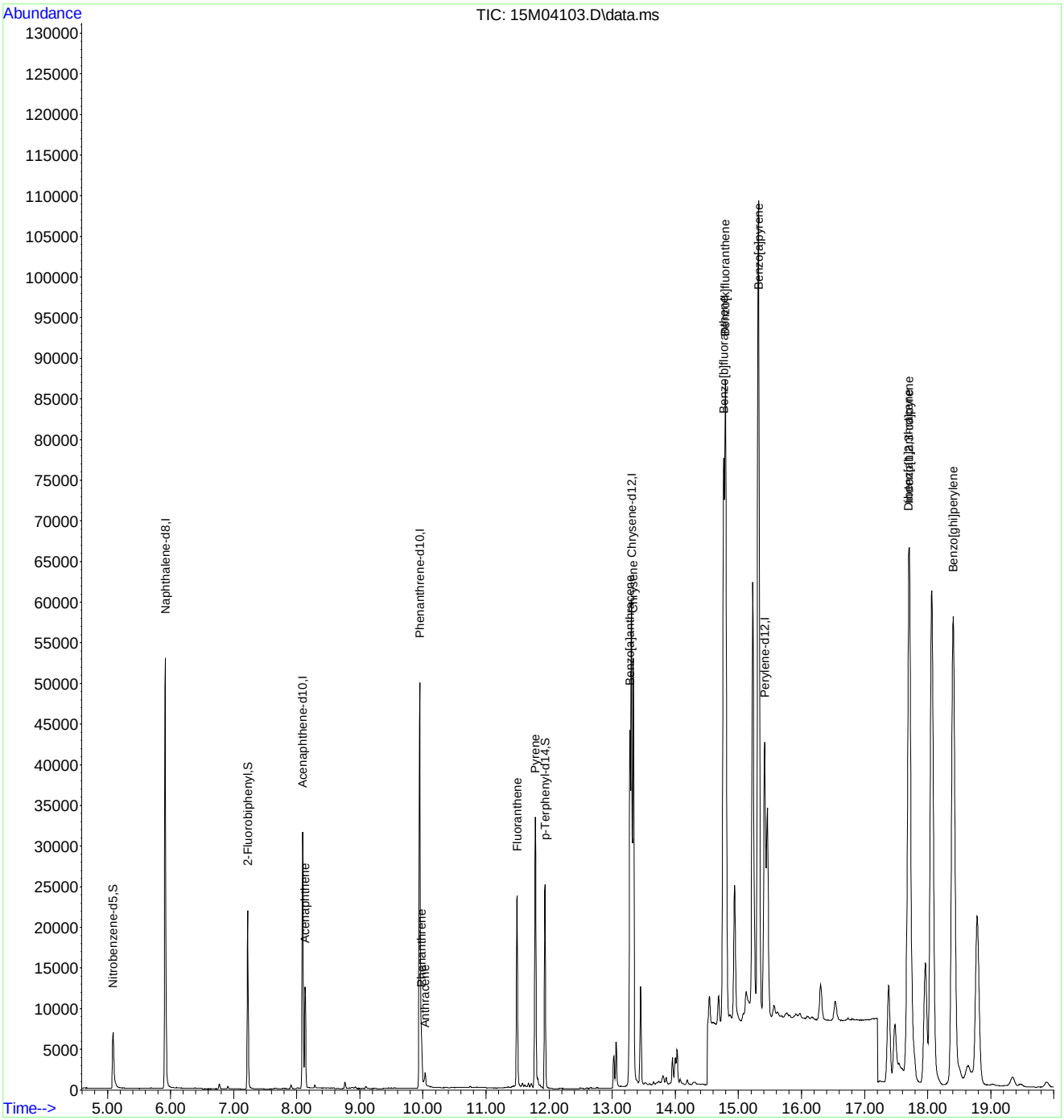
Quant Time: Mar 23 08:19:00 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Wed Mar 23 08:10:15 2011
Response via : Initial Calibration

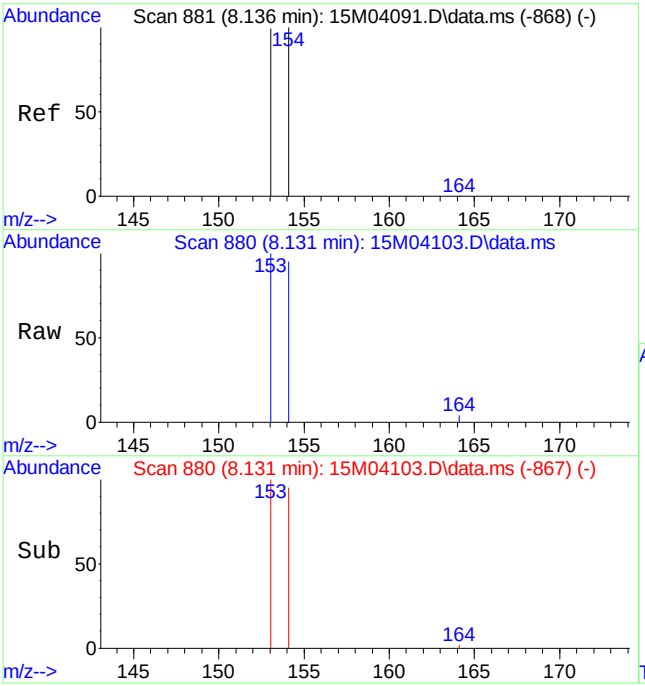
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8	5.916	136	70182	1.00	ug/mL	0.00
6) Acenaphthene-d10	8.093	164	38380	1.00	ug/mL	-0.01
11) Phenanthrene-d10	9.950	188	63500	1.00	ug/mL	0.00
15) Chrysene-d12	13.306	240	75279	1.00	ug/mL	0.00
20) Perylene-d12	15.415	264	72506	1.00	ug/mL	-0.01
System Monitoring Compounds						
2) Nitrobenzene-d5	5.089	82	8680	1.81	ug/mL	-0.02
Spiked Amount 2.500	Range 23 - 120		Recovery = 72.40%			
7) 2-Fluorobiphenyl	7.224	172	20086	1.98	ug/mL	-0.01
Spiked Amount 2.500	Range 30 - 115		Recovery = 79.20%			
17) p-Terphenyl-d14	11.934	244	26802	2.70	ug/mL	0.00
Spiked Amount 2.500	Range 18 - 137		Recovery = 108.00%			
Target Compounds						Qvalue
9) Acenaphthene	8.131	154	7540	0.1699	ug/mL	100
12) Phenanthrene	9.977	178	6502	0.0912	ug/mL	99
13) Anthracene	10.036	178	1822	0.0281	ug/mL	97
14) Fluoranthene	11.493	202	26503	0.3578	ug/mL	99
16) Pyrene	11.783	202	38748	0.4468	ug/mL#	82
18) Benzo[a]anthracene	13.279	228	45624	0.6028	ug/mL	98
19) Chrysene	13.333	228	59137	0.7825	ug/mL	98
21) Benzo[b]fluoranthene	14.765	252	97723	1.1754	ug/mL#	73
22) Benzo[k]fluoranthene	14.791	252	119654m	1.5437	ug/mL	
23) Benzo[a]pyrene	15.319	252	173218	2.2221	ug/mL#	71
24) Indeno[1,2,3-cd]pyrene	17.707	276	187738	1.9883	ug/mL#	100
25) Dibenz[ah]anthracene	17.700	278	46398	0.6043	ug/mL#	100
26) Benzo[ghi]perylene	18.407	276	181268	2.2980	ug/mL	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\032211\
Data File : 15M04103.D
Acq On : 22 Mar 2011 1:47 pm
Operator : CAA
Sample : L11030658-03 5X 827-PAHL
Misc : 7,5 SOIL
ALS Vial : 14 Sample Multiplier: 5

Quant Time: Mar 23 08:19:00 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Wed Mar 23 08:10:15 2011
Response via : Initial Calibration

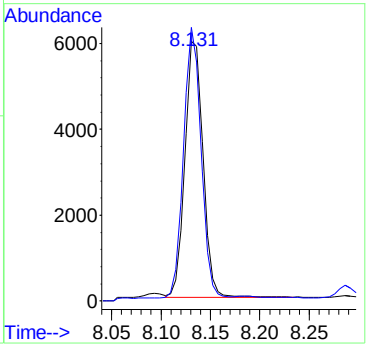


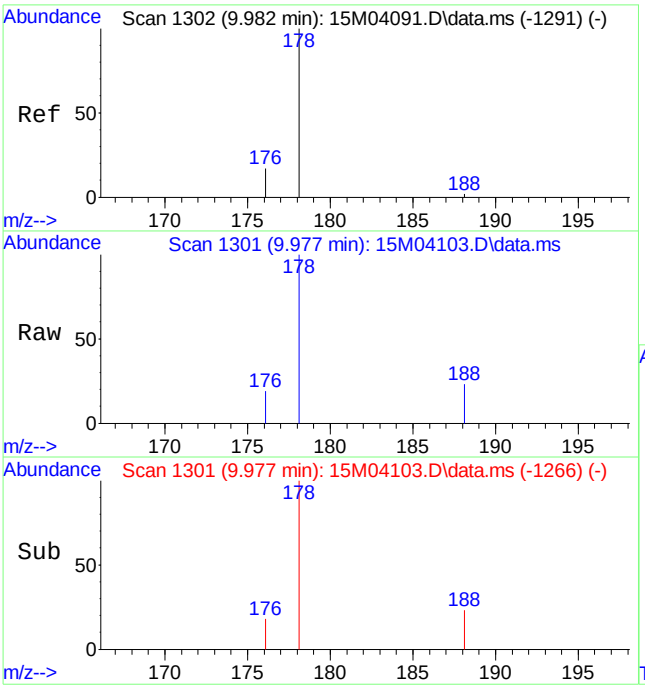


#9
Acenaphthene
Concen: 0.1699 ug/mL
RT: 8.131 min Scan# 880
Delta R.T. -0.016 min
Lab File: 15M04103.D
Acq: 22 Mar 2011 1:47 pm

Tgt Ion:154 Resp: 7540

Ion	Ratio	Lower	Upper
154	100		
153	103.0	61.8	144.2

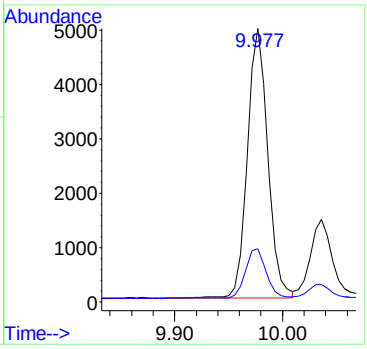


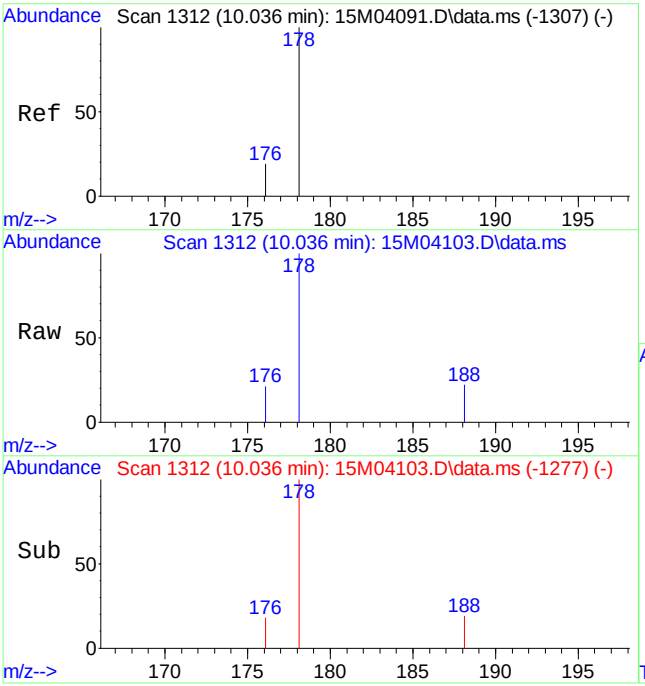


#12
Phenanthrene
Concen: 0.0912 ug/mL
RT: 9.977 min Scan# 1301
Delta R.T. -0.010 min
Lab File: 15M04103.D
Acq: 22 Mar 2011 1:47 pm

Tgt Ion:178 Resp: 6502

Ion	Ratio	Lower	Upper
178	100		
176	18.7	11.4	26.6

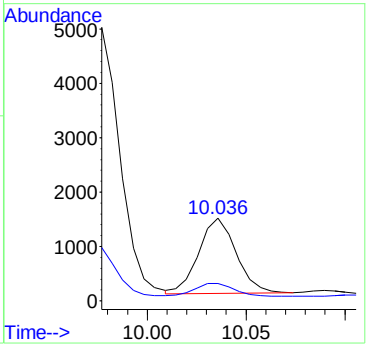


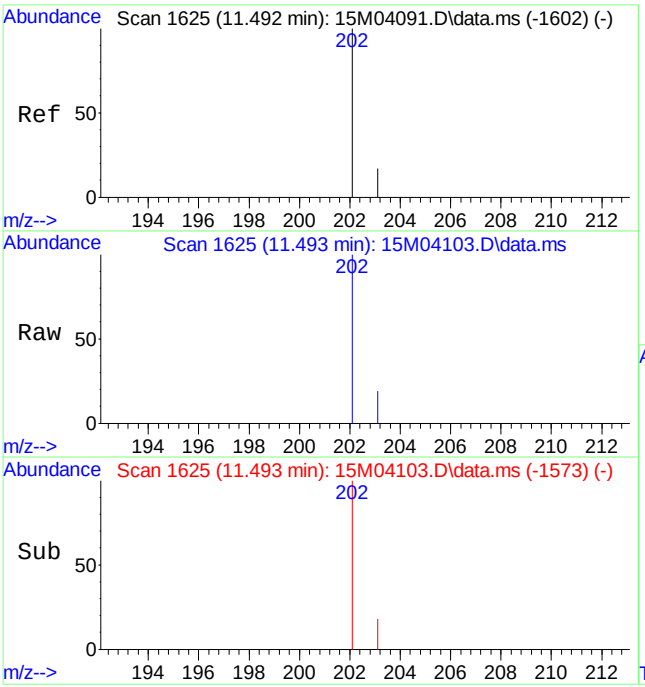


#13
Anthracene
Concen: 0.0281 ug/mL
RT: 10.036 min Scan# 1312
Delta R.T. -0.010 min
Lab File: 15M04103.D
Acq: 22 Mar 2011 1:47 pm

Tgt Ion:178 Resp: 1822

Ion	Ratio	Lower	Upper
178	100		
176	19.5	11.0	25.6

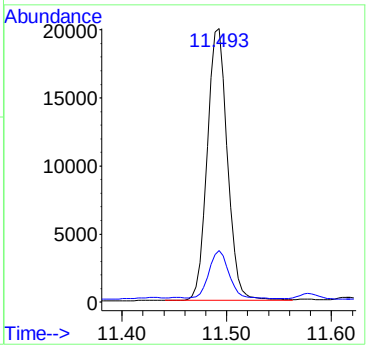


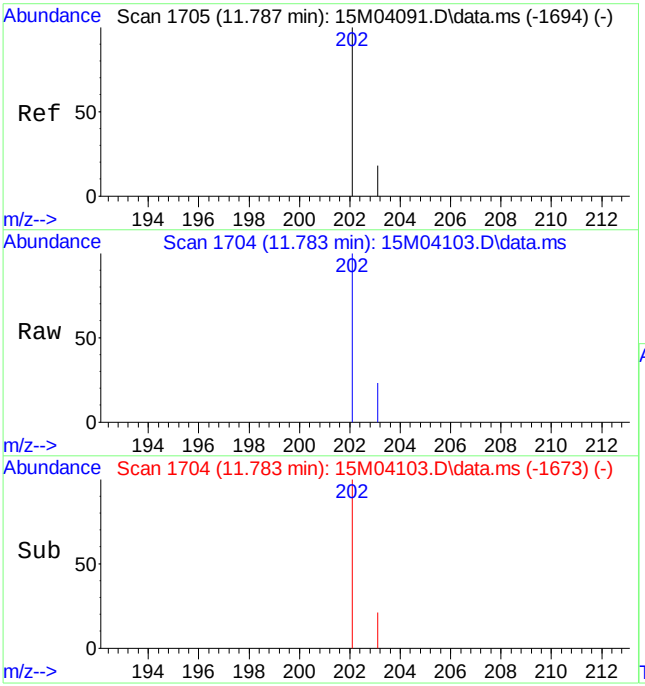


#14
Fluoranthene
Concen: 0.3578 ug/mL
RT: 11.493 min Scan# 1625
Delta R.T. -0.007 min
Lab File: 15M04103.D
Acq: 22 Mar 2011 1:47 pm

Tgt Ion:202 Resp: 26503

Ion	Ratio	Lower	Upper
202	100		
203	17.7	10.4	24.4

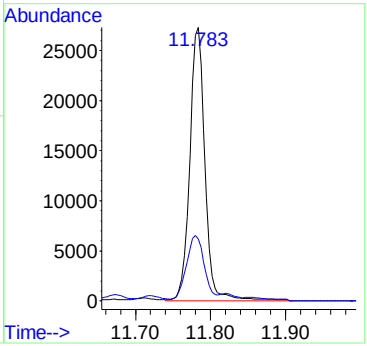


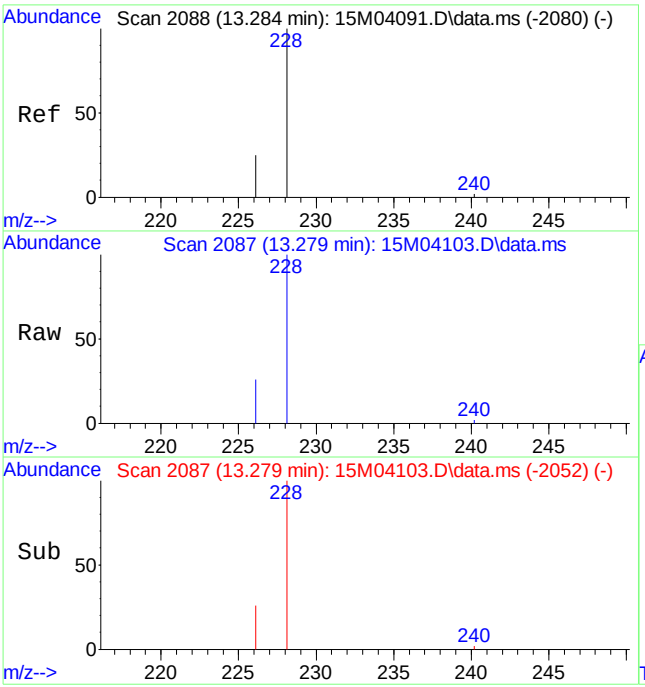


#16
Pyrene
Concen: 0.4468 ug/mL
RT: 11.783 min Scan# 1704
Delta R.T. -0.011 min
Lab File: 15M04103.D
Acq: 22 Mar 2011 1:47 pm

Tgt Ion:202 Resp: 38748

Ion	Ratio	Lower	Upper
202	100		
203	26.3	11.0	25.6#

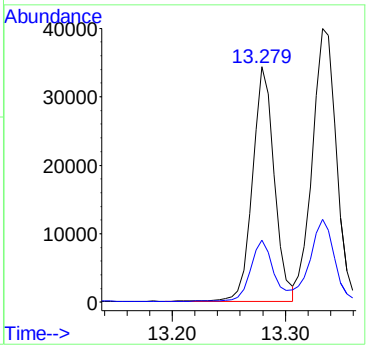


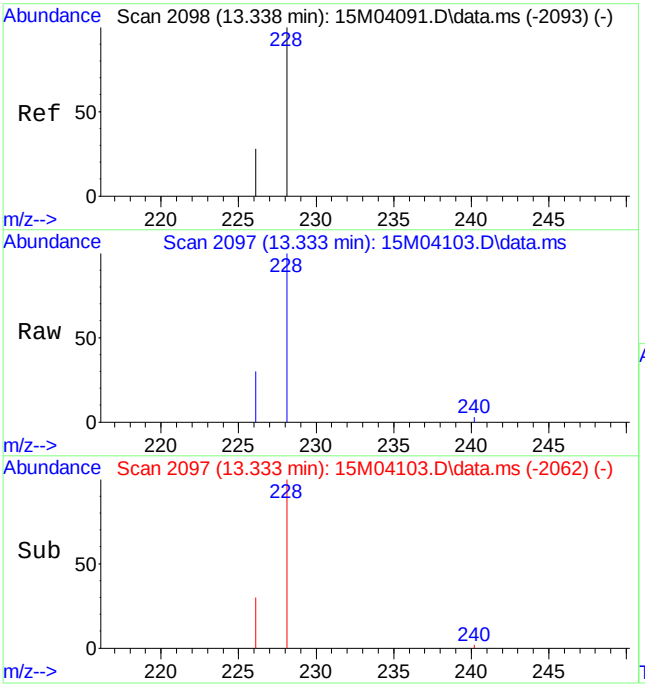


#18
Benzo[a]anthracene
Concen: 0.6028 ug/mL
RT: 13.279 min Scan# 2087
Delta R.T. -0.011 min
Lab File: 15M04103.D
Acq: 22 Mar 2011 1:47 pm

Tgt Ion:228 Resp: 45624

Ion	Ratio	Lower	Upper
228	100		
226	27.0	15.7	36.5

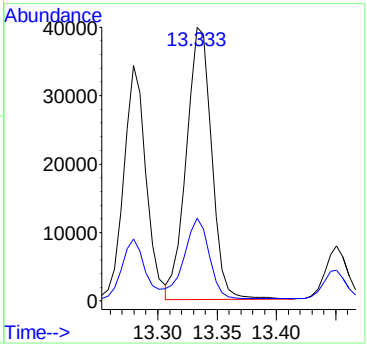


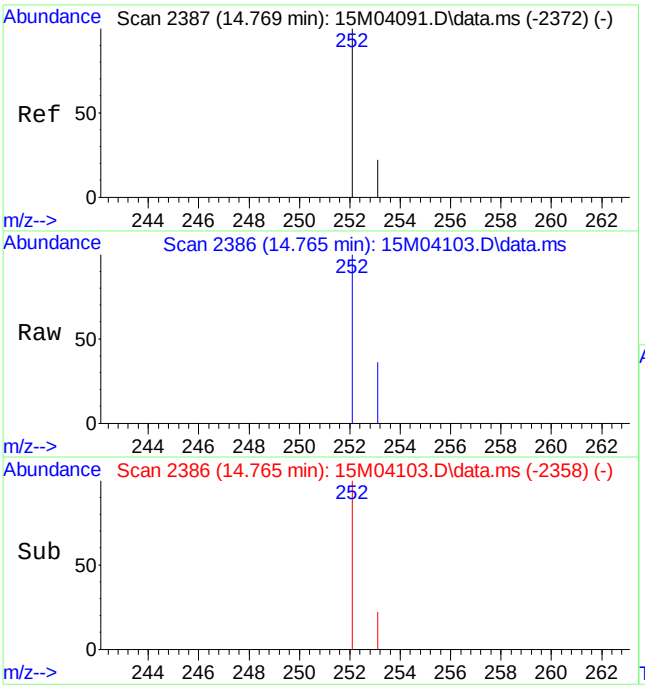


#19
Chrysene
Concen: 0.7825 ug/mL
RT: 13.333 min Scan# 2097
Delta R.T. -0.010 min
Lab File: 15M04103.D
Acq: 22 Mar 2011 1:47 pm

Tgt Ion:228 Resp: 59137

Ion	Ratio	Lower	Upper
228	100		
226	29.7	17.0	39.8

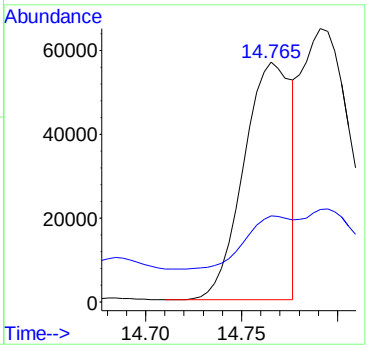


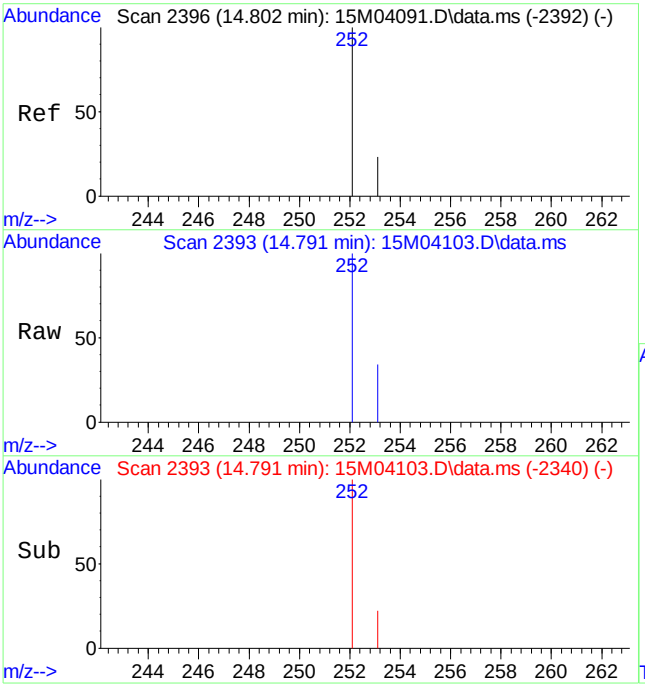


#21
Benzo[b]fluoranthene
Concen: 1.1754 ug/mL
RT: 14.765 min Scan# 2386
Delta R.T. -0.011 min
Lab File: 15M04103.D
Acq: 22 Mar 2011 1:47 pm

Tgt Ion:252 Resp: 97723

Ion	Ratio	Lower	Upper
252	100		
253	21.7	22.8	53.2#

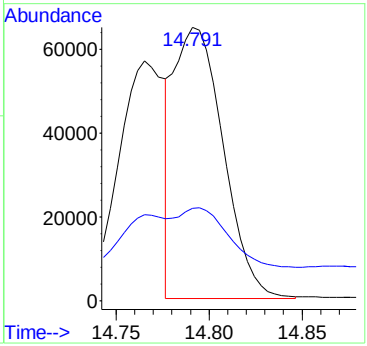


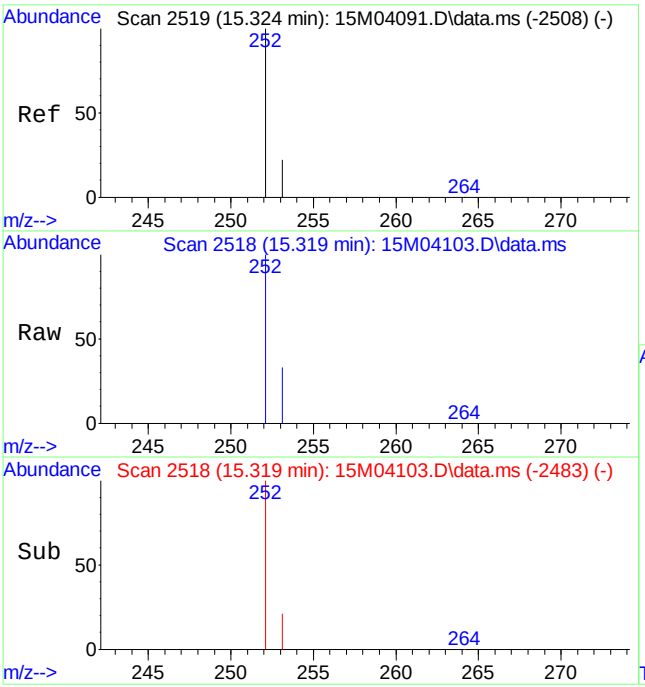


#22
Benzo[k]fluoranthene
Concen: 1.5437 ug/mL m
RT: 14.791 min Scan# 2393
Delta R.T. -0.018 min
Lab File: 15M04103.D
Acq: 22 Mar 2011 1:47 pm

Tgt Ion:252 Resp: 119654

Ion	Ratio	Lower	Upper
252	100		
253	17.7	23.0	53.6#

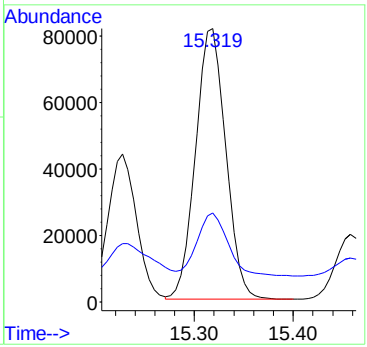


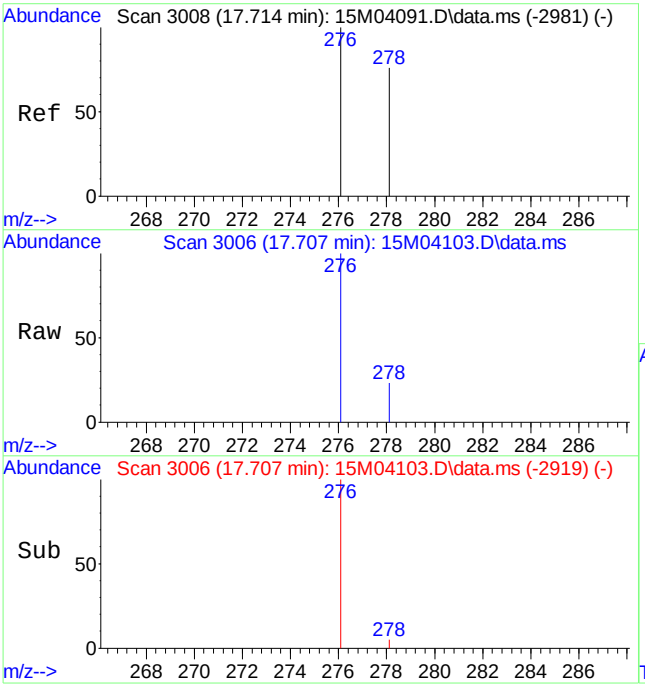


#23
Benzo[a]pyrene
Concen: 2.2221 ug/mL
RT: 15.319 min Scan# 2518
Delta R.T. -0.011 min
Lab File: 15M04103.D
Acq: 22 Mar 2011 1:47 pm

Tgt Ion:252 Resp: 173218

Ion	Ratio	Lower	Upper
252	100		
253	23.6	25.2	58.8#

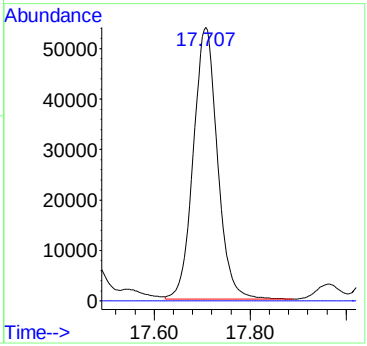


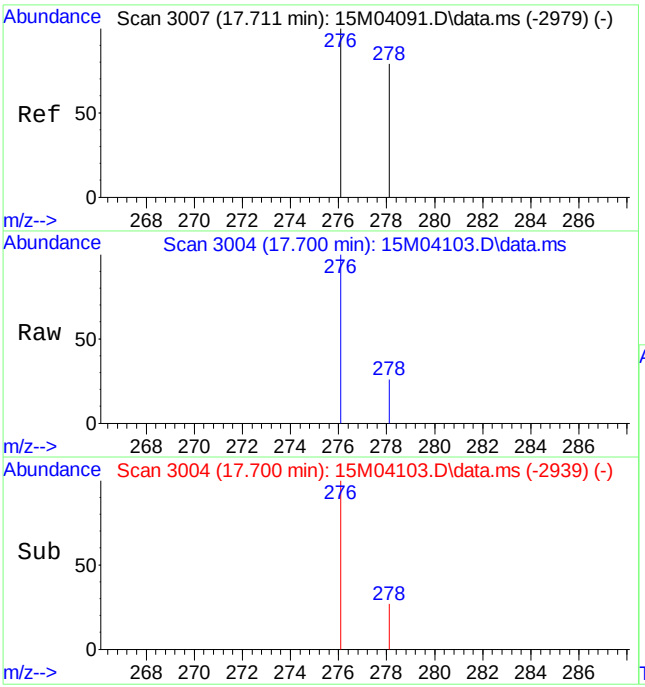


#24
Indeno[1,2,3-cd]pyrene
Concen: 1.9883 ug/mL
RT: 17.707 min Scan# 3006
Delta R.T. -0.018 min
Lab File: 15M04103.D
Acq: 22 Mar 2011 1:47 pm

Tgt Ion:276 Resp: 187738

Ion	Ratio	Lower	Upper
276	100		
277	0.0	0.0	0.0

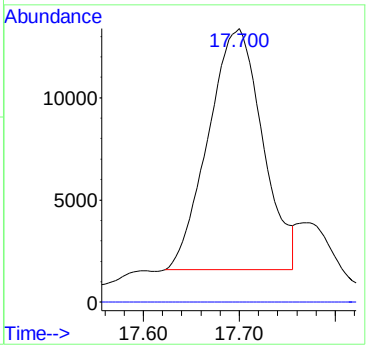


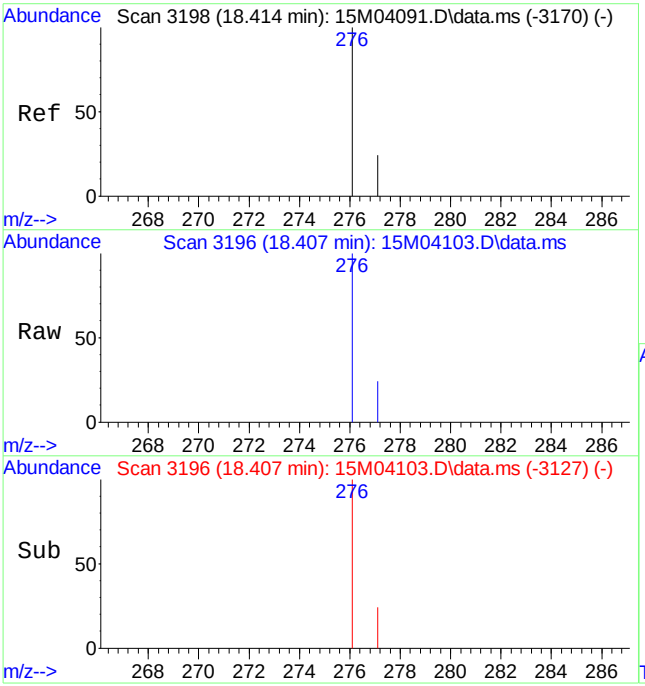


#25
Dibenz[ah]anthracene
Concen: 0.6043 ug/mL
RT: 17.700 min Scan# 3004
Delta R.T. -0.022 min
Lab File: 15M04103.D
Acq: 22 Mar 2011 1:47 pm

Tgt Ion:278 Resp: 46398

Ion	Ratio	Lower	Upper
278	100		
279	0.0	0.0	0.0

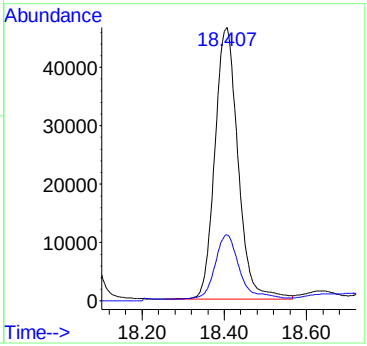




#26
Benzo[ghi]perylene
Concen: 2.2980 ug/mL
RT: 18.407 min Scan# 3196
Delta R.T. -0.018 min
Lab File: 15M04103.D
Acq: 22 Mar 2011 1:47 pm

Tgt Ion:276 Resp: 181268

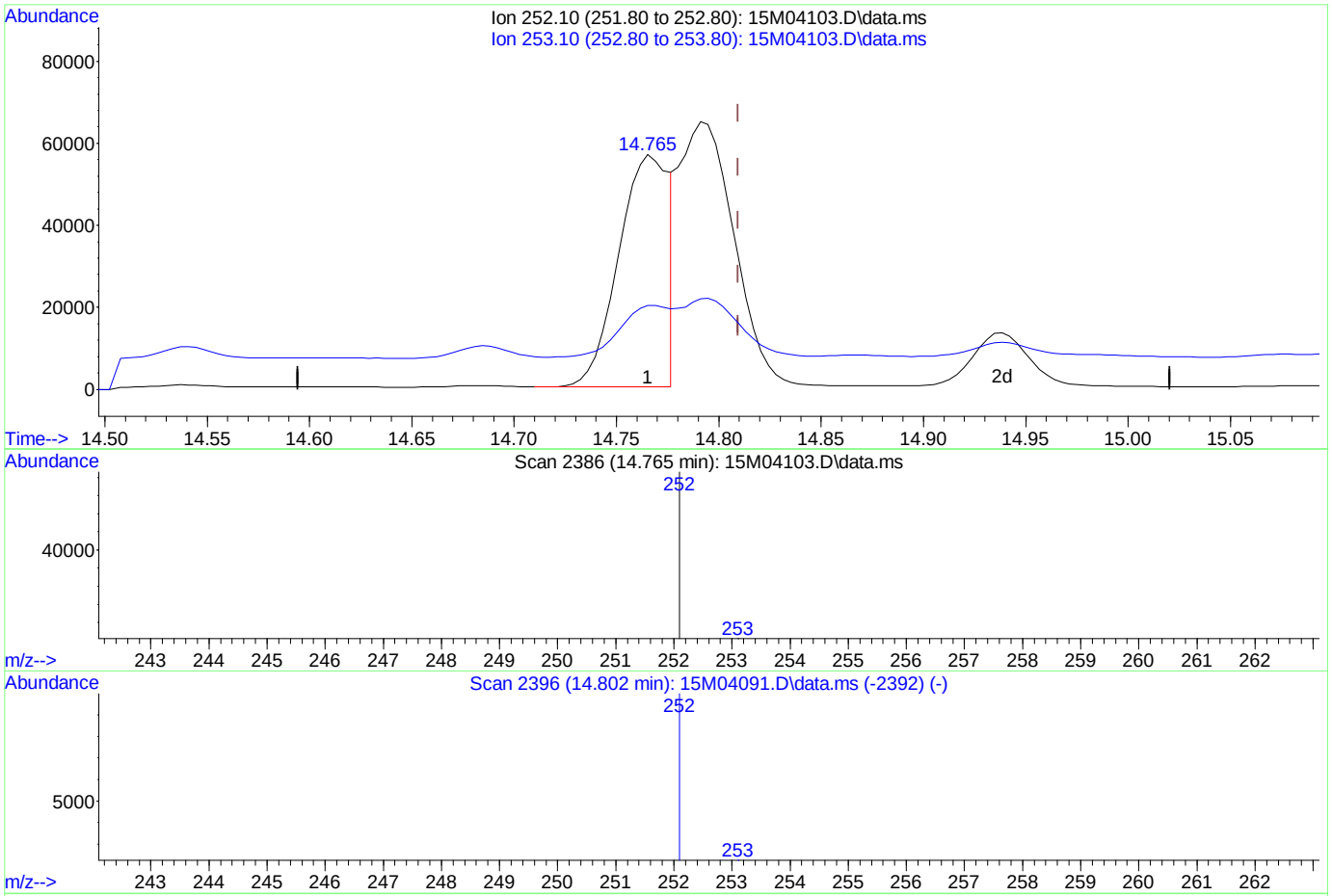
Ion	Ratio	Lower	Upper
276	100		
277	23.6	14.5	33.7



Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\032211\
Data File : 15M04103.D
Acq On : 22 Mar 2011 1:47 pm
Operator : CAA
Sample : L11030658-03 5X 827-PAHL
Misc : 7,5 SOIL
ALS Vial : 14 Sample Multiplier: 5

Quant Time: Mar 23 08:10:50 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Wed Mar 23 08:10:15 2011
Response via : Initial Calibration



TIC: 15M04103.D\data.ms

(22) Benzo[k]fluoranthene

14.765min (-0.044) 1.26 ug/mL

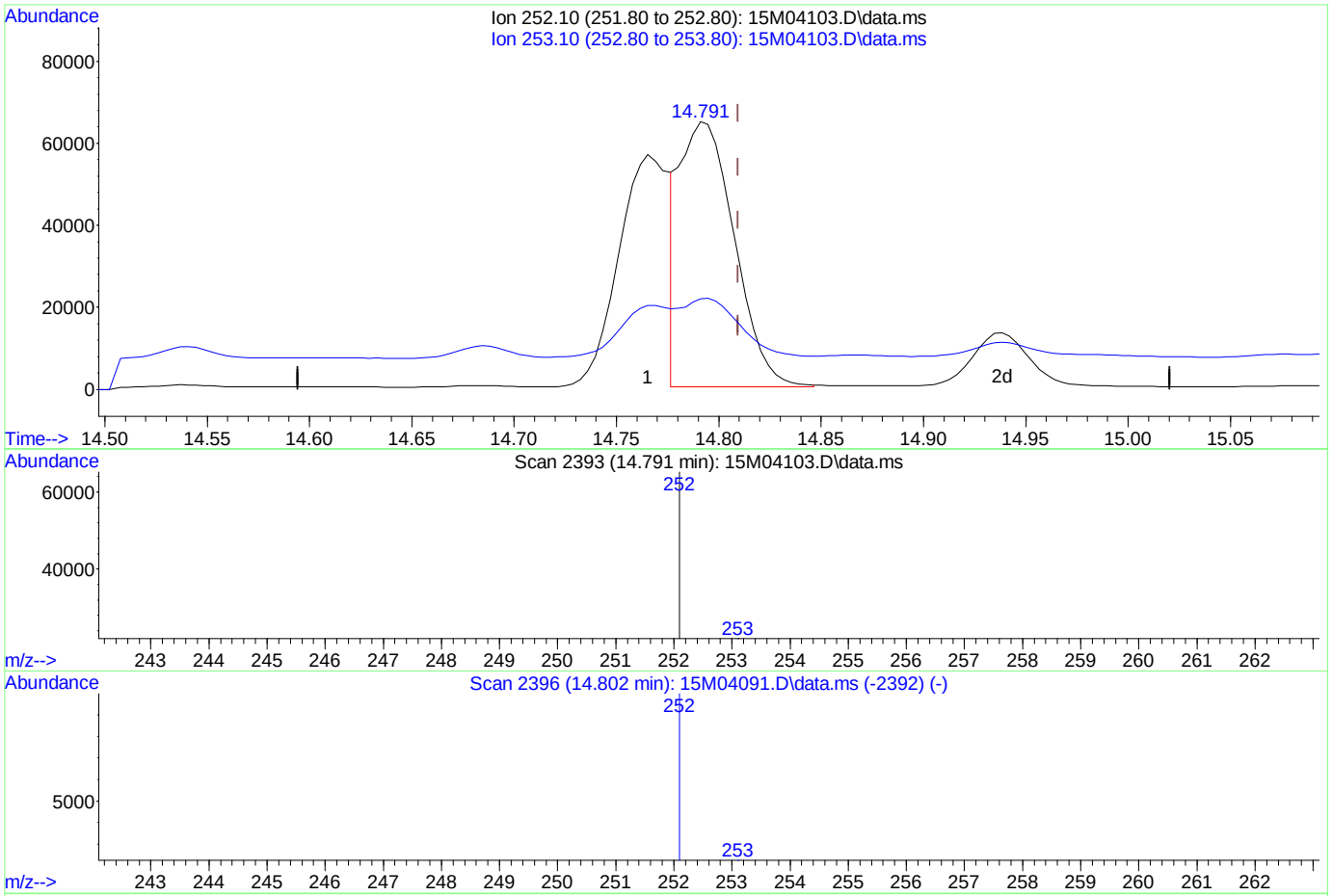
response 97723

Ion	Exp%	Act%
252.10	100	100
253.10	38.30	21.73#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\032211\
Data File : 15M04103.D
Acq On : 22 Mar 2011 1:47 pm
Operator : CAA
Sample : L11030658-03 5X 827-PAHL
Misc : 7,5 SOIL
ALS Vial : 14 Sample Multiplier: 5

Quant Time: Mar 23 08:10:50 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Wed Mar 23 08:10:15 2011
Response via : Initial Calibration



TIC: 15M04103.D\data.ms

(22) Benzo[k]fluoranthene

14.791min (-0.018) 1.54 ug/mL mint

response 119654

Ion	Exp%	Act%
252.10	100	100
253.10	38.30	17.74#
0.00	0.00	0.00
0.00	0.00	0.00

Analyst: 03/23/2011 09:48 Supervisor: 03/24/2011 12:27

#3 - Improperly integrated isomers and/or coeluting compounds

PAHQUANT.M Wed Mar 23 08:19:02 2011

Page: 1

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032211\
Data File : 15M04104.D
Acq On : 22 Mar 2011 2:15 pm
Operator : CAA
Sample : L11030658-04 5X 827-PAHL
Misc : 7,5 SOIL
ALS Vial : 15 Sample Multiplier: 5

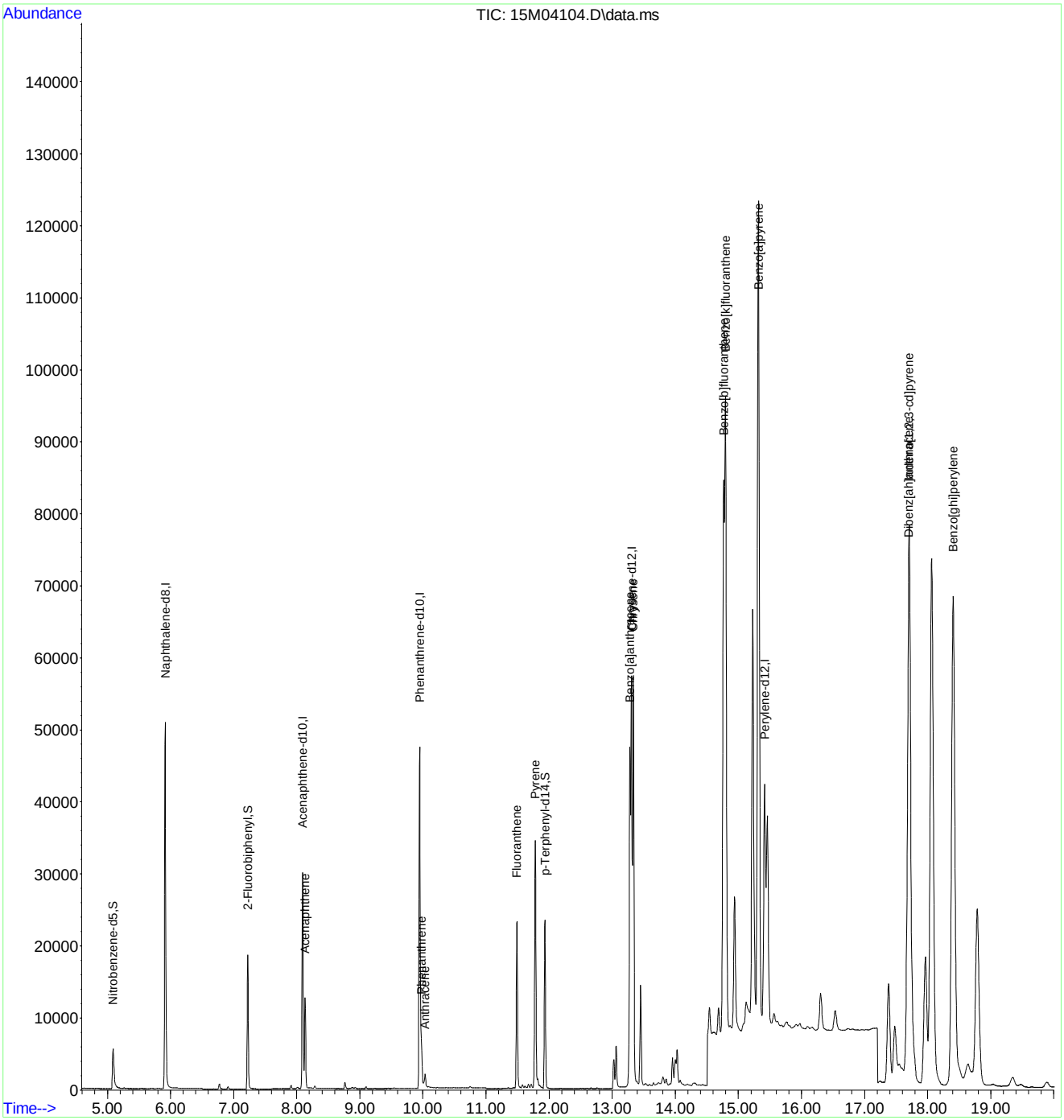
Quant Time: Mar 23 08:19:11 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Wed Mar 23 08:10:15 2011
Response via : Initial Calibration

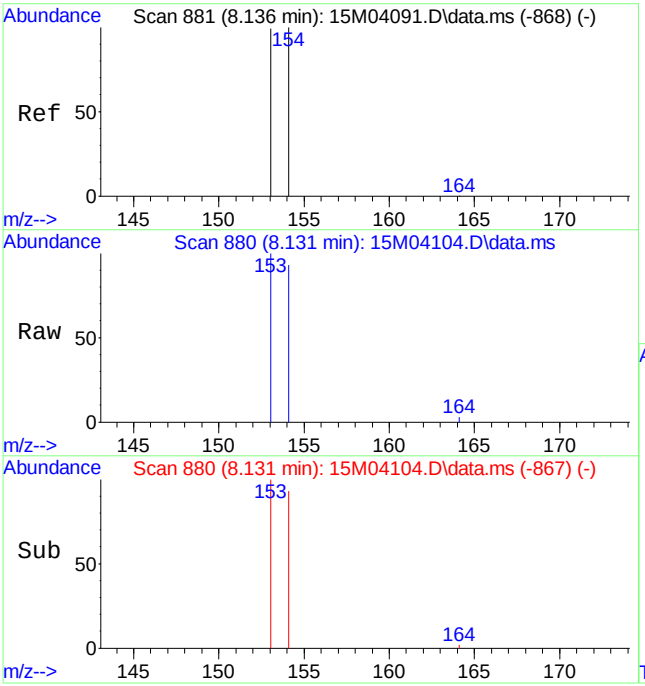
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8	5.916	136	67247	1.00 ug/mL	0.00
6) Acenaphthene-d10	8.093	164	36515	1.00 ug/mL	-0.01
11) Phenanthrene-d10	9.950	188	60920	1.00 ug/mL	0.00
15) Chrysene-d12	13.306	240	70293	1.00 ug/mL	0.00
20) Perylene-d12	15.415	264	73080	1.00 ug/mL	-0.01
System Monitoring Compounds					
2) Nitrobenzene-d5	5.088	82	7192	1.57 ug/mL	-0.02
Spiked Amount 2.500	Range 23 - 120		Recovery	= 62.80%	
7) 2-Fluorobiphenyl	7.224	172	17125	1.78 ug/mL	-0.01
Spiked Amount 2.500	Range 30 - 115		Recovery	= 71.20%	
17) p-Terphenyl-d14	11.934	244	25876	2.79 ug/mL	0.00
Spiked Amount 2.500	Range 18 - 137		Recovery	= 111.60%	
Target Compounds					Qvalue
9) Acenaphthene	8.131	154	7468	0.1769 ug/mL	99
12) Phenanthrene	9.977	178	6374	0.0931 ug/mL	100
13) Anthracene	10.036	178	1929	0.0311 ug/mL	99
14) Fluoranthene	11.489	202	26142	0.3679 ug/mL	99
16) Pyrene	11.783	202	39777	0.4913 ug/mL#	80
18) Benzo[a]anthracene	13.279	228	49280	0.6973 ug/mL	99
19) Chrysene	13.333	228	62960	0.8922 ug/mL	98
21) Benzo[b]fluoranthene	14.765	252	105830	1.2630 ug/mL	78
22) Benzo[k]fluoranthene	14.795	252	133309m	1.7063 ug/mL	
23) Benzo[a]pyrene	15.319	252	196895	2.5060 ug/mL#	71
24) Indeno[1,2,3-cd]pyrene	17.707	276	214690	2.2559 ug/mL#	100
25) Dibenz[ah]anthracene	17.696	278	53756	0.6947 ug/mL#	100
26) Benzo[ghi]perylene	18.407	276	206958	2.6030 ug/mL	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\032211\
Data File : 15M04104.D
Acq On : 22 Mar 2011 2:15 pm
Operator : CAA
Sample : L11030658-04 5X 827-PAHL
Misc : 7,5 SOIL
ALS Vial : 15 Sample Multiplier: 5

Quant Time: Mar 23 08:19:11 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Wed Mar 23 08:10:15 2011
Response via : Initial Calibration

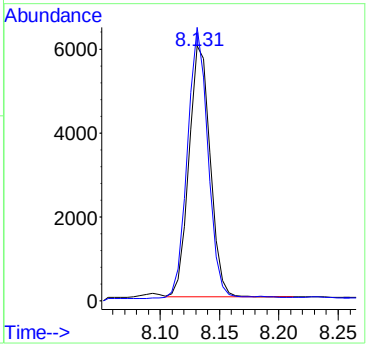


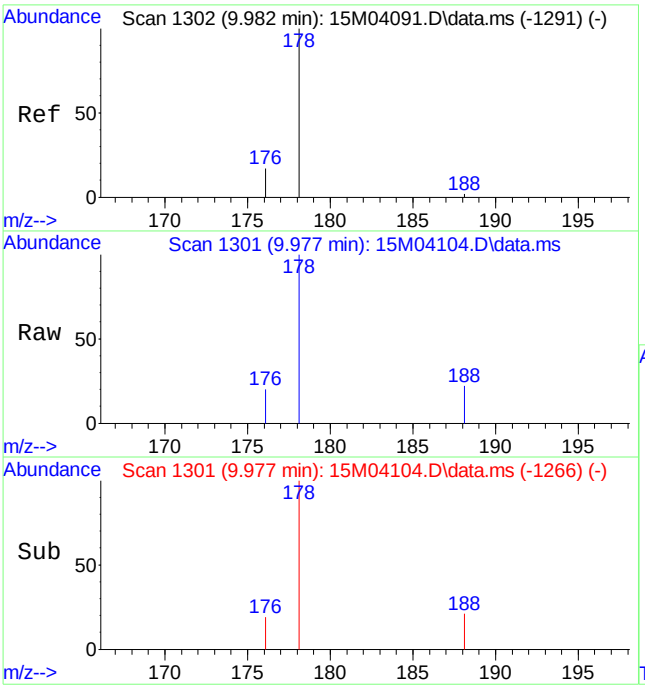


#9
Acenaphthene
Concen: 0.1769 ug/mL
RT: 8.131 min Scan# 880
Delta R.T. -0.016 min
Lab File: 15M04104.D
Acq: 22 Mar 2011 2:15 pm

Tgt Ion:154 Resp: 7468

Ion	Ratio	Lower	Upper
154	100		
153	103.9	61.8	144.2

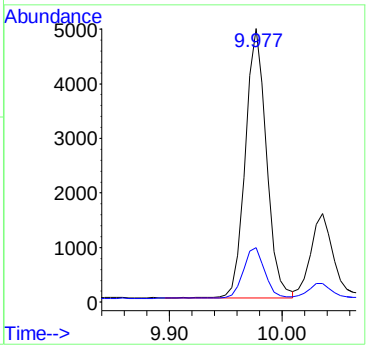


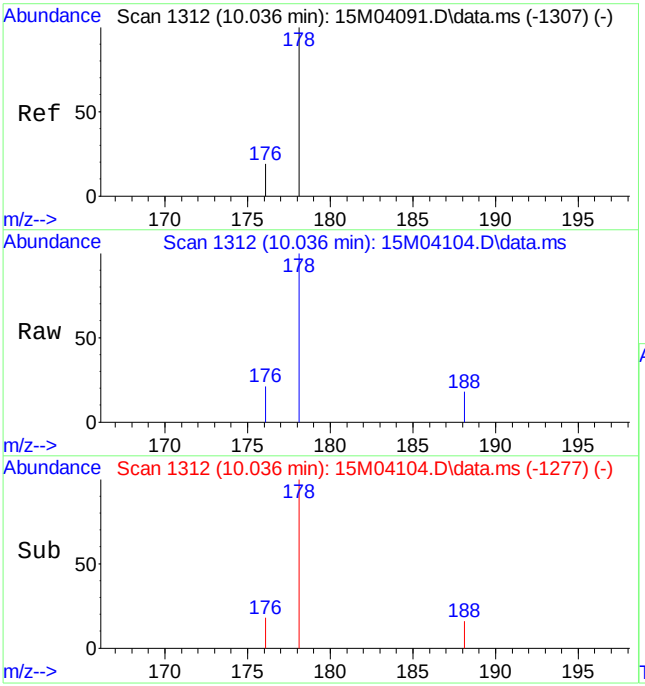


#12
Phenanthrene
Concen: 0.0931 ug/mL
RT: 9.977 min Scan# 1301
Delta R.T. -0.011 min
Lab File: 15M04104.D
Acq: 22 Mar 2011 2:15 pm

Tgt Ion:178 Resp: 6374

Ion	Ratio	Lower	Upper
178	100		
176	19.0	11.4	26.6

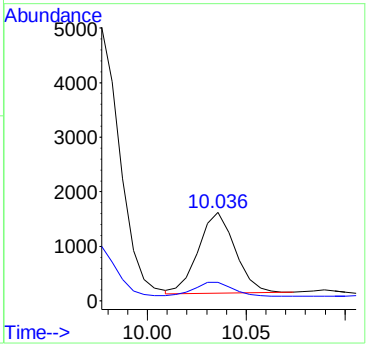


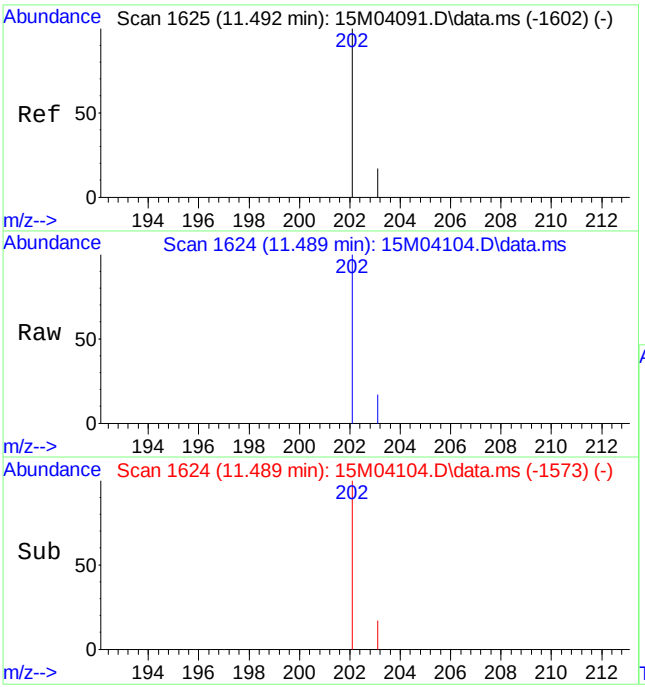


#13
Anthracene
Concen: 0.0311 ug/mL
RT: 10.036 min Scan# 1312
Delta R.T. -0.010 min
Lab File: 15M04104.D
Acq: 22 Mar 2011 2:15 pm

Tgt Ion:178 Resp: 1929

Ion	Ratio	Lower	Upper
178	100		
176	18.6	11.0	25.6

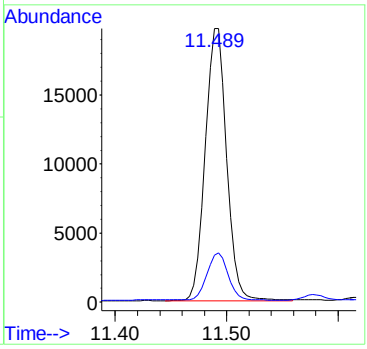


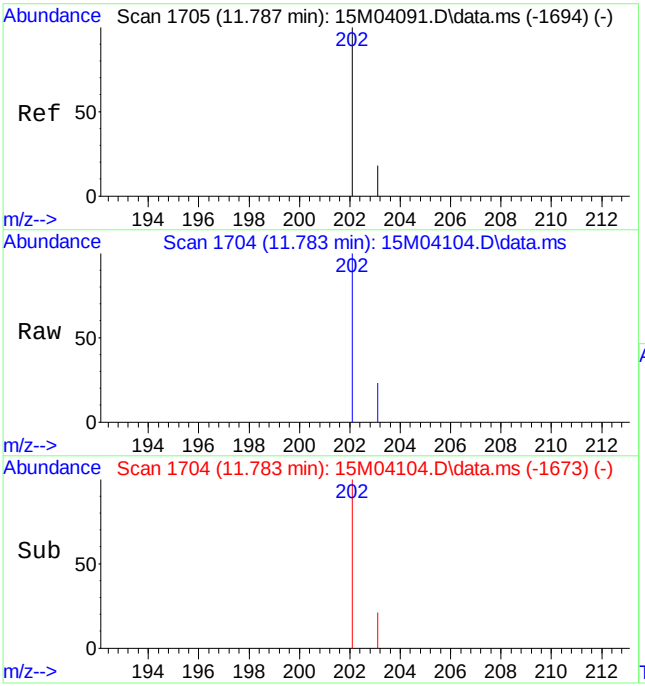


#14
Fluoranthene
Concen: 0.3679 ug/mL
RT: 11.489 min Scan# 1624
Delta R.T. -0.011 min
Lab File: 15M04104.D
Acq: 22 Mar 2011 2:15 pm

Tgt Ion:202 Resp: 26142

Ion	Ratio	Lower	Upper
202	100		
203	17.1	10.4	24.4

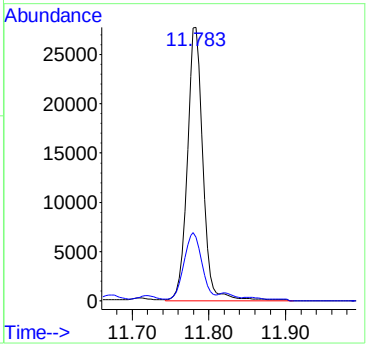


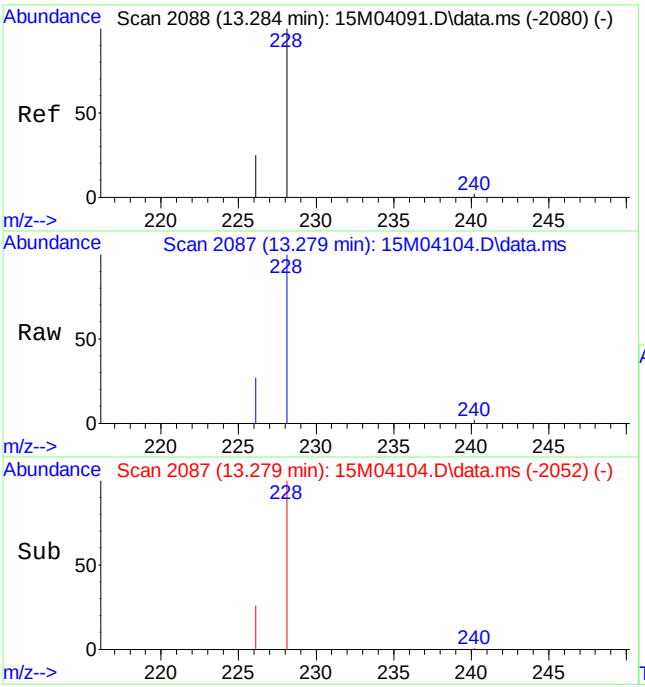


#16
Pyrene
Concen: 0.4913 ug/mL
RT: 11.783 min Scan# 1704
Delta R.T. -0.011 min
Lab File: 15M04104.D
Acq: 22 Mar 2011 2:15 pm

Tgt Ion:202 Resp: 39777

Ion	Ratio	Lower	Upper
202	100		
203	27.2	11.0	25.6#

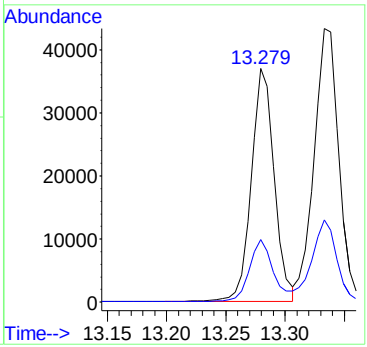


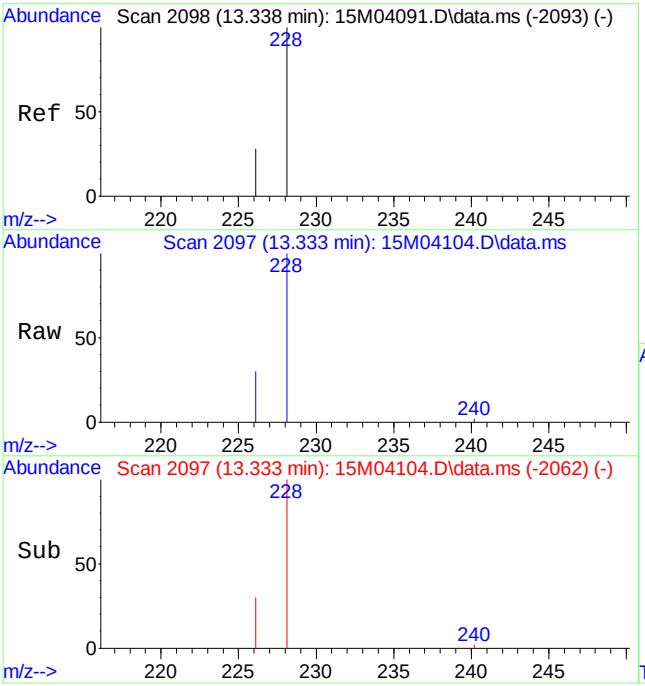


#18
Benzo[a]anthracene
Concen: 0.6973 ug/mL
RT: 13.279 min Scan# 2087
Delta R.T. -0.011 min
Lab File: 15M04104.D
Acq: 22 Mar 2011 2:15 pm

Tgt Ion:228 Resp: 49280

Ion	Ratio	Lower	Upper
228	100		
226	26.8	15.7	36.5

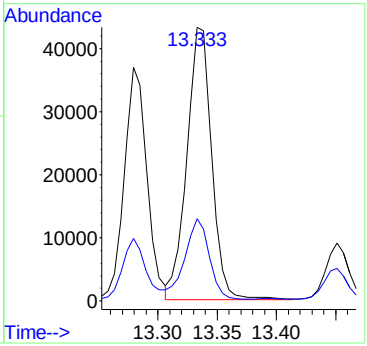


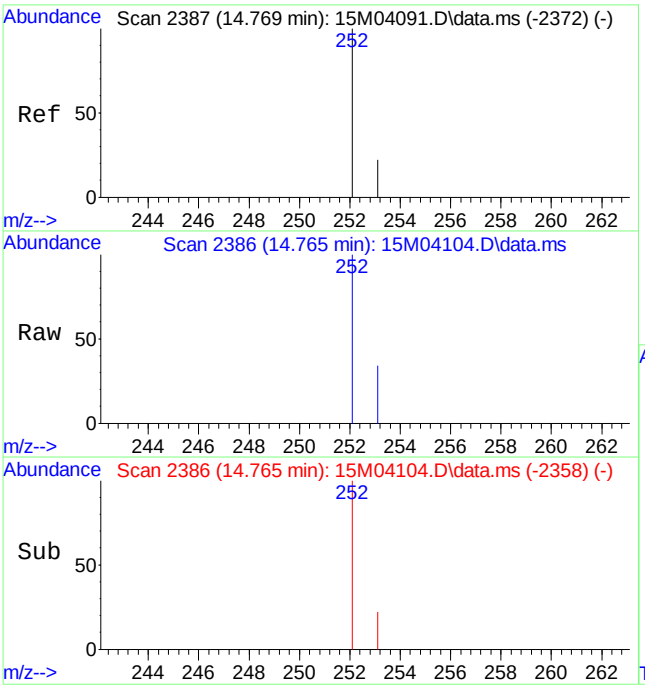


#19
Chrysene
Concen: 0.8922 ug/mL
RT: 13.333 min Scan# 2097
Delta R.T. -0.011 min
Lab File: 15M04104.D
Acq: 22 Mar 2011 2:15 pm

Tgt Ion:228 Resp: 62960

Ion	Ratio	Lower	Upper
228	100		
226	29.5	17.0	39.8

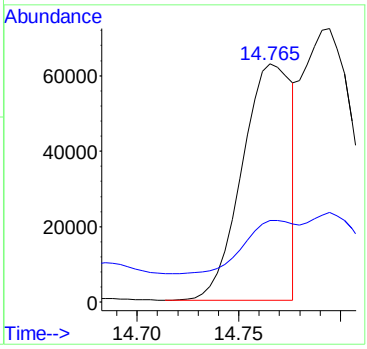


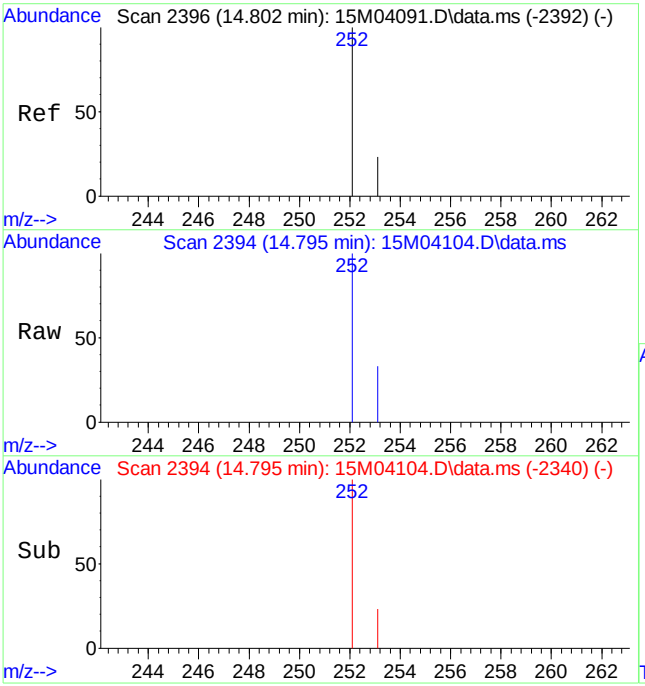


#21
Benzo[b]fluoranthene
Concen: 1.2630 ug/mL
RT: 14.765 min Scan# 2386
Delta R.T. -0.011 min
Lab File: 15M04104.D
Acq: 22 Mar 2011 2:15 pm

Tgt Ion:252 Resp: 105830

Ion	Ratio	Lower	Upper
252	100		
253	24.6	22.8	53.2

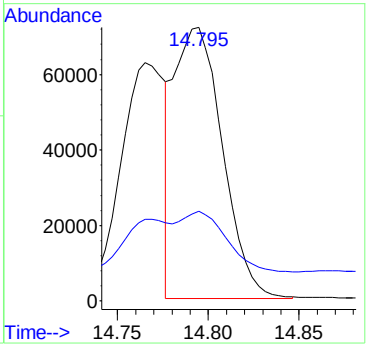


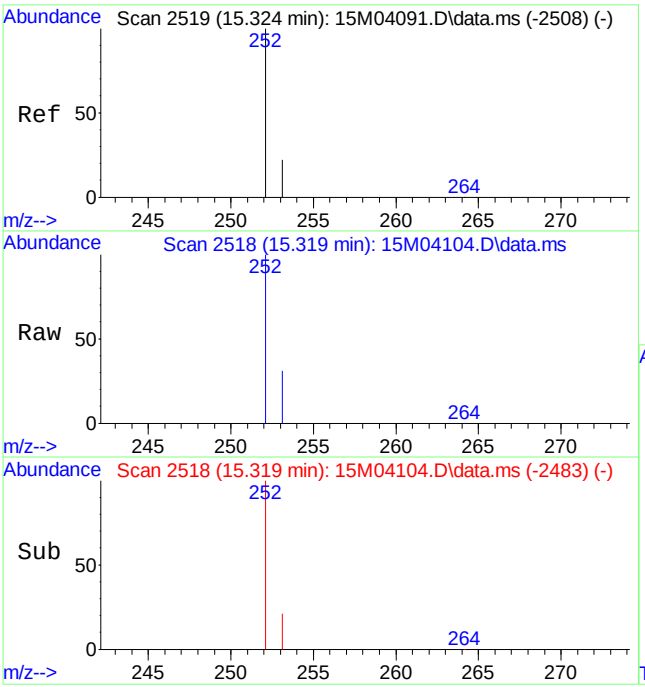


#22
Benzo[k]fluoranthene
Concen: 1.7063 ug/mL m
RT: 14.795 min Scan# 2394
Delta R.T. -0.015 min
Lab File: 15M04104.D
Acq: 22 Mar 2011 2:15 pm

Tgt Ion:252 Resp: 133309

Ion	Ratio	Lower	Upper
252	100		
253	19.5	23.0	53.6#

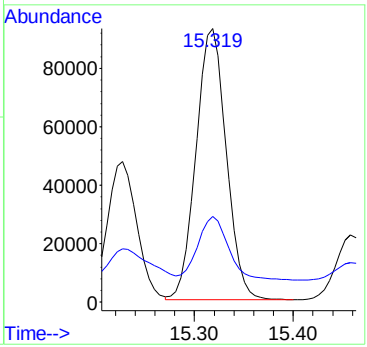


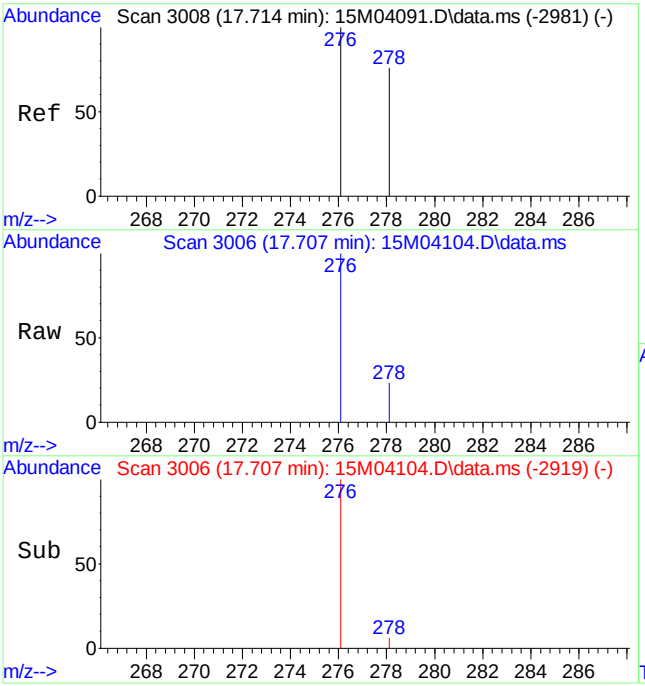


#23
Benzo[a]pyrene
Concen: 2.5060 ug/mL
RT: 15.319 min Scan# 2518
Delta R.T. -0.011 min
Lab File: 15M04104.D
Acq: 22 Mar 2011 2:15 pm

Tgt Ion:252 Resp: 196895

Ion	Ratio	Lower	Upper
252	100		
253	23.7	25.2	58.8#

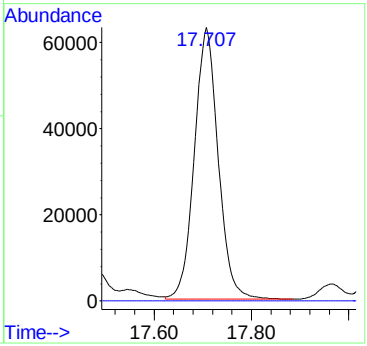


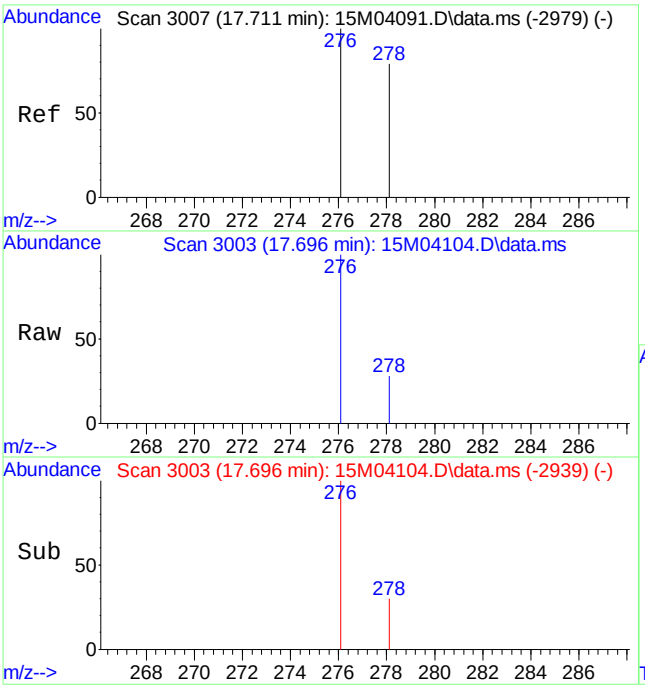


#24
Indeno[1,2,3-cd]pyrene
Concen: 2.2559 ug/mL
RT: 17.707 min Scan# 3006
Delta R.T. -0.018 min
Lab File: 15M04104.D
Acq: 22 Mar 2011 2:15 pm

Tgt Ion:276 Resp: 214690

Ion	Ratio	Lower	Upper
276	100		
277	0.0	0.0	0.0

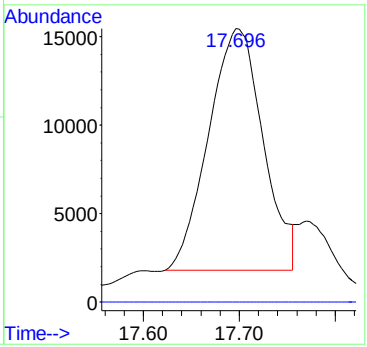


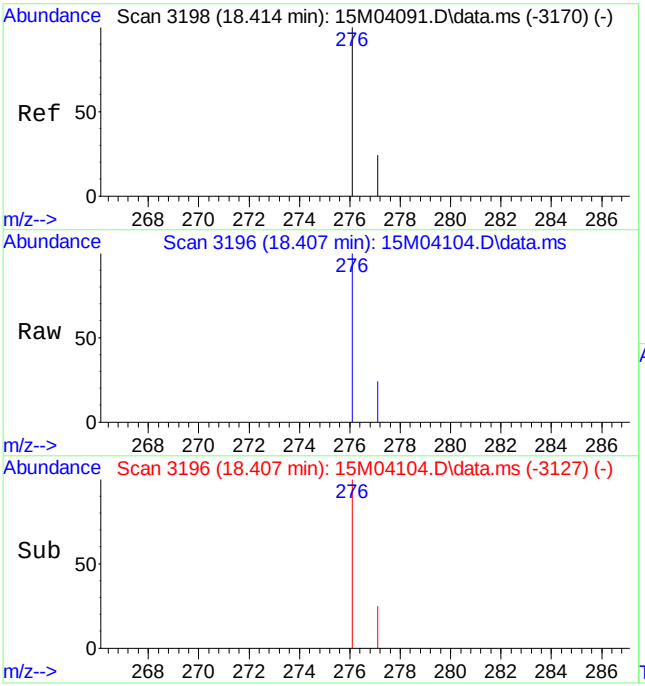


#25
Dibenz[ah]anthracene
Concen: 0.6947 ug/mL
RT: 17.696 min Scan# 3003
Delta R.T. -0.026 min
Lab File: 15M04104.D
Acq: 22 Mar 2011 2:15 pm

Tgt Ion:278 Resp: 53756

Ion	Ratio	Lower	Upper
278	100		
279	0.0	0.0	0.0

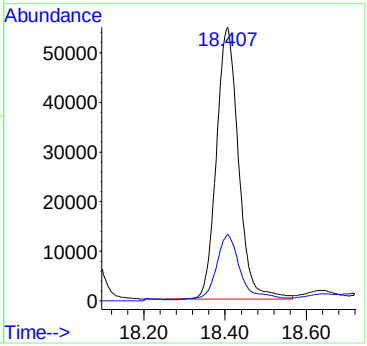




#26
Benzo[ghi]perylene
Concen: 2.6030 ug/mL
RT: 18.407 min Scan# 3196
Delta R.T. -0.018 min
Lab File: 15M04104.D
Acq: 22 Mar 2011 2:15 pm

Tgt Ion:276 Resp: 206958

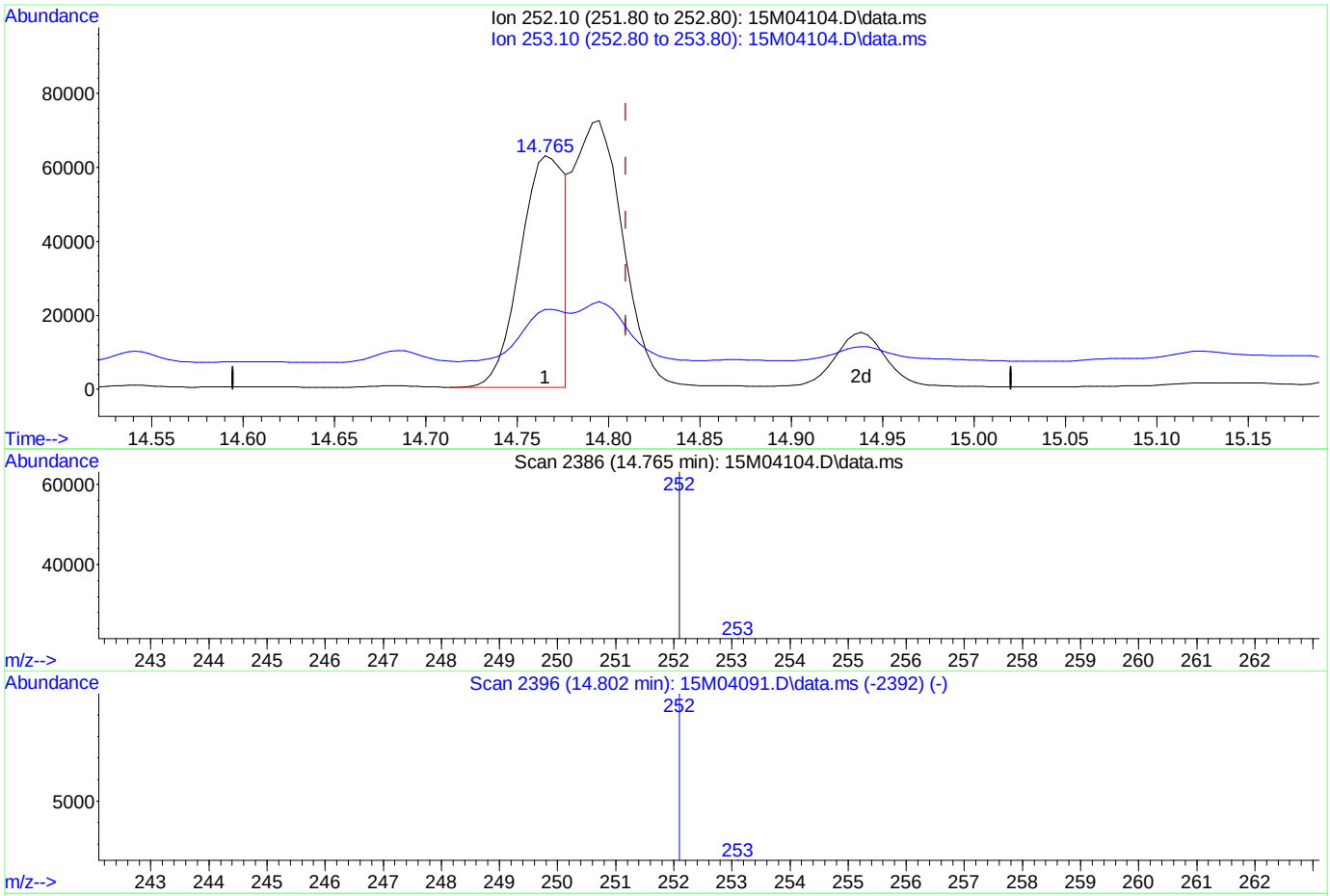
Ion	Ratio	Lower	Upper
276	100		
277	23.5	14.5	33.7



Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\032211\
Data File : 15M04104.D
Acq On : 22 Mar 2011 2:15 pm
Operator : CAA
Sample : L11030658-04 5X 827-PAHL
Misc : 7,5 SOIL
ALS Vial : 15 Sample Multiplier: 5

Quant Time: Mar 23 08:10:52 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Wed Mar 23 08:10:15 2011
Response via : Initial Calibration



TIC: 15M04104.D\data.ms

(22) Benzo[k]fluoranthene

14.765min (-0.044) 1.35 ug/mL

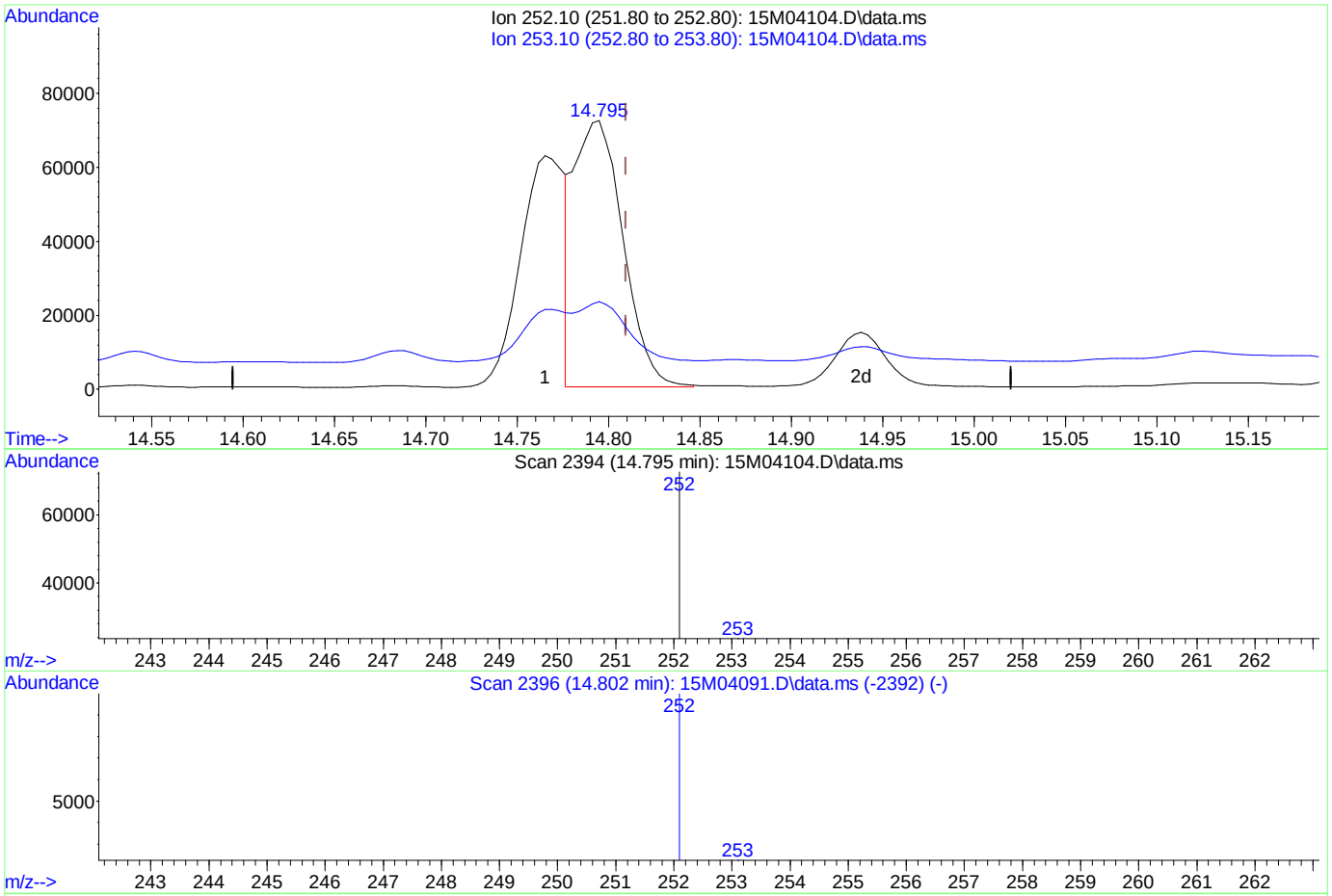
response 105830

Ion	Exp%	Act%
252.10	100	100
253.10	38.30	24.57
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\032211\
Data File : 15M04104.D
Acq On : 22 Mar 2011 2:15 pm
Operator : CAA
Sample : L11030658-04 5X 827-PAHL
Misc : 7,5 SOIL
ALS Vial : 15 Sample Multiplier: 5

Quant Time: Mar 23 08:10:52 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Wed Mar 23 08:10:15 2011
Response via : Initial Calibration



(22) Benzo[k]fluoranthene

14.795min (-0.015) 1.71 ug/mL mint

response 133309

Ion	Exp%	Act%
252.10	100	100
253.10	38.30	19.51#
0.00	0.00	0.00
0.00	0.00	0.00

Analyst: 03/23/2011 09:48 Supervisor: 03/24/2011 12:27

#3 - Improperly integrated isomers and/or coeluting compounds

PAHQUANT.M Wed Mar 23 08:19:13 2011

Page: 1

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032211\
Data File : 15M04106.D
Acq On : 22 Mar 2011 3:12 pm
Operator : CAA
Sample : L11030658-05 5X 827-PAHL
Misc : 7,5 SOIL
ALS Vial : 17 Sample Multiplier: 5

Quant Time: Mar 23 08:19:34 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Wed Mar 23 08:10:15 2011
Response via : Initial Calibration

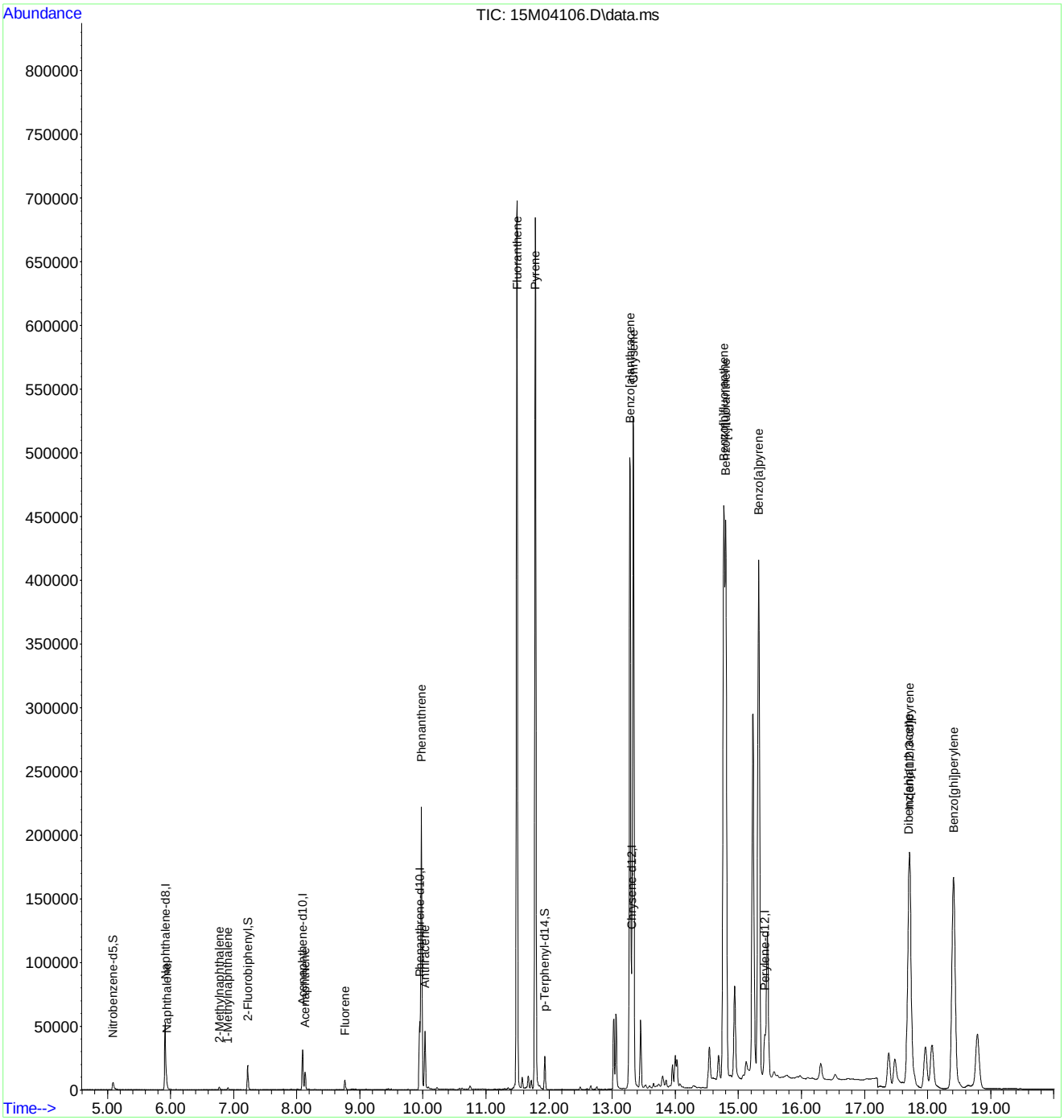
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8	5.916	136	69466	1.00	ug/mL	0.00
6) Acenaphthene-d10	8.093	164	37916	1.00	ug/mL	-0.01
11) Phenanthrene-d10	9.950	188	64105	1.00	ug/mL	0.00
15) Chrysene-d12	13.306	240	74232	1.00	ug/mL	0.00
20) Perylene-d12	15.415	264	71572	1.00	ug/mL	-0.01
System Monitoring Compounds						
2) Nitrobenzene-d5	5.088	82	7469	1.57	ug/mL	-0.02
Spiked Amount 2.500	Range 23 - 120		Recovery	=	62.80%	
7) 2-Fluorobiphenyl	7.224	172	17471	1.74	ug/mL	-0.01
Spiked Amount 2.500	Range 30 - 115		Recovery	=	69.60%	
17) p-Terphenyl-d14	11.931	244	28523	2.91	ug/mL	-0.01
Spiked Amount 2.500	Range 18 - 137		Recovery	=	116.40%	
Target Compounds						Qvalue
3) Naphthalene	5.937	128	7834	0.1109	ug/mL	99
4) 2-Methylnaphthalene	6.771	142	1597	0.0336	ug/mL	100
5) 1-Methylnaphthalene	6.907	142	1115	0.0235	ug/mL	98
9) Acenaphthene	8.131	154	8182	0.1866	ug/mL	98
10) Fluorene	8.765	166	4984	0.0947	ug/mL	98
12) Phenanthrene	9.977	178	234792	3.2604	ug/mL	99
13) Anthracene	10.036	178	49249	0.7535	ug/mL	100
14) Fluoranthene	11.493	202	769147	10.2858	ug/mL	95
16) Pyrene	11.783	202	756600	8.8483	ug/mL	88
18) Benzo[a]anthracene	13.285	228	545574	7.3103	ug/mL	95
19) Chrysene	13.338	228	614314	8.2435	ug/mL	95
21) Benzo[b]fluoranthene	14.769	252	706340	8.6070	ug/mL	80
22) Benzo[k]fluoranthene	14.798	252	584864m	7.6440	ug/mL	
23) Benzo[a]pyrene	15.324	252	693134	9.0078	ug/mL#	72
24) Indeno[1,2,3-cd]pyrene	17.715	276	532078	5.7087	ug/mL#	100
25) Dibenz[ah]anthracene	17.700	278	144779	1.9103	ug/mL#	100
26) Benzo[ghi]perylene	18.410	276	508375	6.5288	ug/mL	99

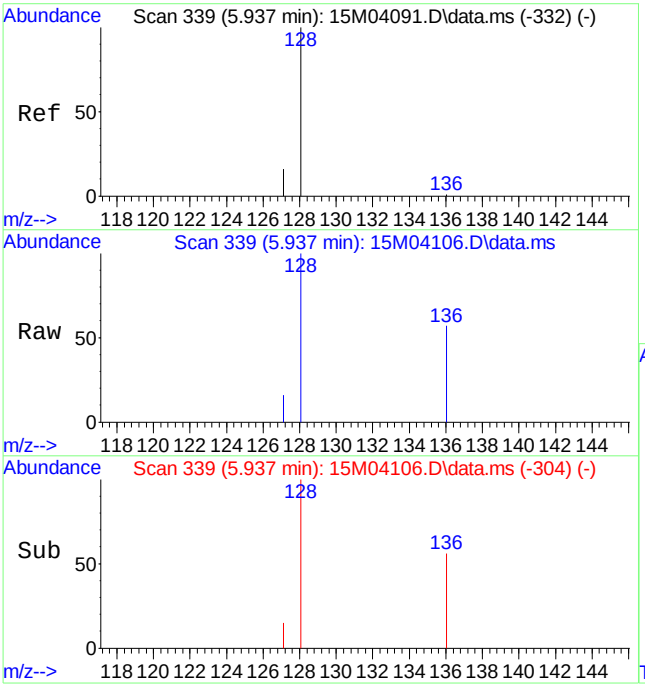
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032211\
Data File : 15M04106.D
Acq On : 22 Mar 2011 3:12 pm
Operator : CAA
Sample : L11030658-05 5X 827-PAHL
Misc : 7,5 SOIL
ALS Vial : 17 Sample Multiplier: 5

Quant Time: Mar 23 08:19:34 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Wed Mar 23 08:10:15 2011
Response via : Initial Calibration

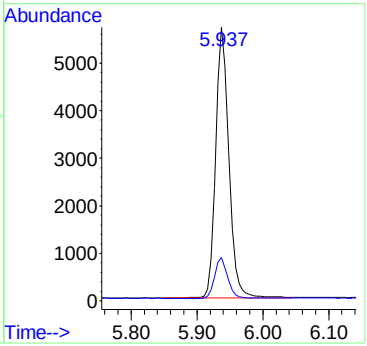


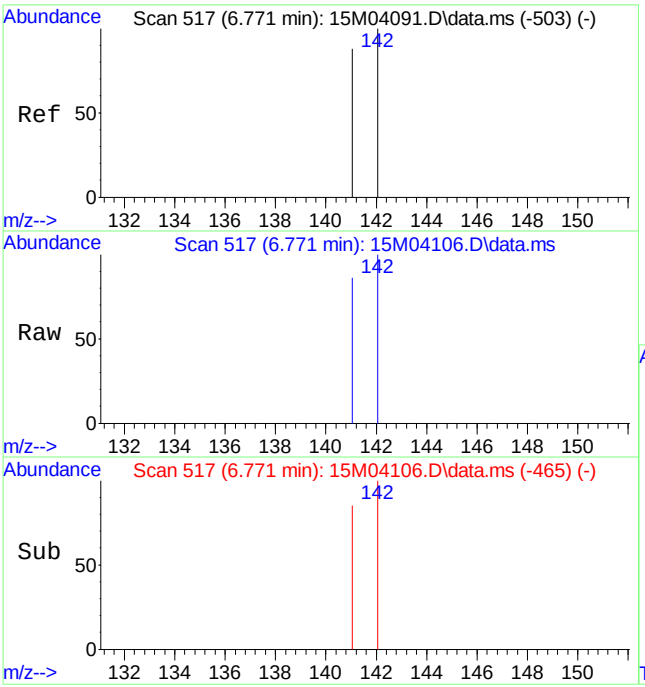


#3
Naphthalene
Concen: 0.1109 ug/mL
RT: 5.937 min Scan# 339
Delta R.T. -0.010 min
Lab File: 15M04106.D
Acq: 22 Mar 2011 3:12 pm

Tgt Ion:128 Resp: 7834

Ion	Ratio	Lower	Upper
128	100		
127	15.1	9.3	21.7

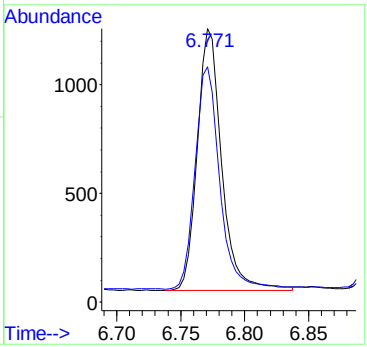


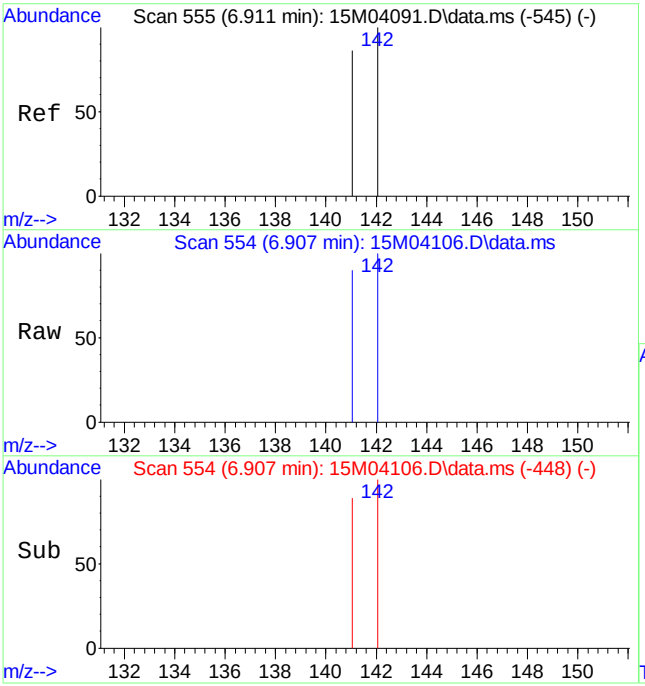


#4
2-Methylnaphthalene
Concen: 0.0336 ug/mL
RT: 6.771 min Scan# 517
Delta R.T. -0.010 min
Lab File: 15M04106.D
Acq: 22 Mar 2011 3:12 pm

Tgt Ion:142 Resp: 1597

Ion	Ratio	Lower	Upper
142	100		
141	86.2	51.7	120.7

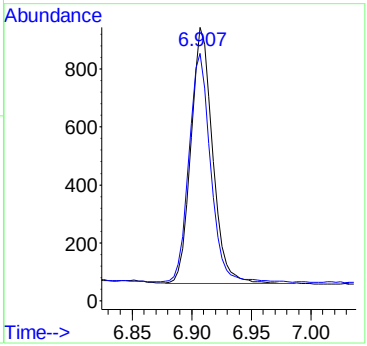


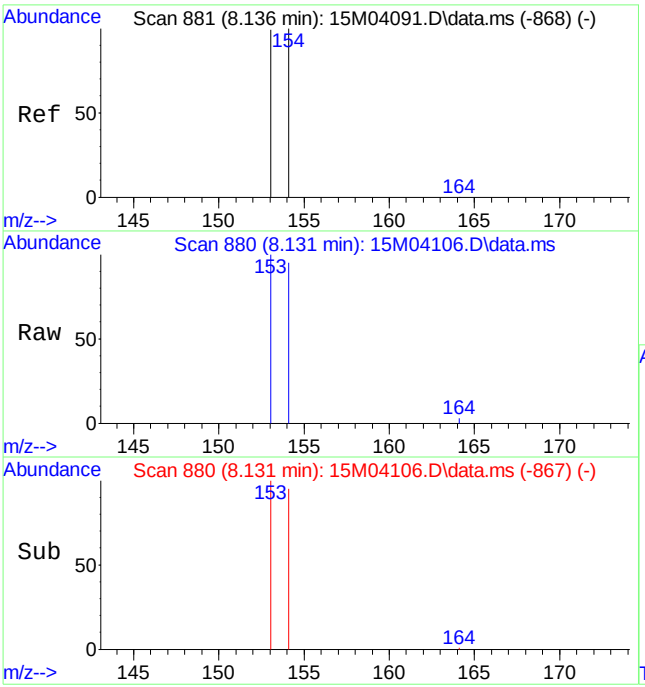


#5
1-Methylnaphthalene
Concen: 0.0235 ug/mL
RT: 6.907 min Scan# 554
Delta R.T. -0.009 min
Lab File: 15M04106.D
Acq: 22 Mar 2011 3:12 pm

Tgt Ion:142 Resp: 1115

Ion	Ratio	Lower	Upper
142	100		
141	87.4	71.8	107.6

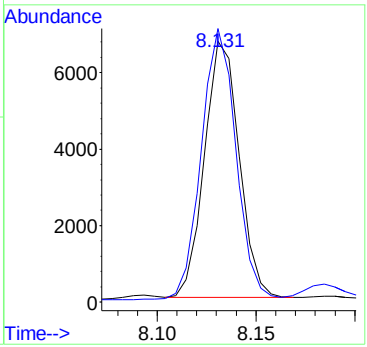


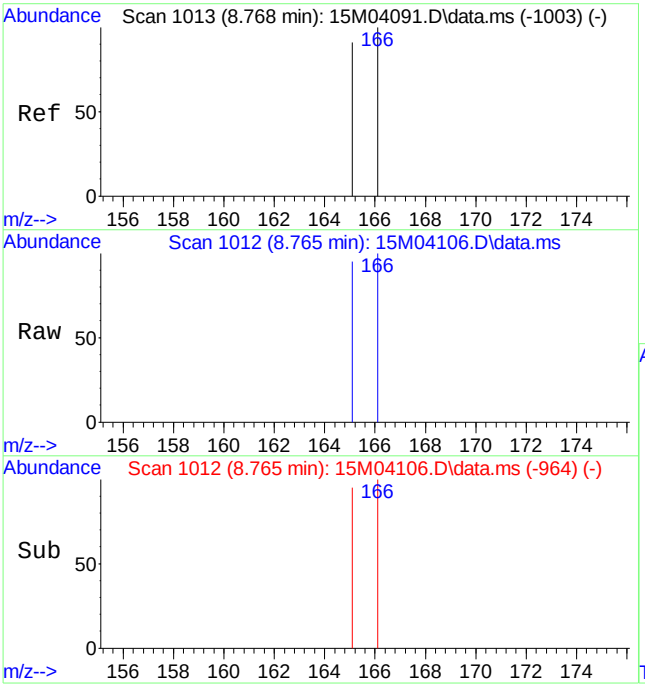


#9
Acenaphthene
Concen: 0.1866 ug/mL
RT: 8.131 min Scan# 880
Delta R.T. -0.016 min
Lab File: 15M04106.D
Acq: 22 Mar 2011 3:12 pm

Tgt Ion:154 Resp: 8182

Ion	Ratio	Lower	Upper
154	100		
153	105.4	61.8	144.2

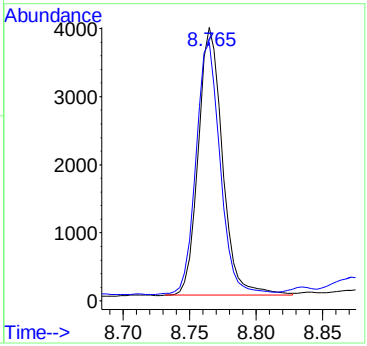


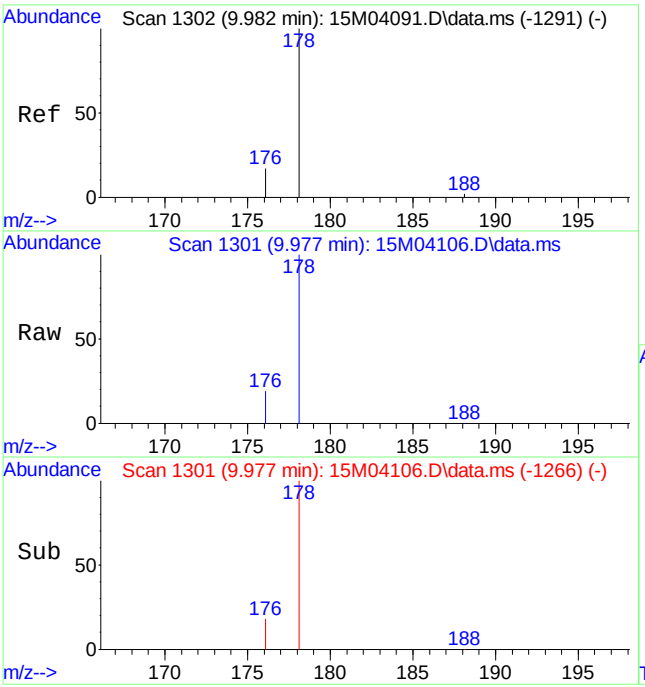


#10
Fluorene
Concen: 0.0947 ug/mL
RT: 8.765 min Scan# 1012
Delta R.T. -0.015 min
Lab File: 15M04106.D
Acq: 22 Mar 2011 3:12 pm

Tgt Ion:166 Resp: 4984

Ion	Ratio	Lower	Upper
166	100		
165	92.1	56.6	132.0

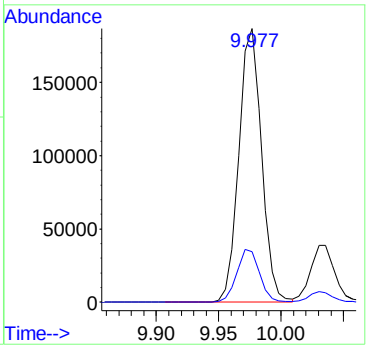


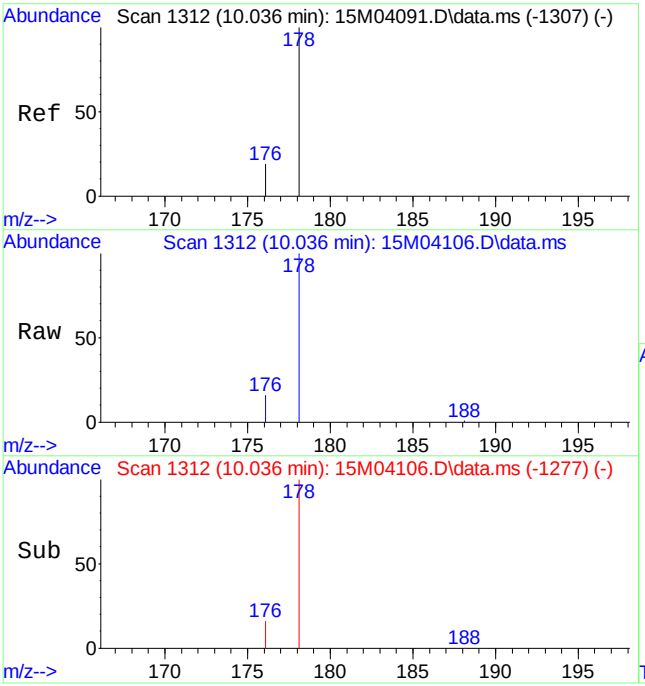


#12
Phenanthrene
Concen: 3.2604 ug/mL
RT: 9.977 min Scan# 1301
Delta R.T. -0.011 min
Lab File: 15M04106.D
Acq: 22 Mar 2011 3:12 pm

Tgt Ion:178 Resp: 234792

Ion	Ratio	Lower	Upper
178	100		
176	19.2	11.4	26.6

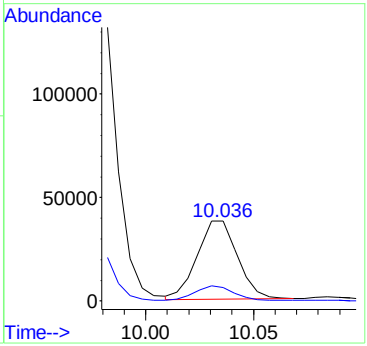


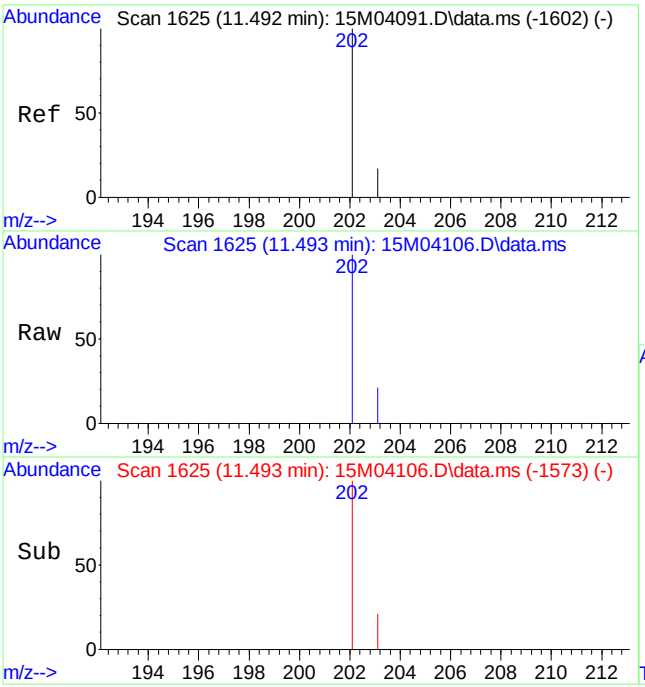


#13
Anthracene
Concen: 0.7535 ug/mL
RT: 10.036 min Scan# 1312
Delta R.T. -0.010 min
Lab File: 15M04106.D
Acq: 22 Mar 2011 3:12 pm

Tgt Ion:178 Resp: 49249

Ion	Ratio	Lower	Upper
178	100		
176	18.2	11.0	25.6

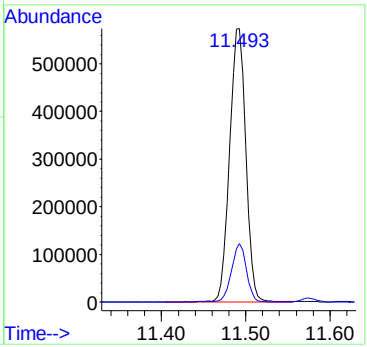


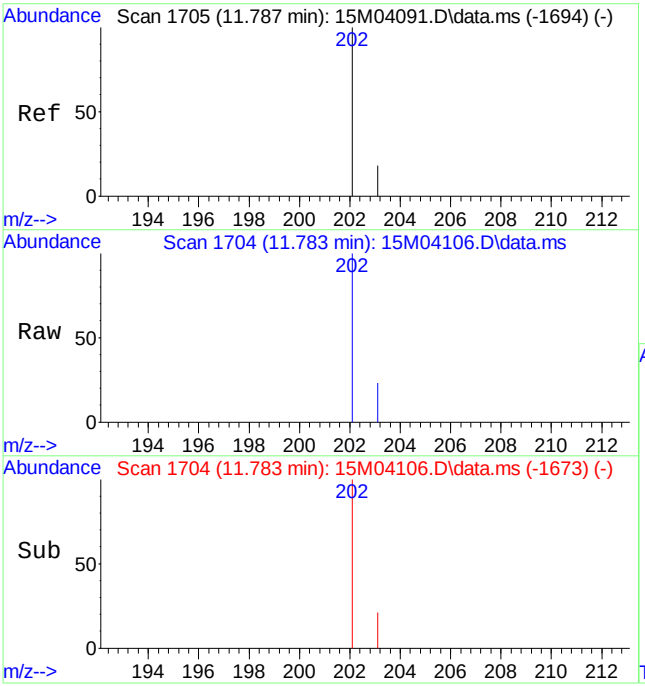


#14
Fluoranthene
Concen: 10.2858 ug/mL
RT: 11.493 min Scan# 1625
Delta R.T. -0.007 min
Lab File: 15M04106.D
Acq: 22 Mar 2011 3:12 pm

Tgt Ion:202 Resp: 769147

Ion	Ratio	Lower	Upper
202	100		
203	19.5	10.4	24.4

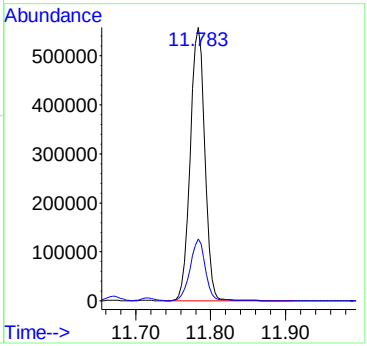


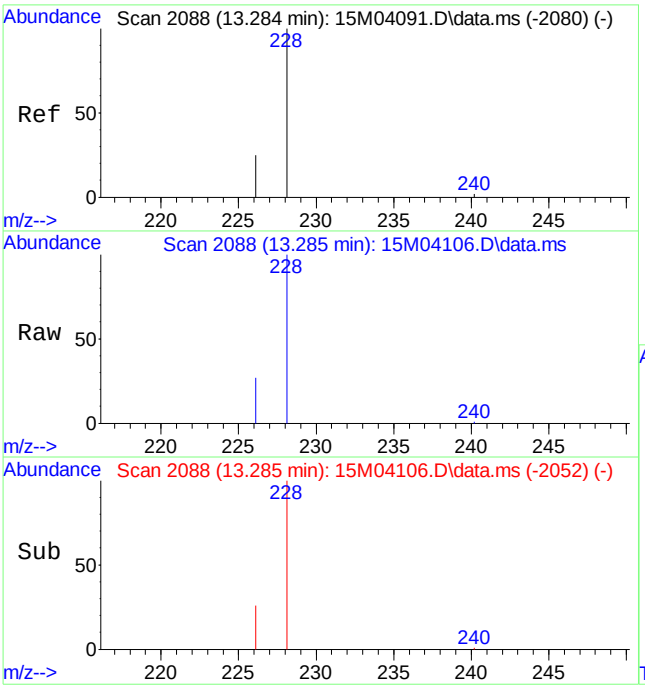


#16
Pyrene
Concen: 8.8483 ug/mL
RT: 11.783 min Scan# 1704
Delta R.T. -0.011 min
Lab File: 15M04106.D
Acq: 22 Mar 2011 3:12 pm

Tgt Ion:202 Resp: 756600

Ion	Ratio	Lower	Upper
202	100		
203	23.5	11.0	25.6

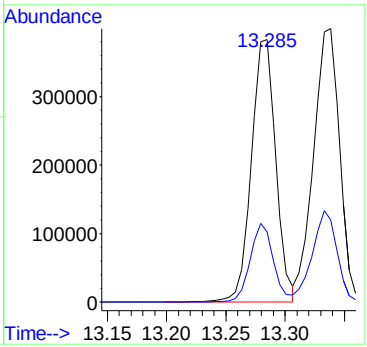


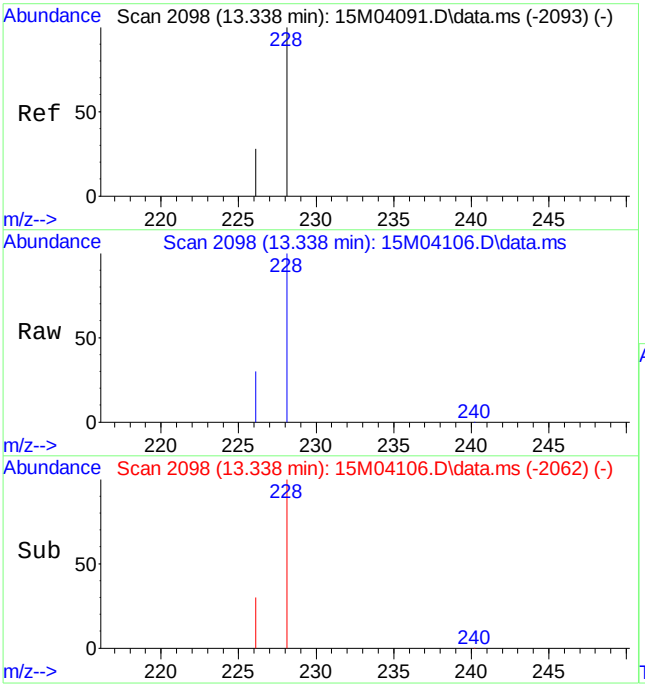


#18
Benzo[a]anthracene
Concen: 7.3103 ug/mL
RT: 13.285 min Scan# 2088
Delta R.T. -0.005 min
Lab File: 15M04106.D
Acq: 22 Mar 2011 3:12 pm

Tgt Ion:228 Resp: 545574

Ion	Ratio	Lower	Upper
228	100		
226	28.7	15.7	36.5

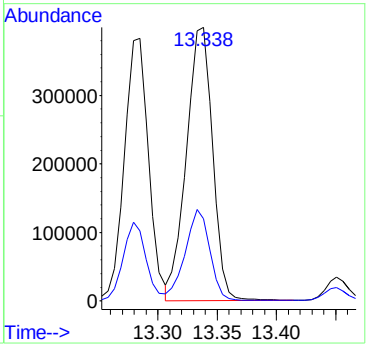


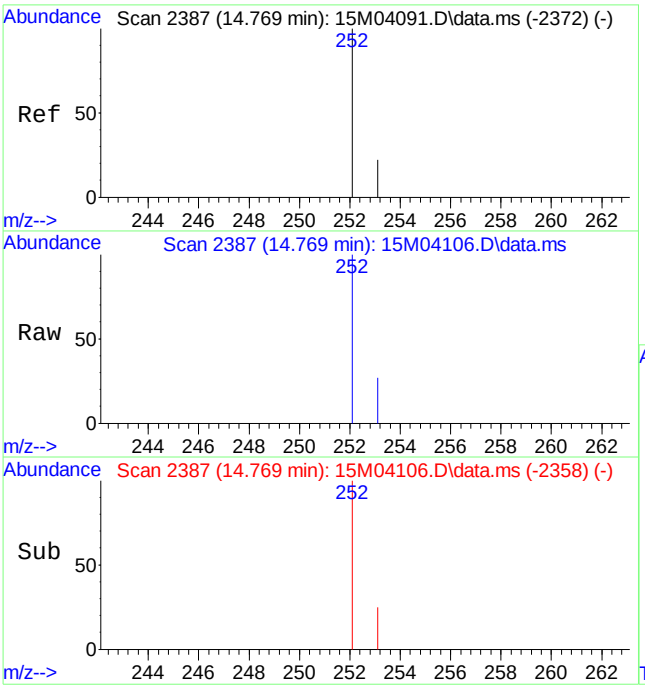


#19
Chrysene
Concen: 8.2435 ug/mL
RT: 13.338 min Scan# 2098
Delta R.T. -0.005 min
Lab File: 15M04106.D
Acq: 22 Mar 2011 3:12 pm

Tgt Ion:228 Resp: 614314

Ion	Ratio	Lower	Upper
228	100		
226	30.9	17.0	39.8

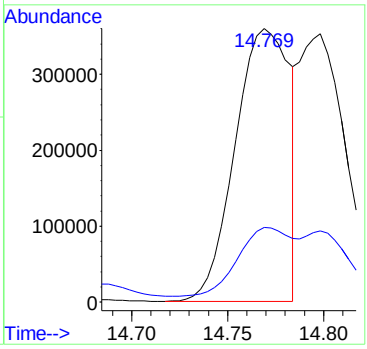


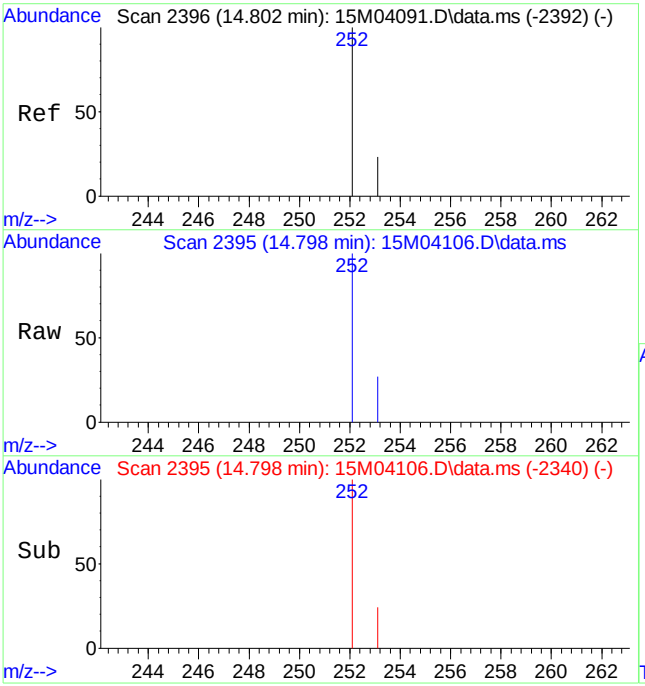


#21
Benzo[b]fluoranthene
Concen: 8.6070 ug/mL
RT: 14.769 min Scan# 2387
Delta R.T. -0.007 min
Lab File: 15M04106.D
Acq: 22 Mar 2011 3:12 pm

Tgt Ion:252 Resp: 706340

Ion	Ratio	Lower	Upper
252	100		
253	26.1	22.8	53.2

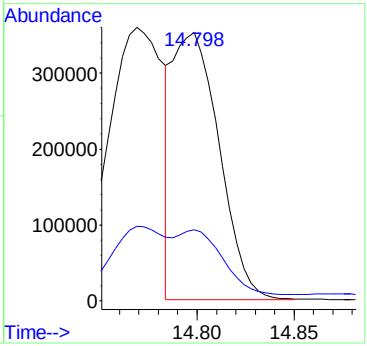


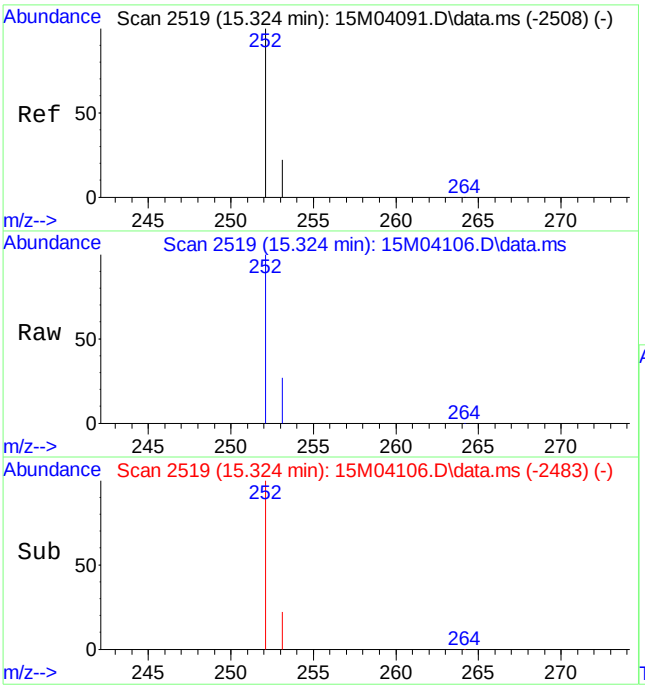


#22
Benzo[k]fluoranthene
Concen: 7.6440 ug/mL m
RT: 14.798 min Scan# 2395
Delta R.T. -0.011 min
Lab File: 15M04106.D
Acq: 22 Mar 2011 3:12 pm

Tgt Ion:252 Resp: 584864

Ion	Ratio	Lower	Upper
252	100		
253	31.6	23.0	53.6

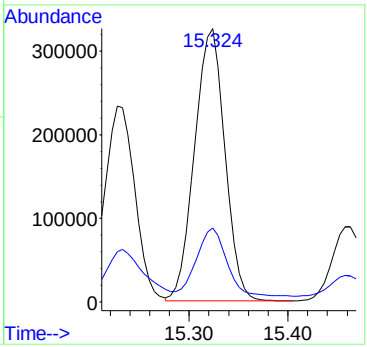


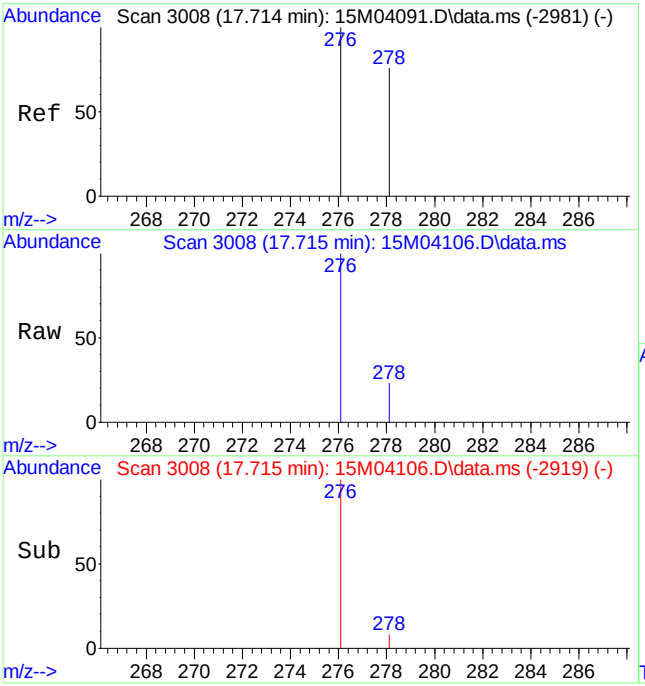


#23
Benzo[a]pyrene
Concen: 9.0078 ug/mL
RT: 15.324 min Scan# 2519
Delta R.T. -0.005 min
Lab File: 15M04106.D
Acq: 22 Mar 2011 3:12 pm

Tgt Ion:252 Resp: 693134

Ion	Ratio	Lower	Upper
252	100		
253	24.4	25.2	58.8#

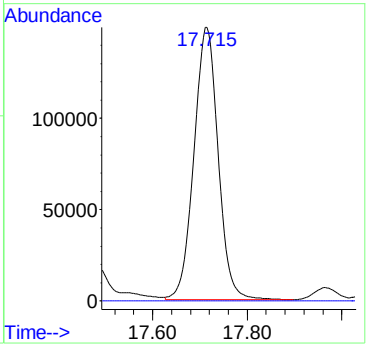


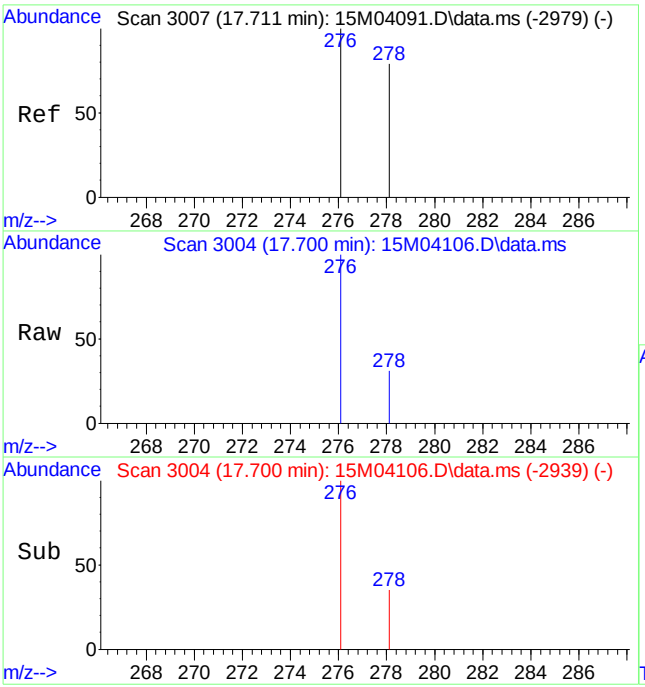


#24
Indeno[1,2,3-cd]pyrene
Concen: 5.7087 ug/mL
RT: 17.715 min Scan# 3008
Delta R.T. -0.011 min
Lab File: 15M04106.D
Acq: 22 Mar 2011 3:12 pm

Tgt Ion:276 Resp: 532078

Ion	Ratio	Lower	Upper
276	100		
277	0.0	0.0	0.0

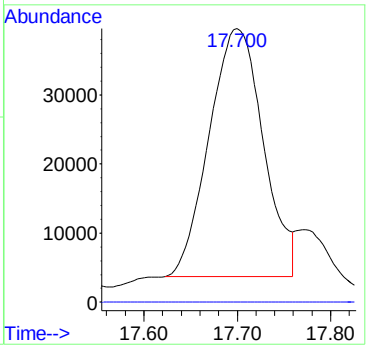


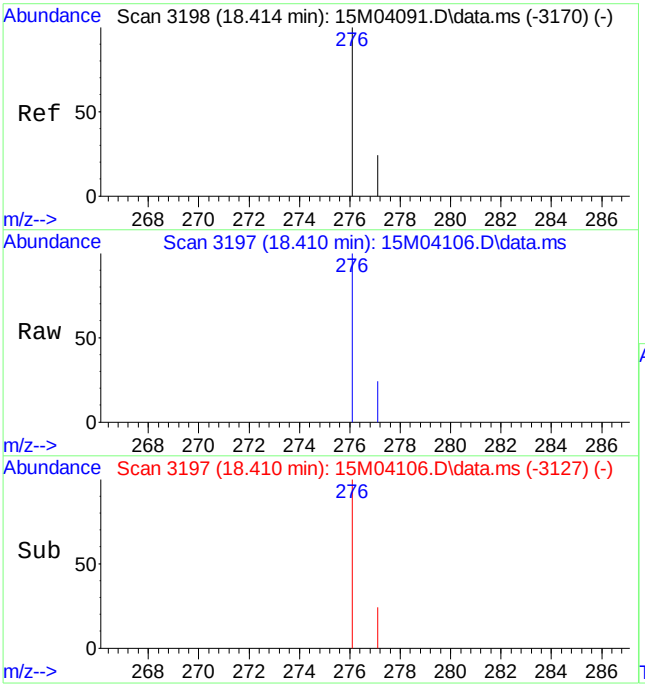


#25
Dibenz[ah]anthracene
Concen: 1.9103 ug/mL
RT: 17.700 min Scan# 3004
Delta R.T. -0.022 min
Lab File: 15M04106.D
Acq: 22 Mar 2011 3:12 pm

Tgt Ion:278 Resp: 144779

Ion	Ratio	Lower	Upper
278	100		
279	0.0	0.0	0.0

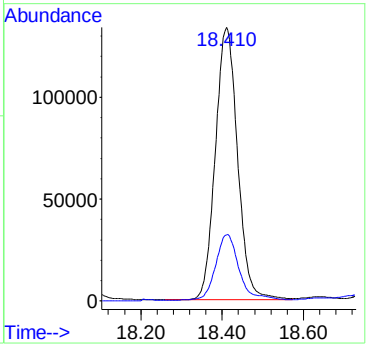




#26
Benzo[ghi]perylene
Concen: 6.5288 ug/mL
RT: 18.410 min Scan# 3197
Delta R.T. -0.015 min
Lab File: 15M04106.D
Acq: 22 Mar 2011 3:12 pm

Tgt Ion:276 Resp: 508375

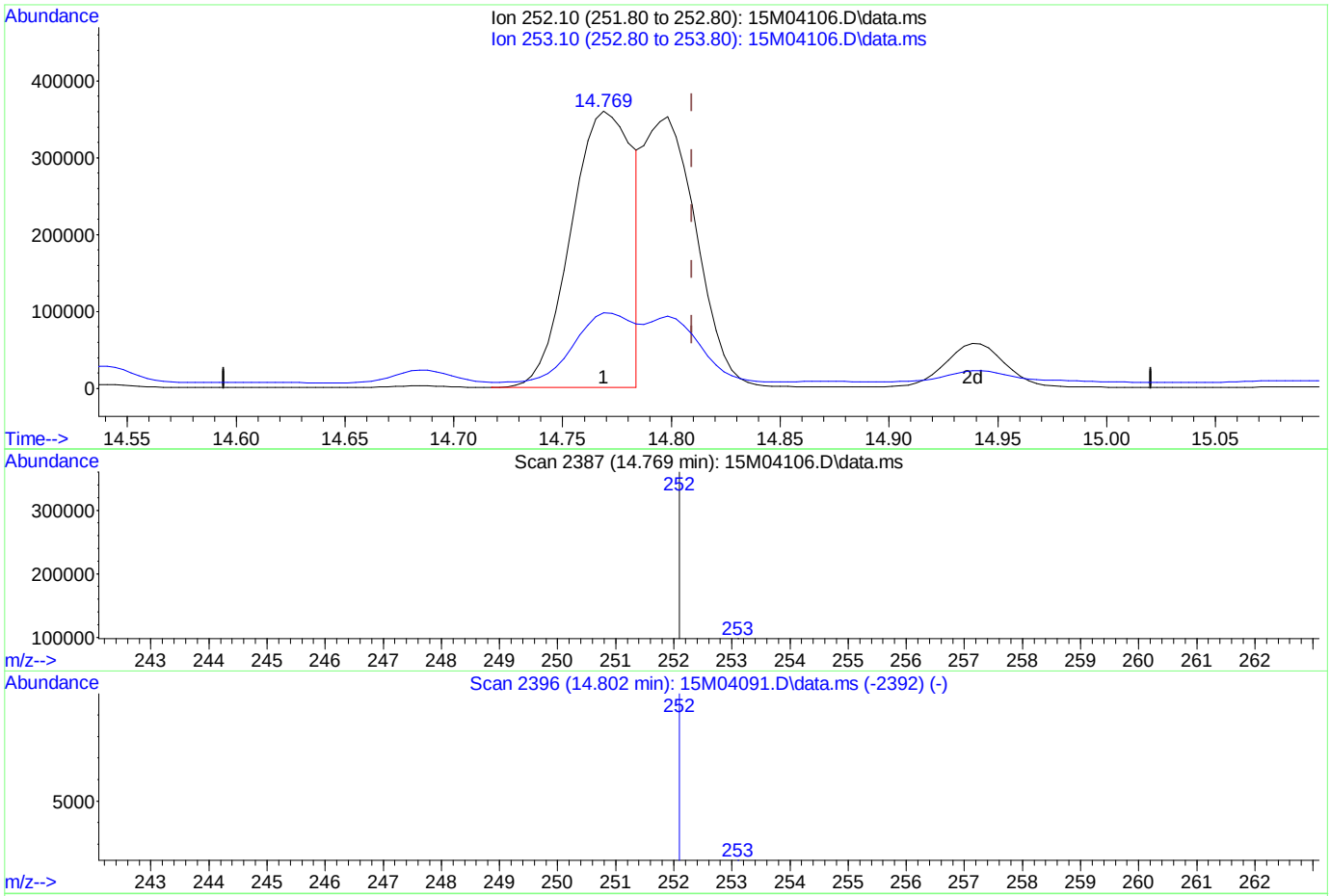
Ion	Ratio	Lower	Upper
276	100		
277	24.5	14.5	33.7



Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\032211\
Data File : 15M04106.D
Acq On : 22 Mar 2011 3:12 pm
Operator : CAA
Sample : L11030658-05 5X 827-PAHL
Misc : 7,5 SOIL
ALS Vial : 17 Sample Multiplier: 5

Quant Time: Mar 23 08:10:56 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Wed Mar 23 08:10:15 2011
Response via : Initial Calibration



TIC: 15M04106.D\data.ms

(22) Benzo[k]fluoranthene

14.769min (-0.040) 9.23 ug/mL

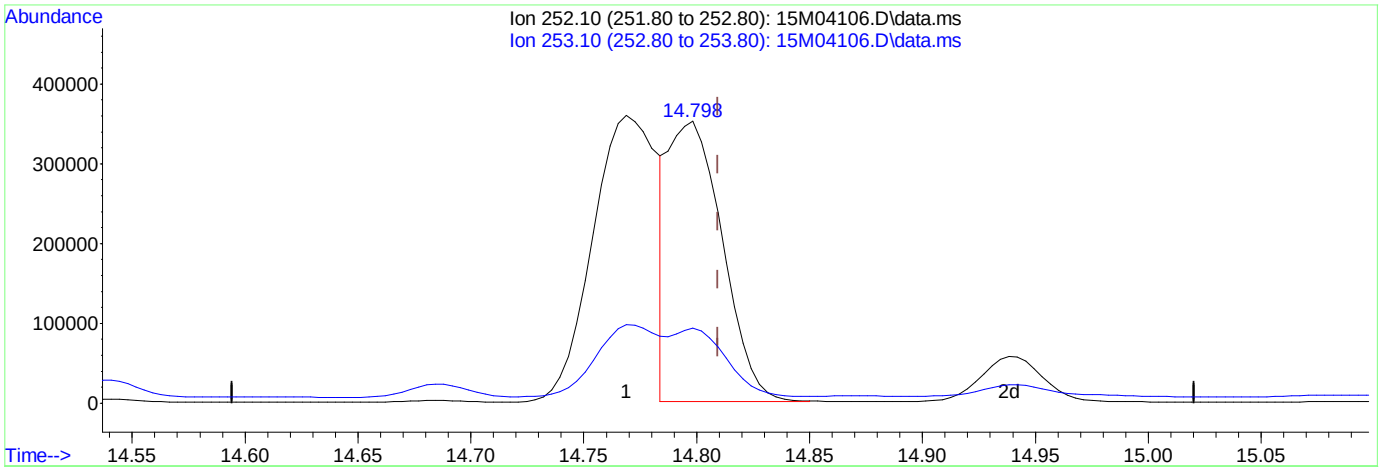
response 706340

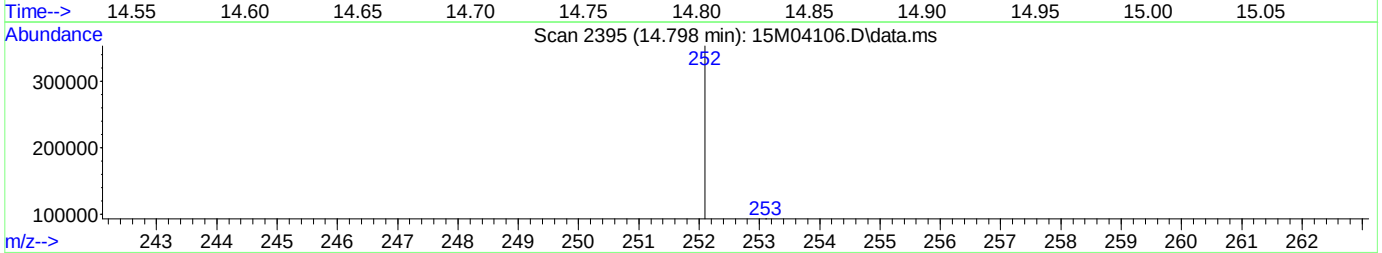
Ion	Exp%	Act%
252.10	100	100
253.10	38.30	26.14
0.00	0.00	0.00
0.00	0.00	0.00

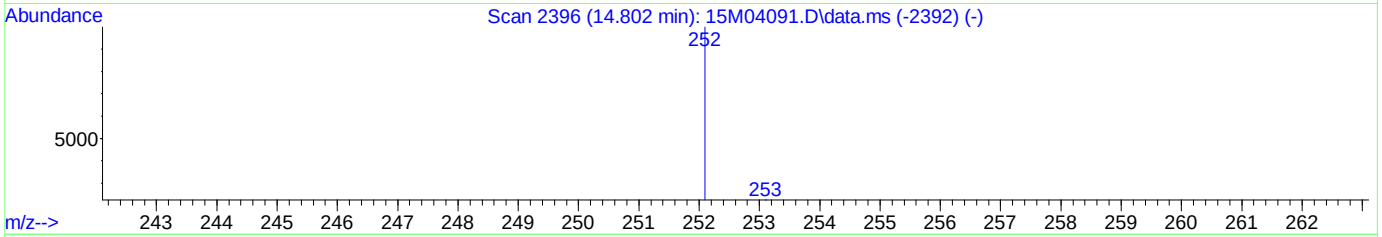
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\032211\
Data File : 15M04106.D
Acq On : 22 Mar 2011 3:12 pm
Operator : CAA
Sample : L11030658-05 5X 827-PAHL
Misc : 7,5 SOIL
ALS Vial : 17 Sample Multiplier: 5

Quant Time: Mar 23 08:10:56 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Wed Mar 23 08:10:15 2011
Response via : Initial Calibration







TIC: 15M04106.D\data.ms

(22) Benzo[k]fluoranthene

14.798min (-0.011) 7.64 ug/mL mint

response 584864

Ion	Exp%	Act%
252.10	100	100
253.10	38.30	31.57
0.00	0.00	0.00
0.00	0.00	0.00

Analyst: 03/23/2011 09:48 Supervisor: 03/24/2011 12:27

#3 - Improperly integrated isomers and/or coeluting compounds

PAHQUANT.M Wed Mar 23 08:19:35 2011

Page: 1

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032311\
Data File : 15M04114.D
Acq On : 23 Mar 2011 10:13 am
Operator : CAA
Sample : L11030658-05 50X 827-PAHL
Misc : 7,50 SOIL
ALS Vial : 4 Sample Multiplier: 50

Quant Time: Mar 24 08:47:12 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Thu Mar 24 08:44:54 2011
Response via : Initial Calibration

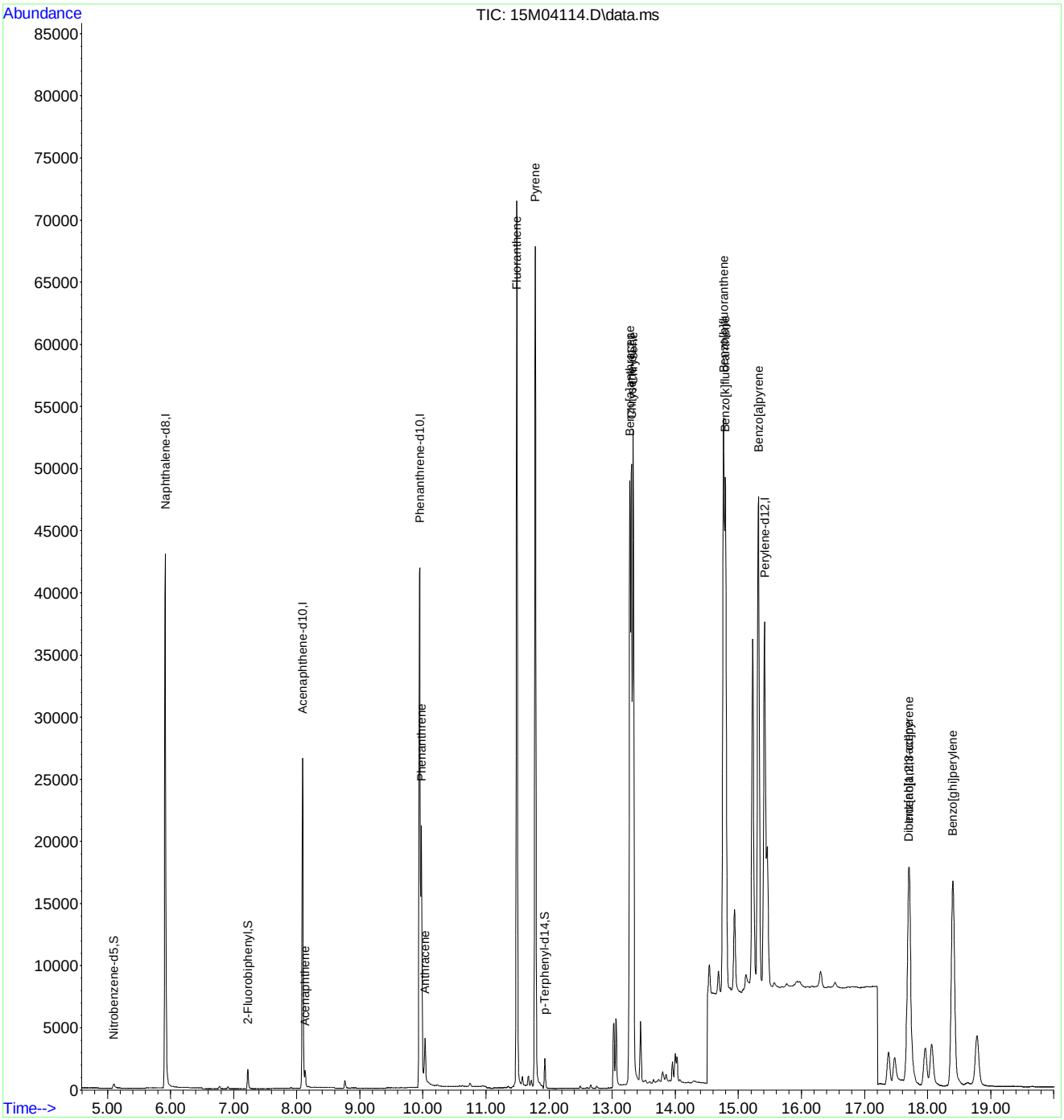
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8	5.916	136	58062	1.00 ug/mL	0.00
6) Acenaphthene-d10	8.093	164	32210	1.00 ug/mL	-0.01
11) Phenanthrene-d10	9.950	188	54849	1.00 ug/mL	0.00
15) Chrysene-d12	13.306	240	63303	1.00 ug/mL	0.00
20) Perylene-d12	15.415	264	63256	1.00 ug/mL	-0.01
System Monitoring Compounds					
2) Nitrobenzene-d5	5.099	82	579	1.46 ug/mL	-0.01
Spiked Amount 2.500	Range 23 - 120		Recovery	= 58.40%	
7) 2-Fluorobiphenyl	7.224	172	1556	1.83 ug/mL	-0.01
Spiked Amount 2.500	Range 30 - 115		Recovery	= 73.20%	
17) p-Terphenyl-d14	11.931	244	3060	3.66 ug/mL	-0.01
Spiked Amount 2.500	Range 18 - 137		Recovery	= 146.40%#	
Target Compounds					Qvalue
9) Acenaphthene	8.131	154	748	0.0201 ug/mL	96
12) Phenanthrene	9.977	178	21623	0.3509 ug/mL	100
13) Anthracene	10.036	178	4144	0.0741 ug/mL	91
14) Fluoranthene	11.489	202	78036	1.2197 ug/mL	99
16) Pyrene	11.780	202	77139	1.0579 ug/mL	96
18) Benzo[a]anthracene	13.279	228	51923	0.8158 ug/mL	100
19) Chrysene	13.333	228	59789	0.9408 ug/mL	97
21) Benzo[b]fluoranthene	14.765	252	70940	0.9781 ug/mL	77
22) Benzo[k]fluoranthene	14.791	252	55575m	0.8218 ug/mL	
23) Benzo[a]pyrene	15.318	252	67041	0.9858 ug/mL#	70
24) Indeno[1,2,3-cd]pyrene	17.707	276	51482	0.6250 ug/mL#	100
25) Dibenz[ah]anthracene	17.692	278	13540	0.2021 ug/mL#	100
26) Benzo[ghi]perylene	18.399	276	50750	0.7374 ug/mL	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

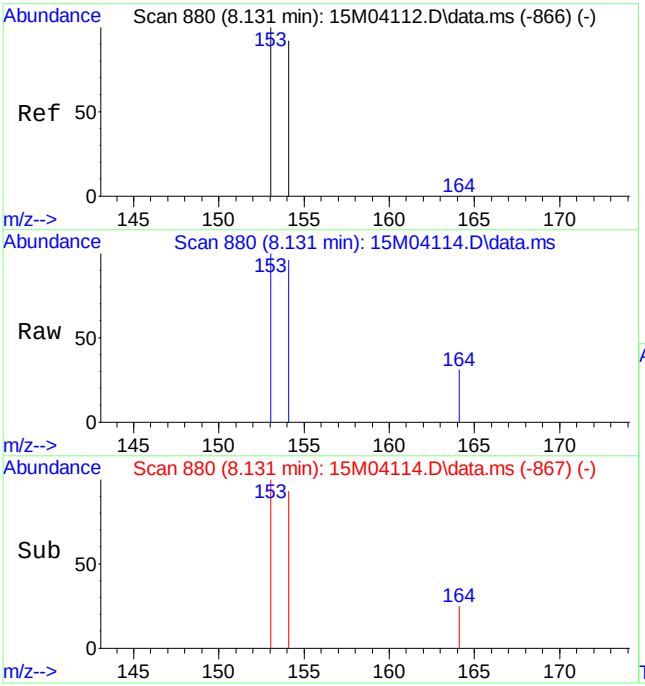
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032311\
Data File : 15M04114.D
Acq On : 23 Mar 2011 10:13 am
Operator : CAA
Sample : L11030658-05 50X 827-PAHL
Misc : 7,50 SOIL
ALS Vial : 4 Sample Multiplier: 50

Quant Time: Mar 24 08:47:12 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Thu Mar 24 08:44:54 2011
Response via : Initial Calibration



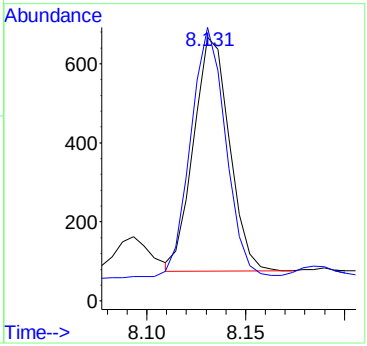
PAHQUANT.M Thu Mar 24 08:47:57 2011 Page: 2

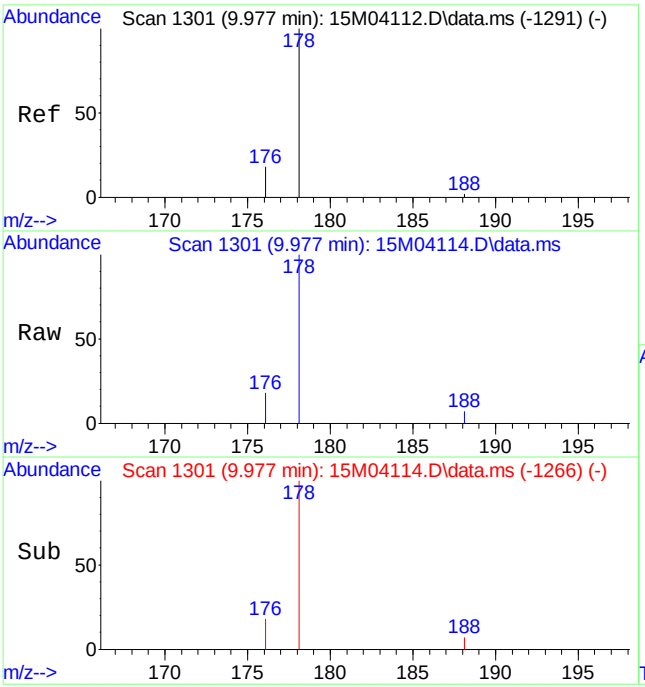


#9
Acenaphthene
Concen: 0.0201 ug/mL
RT: 8.131 min Scan# 880
Delta R.T. -0.016 min
Lab File: 15M04114.D
Acq: 23 Mar 2011 10:13 am

Tgt Ion:154 Resp: 748

Ion	Ratio	Lower	Upper
154	100		
153	107.1	61.8	144.2

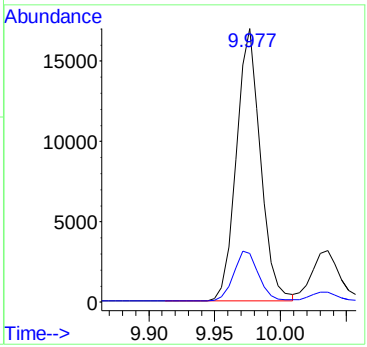


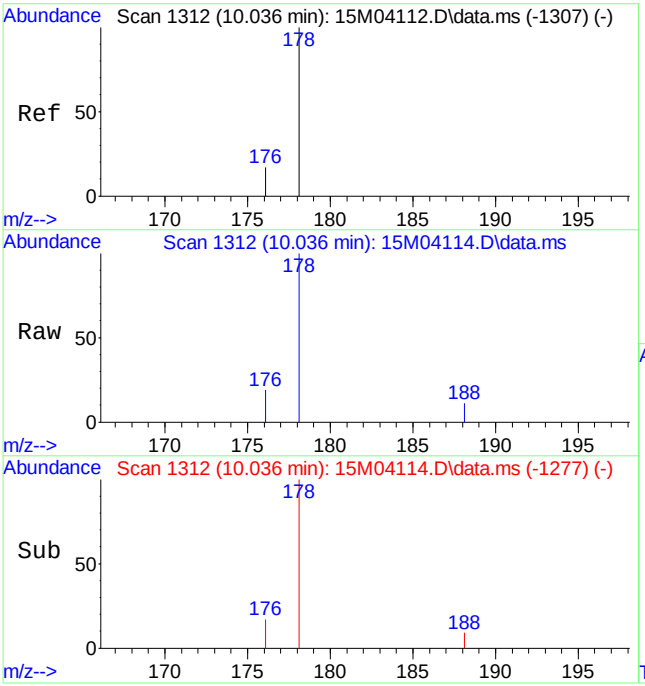


#12
Phenanthrene
Concen: 0.3509 ug/mL
RT: 9.977 min Scan# 1301
Delta R.T. -0.011 min
Lab File: 15M04114.D
Acq: 23 Mar 2011 10:13 am

Tgt Ion:178 Resp: 21623

Ion	Ratio	Lower	Upper
178	100		
176	19.0	11.4	26.6

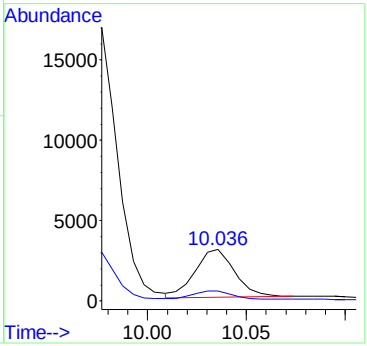


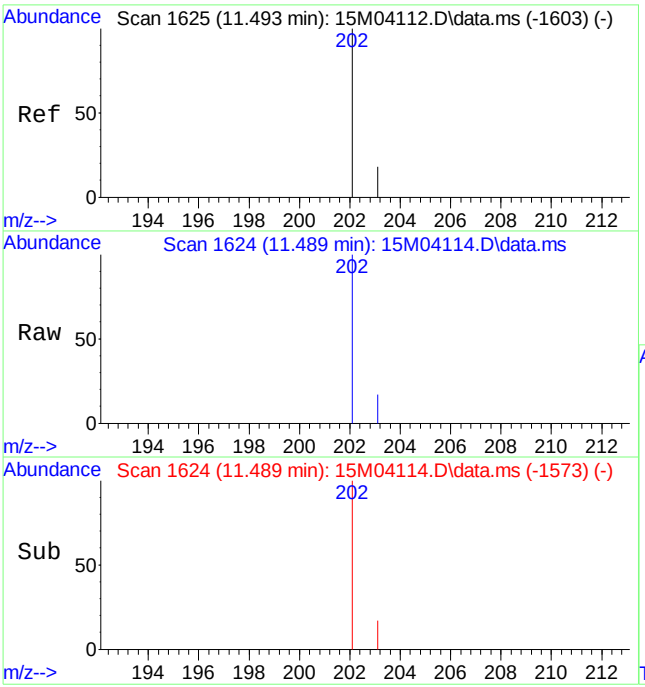


#13
Anthracene
Concen: 0.0741 ug/mL
RT: 10.036 min Scan# 1312
Delta R.T. -0.010 min
Lab File: 15M04114.D
Acq: 23 Mar 2011 10:13 am

Tgt Ion:178 Resp: 4144

Ion	Ratio	Lower	Upper
178	100		
176	22.2	11.0	25.6

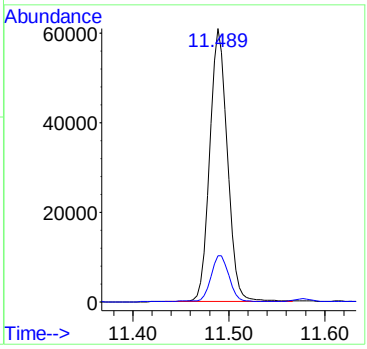


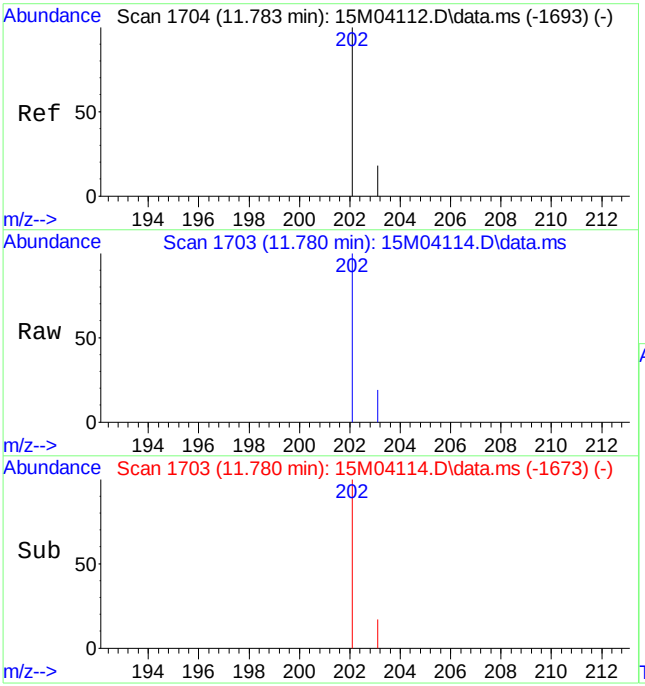


#14
Fluoranthene
Concen: 1.2197 ug/mL
RT: 11.489 min Scan# 1624
Delta R.T. -0.011 min
Lab File: 15M04114.D
Acq: 23 Mar 2011 10:13 am

Tgt Ion:202 Resp: 78036

Ion	Ratio	Lower	Upper
202	100		
203	16.9	10.4	24.4

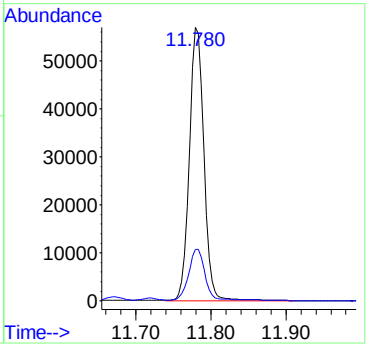


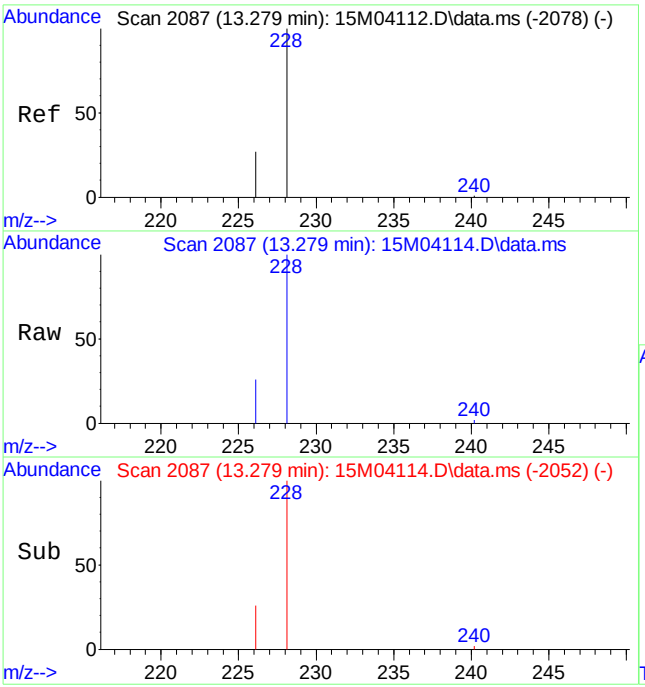


#16
Pyrene
Concen: 1.0579 ug/mL
RT: 11.780 min Scan# 1703
Delta R.T. -0.015 min
Lab File: 15M04114.D
Acq: 23 Mar 2011 10:13 am

Tgt Ion:202 Resp: 77139

Ion	Ratio	Lower	Upper
202	100		
203	20.2	11.0	25.6

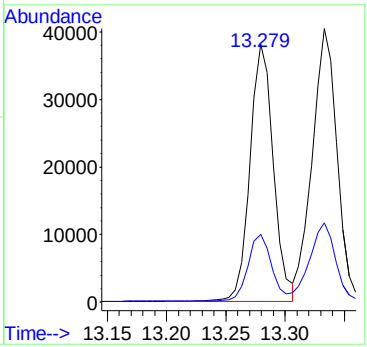


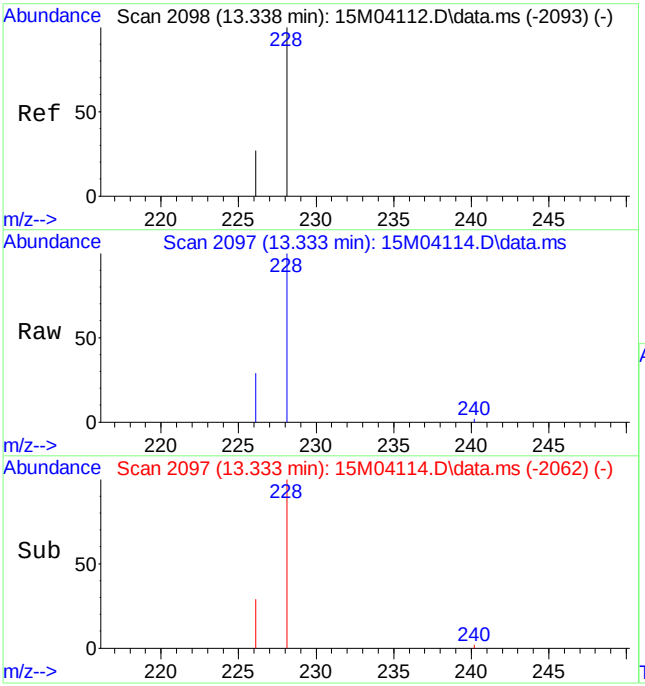


#18
Benzo[a]anthracene
Concen: 0.8158 ug/mL
RT: 13.279 min Scan# 2087
Delta R.T. -0.011 min
Lab File: 15M04114.D
Acq: 23 Mar 2011 10:13 am

Tgt Ion:228 Resp: 51923

Ion	Ratio	Lower	Upper
228	100		
226	26.1	15.7	36.5

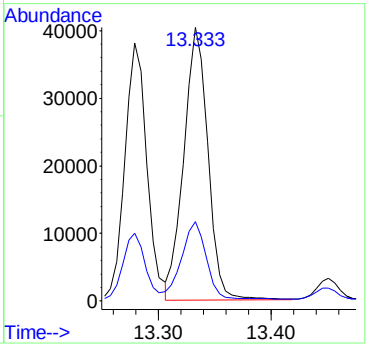


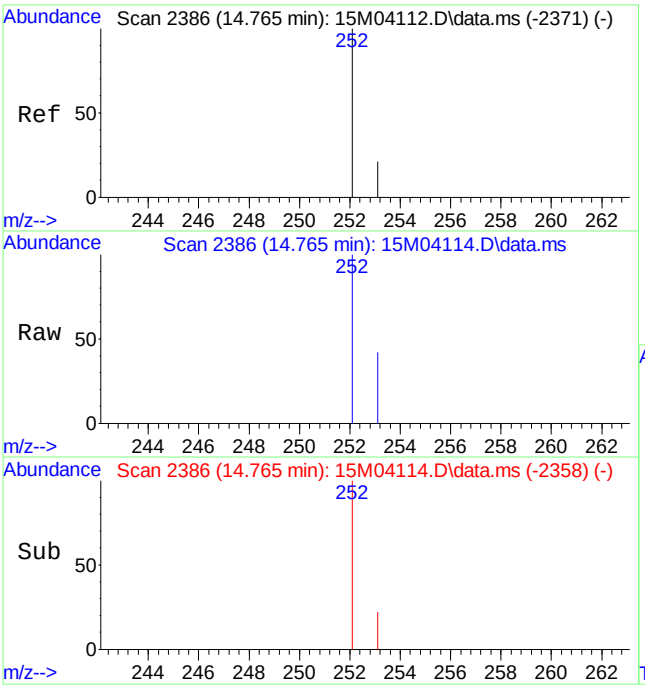


#19
Chrysene
Concen: 0.9408 ug/mL
RT: 13.333 min Scan# 2097
Delta R.T. -0.011 min
Lab File: 15M04114.D
Acq: 23 Mar 2011 10:13 am

Tgt Ion:228 Resp: 59789

Ion	Ratio	Lower	Upper
228	100		
226	30.2	17.0	39.8

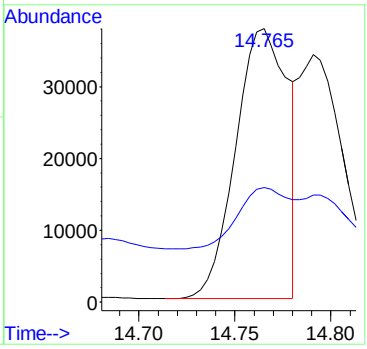


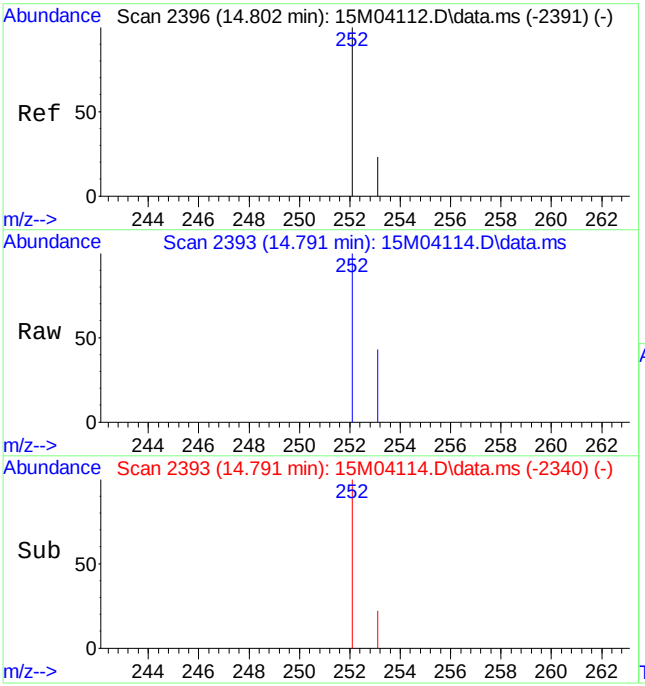


#21
Benzo[b]fluoranthene
Concen: 0.9781 ug/mL
RT: 14.765 min Scan# 2386
Delta R.T. -0.011 min
Lab File: 15M04114.D
Acq: 23 Mar 2011 10:13 am

Tgt Ion:252 Resp: 70940

Ion	Ratio	Lower	Upper
252	100		
253	24.3	22.8	53.2

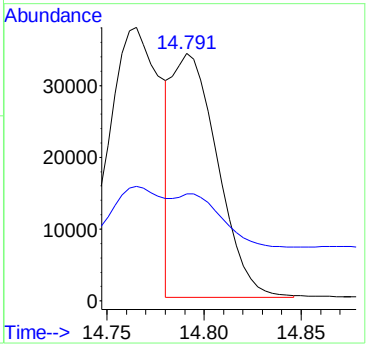


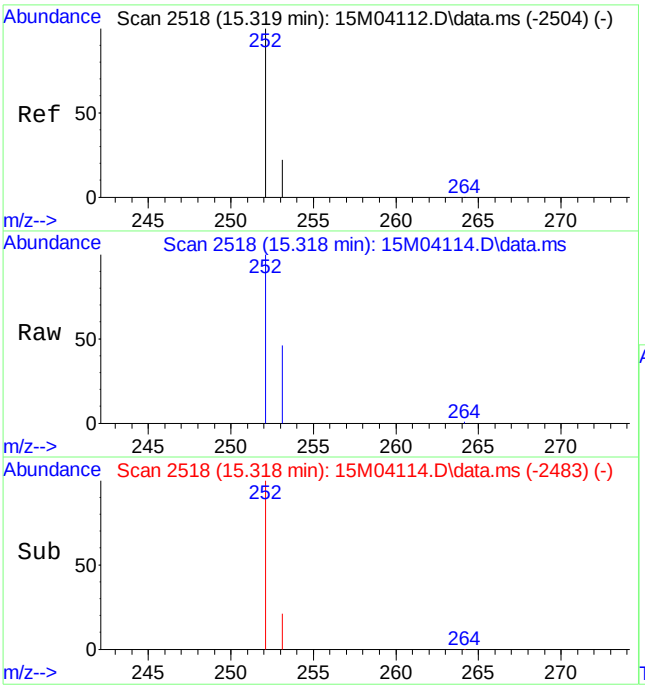


#22
Benzo[k]fluoranthene
Concen: 0.8218 ug/mL m
RT: 14.791 min Scan# 2393
Delta R.T. -0.018 min
Lab File: 15M04114.D
Acq: 23 Mar 2011 10:13 am

Tgt Ion:252 Resp: 55575

Ion	Ratio	Lower	Upper
252	100		
253	31.0	23.0	53.6

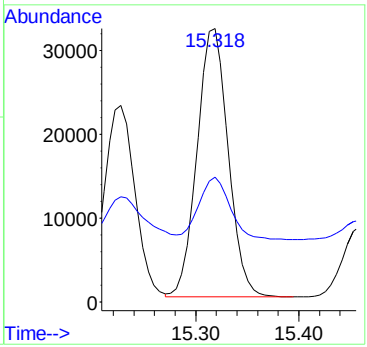


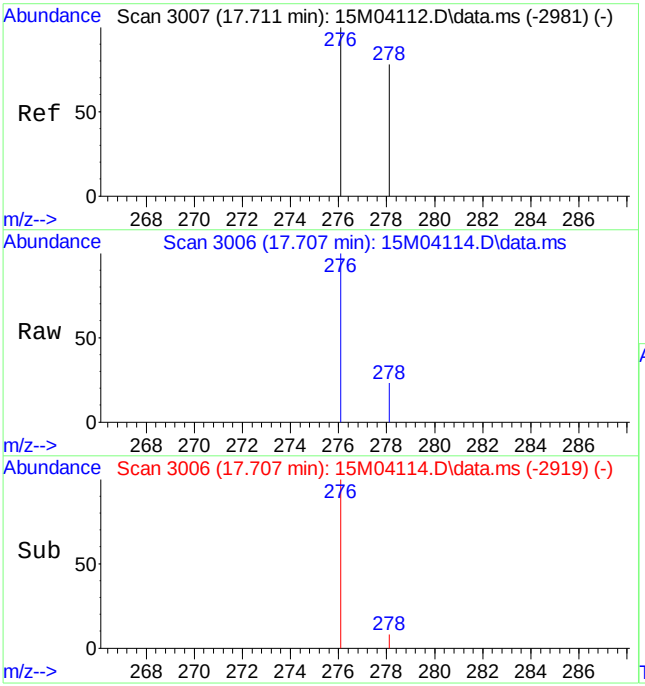


#23
Benzo[a]pyrene
Concen: 0.9858 ug/mL
RT: 15.318 min Scan# 2518
Delta R.T. -0.011 min
Lab File: 15M04114.D
Acq: 23 Mar 2011 10:13 am

Tgt Ion:252 Resp: 67041

Ion	Ratio	Lower	Upper
252	100		
253	23.2	25.2	58.8#

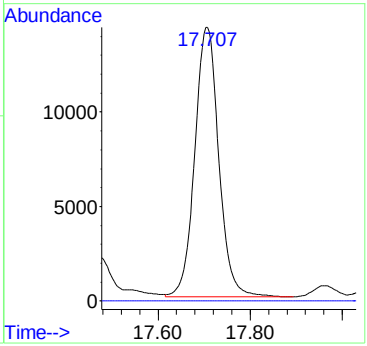


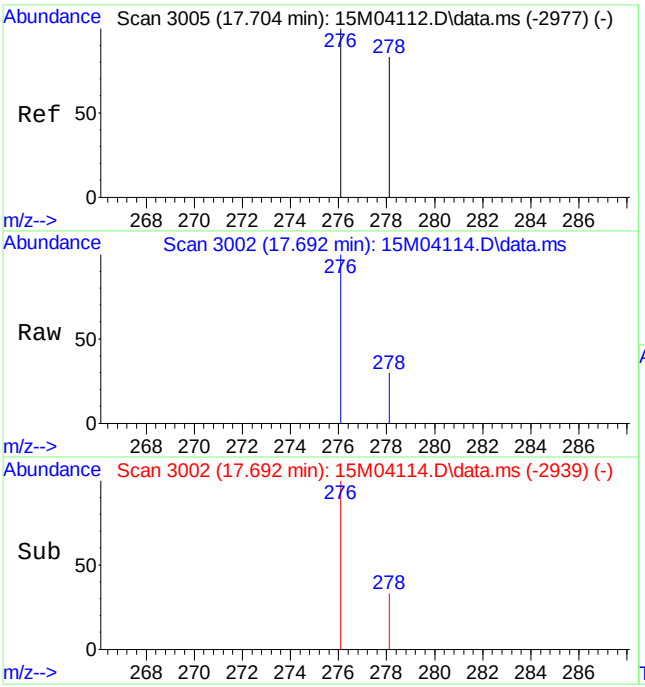


#24
Indeno[1,2,3-cd]pyrene
Concen: 0.6250 ug/mL
RT: 17.707 min Scan# 3006
Delta R.T. -0.018 min
Lab File: 15M04114.D
Acq: 23 Mar 2011 10:13 am

Tgt Ion:276 Resp: 51482

Ion	Ratio	Lower	Upper
276	100		
277	0.0	0.0	0.0

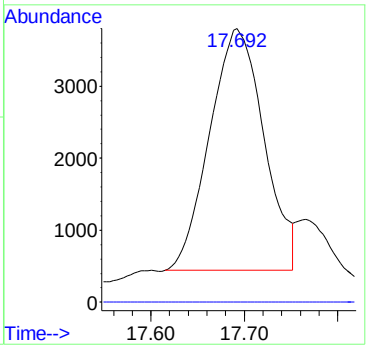


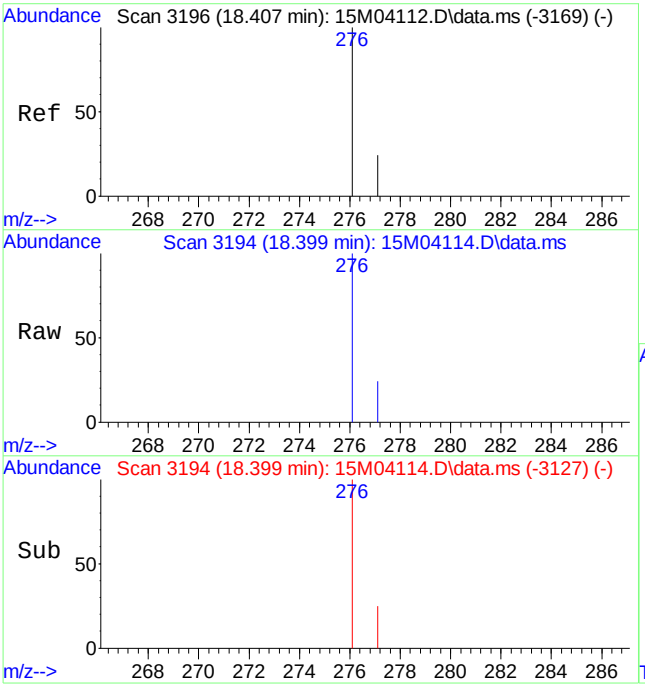


#25
Dibenz[ah]anthracene
Concen: 0.2021 ug/mL
RT: 17.692 min Scan# 3002
Delta R.T. -0.029 min
Lab File: 15M04114.D
Acq: 23 Mar 2011 10:13 am

Tgt Ion:278 Resp: 13540

Ion	Ratio	Lower	Upper
278	100		
279	0.0	0.0	0.0

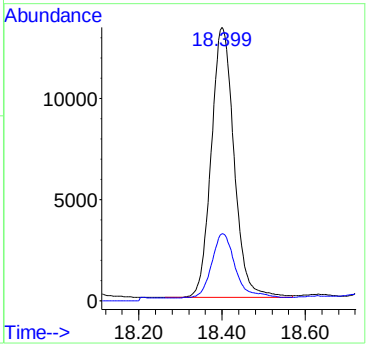




#26
Benzo[ghi]perylene
Concen: 0.7374 ug/mL
RT: 18.399 min Scan# 3194
Delta R.T. -0.026 min
Lab File: 15M04114.D
Acq: 23 Mar 2011 10:13 am

Tgt Ion:276 Resp: 50750

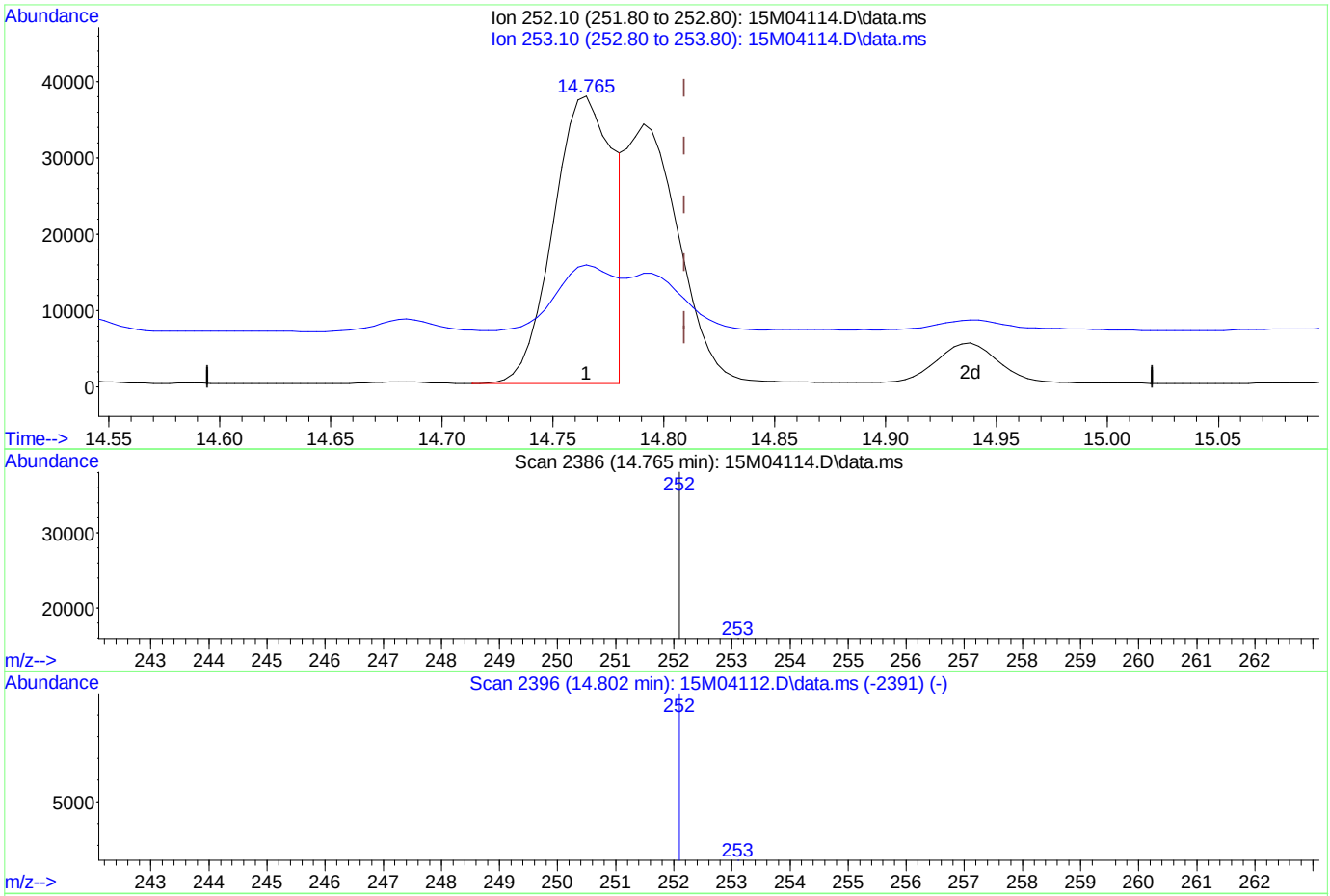
Ion	Ratio	Lower	Upper
276	100		
277	24.0	14.5	33.7



Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\032311\
Data File : 15M04114.D
Acq On : 23 Mar 2011 10:13 am
Operator : CAA
Sample : L11030658-05 50X 827-PAHL
Misc : 7,50 SOIL
ALS Vial : 4 Sample Multiplier: 50

Quant Time: Mar 24 08:45:08 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Thu Mar 24 08:44:54 2011
Response via : Initial Calibration



(22) Benzo[k]fluoranthene

14.765min (-0.044) 1.05 ug/mL

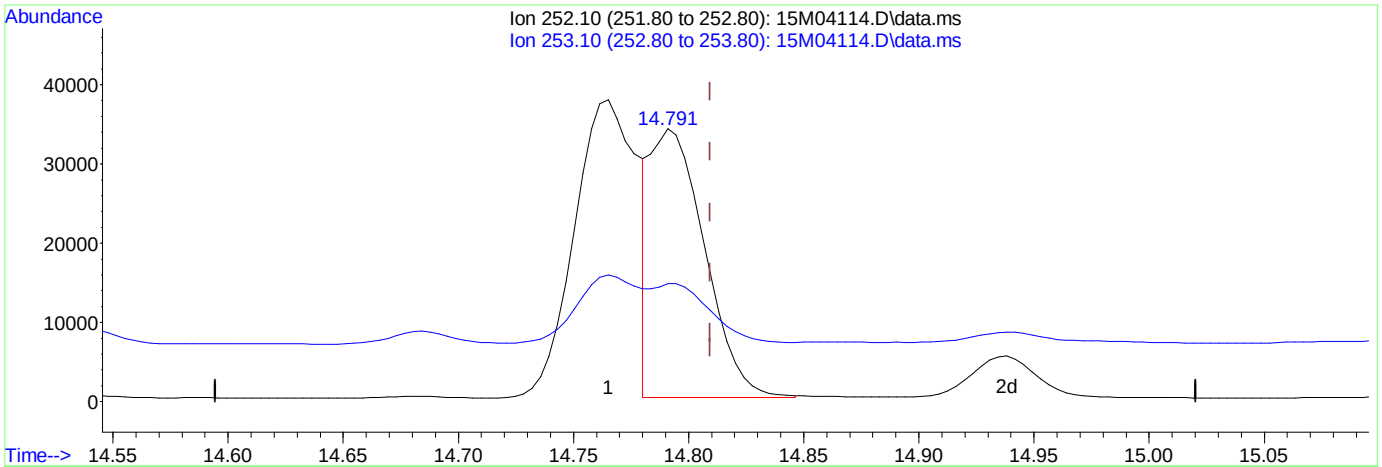
response 70940

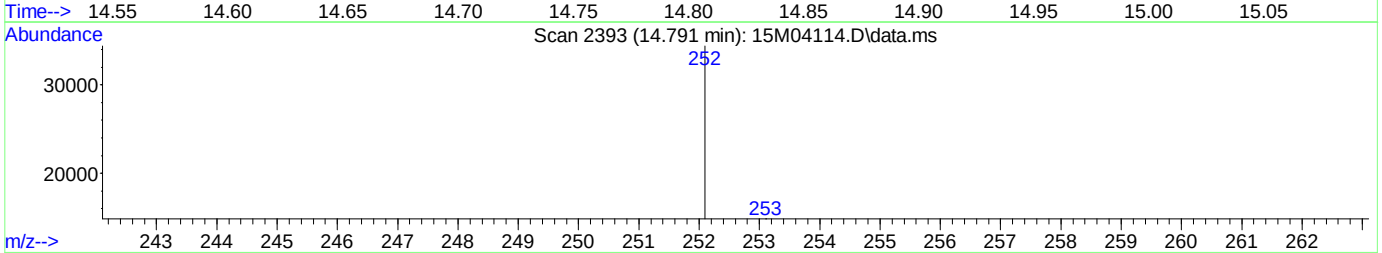
Ion	Exp%	Act%
252.10	100	100
253.10	38.30	24.31
0.00	0.00	0.00
0.00	0.00	0.00

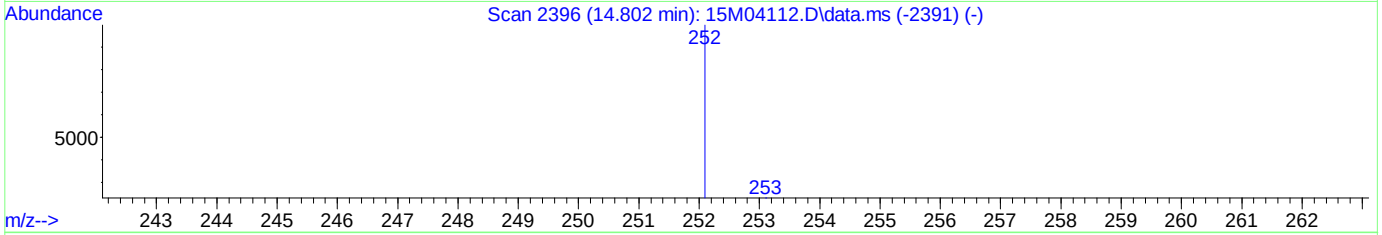
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\032311\
Data File : 15M04114.D
Acq On : 23 Mar 2011 10:13 am
Operator : CAA
Sample : L11030658-05 50X 827-PAHL
Misc : 7,50 SOIL
ALS Vial : 4 Sample Multiplier: 50

Quant Time: Mar 24 08:45:08 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Thu Mar 24 08:44:54 2011
Response via : Initial Calibration







TIC: 15M04114.D\data.ms

(22) Benzo[k]fluoranthene

14.791min (-0.018) 0.82 ug/mL mint

response 55575

Ion	Exp%	Act%
252.10	100	100
253.10	38.30	31.03
0.00	0.00	0.00
0.00	0.00	0.00

Analyst: 03/24/2011 09:12 Supervisor: 03/25/2011 09:17

#3 - Improperly integrated isomers and/or coeluting compounds

PAHQUANT.M Thu Mar 24 08:47:14 2011

Page: 1

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032211\
Data File : 15M04105.D
Acq On : 22 Mar 2011 2:43 pm
Operator : CAA
Sample : L11030658-06 5X 827-PAHL
Misc : 7,5 SOIL
ALS Vial : 16 Sample Multiplier: 5

Quant Time: Mar 23 08:19:22 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Wed Mar 23 08:10:15 2011
Response via : Initial Calibration

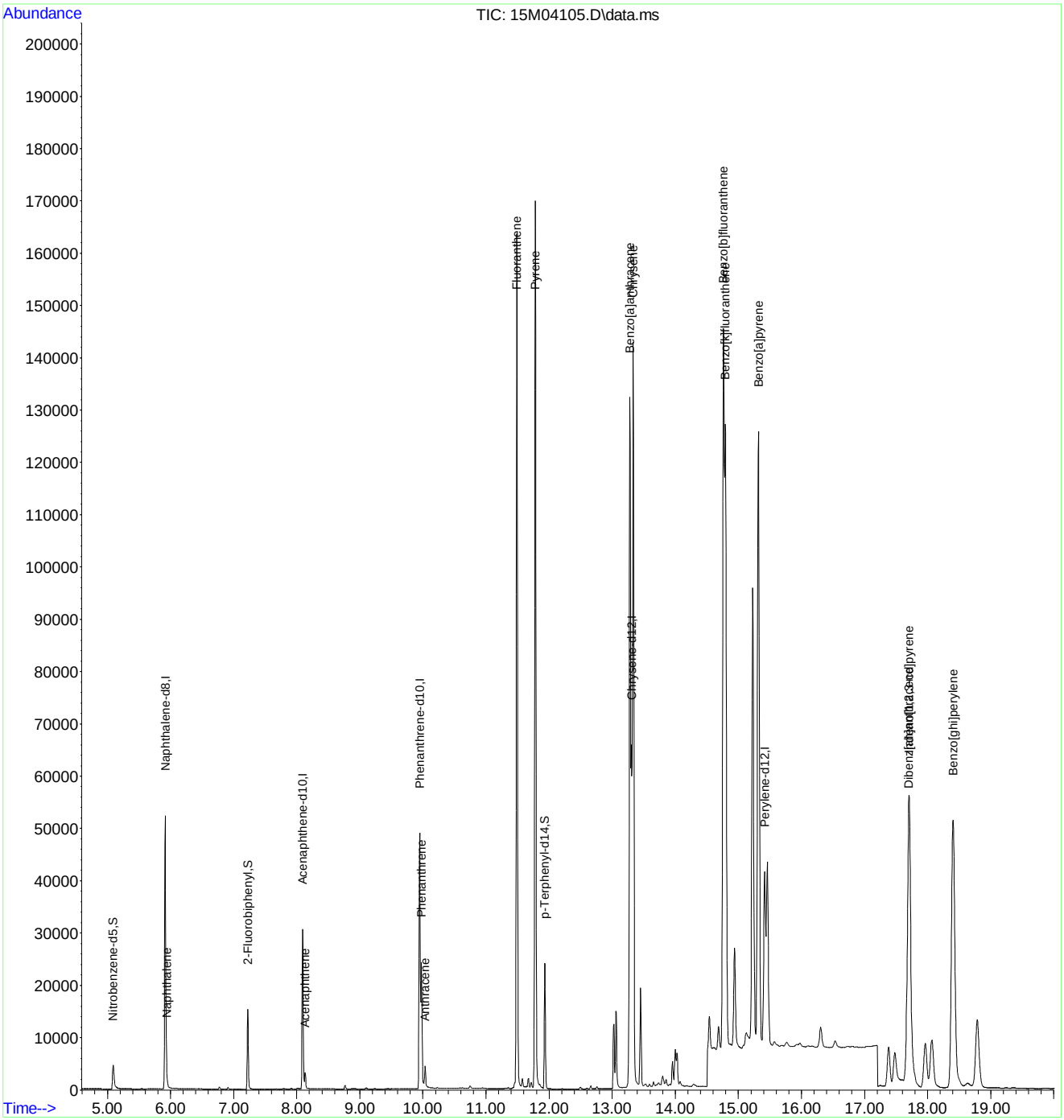
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8	5.916	136	68038	1.00 ug/mL	0.00
6) Acenaphthene-d10	8.093	164	37239	1.00 ug/mL	-0.01
11) Phenanthrene-d10	9.950	188	62401	1.00 ug/mL	0.00
15) Chrysene-d12	13.306	240	72216	1.00 ug/mL	0.00
20) Perylene-d12	15.415	264	72184	1.00 ug/mL	-0.01
System Monitoring Compounds					
2) Nitrobenzene-d5	5.088	82	6073	1.31 ug/mL	-0.02
Spiked Amount 2.500	Range 23 - 120		Recovery	= 52.40%	
7) 2-Fluorobiphenyl	7.224	172	14182	1.44 ug/mL	-0.01
Spiked Amount 2.500	Range 30 - 115		Recovery	= 57.60%	
17) p-Terphenyl-d14	11.931	244	26441	2.77 ug/mL	-0.01
Spiked Amount 2.500	Range 18 - 137		Recovery	= 110.80%	
Target Compounds					Qvalue
3) Naphthalene	5.937	128	1749	0.0253 ug/mL	99
9) Acenaphthene	8.131	154	1795	0.0417 ug/mL	100
12) Phenanthrene	9.977	178	24594	0.3509 ug/mL	100
13) Anthracene	10.036	178	4470	0.0703 ug/mL	99
14) Fluoranthene	11.489	202	178509	2.4524 ug/mL	99
16) Pyrene	11.783	202	188003	2.2600 ug/mL	93
18) Benzo[a]anthracene	13.279	228	137785	1.8978 ug/mL	100
19) Chrysene	13.333	228	164294	2.2662 ug/mL	97
21) Benzo[b]fluoranthene	14.761	252	212050	2.5620 ug/mL	77
22) Benzo[k]fluoranthene	14.791	252	163247m	2.1155 ug/mL	
23) Benzo[a]pyrene	15.318	252	200188	2.5795 ug/mL#	70
24) Indeno[1,2,3-cd]pyrene	17.707	276	159787	1.6998 ug/mL#	100
25) Dibenz[ah]anthracene	17.692	278	38929	0.5093 ug/mL#	100
26) Benzo[ghi]perylene	18.403	276	159506	2.0311 ug/mL	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

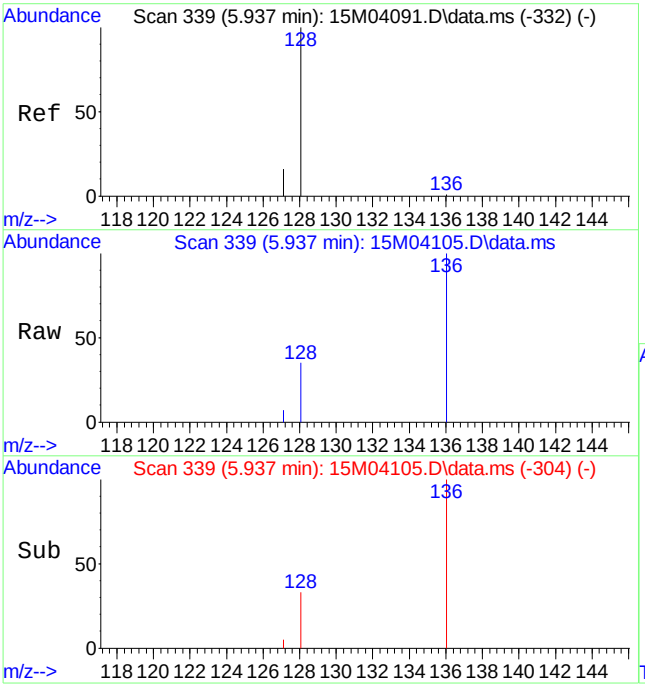
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032211\
Data File : 15M04105.D
Acq On : 22 Mar 2011 2:43 pm
Operator : CAA
Sample : L11030658-06 5X 827-PAHL
Misc : 7,5 SOIL
ALS Vial : 16 Sample Multiplier: 5

Quant Time: Mar 23 08:19:22 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Wed Mar 23 08:10:15 2011
Response via : Initial Calibration



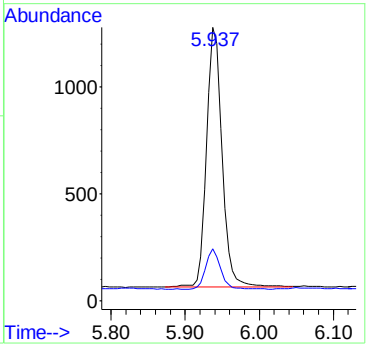
PAHQUANT.M Wed Mar 23 08:21:35 2011 Page: 2

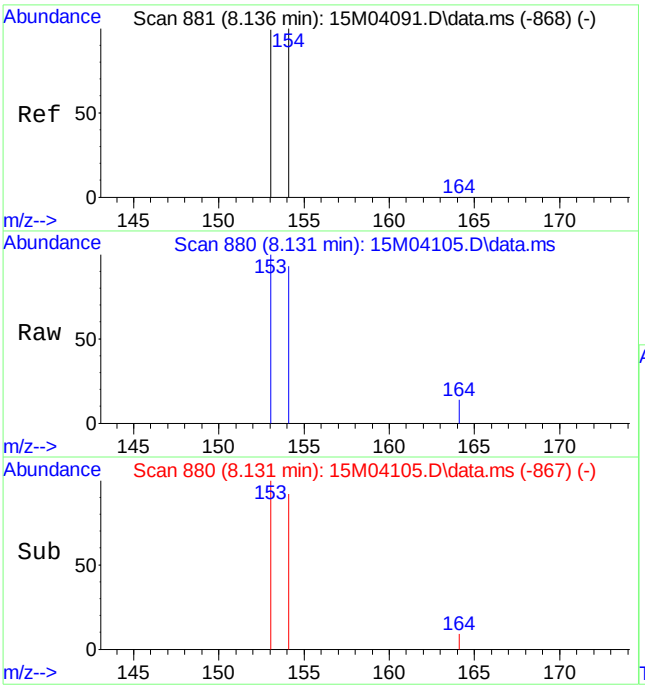


#3
Naphthalene
Concen: 0.0253 ug/mL
RT: 5.937 min Scan# 339
Delta R.T. -0.011 min
Lab File: 15M04105.D
Acq: 22 Mar 2011 2:43 pm

Tgt Ion:128 Resp: 1749

Ion	Ratio	Lower	Upper
128	100		
127	15.2	9.3	21.7

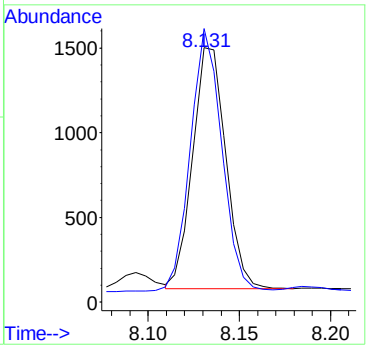


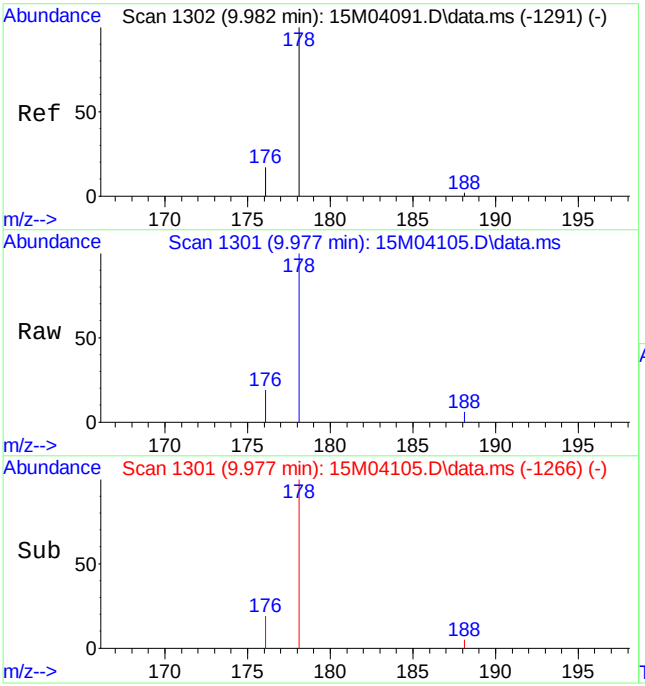


#9
Acenaphthene
Concen: 0.0417 ug/mL
RT: 8.131 min Scan# 880
Delta R.T. -0.016 min
Lab File: 15M04105.D
Acq: 22 Mar 2011 2:43 pm

Tgt Ion:154 Resp: 1795

Ion	Ratio	Lower	Upper
154	100		
153	103.1	61.8	144.2

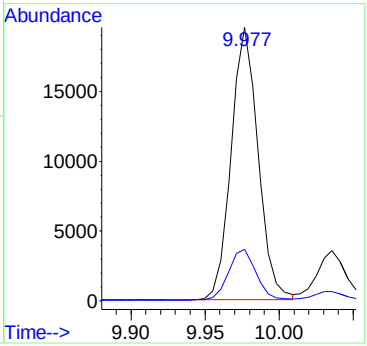


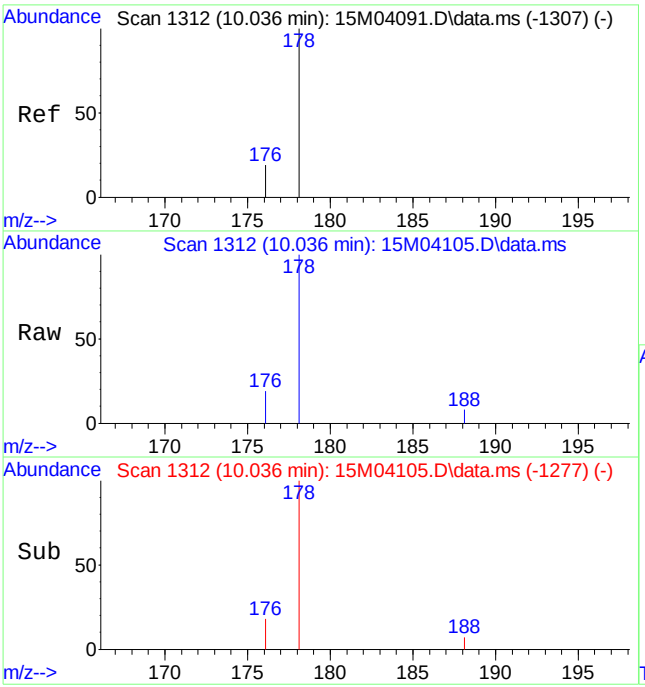


#12
Phenanthrene
Concen: 0.3509 ug/mL
RT: 9.977 min Scan# 1301
Delta R.T. -0.011 min
Lab File: 15M04105.D
Acq: 22 Mar 2011 2:43 pm

Tgt Ion:178 Resp: 24594

Ion	Ratio	Lower	Upper
178	100		
176	19.1	11.4	26.6

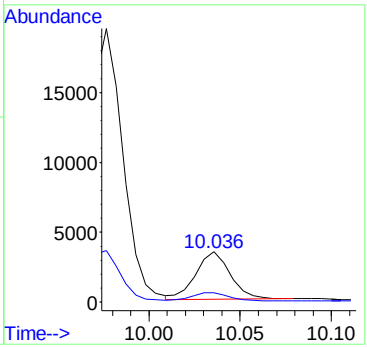


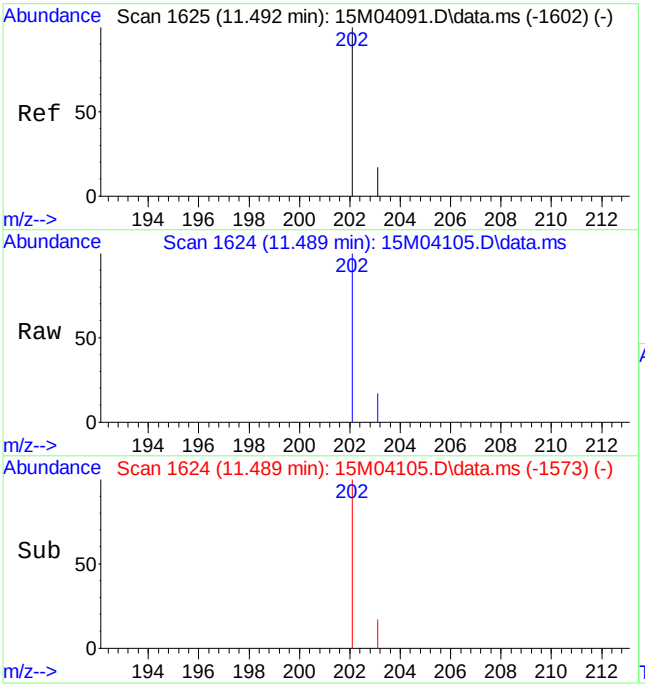


#13
Anthracene
Concen: 0.0703 ug/mL
RT: 10.036 min Scan# 1312
Delta R.T. -0.010 min
Lab File: 15M04105.D
Acq: 22 Mar 2011 2:43 pm

Tgt Ion:178 Resp: 4470

Ion	Ratio	Lower	Upper
178	100		
176	18.7	11.0	25.6

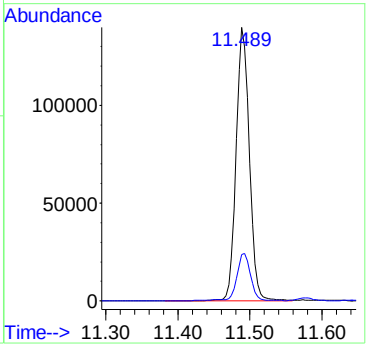


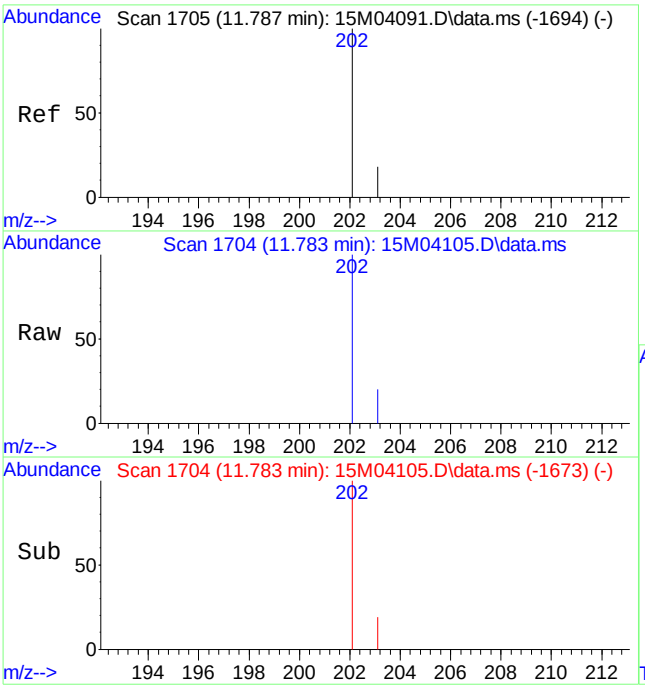


#14
Fluoranthene
Concen: 2.4524 ug/mL
RT: 11.489 min Scan# 1624
Delta R.T. -0.011 min
Lab File: 15M04105.D
Acq: 22 Mar 2011 2:43 pm

Tgt Ion:202 Resp: 178509

Ion	Ratio	Lower	Upper
202	100		
203	17.1	10.4	24.4

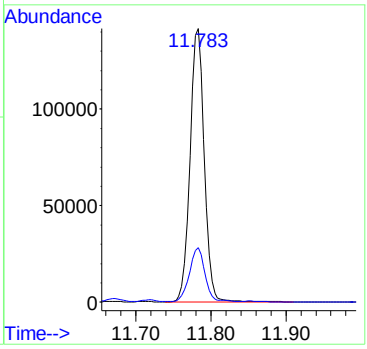


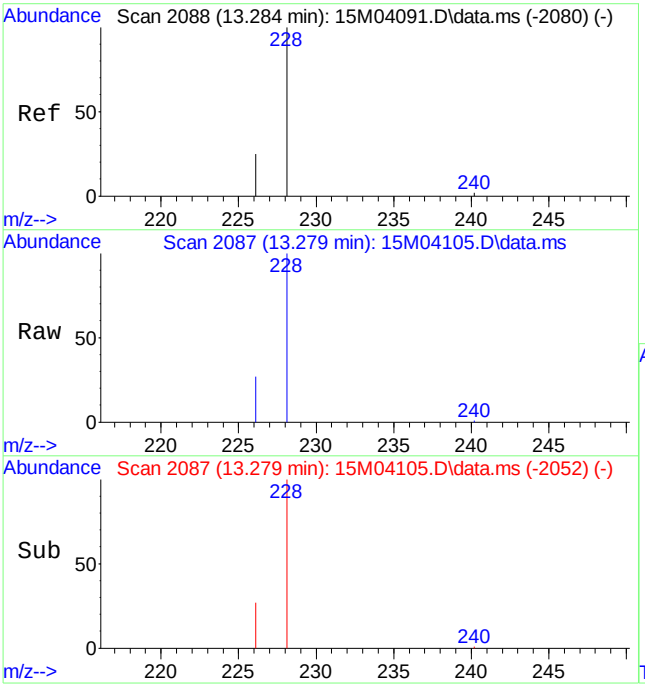


#16
Pyrene
Concen: 2.2600 ug/mL
RT: 11.783 min Scan# 1704
Delta R.T. -0.011 min
Lab File: 15M04105.D
Acq: 22 Mar 2011 2:43 pm

Tgt Ion:202 Resp: 188003

Ion	Ratio	Lower	Upper
202	100		
203	21.4	11.0	25.6

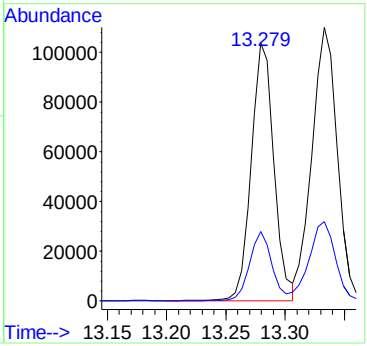


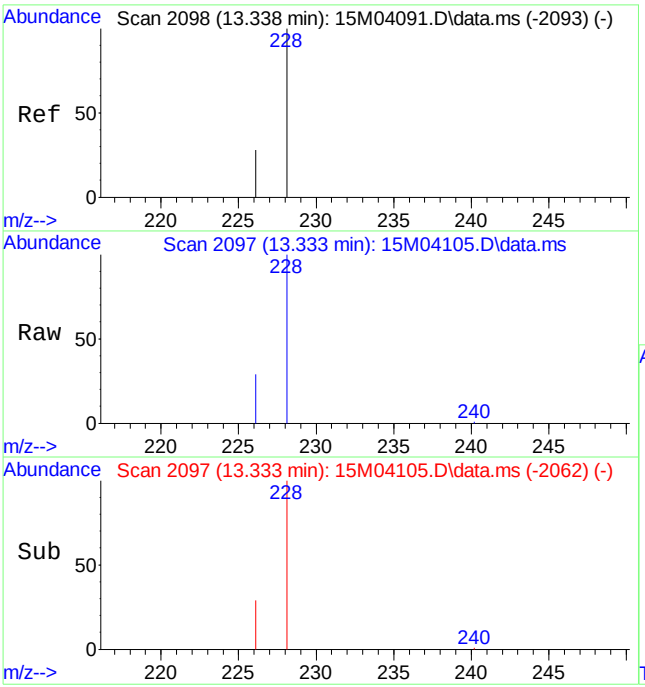


#18
Benzo[a]anthracene
Concen: 1.8978 ug/mL
RT: 13.279 min Scan# 2087
Delta R.T. -0.011 min
Lab File: 15M04105.D
Acq: 22 Mar 2011 2:43 pm

Tgt Ion:228 Resp: 137785

Ion	Ratio	Lower	Upper
228	100		
226	26.1	15.7	36.5

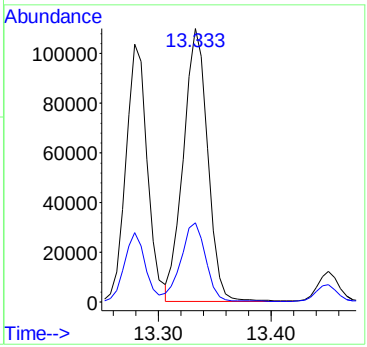


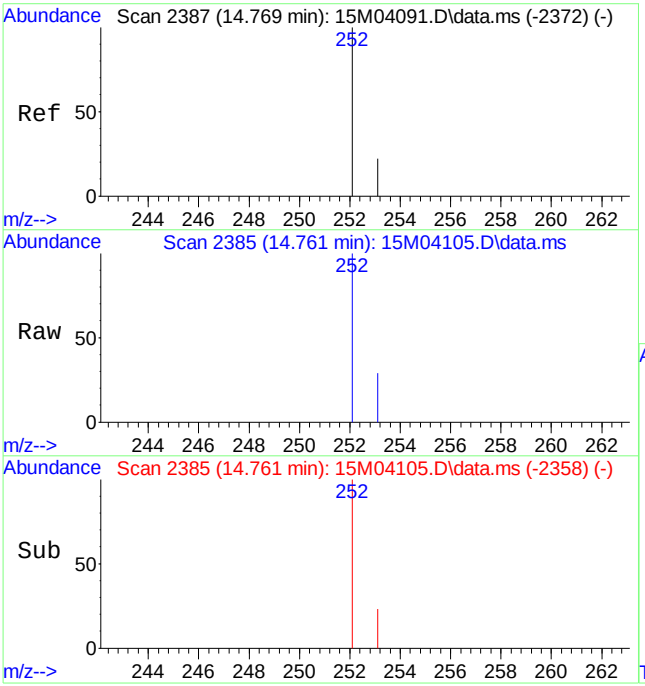


#19
Chrysene
Concen: 2.2662 ug/mL
RT: 13.333 min Scan# 2097
Delta R.T. -0.011 min
Lab File: 15M04105.D
Acq: 22 Mar 2011 2:43 pm

Tgt Ion:228 Resp: 164294

Ion	Ratio	Lower	Upper
228	100		
226	30.0	17.0	39.8

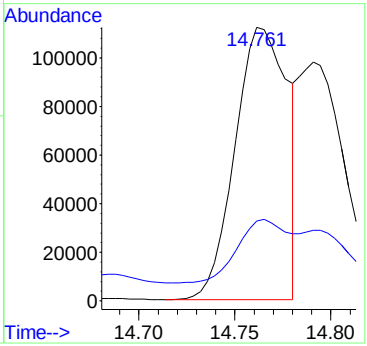


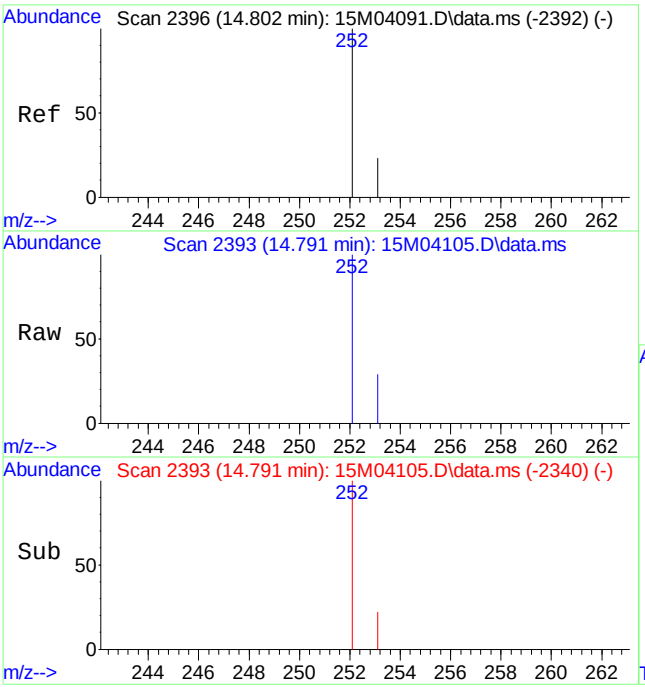


#21
Benzo[b]fluoranthene
Concen: 2.5620 ug/mL
RT: 14.761 min Scan# 2385
Delta R.T. -0.015 min
Lab File: 15M04105.D
Acq: 22 Mar 2011 2:43 pm

Tgt Ion:252 Resp: 212050

Ion	Ratio	Lower	Upper
252	100		
253	24.2	22.8	53.2

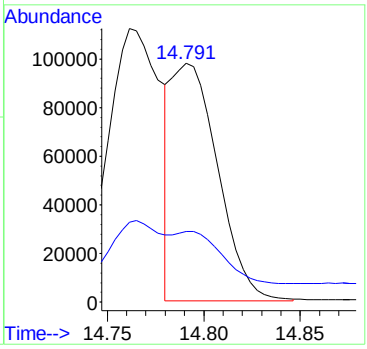


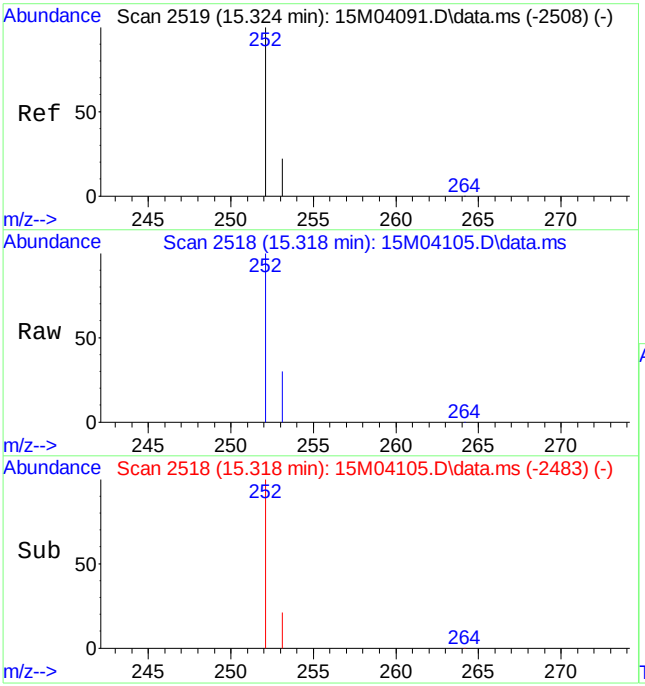


#22
Benzo[k]fluoranthene
Concen: 2.1155 ug/mL m
RT: 14.791 min Scan# 2393
Delta R.T. -0.018 min
Lab File: 15M04105.D
Acq: 22 Mar 2011 2:43 pm

Tgt Ion:252 Resp: 163247

Ion	Ratio	Lower	Upper
252	100		
253	31.5	23.0	53.6

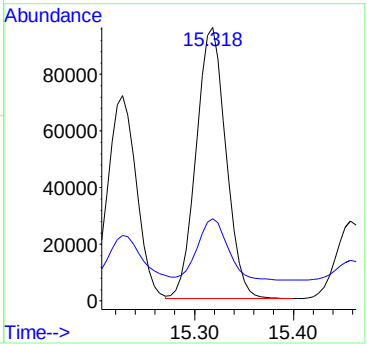


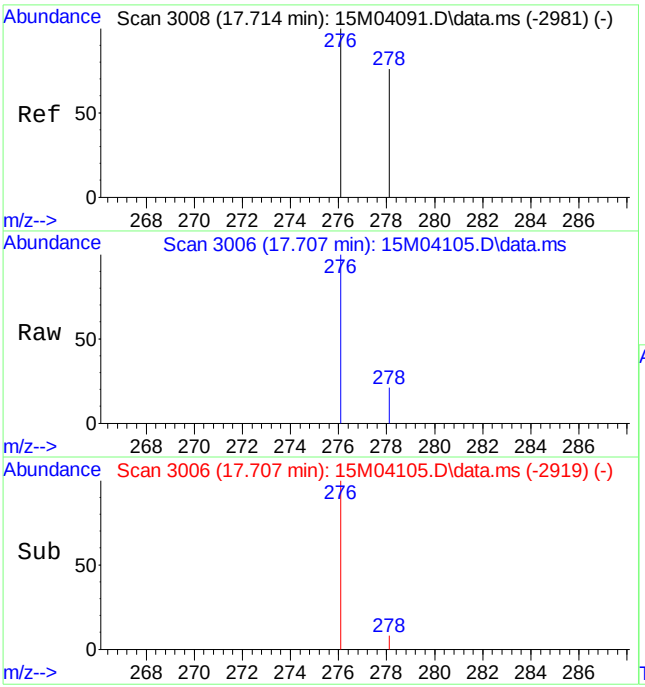


#23
Benzo[a]pyrene
Concen: 2.5795 ug/mL
RT: 15.318 min Scan# 2518
Delta R.T. -0.011 min
Lab File: 15M04105.D
Acq: 22 Mar 2011 2:43 pm

Tgt Ion:252 Resp: 200188

Ion	Ratio	Lower	Upper
252	100		
253	22.8	25.2	58.8#

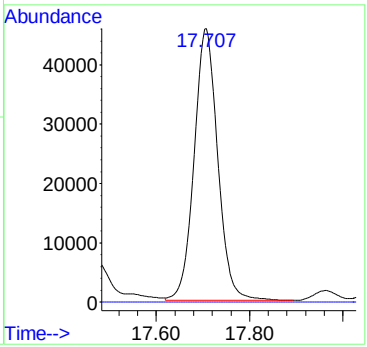


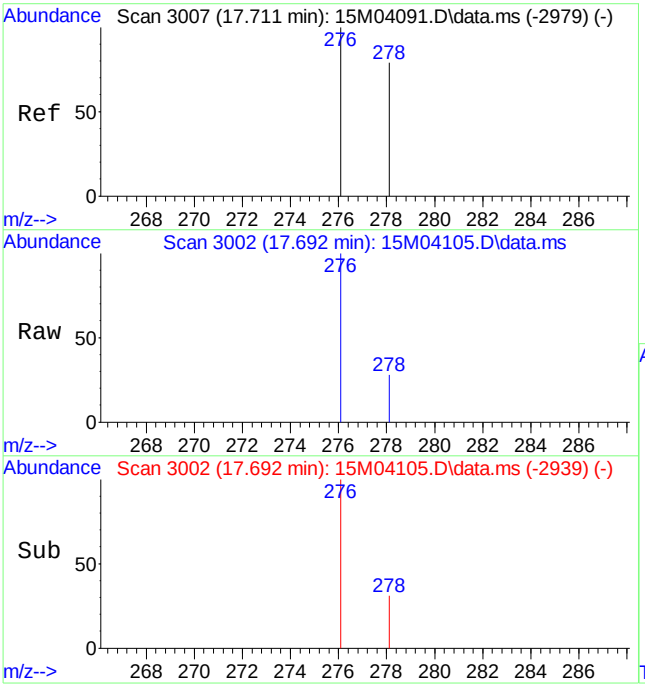


#24
Indeno[1,2,3-cd]pyrene
Concen: 1.6998 ug/mL
RT: 17.707 min Scan# 3006
Delta R.T. -0.018 min
Lab File: 15M04105.D
Acq: 22 Mar 2011 2:43 pm

Tgt Ion:276 Resp: 159787

Ion	Ratio	Lower	Upper
276	100		
277	0.0	0.0	0.0

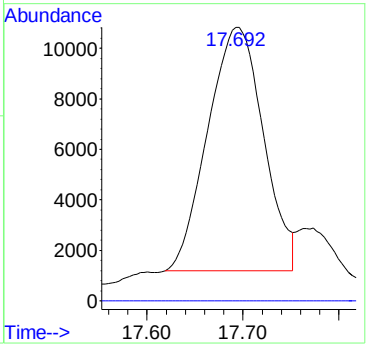


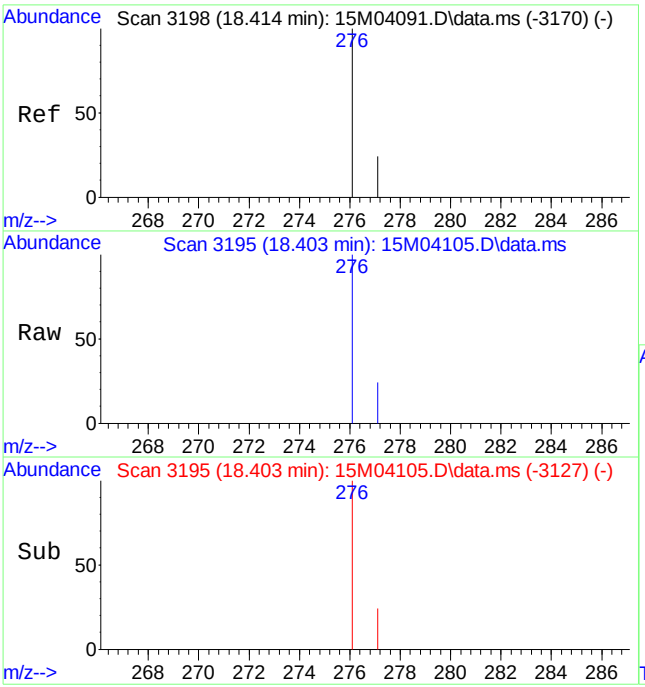


#25
Dibenz[ah]anthracene
Concen: 0.5093 ug/mL
RT: 17.692 min Scan# 3002
Delta R.T. -0.029 min
Lab File: 15M04105.D
Acq: 22 Mar 2011 2:43 pm

Tgt Ion:278 Resp: 38929

Ion	Ratio	Lower	Upper
278	100		
279	0.0	0.0	0.0

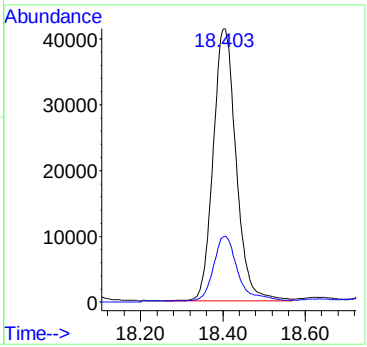




#26
Benzo[ghi]perylene
Concen: 2.0311 ug/mL
RT: 18.403 min Scan# 3195
Delta R.T. -0.022 min
Lab File: 15M04105.D
Acq: 22 Mar 2011 2:43 pm

Tgt Ion:276 Resp: 159506

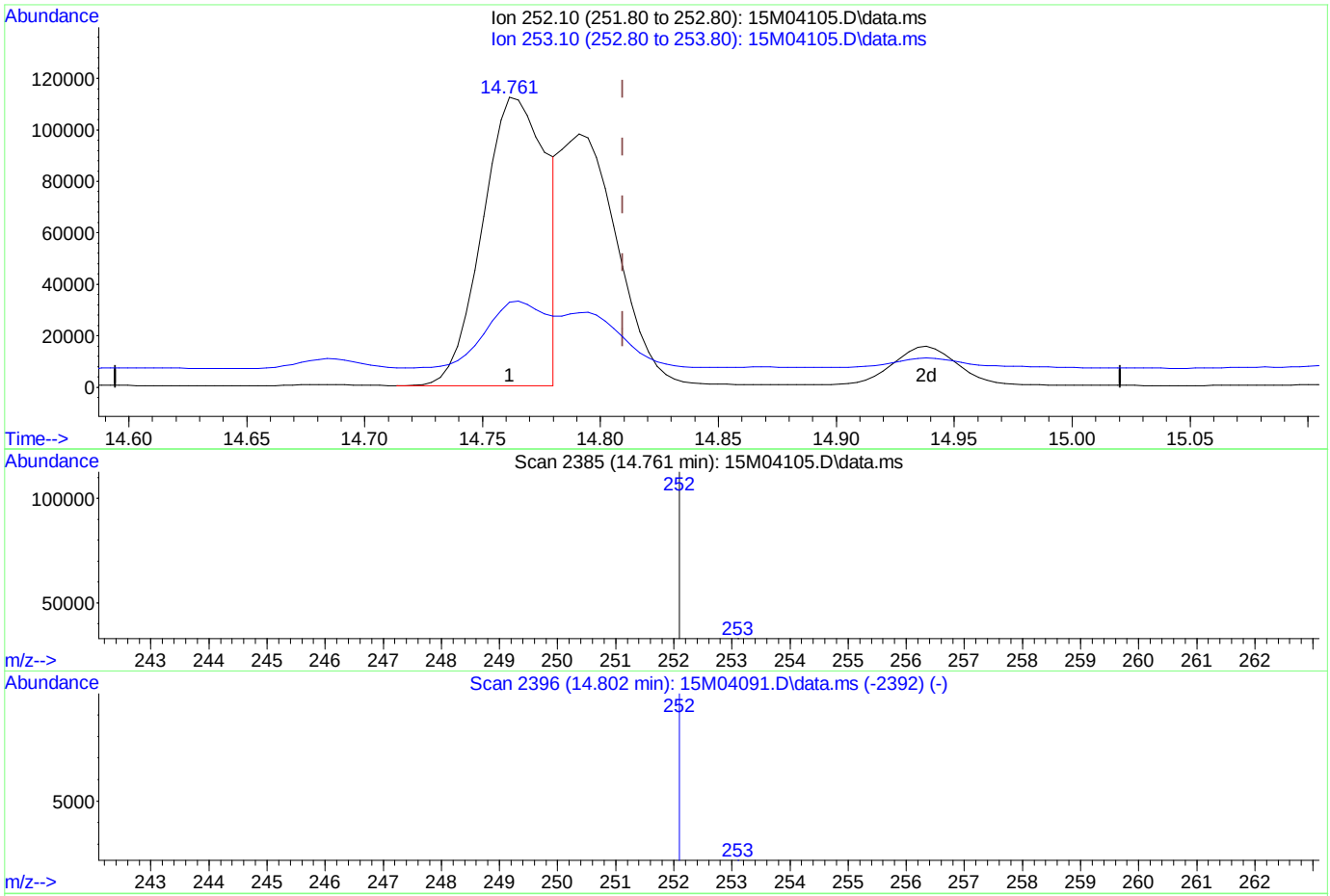
Ion	Ratio	Lower	Upper
276	100		
277	24.2	14.5	33.7



Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\032211\
Data File : 15M04105.D
Acq On : 22 Mar 2011 2:43 pm
Operator : CAA
Sample : L11030658-06 5X 827-PAHL
Misc : 7,5 SOIL
ALS Vial : 16 Sample Multiplier: 5

Quant Time: Mar 23 08:10:54 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Wed Mar 23 08:10:15 2011
Response via : Initial Calibration



TIC: 15M04105.D\data.ms

(22) Benzo[k]fluoranthene

14.761min (-0.048) 2.75 ug/mL

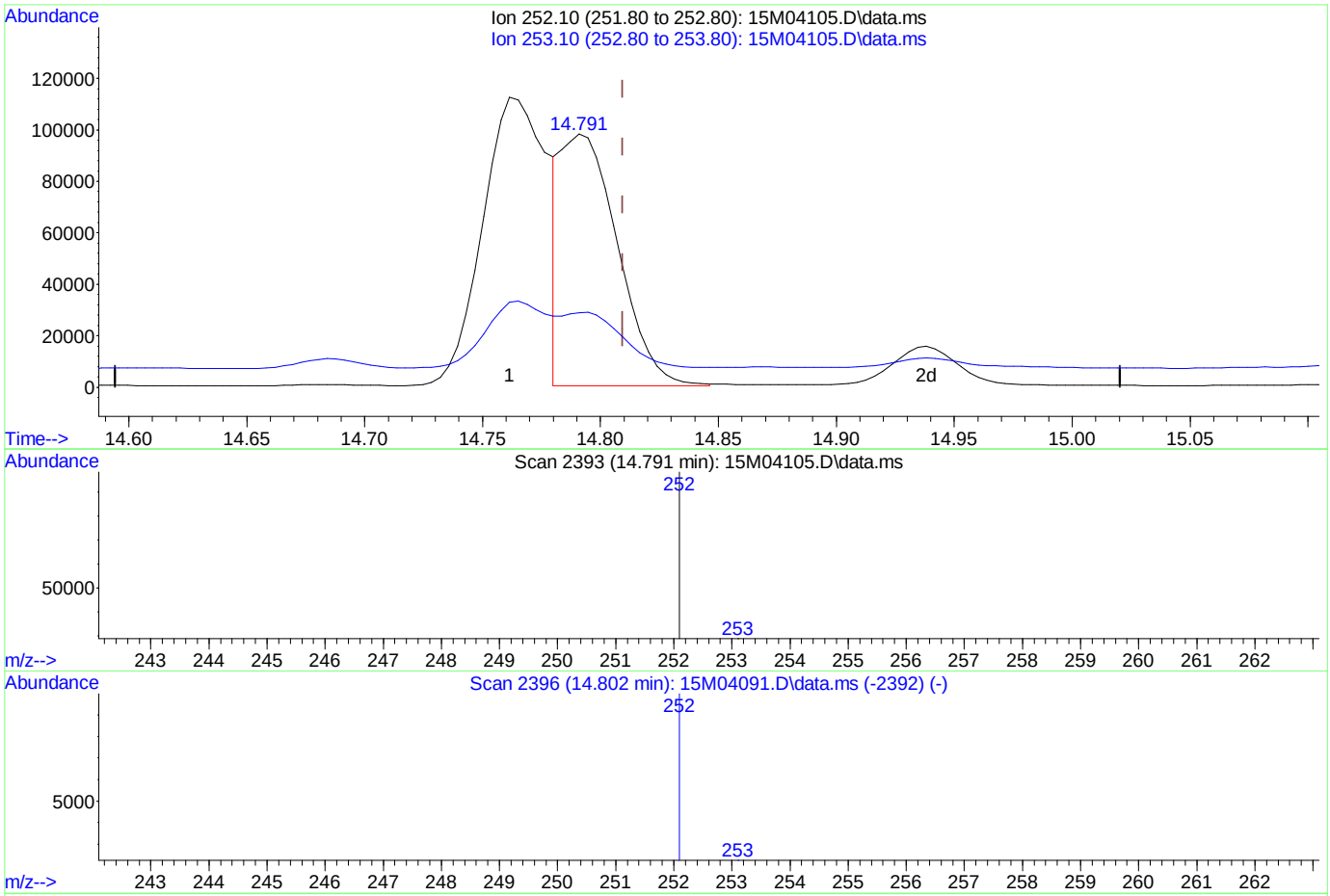
response 212050

Ion	Exp%	Act%
252.10	100	100
253.10	38.30	24.24
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\032211\
Data File : 15M04105.D
Acq On : 22 Mar 2011 2:43 pm
Operator : CAA
Sample : L11030658-06 5X 827-PAHL
Misc : 7,5 SOIL
ALS Vial : 16 Sample Multiplier: 5

Quant Time: Mar 23 08:10:54 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Wed Mar 23 08:10:15 2011
Response via : Initial Calibration



TIC: 15M04105.D\data.ms

(22) Benzo[k]fluoranthene

14.791min (-0.018) 2.12 ug/mL mint

response 163247

Ion	Exp%	Act%
252.10	100	100
253.10	38.30	31.48
0.00	0.00	0.00
0.00	0.00	0.00

Analyst: 03/23/2011 09:48 Supervisor: 03/24/2011 12:27

#3 - Improperly integrated isomers and/or coeluting compounds

PAHQUANT.M Wed Mar 23 08:19:24 2011

Page: 1

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032211\
Data File : 15M04100.D
Acq On : 22 Mar 2011 12:22 pm
Operator : CAA
Sample : L11030658-07 2X 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 11 Sample Multiplier: 2

Quant Time: Mar 23 08:18:18 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Wed Mar 23 08:10:15 2011
Response via : Initial Calibration

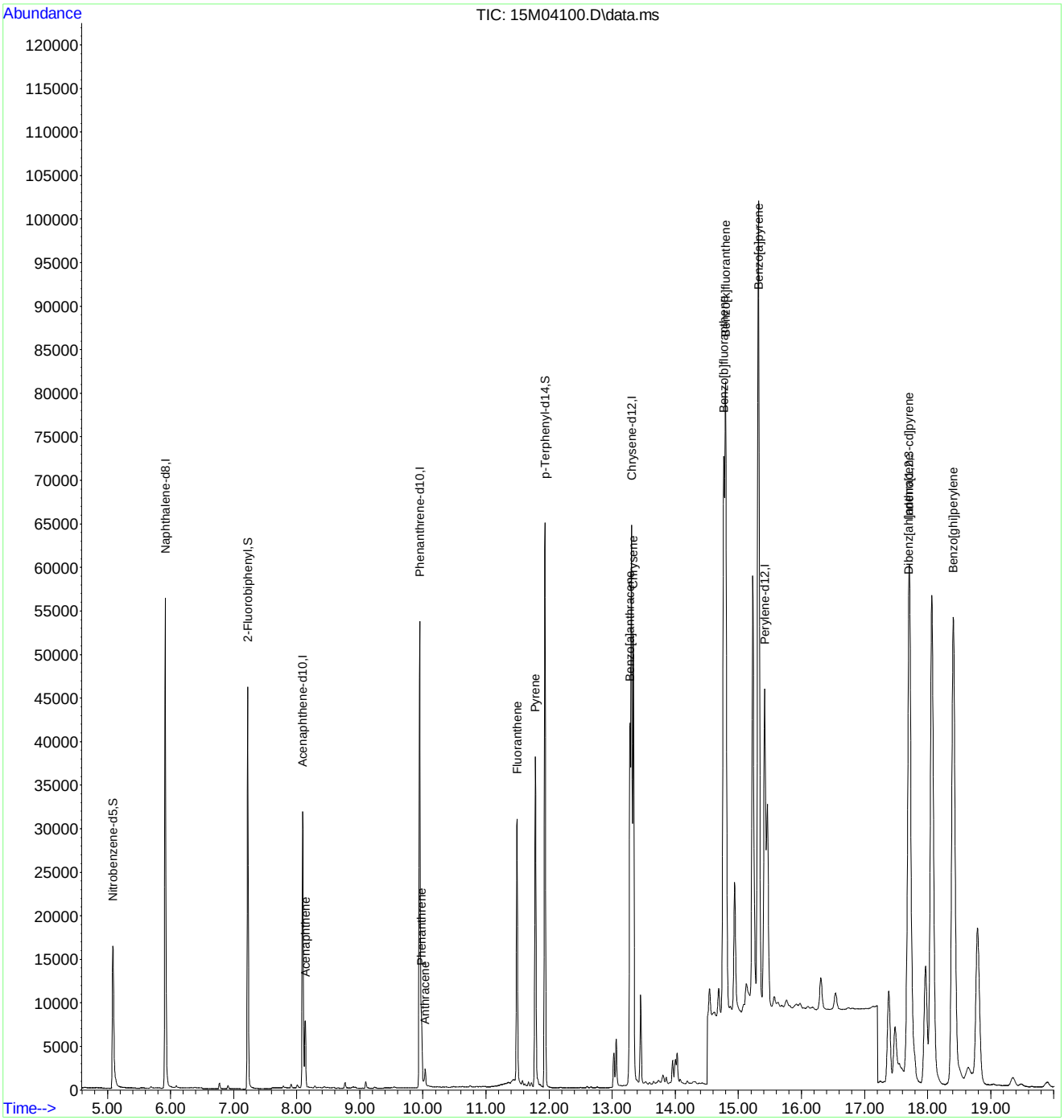
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8	5.916	136	72207	1.00	ug/mL	0.00
6) Acenaphthene-d10	8.093	164	39706	1.00	ug/mL	-0.01
11) Phenanthrene-d10	9.950	188	66194	1.00	ug/mL	0.00
15) Chrysene-d12	13.306	240	78768	1.00	ug/mL	0.00
20) Perylene-d12	15.415	264	78846	1.00	ug/mL	-0.01
System Monitoring Compounds						
2) Nitrobenzene-d5	5.085	82	19053	1.54	ug/mL	-0.02
Spiked Amount 2.500	Range 23 - 120		Recovery	=	61.60%	
7) 2-Fluorobiphenyl	7.224	172	41546	1.58	ug/mL	-0.01
Spiked Amount 2.500	Range 30 - 115		Recovery	=	63.20%	
17) p-Terphenyl-d14	11.934	244	69274	2.67	ug/mL	0.00
Spiked Amount 2.500	Range 18 - 137		Recovery	=	106.80%	
Target Compounds						Qvalue
9) Acenaphthene	8.136	154	4697	0.1023	ug/mL	99
12) Phenanthrene	9.977	178	8580	0.1154	ug/mL	100
13) Anthracene	10.036	178	2133	0.0316	ug/mL	100
14) Fluoranthene	11.492	202	33115	0.4289	ug/mL	94
16) Pyrene	11.783	202	43017	0.4741	ug/mL	87
18) Benzo[a]anthracene	13.279	228	44161	0.5576	ug/mL	99
19) Chrysene	13.333	228	57211	0.7235	ug/mL	99
21) Benzo[b]fluoranthene	14.765	252	94769	1.0483	ug/mL#	73
22) Benzo[k]fluoranthene	14.795	252	104476m	1.2395	ug/mL	
23) Benzo[a]pyrene	15.318	252	154001	1.8167	ug/mL#	71
24) Indeno[1,2,3-cd]pyrene	17.707	276	170888	1.6643	ug/mL#	100
25) Dibenz[ah]anthracene	17.696	278	42523	0.5093	ug/mL#	100
26) Benzo[ghi]perylene	18.407	276	166306	1.9388	ug/mL	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

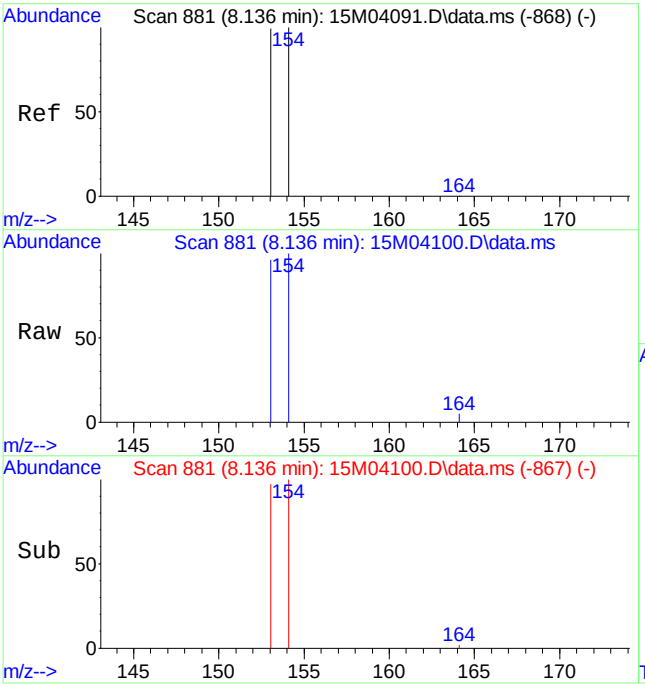
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032211\
Data File : 15M04100.D
Acq On : 22 Mar 2011 12:22 pm
Operator : CAA
Sample : L11030658-07 2X 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 11 Sample Multiplier: 2

Quant Time: Mar 23 08:18:18 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Wed Mar 23 08:10:15 2011
Response via : Initial Calibration



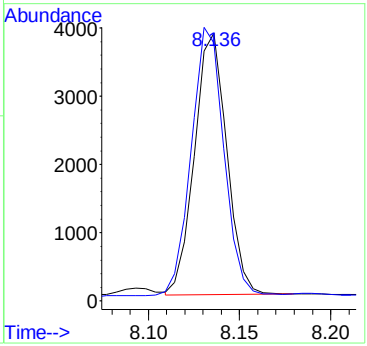
PAHQUANT.M Wed Mar 23 08:21:10 2011 Page: 2

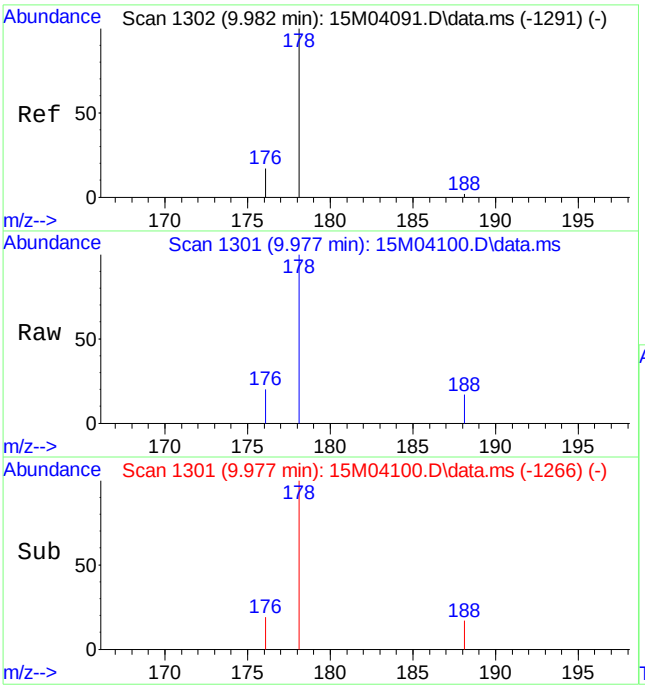


#9
Acenaphthene
Concen: 0.1023 ug/mL
RT: 8.136 min Scan# 881
Delta R.T. -0.011 min
Lab File: 15M04100.D
Acq: 22 Mar 2011 12:22 pm

Tgt Ion:154 Resp: 4697

Ion	Ratio	Lower	Upper
154	100		
153	103.7	61.8	144.2

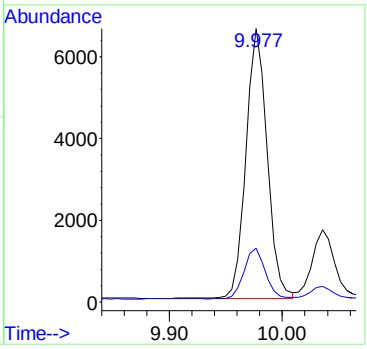


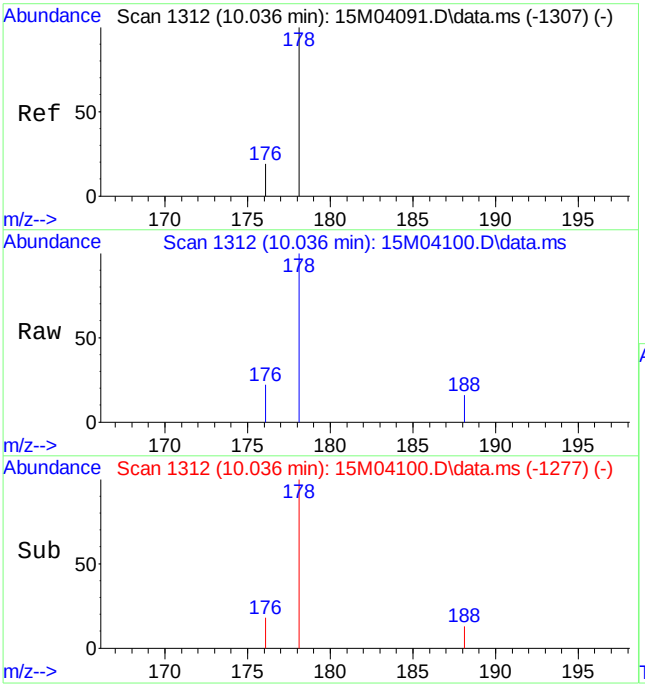


#12
Phenanthrene
Concen: 0.1154 ug/mL
RT: 9.977 min Scan# 1301
Delta R.T. -0.011 min
Lab File: 15M04100.D
Acq: 22 Mar 2011 12:22 pm

Tgt Ion:178 Resp: 8580

Ion	Ratio	Lower	Upper
178	100		
176	18.9	11.4	26.6

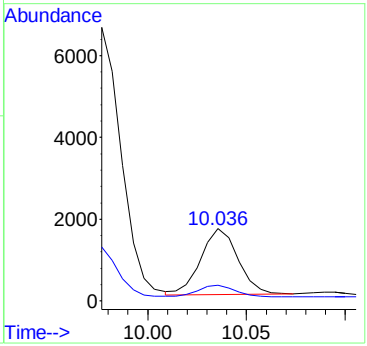


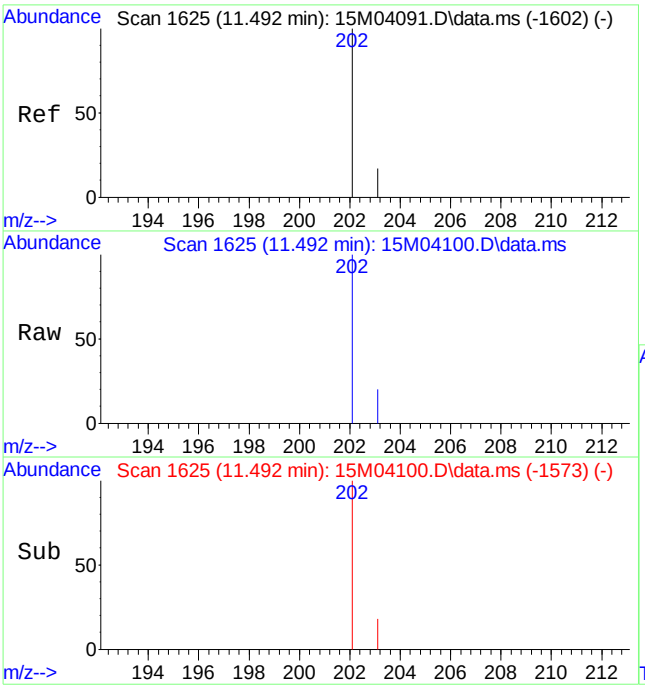


#13
Anthracene
Concen: 0.0316 ug/mL
RT: 10.036 min Scan# 1312
Delta R.T. -0.011 min
Lab File: 15M04100.D
Acq: 22 Mar 2011 12:22 pm

Tgt Ion:178 Resp: 2133

Ion	Ratio	Lower	Upper
178	100		
176	18.2	11.0	25.6

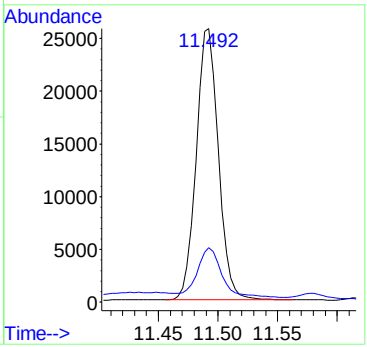


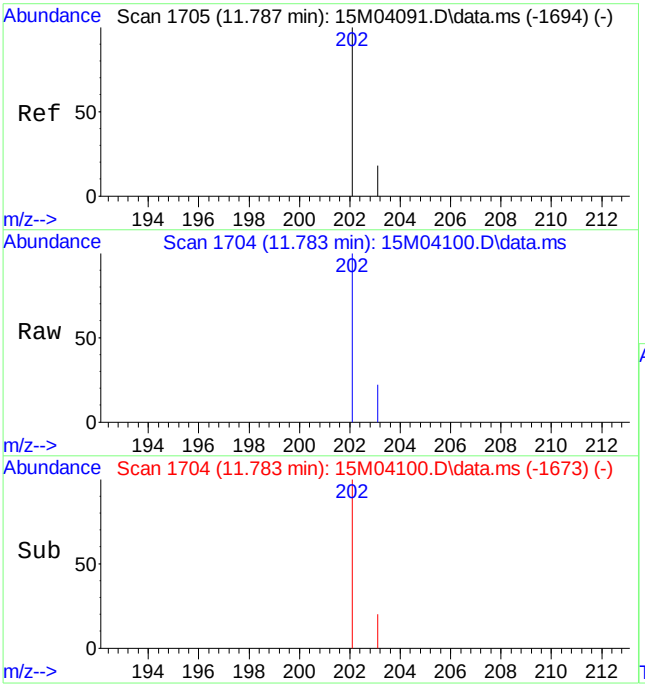


#14
Fluoranthene
Concen: 0.4289 ug/mL
RT: 11.492 min Scan# 1625
Delta R.T. -0.007 min
Lab File: 15M04100.D
Acq: 22 Mar 2011 12:22 pm

Tgt Ion:202 Resp: 33115

Ion	Ratio	Lower	Upper
202	100		
203	20.1	10.4	24.4

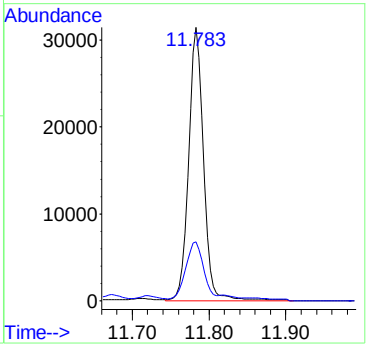


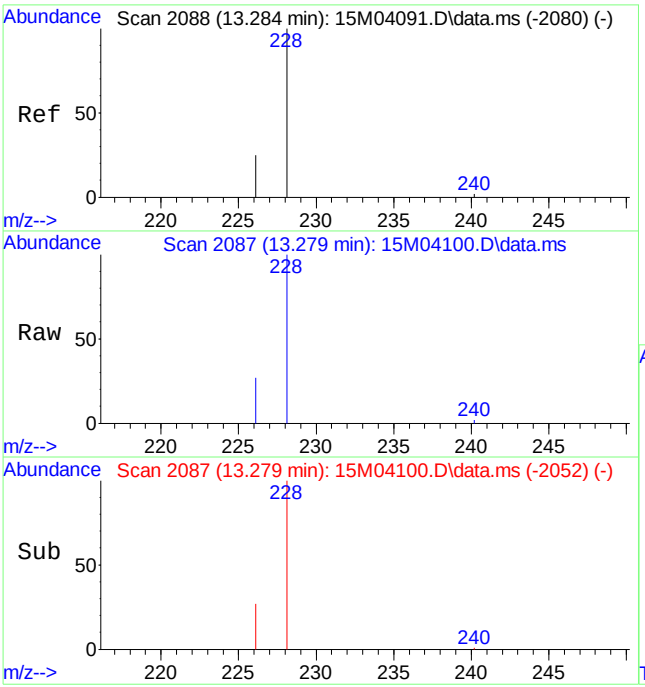


#16
Pyrene
Concen: 0.4741 ug/mL
RT: 11.783 min Scan# 1704
Delta R.T. -0.011 min
Lab File: 15M04100.D
Acq: 22 Mar 2011 12:22 pm

Tgt Ion:202 Resp: 43017

Ion	Ratio	Lower	Upper
202	100		
203	24.1	11.0	25.6

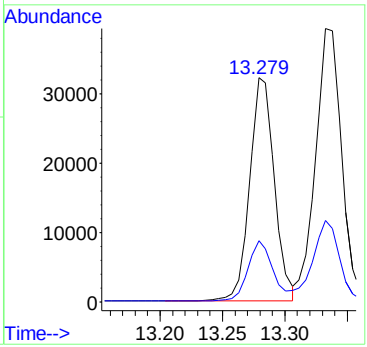


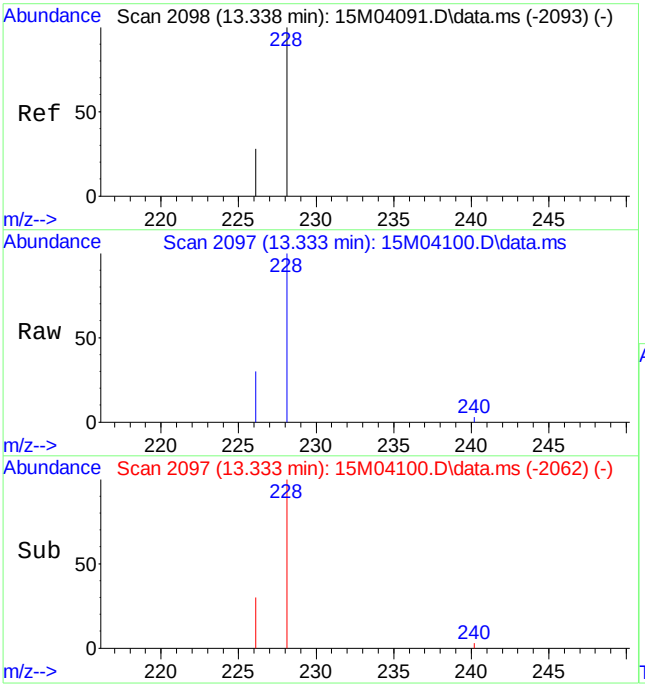


#18
Benzo[a]anthracene
Concen: 0.5576 ug/mL
RT: 13.279 min Scan# 2087
Delta R.T. -0.011 min
Lab File: 15M04100.D
Acq: 22 Mar 2011 12:22 pm

Tgt Ion:228 Resp: 44161

Ion	Ratio	Lower	Upper
228	100		
226	26.7	15.7	36.5

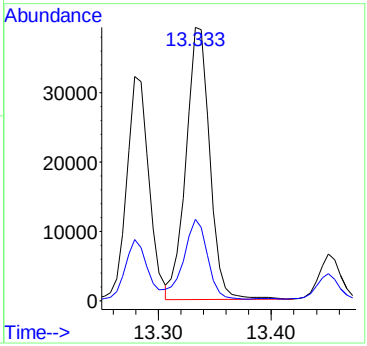


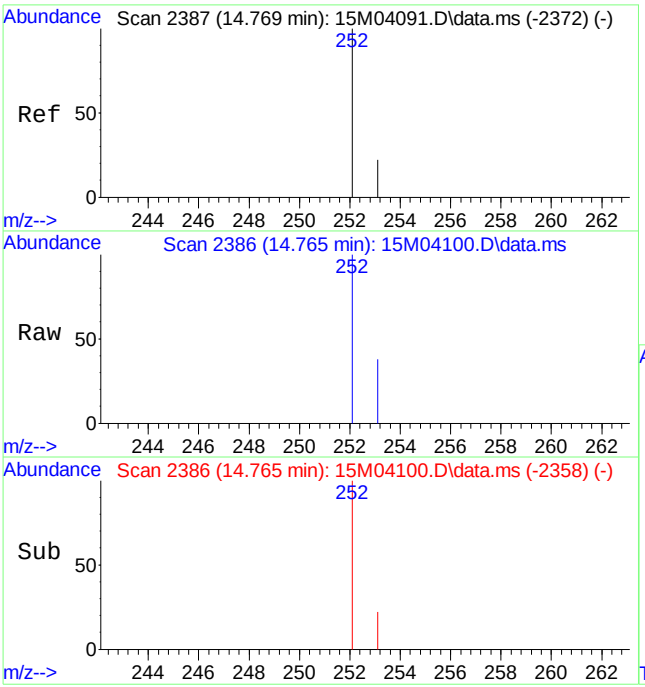


#19
Chrysene
Concen: 0.7235 ug/mL
RT: 13.333 min Scan# 2097
Delta R.T. -0.011 min
Lab File: 15M04100.D
Acq: 22 Mar 2011 12:22 pm

Tgt Ion:228 Resp: 57211

Ion	Ratio	Lower	Upper
228	100		
226	28.9	17.0	39.8

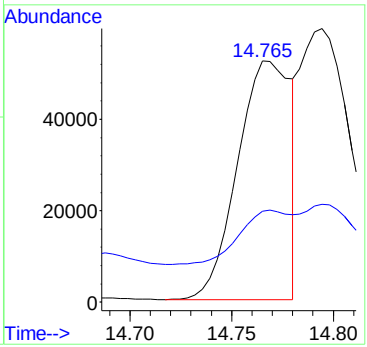


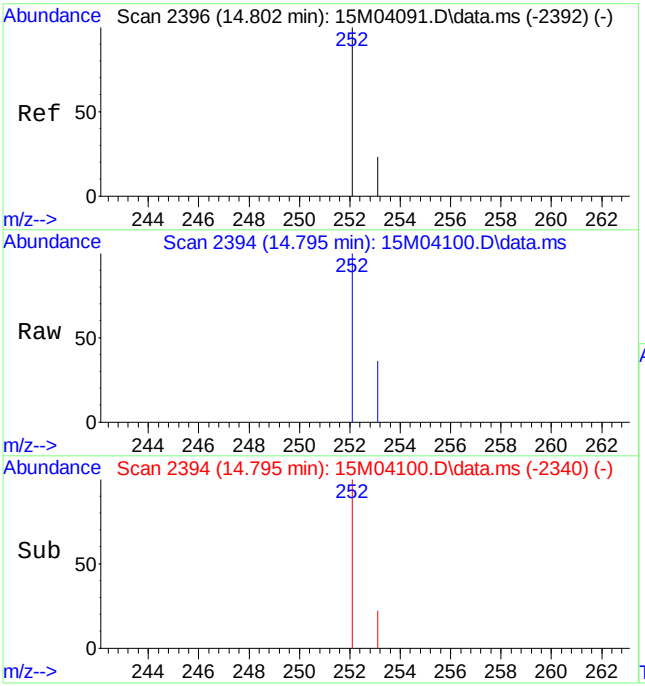


#21
Benzo[b]fluoranthene
Concen: 1.0483 ug/mL
RT: 14.765 min Scan# 2386
Delta R.T. -0.011 min
Lab File: 15M04100.D
Acq: 22 Mar 2011 12:22 pm

Tgt Ion:252 Resp: 94769

Ion	Ratio	Lower	Upper
252	100		
253	21.8	22.8	53.2#

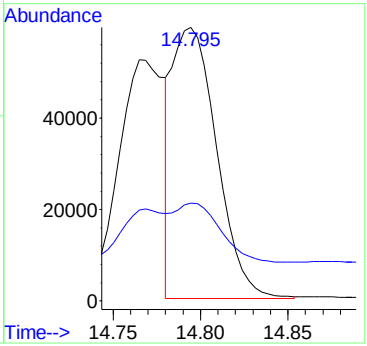


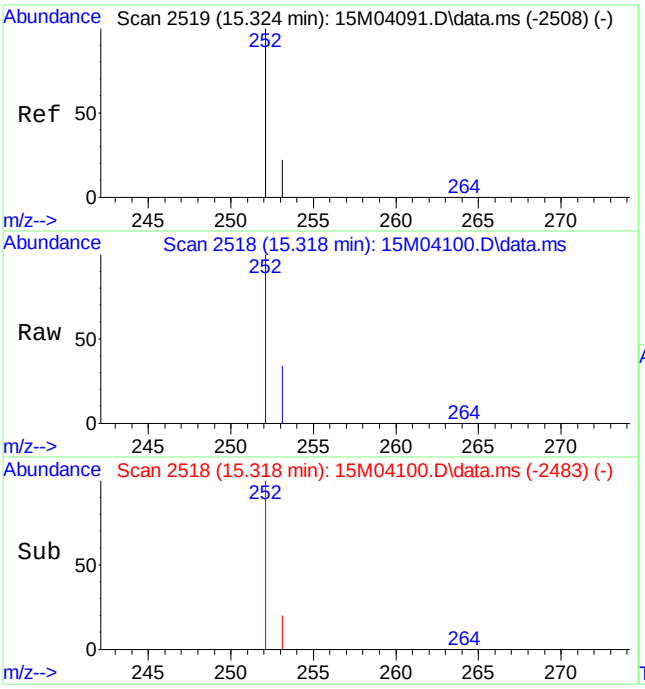


#22
Benzo[k]fluoranthene
Concen: 1.2395 ug/mL m
RT: 14.795 min Scan# 2394
Delta R.T. -0.015 min
Lab File: 15M04100.D
Acq: 22 Mar 2011 12:22 pm

Tgt Ion:252 Resp: 104476

Ion	Ratio	Lower	Upper
252	100		
253	19.8	23.0	53.6#

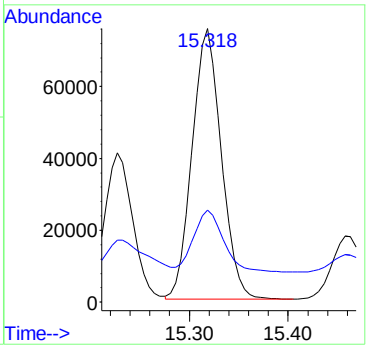


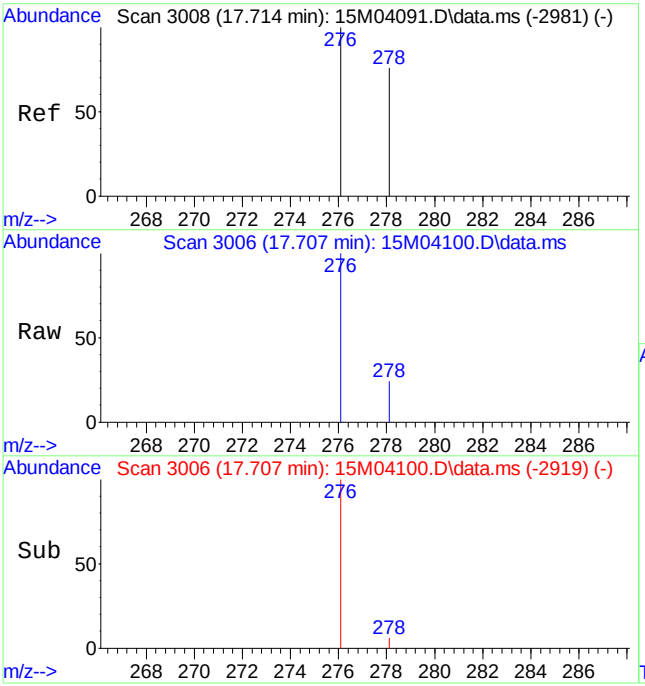


#23
Benzo[a]pyrene
Concen: 1.8167 ug/mL
RT: 15.318 min Scan# 2518
Delta R.T. -0.011 min
Lab File: 15M04100.D
Acq: 22 Mar 2011 12:22 pm

Tgt Ion:252 Resp: 154001

Ion	Ratio	Lower	Upper
252	100		
253	23.5	25.2	58.8#

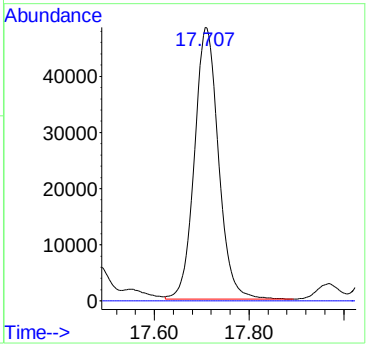


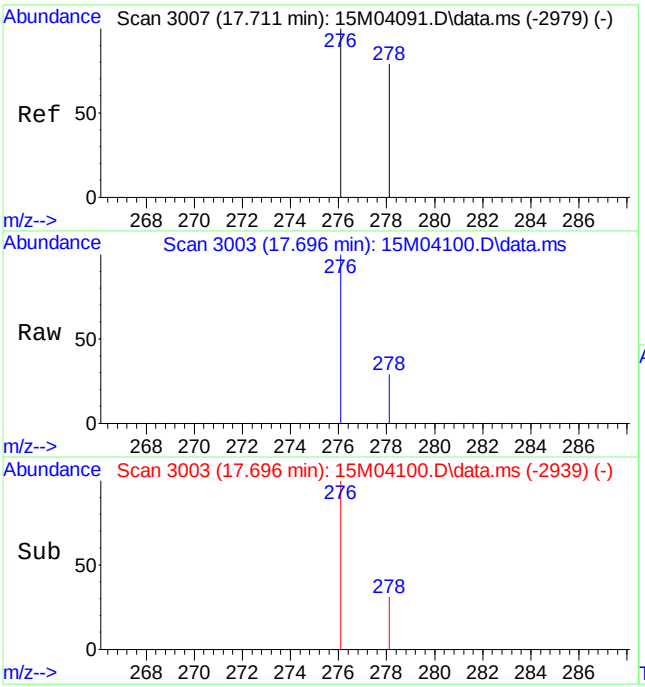


#24
Indeno[1,2,3-cd]pyrene
Concen: 1.6643 ug/mL
RT: 17.707 min Scan# 3006
Delta R.T. -0.018 min
Lab File: 15M04100.D
Acq: 22 Mar 2011 12:22 pm

Tgt Ion:276 Resp: 170888

Ion	Ratio	Lower	Upper
276	100		
277	0.0	0.0	0.0

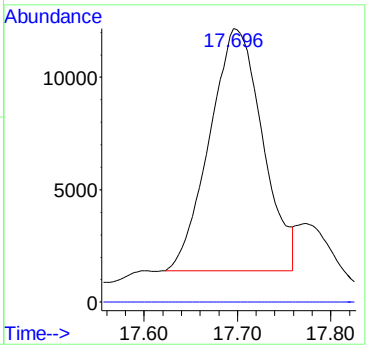


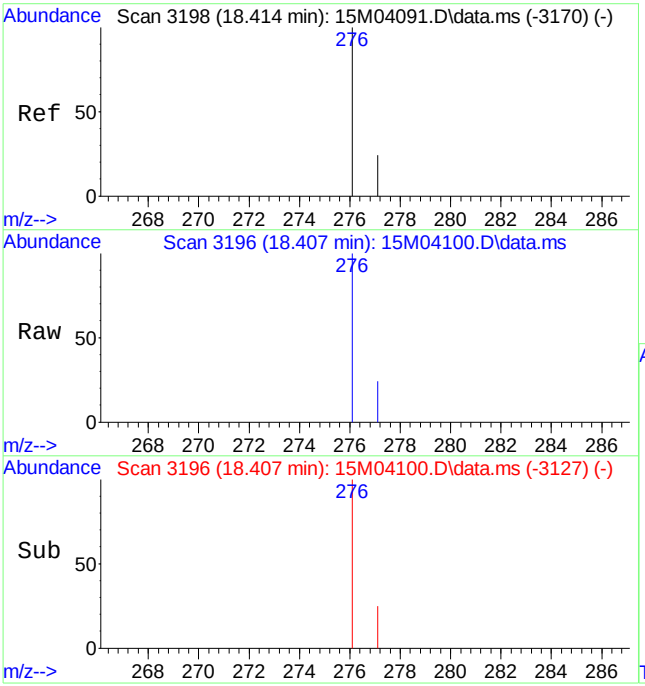


#25
Dibenz[ah]anthracene
Concen: 0.5093 ug/mL
RT: 17.696 min Scan# 3003
Delta R.T. -0.026 min
Lab File: 15M04100.D
Acq: 22 Mar 2011 12:22 pm

Tgt Ion:278 Resp: 42523

Ion	Ratio	Lower	Upper
278	100		
279	0.0	0.0	0.0

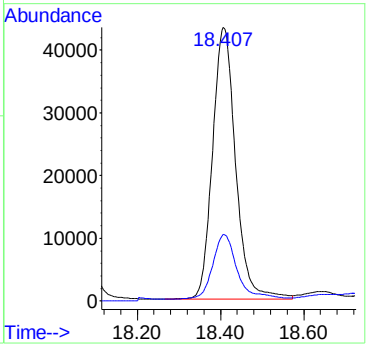




#26
Benzo[ghi]perylene
Concen: 1.9388 ug/mL
RT: 18.407 min Scan# 3196
Delta R.T. -0.018 min
Lab File: 15M04100.D
Acq: 22 Mar 2011 12:22 pm

Tgt Ion:276 Resp: 166306

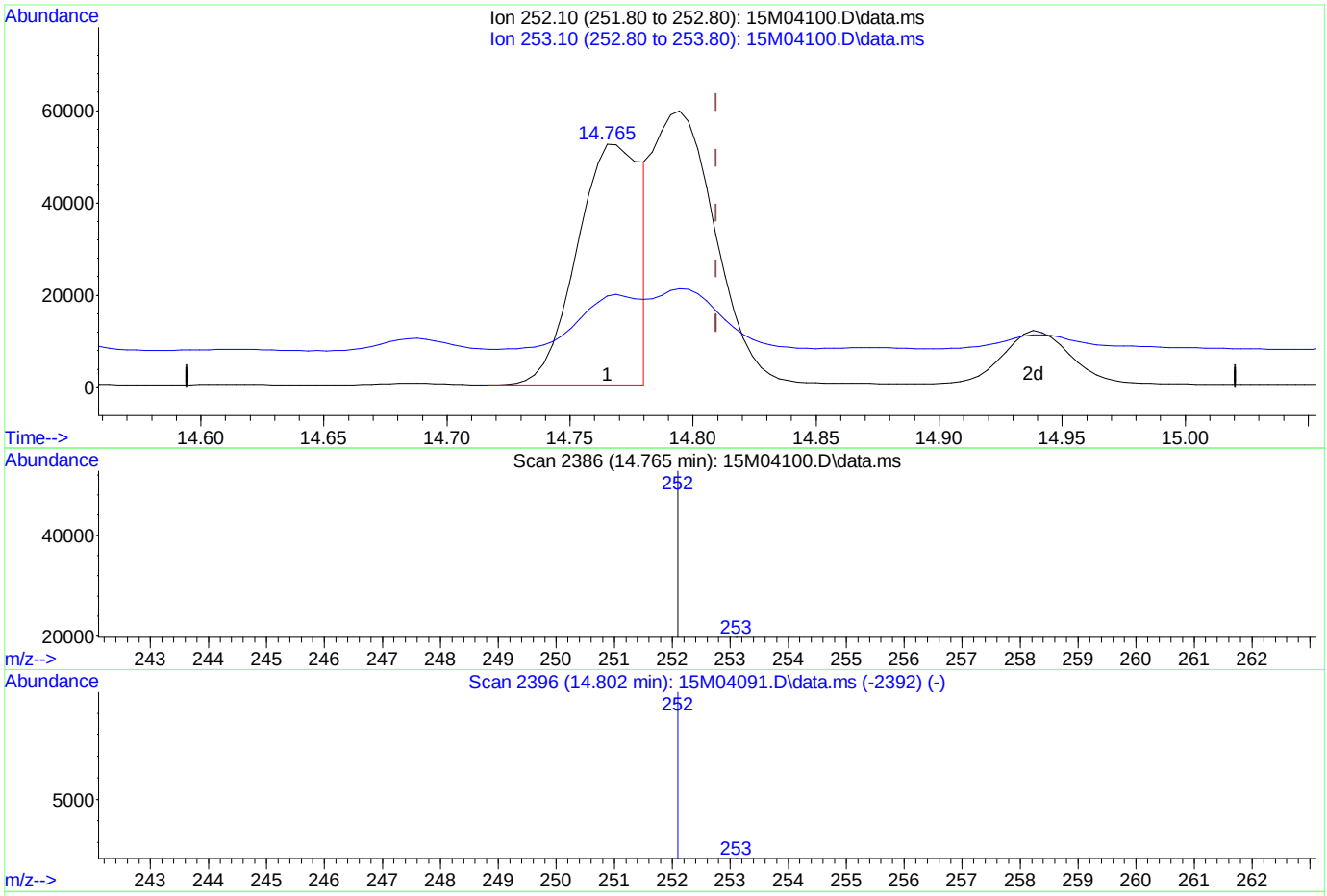
Ion	Ratio	Lower	Upper
276	100		
277	23.6	14.5	33.7



Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\032211\
Data File : 15M04100.D
Acq On : 22 Mar 2011 12:22 pm
Operator : CAA
Sample : L11030658-07 2X 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 11 Sample Multiplier: 2

Quant Time: Mar 23 08:10:44 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Wed Mar 23 08:10:15 2011
Response via : Initial Calibration



TIC: 15M04100.D\data.ms

(22) Benzo[k]fluoranthene

14.765min (-0.044) 1.12 ug/mL

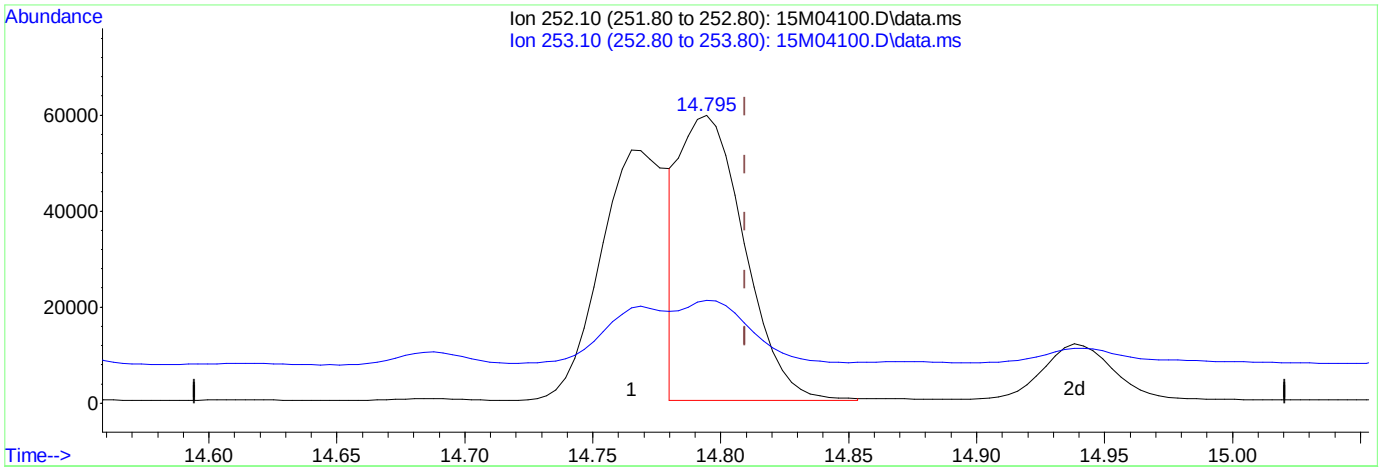
response 94769

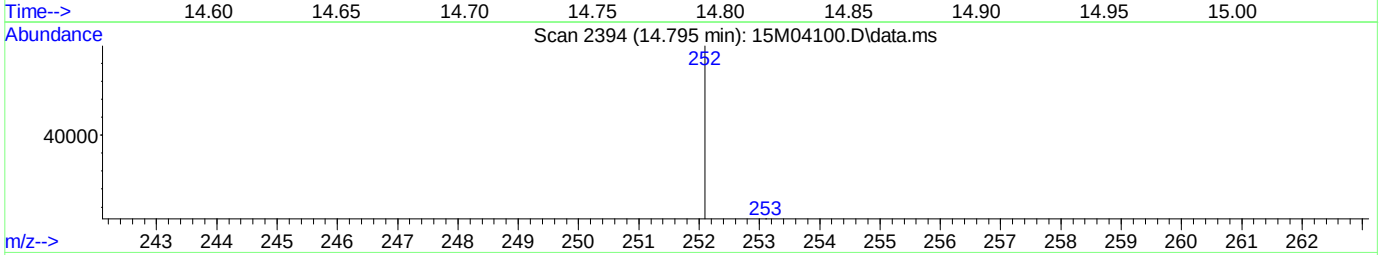
Ion	Exp%	Act%
252.10	100	100
253.10	38.30	21.81#
0.00	0.00	0.00
0.00	0.00	0.00

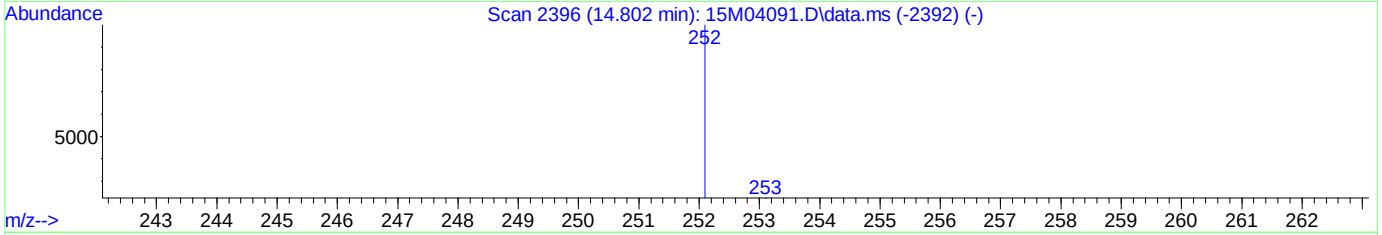
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\032211\
Data File : 15M04100.D
Acq On : 22 Mar 2011 12:22 pm
Operator : CAA
Sample : L11030658-07 2X 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 11 Sample Multiplier: 2

Quant Time: Mar 23 08:10:44 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Wed Mar 23 08:10:15 2011
Response via : Initial Calibration







TIC: 15M04100.D\data.ms

(22) Benzo[k]fluoranthene

14.795min (-0.015) 1.24 ug/mL mint

response 104476

Ion	Exp%	Act%
252.10	100	100
253.10	38.30	19.78#
0.00	0.00	0.00
0.00	0.00	0.00

Analyst: 03/23/2011 09:48 Supervisor: 03/24/2011 12:27

#3 - Improperly integrated isomers and/or coeluting compounds

PAHQUANT.M Wed Mar 23 08:18:20 2011

Page: 1

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032211\
Data File : 15M04095.D
Acq On : 22 Mar 2011 10:00 am
Operator : CAA
Sample : L11030658-08 2X 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 6 Sample Multiplier: 2

Quant Time: Mar 23 08:17:23 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Wed Mar 23 08:10:15 2011
Response via : Initial Calibration

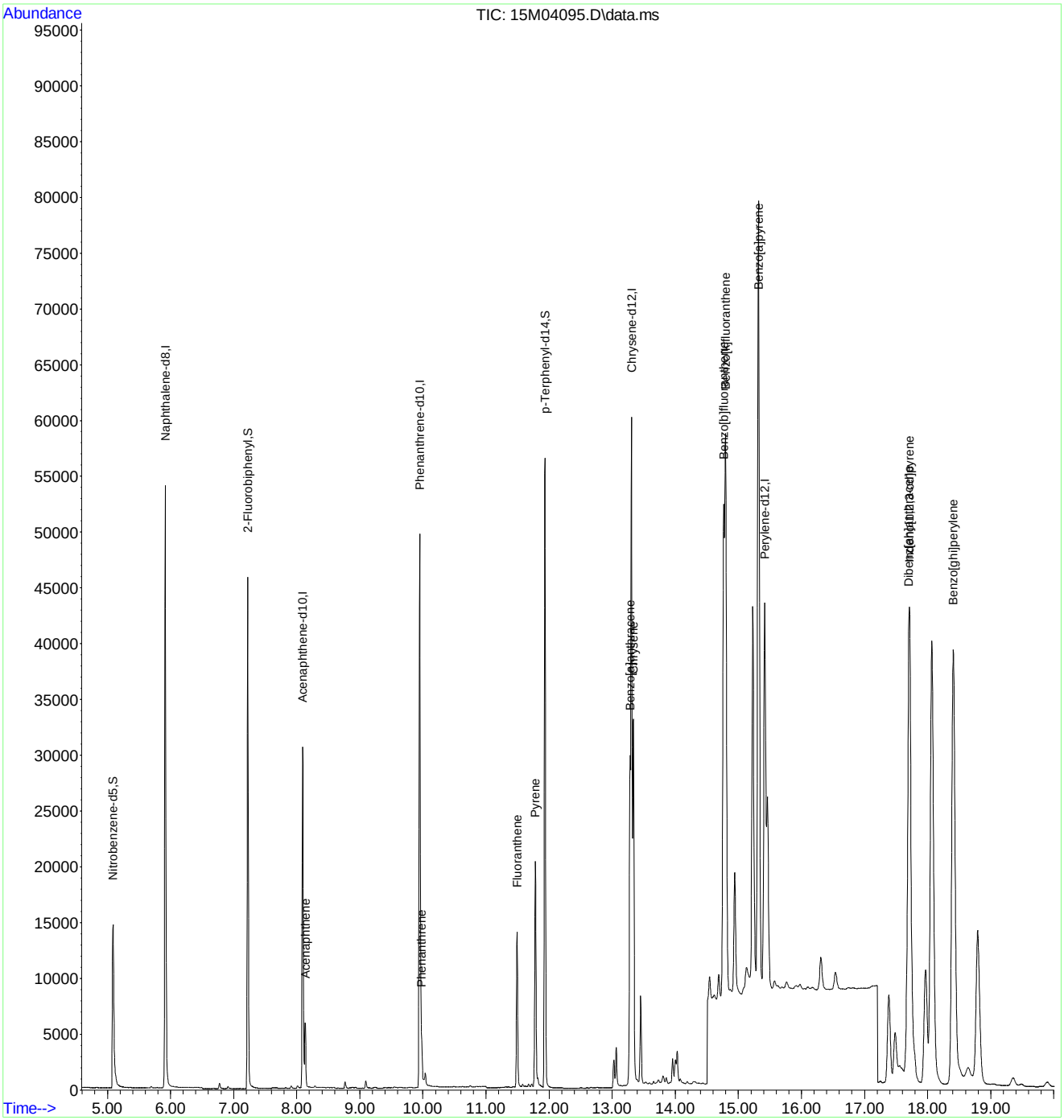
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8	5.916	136	70174	1.00	ug/mL	0.00
6) Acenaphthene-d10	8.093	164	38289	1.00	ug/mL	-0.01
11) Phenanthrene-d10	9.950	188	64045	1.00	ug/mL	0.00
15) Chrysene-d12	13.306	240	75602	1.00	ug/mL	0.00
20) Perylene-d12	15.415	264	75935	1.00	ug/mL	-0.01
System Monitoring Compounds						
2) Nitrobenzene-d5	5.088	82	17903	1.49	ug/mL	-0.02
Spiked Amount 2.500	Range 23 - 120		Recovery	=	59.60%	
7) 2-Fluorobiphenyl	7.224	172	41212	1.63	ug/mL	-0.01
Spiked Amount 2.500	Range 30 - 115		Recovery	=	65.20%	
17) p-Terphenyl-d14	11.934	244	61306	2.46	ug/mL	0.00
Spiked Amount 2.500	Range 18 - 137		Recovery	=	98.40%	
Target Compounds						Qvalue
9) Acenaphthene	8.136	154	3675	0.0830	ug/mL	99
12) Phenanthrene	9.977	178	4149	0.0577	ug/mL	100
14) Fluoranthene	11.493	202	15901	0.2128	ug/mL	99
16) Pyrene	11.783	202	23924	0.2747	ug/mL	84
18) Benzo[a]anthracene	13.285	228	30067	0.3956	ug/mL	97
19) Chrysene	13.338	228	37680	0.4965	ug/mL	100
21) Benzo[b]fluoranthene	14.765	252	59866	0.6876	ug/mL	77
22) Benzo[k]fluoranthene	14.795	252	81929m	1.0093	ug/mL	
23) Benzo[a]pyrene	15.319	252	116508	1.4271	ug/mL#	70
24) Indeno[1,2,3-cd]pyrene	17.711	276	123445	1.2483	ug/mL#	100
25) Dibenz[ah]anthracene	17.700	278	30151	0.3750	ug/mL#	100
26) Benzo[ghi]perylene	18.407	276	121193	1.4670	ug/mL	98

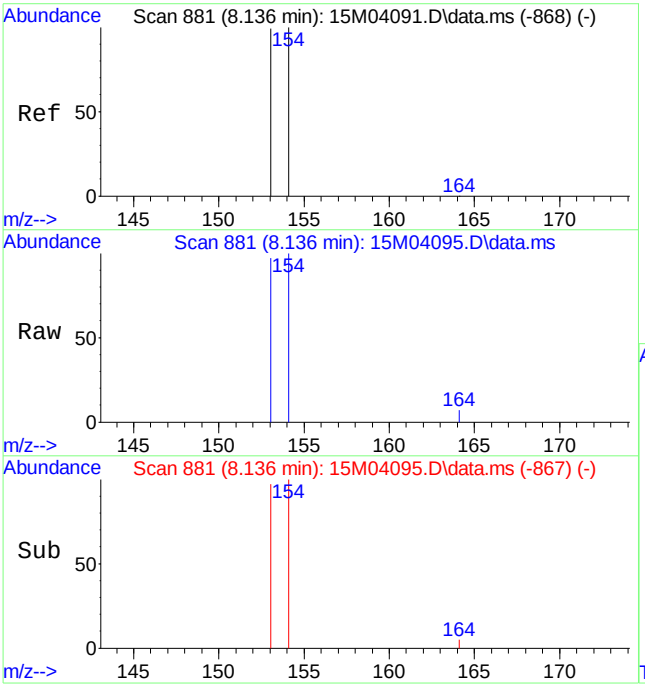
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032211\
Data File : 15M04095.D
Acq On : 22 Mar 2011 10:00 am
Operator : CAA
Sample : L11030658-08 2X 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 6 Sample Multiplier: 2

Quant Time: Mar 23 08:17:23 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Wed Mar 23 08:10:15 2011
Response via : Initial Calibration

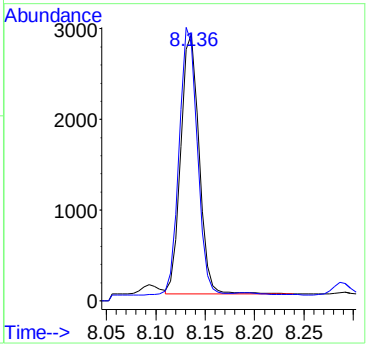


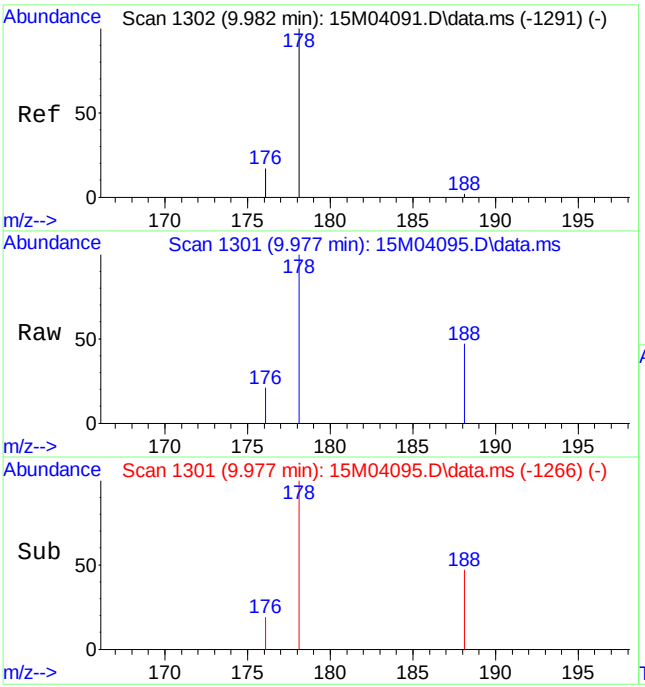


#9
Acenaphthene
Concen: 0.0830 ug/mL
RT: 8.136 min Scan# 881
Delta R.T. -0.010 min
Lab File: 15M04095.D
Acq: 22 Mar 2011 10:00 am

Tgt Ion:154 Resp: 3675

Ion	Ratio	Lower	Upper
154	100		
153	102.0	61.8	144.2

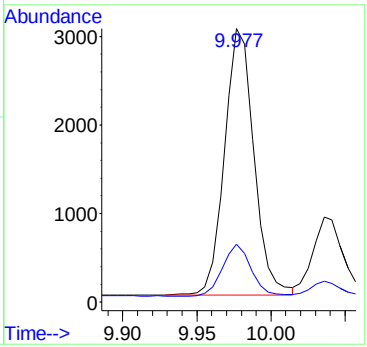


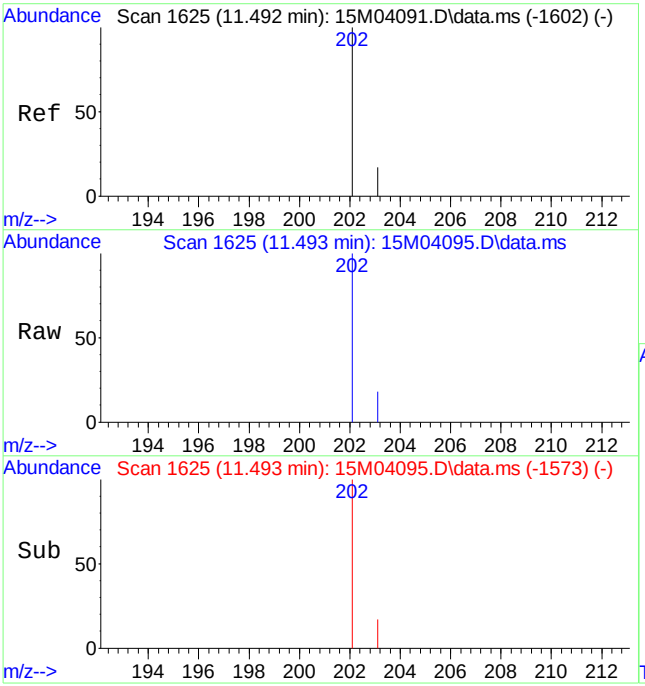


#12
Phenanthrene
Concen: 0.0577 ug/mL
RT: 9.977 min Scan# 1301
Delta R.T. -0.011 min
Lab File: 15M04095.D
Acq: 22 Mar 2011 10:00 am

Tgt Ion:178 Resp: 4149

Ion	Ratio	Lower	Upper
178	100		
176	19.1	11.4	26.6

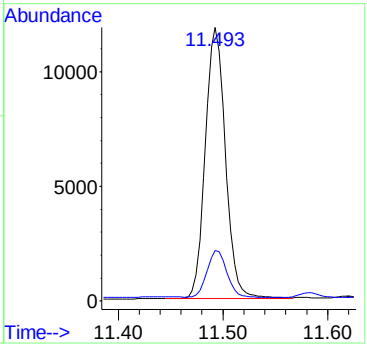


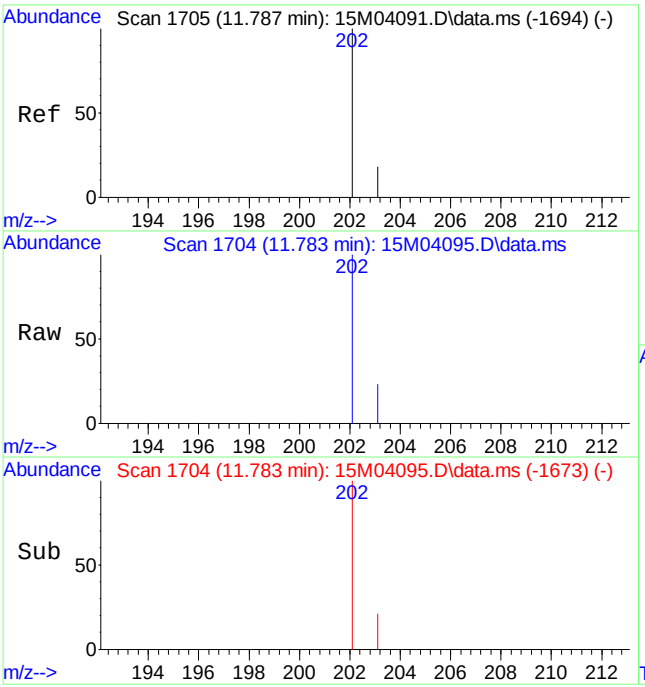


#14
Fluoranthene
Concen: 0.2128 ug/mL
RT: 11.493 min Scan# 1625
Delta R.T. -0.007 min
Lab File: 15M04095.D
Acq: 22 Mar 2011 10:00 am

Tgt Ion:202 Resp: 15901

Ion	Ratio	Lower	Upper
202	100		
203	17.2	10.4	24.4

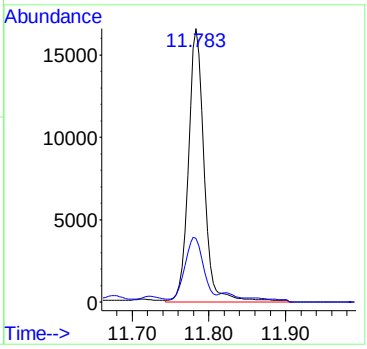


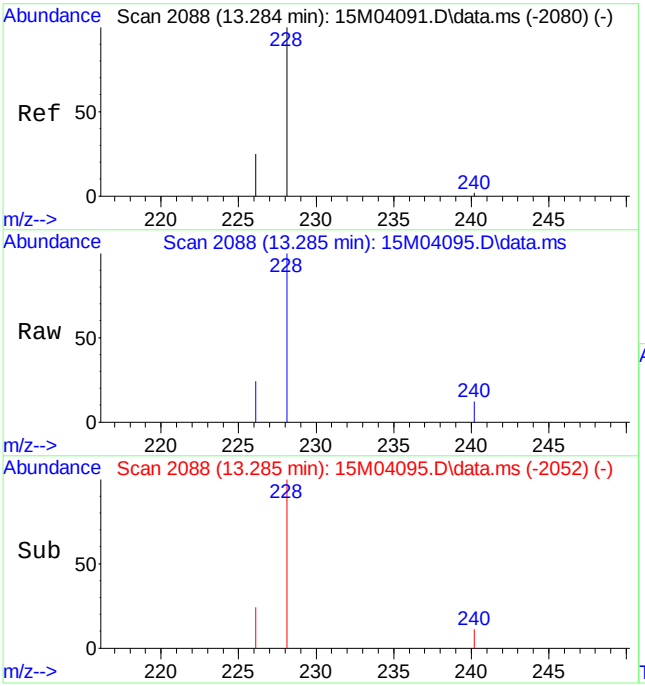


#16
Pyrene
Concen: 0.2747 ug/mL
RT: 11.783 min Scan# 1704
Delta R.T. -0.011 min
Lab File: 15M04095.D
Acq: 22 Mar 2011 10:00 am

Tgt Ion:202 Resp: 23924

Ion	Ratio	Lower	Upper
202	100		
203	25.6	11.0	25.6

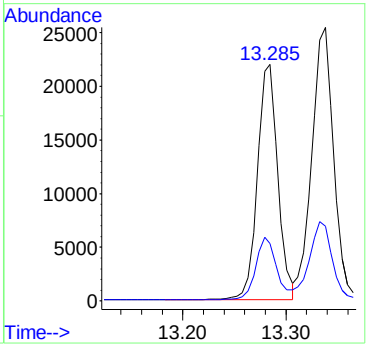


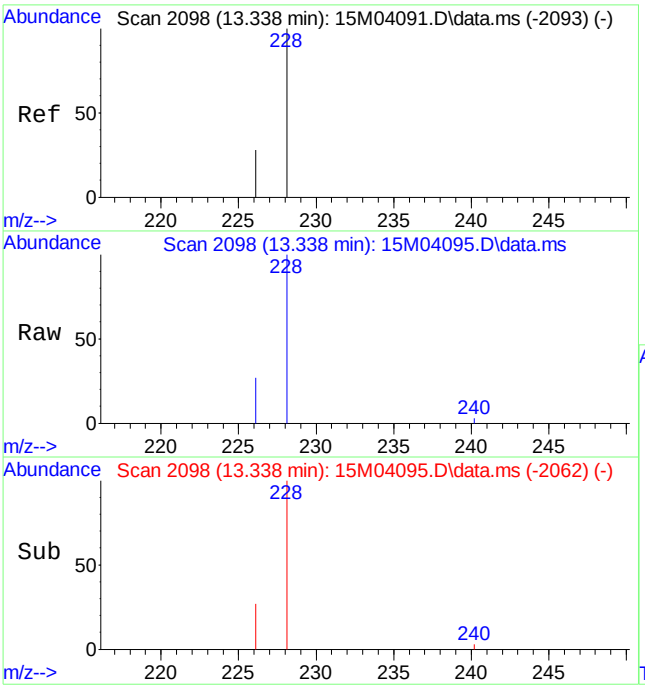


#18
Benzo[a]anthracene
Concen: 0.3956 ug/mL
RT: 13.285 min Scan# 2088
Delta R.T. -0.005 min
Lab File: 15M04095.D
Acq: 22 Mar 2011 10:00 am

Tgt Ion:228 Resp: 30067

Ion	Ratio	Lower	Upper
228	100		
226	27.5	15.7	36.5

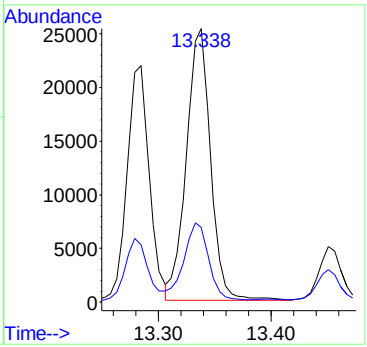


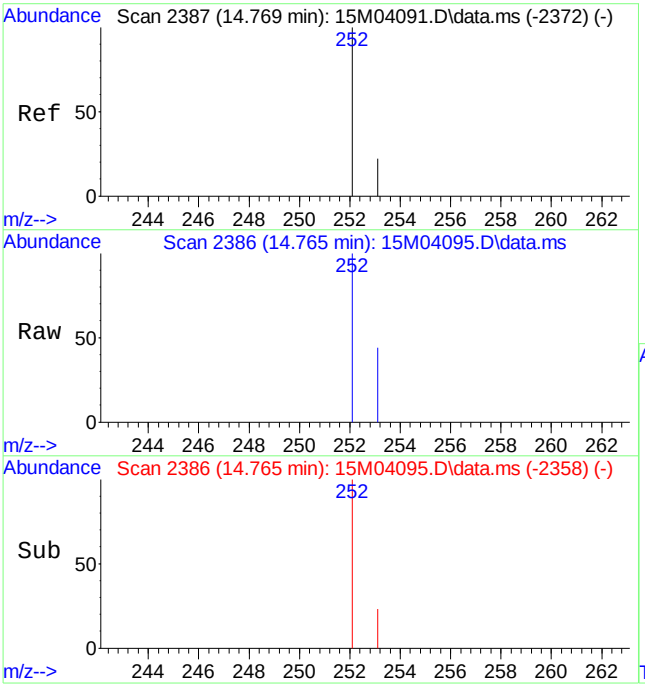


#19
Chrysene
Concen: 0.4965 ug/mL
RT: 13.338 min Scan# 2098
Delta R.T. -0.005 min
Lab File: 15M04095.D
Acq: 22 Mar 2011 10:00 am

Tgt Ion:228 Resp: 37680

Ion	Ratio	Lower	Upper
228	100		
226	28.6	17.0	39.8

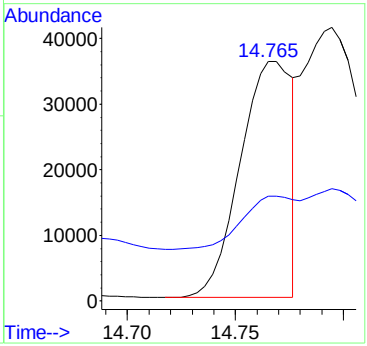


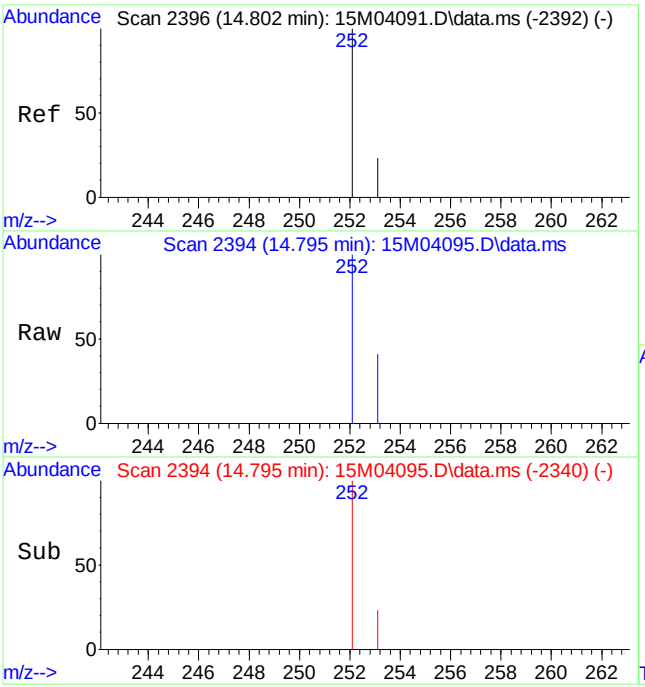


#21
Benzo[b]fluoranthene
Concen: 0.6876 ug/mL
RT: 14.765 min Scan# 2386
Delta R.T. -0.011 min
Lab File: 15M04095.D
Acq: 22 Mar 2011 10:00 am

Tgt Ion:252 Resp: 59866

Ion	Ratio	Lower	Upper
252	100		
253	24.4	22.8	53.2

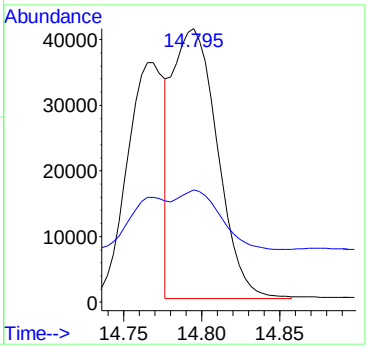


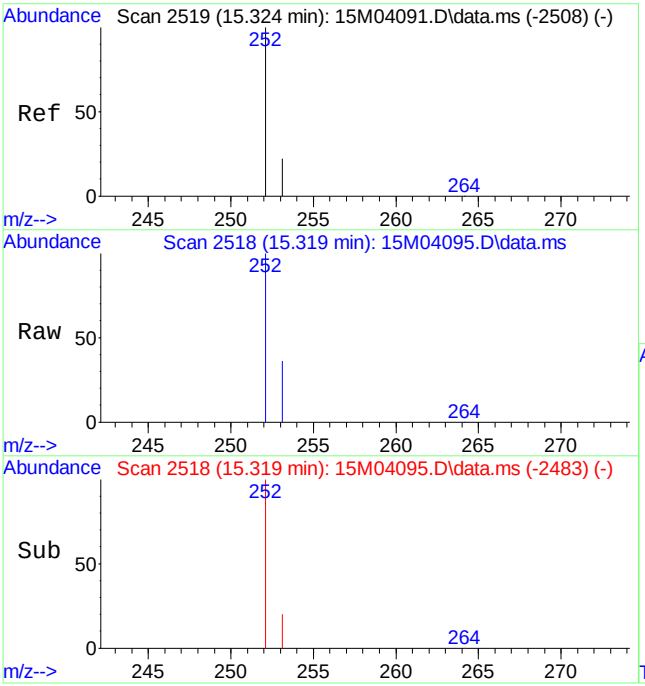


#22
Benzo[k]fluoranthene
Concen: 1.0093 ug/mL m
RT: 14.795 min Scan# 2394
Delta R.T. -0.015 min
Lab File: 15M04095.D
Acq: 22 Mar 2011 10:00 am

Tgt Ion:252 Resp: 81929

Ion	Ratio	Lower	Upper
252	100		
253	17.8	23.0	53.6#

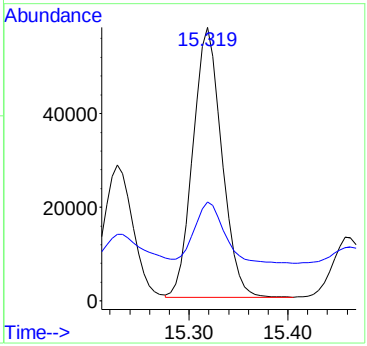


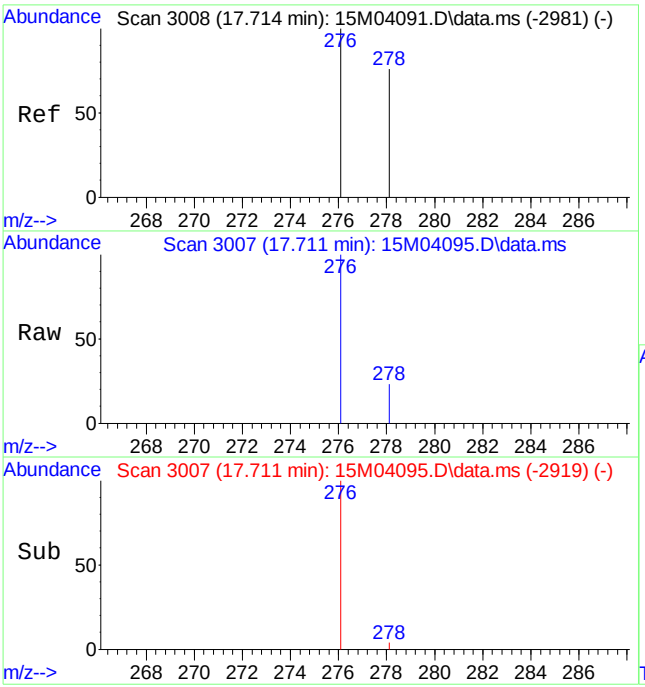


#23
Benzo[a]pyrene
Concen: 1.4271 ug/mL
RT: 15.319 min Scan# 2518
Delta R.T. -0.011 min
Lab File: 15M04095.D
Acq: 22 Mar 2011 10:00 am

Tgt Ion:252 Resp: 116508

Ion	Ratio	Lower	Upper
252	100		
253	23.3	25.2	58.8#

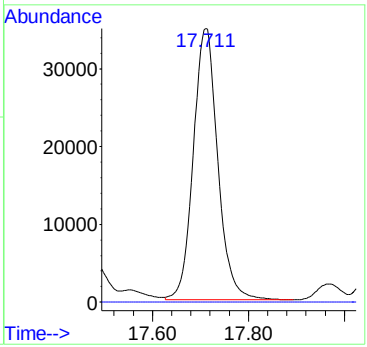


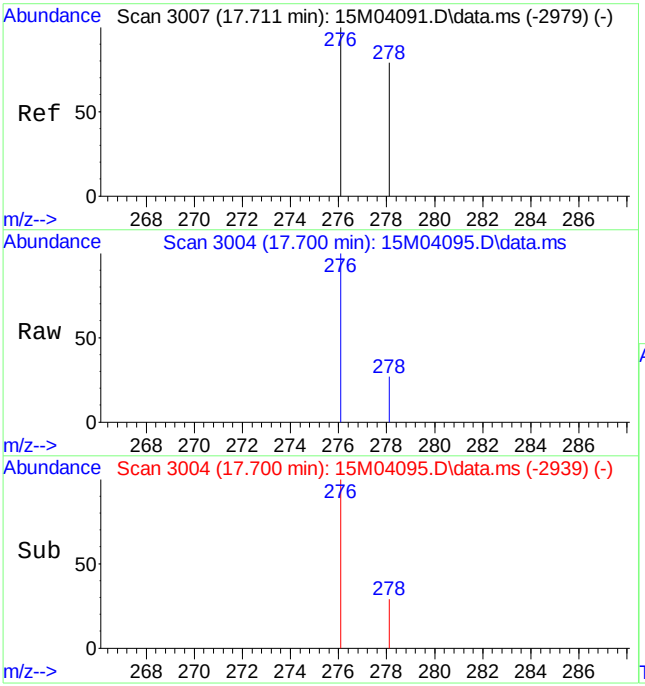


#24
Indeno[1,2,3-cd]pyrene
Concen: 1.2483 ug/mL
RT: 17.711 min Scan# 3007
Delta R.T. -0.015 min
Lab File: 15M04095.D
Acq: 22 Mar 2011 10:00 am

Tgt Ion:276 Resp: 123445

Ion	Ratio	Lower	Upper
276	100		
277	0.0	0.0	0.0

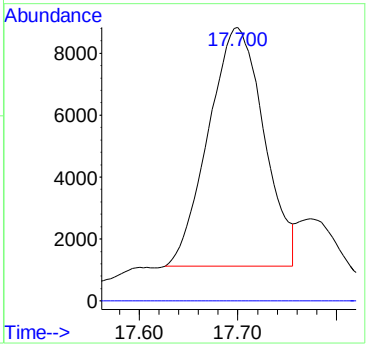


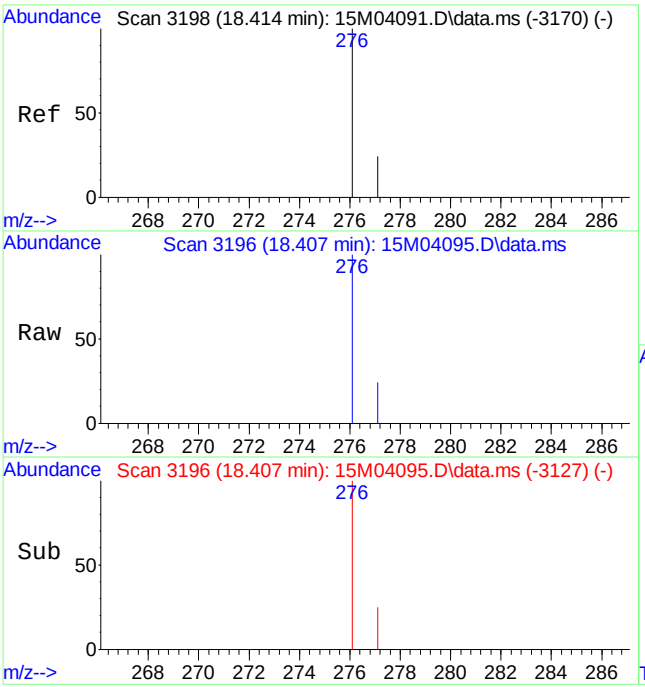


#25
Dibenz[ah]anthracene
Concen: 0.3750 ug/mL
RT: 17.700 min Scan# 3004
Delta R.T. -0.022 min
Lab File: 15M04095.D
Acq: 22 Mar 2011 10:00 am

Tgt Ion:278 Resp: 30151

Ion	Ratio	Lower	Upper
278	100		
279	0.0	0.0	0.0

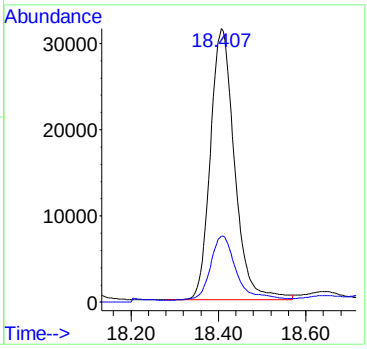




#26
Benzo[ghi]perylene
Concen: 1.4670 ug/mL
RT: 18.407 min Scan# 3196
Delta R.T. -0.018 min
Lab File: 15M04095.D
Acq: 22 Mar 2011 10:00 am

Tgt Ion:276 Resp: 121193

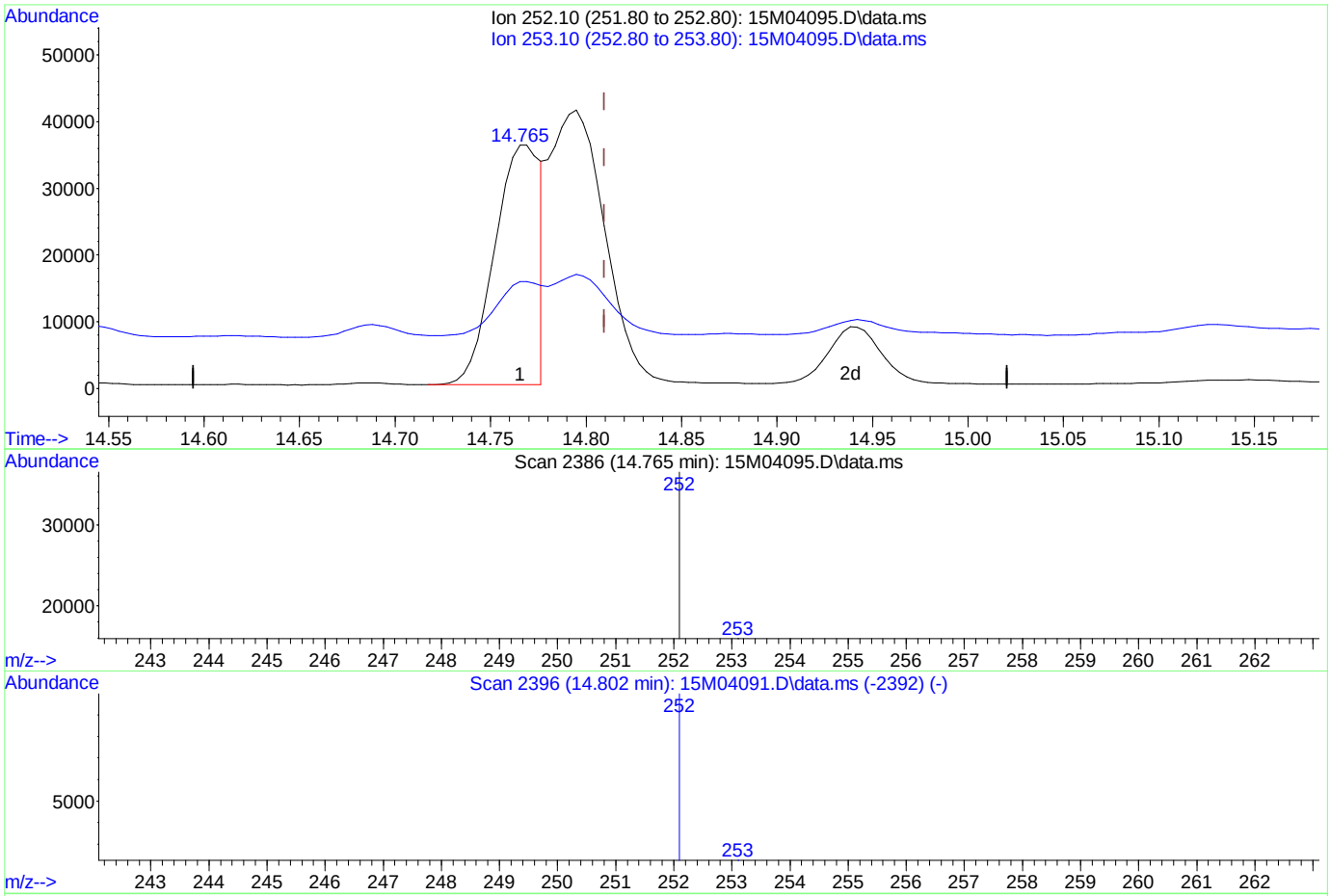
Ion	Ratio	Lower	Upper
276	100		
277	23.3	14.5	33.7



Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\032211\
Data File : 15M04095.D
Acq On : 22 Mar 2011 10:00 am
Operator : CAA
Sample : L11030658-08 2X 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 6 Sample Multiplier: 2

Quant Time: Mar 23 08:10:34 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Wed Mar 23 08:10:15 2011
Response via : Initial Calibration



TIC: 15M04095.D\data.ms

(22) Benzo[k]fluoranthene

14.765min (-0.044) 0.74 ug/mL

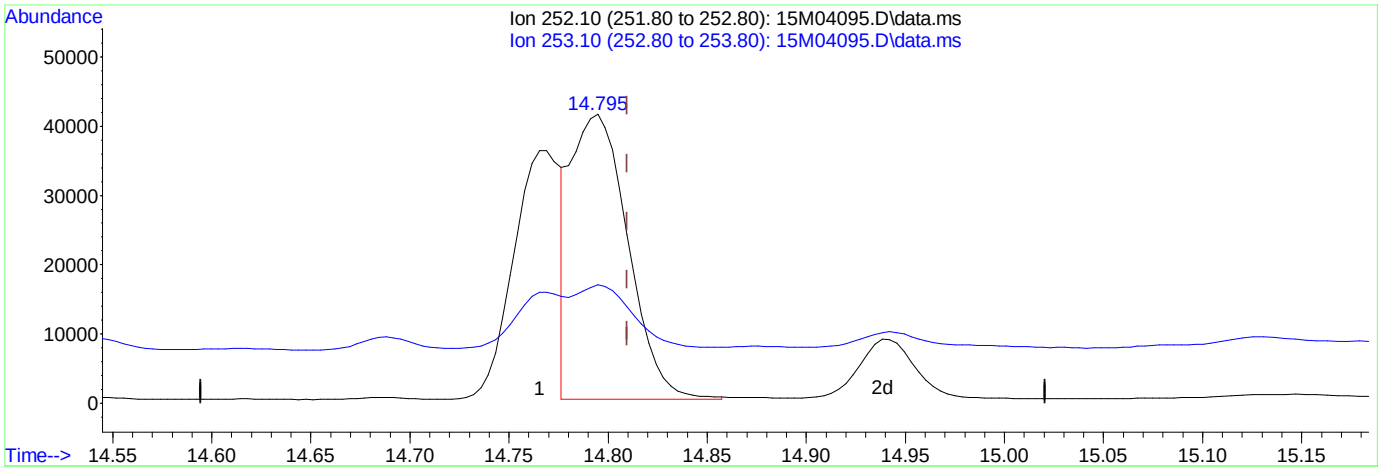
response 59866

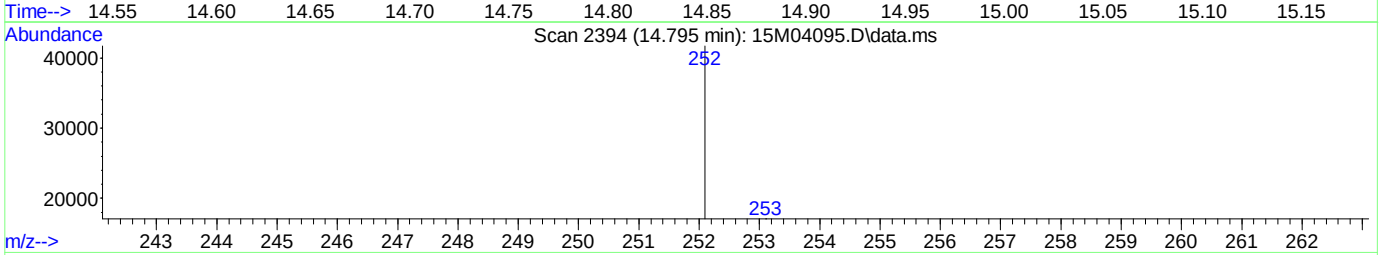
Ion	Exp%	Act%
252.10	100	100
253.10	38.30	24.38
0.00	0.00	0.00
0.00	0.00	0.00

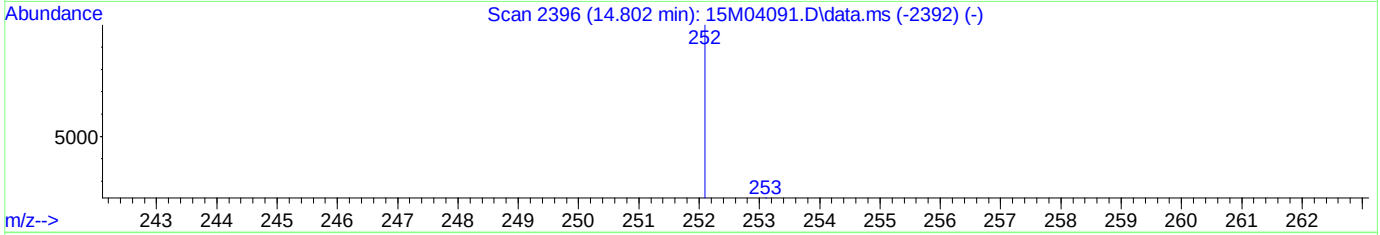
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\032211\
Data File : 15M04095.D
Acq On : 22 Mar 2011 10:00 am
Operator : CAA
Sample : L11030658-08 2X 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 6 Sample Multiplier: 2

Quant Time: Mar 23 08:10:34 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Wed Mar 23 08:10:15 2011
Response via : Initial Calibration







TIC: 15M04095.D\data.ms

(22) Benzo[k]fluoranthene

14.795min (-0.015) 1.01 ug/mL mint

response 81929

Ion	Exp%	Act%
252.10	100	100
253.10	38.30	17.81#
0.00	0.00	0.00
0.00	0.00	0.00

Analyst: 03/23/2011 09:48 Supervisor: 03/24/2011 12:26

#3 - Improperly integrated isomers and/or coeluting compounds

PAHQUANT.M Wed Mar 23 08:17:26 2011

Page: 1

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032211\
Data File : 15M04094.D
Acq On : 22 Mar 2011 9:31 am
Operator : CAA
Sample : L11030658-09 2X 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 5 Sample Multiplier: 2

Quant Time: Mar 23 08:17:07 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Wed Mar 23 08:10:15 2011
Response via : Initial Calibration

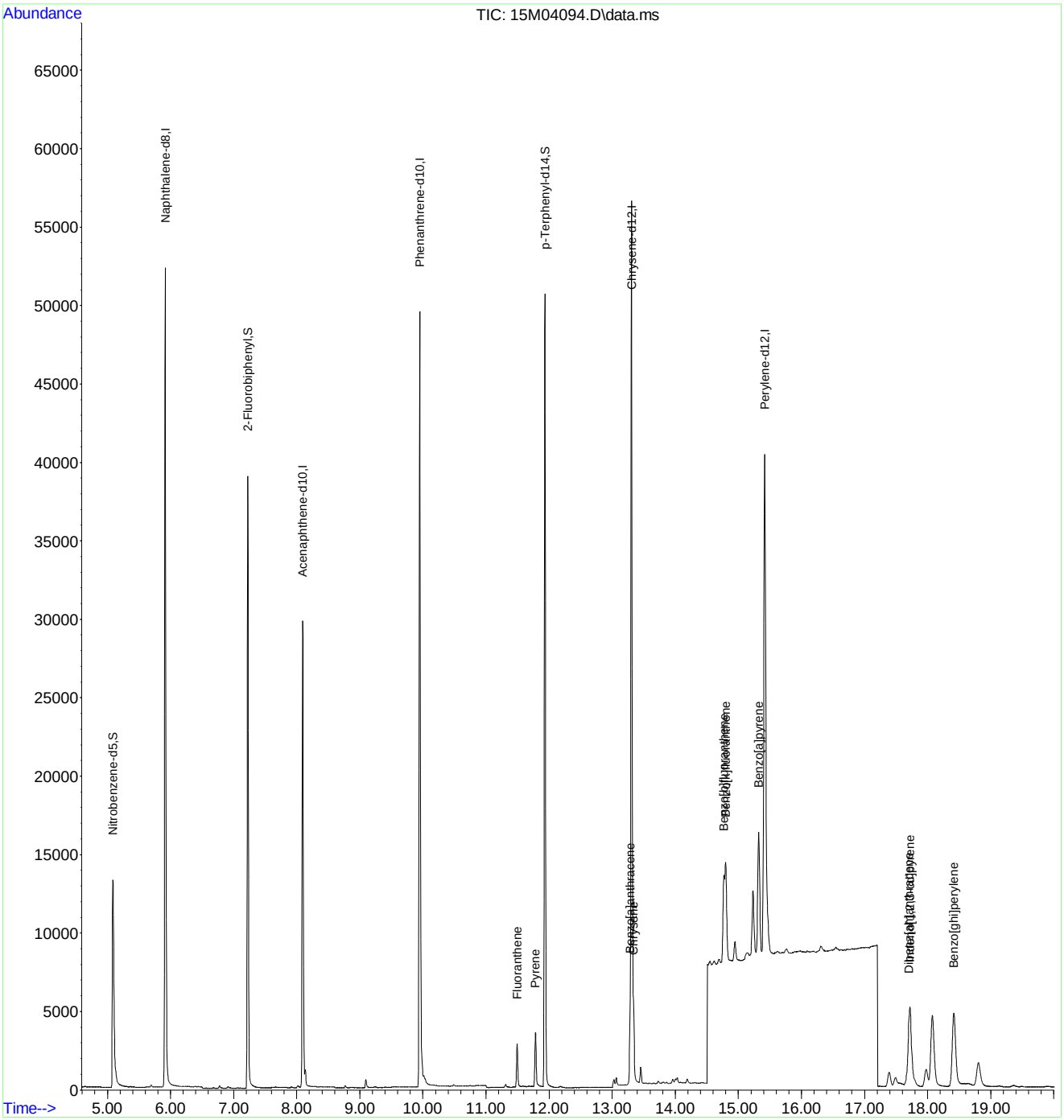
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8	5.916	136	69982	1.00 ug/mL	0.00
6) Acenaphthene-d10	8.093	164	37997	1.00 ug/mL	-0.01
11) Phenanthrene-d10	9.950	188	63222	1.00 ug/mL	0.00
15) Chrysene-d12	13.306	240	74427	1.00 ug/mL	0.00
20) Perylene-d12	15.415	264	70913	1.00 ug/mL	-0.01
System Monitoring Compounds					
2) Nitrobenzene-d5	5.085	82	16665	1.39 ug/mL	-0.02
Spiked Amount 2.500	Range 23 - 120		Recovery	= 55.60%	
7) 2-Fluorobiphenyl	7.224	172	35968	1.43 ug/mL	-0.01
Spiked Amount 2.500	Range 30 - 115		Recovery	= 57.20%	
17) p-Terphenyl-d14	11.934	244	54706	2.23 ug/mL	0.00
Spiked Amount 2.500	Range 18 - 137		Recovery	= 89.20%	
Target Compounds					Qvalue
14) Fluoranthene	11.492	202	3229	0.0438 ug/mL	99
16) Pyrene	11.783	202	4117	0.0480 ug/mL	84
18) Benzo[a]anthracene	13.284	228	4028	0.0538 ug/mL	95
19) Chrysene	13.338	228	5471	0.0732 ug/mL	97
21) Benzo[b]fluoranthene	14.769	252	7929	0.0975 ug/mL#	74
22) Benzo[k]fluoranthene	14.795	252	10331m	0.1363 ug/mL	
23) Benzo[a]pyrene	15.318	252	13751	0.1804 ug/mL#	71
24) Indeno[1,2,3-cd]pyrene	17.718	276	15332	0.1660 ug/mL#	100
25) Dibenz[ah]anthracene	17.703	278	3799	0.0506 ug/mL#	100
26) Benzo[ghi]perylene	18.414	276	14844	0.1924 ug/mL	97

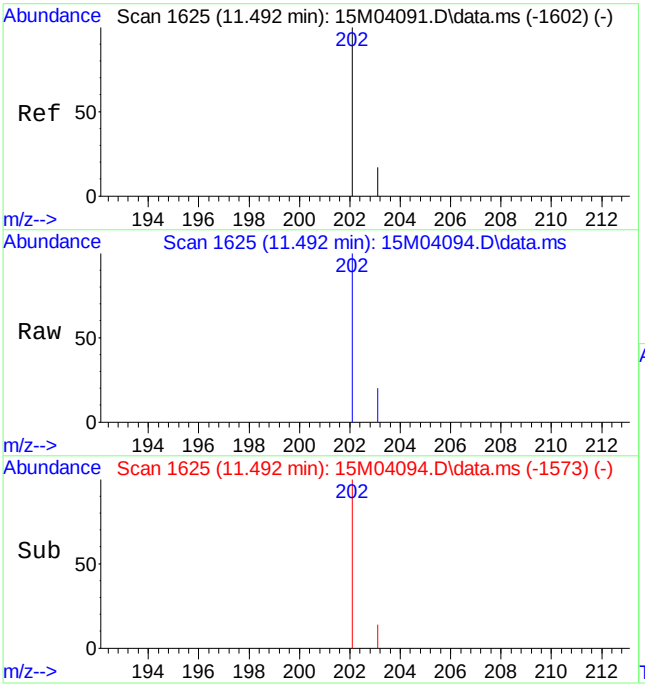
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032211\
Data File : 15M04094.D
Acq On : 22 Mar 2011 9:31 am
Operator : CAA
Sample : L11030658-09 2X 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 5 Sample Multiplier: 2

Quant Time: Mar 23 08:17:07 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Wed Mar 23 08:10:15 2011
Response via : Initial Calibration

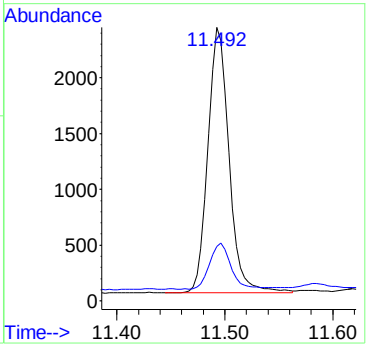


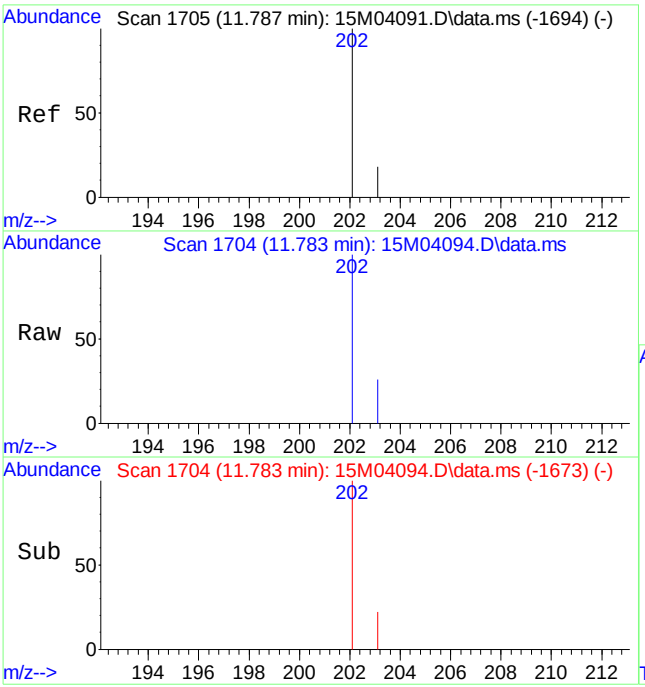


#14
Fluoranthene
Concen: 0.0438 ug/mL
RT: 11.492 min Scan# 1625
Delta R.T. -0.007 min
Lab File: 15M04094.D
Acq: 22 Mar 2011 9:31 am

Tgt Ion:202 Resp: 3229

Ion	Ratio	Lower	Upper
202	100		
203	17.7	10.4	24.4

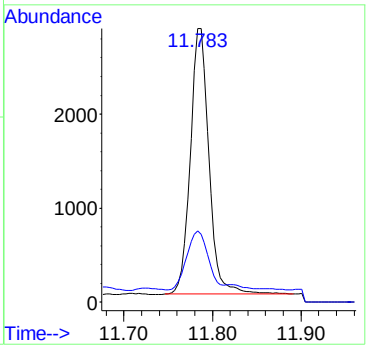


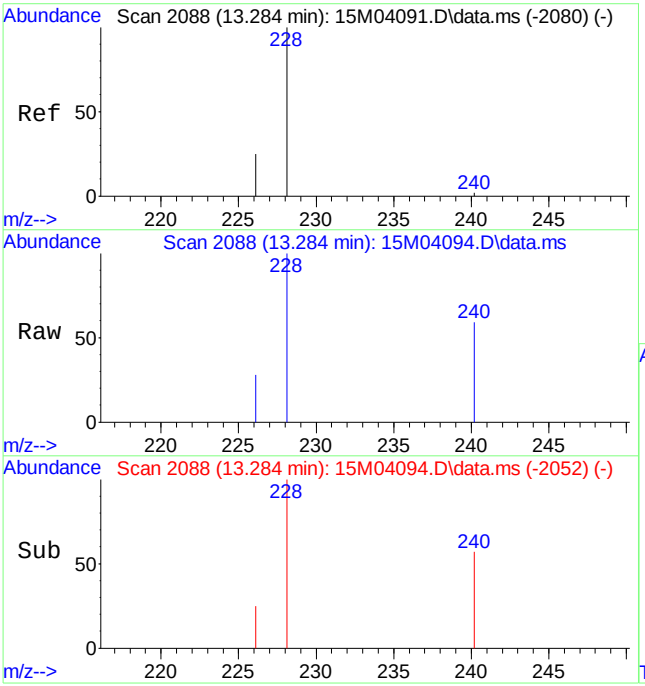


#16
Pyrene
Concen: 0.0480 ug/mL
RT: 11.783 min Scan# 1704
Delta R.T. -0.011 min
Lab File: 15M04094.D
Acq: 22 Mar 2011 9:31 am

Tgt Ion:202 Resp: 4117

Ion	Ratio	Lower	Upper
202	100		
203	25.2	11.0	25.6

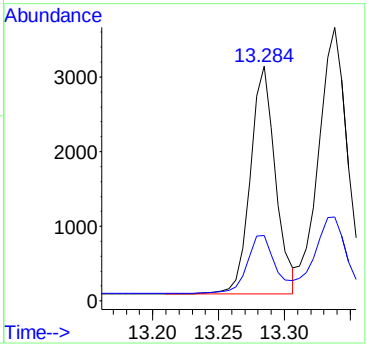


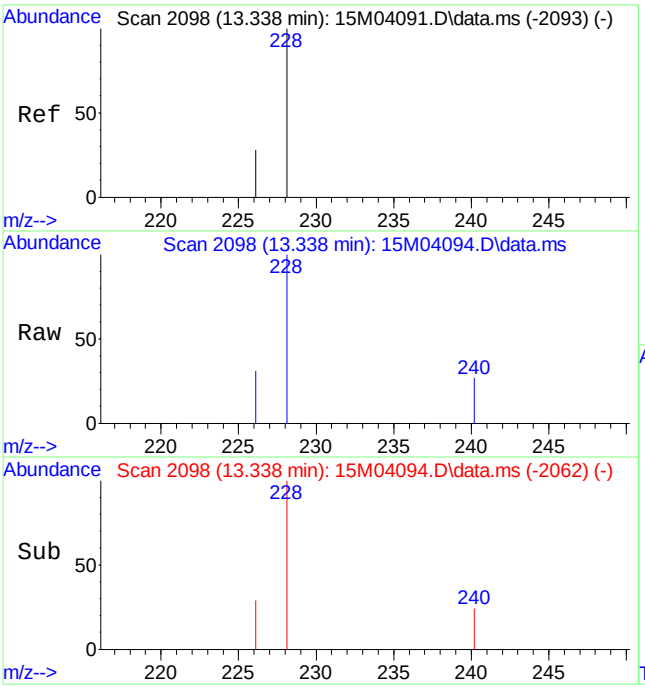


#18
Benzo[a]anthracene
Concen: 0.0538 ug/mL
RT: 13.284 min Scan# 2088
Delta R.T. -0.005 min
Lab File: 15M04094.D
Acq: 22 Mar 2011 9:31 am

Tgt Ion:228 Resp: 4028

Ion	Ratio	Lower	Upper
228	100		
226	28.8	15.7	36.5

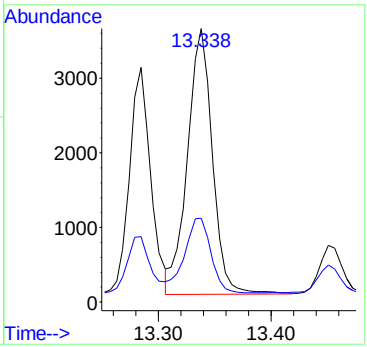


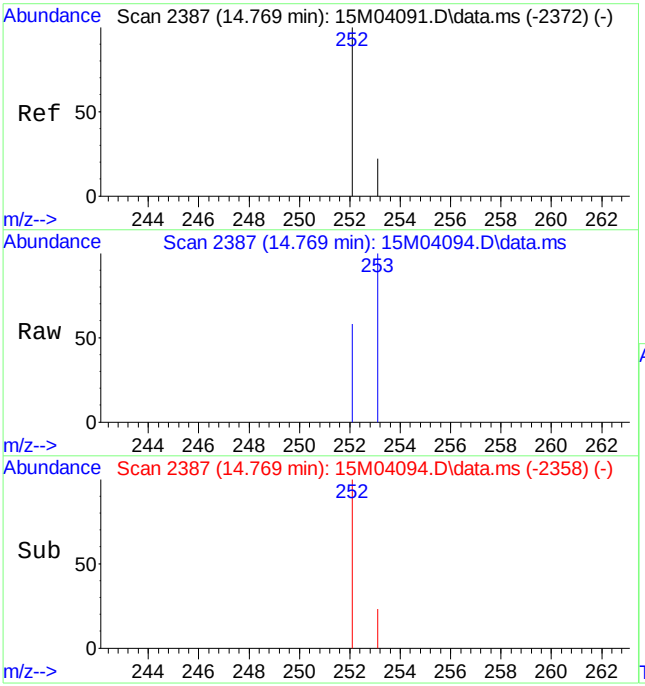


#19
Chrysene
Concen: 0.0732 ug/mL
RT: 13.338 min Scan# 2098
Delta R.T. -0.005 min
Lab File: 15M04094.D
Acq: 22 Mar 2011 9:31 am

Tgt Ion:228 Resp: 5471

Ion	Ratio	Lower	Upper
228	100		
226	29.8	17.0	39.8

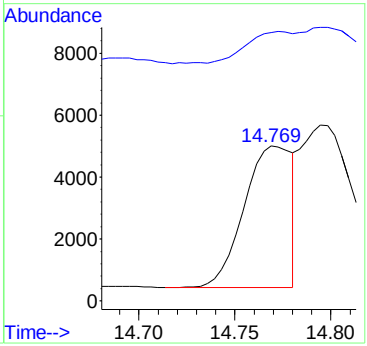


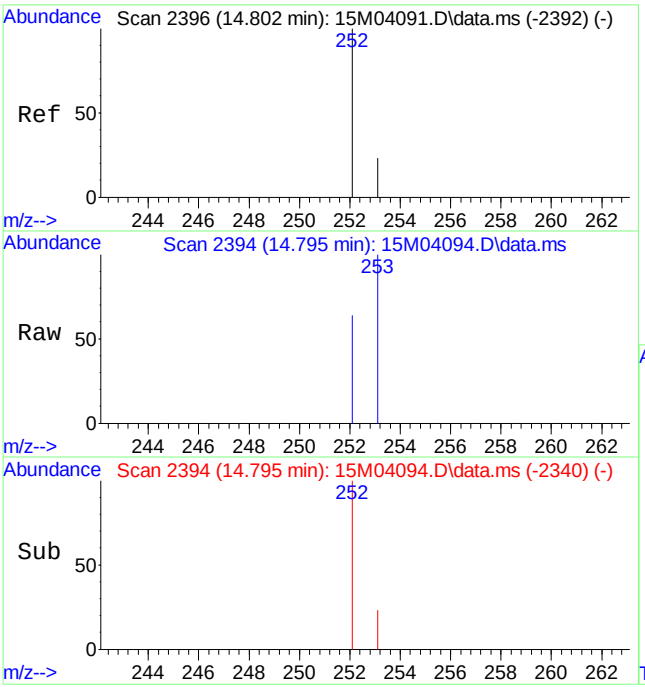


#21
Benzo[b]fluoranthene
Concen: 0.0975 ug/mL
RT: 14.769 min Scan# 2387
Delta R.T. -0.007 min
Lab File: 15M04094.D
Acq: 22 Mar 2011 9:31 am

Tgt Ion:252 Resp: 7929

Ion	Ratio	Lower	Upper
252	100		
253	22.5	22.8	53.2#

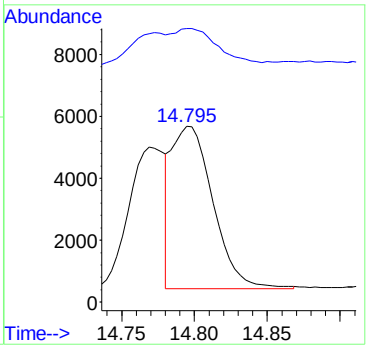


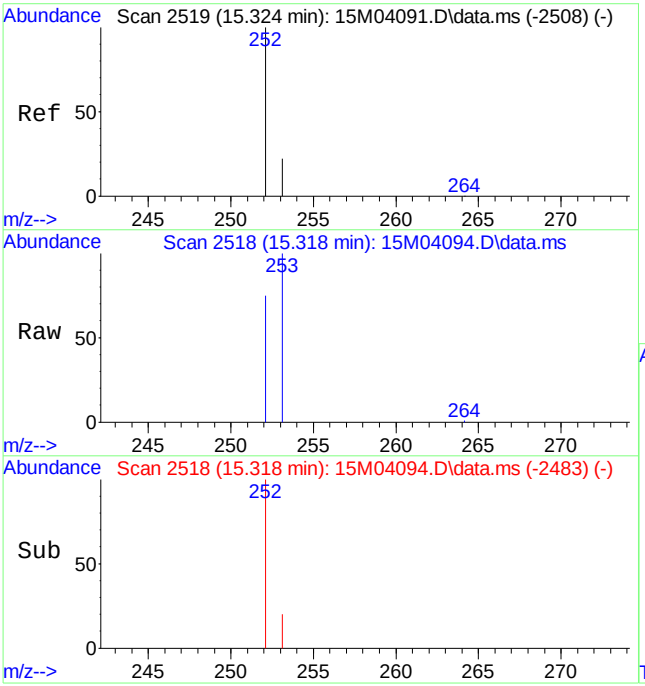


#22
Benzo[k]fluoranthene
Concen: 0.1363 ug/mL m
RT: 14.795 min Scan# 2394
Delta R.T. -0.015 min
Lab File: 15M04094.D
Acq: 22 Mar 2011 9:31 am

Tgt Ion:252 Resp: 10331

Ion	Ratio	Lower	Upper
252	100		
253	16.4	23.0	53.6#

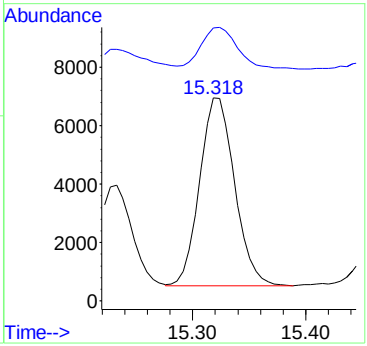


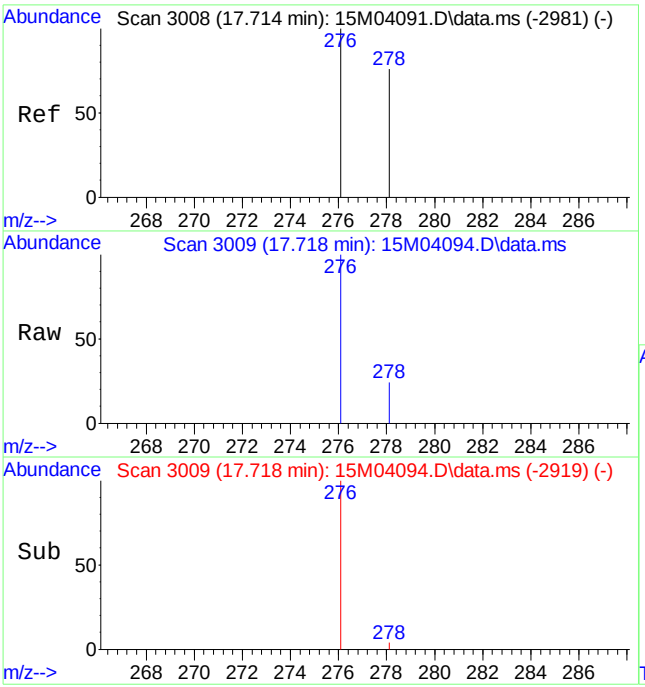


#23
Benzo[a]pyrene
Concen: 0.1804 ug/mL
RT: 15.318 min Scan# 2518
Delta R.T. -0.011 min
Lab File: 15M04094.D
Acq: 22 Mar 2011 9:31 am

Tgt Ion:252 Resp: 13751

Ion	Ratio	Lower	Upper
252	100		
253	23.6	25.2	58.8#

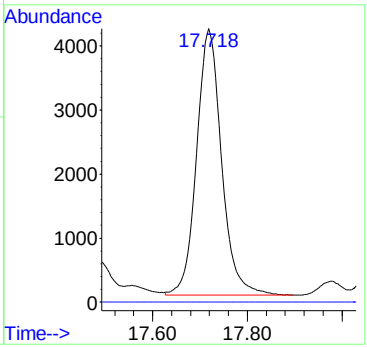


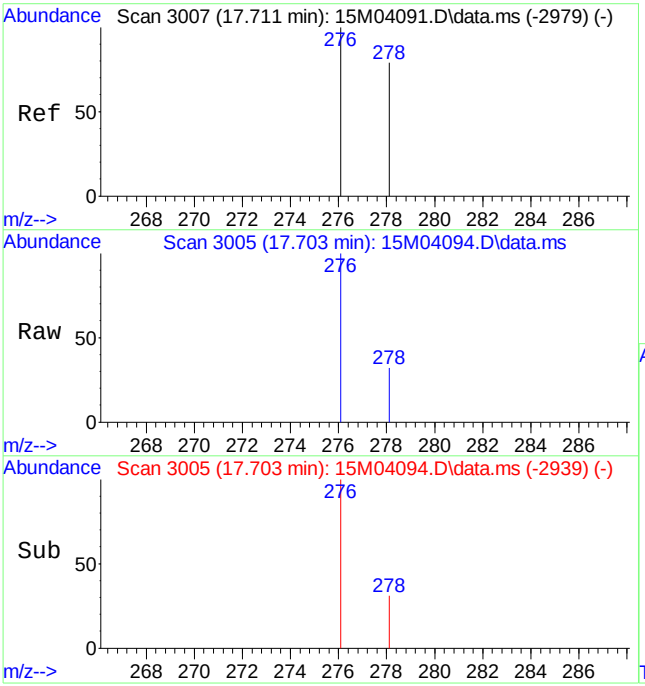


#24
Indeno[1,2,3-cd]pyrene
Concen: 0.1660 ug/mL
RT: 17.718 min Scan# 3009
Delta R.T. -0.007 min
Lab File: 15M04094.D
Acq: 22 Mar 2011 9:31 am

Tgt Ion:276 Resp: 15332

Ion	Ratio	Lower	Upper
276	100		
277	0.0	0.0	0.0

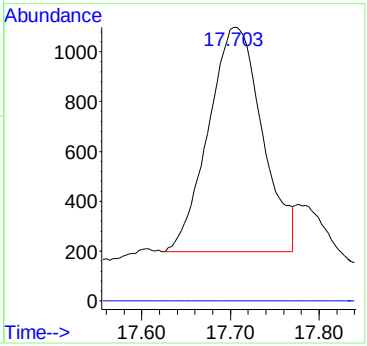


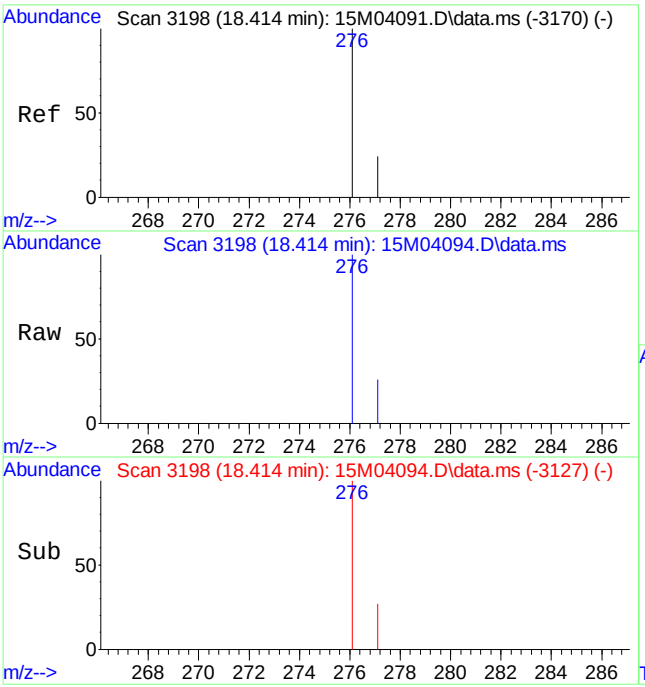


#25
Dibenz[ah]anthracene
Concen: 0.0506 ug/mL
RT: 17.703 min Scan# 3005
Delta R.T. -0.018 min
Lab File: 15M04094.D
Acq: 22 Mar 2011 9:31 am

Tgt Ion:278 Resp: 3799

Ion	Ratio	Lower	Upper
278	100		
279	0.0	0.0	0.0

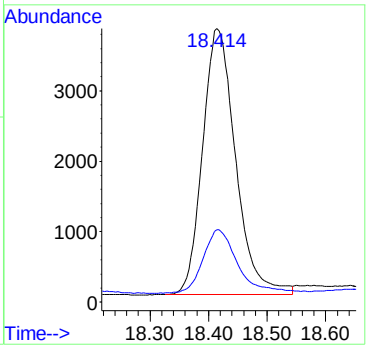




#26
Benzo[ghi]perylene
Concen: 0.1924 ug/mL
RT: 18.414 min Scan# 3198
Delta R.T. -0.011 min
Lab File: 15M04094.D
Acq: 22 Mar 2011 9:31 am

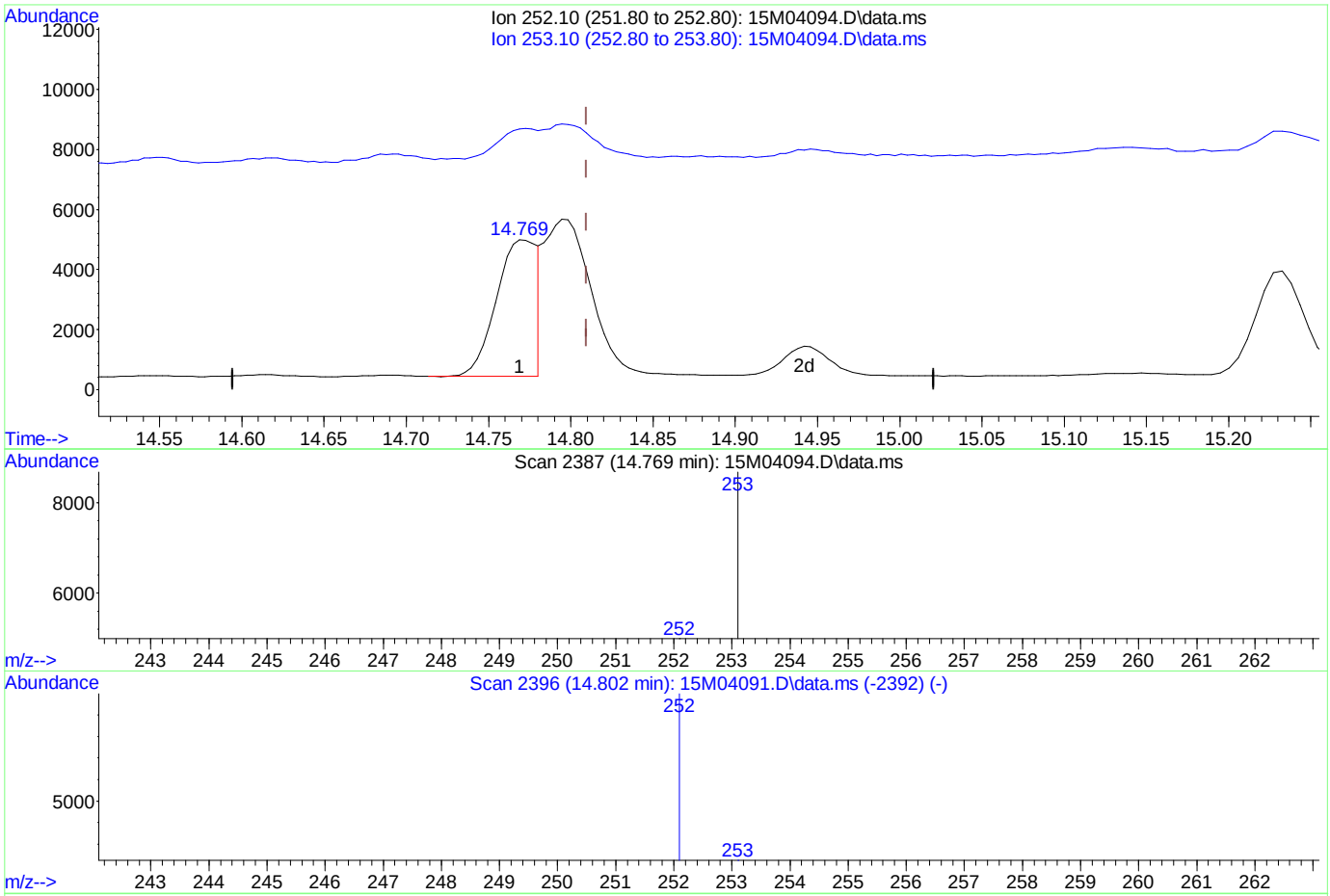
Tgt Ion:276 Resp: 14844

Ion	Ratio	Lower	Upper
276	100		
277	22.5	14.5	33.7



Data Path : C:\msdchem\1\DATA\032211\
Data File : 15M04094.D
Acq On : 22 Mar 2011 9:31 am
Operator : CAA
Sample : L11030658-09 2X 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 5 Sample Multiplier: 2

Quant Time: Mar 23 08:10:32 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Wed Mar 23 08:10:15 2011
Response via : Initial Calibration



TIC: 15M04094.D\data.ms

(22) Benzo[k]fluoranthene

14.769min (-0.040) 0.10 ug/mL

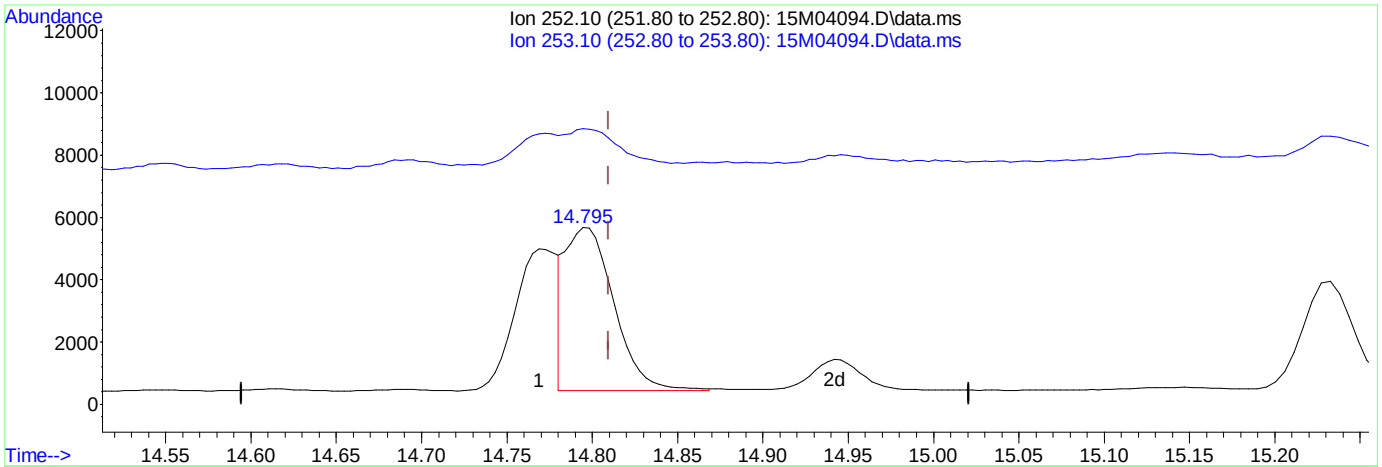
response 7929

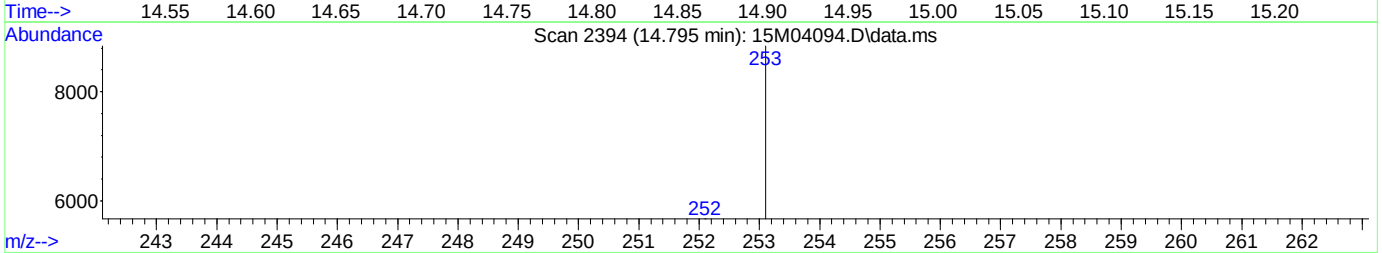
Ion	Exp%	Act%
252.10	100	100
253.10	38.30	21.35#
0.00	0.00	0.00
0.00	0.00	0.00

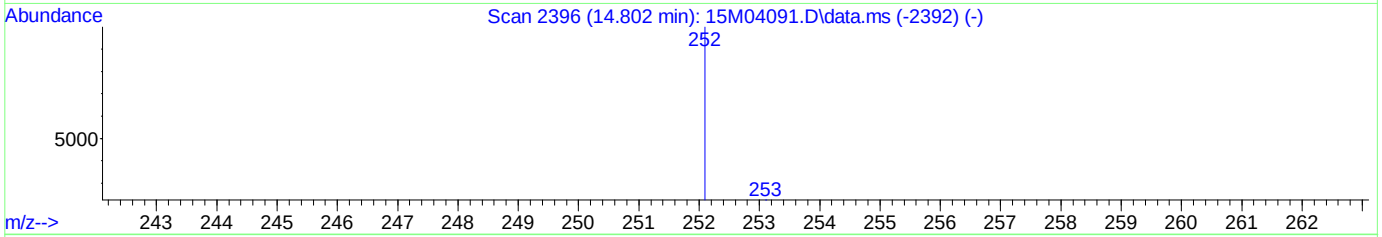
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\032211\
Data File : 15M04094.D
Acq On : 22 Mar 2011 9:31 am
Operator : CAA
Sample : L11030658-09 2X 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 5 Sample Multiplier: 2

Quant Time: Mar 23 08:10:32 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Wed Mar 23 08:10:15 2011
Response via : Initial Calibration







TIC: 15M04094.D\data.ms

(22) Benzo[k]fluoranthene

14.795min (-0.015) 0.14 ug/mL mint

response 10331

Ion	Exp%	Act%
252.10	100	100
253.10	38.30	16.39#
0.00	0.00	0.00
0.00	0.00	0.00

Analyst: 03/23/2011 09:48 Supervisor: 03/24/2011 12:26

#3 - Improperly integrated isomers and/or coeluting compounds

PAHQUANT.M Wed Mar 23 08:17:09 2011

Page: 1

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032211\
Data File : 15M04107.D
Acq On : 22 Mar 2011 3:40 pm
Operator : CAA
Sample : L11030658-10 10X 827-PAHL
Misc : 7,10 SOIL
ALS Vial : 18 Sample Multiplier: 10

Quant Time: Mar 23 08:19:46 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Wed Mar 23 08:10:15 2011
Response via : Initial Calibration

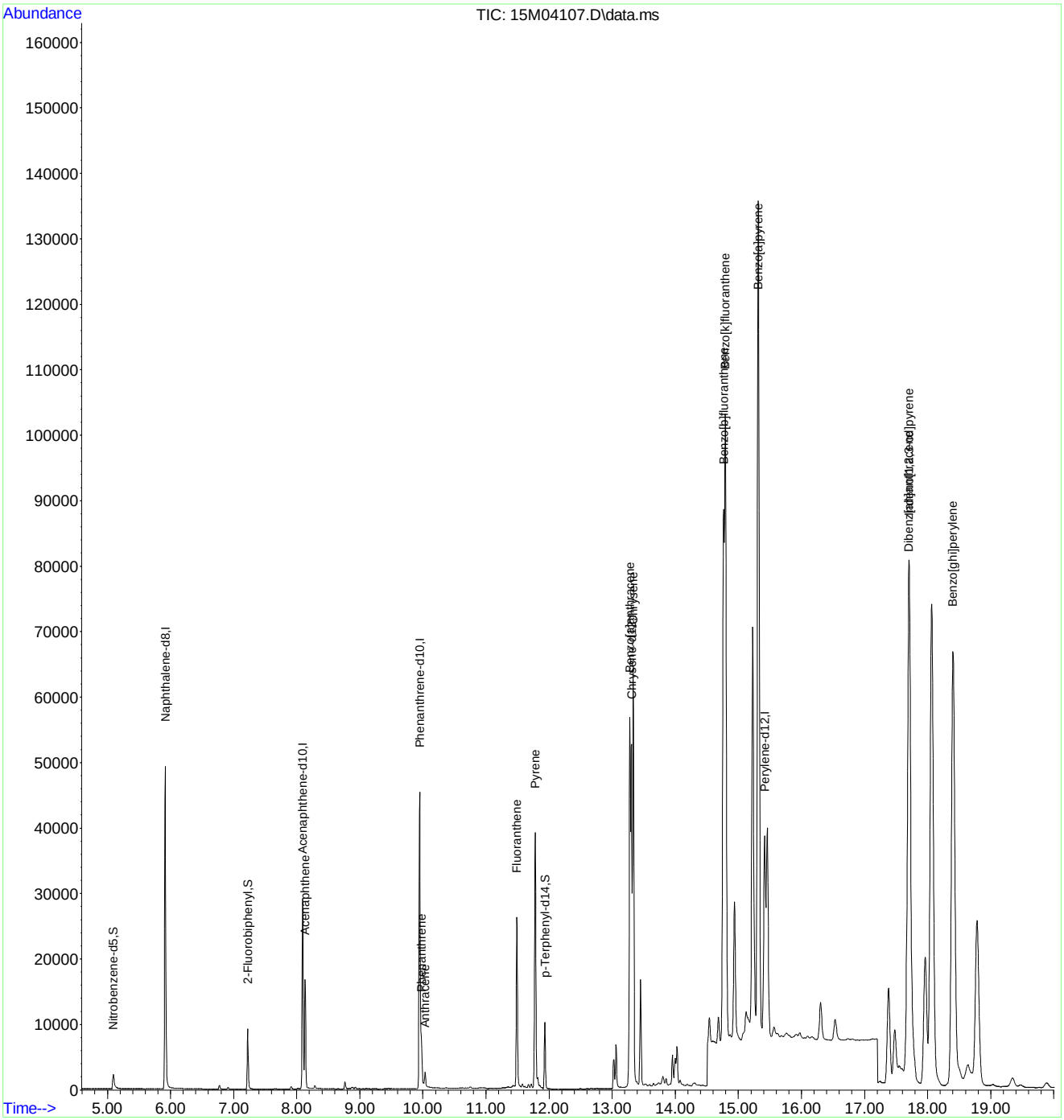
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8	5.916	136	64392	1.00 ug/mL	0.00
6) Acenaphthene-d10	8.093	164	34681	1.00 ug/mL	-0.01
11) Phenanthrene-d10	9.950	188	58404	1.00 ug/mL	0.00
15) Chrysene-d12	13.306	240	65158	1.00 ug/mL	0.00
20) Perylene-d12	15.415	264	65497	1.00 ug/mL	-0.01
System Monitoring Compounds					
2) Nitrobenzene-d5	5.092	82	3255	1.48 ug/mL	-0.02
Spiked Amount 2.500	Range 23 - 120		Recovery	= 59.20%	
7) 2-Fluorobiphenyl	7.224	172	8650	1.89 ug/mL	-0.01
Spiked Amount 2.500	Range 30 - 115		Recovery	= 75.60%	
17) p-Terphenyl-d14	11.934	244	11708	2.72 ug/mL	0.00
Spiked Amount 2.500	Range 18 - 137		Recovery	= 108.80%	
Target Compounds					Qvalue
9) Acenaphthene	8.131	154	10112	0.2521 ug/mL	99
12) Phenanthrene	9.977	178	7516	0.1146 ug/mL	100
13) Anthracene	10.036	178	2447	0.0411 ug/mL	100
14) Fluoranthene	11.489	202	28534	0.4188 ug/mL	95
16) Pyrene	11.780	202	44710	0.5957 ug/mL#	79
18) Benzo[a]anthracene	13.279	228	57554	0.8786 ug/mL	99
19) Chrysene	13.333	228	69516	1.0627 ug/mL	99
21) Benzo[b]fluoranthene	14.765	252	106341	1.4160 ug/mL	78
22) Benzo[k]fluoranthene	14.791	252	154807m	2.2109 ug/mL	
23) Benzo[a]pyrene	15.313	252	217589	3.0900 ug/mL#	71
24) Indeno[1,2,3-cd]pyrene	17.703	276	221280	2.5943 ug/mL#	100
25) Dibenz[ah]anthracene	17.696	278	56541	0.8152 ug/mL#	100
26) Benzo[ghi]perylene	18.399	276	207942	2.9182 ug/mL	99

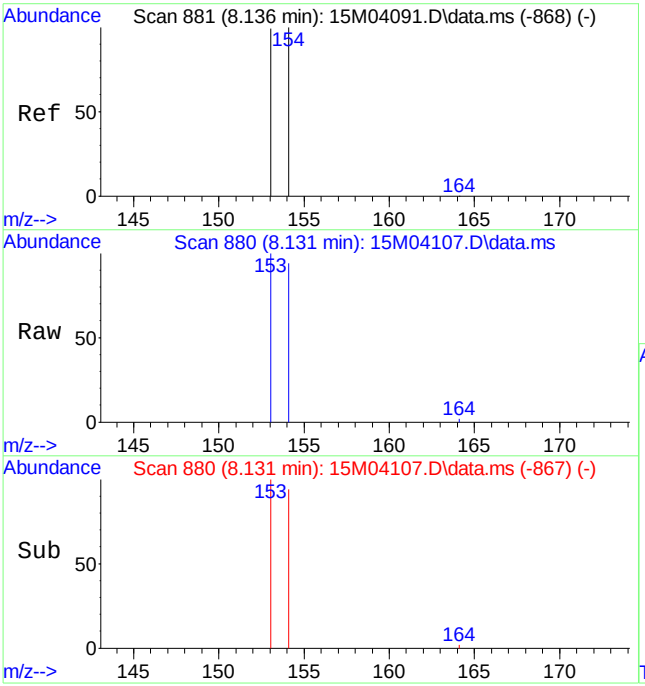
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032211\
Data File : 15M04107.D
Acq On : 22 Mar 2011 3:40 pm
Operator : CAA
Sample : L11030658-10 10X 827-PAHL
Misc : 7,10 SOIL
ALS Vial : 18 Sample Multiplier: 10

Quant Time: Mar 23 08:19:46 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Wed Mar 23 08:10:15 2011
Response via : Initial Calibration

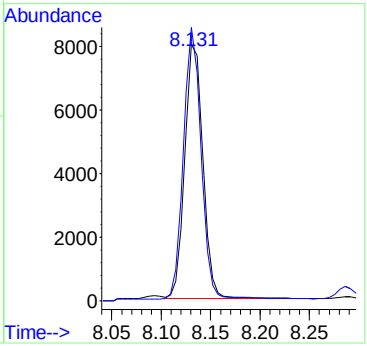


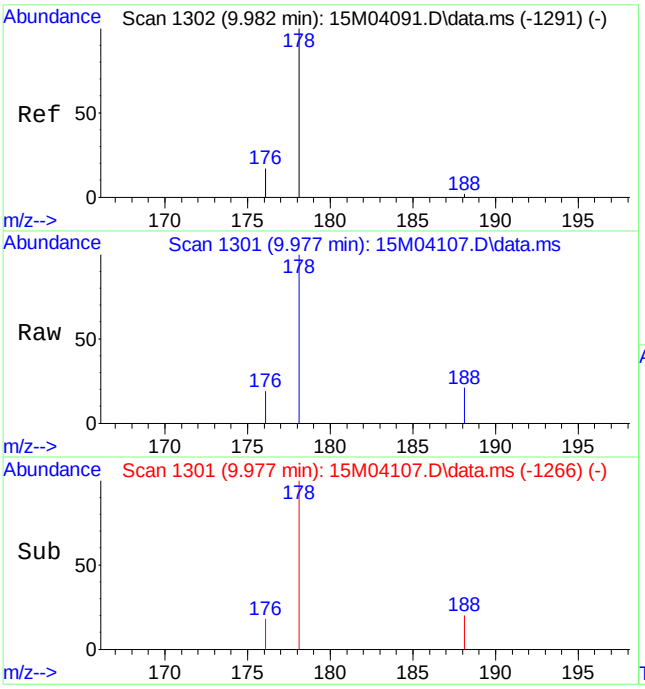


#9
Acenaphthene
Concen: 0.2521 ug/mL
RT: 8.131 min Scan# 880
Delta R.T. -0.016 min
Lab File: 15M04107.D
Acq: 22 Mar 2011 3:40 pm

Tgt Ion:154 Resp: 10112

Ion	Ratio	Lower	Upper
154	100		
153	103.5	61.8	144.2

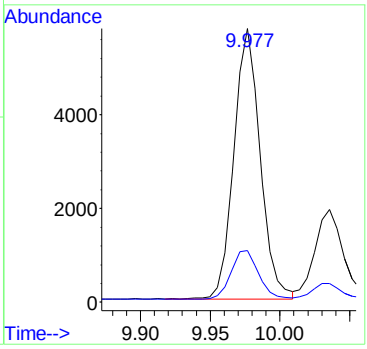


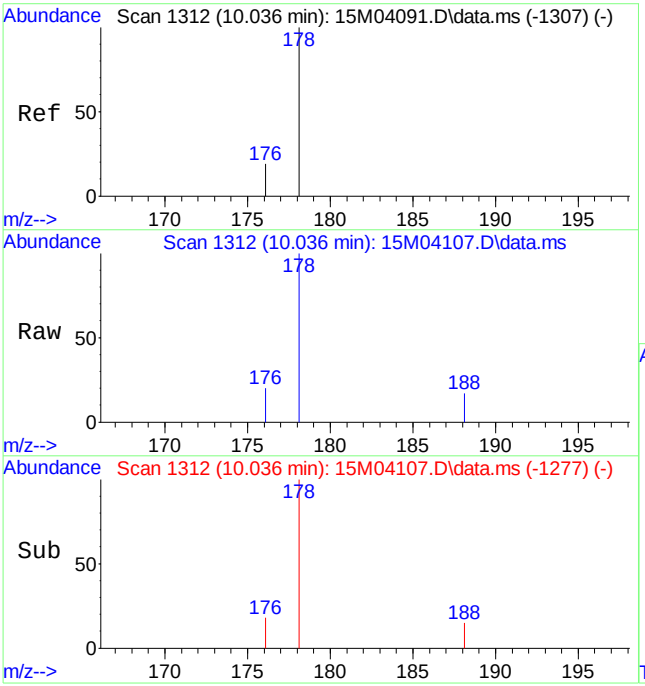


#12
Phenanthrene
Concen: 0.1146 ug/mL
RT: 9.977 min Scan# 1301
Delta R.T. -0.011 min
Lab File: 15M04107.D
Acq: 22 Mar 2011 3:40 pm

Tgt Ion:178 Resp: 7516

Ion	Ratio	Lower	Upper
178	100		
176	18.8	11.4	26.6

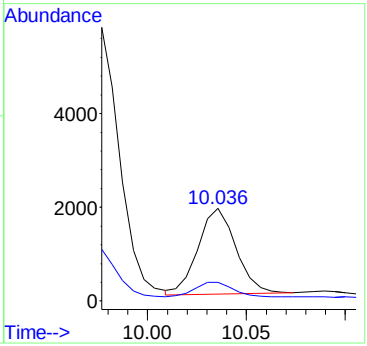


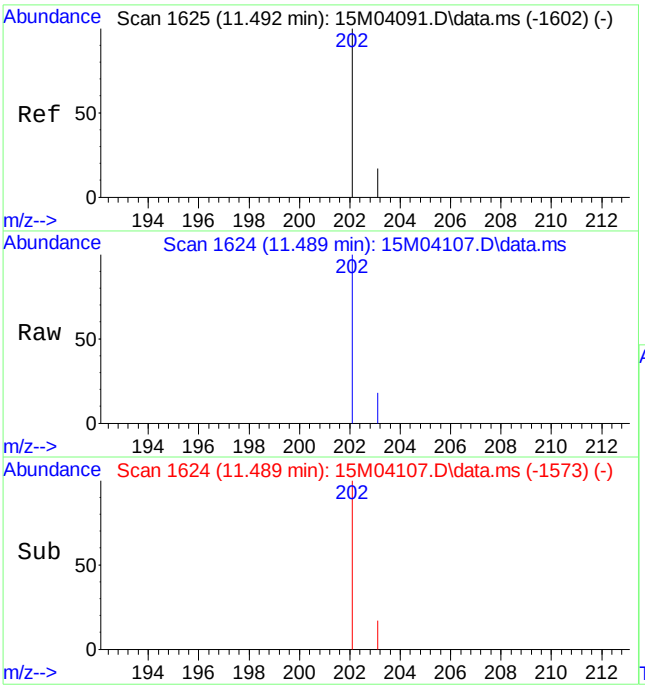


#13
Anthracene
Concen: 0.0411 ug/mL
RT: 10.036 min Scan# 1312
Delta R.T. -0.010 min
Lab File: 15M04107.D
Acq: 22 Mar 2011 3:40 pm

Tgt Ion:178 Resp: 2447

Ion	Ratio	Lower	Upper
178	100		
176	18.1	11.0	25.6

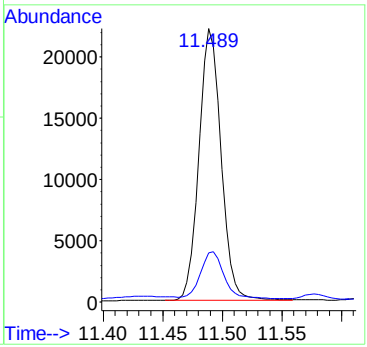


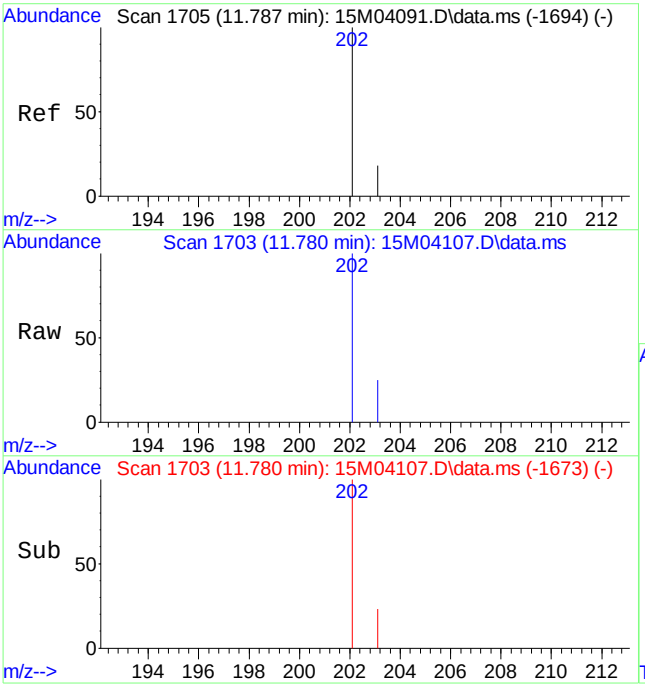


#14
Fluoranthene
Concen: 0.4188 ug/mL
RT: 11.489 min Scan# 1624
Delta R.T. -0.011 min
Lab File: 15M04107.D
Acq: 22 Mar 2011 3:40 pm

Tgt Ion:202 Resp: 28534

Ion	Ratio	Lower	Upper
202	100		
203	19.6	10.4	24.4

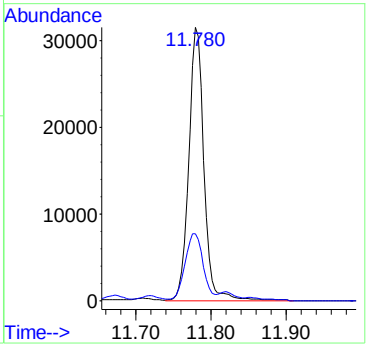


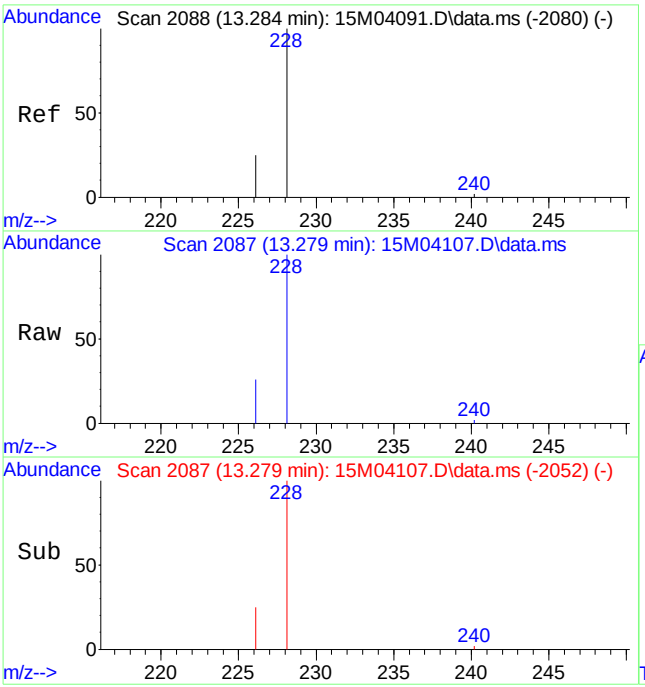


#16
Pyrene
Concen: 0.5957 ug/mL
RT: 11.780 min Scan# 1703
Delta R.T. -0.015 min
Lab File: 15M04107.D
Acq: 22 Mar 2011 3:40 pm

Tgt Ion:202 Resp: 44710

Ion	Ratio	Lower	Upper
202	100		
203	27.6	11.0	25.6#

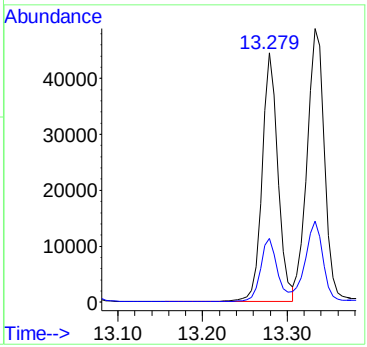


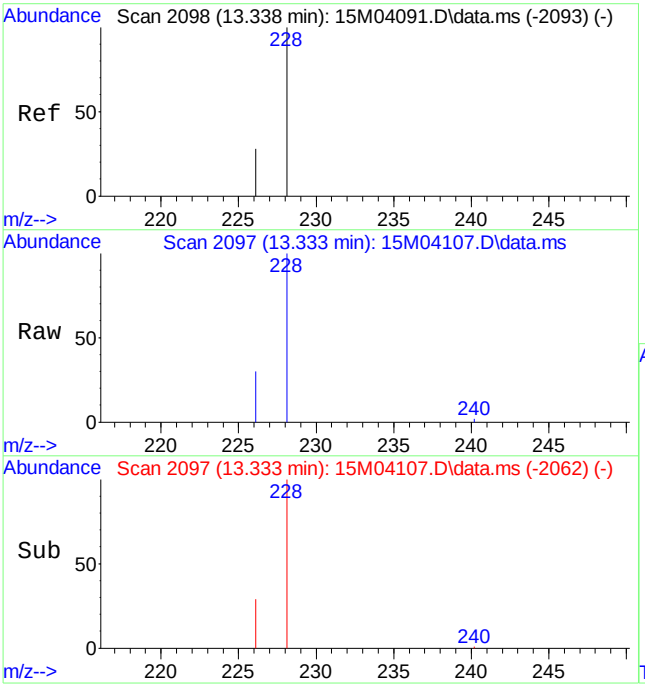


#18
Benzo[a]anthracene
Concen: 0.8786 ug/mL
RT: 13.279 min Scan# 2087
Delta R.T. -0.011 min
Lab File: 15M04107.D
Acq: 22 Mar 2011 3:40 pm

Tgt Ion:228 Resp: 57554

Ion	Ratio	Lower	Upper
228	100		
226	26.7	15.7	36.5

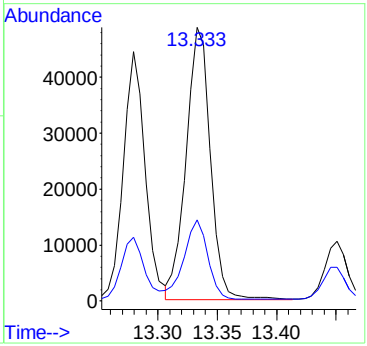


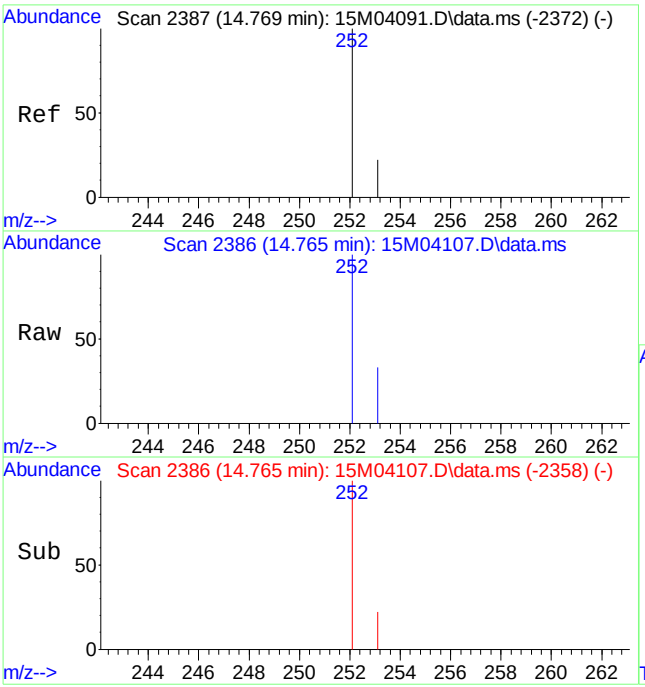


#19
Chrysene
Concen: 1.0627 ug/mL
RT: 13.333 min Scan# 2097
Delta R.T. -0.011 min
Lab File: 15M04107.D
Acq: 22 Mar 2011 3:40 pm

Tgt Ion:228 Resp: 69516

Ion	Ratio	Lower	Upper
228	100		
226	29.2	17.0	39.8

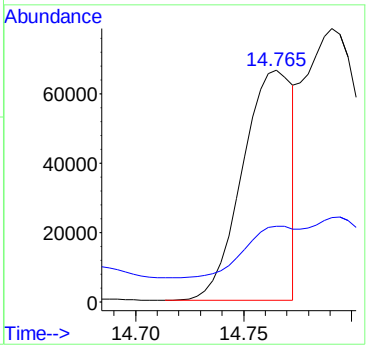


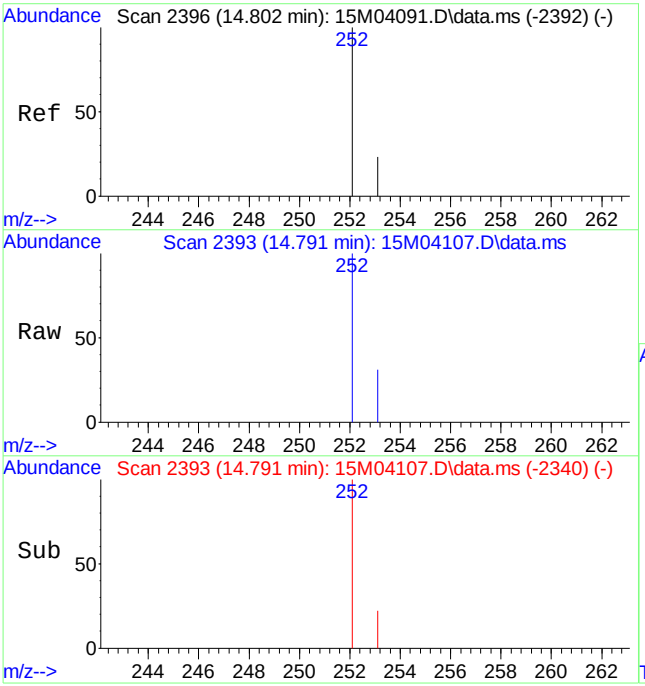


#21
Benzo[b]fluoranthene
Concen: 1.4160 ug/mL
RT: 14.765 min Scan# 2386
Delta R.T. -0.011 min
Lab File: 15M04107.D
Acq: 22 Mar 2011 3:40 pm

Tgt Ion:252 Resp: 106341

Ion	Ratio	Lower	Upper
252	100		
253	24.6	22.8	53.2

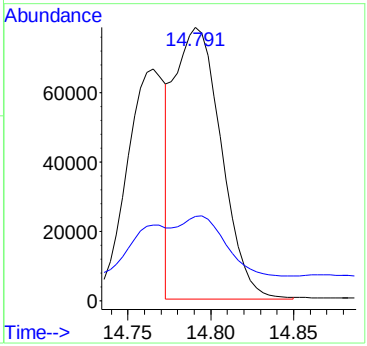


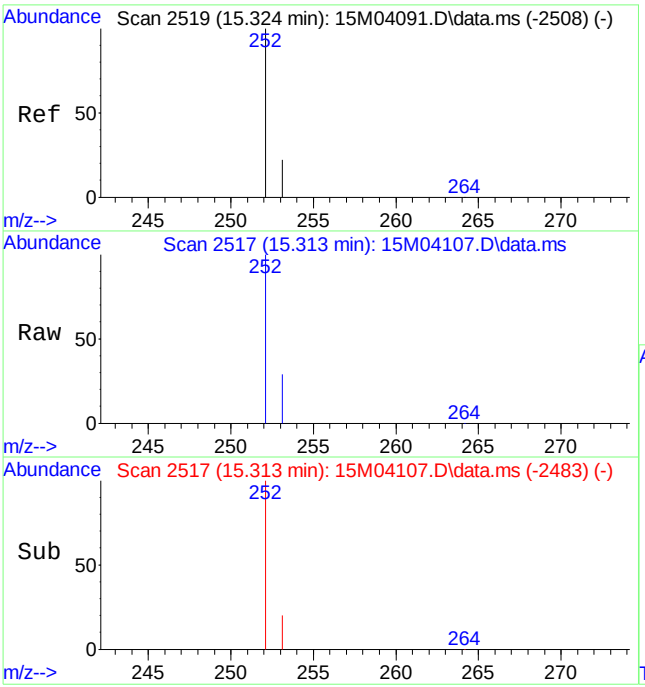


#22
Benzo[k]fluoranthene
Concen: 2.2109 ug/mL m
RT: 14.791 min Scan# 2393
Delta R.T. -0.018 min
Lab File: 15M04107.D
Acq: 22 Mar 2011 3:40 pm

Tgt Ion:252 Resp: 154807

Ion	Ratio	Lower	Upper
252	100		
253	16.9	23.0	53.6#

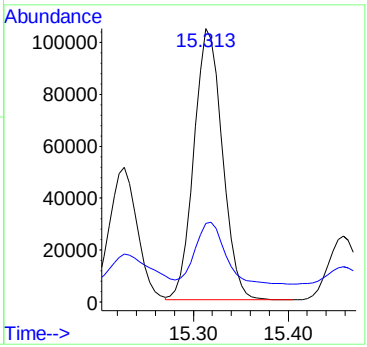


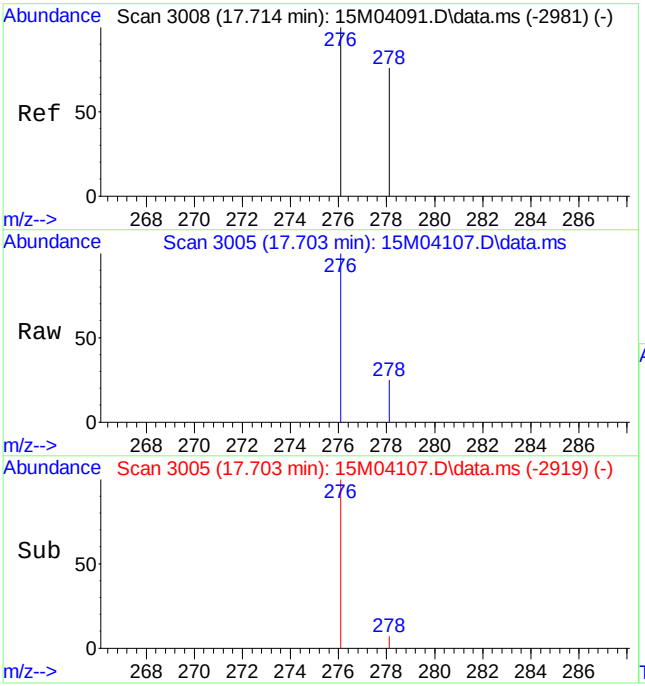


#23
Benzo[a]pyrene
Concen: 3.0900 ug/mL
RT: 15.313 min Scan# 2517
Delta R.T. -0.016 min
Lab File: 15M04107.D
Acq: 22 Mar 2011 3:40 pm

Tgt Ion:252 Resp: 217589

Ion	Ratio	Lower	Upper
252	100		
253	23.6	25.2	58.8#

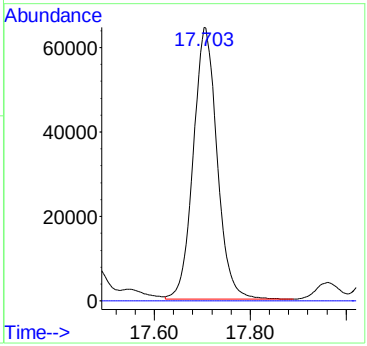


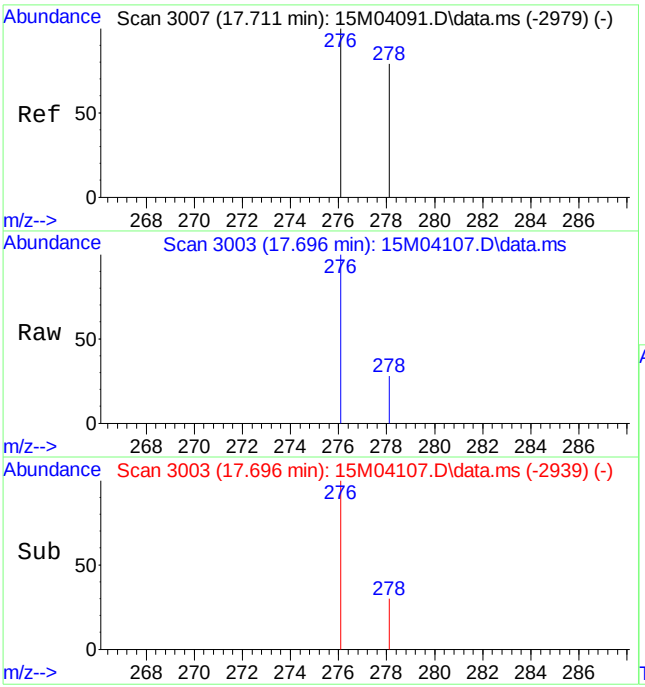


#24
Indeno[1,2,3-cd]pyrene
Concen: 2.5943 ug/mL
RT: 17.703 min Scan# 3005
Delta R.T. -0.022 min
Lab File: 15M04107.D
Acq: 22 Mar 2011 3:40 pm

Tgt Ion:276 Resp: 221280

Ion	Ratio	Lower	Upper
276	100		
277	0.0	0.0	0.0

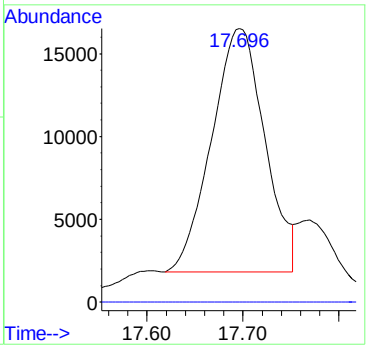


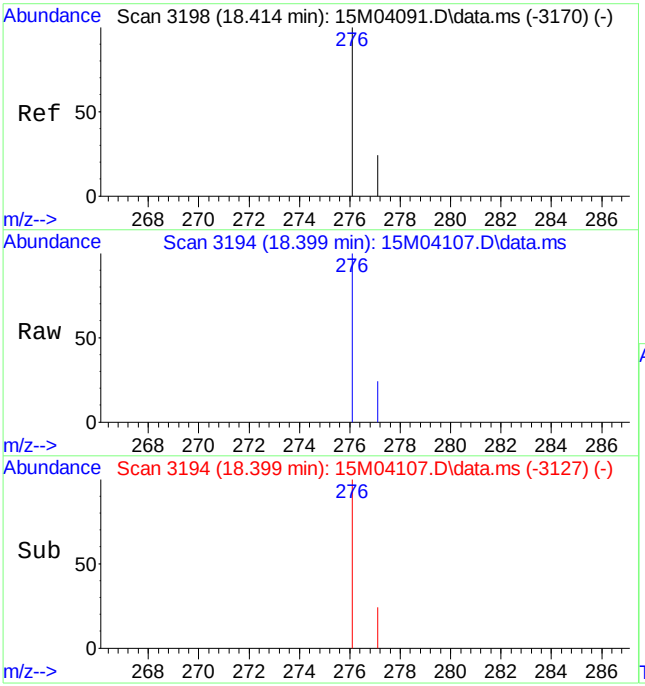


#25
Dibenz[ah]anthracene
Concen: 0.8152 ug/mL
RT: 17.696 min Scan# 3003
Delta R.T. -0.026 min
Lab File: 15M04107.D
Acq: 22 Mar 2011 3:40 pm

Tgt Ion:278 Resp: 56541

Ion	Ratio	Lower	Upper
278	100		
279	0.0	0.0	0.0

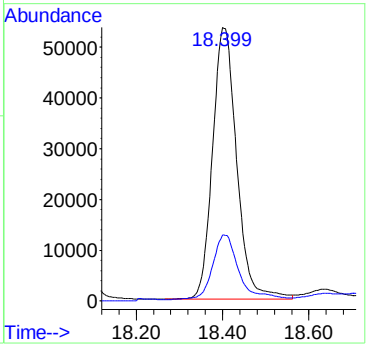




#26
Benzo[ghi]perylene
Concen: 2.9182 ug/mL
RT: 18.399 min Scan# 3194
Delta R.T. -0.026 min
Lab File: 15M04107.D
Acq: 22 Mar 2011 3:40 pm

Tgt Ion:276 Resp: 207942

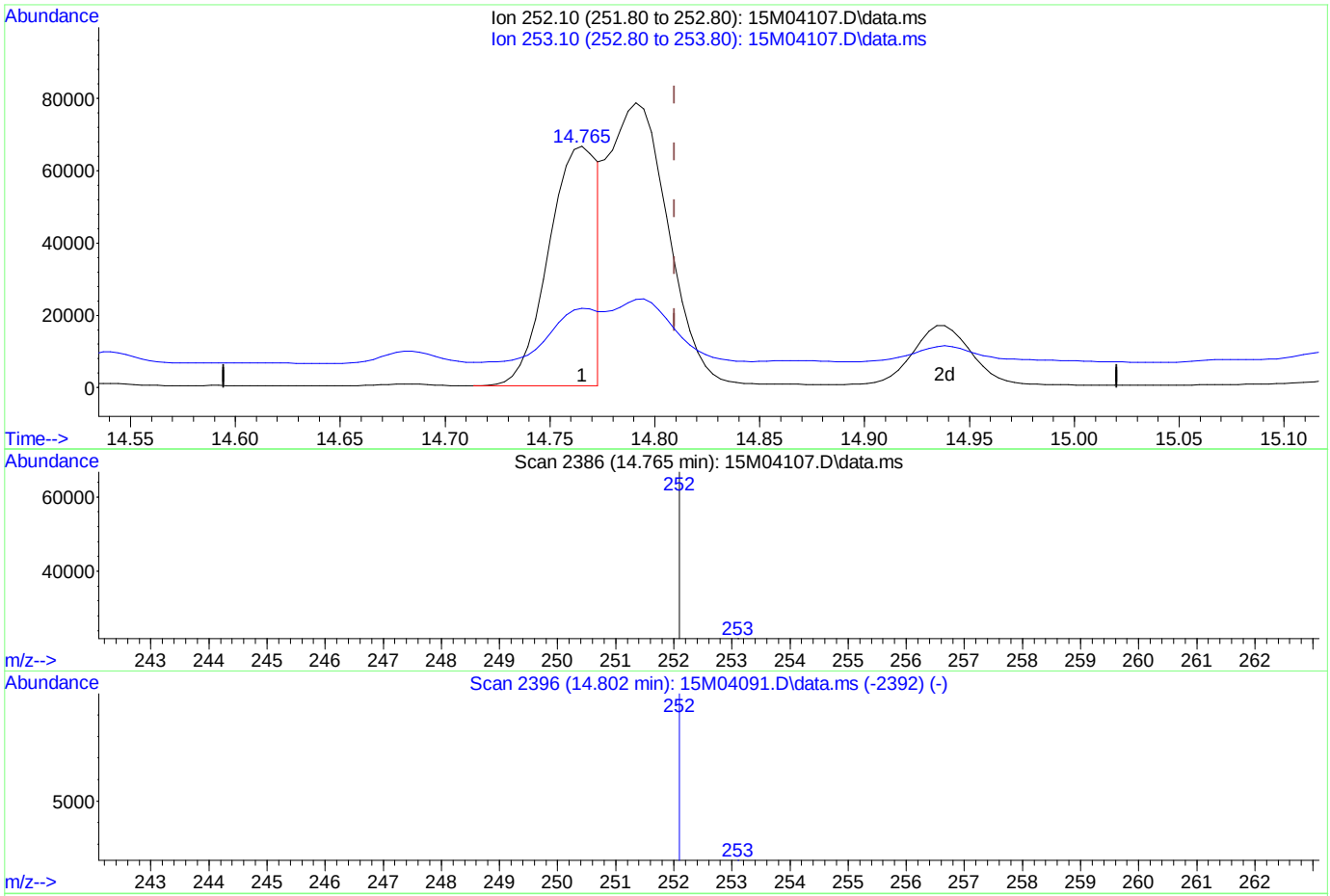
Ion	Ratio	Lower	Upper
276	100		
277	23.4	14.5	33.7



Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\032211\
Data File : 15M04107.D
Acq On : 22 Mar 2011 3:40 pm
Operator : CAA
Sample : L11030658-10 10X 827-PAHL
Misc : 7,10 SOIL
ALS Vial : 18 Sample Multiplier: 10

Quant Time: Mar 23 08:10:58 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Wed Mar 23 08:10:15 2011
Response via : Initial Calibration



TIC: 15M04107.D\data.ms

(22) Benzo[k]fluoranthene

14.765min (-0.044) 1.52 ug/mL

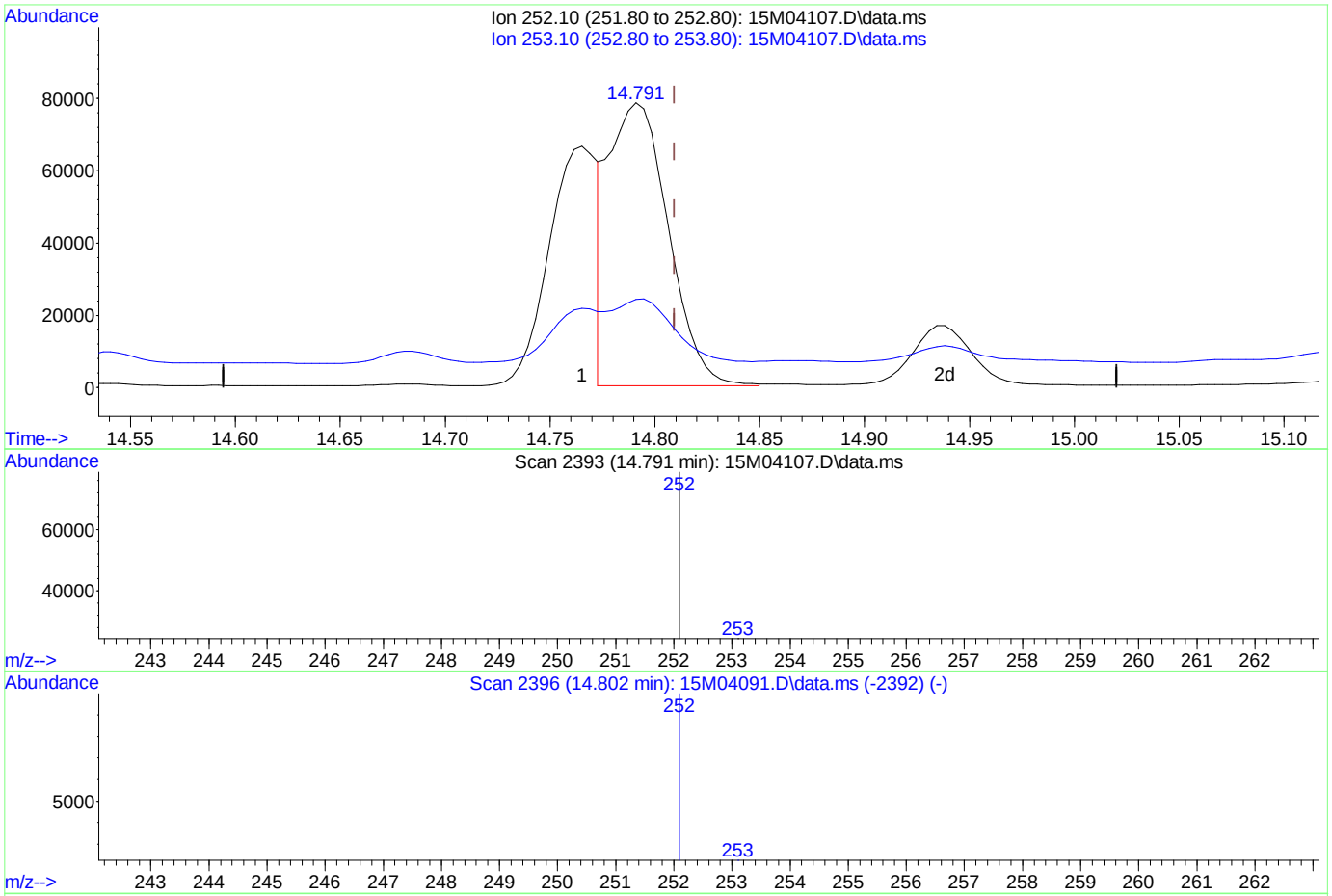
response 106341

Ion	Exp%	Act%
252.10	100	100
253.10	38.30	24.62
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\032211\
Data File : 15M04107.D
Acq On : 22 Mar 2011 3:40 pm
Operator : CAA
Sample : L11030658-10 10X 827-PAHL
Misc : 7,10 SOIL
ALS Vial : 18 Sample Multiplier: 10

Quant Time: Mar 23 08:10:58 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Wed Mar 23 08:10:15 2011
Response via : Initial Calibration



TIC: 15M04107.D\data.ms

(22) Benzo[k]fluoranthene

14.791min (-0.018) 2.21 ug/mL mint

response 154807

Ion	Exp%	Act%
252.10	100	100
253.10	38.30	16.91#
0.00	0.00	0.00
0.00	0.00	0.00

Analyst: 03/23/2011 09:48 Supervisor: 03/24/2011 12:27

#3 - Improperly integrated isomers and/or coeluting compounds

PAHQUANT.M Wed Mar 23 08:19:47 2011

Page: 1

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032211\
Data File : 15M04101.D
Acq On : 22 Mar 2011 12:50 pm
Operator : CAA
Sample : L11030658-11 2X 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 12 Sample Multiplier: 2

Quant Time: Mar 23 08:18:31 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Wed Mar 23 08:10:15 2011
Response via : Initial Calibration

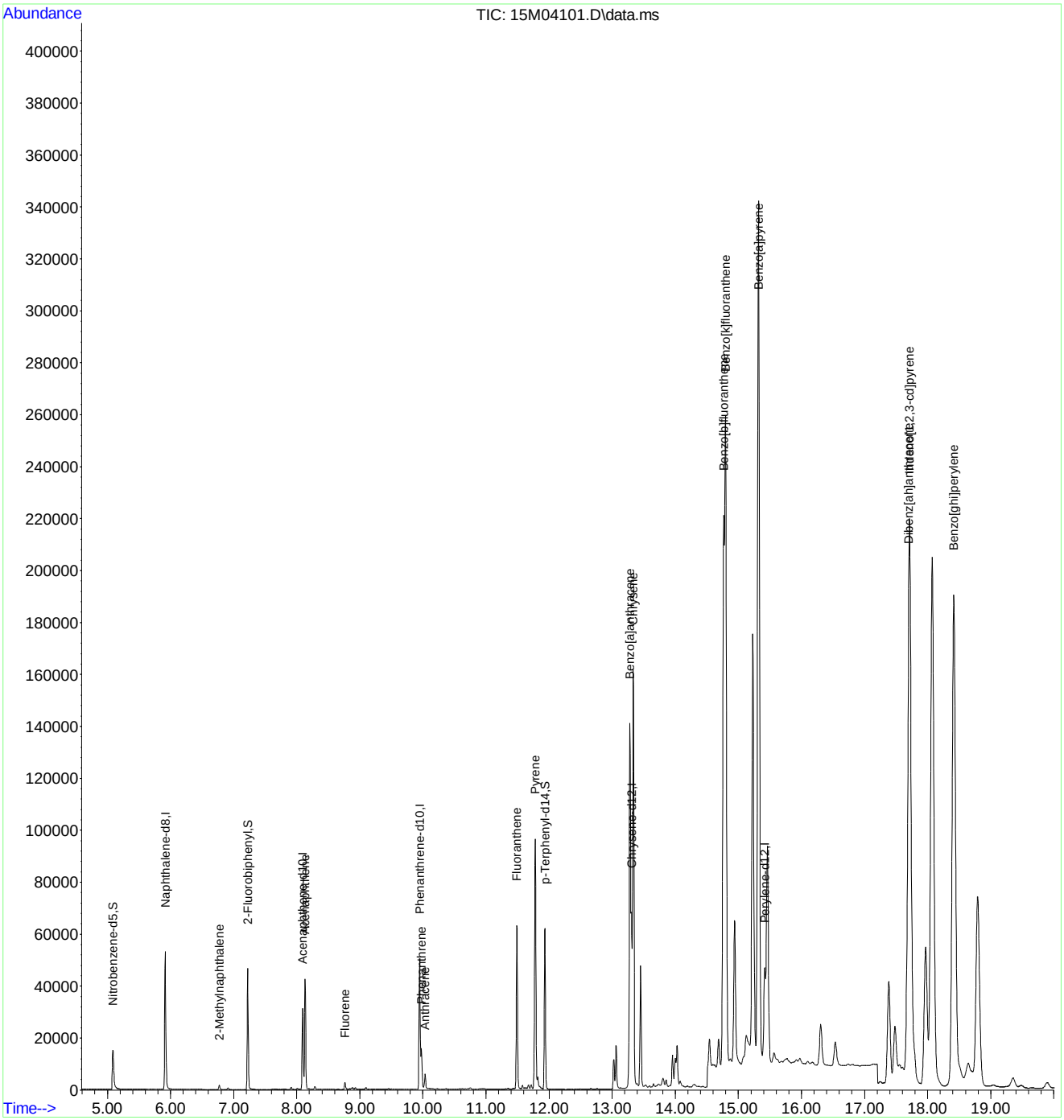
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8	5.916	136	70096	1.00 ug/mL	0.00
6) Acenaphthene-d10	8.093	164	38158	1.00 ug/mL	-0.01
11) Phenanthrene-d10	9.950	188	63923	1.00 ug/mL	0.00
15) Chrysene-d12	13.306	240	77636	1.00 ug/mL	0.00
20) Perylene-d12	15.415	264	78555	1.00 ug/mL	-0.01
System Monitoring Compounds					
2) Nitrobenzene-d5	5.085	82	17958	1.50 ug/mL	-0.02
Spiked Amount 2.500	Range 23 - 120		Recovery	= 60.00%	
7) 2-Fluorobiphenyl	7.224	172	41999	1.67 ug/mL	-0.01
Spiked Amount 2.500	Range 30 - 115		Recovery	= 66.80%	
17) p-Terphenyl-d14	11.934	244	66446	2.59 ug/mL	0.00
Spiked Amount 2.500	Range 18 - 137		Recovery	= 103.60%	
Target Compounds					Qvalue
4) 2-Methylnaphthalene	6.771	142	1248	0.0261 ug/mL	99
9) Acenaphthene	8.131	154	25726	0.5830 ug/mL	99
10) Fluorene	8.765	166	1770	0.0334 ug/mL	97
12) Phenanthrene	9.977	178	15859	0.2209 ug/mL	100
13) Anthracene	10.036	178	6031	0.0925 ug/mL	100
14) Fluoranthene	11.489	202	68747	0.9220 ug/mL	99
16) Pyrene	11.780	202	111145	1.2428 ug/mL#	75
18) Benzo[a]anthracene	13.279	228	146830	1.8812 ug/mL	97
19) Chrysene	13.333	228	178314	2.2879 ug/mL	99
21) Benzo[b]fluoranthene	14.769	252	290834	3.2289 ug/mL	79
22) Benzo[k]fluoranthene	14.795	252	387728m	4.6170 ug/mL	
23) Benzo[a]pyrene	15.319	252	565952	6.7012 ug/mL#	72
24) Indeno[1,2,3-cd]pyrene	17.711	276	611126	5.9739 ug/mL#	100
25) Dibenz[ah]anthracene	17.700	278	155775	1.8727 ug/mL#	100
26) Benzo[ghi]perylene	18.414	276	582966	6.8213 ug/mL	97

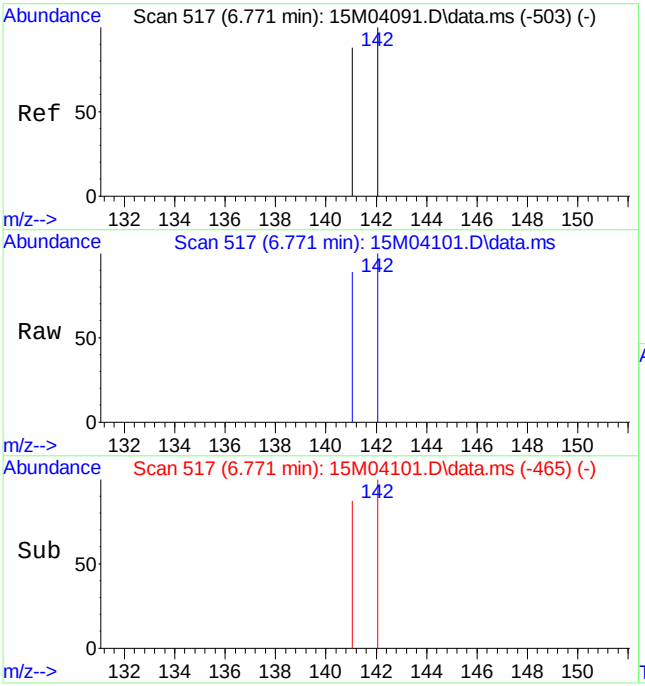
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032211\
Data File : 15M04101.D
Acq On : 22 Mar 2011 12:50 pm
Operator : CAA
Sample : L11030658-11 2X 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 12 Sample Multiplier: 2

Quant Time: Mar 23 08:18:31 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Wed Mar 23 08:10:15 2011
Response via : Initial Calibration

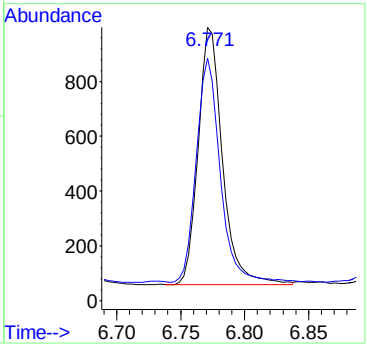


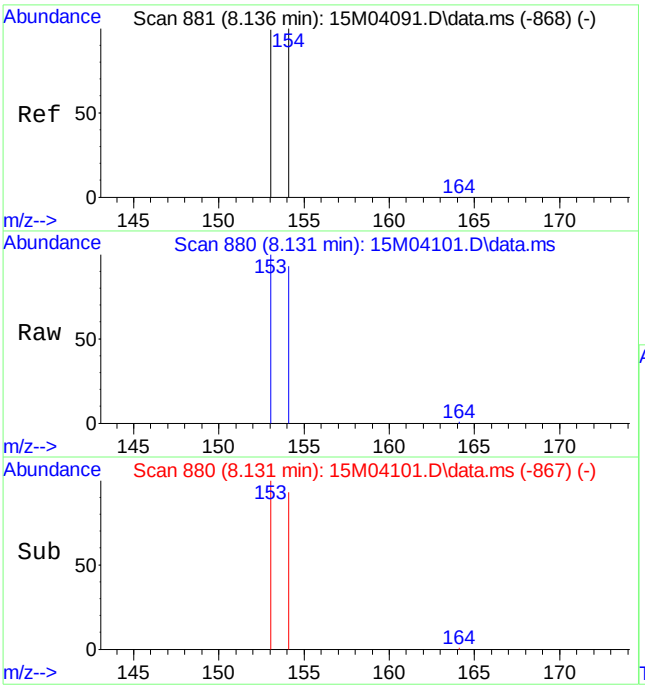


#4
2-Methylnaphthalene
Concen: 0.0261 ug/mL
RT: 6.771 min Scan# 517
Delta R.T. -0.010 min
Lab File: 15M04101.D
Acq: 22 Mar 2011 12:50 pm

Tgt Ion:142 Resp: 1248

Ion	Ratio	Lower	Upper
142	100		
141	85.3	51.7	120.7

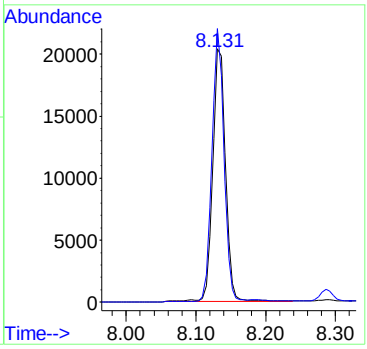


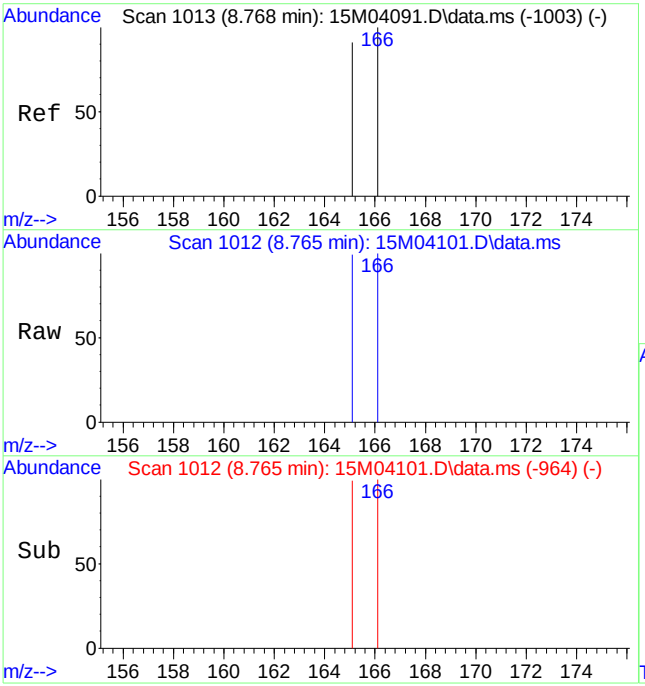


#9
Acenaphthene
Concen: 0.5830 ug/mL
RT: 8.131 min Scan# 880
Delta R.T. -0.016 min
Lab File: 15M04101.D
Acq: 22 Mar 2011 12:50 pm

Tgt Ion:154 Resp: 25726

Ion	Ratio	Lower	Upper
154	100		
153	101.6	61.8	144.2

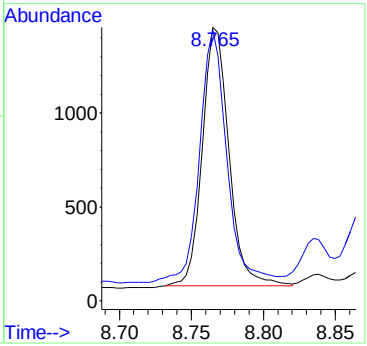


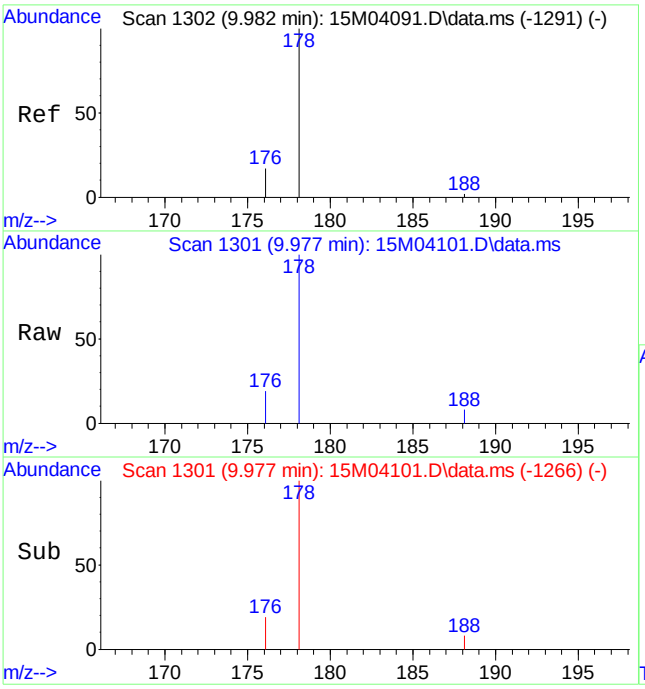


#10
Fluorene
Concen: 0.0334 ug/mL
RT: 8.765 min Scan# 1012
Delta R.T. -0.015 min
Lab File: 15M04101.D
Acq: 22 Mar 2011 12:50 pm

Tgt Ion:166 Resp: 1770

Ion	Ratio	Lower	Upper
166	100		
165	97.3	56.6	132.0

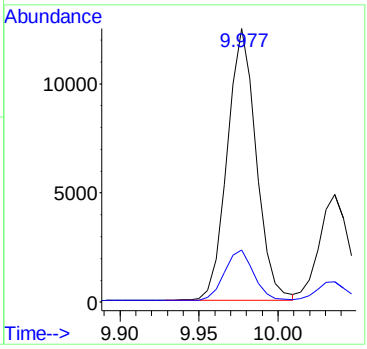


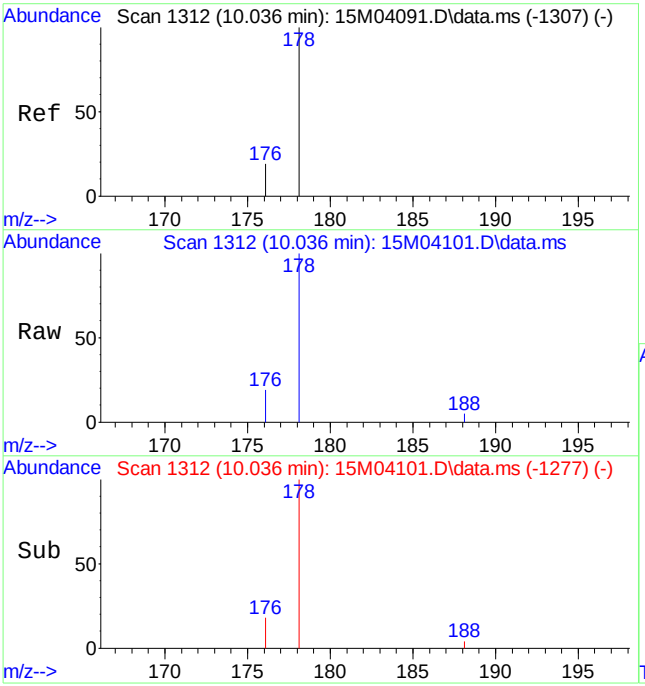


#12
Phenanthrene
Concen: 0.2209 ug/mL
RT: 9.977 min Scan# 1301
Delta R.T. -0.010 min
Lab File: 15M04101.D
Acq: 22 Mar 2011 12:50 pm

Tgt Ion:178 Resp: 15859

Ion	Ratio	Lower	Upper
178	100		
176	18.8	11.4	26.6

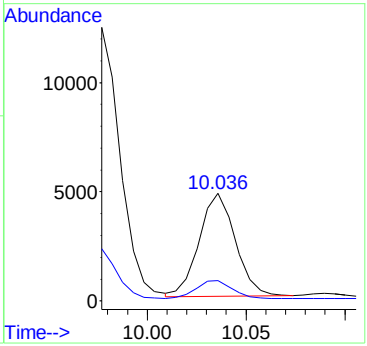


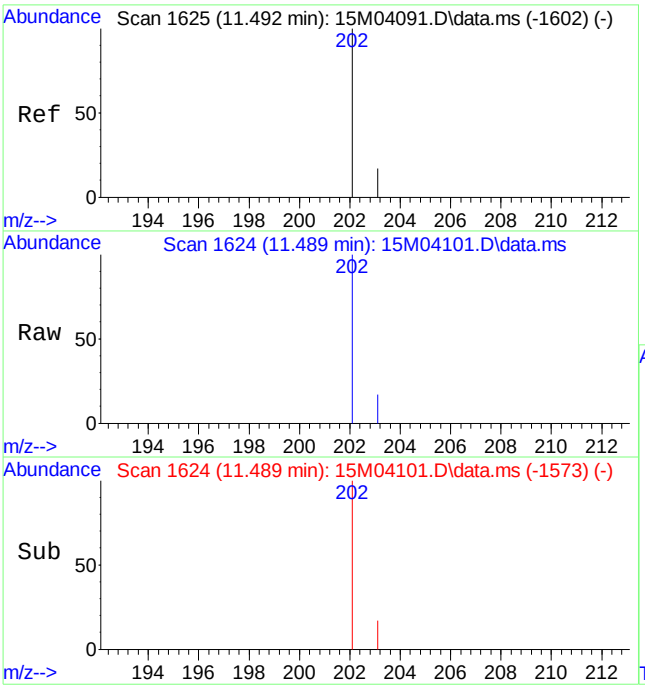


#13
Anthracene
Concen: 0.0925 ug/mL
RT: 10.036 min Scan# 1312
Delta R.T. -0.010 min
Lab File: 15M04101.D
Acq: 22 Mar 2011 12:50 pm

Tgt Ion:178 Resp: 6031

Ion	Ratio	Lower	Upper
178	100		
176	18.2	11.0	25.6

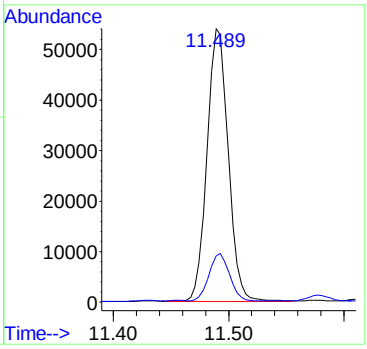


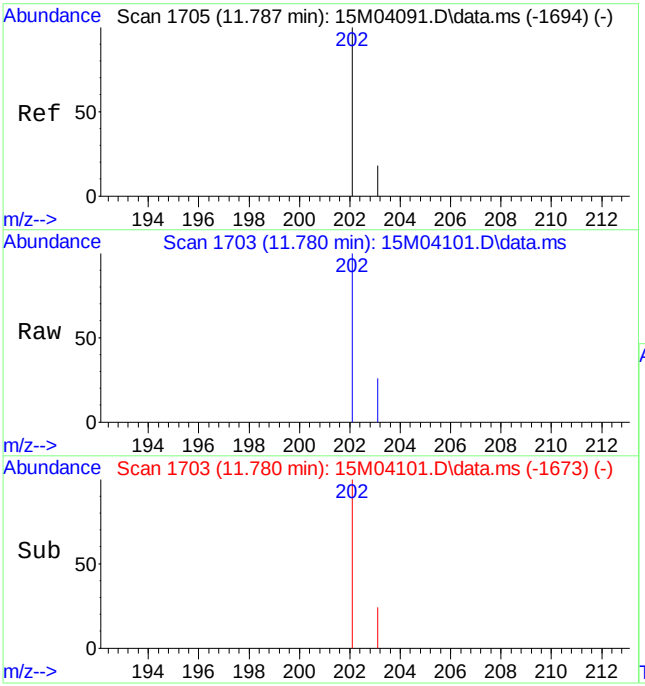


#14
Fluoranthene
Concen: 0.9220 ug/mL
RT: 11.489 min Scan# 1624
Delta R.T. -0.011 min
Lab File: 15M04101.D
Acq: 22 Mar 2011 12:50 pm

Tgt Ion:202 Resp: 68747

Ion	Ratio	Lower	Upper
202	100		
203	17.1	10.4	24.4

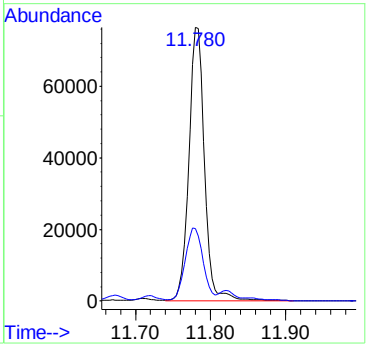


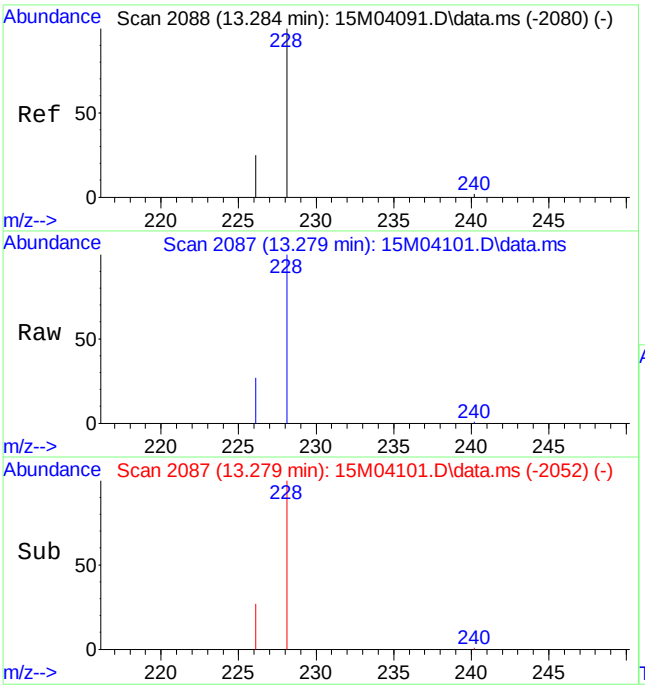


#16
Pyrene
Concen: 1.2428 ug/mL
RT: 11.780 min Scan# 1703
Delta R.T. -0.014 min
Lab File: 15M04101.D
Acq: 22 Mar 2011 12:50 pm

Tgt Ion:202 Resp: 111145

Ion	Ratio	Lower	Upper
202	100		
203	29.4	11.0	25.6#

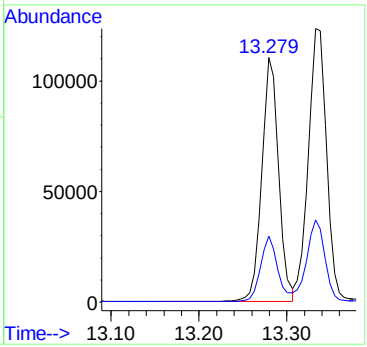


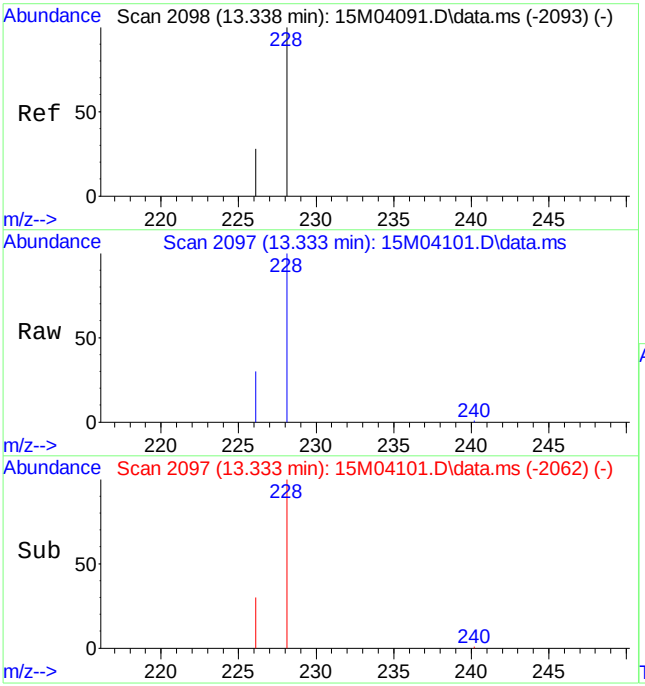


#18
Benzo[a]anthracene
Concen: 1.8812 ug/mL
RT: 13.279 min Scan# 2087
Delta R.T. -0.011 min
Lab File: 15M04101.D
Acq: 22 Mar 2011 12:50 pm

Tgt Ion:228 Resp: 146830

Ion	Ratio	Lower	Upper
228	100		
226	27.6	15.7	36.5

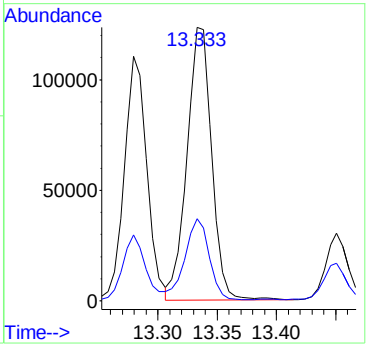


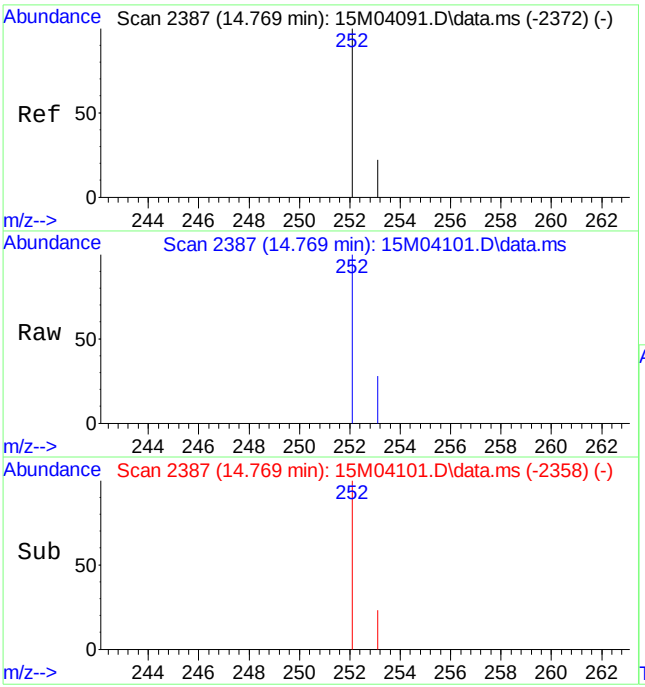


#19
Chrysene
Concen: 2.2879 ug/mL
RT: 13.333 min Scan# 2097
Delta R.T. -0.011 min
Lab File: 15M04101.D
Acq: 22 Mar 2011 12:50 pm

Tgt Ion:228 Resp: 178314

Ion	Ratio	Lower	Upper
228	100		
226	28.9	17.0	39.8

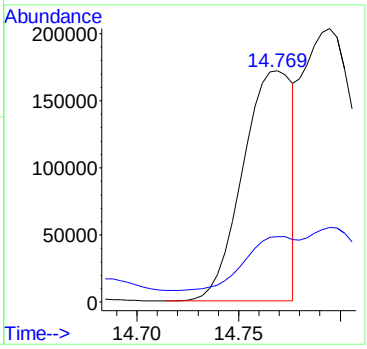


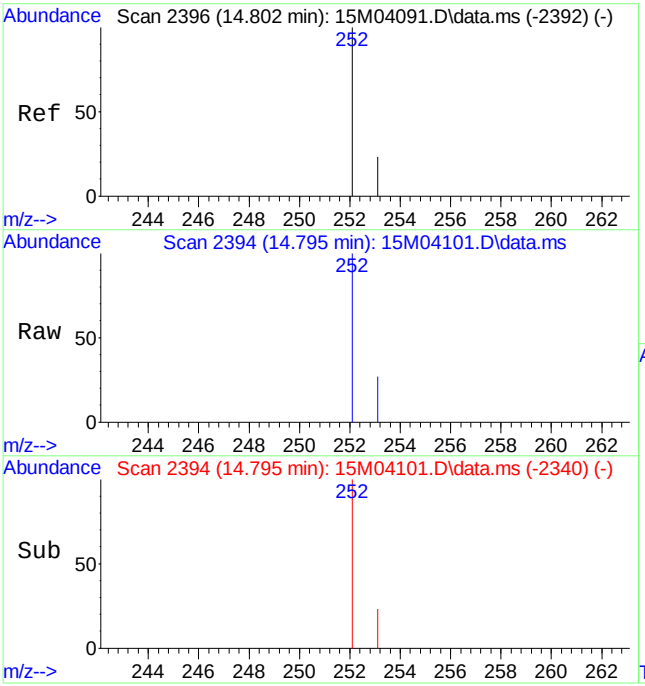


#21
Benzo[b]fluoranthene
Concen: 3.2289 ug/mL
RT: 14.769 min Scan# 2387
Delta R.T. -0.007 min
Lab File: 15M04101.D
Acq: 22 Mar 2011 12:50 pm

Tgt Ion:252 Resp: 290834

Ion	Ratio	Lower	Upper
252	100		
253	25.3	22.8	53.2

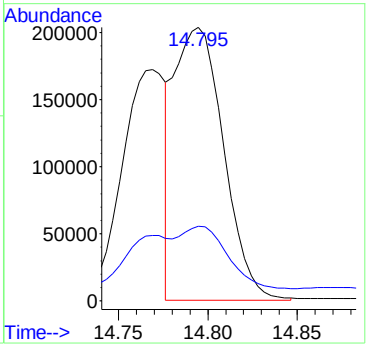


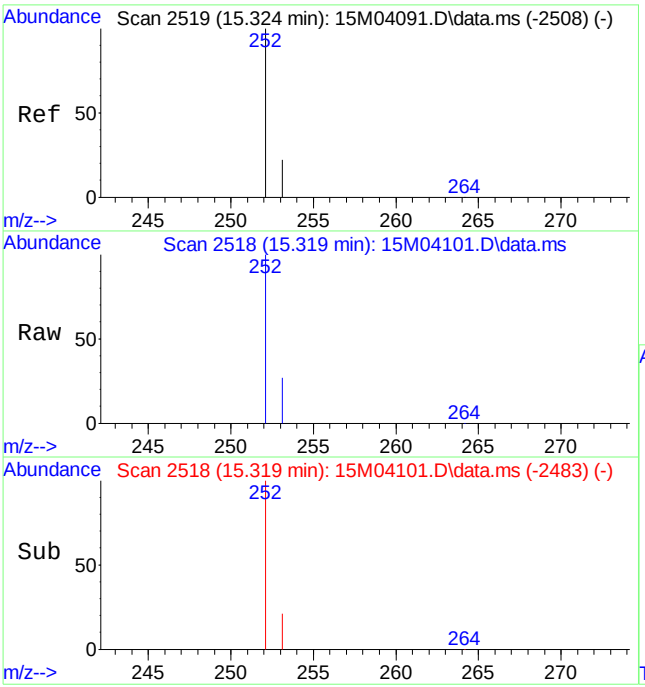


#22
Benzo[k]fluoranthene
Concen: 4.6170 ug/mL m
RT: 14.795 min Scan# 2394
Delta R.T. -0.015 min
Lab File: 15M04101.D
Acq: 22 Mar 2011 12:50 pm

Tgt Ion:252 Resp: 387728

Ion	Ratio	Lower	Upper
252	100		
253	18.9	23.0	53.6#

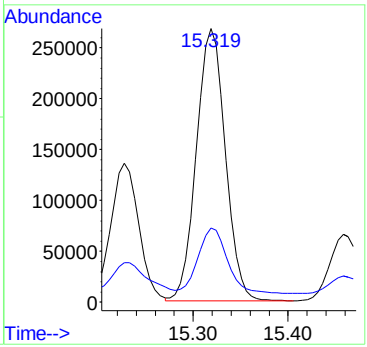


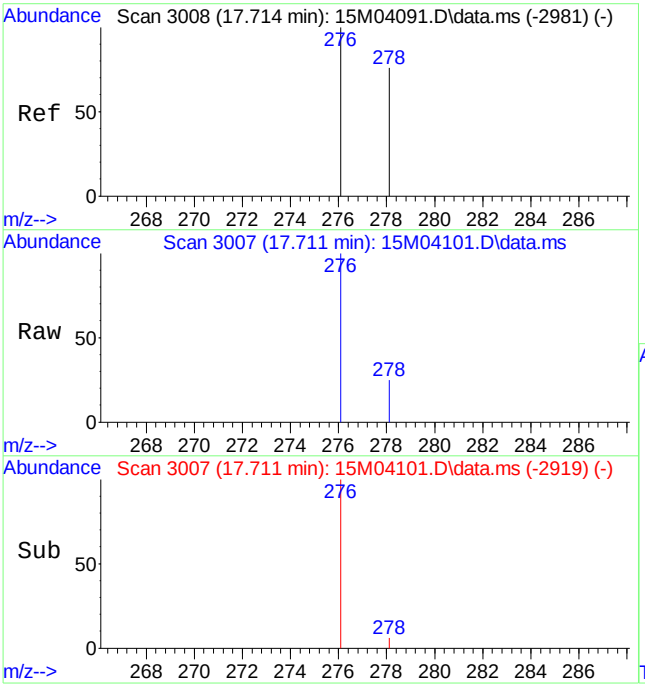


#23
Benzo[a]pyrene
Concen: 6.7012 ug/mL
RT: 15.319 min Scan# 2518
Delta R.T. -0.011 min
Lab File: 15M04101.D
Acq: 22 Mar 2011 12:50 pm

Tgt Ion:252 Resp: 565952

Ion	Ratio	Lower	Upper
252	100		
253	24.4	25.2	58.8#

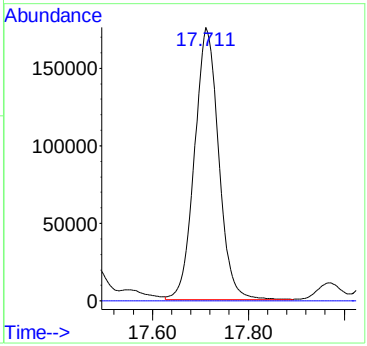


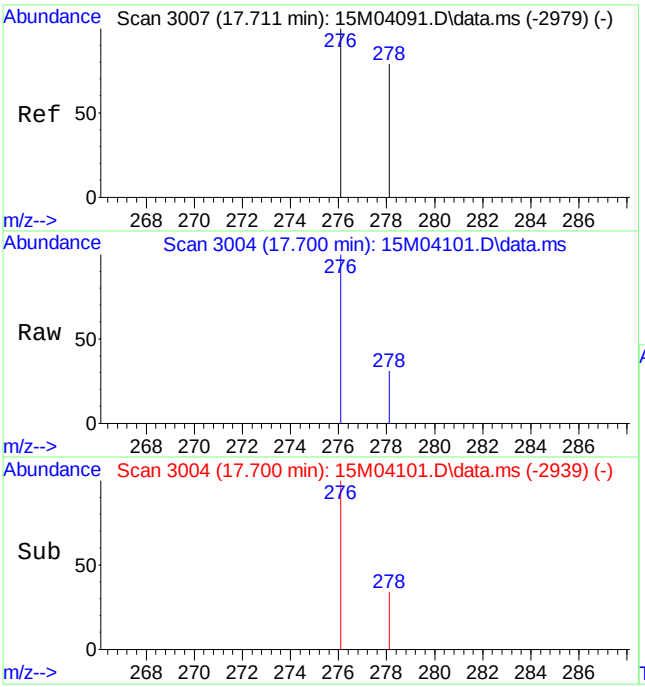


#24
Indeno[1,2,3-cd]pyrene
Concen: 5.9739 ug/mL
RT: 17.711 min Scan# 3007
Delta R.T. -0.015 min
Lab File: 15M04101.D
Acq: 22 Mar 2011 12:50 pm

Tgt Ion:276 Resp: 611126

Ion	Ratio	Lower	Upper
276	100		
277	0.0	0.0	0.0

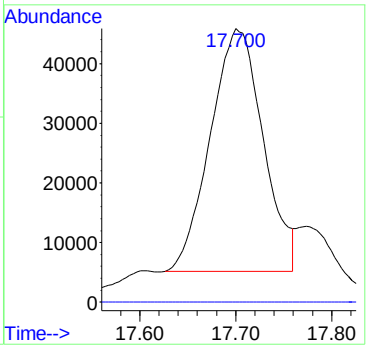


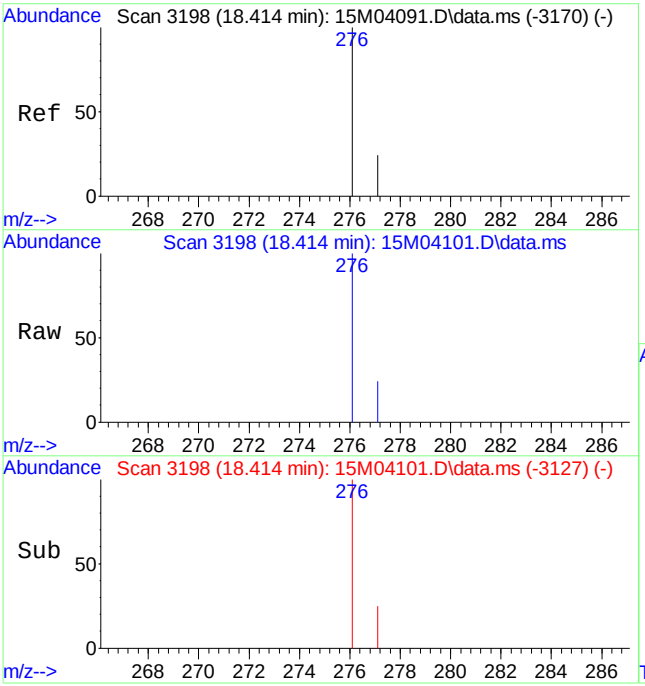


#25
Dibenz[ah]anthracene
Concen: 1.8727 ug/mL
RT: 17.700 min Scan# 3004
Delta R.T. -0.022 min
Lab File: 15M04101.D
Acq: 22 Mar 2011 12:50 pm

Tgt Ion:278 Resp: 155775

Ion	Ratio	Lower	Upper
278	100		
279	0.0	0.0	0.0

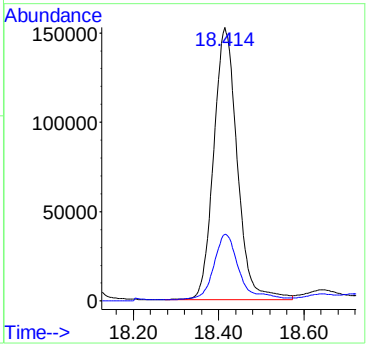




#26
Benzo[ghi]perylene
Concen: 6.8213 ug/mL
RT: 18.414 min Scan# 3198
Delta R.T. -0.011 min
Lab File: 15M04101.D
Acq: 22 Mar 2011 12:50 pm

Tgt Ion:276 Resp: 582966

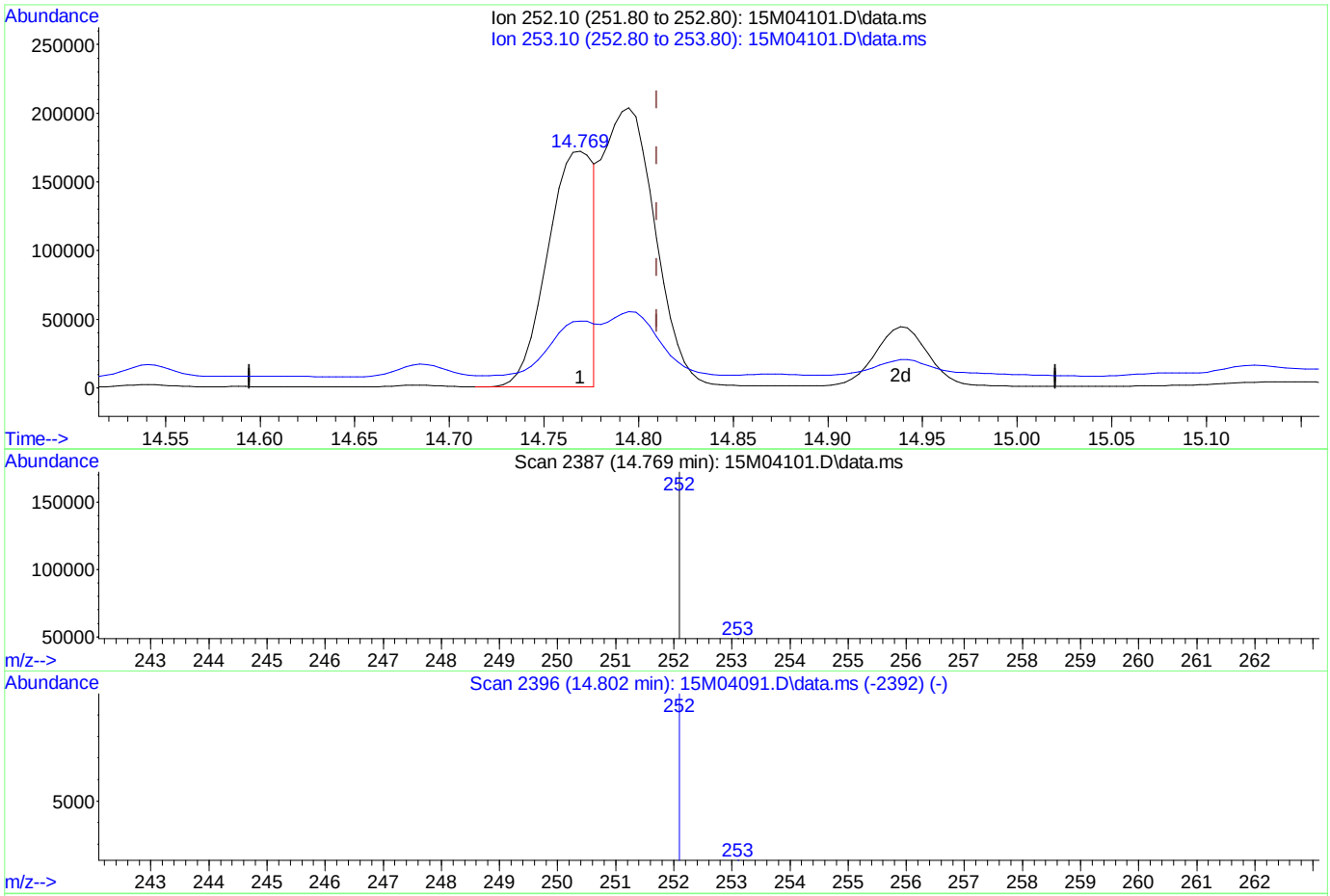
Ion	Ratio	Lower	Upper
276	100		
277	25.6	14.5	33.7



Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\032211\
Data File : 15M04101.D
Acq On : 22 Mar 2011 12:50 pm
Operator : CAA
Sample : L11030658-11 2X 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 12 Sample Multiplier: 2

Quant Time: Mar 23 08:10:46 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Wed Mar 23 08:10:15 2011
Response via : Initial Calibration



TIC: 15M04101.D\data.ms

(22) Benzo[k]fluoranthene

14.769min (-0.040) 3.46 ug/mL

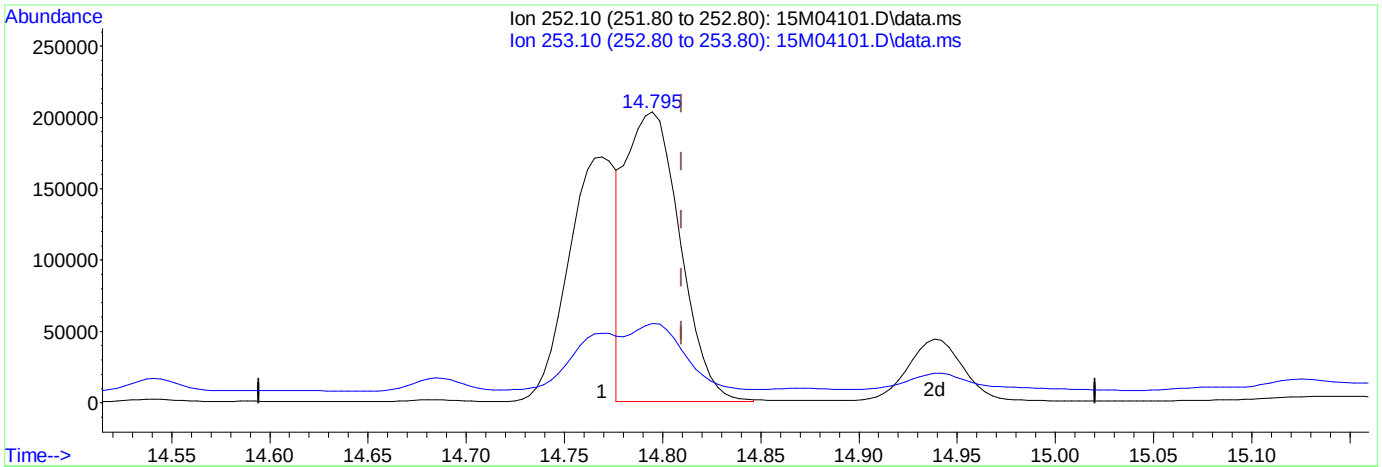
response 290834

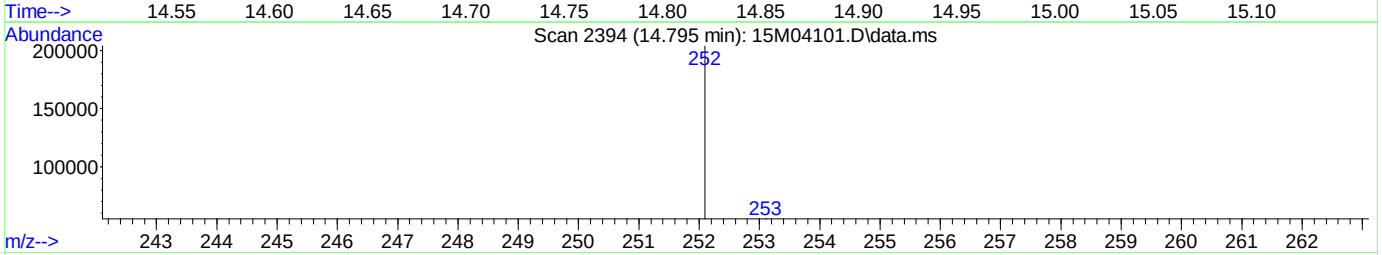
Ion	Exp%	Act%
252.10	100	100
253.10	38.30	25.25
0.00	0.00	0.00
0.00	0.00	0.00

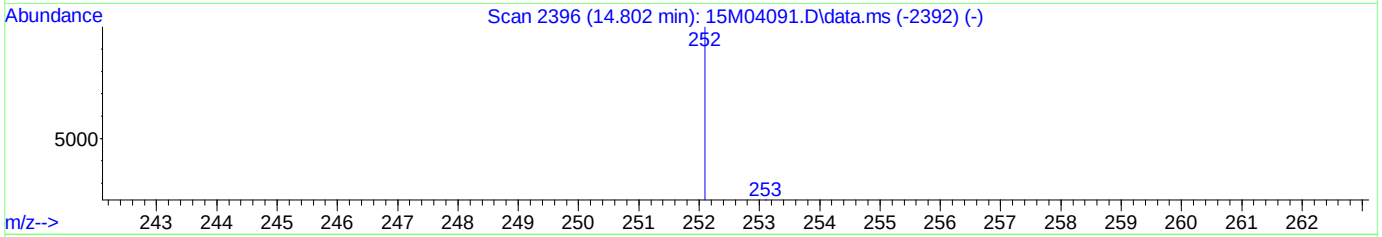
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\032211\
Data File : 15M04101.D
Acq On : 22 Mar 2011 12:50 pm
Operator : CAA
Sample : L11030658-11 2X 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 12 Sample Multiplier: 2

Quant Time: Mar 23 08:10:46 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Wed Mar 23 08:10:15 2011
Response via : Initial Calibration







TIC: 15M04101.D\data.ms

(22) Benzo[k]fluoranthene

14.795min (-0.015) 4.62 ug/mL mint

response 387728

Ion	Exp%	Act%
252.10	100	100
253.10	38.30	18.94#
0.00	0.00	0.00
0.00	0.00	0.00

Analyst: 03/23/2011 09:48 Supervisor: 03/24/2011 12:27

#3 - Improperly integrated isomers and/or coeluting compounds

PAHQUANT.M Wed Mar 23 08:18:33 2011

Page: 1

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032211\
Data File : 15M04102.D
Acq On : 22 Mar 2011 1:18 pm
Operator : CAA
Sample : L11030658-12 2X 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 13 Sample Multiplier: 2

Quant Time: Mar 23 08:18:46 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Wed Mar 23 08:10:15 2011
Response via : Initial Calibration

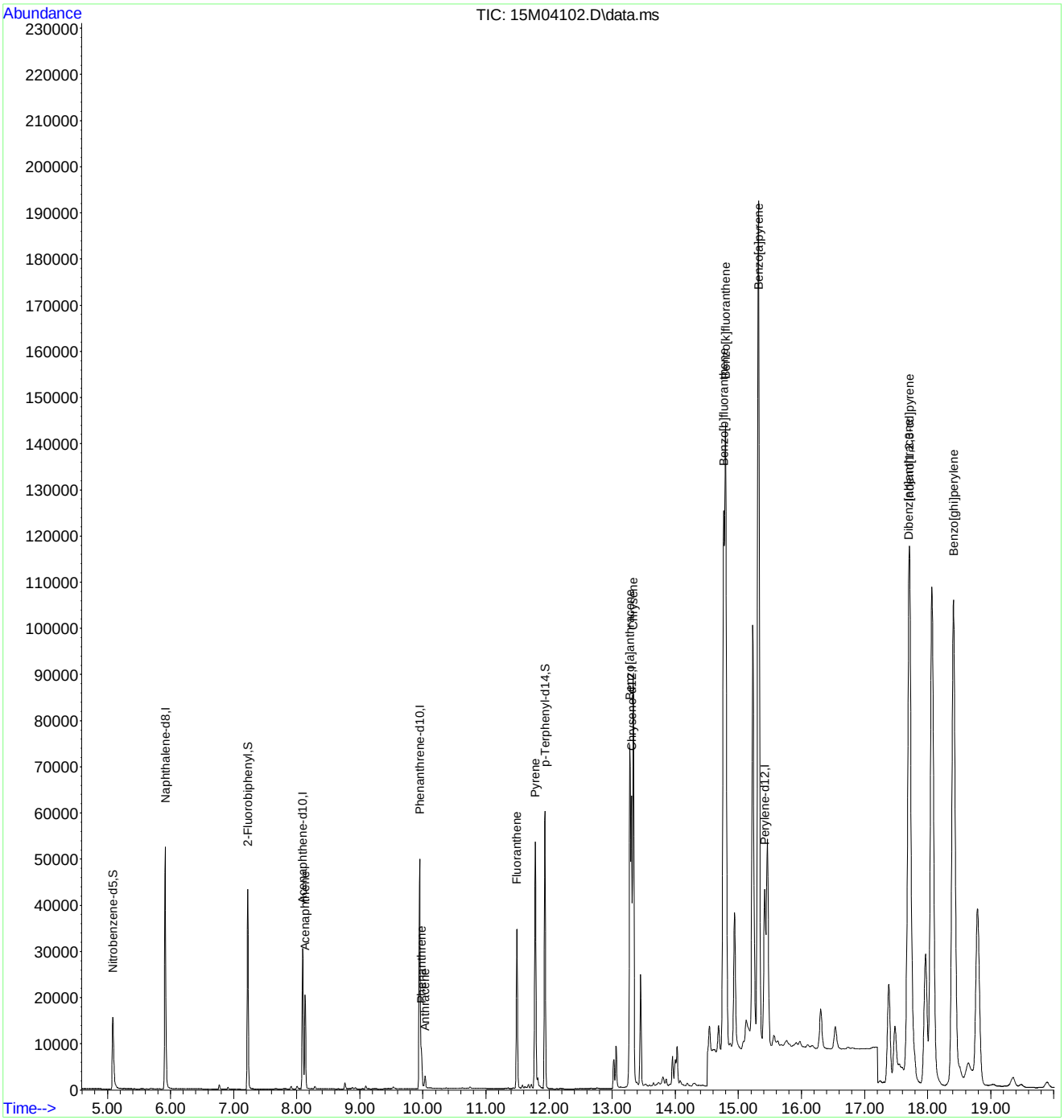
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8	5.916	136	68970	1.00	ug/mL	0.00
6) Acenaphthene-d10	8.093	164	37704	1.00	ug/mL	-0.01
11) Phenanthrene-d10	9.950	188	62829	1.00	ug/mL	0.00
15) Chrysene-d12	13.306	240	74432	1.00	ug/mL	0.00
20) Perylene-d12	15.415	264	73169	1.00	ug/mL	-0.01
System Monitoring Compounds						
2) Nitrobenzene-d5	5.085	82	17865	1.52	ug/mL	-0.02
Spiked Amount 2.500	Range 23 - 120		Recovery	=	60.80%	
7) 2-Fluorobiphenyl	7.224	172	39260	1.58	ug/mL	-0.01
Spiked Amount 2.500	Range 30 - 115		Recovery	=	63.20%	
17) p-Terphenyl-d14	11.934	244	63653	2.59	ug/mL	0.00
Spiked Amount 2.500	Range 18 - 137		Recovery	=	103.60%	
Target Compounds						Qvalue
9) Acenaphthene	8.131	154	11989	0.2750	ug/mL	99
12) Phenanthrene	9.977	178	8558	0.1213	ug/mL	100
13) Anthracene	10.036	178	2841	0.0444	ug/mL	99
14) Fluoranthene	11.489	202	38743	0.5286	ug/mL	99
16) Pyrene	11.783	202	60647	0.7073	ug/mL#	77
18) Benzo[a]anthracene	13.279	228	78083	1.0434	ug/mL	99
19) Chrysene	13.333	228	98003	1.3116	ug/mL	99
21) Benzo[b]fluoranthene	14.765	252	159772	1.9044	ug/mL	78
22) Benzo[k]fluoranthene	14.795	252	213032m	2.7235	ug/mL	
23) Benzo[a]pyrene	15.319	252	308669	3.9238	ug/mL#	72
24) Indeno[1,2,3-cd]pyrene	17.711	276	337284	3.5397	ug/mL#	100
25) Dibenz[ah]anthracene	17.700	278	83801	1.0816	ug/mL#	100
26) Benzo[ghi]perylene	18.410	276	323744	4.0670	ug/mL	98

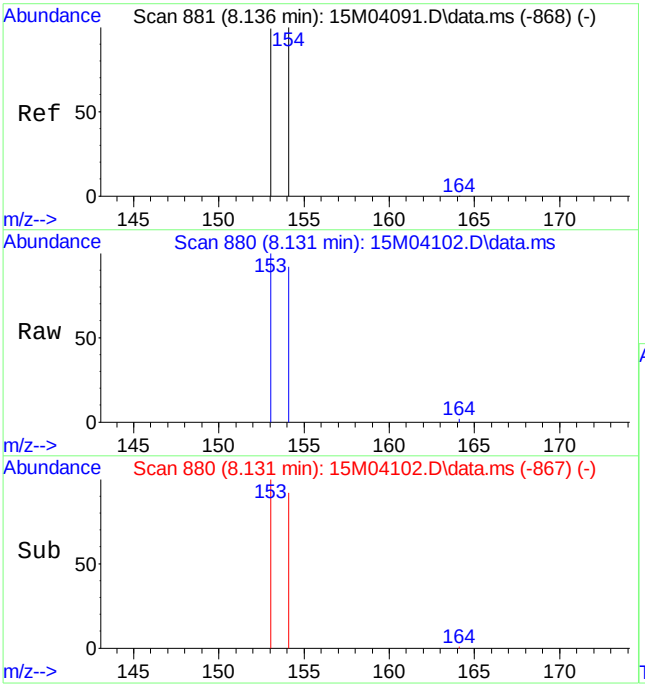
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032211\
Data File : 15M04102.D
Acq On : 22 Mar 2011 1:18 pm
Operator : CAA
Sample : L11030658-12 2X 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 13 Sample Multiplier: 2

Quant Time: Mar 23 08:18:46 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Wed Mar 23 08:10:15 2011
Response via : Initial Calibration

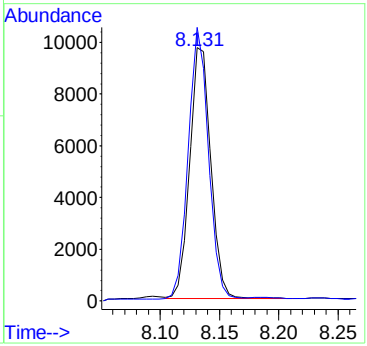


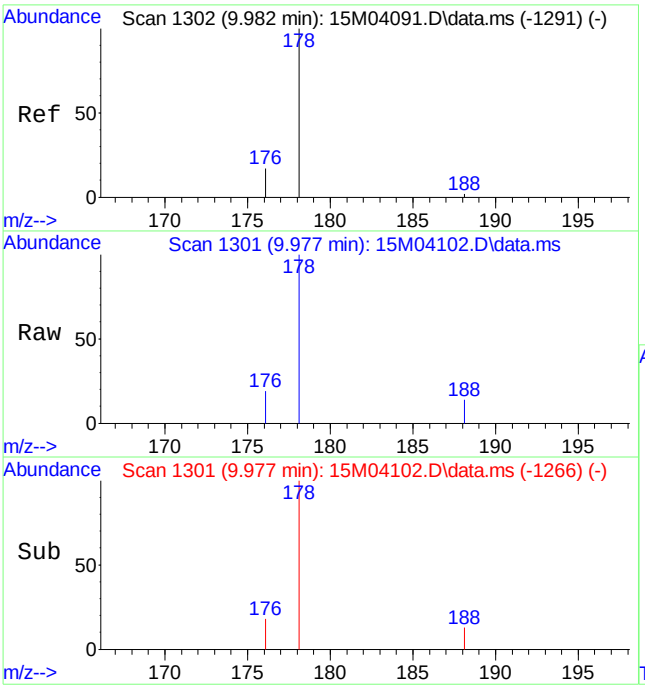


#9
Acenaphthene
Concen: 0.2750 ug/mL
RT: 8.131 min Scan# 880
Delta R.T. -0.016 min
Lab File: 15M04102.D
Acq: 22 Mar 2011 1:18 pm

Tgt Ion:154 Resp: 11989

Ion	Ratio	Lower	Upper
154	100		
153	103.6	61.8	144.2

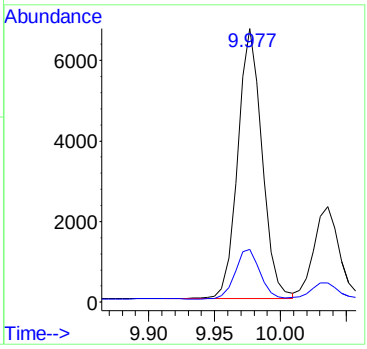


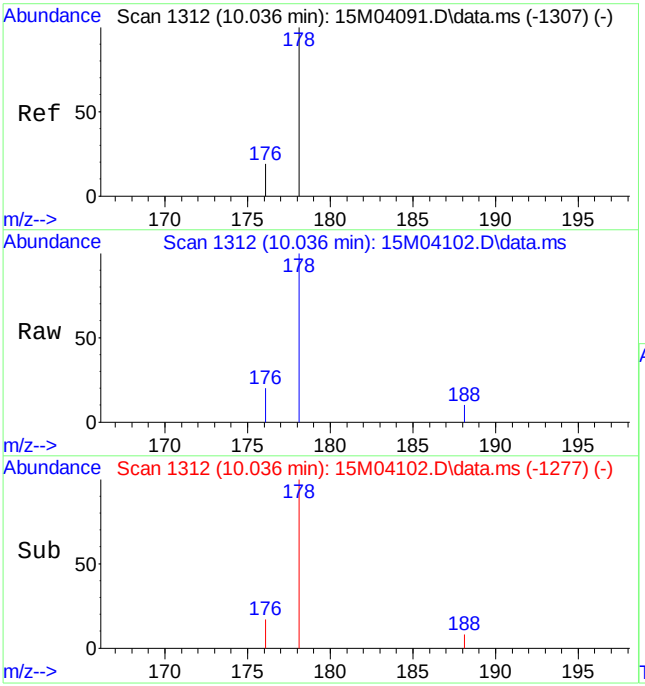


#12
Phenanthrene
Concen: 0.1213 ug/mL
RT: 9.977 min Scan# 1301
Delta R.T. -0.010 min
Lab File: 15M04102.D
Acq: 22 Mar 2011 1:18 pm

Tgt Ion:178 Resp: 8558

Ion	Ratio	Lower	Upper
178	100		
176	18.9	11.4	26.6

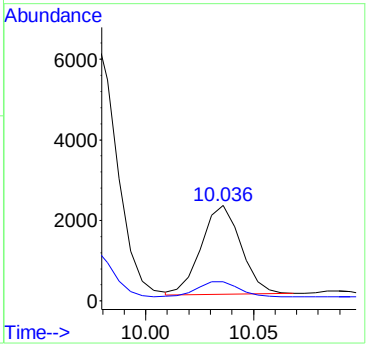


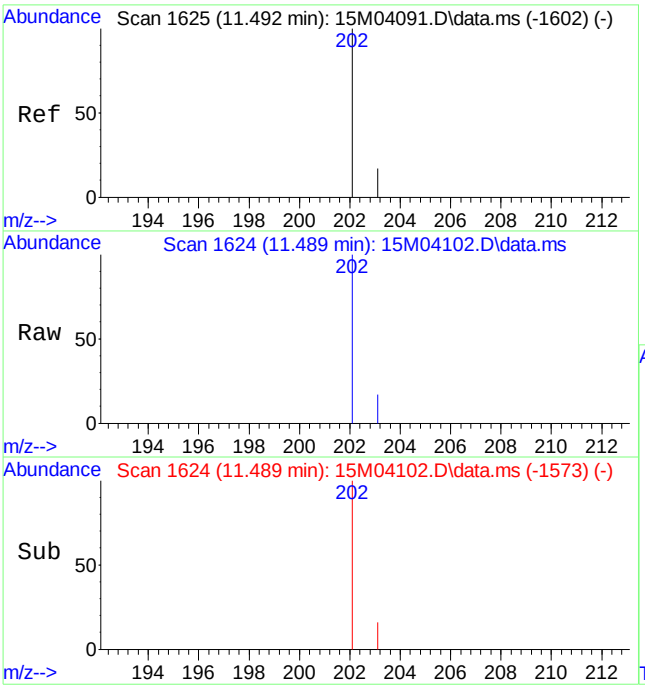


#13
Anthracene
Concen: 0.0444 ug/mL
RT: 10.036 min Scan# 1312
Delta R.T. -0.010 min
Lab File: 15M04102.D
Acq: 22 Mar 2011 1:18 pm

Tgt Ion:178 Resp: 2841

Ion	Ratio	Lower	Upper
178	100		
176	18.9	11.0	25.6

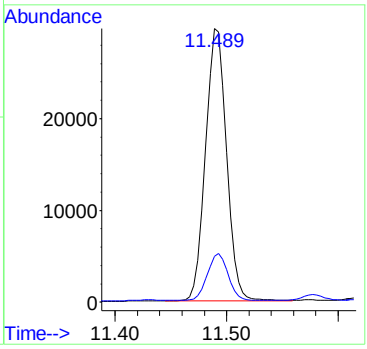


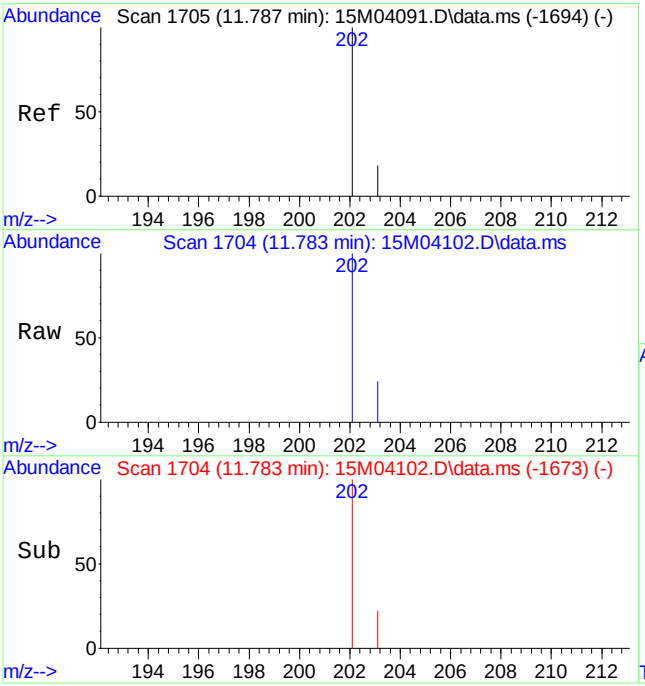


#14
Fluoranthene
Concen: 0.5286 ug/mL
RT: 11.489 min Scan# 1624
Delta R.T. -0.011 min
Lab File: 15M04102.D
Acq: 22 Mar 2011 1:18 pm

Tgt Ion:202 Resp: 38743

Ion	Ratio	Lower	Upper
202	100		
203	17.0	10.4	24.4

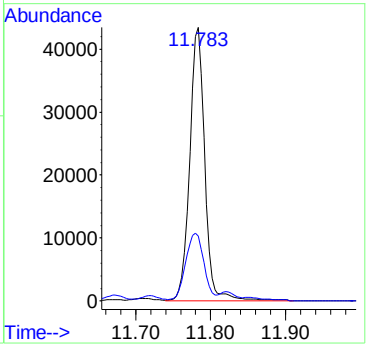


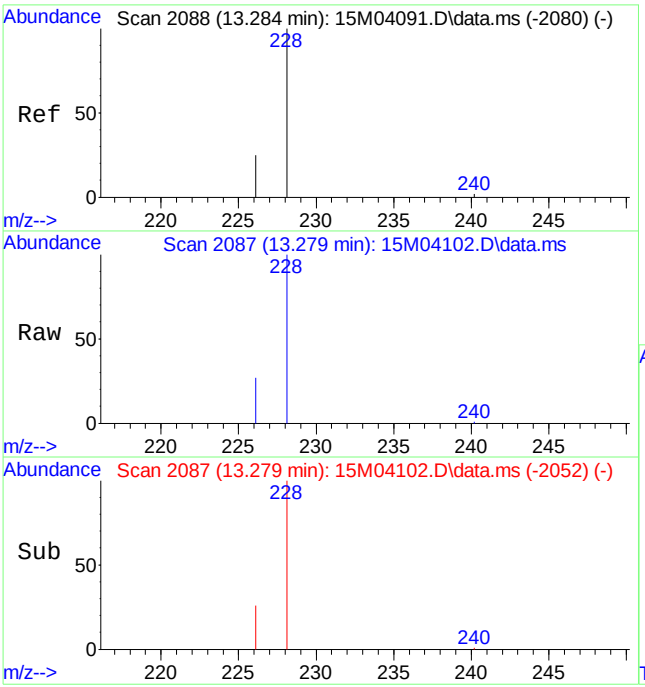


#16
Pyrene
Concen: 0.7073 ug/mL
RT: 11.783 min Scan# 1704
Delta R.T. -0.011 min
Lab File: 15M04102.D
Acq: 22 Mar 2011 1:18 pm

Tgt Ion:202 Resp: 60647

Ion	Ratio	Lower	Upper
202	100		
203	28.7	11.0	25.6#

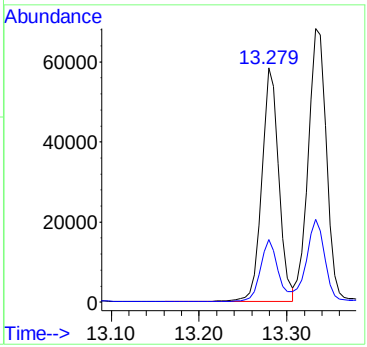


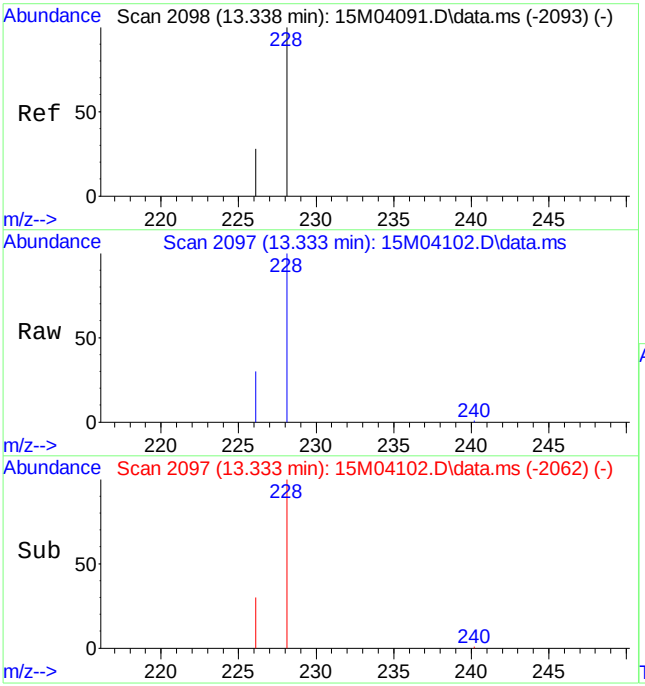


#18
Benzo[a]anthracene
Concen: 1.0434 ug/mL
RT: 13.279 min Scan# 2087
Delta R.T. -0.011 min
Lab File: 15M04102.D
Acq: 22 Mar 2011 1:18 pm

Tgt Ion:228 Resp: 78083

Ion	Ratio	Lower	Upper
228	100		
226	26.8	15.7	36.5

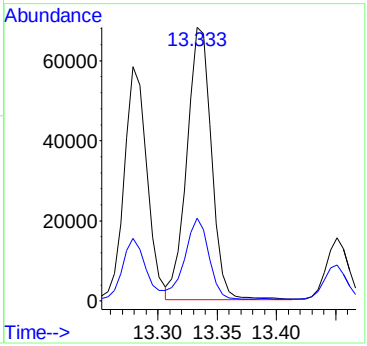


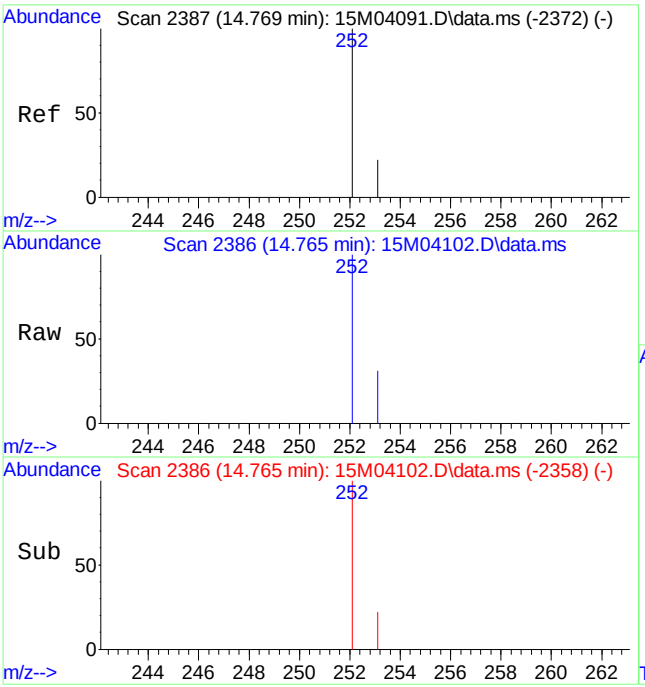


#19
Chrysene
Concen: 1.3116 ug/mL
RT: 13.333 min Scan# 2097
Delta R.T. -0.011 min
Lab File: 15M04102.D
Acq: 22 Mar 2011 1:18 pm

Tgt Ion:228 Resp: 98003

Ion	Ratio	Lower	Upper
228	100		
226	29.0	17.0	39.8

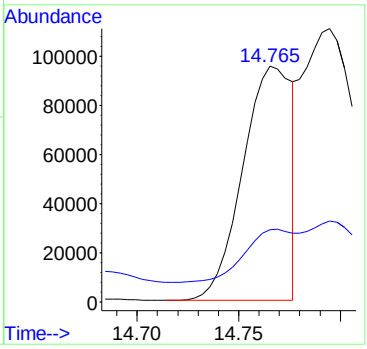


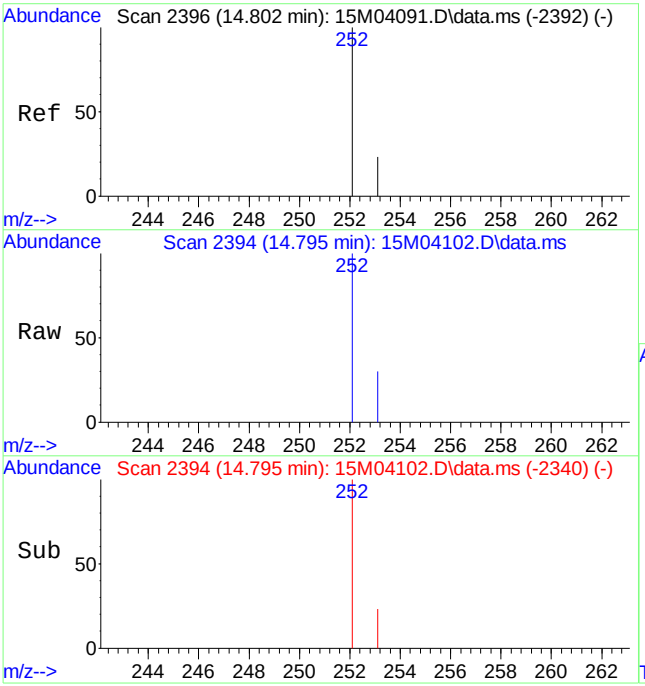


#21
Benzo[b]fluoranthene
Concen: 1.9044 ug/mL
RT: 14.765 min Scan# 2386
Delta R.T. -0.011 min
Lab File: 15M04102.D
Acq: 22 Mar 2011 1:18 pm

Tgt Ion:252 Resp: 159772

Ion	Ratio	Lower	Upper
252	100		
253	24.7	22.8	53.2

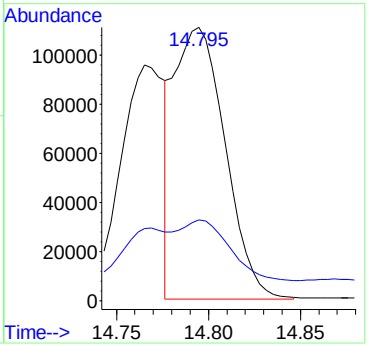


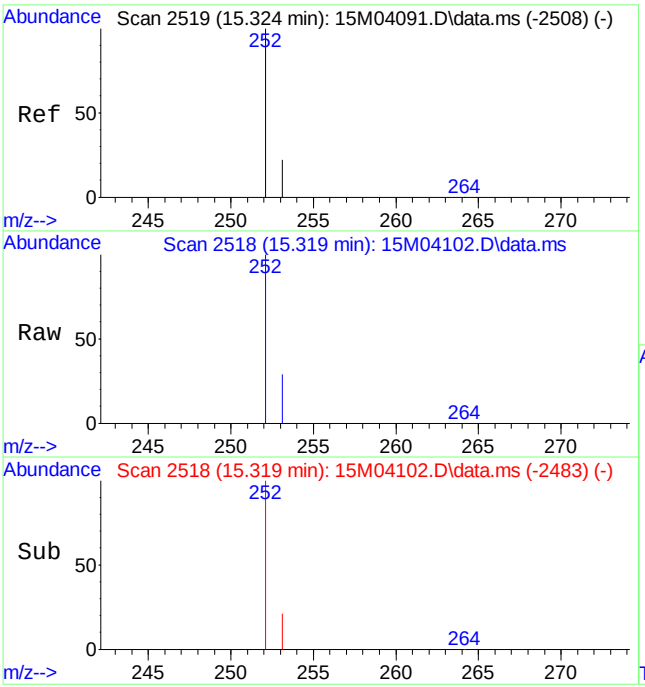


#22
Benzo[k]fluoranthene
Concen: 2.7235 ug/mL m
RT: 14.795 min Scan# 2394
Delta R.T. -0.015 min
Lab File: 15M04102.D
Acq: 22 Mar 2011 1:18 pm

Tgt Ion:252 Resp: 213032

Ion	Ratio	Lower	Upper
252	100		
253	18.5	23.0	53.6#

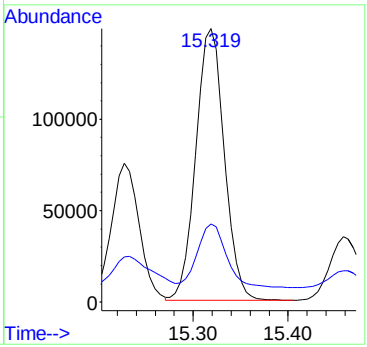


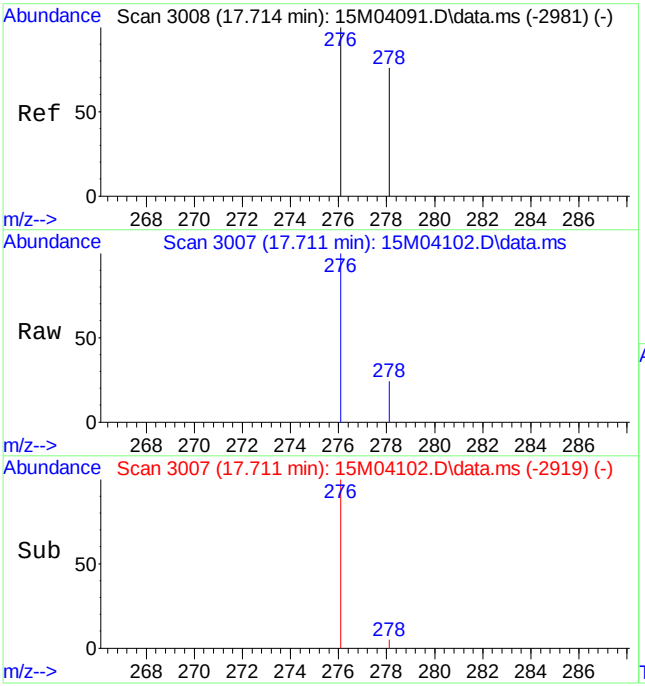


#23
Benzo[a]pyrene
Concen: 3.9238 ug/mL
RT: 15.319 min Scan# 2518
Delta R.T. -0.011 min
Lab File: 15M04102.D
Acq: 22 Mar 2011 1:18 pm

Tgt Ion:252 Resp: 308669

Ion	Ratio	Lower	Upper
252	100		
253	24.0	25.2	58.8#

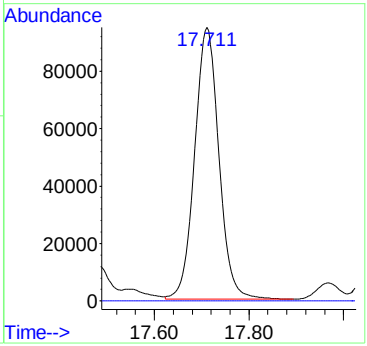


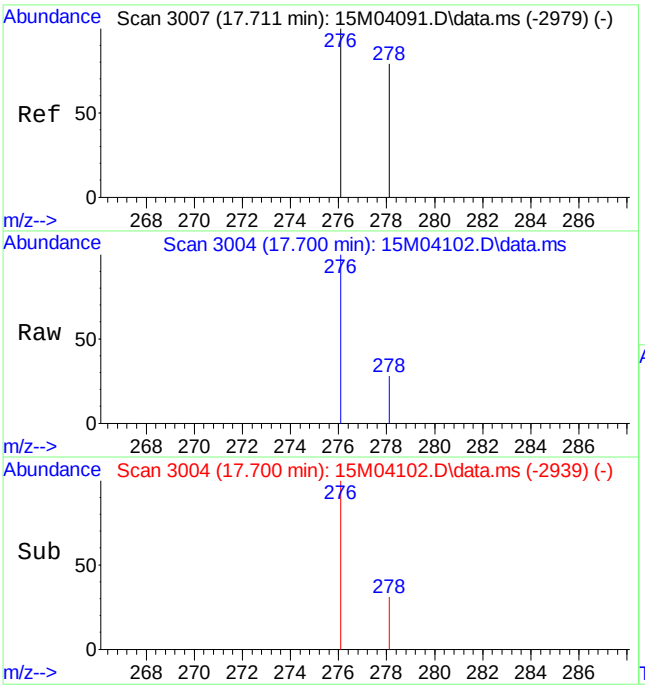


#24
Indeno[1,2,3-cd]pyrene
Concen: 3.5397 ug/mL
RT: 17.711 min Scan# 3007
Delta R.T. -0.015 min
Lab File: 15M04102.D
Acq: 22 Mar 2011 1:18 pm

Tgt Ion:276 Resp: 337284

Ion	Ratio	Lower	Upper
276	100		
277	0.0	0.0	0.0

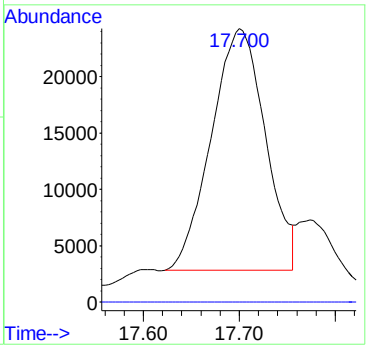


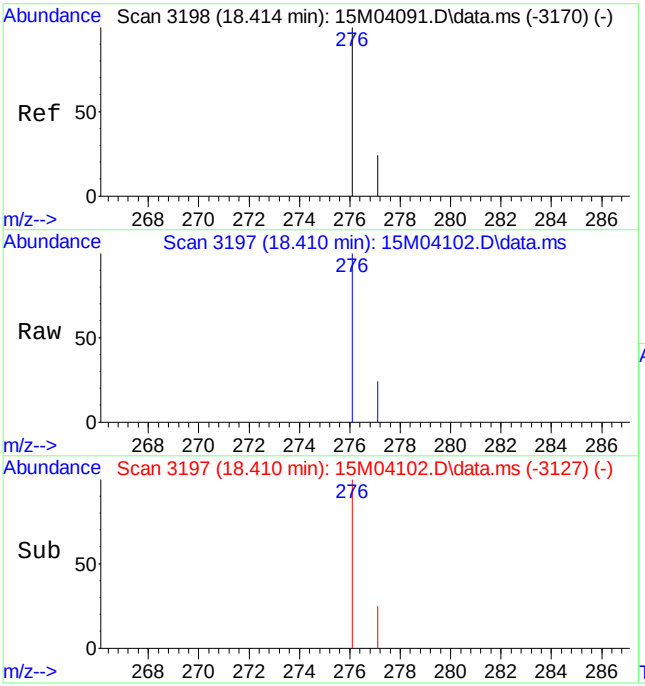


#25
Dibenz[ah]anthracene
Concen: 1.0816 ug/mL
RT: 17.700 min Scan# 3004
Delta R.T. -0.022 min
Lab File: 15M04102.D
Acq: 22 Mar 2011 1:18 pm

Tgt Ion:278 Resp: 83801

Ion	Ratio	Lower	Upper
278	100		
279	0.0	0.0	0.0

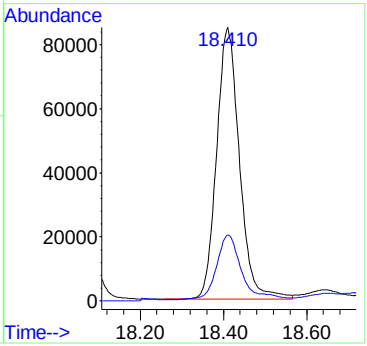




#26
Benzo[ghi]perylene
Concen: 4.0670 ug/mL
RT: 18.410 min Scan# 3197
Delta R.T. -0.015 min
Lab File: 15M04102.D
Acq: 22 Mar 2011 1:18 pm

Tgt Ion:276 Resp: 323744

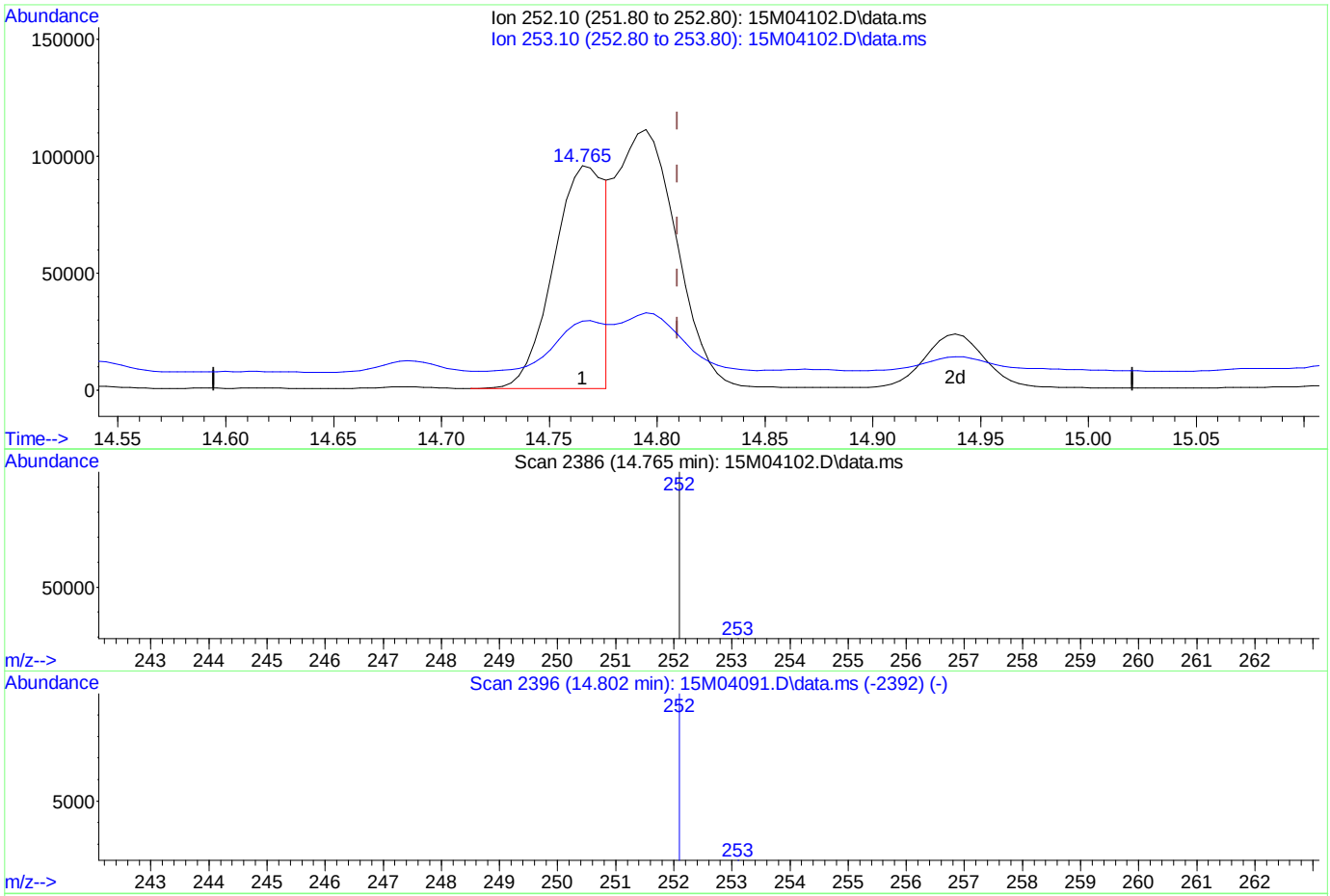
Ion	Ratio	Lower	Upper
276	100		
277	25.0	14.5	33.7



Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\032211\
Data File : 15M04102.D
Acq On : 22 Mar 2011 1:18 pm
Operator : CAA
Sample : L11030658-12 2X 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 13 Sample Multiplier: 2

Quant Time: Mar 23 08:10:48 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Wed Mar 23 08:10:15 2011
Response via : Initial Calibration



TIC: 15M04102.D\data.ms

(22) Benzo[k]fluoranthene

14.765min (-0.044) 2.04 ug/mL

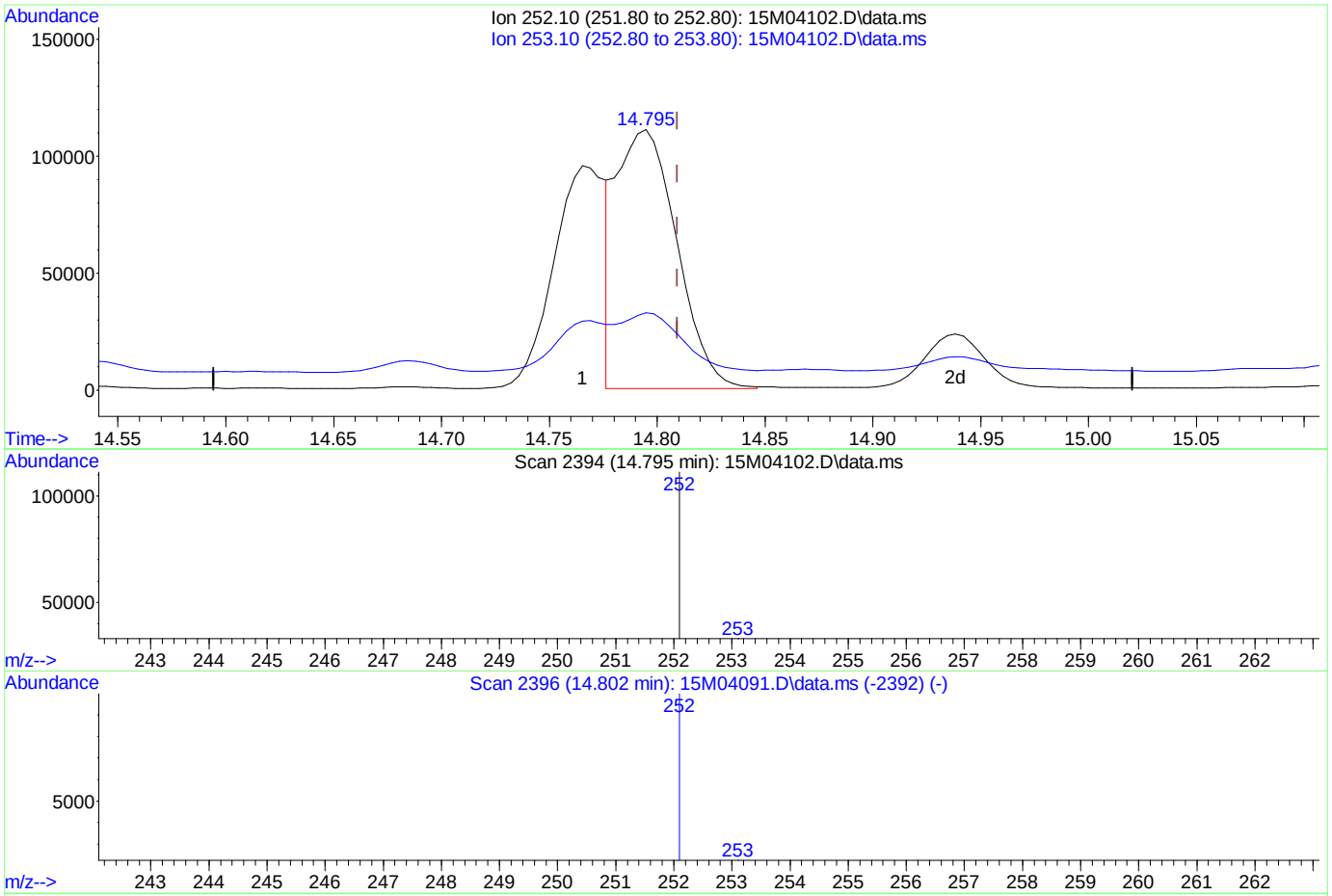
response 159772

Ion	Exp%	Act%
252.10	100	100
253.10	38.30	24.67
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\032211\
Data File : 15M04102.D
Acq On : 22 Mar 2011 1:18 pm
Operator : CAA
Sample : L11030658-12 2X 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 13 Sample Multiplier: 2

Quant Time: Mar 23 08:10:48 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Wed Mar 23 08:10:15 2011
Response via : Initial Calibration



TIC: 15M04102.D\data.ms

(22) Benzo[k]fluoranthene

14.795min (-0.015) 2.72 ug/mL mint

response 213032

Ion	Exp%	Act%
252.10	100	100
253.10	38.30	18.50#
0.00	0.00	0.00
0.00	0.00	0.00

Analyst: 03/23/2011 09:48 Supervisor: 03/24/2011 12:27

#3 - Improperly integrated isomers and/or coeluting compounds

PAHQUANT.M Wed Mar 23 08:18:47 2011

Page: 1

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04123.D
Acq On : 24 Mar 2011 4:23 pm
Operator : CAA
Sample : L11030658-13 REF 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 5 Sample Multiplier: 2

Quant Time: Mar 25 07:09:24 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration

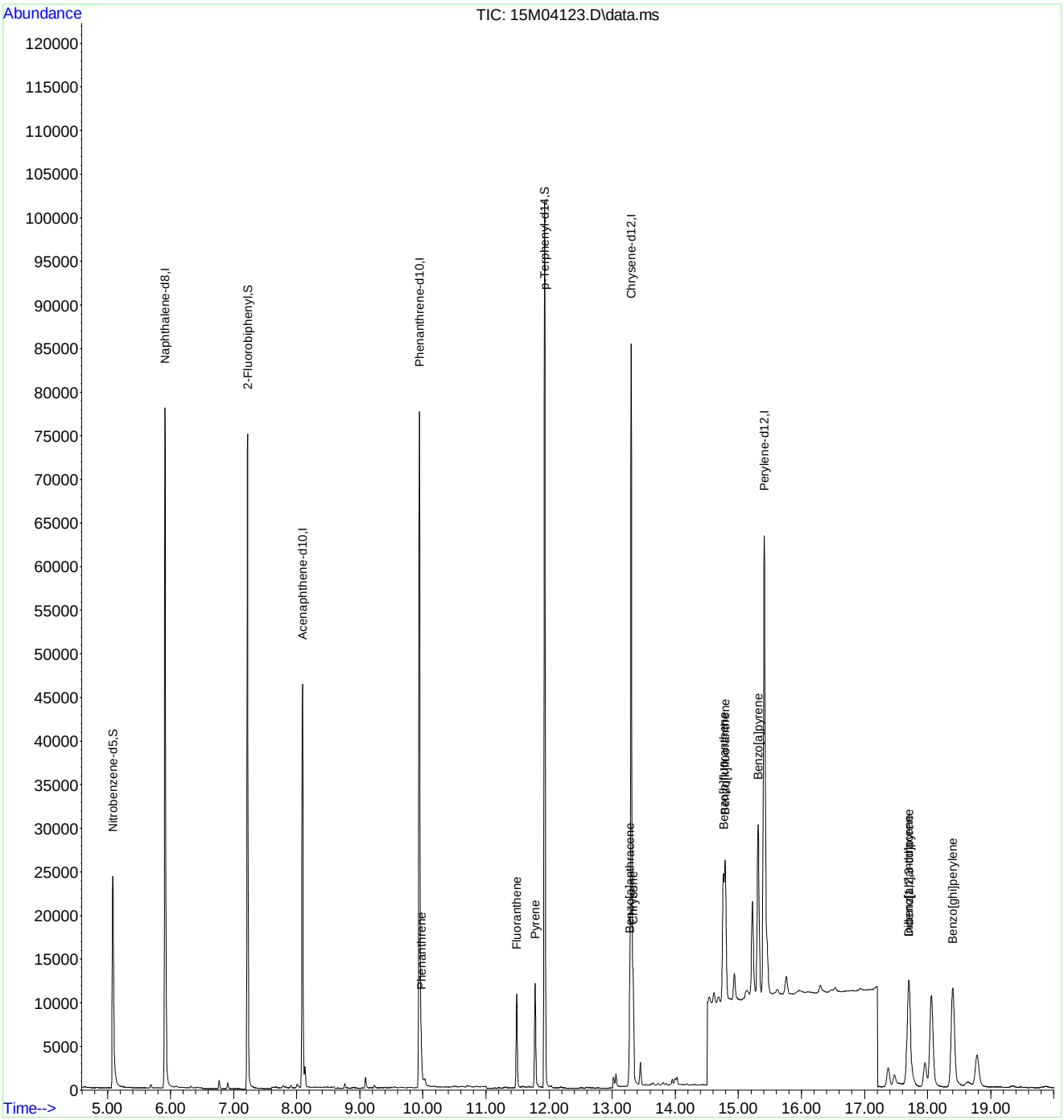
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8	5.910	136	103813	1.00	ug/mL	-0.01
6) Acenaphthene-d10	8.093	164	57186	1.00	ug/mL	-0.01
11) Phenanthrene-d10	9.944	188	97519	1.00	ug/mL	-0.01
15) Chrysene-d12	13.301	240	111785	1.00	ug/mL	-0.01
20) Perylene-d12	15.410	264	113400	1.00	ug/mL	-0.02
System Monitoring Compounds						
2) Nitrobenzene-d5	5.085	82	27758	1.57	ug/mL	-0.02
Spiked Amount 2.500	Range 23 - 120		Recovery	=	62.80%	
7) 2-Fluorobiphenyl	7.220	172	68339	1.81	ug/mL	-0.02
Spiked Amount 2.500	Range 30 - 115		Recovery	=	72.40%	
17) p-Terphenyl-d14	11.930	244	107407	2.91	ug/mL	-0.01
Spiked Amount 2.500	Range 18 - 137		Recovery	=	116.40%	
Target Compounds						Qvalue
12) Phenanthrene	9.971	178	4656	0.0425	ug/mL	99
14) Fluoranthene	11.489	202	12311	0.1082	ug/mL	99
16) Pyrene	11.780	202	14591	0.1133	ug/mL	92
18) Benzo[a]anthracene	13.279	228	10716	0.0954	ug/mL	96
19) Chrysene	13.333	228	14581	0.1299	ug/mL	98
21) Benzo[b]fluoranthene	14.765	252	20898	0.1607	ug/mL#	74
22) Benzo[k]fluoranthene	14.787	252	25275m	0.2085	ug/mL	
23) Benzo[a]pyrene	15.313	252	33061	0.2712	ug/mL#	70
24) Indeno[1,2,3-cd]pyrene	17.703	276	36446	0.2468	ug/mL#	100
25) Dibenz[ah]anthracene	17.696	278	8905	0.0742	ug/mL#	100
26) Benzo[ghi]perylene	18.399	276	36057	0.2923	ug/mL	99

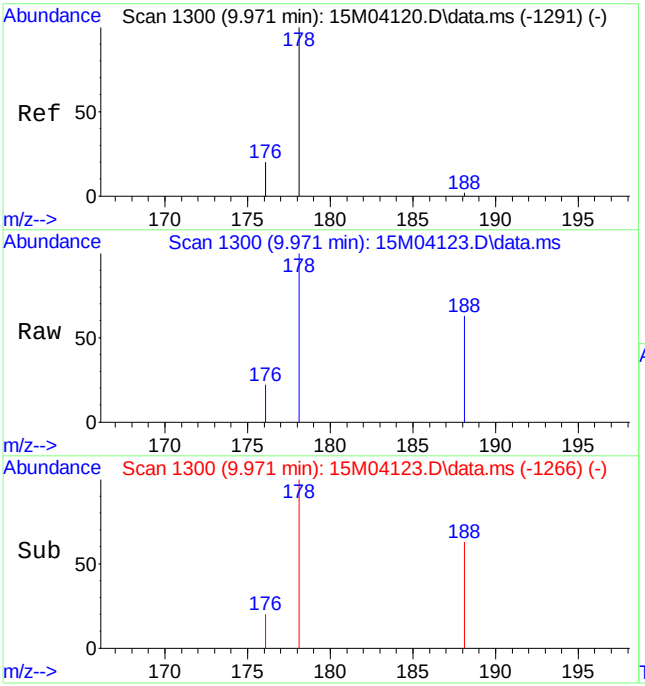
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04123.D
Acq On : 24 Mar 2011 4:23 pm
Operator : CAA
Sample : L11030658-13 REF 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 5 Sample Multiplier: 2

Quant Time: Mar 25 07:09:24 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration

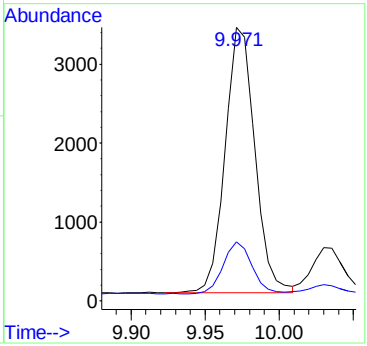


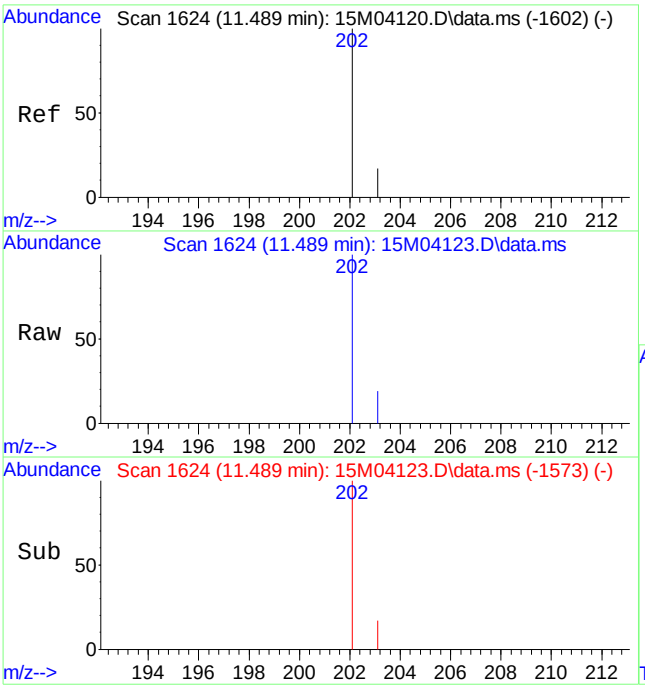


#12
Phenanthrene
Concen: 0.0425 ug/mL
RT: 9.971 min Scan# 1300
Delta R.T. -0.016 min
Lab File: 15M04123.D
Acq: 24 Mar 2011 4:23 pm

Tgt Ion:178 Resp: 4656

Ion	Ratio	Lower	Upper
178	100		
176	19.2	11.4	26.6

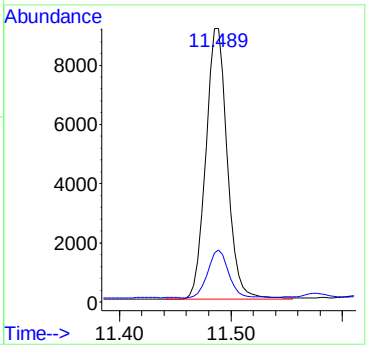


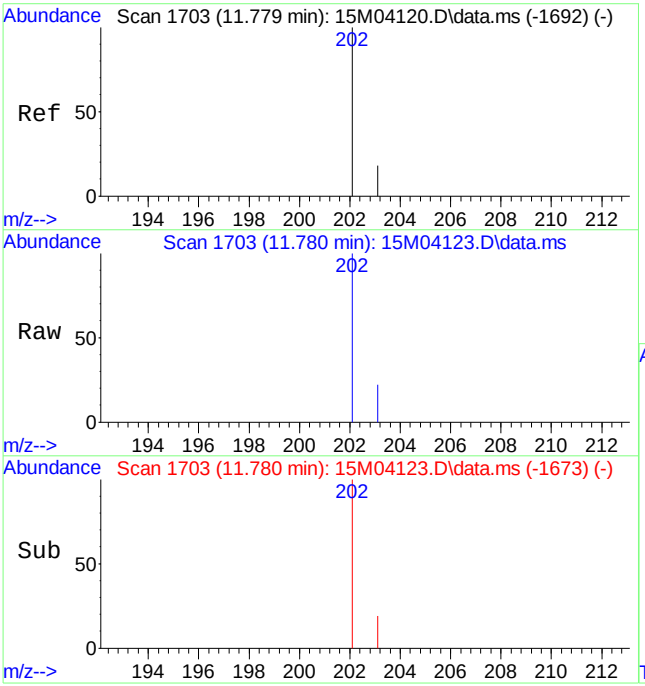


#14
Fluoranthene
Concen: 0.1082 ug/mL
RT: 11.489 min Scan# 1624
Delta R.T. -0.011 min
Lab File: 15M04123.D
Acq: 24 Mar 2011 4:23 pm

Tgt Ion:202 Resp: 12311

Ion	Ratio	Lower	Upper
202	100		
203	17.1	10.4	24.4

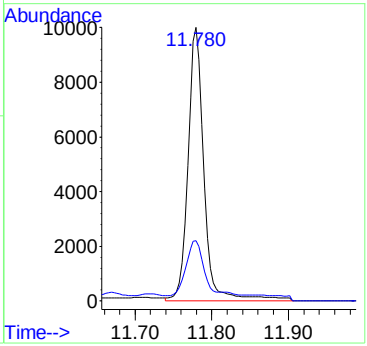


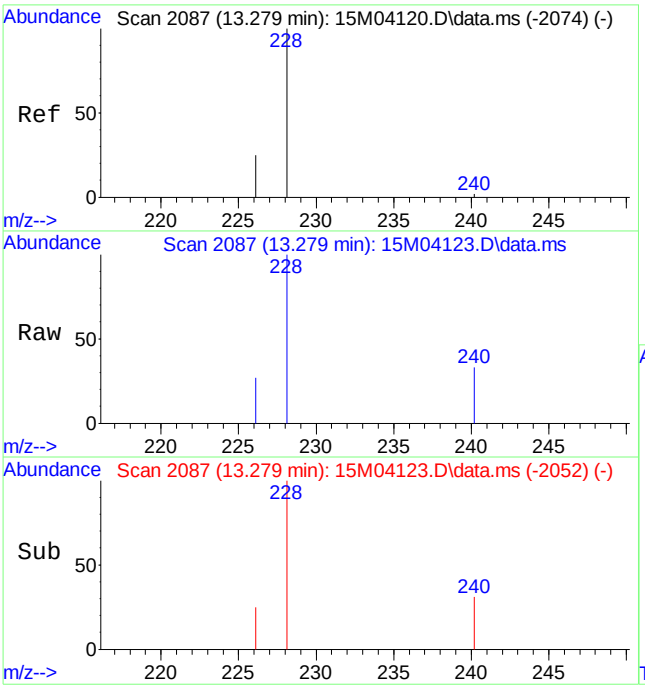


#16
Pyrene
Concen: 0.1133 ug/mL
RT: 11.780 min Scan# 1703
Delta R.T. -0.015 min
Lab File: 15M04123.D
Acq: 24 Mar 2011 4:23 pm

Tgt Ion:202 Resp: 14591

Ion	Ratio	Lower	Upper
202	100		
203	21.7	11.0	25.6

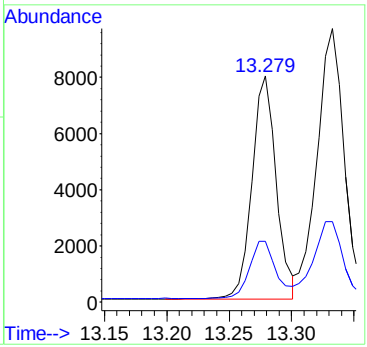


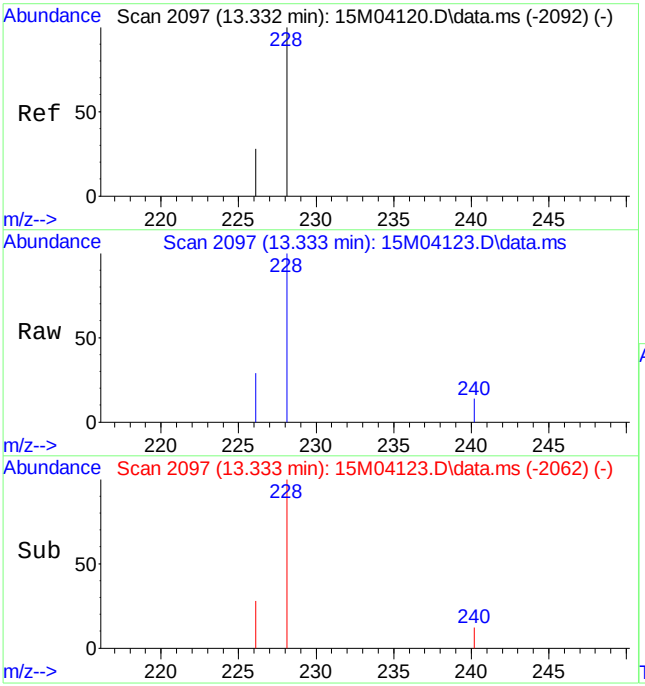


#18
Benzo[a]anthracene
Concen: 0.0954 ug/mL
RT: 13.279 min Scan# 2087
Delta R.T. -0.011 min
Lab File: 15M04123.D
Acq: 24 Mar 2011 4:23 pm

Tgt Ion:228 Resp: 10716

Ion	Ratio	Lower	Upper
228	100		
226	28.1	15.7	36.5

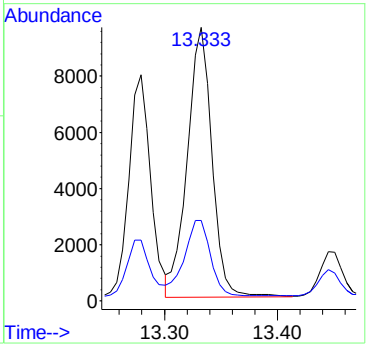


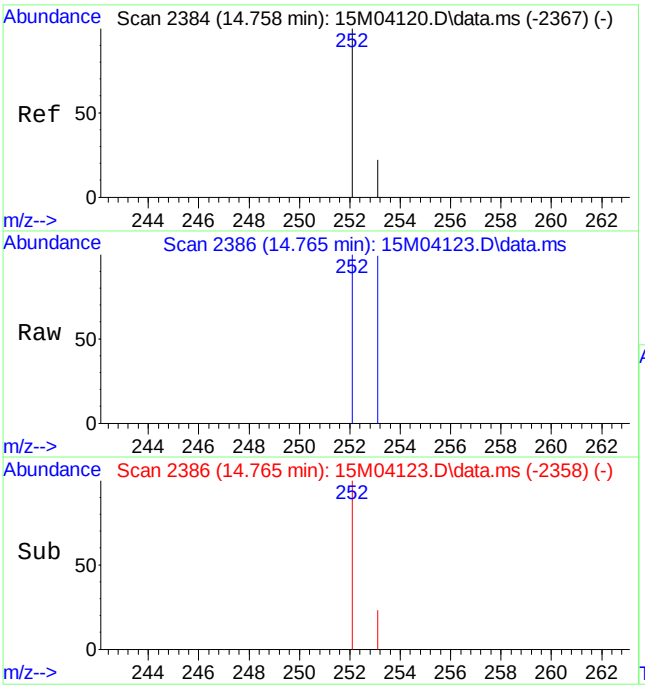


#19
Chrysene
Concen: 0.1299 ug/mL
RT: 13.333 min Scan# 2097
Delta R.T. -0.011 min
Lab File: 15M04123.D
Acq: 24 Mar 2011 4:23 pm

Tgt Ion:228 Resp: 14581

Ion	Ratio	Lower	Upper
228	100		
226	29.5	17.0	39.8

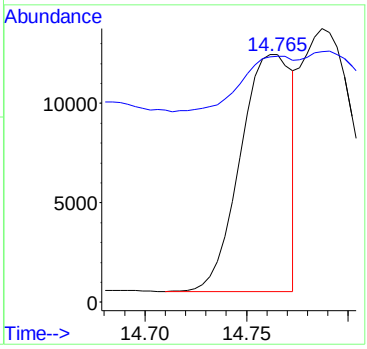


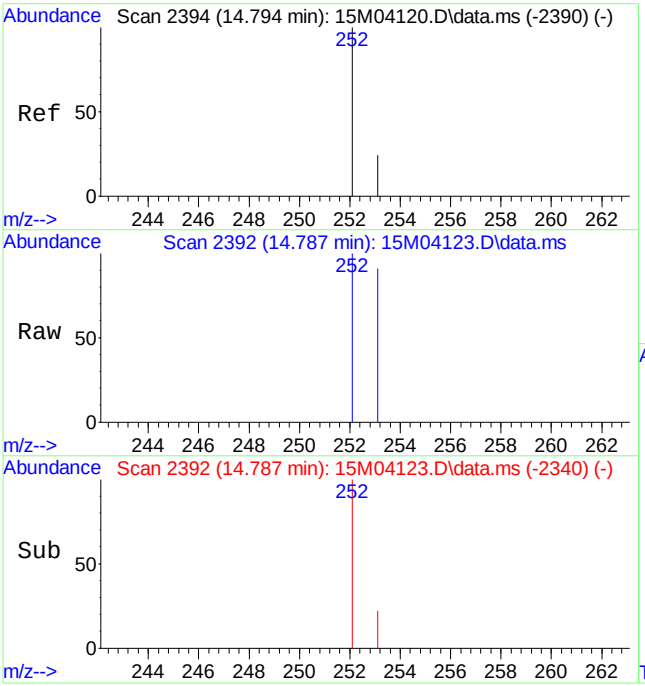


#21
Benzo[b]fluoranthene
Concen: 0.1607 ug/mL
RT: 14.765 min Scan# 2386
Delta R.T. -0.011 min
Lab File: 15M04123.D
Acq: 24 Mar 2011 4:23 pm

Tgt Ion:252 Resp: 20898

Ion	Ratio	Lower	Upper
252	100		
253	22.3	22.8	53.2#

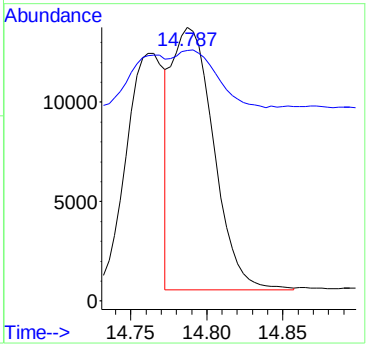


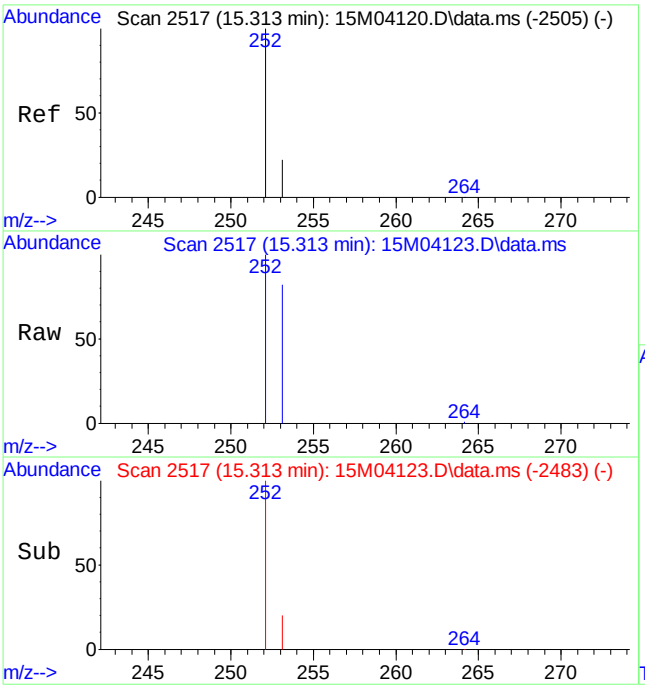


#22
Benzo[k]fluoranthene
Concen: 0.2085 ug/mL m
RT: 14.787 min Scan# 2392
Delta R.T. -0.022 min
Lab File: 15M04123.D
Acq: 24 Mar 2011 4:23 pm

Tgt Ion:252 Resp: 25275

Ion	Ratio	Lower	Upper
252	100		
253	18.4	23.0	53.6#

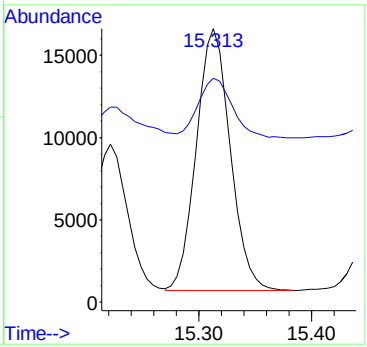


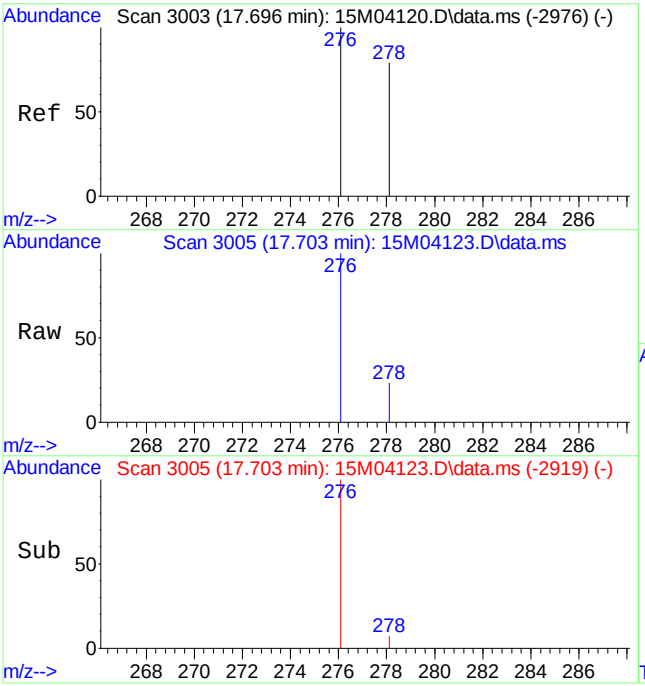


#23
Benzo[a]pyrene
Concen: 0.2712 ug/mL
RT: 15.313 min Scan# 2517
Delta R.T. -0.016 min
Lab File: 15M04123.D
Acq: 24 Mar 2011 4:23 pm

Tgt Ion:252 Resp: 33061

Ion	Ratio	Lower	Upper
252	100		
253	23.1	25.2	58.8#

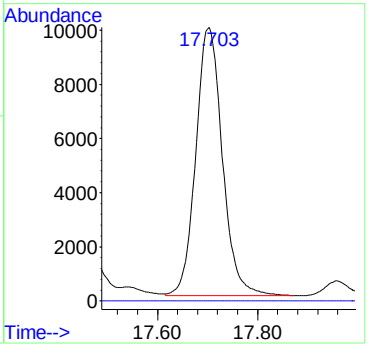


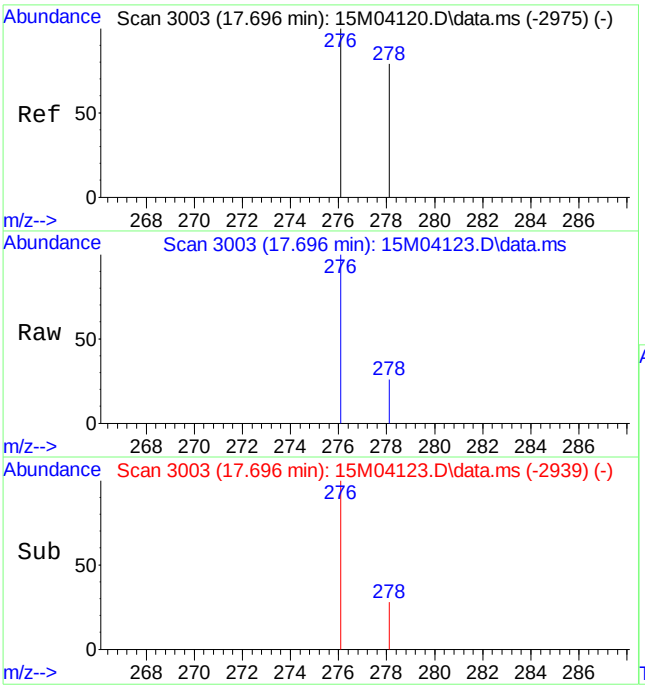


#24
Indeno[1,2,3-cd]pyrene
Concen: 0.2468 ug/mL
RT: 17.703 min Scan# 3005
Delta R.T. -0.022 min
Lab File: 15M04123.D
Acq: 24 Mar 2011 4:23 pm

Tgt Ion:276 Resp: 36446

Ion	Ratio	Lower	Upper
276	100		
277	0.0	0.0	0.0

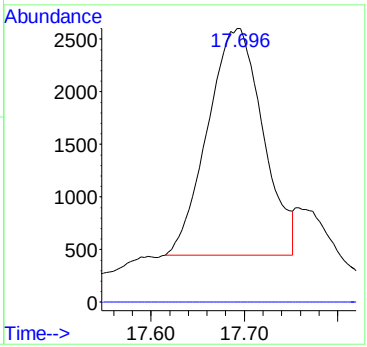


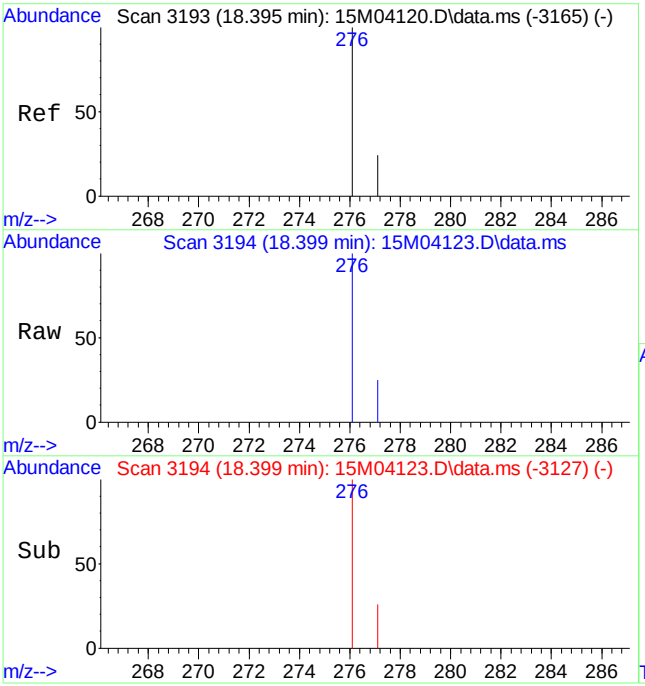


#25
Dibenz[ah]anthracene
Concen: 0.0742 ug/mL
RT: 17.696 min Scan# 3003
Delta R.T. -0.026 min
Lab File: 15M04123.D
Acq: 24 Mar 2011 4:23 pm

Tgt Ion:278 Resp: 8905

Ion	Ratio	Lower	Upper
278	100		
279	0.0	0.0	0.0

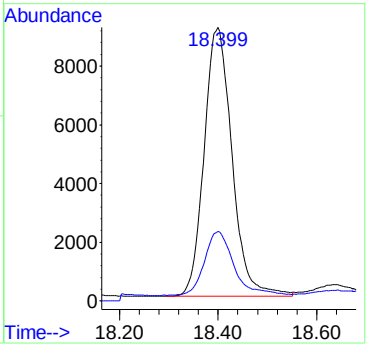




#26
Benzo[ghi]perylene
Concen: 0.2923 ug/mL
RT: 18.399 min Scan# 3194
Delta R.T. -0.026 min
Lab File: 15M04123.D
Acq: 24 Mar 2011 4:23 pm

Tgt Ion:276 Resp: 36057

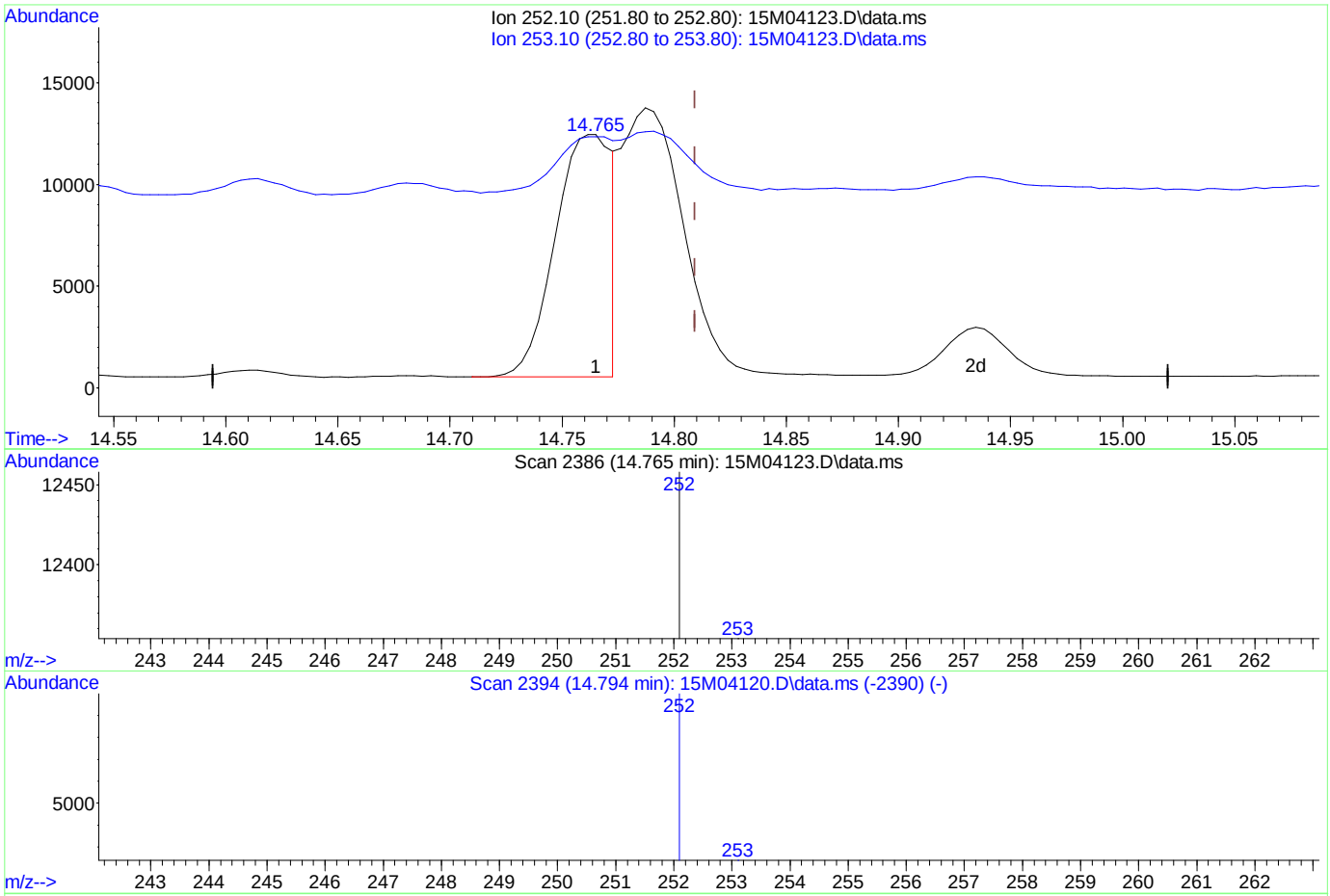
Ion	Ratio	Lower	Upper
276	100		
277	23.6	14.5	33.7



Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04123.D
Acq On : 24 Mar 2011 4:23 pm
Operator : CAA
Sample : L11030658-13 REF 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 5 Sample Multiplier: 2

Quant Time: Mar 25 07:06:08 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration



TIC: 15M04123.D\data.ms

(22) Benzo[k]fluoranthene

14.765min (-0.044) 0.17 ug/mL

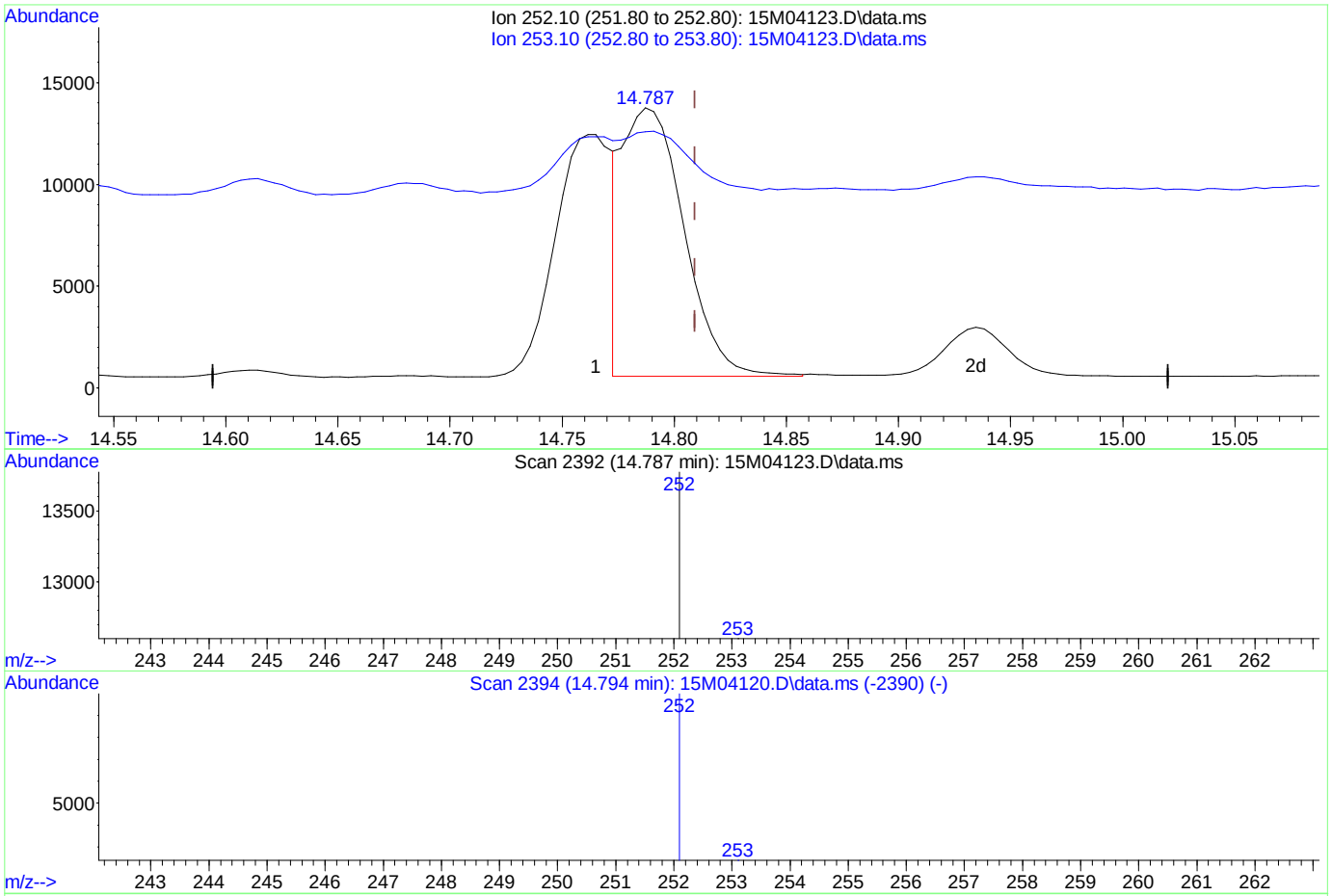
response 20898

Ion	Exp%	Act%
252.10	100	100
253.10	38.30	22.27#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04123.D
Acq On : 24 Mar 2011 4:23 pm
Operator : CAA
Sample : L11030658-13 REF 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 5 Sample Multiplier: 2

Quant Time: Mar 25 07:06:08 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration



TIC: 15M04123.D\data.ms

(22) Benzo[k]fluoranthene

14.787min (-0.022) 0.21 ug/mL mint

response 25275

Ion	Exp%	Act%
252.10	100	100
253.10	38.30	18.41#
0.00	0.00	0.00
0.00	0.00	0.00

Analyst: 03/25/2011 07:43 Supervisor: 03/25/2011 09:23

#3 - Improperly integrated isomers and/or coeluting compounds

PAHQUANT.M Fri Mar 25 07:09:26 2011

Page: 1

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04124.D
Acq On : 24 Mar 2011 4:51 pm
Operator : CAA
Sample : L11030658-14 MS 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 6 Sample Multiplier: 2

Quant Time: Mar 25 07:06:10 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration

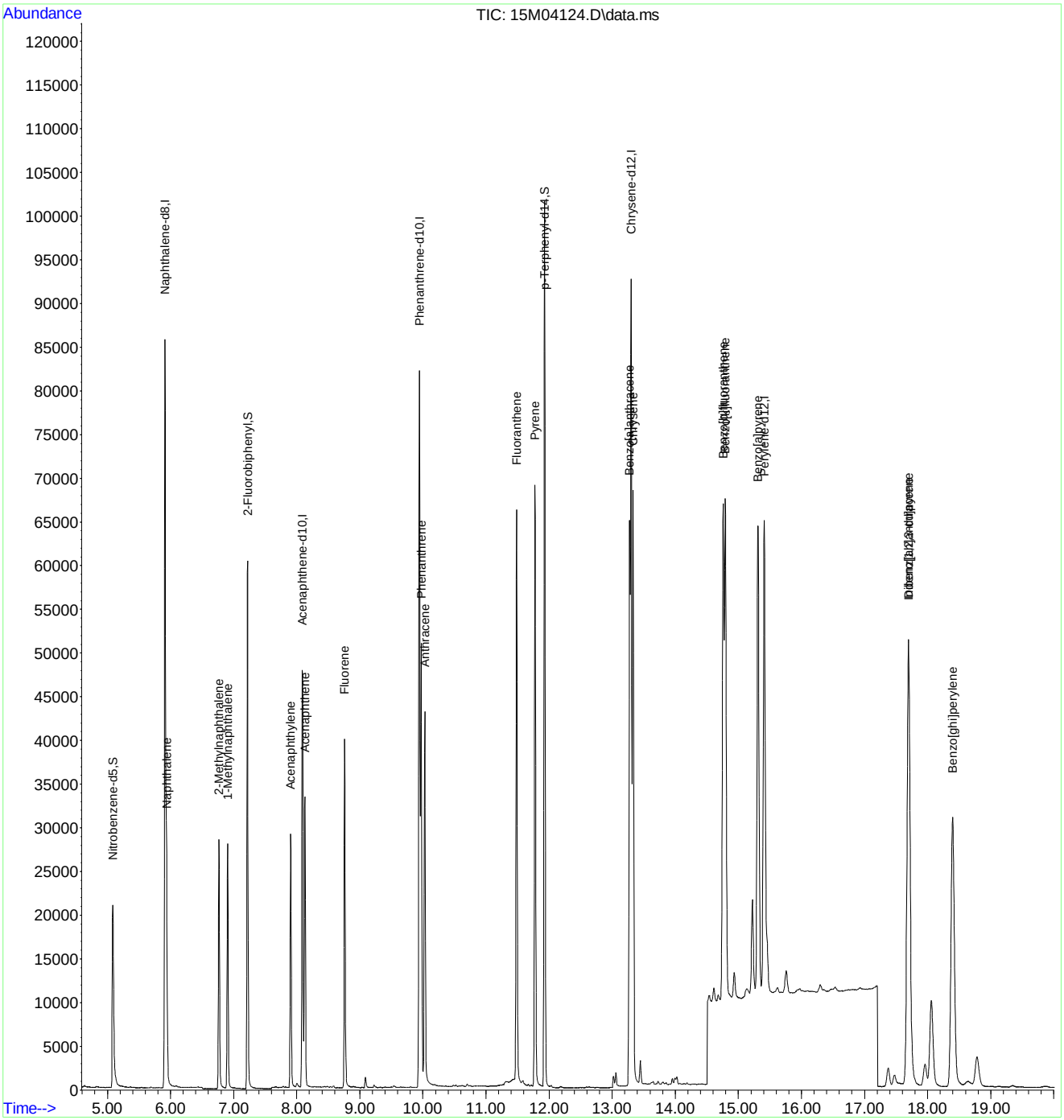
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8	5.910	136	109829	1.00 ug/mL	-0.01
6) Acenaphthene-d10	8.088	164	59484	1.00 ug/mL	-0.02
11) Phenanthrene-d10	9.944	188	101888	1.00 ug/mL	-0.01
15) Chrysene-d12	13.301	240	118367	1.00 ug/mL	-0.01
20) Perylene-d12	15.410	264	117518	1.00 ug/mL	-0.02
System Monitoring Compounds					
2) Nitrobenzene-d5	5.085	82	23711	1.26 ug/mL	-0.02
Spiked Amount 2.500	Range 23 - 120		Recovery	= 50.40%	
7) 2-Fluorobiphenyl	7.220	172	53552	1.36 ug/mL	-0.02
Spiked Amount 2.500	Range 30 - 115		Recovery	= 54.40%	
17) p-Terphenyl-d14	11.927	244	105736	2.71 ug/mL	-0.01
Spiked Amount 2.500	Range 18 - 137		Recovery	= 108.40%	
Target Compounds					Qvalue
3) Naphthalene	5.937	128	28178	0.2523 ug/mL	98
4) 2-Methylnaphthalene	6.767	142	19470	0.2595 ug/mL	99
5) 1-Methylnaphthalene	6.903	142	18187	0.2428 ug/mL	99
8) Acenaphthylene	7.905	152	29603	0.2765 ug/mL	99
9) Acenaphthene	8.131	154	20525	0.2984 ug/mL	99
10) Fluorene	8.761	166	25810	0.3124 ug/mL	99
12) Phenanthrene	9.971	178	51233	0.4476 ug/mL	100
13) Anthracene	10.030	178	47990	0.4620 ug/mL	99
14) Fluoranthene	11.485	202	70012	0.5891 ug/mL	96
16) Pyrene	11.776	202	77515	0.5685 ug/mL	99
18) Benzo[a]anthracene	13.274	228	67859	0.5702 ug/mL	100
19) Chrysene	13.333	228	73332	0.6171 ug/mL	98
21) Benzo[b]fluoranthene	14.758	252	81521	0.6050 ug/mL	76
22) Benzo[k]fluoranthene	14.791	252	81497	0.6487 ug/mL#	70
23) Benzo[a]pyrene	15.308	252	92525	0.7323 ug/mL#	69
24) Indeno[1,2,3-cd]pyrene	17.700	276	107502	0.7024 ug/mL#	100
25) Dibenz[ah]anthracene	17.692	278	71908	0.5778 ug/mL#	100
26) Benzo[ghi]perylene	18.399	276	94242	0.7371 ug/mL	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04124.D
Acq On : 24 Mar 2011 4:51 pm
Operator : CAA
Sample : L11030658-14 MS 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 6 Sample Multiplier: 2

Quant Time: Mar 25 07:06:10 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04125.D
Acq On : 24 Mar 2011 5:19 pm
Operator : CAA
Sample : L11030658-15 MSD 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 7 Sample Multiplier: 2

Quant Time: Mar 25 07:06:12 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration

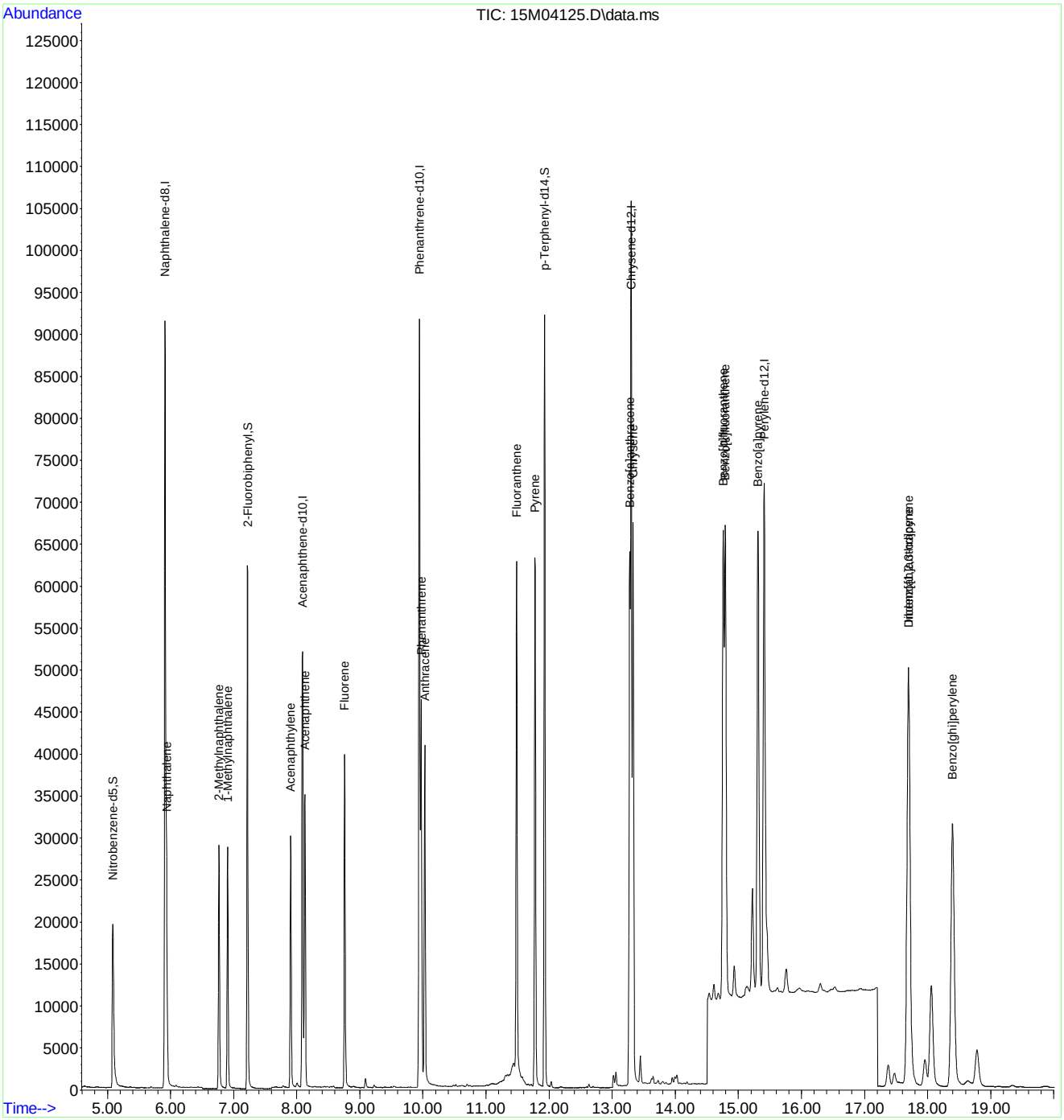
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8	5.910	136	121630	1.00 ug/mL	-0.01
6) Acenaphthene-d10	8.093	164	65419	1.00 ug/mL	-0.01
11) Phenanthrene-d10	9.944	188	113479	1.00 ug/mL	-0.01
15) Chrysene-d12	13.301	240	133881	1.00 ug/mL	-0.01
20) Perylene-d12	15.410	264	132307	1.00 ug/mL	-0.02
System Monitoring Compounds					
2) Nitrobenzene-d5	5.085	82	23446	1.13 ug/mL	-0.02
Spiked Amount 2.500	Range 23 - 120		Recovery	= 45.20%	
7) 2-Fluorobiphenyl	7.220	172	55812	1.29 ug/mL	-0.02
Spiked Amount 2.500	Range 30 - 115		Recovery	= 51.60%	
17) p-Terphenyl-d14	11.927	244	97338	2.20 ug/mL	-0.01
Spiked Amount 2.500	Range 18 - 137		Recovery	= 88.00%	
Target Compounds					Qvalue
3) Naphthalene	5.937	128	28064	0.2269 ug/mL	98
4) 2-Methylnaphthalene	6.767	142	19900	0.2395 ug/mL	99
5) 1-Methylnaphthalene	6.903	142	18656	0.2249 ug/mL	99
8) Acenaphthylene	7.905	152	30717	0.2609 ug/mL	100
9) Acenaphthene	8.131	154	21137	0.2794 ug/mL	98
10) Fluorene	8.761	166	25687	0.2827 ug/mL	99
12) Phenanthrene	9.971	178	47700	0.3742 ug/mL	100
13) Anthracene	10.030	178	44402	0.3838 ug/mL	99
14) Fluoranthene	11.485	202	66363	0.5013 ug/mL	86
16) Pyrene	11.776	202	72842	0.4723 ug/mL	99
18) Benzo[a]anthracene	13.279	228	64906	0.4822 ug/mL	100
19) Chrysene	13.333	228	70643	0.5256 ug/mL	98
21) Benzo[b]fluoranthene	14.758	252	88070	0.5805 ug/mL#	73
22) Benzo[k]fluoranthene	14.791	252	79953	0.5653 ug/mL#	71
23) Benzo[a]pyrene	15.308	252	94667	0.6655 ug/mL#	69
24) Indeno[1,2,3-cd]pyrene	17.696	276	107830	0.6258 ug/mL#	100
25) Dibenz[ah]anthracene	17.692	278	69471	0.4959 ug/mL#	100
26) Benzo[ghi]perylene	18.392	276	95102	0.6607 ug/mL	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04125.D
Acq On : 24 Mar 2011 5:19 pm
Operator : CAA
Sample : L11030658-15 MSD 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 7 Sample Multiplier: 2

Quant Time: Mar 25 07:06:12 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04126.D
Acq On : 24 Mar 2011 5:46 pm
Operator : CAA
Sample : L11030658-16 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 8 Sample Multiplier: 2

Quant Time: Mar 25 07:09:50 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration

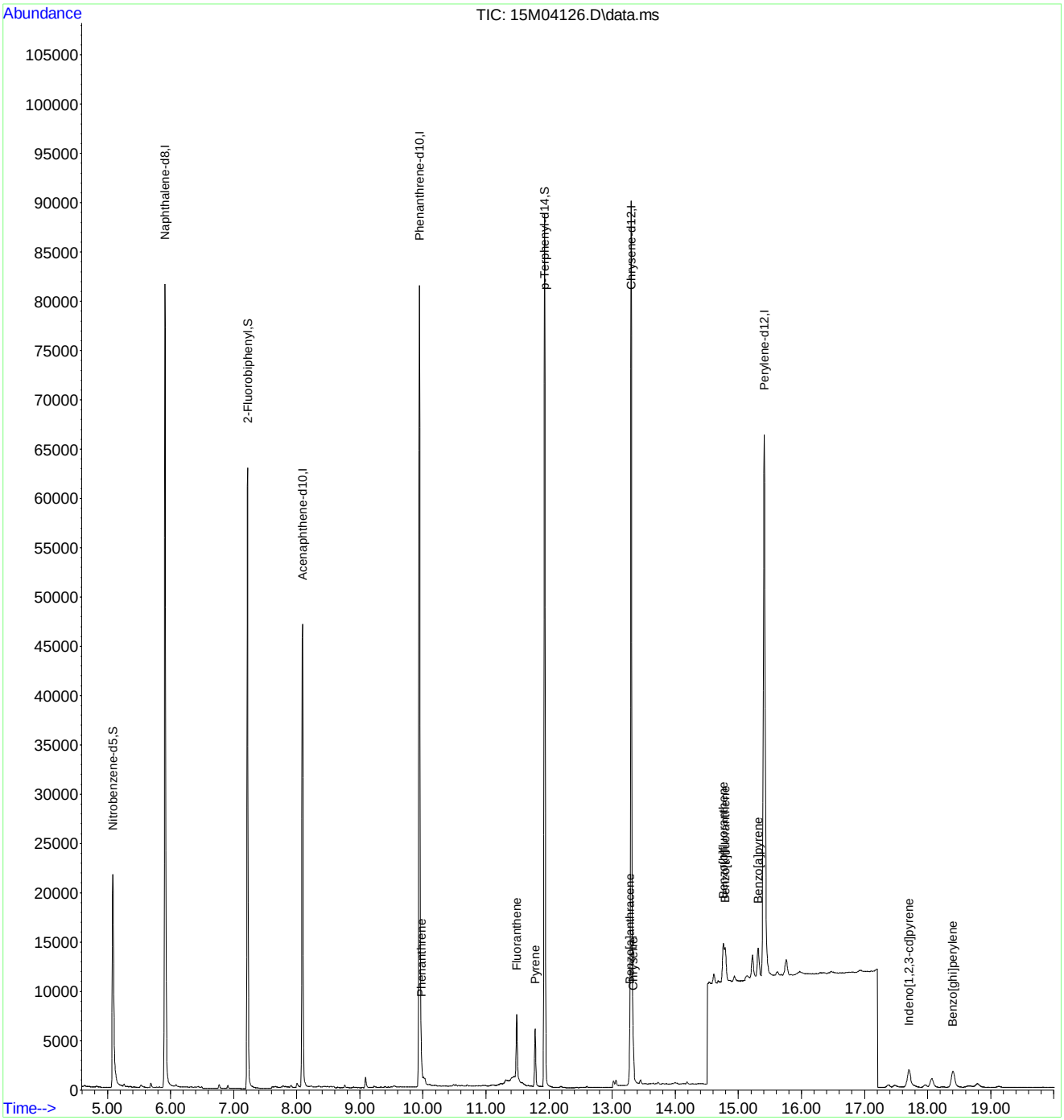
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8	5.910	136	109988	1.00	ug/mL	-0.01
6) Acenaphthene-d10	8.093	164	59125	1.00	ug/mL	-0.01
11) Phenanthrene-d10	9.944	188	102063	1.00	ug/mL	-0.01
15) Chrysene-d12	13.301	240	118524	1.00	ug/mL	-0.01
20) Perylene-d12	15.410	264	118073	1.00	ug/mL	-0.02
System Monitoring Compounds						
2) Nitrobenzene-d5	5.085	82	25487	1.36	ug/mL	-0.02
Spiked Amount 2.500	Range 23 - 120		Recovery = 54.40%			
7) 2-Fluorobiphenyl	7.220	172	57238	1.47	ug/mL	-0.02
Spiked Amount 2.500	Range 30 - 115		Recovery = 58.80%			
17) p-Terphenyl-d14	11.927	244	95964	2.45	ug/mL	-0.01
Spiked Amount 2.500	Range 18 - 137		Recovery = 98.00%			
Target Compounds						Qvalue
12) Phenanthrene	9.971	178	2895	0.0253	ug/mL	97
14) Fluoranthene	11.485	202	7409	0.0622	ug/mL#	57
16) Pyrene	11.780	202	6639	0.0486	ug/mL	95
18) Benzo[a]anthracene	13.279	228	3346	0.0281	ug/mL	96
19) Chrysene	13.333	228	4812	0.0404	ug/mL	91
21) Benzo[b]fluoranthene	14.762	252	6032	0.0446	ug/mL	83
22) Benzo[k]fluoranthene	14.787	252	4964m	0.0393	ug/mL	
23) Benzo[a]pyrene	15.313	252	5125	0.0404	ug/mL#	71
24) Indeno[1,2,3-cd]pyrene	17.707	276	5654	0.0368	ug/mL#	100
26) Benzo[ghi]perylene	18.399	276	5164	0.0402	ug/mL	98

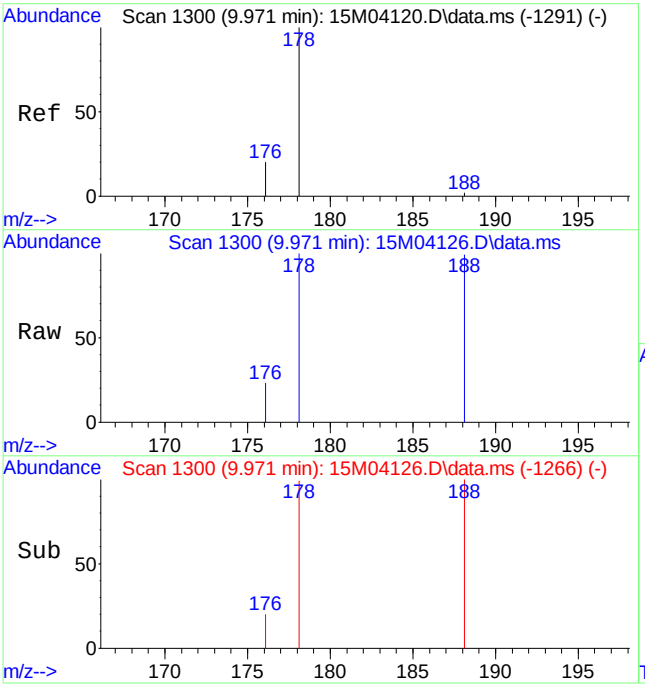
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04126.D
Acq On : 24 Mar 2011 5:46 pm
Operator : CAA
Sample : L11030658-16 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 8 Sample Multiplier: 2

Quant Time: Mar 25 07:09:50 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration

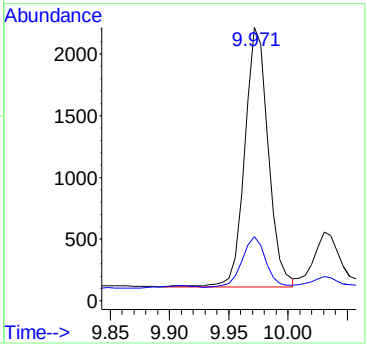


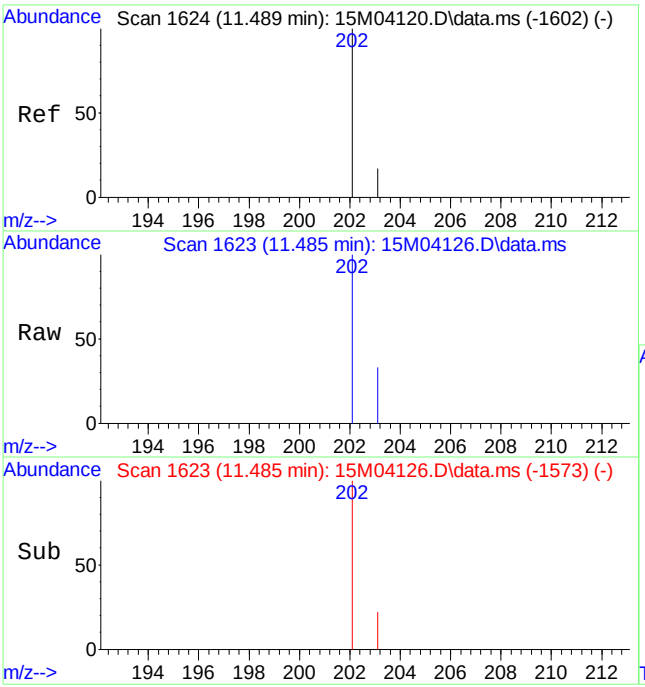


#12
Phenanthrene
Concen: 0.0253 ug/mL
RT: 9.971 min Scan# 1300
Delta R.T. -0.016 min
Lab File: 15M04126.D
Acq: 24 Mar 2011 5:46 pm

Tgt Ion:178 Resp: 2895

Ion	Ratio	Lower	Upper
178	100		
176	20.2	11.4	26.6

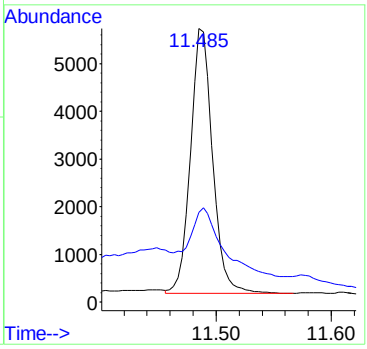


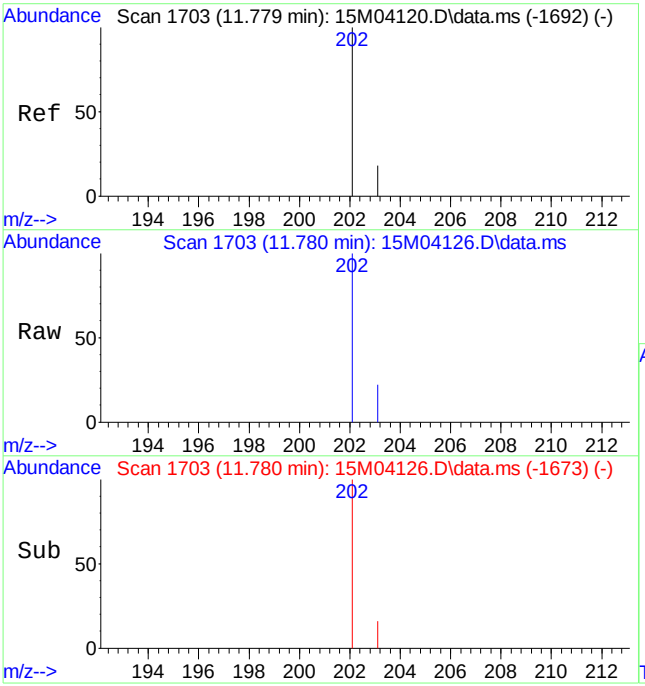


#14
Fluoranthene
Concen: 0.0622 ug/mL
RT: 11.485 min Scan# 1623
Delta R.T. -0.014 min
Lab File: 15M04126.D
Acq: 24 Mar 2011 5:46 pm

Tgt Ion:202 Resp: 7409

Ion	Ratio	Lower	Upper
202	100		
203	36.1	10.4	24.4#

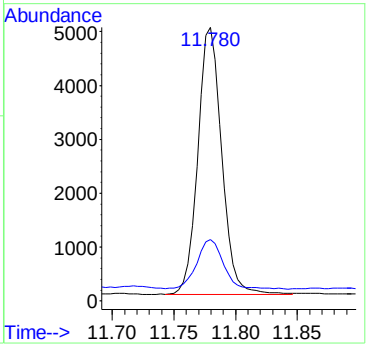


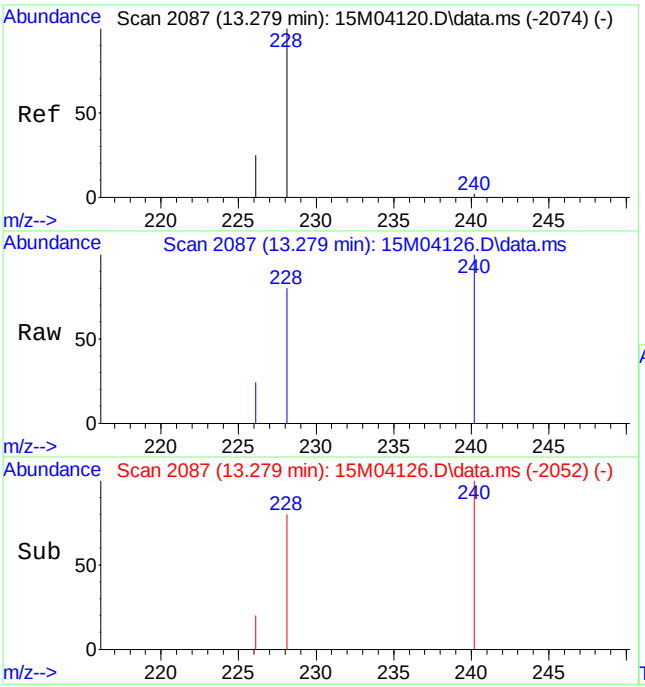


#16
Pyrene
Concen: 0.0486 ug/mL
RT: 11.780 min Scan# 1703
Delta R.T. -0.015 min
Lab File: 15M04126.D
Acq: 24 Mar 2011 5:46 pm

Tgt Ion:202 Resp: 6639

Ion	Ratio	Lower	Upper
202	100		
203	20.6	11.0	25.6

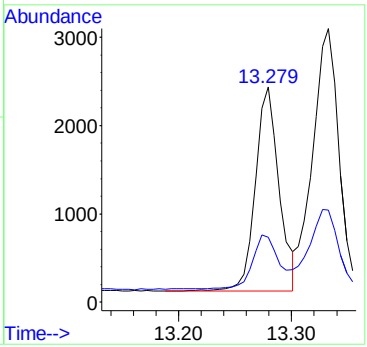


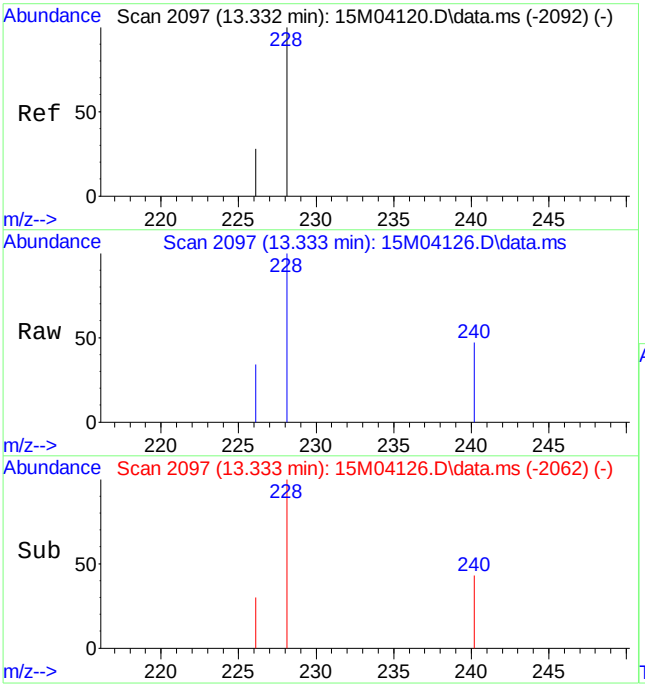


#18
Benzo[a]anthracene
Concen: 0.0281 ug/mL
RT: 13.279 min Scan# 2087
Delta R.T. -0.011 min
Lab File: 15M04126.D
Acq: 24 Mar 2011 5:46 pm

Tgt Ion:228 Resp: 3346

Ion	Ratio	Lower	Upper
228	100		
226	28.0	15.7	36.5

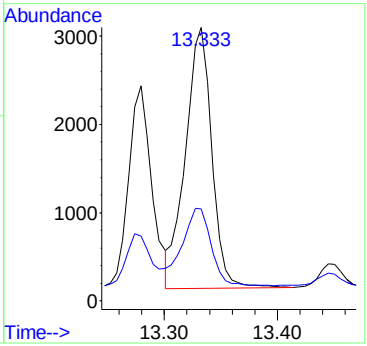


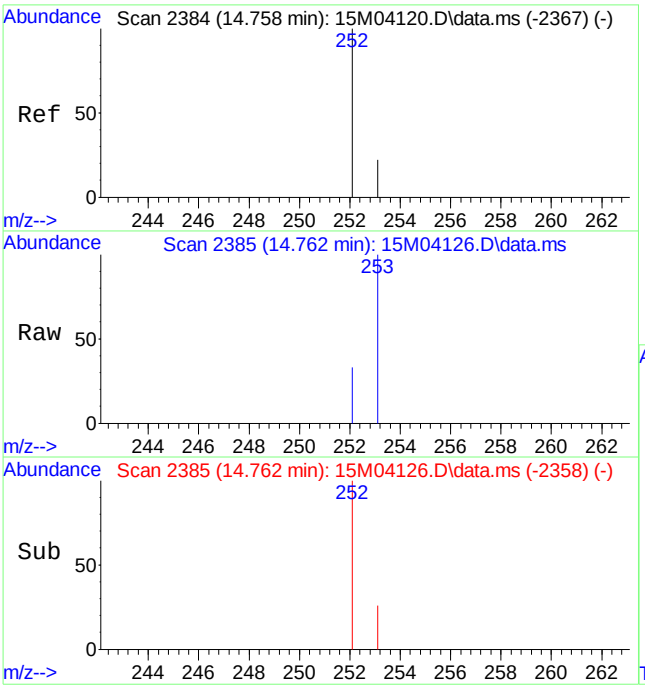


#19
Chrysene
Concen: 0.0404 ug/mL
RT: 13.333 min Scan# 2097
Delta R.T. -0.011 min
Lab File: 15M04126.D
Acq: 24 Mar 2011 5:46 pm

Tgt Ion:228 Resp: 4812

Ion	Ratio	Lower	Upper
228	100		
226	33.0	17.0	39.8

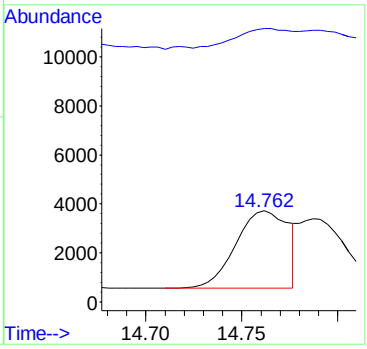


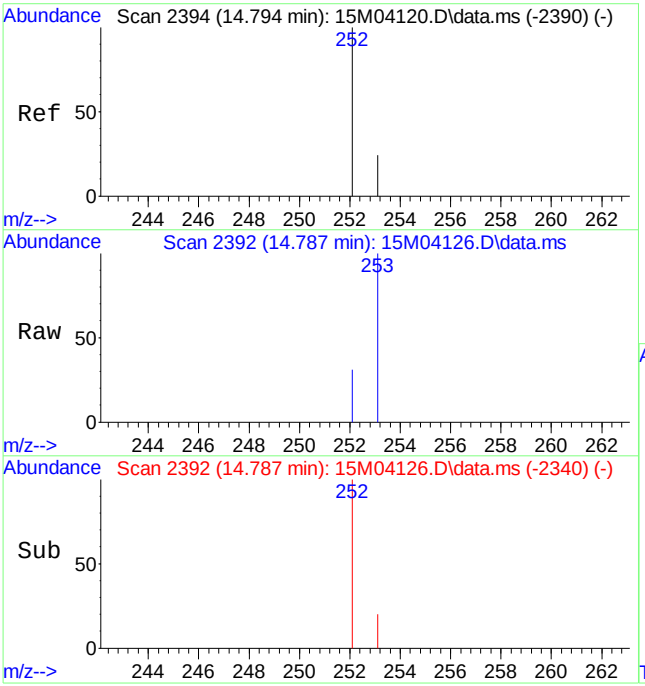


#21
Benzo[b]fluoranthene
Concen: 0.0446 ug/mL
RT: 14.762 min Scan# 2385
Delta R.T. -0.015 min
Lab File: 15M04126.D
Acq: 24 Mar 2011 5:46 pm

Tgt Ion:252 Resp: 6032

Ion	Ratio	Lower	Upper
252	100		
253	27.8	22.8	53.2

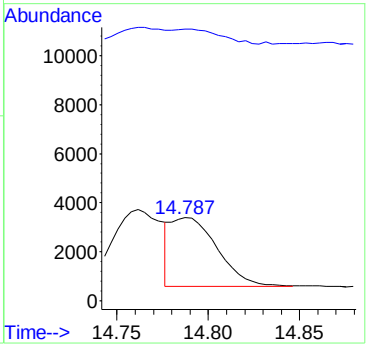


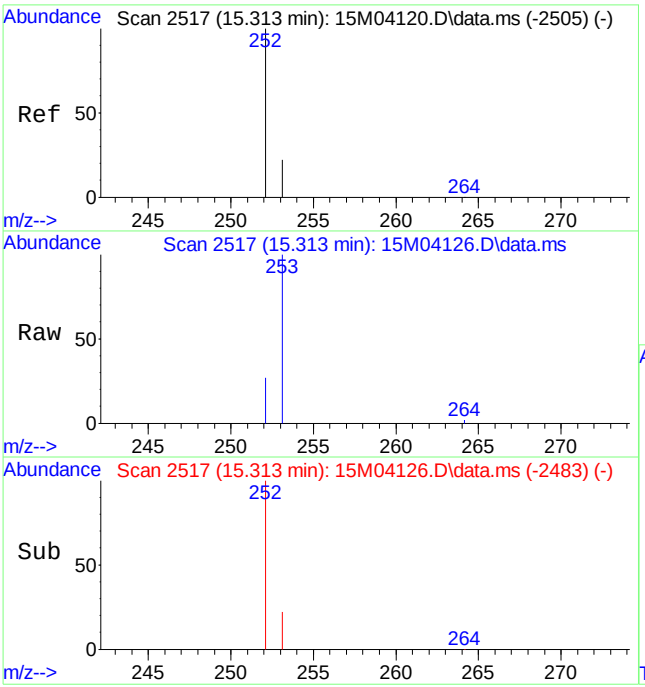


#22
Benzo[k]fluoranthene
Concen: 0.0393 ug/mL m
RT: 14.787 min Scan# 2392
Delta R.T. -0.022 min
Lab File: 15M04126.D
Acq: 24 Mar 2011 5:46 pm

Tgt Ion:252 Resp: 4964

Ion	Ratio	Lower	Upper
252	100		
253	33.7	23.0	53.6

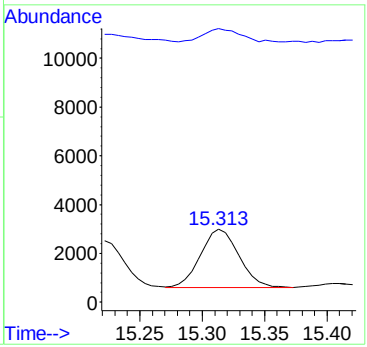


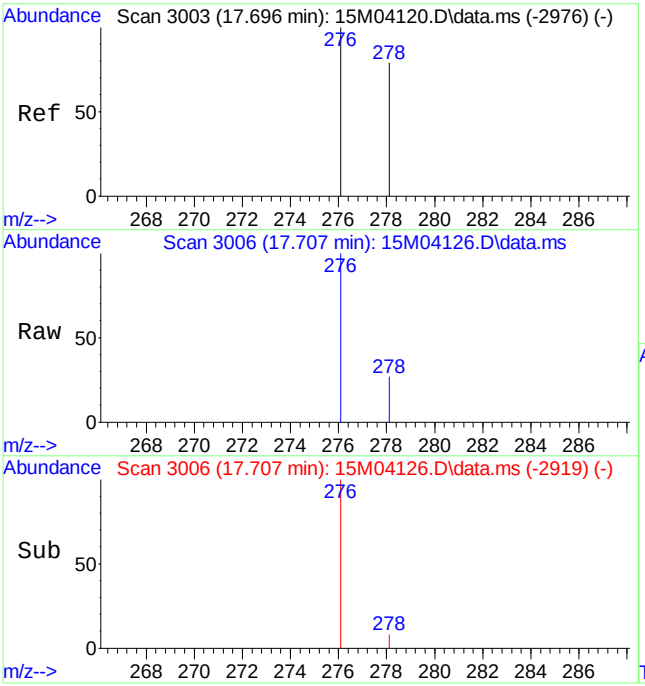


#23
Benzo[a]pyrene
Concen: 0.0404 ug/mL
RT: 15.313 min Scan# 2517
Delta R.T. -0.016 min
Lab File: 15M04126.D
Acq: 24 Mar 2011 5:46 pm

Tgt Ion:252 Resp: 5125

Ion	Ratio	Lower	Upper
252	100		
253	23.6	25.2	58.8#

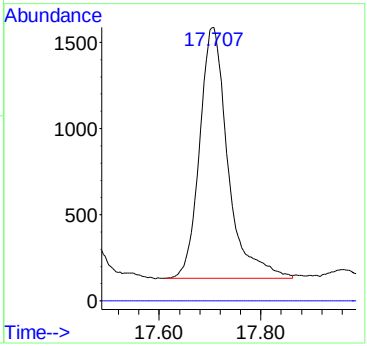


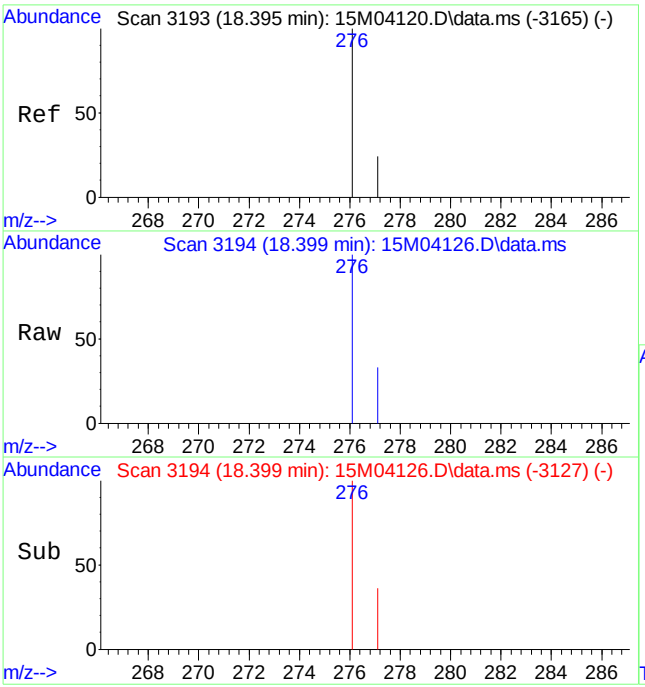


#24
Indeno[1,2,3-cd]pyrene
Concen: 0.0368 ug/mL
RT: 17.707 min Scan# 3006
Delta R.T. -0.018 min
Lab File: 15M04126.D
Acq: 24 Mar 2011 5:46 pm

Tgt Ion:276 Resp: 5654

Ion	Ratio	Lower	Upper
276	100		
277	0.0	0.0	0.0

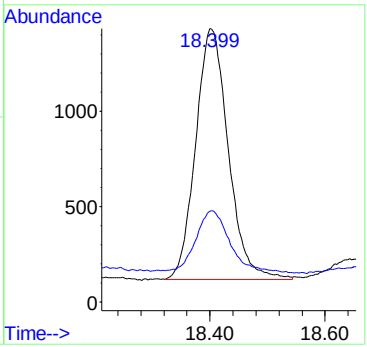




#26
Benzo[ghi]perylene
Concen: 0.0402 ug/mL
RT: 18.399 min Scan# 3194
Delta R.T. -0.026 min
Lab File: 15M04126.D
Acq: 24 Mar 2011 5:46 pm

Tgt Ion:276 Resp: 5164

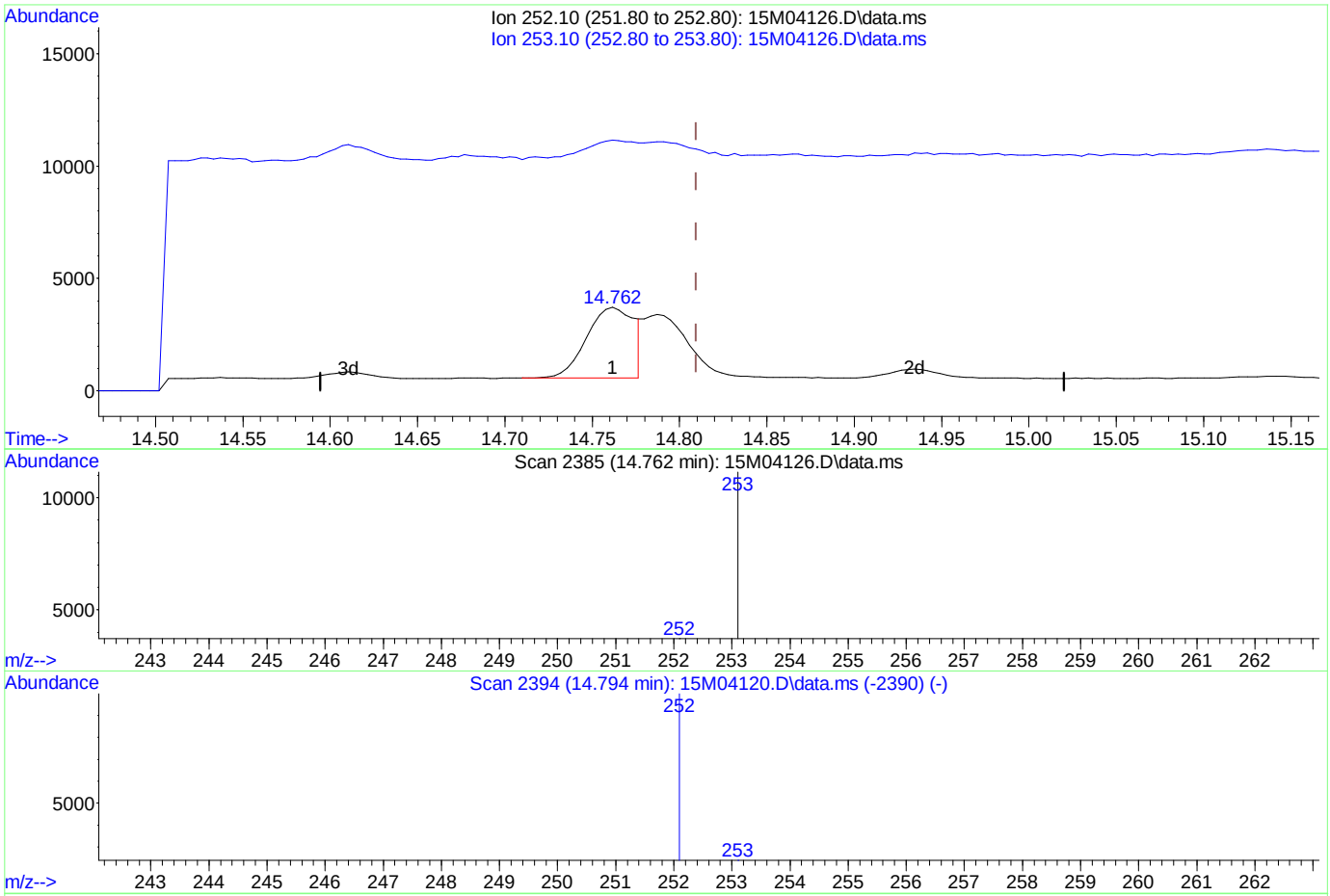
Ion	Ratio	Lower	Upper
276	100		
277	25.1	14.5	33.7



Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04126.D
Acq On : 24 Mar 2011 5:46 pm
Operator : CAA
Sample : L11030658-16 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 8 Sample Multiplier: 2

Quant Time: Mar 25 07:06:14 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration



(22) Benzo[k]fluoranthene

14.762min (-0.048) 0.05 ug/mL

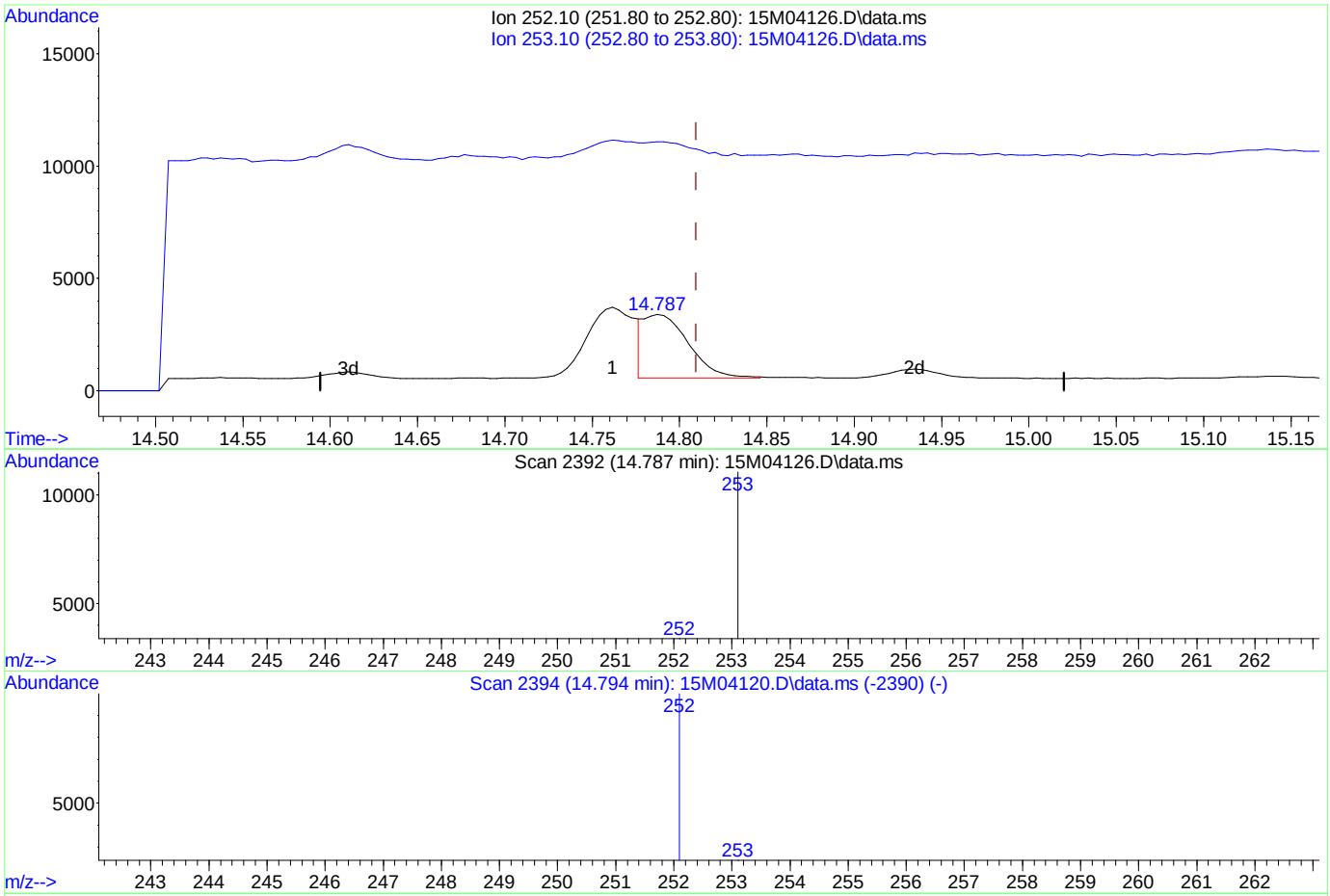
response 6032

Ion	Exp%	Act%
252.10	100	100
253.10	38.30	27.77
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04126.D
Acq On : 24 Mar 2011 5:46 pm
Operator : CAA
Sample : L11030658-16 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 8 Sample Multiplier: 2

Quant Time: Mar 25 07:06:14 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration



(22) Benzo[k]fluoranthene

14.787min (-0.022) 0.04 ug/mL mint

response 4964

Ion	Exp%	Act%
252.10	100	100
253.10	38.30	33.74
0.00	0.00	0.00
0.00	0.00	0.00

Analyst: 03/25/2011 07:43 Supervisor: 03/25/2011 09:23

#3 - Improperly integrated isomers and/or coeluting compounds

PAHQUANT.M Fri Mar 25 07:09:51 2011

Page: 1

2.1.1.4 Standards Data

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\021511\
Data File : 15M03935.D
Acq On : 15 Feb 2011 9:38 am
Operator : CAA
Sample : WG356529-02 1ppm PAHL STD
Misc : 1,1 STD41768
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Feb 15 12:38:41 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Tue Feb 15 12:38:37 2011
Response via : Initial Calibration

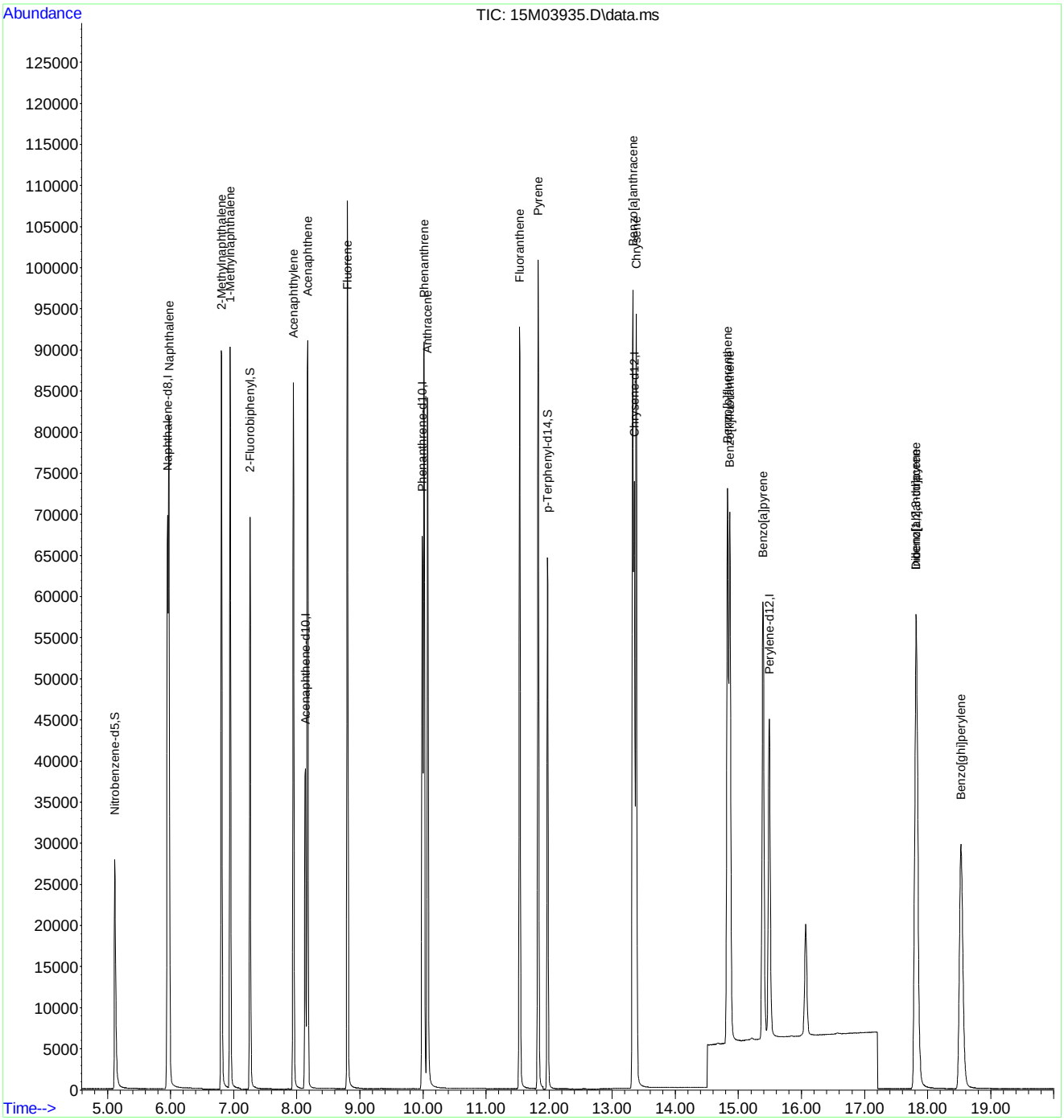
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8	5.953	136	88421	1.00 ug/mL	0.00
6) Acenaphthene-d10	8.136	164	48126	1.00 ug/mL	0.00
11) Phenanthrene-d10	9.987	188	84788	1.00 ug/mL	0.00
15) Chrysene-d12	13.349	240	93522	1.00 ug/mL	0.00
20) Perylene-d12	15.490	264	85766	1.00 ug/mL	0.00
System Monitoring Compounds					
2) Nitrobenzene-d5	5.118	82	30978	0.99 ug/mL	-0.04
Spiked Amount 2.500	Range 35 - 114		Recovery	= 39.60%	
7) 2-Fluorobiphenyl	7.260	172	63305	0.92 ug/mL	0.00
Spiked Amount 2.500	Range 43 - 116		Recovery	= 36.80%#	
17) p-Terphenyl-d14	11.975	244	63167	1.00 ug/mL	0.00
Spiked Amount 2.500	Range 33 - 141		Recovery	= 40.00%	
Target Compounds					Qvalue
3) Naphthalene	5.975	128	91469	0.9792 ug/mL	99
4) 2-Methylnaphthalene	6.808	142	60084	0.9596 ug/mL	99
5) 1-Methylnaphthalene	6.944	142	59184	0.9830 ug/mL	99
8) Acenaphthylene	7.949	152	89545	1.0330 ug/mL	96
9) Acenaphthene	8.174	154	55901	0.9327 ug/mL	97
10) Fluorene	8.805	166	67555	0.9456 ug/mL	99
12) Phenanthrene	10.019	178	97820	0.9314 ug/mL	96
13) Anthracene	10.073	178	91598	0.9563 ug/mL	97
14) Fluoranthene	11.533	202	103341	0.9292 ug/mL	95
16) Pyrene	11.827	202	110884	1.0242 ug/mL	97
18) Benzo[a]anthracene	13.327	228	99178	1.0830 ug/mL	96
19) Chrysene	13.381	228	97835	1.1138 ug/mL	95
21) Benzo[b]fluoranthene	14.828	252	104367	0.9728 ug/mL	94
22) Benzo[k]fluoranthene	14.861	252	96028	1.0133 ug/mL	91
23) Benzo[a]pyrene	15.388	252	95643	0.9858 ug/mL	97
24) Indeno[1,2,3-cd]pyrene	17.817	276	113930	1.1295 ug/mL#	49
25) Dibenz[ah]anthracene	17.817	278	92293	1.1370 ug/mL#	51
26) Benzo[ghi]perylene	18.528	276	94509	1.1038 ug/mL	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\021511\
Data File : 15M03935.D
Acq On : 15 Feb 2011 9:38 am
Operator : CAA
Sample : WG356529-02 1ppm PAHL STD
Misc : 1,1 STD41768
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Feb 15 12:38:41 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Tue Feb 15 12:38:37 2011
Response via : Initial Calibration



PAHQUANT.M Wed Feb 16 07:43:15 2011 Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\021511\
Data File : 15M03936.D
Acq On : 15 Feb 2011 10:06 am
Operator : CAA
Sample : WG356529-03 10ppm PAHL STD
Misc : 1,1 STD41768
ALS Vial : 3 Sample Multiplier: 1

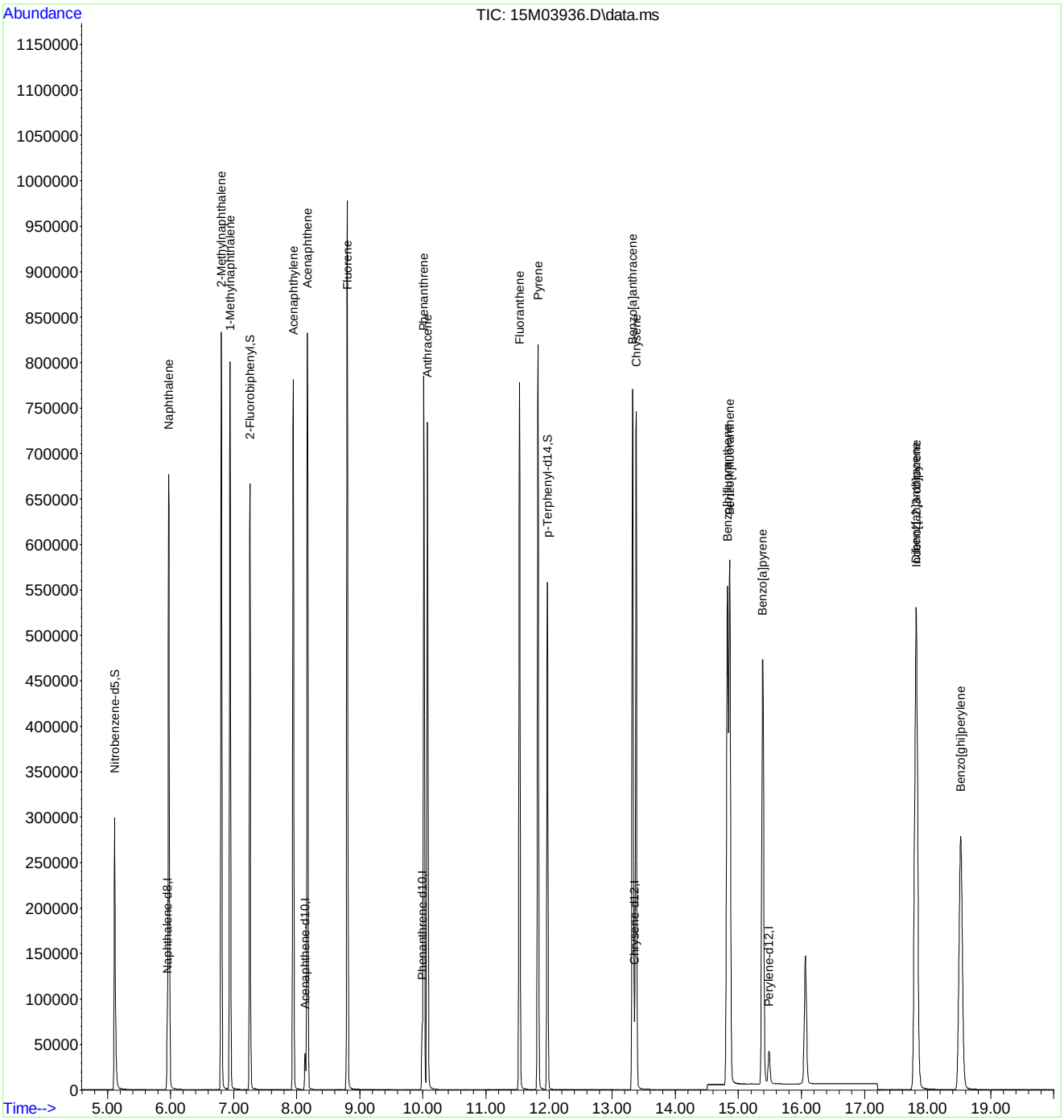
Quant Time: Feb 15 12:39:08 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Tue Feb 15 12:38:53 2011
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8	5.948	136	85902	1.00	ug/mL	0.00
6) Acenaphthene-d10	8.131	164	47748	1.00	ug/mL	0.00
11) Phenanthrene-d10	9.987	188	81951	1.00	ug/mL	0.00
15) Chrysene-d12	13.349	240	90456	1.00	ug/mL	0.00
20) Perylene-d12	15.485	264	79045	1.00	ug/mL	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5	5.114	82	306132	10.14	ug/mL	0.00
Spiked Amount 2.500	Range 35 - 114		Recovery	=	405.60%#	
7) 2-Fluorobiphenyl	7.257	172	586880	8.75	ug/mL	0.00
Spiked Amount 2.500	Range 43 - 116		Recovery	=	350.00%#	
17) p-Terphenyl-d14	11.971	244	550536	9.01	ug/mL	0.00
Spiked Amount 2.500	Range 33 - 141		Recovery	=	360.40%#	
Target Compounds						Qvalue
3) Naphthalene	5.969	128	778561	8.6668	ug/mL	94
4) 2-Methylnaphthalene	6.804	142	556360	9.2520	ug/mL	98
5) 1-Methylnaphthalene	6.944	142	533197	9.1938	ug/mL	99
8) Acenaphthylene	7.945	152	805577	9.4868	ug/mL	94
9) Acenaphthene	8.168	154	515990	8.8156	ug/mL	98
10) Fluorene	8.802	166	622508	8.9277	ug/mL	99
12) Phenanthrene	10.014	178	829719	8.3177	ug/mL	93
13) Anthracene	10.073	178	799456	8.8102	ug/mL	93
14) Fluoranthene	11.529	202	869452	8.2469	ug/mL	93
16) Pyrene	11.824	202	915378	8.7564	ug/mL	94
18) Benzo[a]anthracene	13.322	228	823674	9.2422	ug/mL	93
19) Chrysene	13.381	228	782700	9.1141	ug/mL	92
21) Benzo[b]fluoranthene	14.824	252	868681	8.8121	ug/mL	91
22) Benzo[k]fluoranthene	14.861	252	760576	8.7493	ug/mL	90
23) Benzo[a]pyrene	15.383	252	831739	9.3552	ug/mL	98
24) Indeno[1,2,3-cd]pyrene	17.821	276	1016708	10.7662	ug/mL#	100
25) Dibenz[ah]anthracene	17.818	278	829407	10.9021	ug/mL#	100
26) Benzo[ghi]perylene	18.525	276	839944	10.4992	ug/mL	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\021511\
Data File : 15M03936.D
Acq On : 15 Feb 2011 10:06 am
Operator : CAA
Sample : WG356529-03 10ppm PAHL STD
Misc : 1,1 STD41768
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 15 12:39:08 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Tue Feb 15 12:38:53 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\021511\
Data File : 15M03937.D
Acq On : 15 Feb 2011 10:34 am
Operator : CAA
Sample : WG356529-04 5ppm PAHL STD
Misc : 1,1 STD41768
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 15 12:39:25 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Tue Feb 15 12:39:18 2011
Response via : Initial Calibration

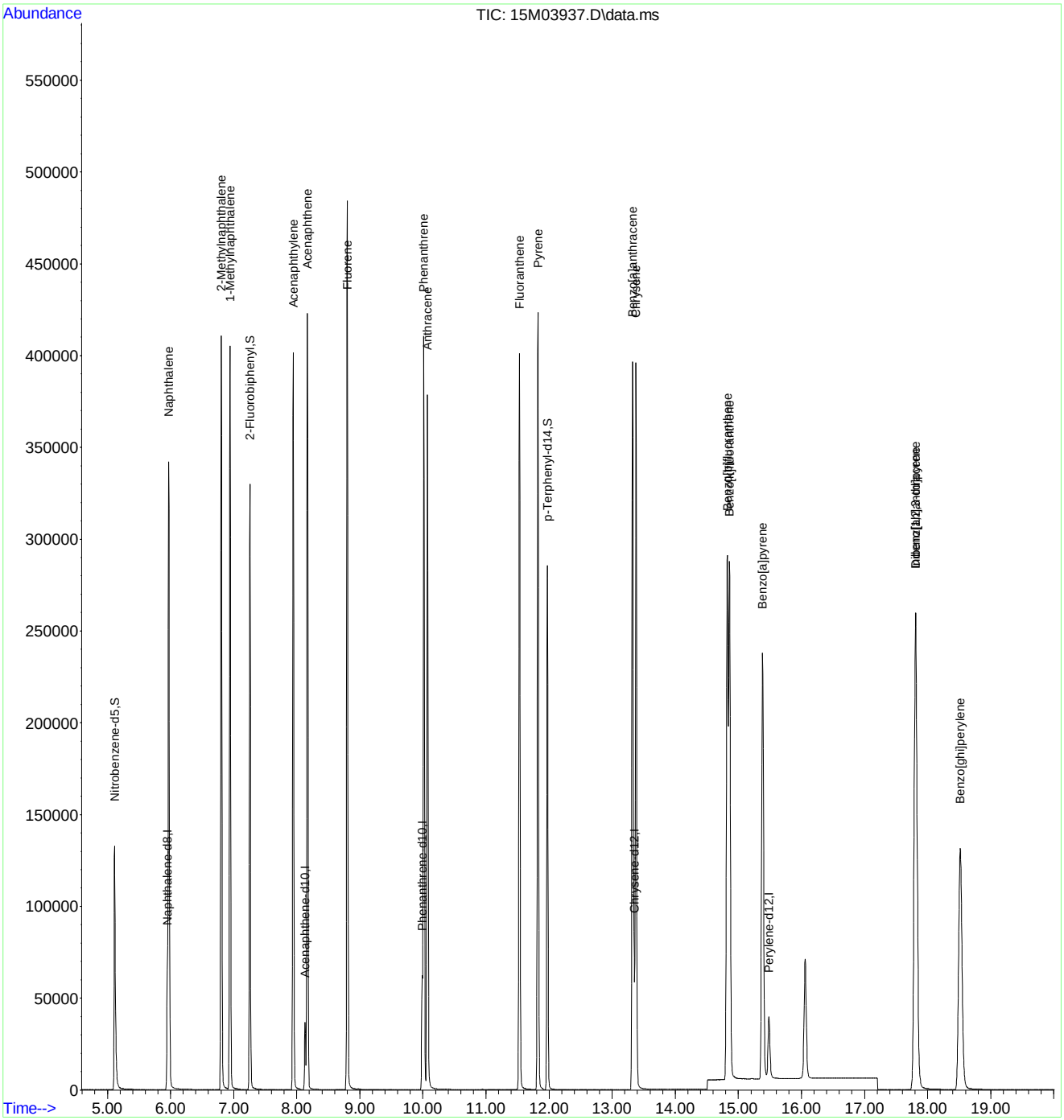
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8	5.948	136	76513	1.00	ug/mL	0.00
6) Acenaphthene-d10	8.131	164	42987	1.00	ug/mL	0.00
11) Phenanthrene-d10	9.987	188	74610	1.00	ug/mL	0.00
15) Chrysene-d12	13.349	240	83647	1.00	ug/mL	0.00
20) Perylene-d12	15.485	264	73437	1.00	ug/mL	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5	5.114	82	139020	5.16	ug/mL	0.00
Spiked Amount 2.500	Range 35 - 114		Recovery	= 206.40%#		
7) 2-Fluorobiphenyl	7.257	172	287186	4.77	ug/mL	0.00
Spiked Amount 2.500	Range 43 - 116		Recovery	= 190.80%#		
17) p-Terphenyl-d14	11.971	244	273366	4.79	ug/mL	0.00
Spiked Amount 2.500	Range 33 - 141		Recovery	= 191.60%#		
Target Compounds						Qvalue
3) Naphthalene	5.969	128	386454	4.8157	ug/mL	98
4) 2-Methylnaphthalene	6.804	142	269638	5.0142	ug/mL	99
5) 1-Methylnaphthalene	6.940	142	260773	5.0309	ug/mL	99
8) Acenaphthylene	7.945	152	402547	5.2352	ug/mL	98
9) Acenaphthene	8.168	154	252303	4.7958	ug/mL	99
10) Fluorene	8.802	166	309109	4.9188	ug/mL	100
12) Phenanthrene	10.014	178	421873	4.6436	ug/mL	97
13) Anthracene	10.073	178	407287	4.9268	ug/mL	97
14) Fluoranthene	11.529	202	444739	4.6424	ug/mL	98
16) Pyrene	11.824	202	470868	4.8055	ug/mL	98
18) Benzo[a]anthracene	13.322	228	416510	4.9810	ug/mL	97
19) Chrysene	13.376	228	404263	5.0228	ug/mL	97
21) Benzo[b]fluoranthene	14.824	252	425074	4.6525	ug/mL	95
22) Benzo[k]fluoranthene	14.857	252	391713	4.8899	ug/mL	93
23) Benzo[a]pyrene	15.383	252	408968	4.9510	ug/mL	100
24) Indeno[1,2,3-cd]pyrene	17.810	276	489686	5.5070	ug/mL#	100
25) Dibenz[ah]anthracene	17.807	278	398702	5.5708	ug/mL#	100
26) Benzo[ghi]perylene	18.517	276	403279	5.3571	ug/mL	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\021511\
Data File : 15M03937.D
Acq On : 15 Feb 2011 10:34 am
Operator : CAA
Sample : WG356529-04 5ppm PAHL STD
Misc : 1,1 STD41768
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 15 12:39:25 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Tue Feb 15 12:39:18 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\021511\
Data File : 15M03938.D
Acq On : 15 Feb 2011 11:02 am
Operator : CAA
Sample : WG356529-05 2.5ppm PAHL STD
Misc : 1,1 STD41768
ALS Vial : 5 Sample Multiplier: 1

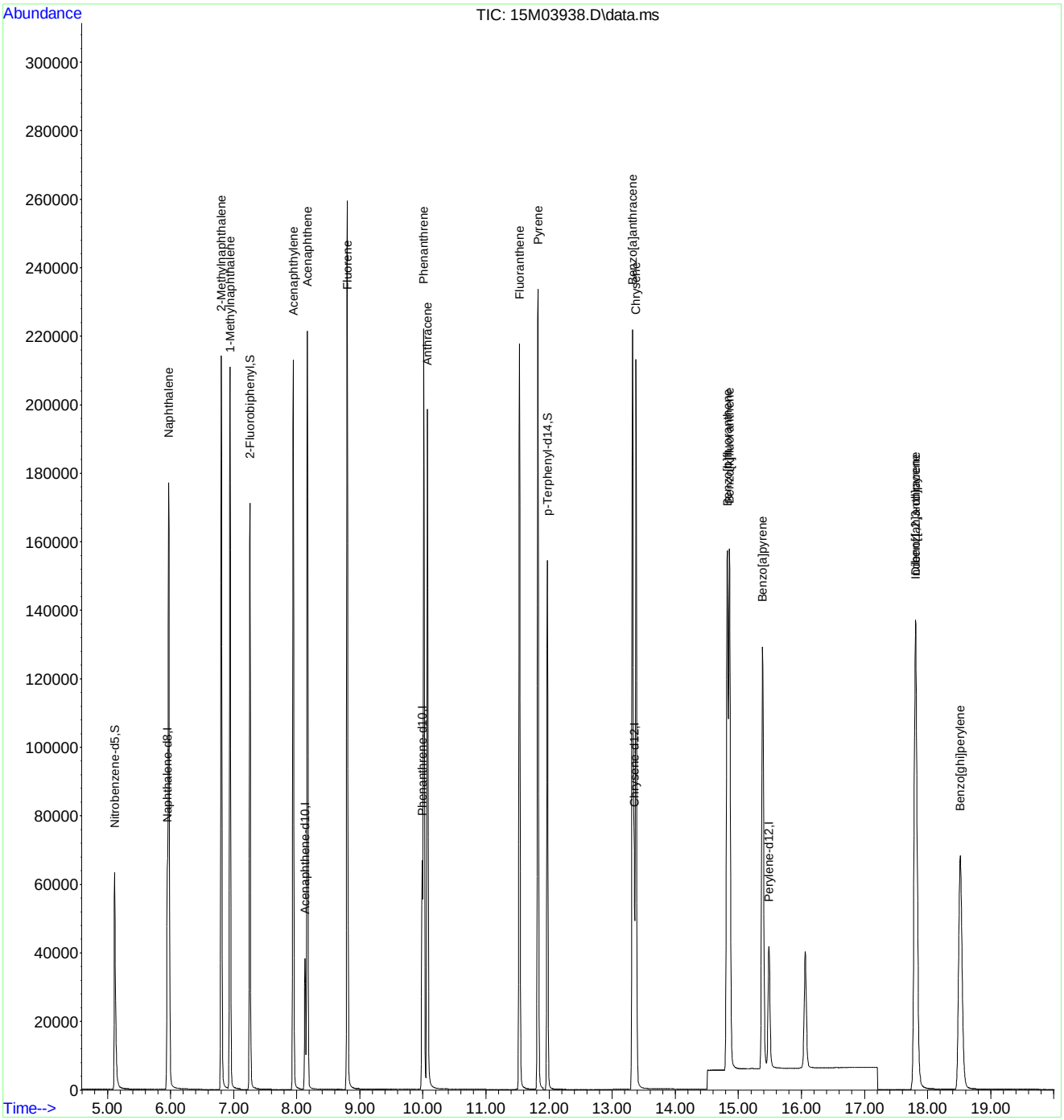
Quant Time: Feb 15 12:39:40 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Tue Feb 15 12:39:34 2011
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8	5.948	136	79584	1.00 ug/mL	0.00
6) Acenaphthene-d10	8.131	164	45447	1.00 ug/mL	0.00
11) Phenanthrene-d10	9.987	188	79439	1.00 ug/mL	0.00
15) Chrysene-d12	13.349	240	88789	1.00 ug/mL	0.00
20) Perylene-d12	15.485	264	78207	1.00 ug/mL	0.00
System Monitoring Compounds					
2) Nitrobenzene-d5	5.114	82	69900	2.50 ug/mL	0.00
Spiked Amount 2.500	Range 35 - 114		Recovery	= 100.00%	
7) 2-Fluorobiphenyl	7.257	172	151667	2.40 ug/mL	0.00
Spiked Amount 2.500	Range 43 - 116		Recovery	= 96.00%	
17) p-Terphenyl-d14	11.971	244	147133	2.42 ug/mL	0.00
Spiked Amount 2.500	Range 33 - 141		Recovery	= 96.80%	
Target Compounds					Qvalue
3) Naphthalene	5.969	128	204347	2.4507 ug/mL	99
4) 2-Methylnaphthalene	6.804	142	140078	2.5042 ug/mL	99
5) 1-Methylnaphthalene	6.944	142	136971	2.5391 ug/mL	100
8) Acenaphthylene	7.945	152	213321	2.6190 ug/mL	100
9) Acenaphthene	8.168	154	133157	2.4062 ug/mL	99
10) Fluorene	8.802	166	163374	2.4637 ug/mL	100
12) Phenanthrene	10.014	178	229277	2.3813 ug/mL	99
13) Anthracene	10.073	178	218887	2.4945 ug/mL	99
14) Fluoranthene	11.529	202	241657	2.3864 ug/mL	99
16) Pyrene	11.824	202	257557	2.4523 ug/mL	99
18) Benzo[a]anthracene	13.322	228	226217	2.5211 ug/mL	99
19) Chrysene	13.376	228	220901	2.5549 ug/mL	99
21) Benzo[b]fluoranthene	14.824	252	227373	2.3545 ug/mL	96
22) Benzo[k]fluoranthene	14.857	252	212133	2.5108 ug/mL	95
23) Benzo[a]pyrene	15.383	252	217848	2.4812 ug/mL	99
24) Indeno[1,2,3-cd]pyrene	17.810	276	259827	2.7078 ug/mL#	100
25) Dibenz[ah]anthracene	17.807	278	211035	2.7334 ug/mL#	100
26) Benzo[ghi]perylene	18.517	276	214196	2.6401 ug/mL	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\021511\
Data File : 15M03938.D
Acq On : 15 Feb 2011 11:02 am
Operator : CAA
Sample : WG356529-05 2.5ppm PAHL STD
Misc : 1,1 STD41768
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Feb 15 12:39:40 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Tue Feb 15 12:39:34 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\021511\
Data File : 15M03939.D
Acq On : 15 Feb 2011 11:30 am
Operator : CAA
Sample : WG356529-06 0.5ppm PAHL STD
Misc : 1,1 STD41768
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Feb 15 12:39:54 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Tue Feb 15 12:39:48 2011
Response via : Initial Calibration

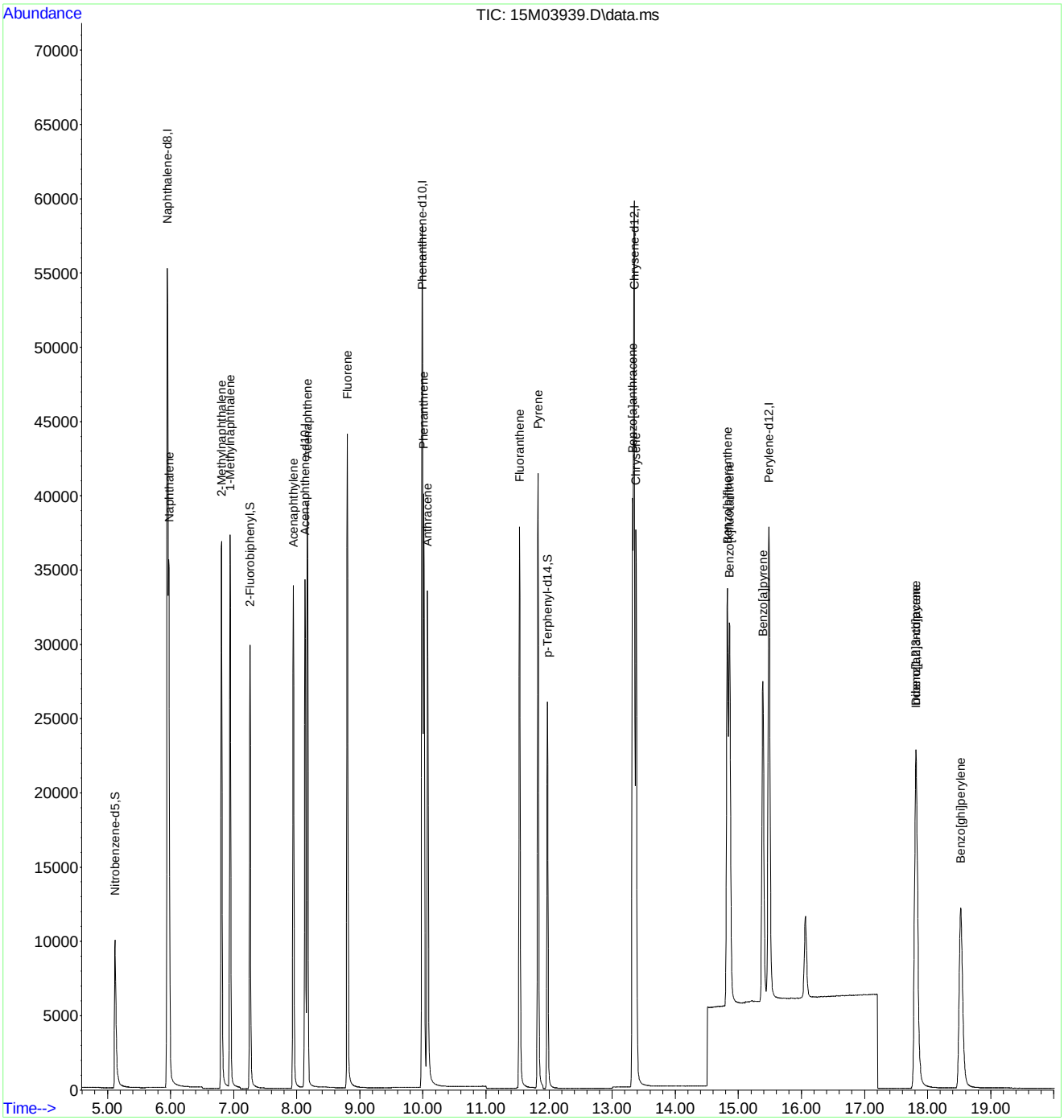
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8	5.948	136	73587	1.00 ug/mL	0.00
6) Acenaphthene-d10	8.131	164	41274	1.00 ug/mL	0.00
11) Phenanthrene-d10	9.987	188	73398	1.00 ug/mL	0.00
15) Chrysene-d12	13.349	240	78756	1.00 ug/mL	0.00
20) Perylene-d12	15.485	264	70929	1.00 ug/mL	0.00
System Monitoring Compounds					
2) Nitrobenzene-d5	5.122	82	12439	0.48 ug/mL	0.00
Spiked Amount 2.500	Range 35 - 114		Recovery	= 19.20%#	
7) 2-Fluorobiphenyl	7.260	172	27898	0.49 ug/mL	0.00
Spiked Amount 2.500	Range 43 - 116		Recovery	= 19.60%#	
17) p-Terphenyl-d14	11.975	244	26698	0.49 ug/mL	0.00
Spiked Amount 2.500	Range 33 - 141		Recovery	= 19.60%#	
Target Compounds					Qvalue
3) Naphthalene	5.975	128	38428	0.5007 ug/mL	100
4) 2-Methylnaphthalene	6.808	142	25540	0.4952 ug/mL	100
5) 1-Methylnaphthalene	6.944	142	25808	0.5180 ug/mL	100
8) Acenaphthylene	7.949	152	37377	0.5066 ug/mL	99
9) Acenaphthene	8.168	154	24450	0.4908 ug/mL	99
10) Fluorene	8.805	166	29439	0.4918 ug/mL	100
12) Phenanthrene	10.014	178	42051	0.4775 ug/mL	100
13) Anthracene	10.073	178	38480	0.4788 ug/mL	100
14) Fluoranthene	11.533	202	43841	0.4743 ug/mL	100
16) Pyrene	11.824	202	47177	0.5045 ug/mL	99
18) Benzo[a]anthracene	13.322	228	40826	0.5095 ug/mL	99
19) Chrysene	13.376	228	40923	0.5292 ug/mL	100
21) Benzo[b]fluoranthene	14.824	252	42517	0.4902 ug/mL	100
22) Benzo[k]fluoranthene	14.857	252	37128	0.4855 ug/mL	95
23) Benzo[a]pyrene	15.388	252	38493	0.4851 ug/mL	100
24) Indeno[1,2,3-cd]pyrene	17.818	276	46403	0.5257 ug/mL#	100
25) Dibenz[ah]anthracene	17.814	278	37737	0.5313 ug/mL#	100
26) Benzo[ghi]perylene	18.525	276	38834	0.5214 ug/mL	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\021511\
Data File : 15M03939.D
Acq On : 15 Feb 2011 11:30 am
Operator : CAA
Sample : WG356529-06 0.5ppm PAHL STD
Misc : 1,1 STD41768
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Feb 15 12:39:54 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Tue Feb 15 12:39:48 2011
Response via : Initial Calibration



PAHQUANT.M Wed Feb 16 07:43:36 2011 Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\021511\
Data File : 15M03940.D
Acq On : 15 Feb 2011 11:59 am
Operator : CAA
Sample : WG356529-07 0.1ppm PAHL STD
Misc : 1,1 STD41768
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Feb 15 12:40:12 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Tue Feb 15 12:40:05 2011
Response via : Initial Calibration

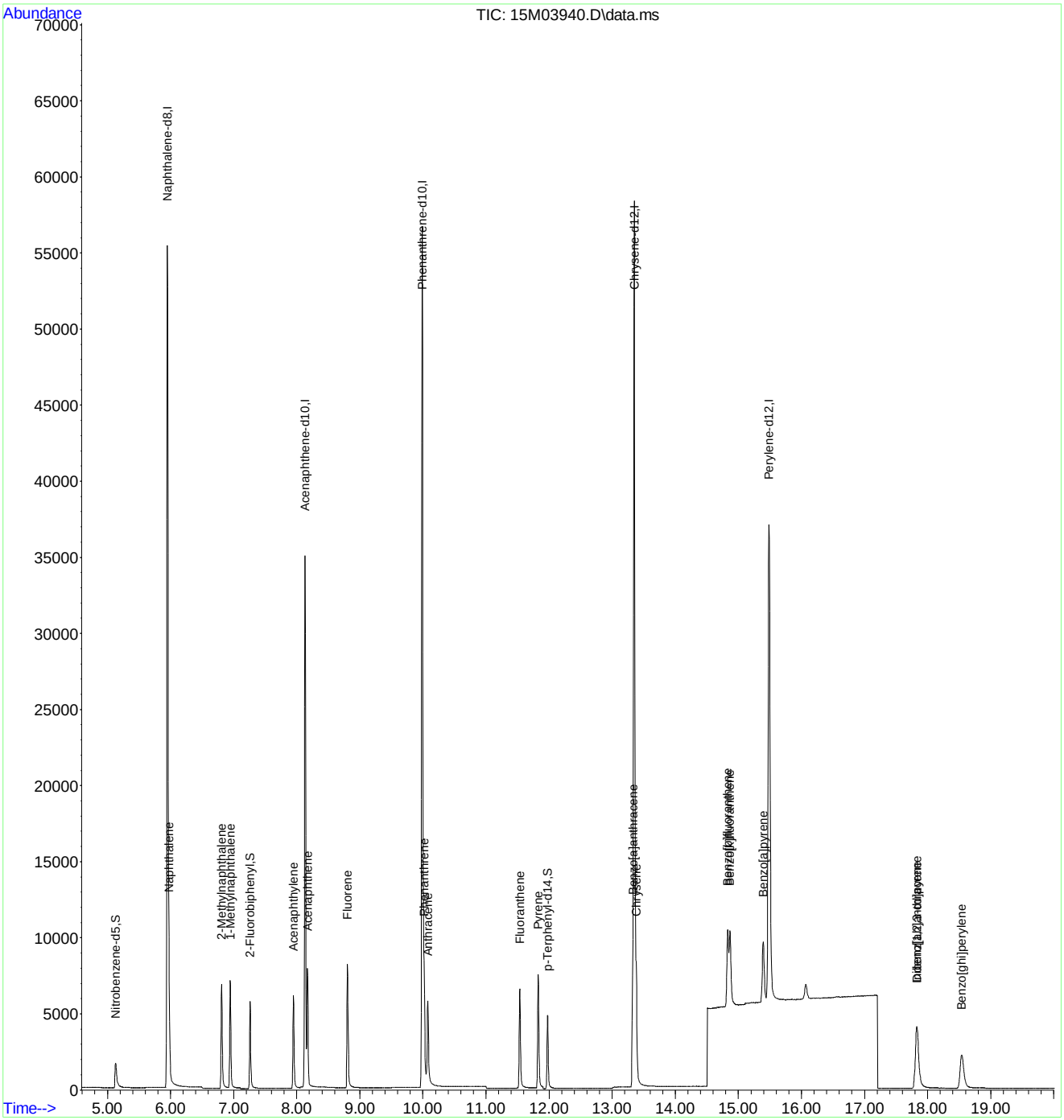
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8	5.948	136	75653	1.00 ug/mL	0.00
6) Acenaphthene-d10	8.131	164	42128	1.00 ug/mL	0.00
11) Phenanthrene-d10	9.987	188	73987	1.00 ug/mL	0.00
15) Chrysene-d12	13.349	240	78703	1.00 ug/mL	0.00
20) Perylene-d12	15.485	264	71273	1.00 ug/mL	0.00
System Monitoring Compounds					
2) Nitrobenzene-d5	5.129	82	2401	0.09 ug/mL	0.00
Spiked Amount 2.500	Range 35 - 114		Recovery	= 3.60%#	
7) 2-Fluorobiphenyl	7.261	172	5627	0.10 ug/mL	0.00
Spiked Amount 2.500	Range 43 - 116		Recovery	= 4.00%#	
17) p-Terphenyl-d14	11.975	244	5239	0.10 ug/mL	0.00
Spiked Amount 2.500	Range 33 - 141		Recovery	= 4.00%#	
Target Compounds					Qvalue
3) Naphthalene	5.975	128	7874	0.1005 ug/mL	100
4) 2-Methylnaphthalene	6.808	142	5119	0.0972 ug/mL	100
5) 1-Methylnaphthalene	6.948	142	5687	0.1109 ug/mL	89
8) Acenaphthylene	7.949	152	7272	0.0968 ug/mL	91
9) Acenaphthene	8.174	154	4875	0.0970 ug/mL	100
10) Fluorene	8.805	166	5743	0.0950 ug/mL	100
12) Phenanthrene	10.020	178	8355	0.0959 ug/mL	100
13) Anthracene	10.079	178	6950	0.0874 ug/mL	100
14) Fluoranthene	11.537	202	8432	0.0924 ug/mL	99
16) Pyrene	11.828	202	9317	0.0999 ug/mL	91
18) Benzo[a]anthracene	13.327	228	7870	0.0981 ug/mL	100
19) Chrysene	13.381	228	8262	0.1062 ug/mL	99
21) Benzo[b]fluoranthene	14.828	252	7646	0.0886 ug/mL	100
22) Benzo[k]fluoranthene	14.865	252	8027	0.1055 ug/mL	98
23) Benzo[a]pyrene	15.394	252	7293	0.0923 ug/mL	97
24) Indeno[1,2,3-cd]pyrene	17.832	276	8948	0.0993 ug/mL#	100
25) Dibenz[ah]anthracene	17.829	278	7258	0.0999 ug/mL#	100
26) Benzo[ghi]perylene	18.539	276	7677	0.1013 ug/mL	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\021511\
Data File : 15M03940.D
Acq On : 15 Feb 2011 11:59 am
Operator : CAA
Sample : WG356529-07 0.1ppm PAHL STD
Misc : 1,1 STD41768
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Feb 15 12:40:12 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Tue Feb 15 12:40:05 2011
Response via : Initial Calibration



PAHQUANT.M Wed Feb 16 07:43:41 2011 Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\021511\
Data File : 15M03941.D
Acq On : 15 Feb 2011 12:28 pm
Operator : CAA
Sample : WG356529-08 0.05ppm PAHL STD
Misc : 1,1 STD41768
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Feb 15 12:44:07 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Tue Feb 15 12:40:20 2011
Response via : Initial Calibration

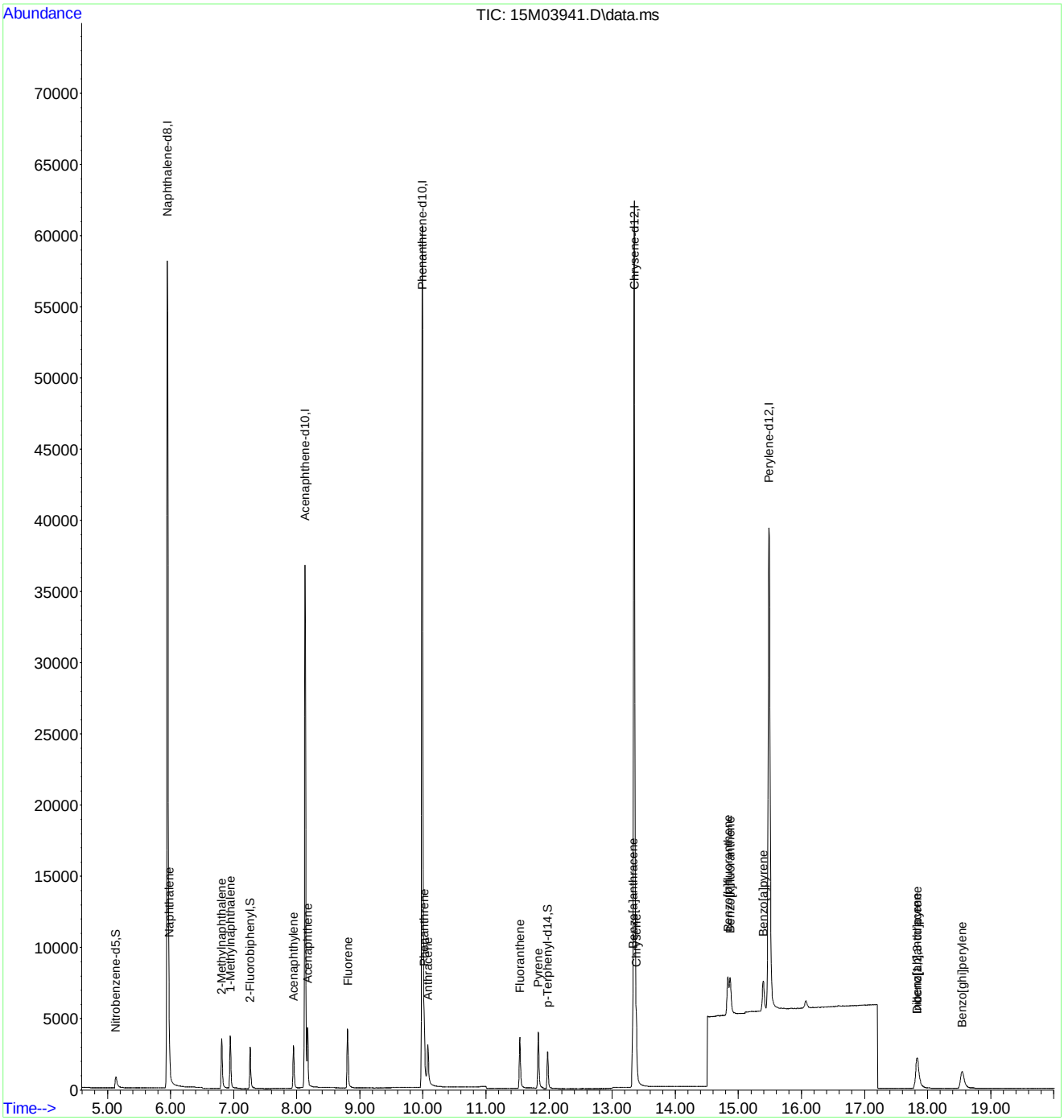
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8	5.948	136	80934	1.00 ug/mL	0.00
6) Acenaphthene-d10	8.131	164	45035	1.00 ug/mL	0.00
11) Phenanthrene-d10	9.987	188	80027	1.00 ug/mL	0.00
15) Chrysene-d12	13.349	240	86398	1.00 ug/mL	0.00
20) Perylene-d12	15.485	264	77065	1.00 ug/mL	0.00
System Monitoring Compounds					
2) Nitrobenzene-d5	5.133	82	1272	0.05 ug/mL	0.00
Spiked Amount 2.500	Range 35 - 114		Recovery	= 2.00%#	
7) 2-Fluorobiphenyl	7.260	172	3024	0.05 ug/mL	0.00
Spiked Amount 2.500	Range 43 - 116		Recovery	= 2.00%#	
17) p-Terphenyl-d14	11.975	244	2911	0.05 ug/mL	0.00
Spiked Amount 2.500	Range 33 - 141		Recovery	= 2.00%#	
Target Compounds					Qvalue
3) Naphthalene	5.975	128	4265	0.0513 ug/mL	100
4) 2-Methylnaphthalene	6.811	142	2735	0.0489 ug/mL	99
5) 1-Methylnaphthalene	6.948	142	2674	0.0481 ug/mL	100
8) Acenaphthylene	7.949	152	3968	0.0493 ug/mL	92
9) Acenaphthene	8.174	154	2622	0.0495 ug/mL	99
10) Fluorene	8.809	166	3035	0.0477 ug/mL	98
12) Phenanthrene	10.020	178	4549	0.0493 ug/mL	100
13) Anthracene	10.079	178	3597	0.0428 ug/mL	99
14) Fluoranthene	11.537	202	4571	0.0475 ug/mL	99
16) Pyrene	11.828	202	5174	0.0511 ug/mL	84
18) Benzo[a]anthracene	13.327	228	4384	0.0500 ug/mL	99
19) Chrysene	13.381	228	4601	0.0534 ug/mL	99
21) Benzo[b]fluoranthene	14.832	252	4309	0.0475 ug/mL	100
22) Benzo[k]fluoranthene	14.868	252	4148	0.0501 ug/mL	98
23) Benzo[a]pyrene	15.394	252	3937	0.0468 ug/mL	95
24) Indeno[1,2,3-cd]pyrene	17.836	276	4912	0.0497 ug/mL#	100
25) Dibenz[ah]anthracene	17.829	278	4005	0.0501 ug/mL#	100
26) Benzo[ghi]perylene	18.543	276	4181	0.0504 ug/mL	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\021511\
Data File : 15M03941.D
Acq On : 15 Feb 2011 12:28 pm
Operator : CAA
Sample : WG356529-08 0.05ppm PAHL STD
Misc : 1,1 STD41768
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Feb 15 12:44:07 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Tue Feb 15 12:40:20 2011
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\021511\
Data File : 15M03942.D
Acq On : 15 Feb 2011 12:56 pm
Operator : CAA
Sample : WG356529-09 1ppm PAHL Alt Src STD
Misc : 1,1 STD43326
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Feb 15 13:20:11 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Tue Feb 15 12:44:16 2011
Response via : Initial Calibration

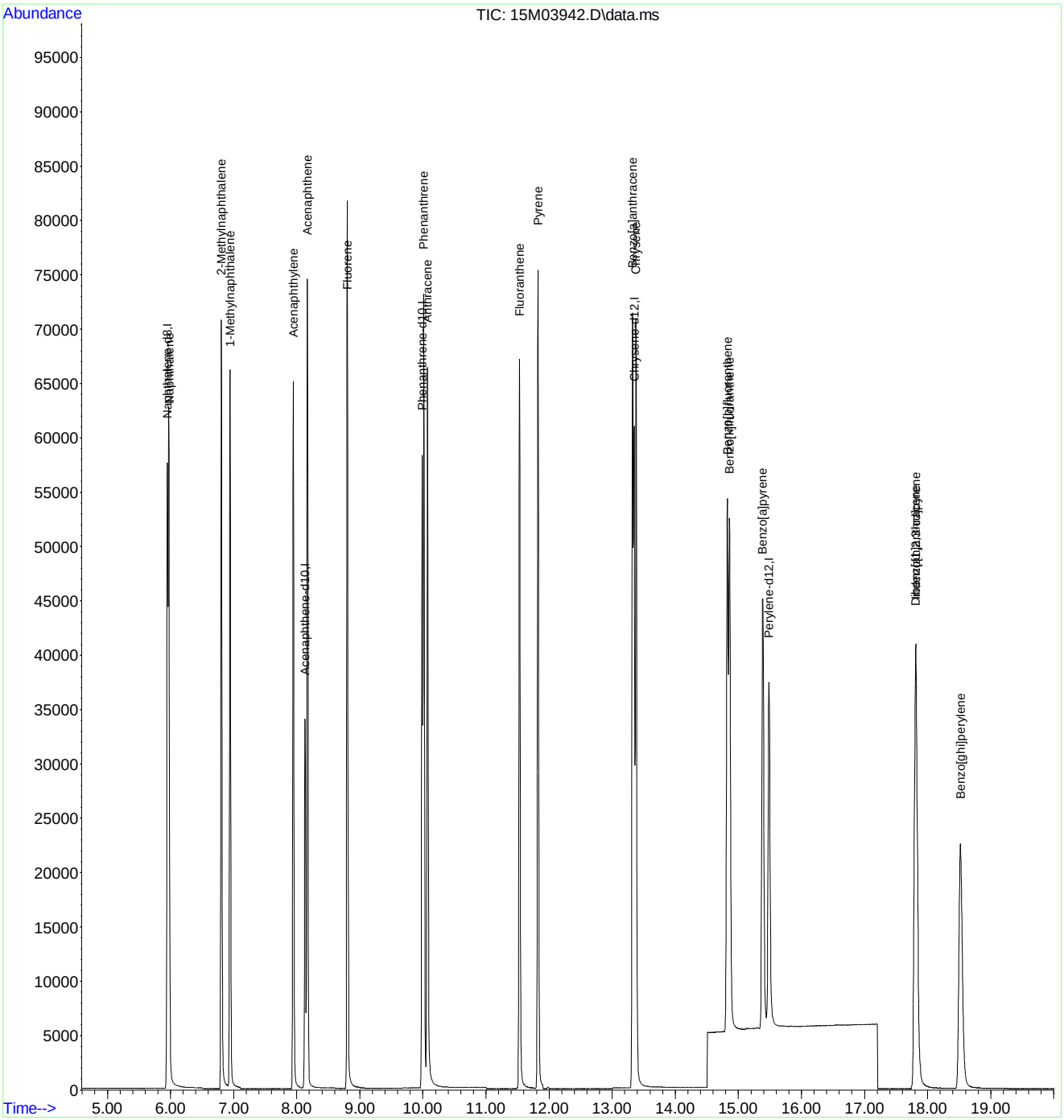
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8	5.948	136	72946	1.00 ug/mL	0.00
6) Acenaphthene-d10	8.131	164	41159	1.00 ug/mL	0.00
11) Phenanthrene-d10	9.987	188	72656	1.00 ug/mL	0.00
15) Chrysene-d12	13.349	240	79790	1.00 ug/mL	0.00
20) Perylene-d12	15.485	264	70088	1.00 ug/mL	0.00
System Monitoring Compounds					
2) Nitrobenzene-d5	5.136	82	7	0.00 ug/mL	0.00
Spiked Amount 2.500	Range 35 - 114		Recovery	= 0.00%#	
7) 2-Fluorobiphenyl	7.106	172	30	0.00 ug/mL	-0.15
Spiked Amount 2.500	Range 43 - 116		Recovery	= 0.00%#	
17) p-Terphenyl-d14	11.979	244	201	0.00 ug/mL	0.00
Spiked Amount 2.500	Range 33 - 141		Recovery	= 0.00%#	
Target Compounds					Qvalue
3) Naphthalene	5.975	128	70873	0.9556 ug/mL	100
4) 2-Methylnaphthalene	6.804	142	46630	0.9356 ug/mL	100
5) 1-Methylnaphthalene	6.944	142	44855	0.9016 ug/mL	100
8) Acenaphthylene	7.945	152	67556	0.9120 ug/mL	100
9) Acenaphthene	8.168	154	45018	0.9459 ug/mL	99
10) Fluorene	8.802	166	53031	0.9278 ug/mL	100
12) Phenanthrene	10.014	178	76279	0.9346 ug/mL	100
13) Anthracene	10.073	178	74608	1.0072 ug/mL	100
14) Fluoranthene	11.529	202	79191	0.9344 ug/mL	100
16) Pyrene	11.824	202	84732	0.9219 ug/mL	100
18) Benzo[a]anthracene	13.322	228	71225	0.8879 ug/mL	99
19) Chrysene	13.376	228	75700	0.9451 ug/mL	100
21) Benzo[b]fluoranthene	14.824	252	69869	0.8694 ug/mL	96
22) Benzo[k]fluoranthene	14.857	252	70603	0.9423 ug/mL	100
23) Benzo[a]pyrene	15.383	252	71857	0.9536 ug/mL	99
24) Indeno[1,2,3-cd]pyrene	17.814	276	81609	0.8941 ug/mL#	100
25) Dibenz[ah]anthracene	17.807	278	65716	0.8855 ug/mL#	100
26) Benzo[ghi]perylene	18.521	276	70812	0.9287 ug/mL	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\021511\
Data File : 15M03942.D
Acq On : 15 Feb 2011 12:56 pm
Operator : CAA
Sample : WG356529-09 1ppm PAHL Alt Src STD
Misc : 1,1 STD43326
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Feb 15 13:20:11 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Tue Feb 15 12:44:16 2011
Response via : Initial Calibration



PAHQUANT.M Wed Feb 16 07:43:56 2011 Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032211\
Data File : 15M04091.D
Acq On : 22 Mar 2011 8:06 am
Operator : CAA
Sample : WG359552-02 1ppm PAHL STD
Misc : 1,1 STD41768
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 22 08:25:44 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Mon Mar 14 14:47:34 2011
Response via : Initial Calibration

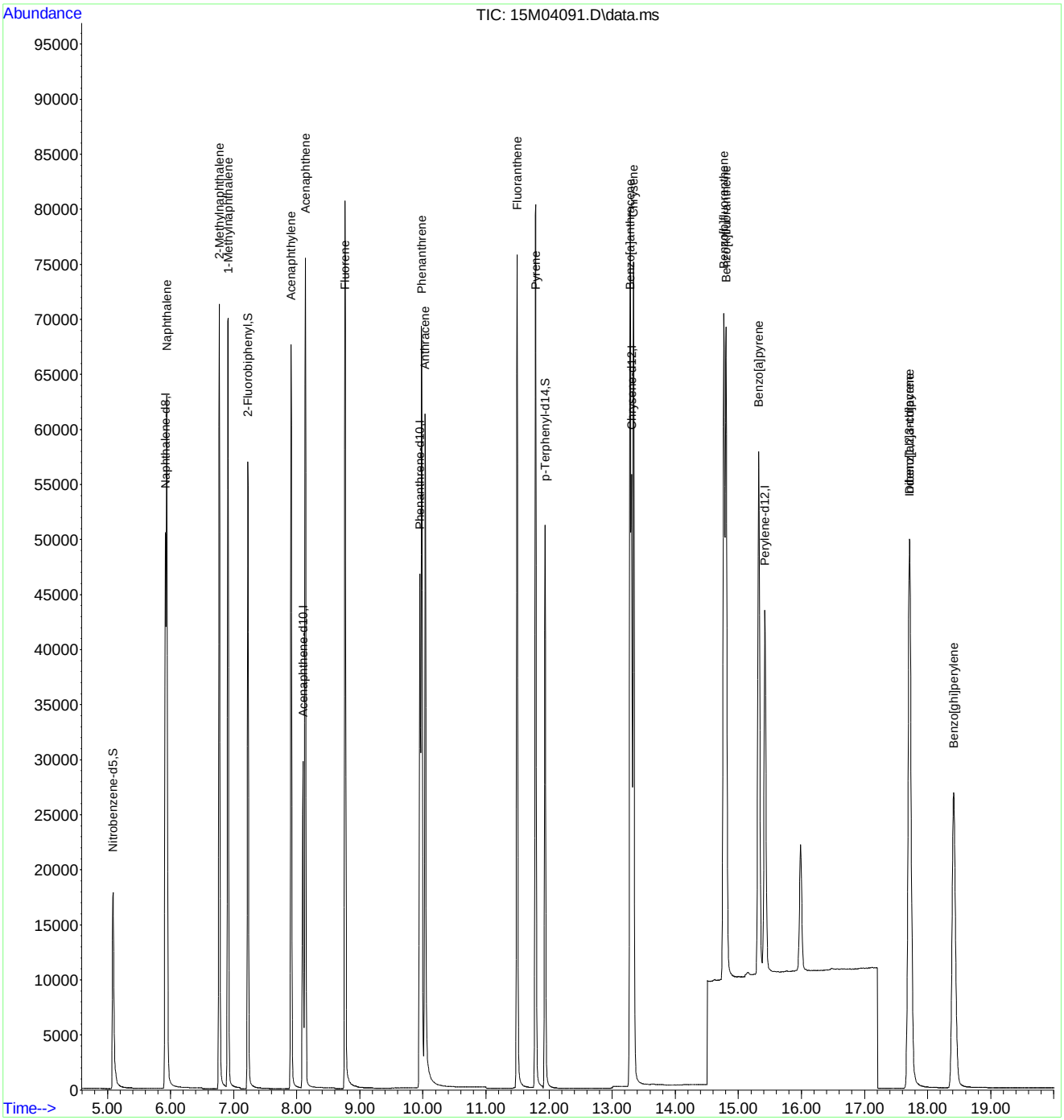
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8	5.916	136	64257	1.00 ug/mL	0.00
6) Acenaphthene-d10	8.098	164	35579	1.00 ug/mL	0.00
11) Phenanthrene-d10	9.950	188	60931	1.00 ug/mL	0.00
15) Chrysene-d12	13.306	240	70560	1.00 ug/mL	0.00
20) Perylene-d12	15.420	264	71148	1.00 ug/mL	0.00
System Monitoring Compounds					
2) Nitrobenzene-d5	5.085	82	21500	0.98 ug/mL	-0.02
Spiked Amount 2.500	Range 35 - 114		Recovery	= 39.20%	
7) 2-Fluorobiphenyl	7.224	172	52269	1.11 ug/mL	-0.01
Spiked Amount 2.500	Range 43 - 116		Recovery	= 44.40%	
17) p-Terphenyl-d14	11.938	244	52720	1.13 ug/mL	0.00
Spiked Amount 2.500	Range 33 - 141		Recovery	= 45.20%	
Target Compounds					Qvalue
3) Naphthalene	5.937	128	70895	1.0851 ug/mL	99
4) 2-Methylnaphthalene	6.771	142	47153	1.0740 ug/mL	100
5) 1-Methylnaphthalene	6.911	142	47695	1.0883 ug/mL	100
8) Acenaphthylene	7.912	152	69950	1.0924 ug/mL	100
9) Acenaphthene	8.136	154	44914	1.0917 ug/mL	99
10) Fluorene	8.768	166	53706	1.0870 ug/mL	100
12) Phenanthrene	9.982	178	75855	1.1082 ug/mL	100
13) Anthracene	10.036	178	73479	1.1829 ug/mL	100
14) Fluoranthene	11.492	202	85048	1.1966 ug/mL	100
16) Pyrene	11.787	202	91155	1.1215 ug/mL	99
18) Benzo[a]anthracene	13.284	228	79013	1.1138 ug/mL	100
19) Chrysene	13.338	228	79022	1.1156 ug/mL	100
21) Benzo[b]fluoranthene	14.769	252	85596	1.0492 ug/mL	75
22) Benzo[k]fluoranthene	14.802	252	83271	1.0948 ug/mL#	70
23) Benzo[a]pyrene	15.324	252	84828	1.1090 ug/mL#	69
24) Indeno[1,2,3-cd]pyrene	17.714	276	98175	1.0596 ug/mL#	100
25) Dibenz[ah]anthracene	17.711	278	77573	1.0296 ug/mL#	100
26) Benzo[ghi]perylene	18.414	276	83334	1.0766 ug/mL	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032211\
Data File : 15M04091.D
Acq On : 22 Mar 2011 8:06 am
Operator : CAA
Sample : WG359552-02 1ppm PAHL STD
Misc : 1,1 STD41768
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 22 08:25:44 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Mon Mar 14 14:47:34 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032311\
Data File : 15M04112.D
Acq On : 23 Mar 2011 9:17 am
Operator : CAA
Sample : WG359668-02 1ppm PAHL STD
Misc : 1,1 STD41768
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 23 09:34:10 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Wed Mar 23 08:10:15 2011
Response via : Initial Calibration

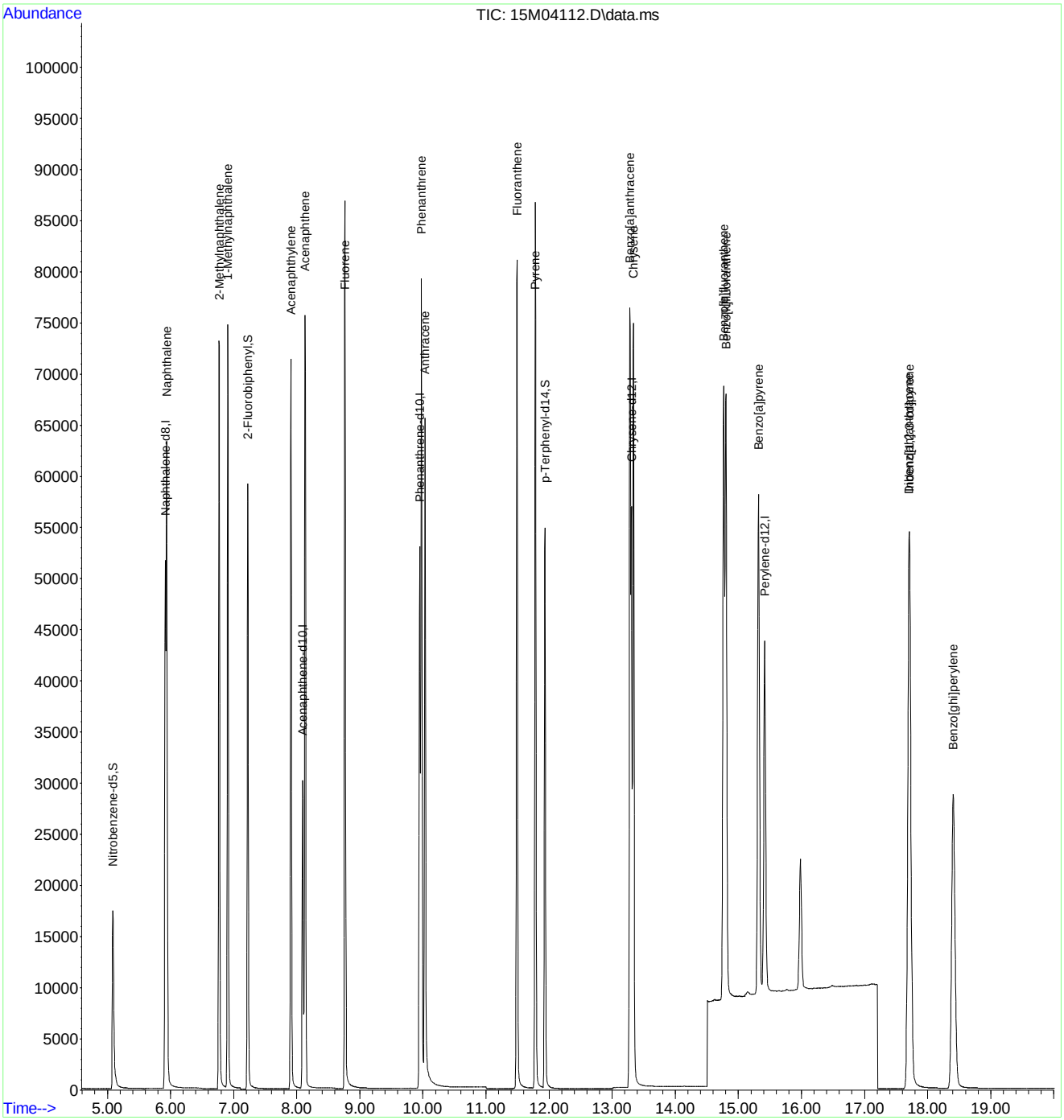
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8	5.916	136	65076	1.00 ug/mL	0.00
6) Acenaphthene-d10	8.093	164	37285	1.00 ug/mL	-0.01
11) Phenanthrene-d10	9.950	188	65573	1.00 ug/mL	0.00
15) Chrysene-d12	13.306	240	71614	1.00 ug/mL	0.00
20) Perylene-d12	15.415	264	72198	1.00 ug/mL	-0.01
System Monitoring Compounds					
2) Nitrobenzene-d5	5.085	82	20168	0.91 ug/mL	-0.02
Spiked Amount 2.500	Range 35 - 114		Recovery = 36.40%		
7) 2-Fluorobiphenyl	7.224	172	53823	1.09 ug/mL	-0.01
Spiked Amount 2.500	Range 43 - 116		Recovery = 43.60%		
17) p-Terphenyl-d14	11.934	244	55188	1.17 ug/mL	0.00
Spiked Amount 2.500	Range 33 - 141		Recovery = 46.80%		
Target Compounds					Qvalue
3) Naphthalene	5.937	128	69711	1.0536 ug/mL	98
4) 2-Methylnaphthalene	6.771	142	49063	1.1035 ug/mL	99
5) 1-Methylnaphthalene	6.907	142	47638	1.0734 ug/mL	98
8) Acenaphthylene	7.909	152	71746	1.0692 ug/mL	100
9) Acenaphthene	8.131	154	46280	1.0734 ug/mL	100
10) Fluorene	8.765	166	56454	1.0903 ug/mL	100
12) Phenanthrene	9.977	178	81303	1.1037 ug/mL	100
13) Anthracene	10.036	178	75651	1.1316 ug/mL	100
14) Fluoranthene	11.493	202	89286	1.1673 ug/mL	100
16) Pyrene	11.783	202	94219	1.1422 ug/mL	99
18) Benzo[a]anthracene	13.279	228	81353	1.1299 ug/mL	99
19) Chrysene	13.338	228	79948	1.1120 ug/mL	99
21) Benzo[b]fluoranthene	14.765	252	91956	1.1108 ug/mL#	72
22) Benzo[k]fluoranthene	14.802	252	86421	1.1197 ug/mL#	71
23) Benzo[a]pyrene	15.319	252	85805	1.1054 ug/mL#	69
24) Indeno[1,2,3-cd]pyrene	17.711	276	104856	1.1152 ug/mL#	100
25) Dibenz[ah]anthracene	17.704	278	84086	1.0999 ug/mL#	100
26) Benzo[ghi]perylene	18.407	276	87504	1.1140 ug/mL	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032311\
Data File : 15M04112.D
Acq On : 23 Mar 2011 9:17 am
Operator : CAA
Sample : WG359668-02 1ppm PAHL STD
Misc : 1,1 STD41768
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 23 09:34:10 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Wed Mar 23 08:10:15 2011
Response via : Initial Calibration



PAHQUANT.M Thu Mar 24 08:44:52 2011 Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04120.D
Acq On : 24 Mar 2011 2:59 pm
Operator : CAA
Sample : WG359868-02 1ppm PAHL STD
Misc : 1,1 STD41768
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 24 15:16:12 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Thu Mar 24 08:44:54 2011
Response via : Initial Calibration

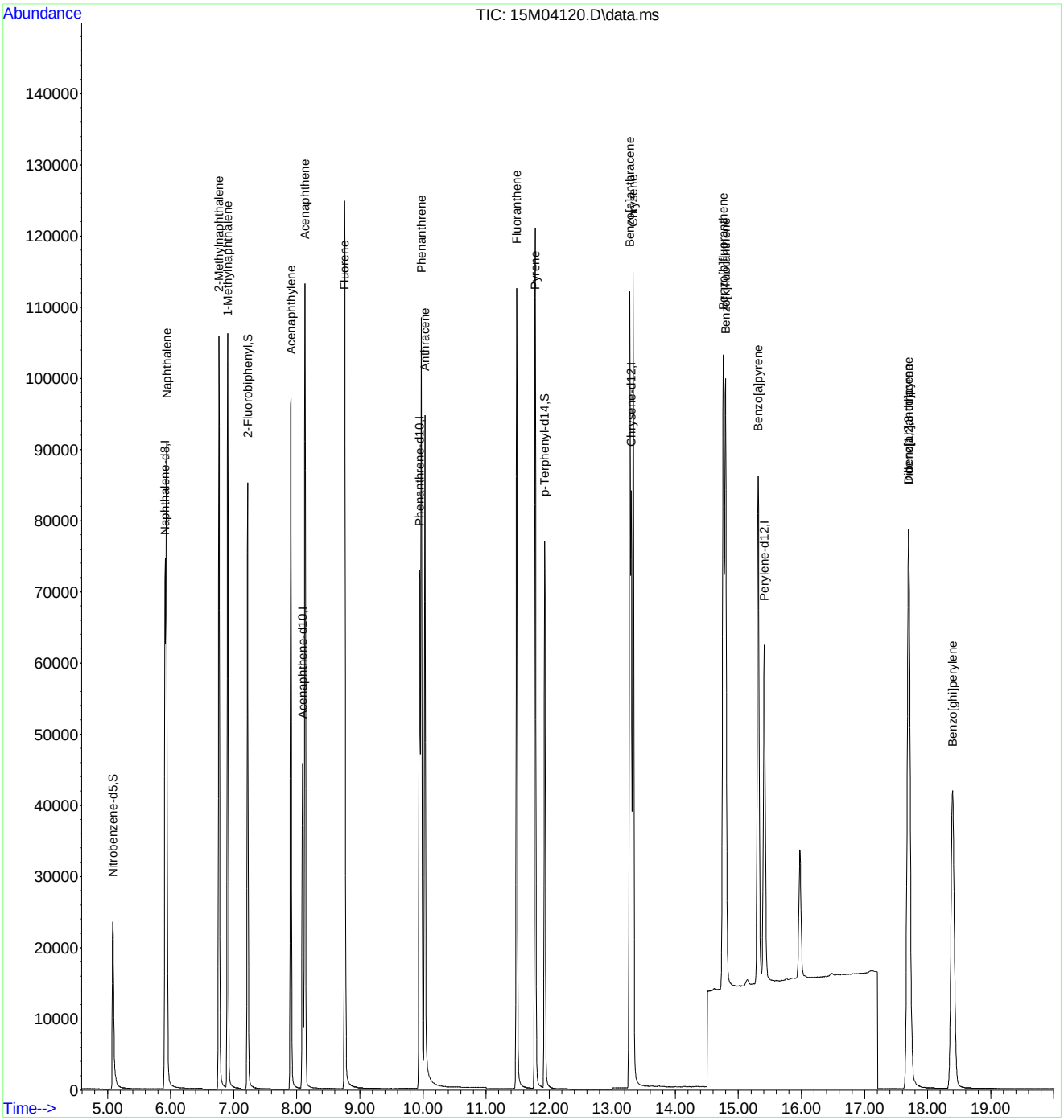
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8	5.910	136	95571	1.00 ug/mL	-0.01
6) Acenaphthene-d10	8.093	164	54000	1.00 ug/mL	-0.01
11) Phenanthrene-d10	9.944	188	95120	1.00 ug/mL	-0.01
15) Chrysene-d12	13.300	240	102937	1.00 ug/mL	-0.01
20) Perylene-d12	15.409	264	103970	1.00 ug/mL	-0.02
System Monitoring Compounds					
2) Nitrobenzene-d5	5.084	82	27778	0.85 ug/mL	-0.03
Spiked Amount 2.500	Range 35 - 114		Recovery	= 34.00%#	
7) 2-Fluorobiphenyl	7.220	172	76939	1.08 ug/mL	-0.02
Spiked Amount 2.500	Range 43 - 116		Recovery	= 43.20%	
17) p-Terphenyl-d14	11.930	244	79190	1.17 ug/mL	-0.01
Spiked Amount 2.500	Range 33 - 141		Recovery	= 46.80%	
Target Compounds					Qvalue
3) Naphthalene	5.937	128	101800	1.0476 ug/mL	98
4) 2-Methylnaphthalene	6.767	142	71065	1.0883 ug/mL	99
5) 1-Methylnaphthalene	6.907	142	70950	1.0885 ug/mL	97
8) Acenaphthylene	7.908	152	100463	1.0338 ug/mL	98
9) Acenaphthene	8.130	154	66243	1.0609 ug/mL	98
10) Fluorene	8.761	166	80628	1.0752 ug/mL	100
12) Phenanthrene	9.971	178	116302	1.0884 ug/mL	100
13) Anthracene	10.030	178	107461	1.1081 ug/mL	100
14) Fluoranthene	11.489	202	128363	1.1569 ug/mL	100
16) Pyrene	11.779	202	135329	1.1413 ug/mL	99
18) Benzo[a]anthracene	13.279	228	115889	1.1198 ug/mL	100
19) Chrysene	13.332	228	116993	1.1321 ug/mL	100
21) Benzo[b]fluoranthene	14.758	252	131000	1.0989 ug/mL	76
22) Benzo[k]fluoranthene	14.794	252	117769	1.0596 ug/mL#	74
23) Benzo[a]pyrene	15.313	252	122827	1.0988 ug/mL#	69
24) Indeno[1,2,3-cd]pyrene	17.696	276	150560	1.1120 ug/mL#	100
25) Dibenz[ah]anthracene	17.696	278	121247	1.1013 ug/mL#	100
26) Benzo[ghi]perylene	18.395	276	126571	1.1190 ug/mL	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04120.D
Acq On : 24 Mar 2011 2:59 pm
Operator : CAA
Sample : WG359868-02 1ppm PAHL STD
Misc : 1,1 STD41768
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 24 15:16:12 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Thu Mar 24 08:44:54 2011
Response via : Initial Calibration



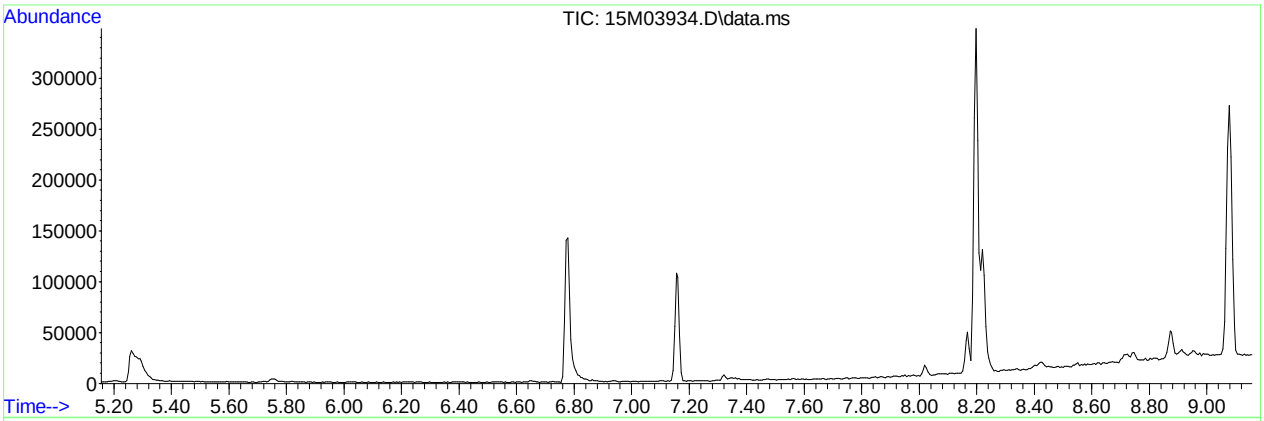
PAHQUANT.M Fri Mar 25 07:05:51 2011 Page: 2

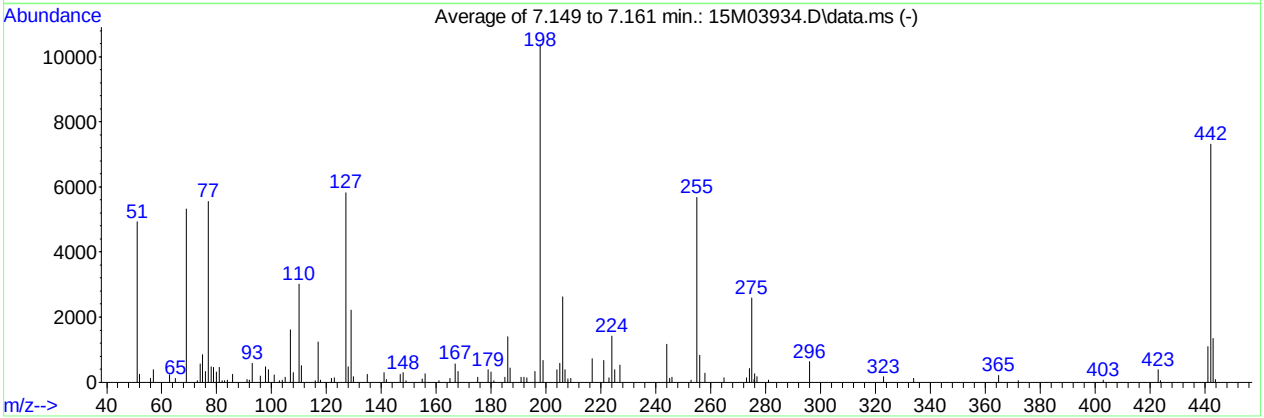
2.1.1.5 Raw QC Data

Data Path : C:\msdchem\1\DATA\021511\
Data File : 15M03934.D
Acq On : 15 Feb 2011 9:19 am
Operator : CAA
Sample : WG356529-01 5ppm DFTPP STD
Misc : 1,1 STD41383
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\METHODS\DFTPPQ.M
Title : DFTPP
Last Update : Mon Feb 14 14:21:44 2011





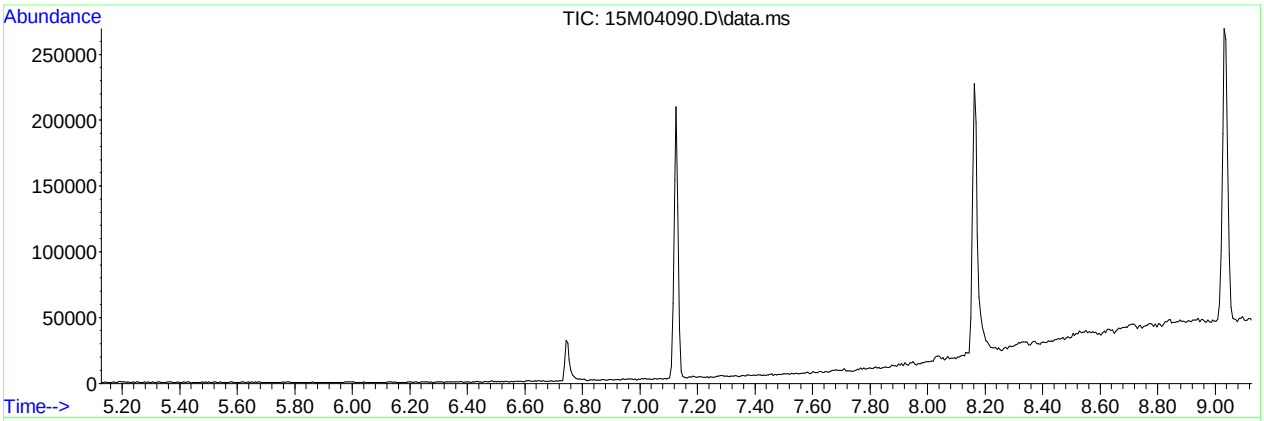
AutoFind: Scans 710, 711, 712; Background Corrected with Scan 705

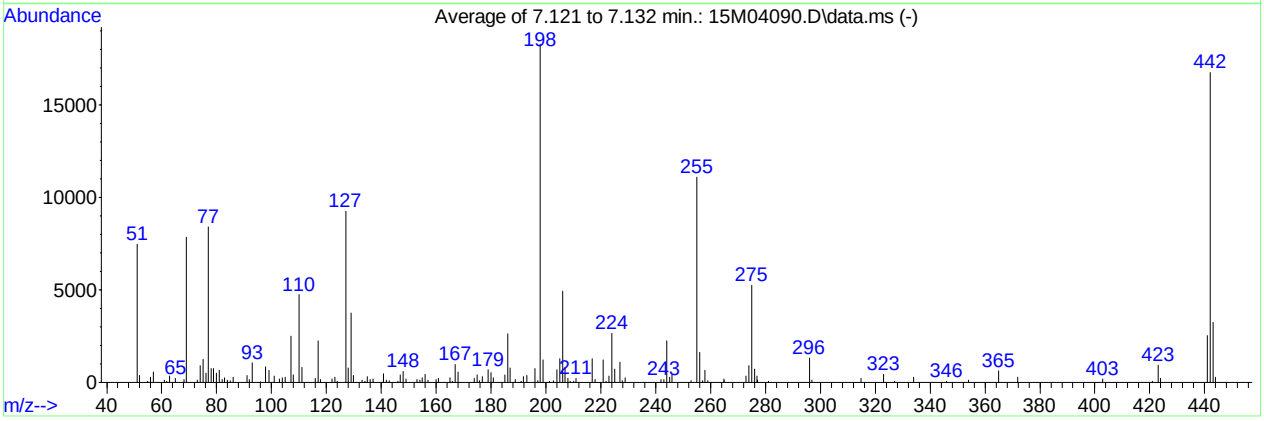
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	47.4	4927	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	51.2	5320	PASS
70	69	0.00	2	0.0	0	PASS
127	198	40	60	56.1	5830	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	10393	PASS
199	198	5	9	6.3	659	PASS
275	198	10	30	24.9	2588	PASS
365	198	1	100	1.9	198	PASS
441	443	0.01	100	80.7	1085	PASS
442	198	40	100	70.5	7322	PASS
443	442	17	23	18.4	1344	PASS

Data Path : C:\msdchem\1\DATA\032211\
Data File : 15M04090.D
Acq On : 22 Mar 2011 7:45 am
Operator : CAA
Sample : WG359552-01 5ppm DFTPP STD
Misc : 1,1 STD41383
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\METHODS\DFTPPQ.M
Title : DFTPP
Last Update : Mon Feb 14 14:21:44 2011





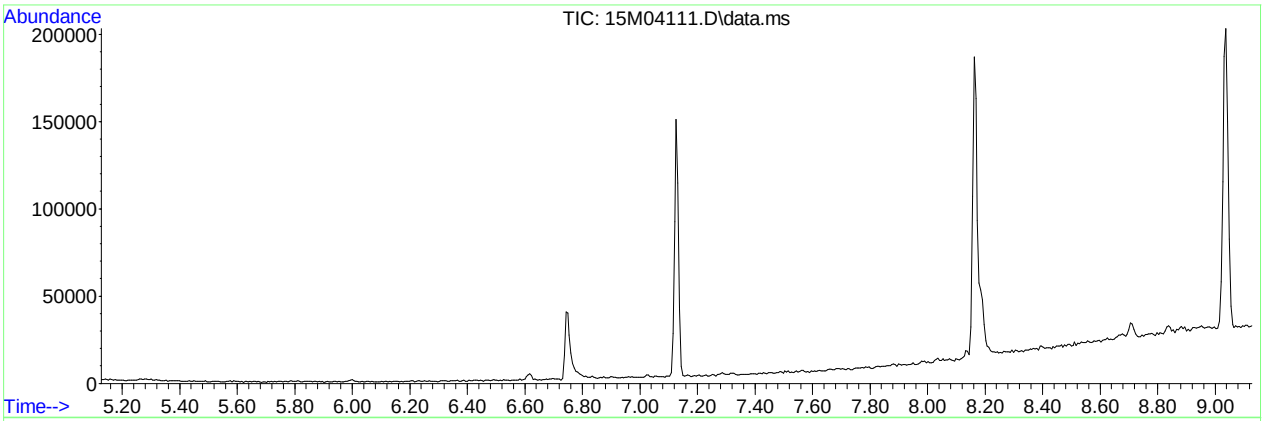
AutoFind: Scans 705, 706, 707; Background Corrected with Scan 700

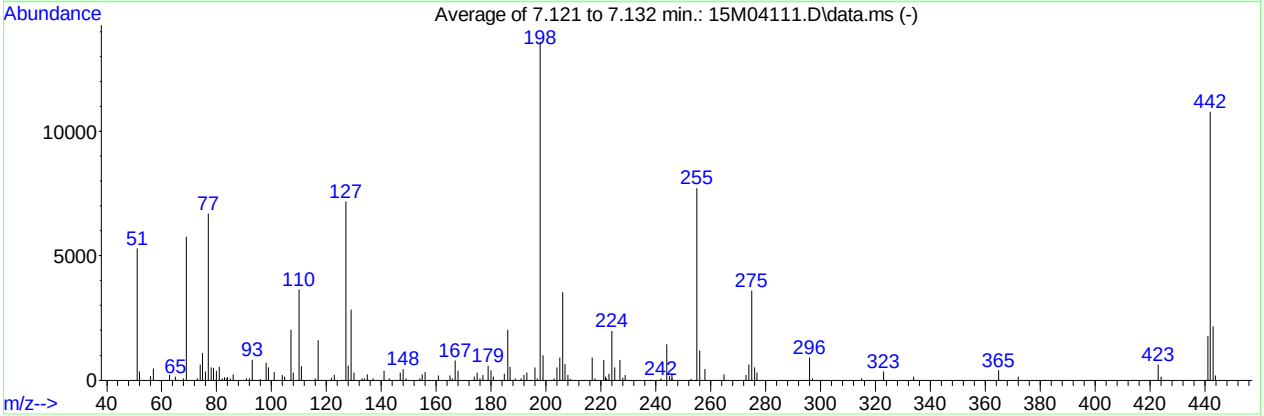
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	40.8	7451	PASS
68	69	0.00	2	1.9	152	PASS
69	198	0.00	100	42.9	7837	PASS
70	69	0.00	2	0.0	0	PASS
127	198	40	60	50.5	9236	PASS
197	198	0.00	1	0.4	67	PASS
198	198	100	100	100.0	18274	PASS
199	198	5	9	6.6	1200	PASS
275	198	10	30	28.7	5243	PASS
365	198	1	100	3.3	612	PASS
441	443	0.01	100	77.7	2512	PASS
442	198	40	100	91.5	16725	PASS
443	442	17	23	19.3	3232	PASS

Data Path : C:\msdchem\1\DATA\032311\
Data File : 15M04111.D
Acq On : 23 Mar 2011 8:58 am
Operator : CAA
Sample : WG359668-01 5ppm DFTPP STD
Misc : 1,1 STD41383
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\METHODS\DFTPPQ.M
Title : DFTPP
Last Update : Mon Feb 14 14:21:44 2011





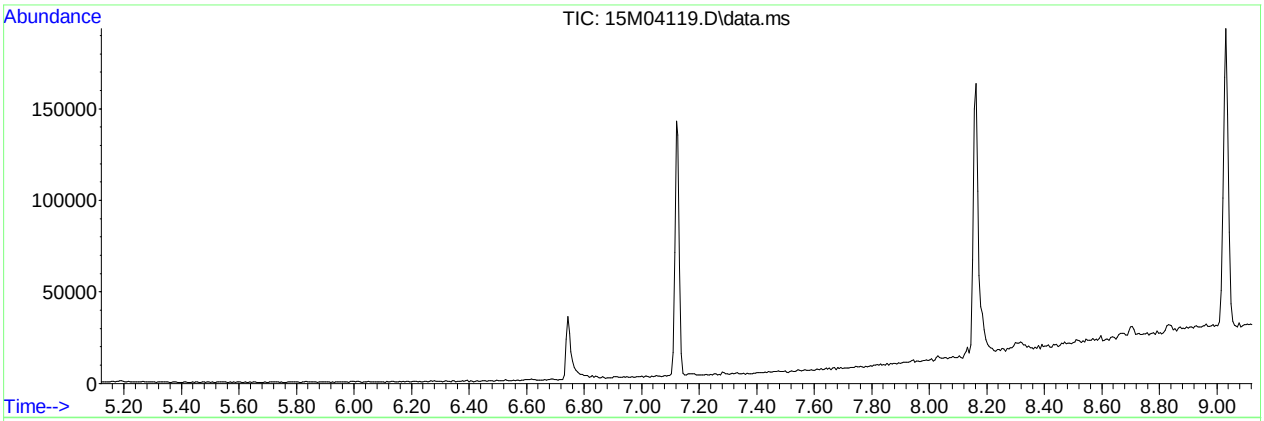
AutoFind: Scans 705, 706, 707; Background Corrected with Scan 700

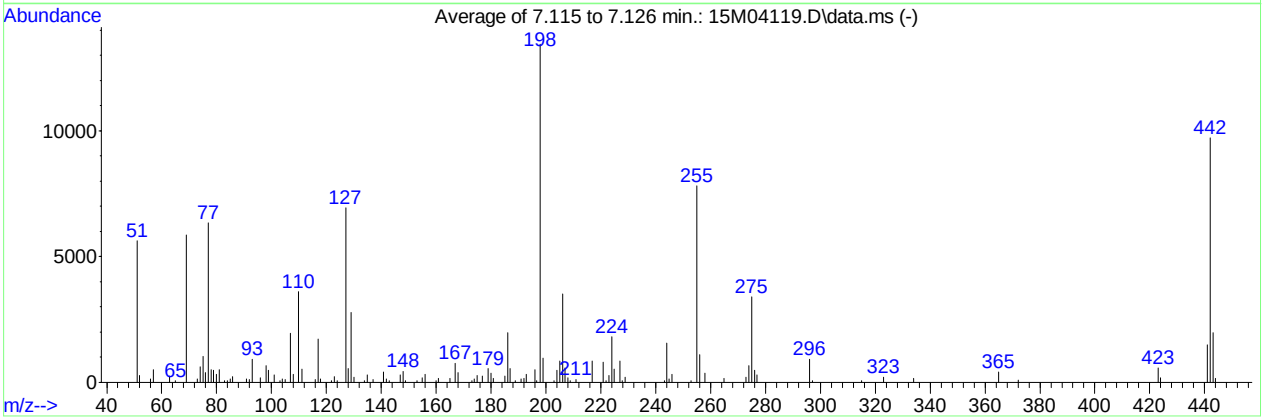
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	39.0	5298	PASS
68	69	0.00	2	0.9	53	PASS
69	198	0.00	100	42.3	5744	PASS
70	69	0.00	2	0.0	0	PASS
127	198	40	60	52.7	7164	PASS
197	198	0.00	1	0.5	63	PASS
198	198	100	100	100.0	13591	PASS
199	198	5	9	7.3	989	PASS
275	198	10	30	26.4	3591	PASS
365	198	1	100	2.8	386	PASS
441	443	0.01	100	81.5	1747	PASS
442	198	40	100	79.3	10779	PASS
443	442	17	23	19.9	2143	PASS

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04119.D
Acq On : 24 Mar 2011 2:41 pm
Operator : CAA
Sample : WG359868-01 5ppm DFTPP STD
Misc : 1,1 STD41383
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\METHODS\DFTPPQ.M
Title : DFTPP
Last Update : Mon Feb 14 14:21:44 2011





AutoFind: Scans 704, 705, 706; Background Corrected with Scan 699

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	41.9	5632	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	43.5	5853	PASS
70	69	0.00	2	0.0	0	PASS
127	198	40	60	51.6	6942	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	13443	PASS
199	198	5	9	7.1	951	PASS
275	198	10	30	25.2	3391	PASS
365	198	1	100	3.0	403	PASS
441	443	0.01	100	75.3	1485	PASS
442	198	40	100	72.2	9706	PASS
443	442	17	23	20.3	1971	PASS

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032211\
Data File : 15M04092.D
Acq On : 22 Mar 2011 8:34 am
Operator : CAA
Sample : WG359445-02 BLK 03/21
Misc : 7,1 SOIL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 23 08:10:28 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Wed Mar 23 08:10:15 2011
Response via : Initial Calibration

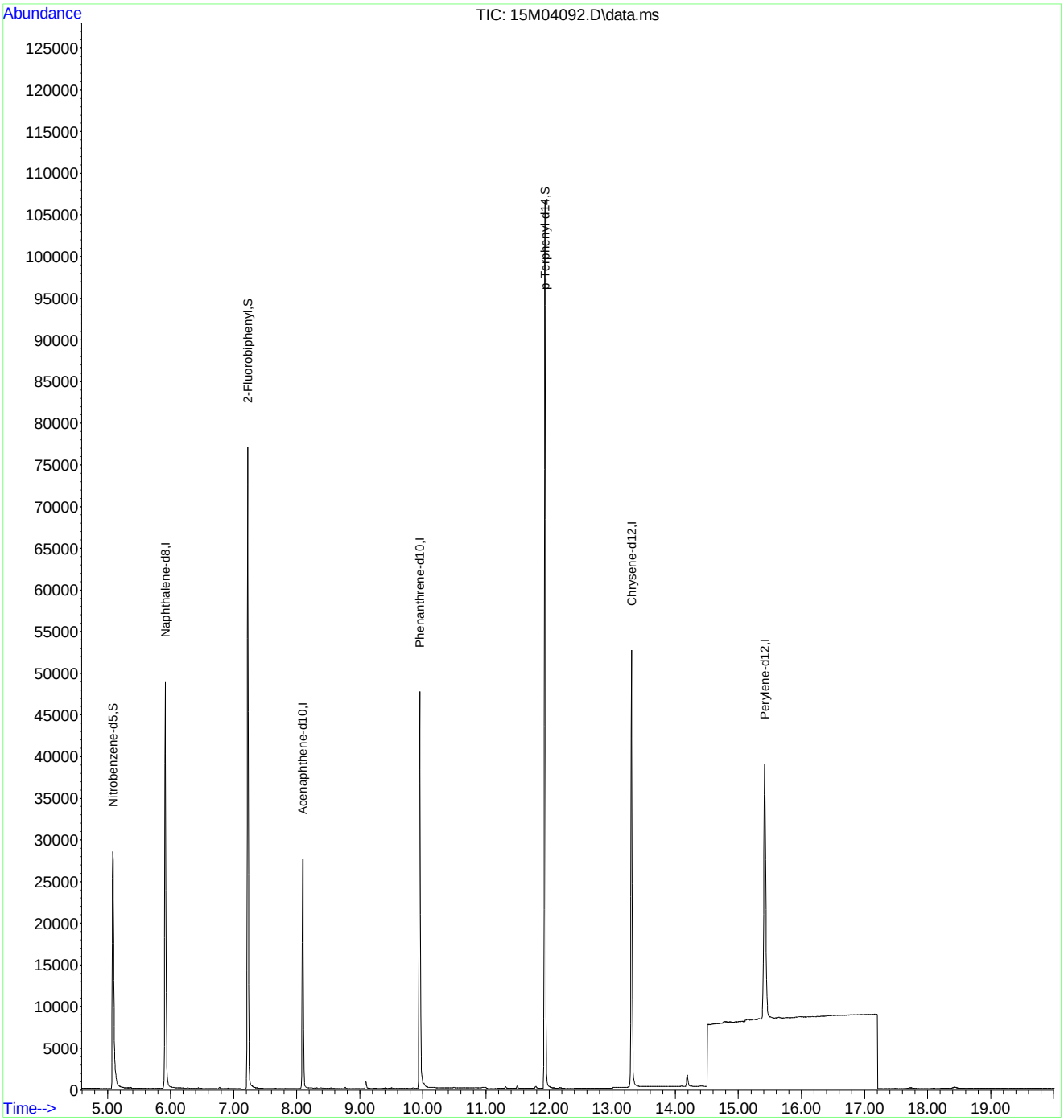
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8	5.916	136	64760	1.00	ug/mL	0.00
6) Acenaphthene-d10	8.093	164	35359	1.00	ug/mL	-0.01
11) Phenanthrene-d10	9.950	188	59255	1.00	ug/mL	0.00
15) Chrysene-d12	13.306	240	68857	1.00	ug/mL	0.00
20) Perylene-d12	15.415	264	67684	1.00	ug/mL	-0.01
System Monitoring Compounds						
2) Nitrobenzene-d5	5.085	82	34007	1.54	ug/mL	-0.02
Spiked Amount 2.500	Range 23 - 120		Recovery = 61.60%			
7) 2-Fluorobiphenyl	7.224	172	69977	1.50	ug/mL	-0.01
Spiked Amount 2.500	Range 30 - 115		Recovery = 60.00%			
17) p-Terphenyl-d14	11.934	244	111622	2.46	ug/mL	0.00
Spiked Amount 2.500	Range 18 - 137		Recovery = 98.40%			

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\032211\
Data File : 15M04092.D
Acq On : 22 Mar 2011 8:34 am
Operator : CAA
Sample : WG359445-02 BLK 03/21
Misc : 7,1 SOIL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 23 08:10:28 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Wed Mar 23 08:10:15 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04121.D
Acq On : 24 Mar 2011 3:27 pm
Operator : CAA
Sample : WG359747-03 BLK 03/23
Misc : 7,1 SOIL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 25 07:06:04 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration

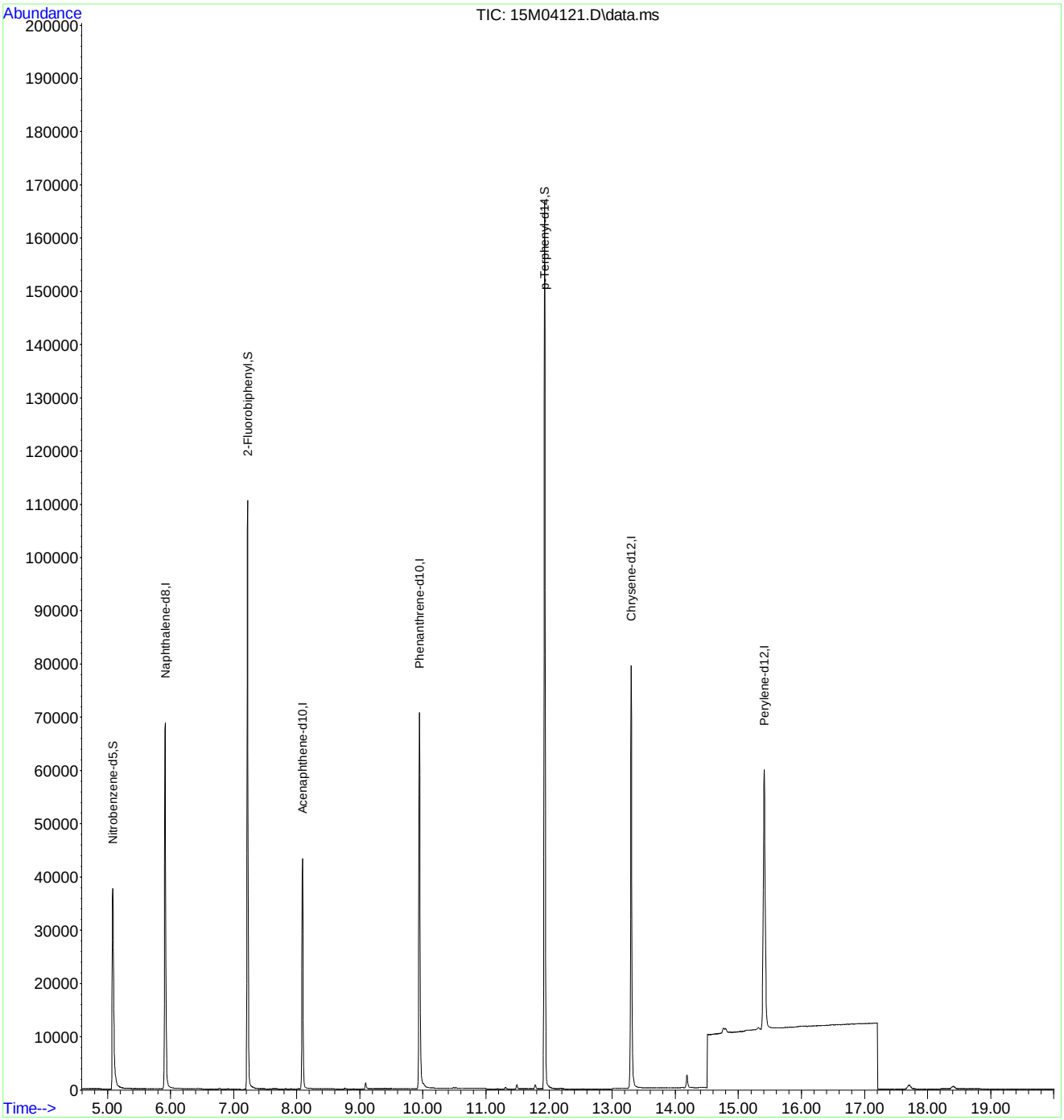
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8	5.916	136	96518	1.00 ug/mL	0.00
6) Acenaphthene-d10	8.093	164	53291	1.00 ug/mL	-0.01
11) Phenanthrene-d10	9.944	188	90929	1.00 ug/mL	-0.01
15) Chrysene-d12	13.301	240	105347	1.00 ug/mL	-0.01
20) Perylene-d12	15.410	264	106078	1.00 ug/mL	-0.02
System Monitoring Compounds					
2) Nitrobenzene-d5	5.085	82	44689	1.36 ug/mL	-0.02
Spiked Amount 2.500	Range 23 - 120		Recovery	= 54.40%	
7) 2-Fluorobiphenyl	7.220	172	99642	1.42 ug/mL	-0.02
Spiked Amount 2.500	Range 30 - 115		Recovery	= 56.80%	
17) p-Terphenyl-d14	11.930	244	177173	2.55 ug/mL	-0.01
Spiked Amount 2.500	Range 18 - 137		Recovery	= 102.00%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04121.D
Acq On : 24 Mar 2011 3:27 pm
Operator : CAA
Sample : WG359747-03 BLK 03/23
Misc : 7,1 SOIL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 25 07:06:04 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032211\
Data File : 15M04093.D
Acq On : 22 Mar 2011 9:02 am
Operator : CAA
Sample : WG359445-03 LCS 03/21
Misc : 7,1 SOIL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 23 08:10:30 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Wed Mar 23 08:10:15 2011
Response via : Initial Calibration

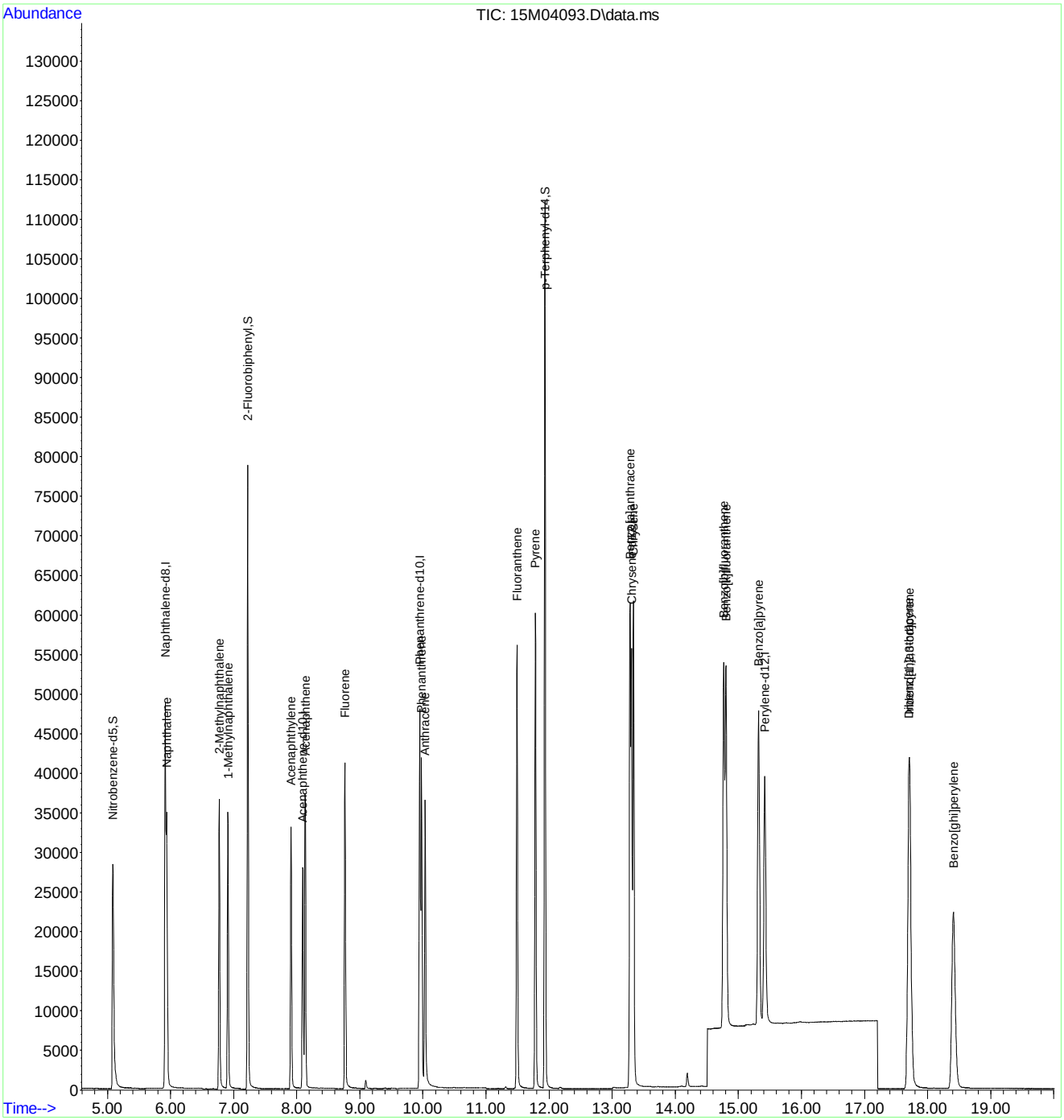
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8	5.916	136	63805	1.00 ug/mL	0.00
6) Acenaphthene-d10	8.093	164	35280	1.00 ug/mL	-0.01
11) Phenanthrene-d10	9.950	188	58612	1.00 ug/mL	0.00
15) Chrysene-d12	13.306	240	70901	1.00 ug/mL	0.00
20) Perylene-d12	15.420	264	70434	1.00 ug/mL	0.00
System Monitoring Compounds					
2) Nitrobenzene-d5	5.085	82	33779	1.55 ug/mL	-0.02
Spiked Amount 2.500	Range 23 - 120		Recovery	= 62.00%	
7) 2-Fluorobiphenyl	7.224	172	71723	1.54 ug/mL	-0.01
Spiked Amount 2.500	Range 30 - 115		Recovery	= 61.60%	
17) p-Terphenyl-d14	11.934	244	117059	2.50 ug/mL	0.00
Spiked Amount 2.500	Range 18 - 137		Recovery	= 100.00%	
Target Compounds					Qvalue
3) Naphthalene	5.937	128	37410	0.5767 ug/mL	99
4) 2-Methylnaphthalene	6.771	142	24438	0.5606 ug/mL	100
5) 1-Methylnaphthalene	6.911	142	23018	0.5290 ug/mL	100
8) Acenaphthylene	7.912	152	34898	0.5496 ug/mL	99
9) Acenaphthene	8.136	154	23417	0.5740 ug/mL	99
10) Fluorene	8.765	166	27168	0.5545 ug/mL	100
12) Phenanthrene	9.977	178	42805	0.6501 ug/mL	100
13) Anthracene	10.036	178	42321	0.7082 ug/mL	98
14) Fluoranthene	11.492	202	61678	0.9021 ug/mL	100
16) Pyrene	11.783	202	67950	0.8320 ug/mL	98
18) Benzo[a]anthracene	13.284	228	63403	0.8895 ug/mL	100
19) Chrysene	13.338	228	65415	0.9190 ug/mL	99
21) Benzo[b]fluoranthene	14.765	252	70220	0.8695 ug/mL#	72
22) Benzo[k]fluoranthene	14.802	252	63697	0.8459 ug/mL#	73
23) Benzo[a]pyrene	15.318	252	70056	0.9251 ug/mL#	68
24) Indeno[1,2,3-cd]pyrene	17.711	276	82384	0.8982 ug/mL#	100
25) Dibenz[ah]anthracene	17.703	278	66832	0.8961 ug/mL#	100
26) Benzo[ghi]perylene	18.410	276	69991	0.9134 ug/mL	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032211\
Data File : 15M04093.D
Acq On : 22 Mar 2011 9:02 am
Operator : CAA
Sample : WG359445-03 LCS 03/21
Misc : 7,1 SOIL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 23 08:10:30 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Wed Mar 23 08:10:15 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04122.D
Acq On : 24 Mar 2011 3:55 pm
Operator : CAA
Sample : WG359747-04 LCS 03/23
Misc : 7,1 SOIL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 25 07:06:06 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration

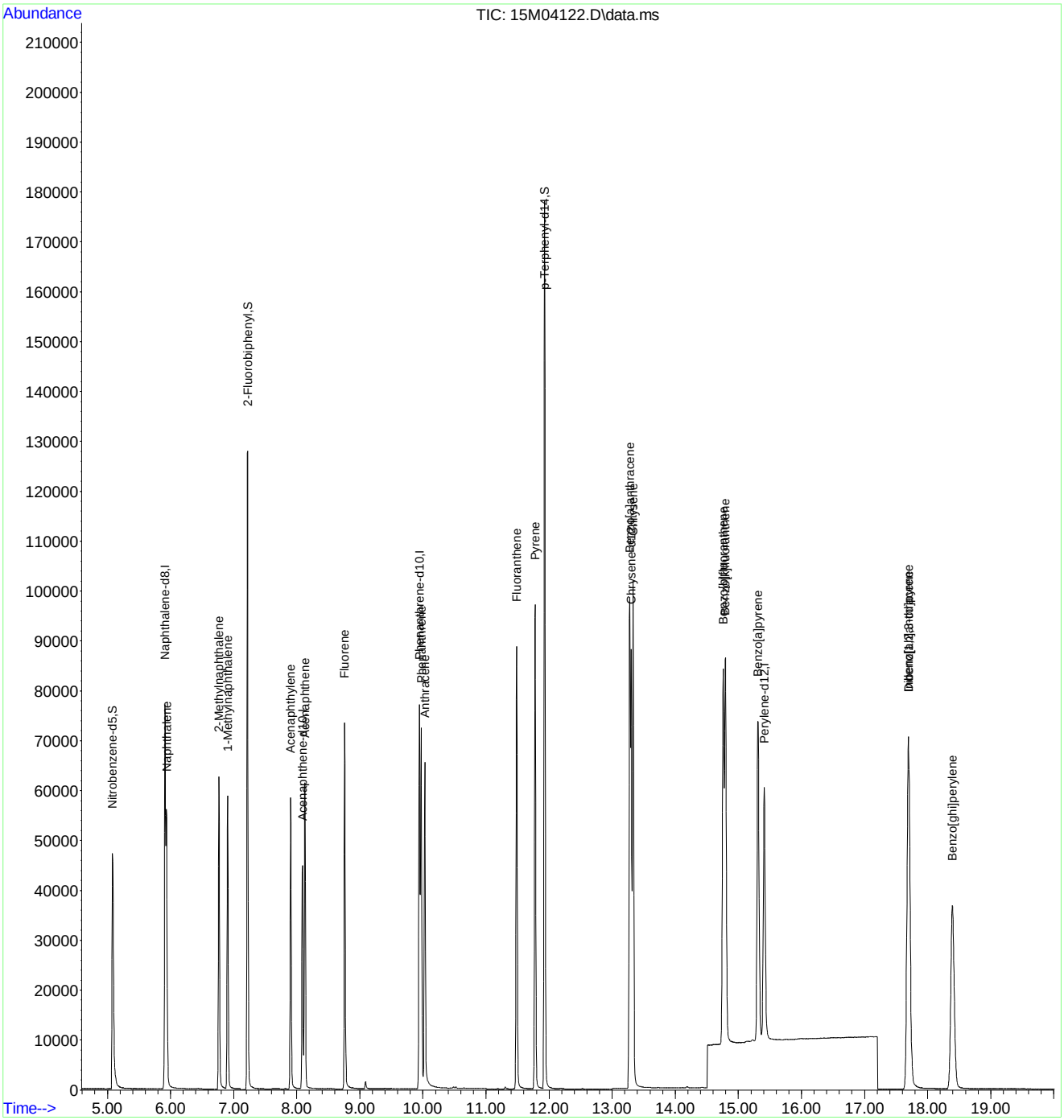
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8	5.911	136	100187	1.00 ug/mL	-0.01
6) Acenaphthene-d10	8.093	164	55065	1.00 ug/mL	-0.01
11) Phenanthrene-d10	9.945	188	93645	1.00 ug/mL	-0.01
15) Chrysene-d12	13.301	240	109230	1.00 ug/mL	-0.01
20) Perylene-d12	15.410	264	109891	1.00 ug/mL	-0.02
System Monitoring Compounds					
2) Nitrobenzene-d5	5.081	82	53271	1.56 ug/mL	-0.03
Spiked Amount 2.500	Range 23 - 120		Recovery	= 62.40%	
7) 2-Fluorobiphenyl	7.220	172	117632	1.62 ug/mL	-0.02
Spiked Amount 2.500	Range 30 - 115		Recovery	= 64.80%	
17) p-Terphenyl-d14	11.927	244	188472	2.62 ug/mL	-0.01
Spiked Amount 2.500	Range 18 - 137		Recovery	= 104.80%	
Target Compounds					Qvalue
3) Naphthalene	5.937	128	61040	0.5992 ug/mL	97
4) 2-Methylnaphthalene	6.767	142	42387	0.6192 ug/mL	99
5) 1-Methylnaphthalene	6.903	142	39227	0.5741 ug/mL	99
8) Acenaphthylene	7.905	152	59159	0.5970 ug/mL	98
9) Acenaphthene	8.131	154	38320	0.6018 ug/mL	97
10) Fluorene	8.761	166	47258	0.6180 ug/mL	99
12) Phenanthrene	9.971	178	75766	0.7202 ug/mL	100
13) Anthracene	10.030	178	74872	0.7842 ug/mL	100
14) Fluoranthene	11.485	202	99932	0.9148 ug/mL	100
16) Pyrene	11.780	202	109560	0.8707 ug/mL	99
18) Benzo[a]anthracene	13.279	228	102358	0.9321 ug/mL	100
19) Chrysene	13.333	228	106836	0.9743 ug/mL	99
21) Benzo[b]fluoranthene	14.758	252	115482	0.9165 ug/mL#	72
22) Benzo[k]fluoranthene	14.791	252	113104	0.9628 ug/mL#	71
23) Benzo[a]pyrene	15.308	252	114700	0.9708 ug/mL#	68
24) Indeno[1,2,3-cd]pyrene	17.693	276	135996	0.9503 ug/mL#	100
25) Dibenz[ah]anthracene	17.693	278	110544	0.9500 ug/mL#	100
26) Benzo[ghi]perylene	18.392	276	113580	0.9500 ug/mL	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04122.D
Acq On : 24 Mar 2011 3:55 pm
Operator : CAA
Sample : WG359747-04 LCS 03/23
Misc : 7,1 SOIL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 25 07:06:06 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration



PAHQUANT.M Fri Mar 25 07:12:32 2011 Page: 2

2.2 General Chemistry Data

2.2.1 Percent Solids Data

2.2.1.1 Raw Data

LABORATORY REPORT

L11030658

03/24/11 15:55

Submitted By

Microbac Laboratories Inc.
158 Starlite Drive
Marietta , OH 45750
(740) 373 - 4071

For

Account Name: Versar Inc
12050 N. Pecos Street
Suite 300
Westminster, CO 80234
Attention: Gary Torf

Project Number: 2415.036
Project: Cannon AFB
Site: CANNON AFB

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
SR042A	L11030658-01	D2216-90	1	18-MAR-11
SR043A	L11030658-02	D2216-90	1	18-MAR-11
SR043ADUP	L11030658-03	D2216-90	1	18-MAR-11
SR044A	L11030658-04	D2216-90	1	18-MAR-11
SR045A	L11030658-05	D2216-90	1	18-MAR-11
SR046A	L11030658-06	D2216-90	1	18-MAR-11
SR047A	L11030658-07	D2216-90	1	18-MAR-11
SR048A	L11030658-08	D2216-90	1	18-MAR-11
SR048ADUP	L11030658-09	D2216-90	1	18-MAR-11
SR049A	L11030658-10	D2216-90	1	18-MAR-11
SR050A	L11030658-11	D2216-90	1	18-MAR-11
SR051A	L11030658-12	D2216-90	1	18-MAR-11
SR052A	L11030658-13	D2216-90	1	18-MAR-11
SR052AMS	L11030658-14	D2216-90	1	18-MAR-11
SR052AMSD	L11030658-15	D2216-90	1	18-MAR-11
SR053A	L11030658-16	D2216-90	1	18-MAR-11

Microbac Laboratories Inc.

Report Number: **L11030658**

Report Date : **March 24, 2011**

Sample Number: **L11030658-01**
Client ID: **SR042A**
Matrix: **Soil**
Workgroup Number: **WG359746**
Collect Date: **03/17/2011 10:10**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/24/2011 13:27**
Cal Date:
Run Date: **03/24/2011 13:27**
File ID: **B1.359746-0119**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	96.8		1.00	1.00

Report Number: **L11030658**
Report Date : **March 24, 2011**

Sample Number: **L11030658-02**
Client ID: **SR043A**
Matrix: **Soil**
Workgroup Number: **WG359746**
Collect Date: **03/17/2011 10:30**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/24/2011 13:27**
Cal Date:
Run Date: **03/24/2011 13:27**
File ID: **B1.359746-0120**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	94.4		1.00	1.00

Report Number: **L11030658**
Report Date : **March 24, 2011**

Sample Number: **L11030658-03**
Client ID: **SR043ADUP**
Matrix: **Soil**
Workgroup Number: **WG359746**
Collect Date: **03/17/2011 10:30**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/24/2011 13:27**
Cal Date:
Run Date: **03/24/2011 13:27**
File ID: **B1.359746-0121**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	94.6		1.00	1.00

Report Number: **L11030658**
Report Date : **March 24, 2011**

Sample Number: **L11030658-04**
Client ID: **SR044A**
Matrix: **Soil**
Workgroup Number: **WG359746**
Collect Date: **03/17/2011 10:40**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/24/2011 13:27**
Cal Date:
Run Date: **03/24/2011 13:27**
File ID: **B1.359746-0122**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	95.3		1.00	1.00

Report Number: **L11030658**
Report Date : **March 24, 2011**

Sample Number: **L11030658-05**
Client ID: **SR045A**
Matrix: **Soil**
Workgroup Number: **WG359746**
Collect Date: **03/17/2011 11:05**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/24/2011 13:27**
Cal Date:
Run Date: **03/24/2011 13:27**
File ID: **B1.359746-0123**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	97.0		1.00	1.00

Report Number: **L11030658**
Report Date : **March 24, 2011**

Sample Number: **L11030658-06**
Client ID: **SR046A**
Matrix: **Soil**
Workgroup Number: **WG359746**
Collect Date: **03/17/2011 11:30**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/24/2011 13:27**
Cal Date:
Run Date: **03/24/2011 13:27**
File ID: **B1.359746-0124**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	97.4		1.00	1.00

Report Number: **L11030658**
Report Date : **March 24, 2011**

Sample Number: **L11030658-07**
Client ID: **SR047A**
Matrix: **Soil**
Workgroup Number: **WG359746**
Collect Date: **03/17/2011 11:45**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/24/2011 13:27**
Cal Date:
Run Date: **03/24/2011 13:27**
File ID: **B1.359746-0125**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	95.7		1.00	1.00

Report Number: **L11030658**
Report Date : **March 24, 2011**

Sample Number: **L11030658-08**
Client ID: **SR048A**
Matrix: **Soil**
Workgroup Number: **WG359746**
Collect Date: **03/17/2011 12:00**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/24/2011 13:27**
Cal Date:
Run Date: **03/24/2011 13:27**
File ID: **B1.359746-0126**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	95.1		1.00	1.00

Report Number: **L11030658**
Report Date : **March 24, 2011**

Sample Number: **L11030658-09**
Client ID: **SR048ADUP**
Matrix: **Soil**
Workgroup Number: **WG359746**
Collect Date: **03/17/2011 12:00**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/24/2011 13:27**
Cal Date:
Run Date: **03/24/2011 13:27**
File ID: **B1.359746-0127**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	95.6		1.00	1.00

Report Number: **L11030658**
Report Date : **March 24, 2011**

Sample Number: **L11030658-10**
Client ID: **SR049A**
Matrix: **Soil**
Workgroup Number: **WG359746**
Collect Date: **03/17/2011 12:15**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/24/2011 13:27**
Cal Date:
Run Date: **03/24/2011 13:27**
File ID: **B1.359746-0128**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	93.2		1.00	1.00

Report Number: **L11030658**
Report Date : **March 24, 2011**

Sample Number: **L11030658-11**
Client ID: **SR050A**
Matrix: **Soil**
Workgroup Number: **WG359746**
Collect Date: **03/17/2011 12:25**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/24/2011 13:27**
Cal Date:
Run Date: **03/24/2011 13:27**
File ID: **B1.359746-0129**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	96.5		1.00	1.00

Report Number: **L11030658**
Report Date : **March 24, 2011**

Sample Number: **L11030658-12**
Client ID: **SR051A**
Matrix: **Soil**
Workgroup Number: **WG359746**
Collect Date: **03/17/2011 12:35**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/24/2011 13:27**
Cal Date:
Run Date: **03/24/2011 13:27**
File ID: **B1.359746-0130**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	95.1		1.00	1.00

Report Number: **L11030658**
Report Date : **March 24, 2011**

Sample Number: **L11030658-13**
Client ID: **SR052A**
Matrix: **Soil**
Workgroup Number: **WG359746**
Collect Date: **03/17/2011 13:10**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/24/2011 13:27**
Cal Date:
Run Date: **03/24/2011 13:27**
File ID: **B1.359746-0131**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	97.2		1.00	1.00

Report Number: **L11030658**
Report Date : **March 24, 2011**

Sample Number: **L11030658-14**
Client ID: **SR052AMS**
Matrix: **Soil**
Workgroup Number: **WG359746**
Collect Date: **03/17/2011 13:10**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/24/2011 13:27**
Cal Date:
Run Date: **03/24/2011 13:27**
File ID: **B1.359746-0132**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	97.2		1.00	1.00

Report Number: **L11030658**
Report Date : **March 24, 2011**

Sample Number: **L11030658-15**
Client ID: **SR052AMSD**
Matrix: **Soil**
Workgroup Number: **WG359746**
Collect Date: **03/17/2011 13:10**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/24/2011 13:27**
Cal Date:
Run Date: **03/24/2011 13:27**
File ID: **B1.359746-0133**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	97.2		1.00	1.00

Report Number: **L11030658**
Report Date : **March 24, 2011**

Sample Number: **L11030658-16**
Client ID: **SR053A**
Matrix: **Soil**
Workgroup Number: **WG359746**
Collect Date: **03/17/2011 13:20**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/24/2011 13:27**
Cal Date:
Run Date: **03/24/2011 13:27**
File ID: **B1.359746-0134**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	97.2		1.00	1.00

Example Percent Solids Calculations

1.0 Calculating the percent solids of a sample.

$$\%Solids = \frac{WT3 - WT1}{WT2 - WT1} \times F$$

Where:	
WT1 = Weight, in grams, of the empty container	1.30 g
WT2 = Weight, in grams, of the container and wet sample	21.274 g
WT3 = Weight, in grams, of the container and dried sample	5.21 g
F = Factor to get units as percent weight	100
%Solids = Percent solids present in sample.	19.58%

2.0 Calculating the percent moisture of a sample.

% Moisture = 100 - % Solids from 1.0 calculation

Microbac Laboratories Inc.

PERCENT SOLIDS

Workgroup (AAB#): WG359746 Analyst: JDH ADT(on): 03/23/2011 14:20
Method: D2216-90 Instrument: BAL013 ADT(off): 03/24/2011 13:27
SOP: K0003 Rev: 11

SAMPLE NUMBER	EMPTY PAN WT 1	WET WT 2	DRY WT 3A	DRY WT 3B	DRY WT 3C	PERCENT SOLID	PERCENT MOISTURE
L11030412-01	1.335	36.531	31.643			86.11	
L11030412-02	1.335	33.116	30.421			91.52	
L11030412-03	1.332	34.019	32.793			96.25	
L11030412-04	1.318	41.768	39.084			93.36	
L11030412-05	1.322	46.259	43.61			94.11	
L11030412-06	1.329	29.655	25.773			86.30	
L11030412-07	1.326	39.715	34.056			85.26	
L11030412-08	1.322	34.429	30.53			88.22	
L11030456-01	1.336	21.948	11.469			49.16	
L11030544-01	1.318	21.875	21.494			98.15	
L11030544-02	1.34	17.659	17.319			97.92	
L11030575-01	1.329	38.666	31.911			81.91	
L11030575-02	1.324	29.369	24.06			81.07	
L11030575-03	1.329	34.751	28.278			80.63	
L11030575-04	1.318	21.614	16.847			76.51	
L11030575-05	1.325	32.468	26.891			82.09	
L11030575-06	1.339	28.226	22.799			79.82	
L11030641-01	1.338	17.415	12.513			69.51	
L11030655-01	1.333	21.65	14.645			65.52	
L11030655-02	1.323	24.395	18.171			73.02	
L11030655-03	1.328	25.693	18.248			69.44	
L11030655-04	1.33	32.364	23.88			72.66	
L11030655-05	1.33	32.364	23.88			72.66	
L11030655-06	1.33	32.364	23.88			72.66	
L11030655-07	1.331	37.395	27.686			73.08	
L11030655-08	1.32	32.795	24.391			73.30	
L11030655-09	1.329	24.833	19.072			75.49	
L11030658-01	1.328	21.967	21.312			96.83	
L11030658-02	1.325	20.022	18.974			94.39	
L11030658-03	1.336	28.17	26.715			94.58	
L11030658-04	1.327	24.029	22.955			95.27	
L11030658-05	1.32	22.507	21.863			96.96	
L11030658-06	1.341	23.942	23.36			97.42	
L11030658-07	1.322	26.72	25.625			95.69	
L11030658-08	1.326	18.771	17.914			95.09	
L11030658-09	1.321	28.929	27.703			95.56	
L11030658-10	1.326	17.755	16.643			93.23	
L11030658-11	1.328	29.389	28.394			96.45	
L11030658-12	1.323	23.565	22.477			95.11	
L11030658-13	1.324	20.213	19.675			97.15	
L11030658-14	1.324	20.213	19.675			97.15	
L11030658-15	1.324	20.213	19.675			97.15	

PERCENT_SOLIDS - Modified 04/24/2008
PDF ID: 1952970
Report generated: 03/24/2011 14:26

Microbac Laboratories Inc.

PERCENT SOLIDS

Workgroup (AAB#): WG359746 Analyst: JDH ADT(on): 03/23/2011 14:20
Method: D2216-90 Instrument: BAL013 ADT(off): 03/24/2011 13:27
SOP: K0003 Rev: 11

SAMPLE NUMBER	EMPTY PAN WT 1	WET WT 2	DRY WT 3A	DRY WT 3B	DRY WT 3C	PERCENT SOLID	PERCENT MOISTURE
L11030658-16	1.326	22.78	22.184			97.22	
L11030678-01	1.341	24.789	24.559			99.02	
L11030715-01	1.32	26.706	22.602			83.83	
L11030715-02	1.324	25.965	21.709			82.73	
L11030715-03	1.325	29.978	24.925			82.36	
L11030715-04	1.325	29.978	24.925			82.36	
L11030715-05	1.325	29.978	24.925			82.36	
L11030715-06	1.316	19.325	16.214			82.73	
L11030715-07	1.322	28.785	24.004			82.59	
L11030715-08	1.32	19.77	16.564			82.62	
L11030715-09	1.325	21.707	18.147			82.53	
L11030715-10	1.322	31.144	26.261			83.63	
L11030715-11	1.322	24.638	20.478			82.16	
L11030715-12	1.357	25.696	21.592			83.14	
L11030715-13	1.319	27.371	22.935			82.97	
L11030715-14	1.319	27.652	23.387			83.80	
L11030715-15	1.318	29.252	25.005			84.80	
L11030715-16	1.32	14.919	12.604			82.98	
L11030715-17	1.32	22.802	19.047			82.52	
L11030715-18	1.332	17.921	15.173			83.43	
WG359746-01	1.329	38.666	31.911			81.91	18.09
WG359746-02	1.323	34.395	18.171			50.94	49.06
WG359746-03	1.332	17.921	15.173			83.43	16.57
WG359746-04	1.317	22.344	18.594			82.17	17.83
WG359746-05	1.33	27.995	14.171			48.16	51.84
WG359746-06	1.33	15.19	12.945			83.80	16.20

Analyst: Justin Hesson

PERCENT_SOLIDS - Modified 04/24/2008
PDF ID: 1952970
Report generated: 03/24/2011 14:26

Microbac

3.0 Attachments

Microbac Laboratories Inc.
Analyst Listing
March 30, 2011

ADC - ANTHONY D. CANTER	AJF - AMANDA J. FICKIESEN	ALB - ANNIE L. BROWN
ALV - AMY L. VALENTINE	AML - TONY M. LONG	AZH - AFTER HOURS
BLG - BRENDA L. GREENWALT	BRG - BRENDA R. GREGORY	CAA - CASSIE A. AUGENSTEIN
CAF - CHERYL A. FLOWERS	CEB - CHAD E. BARNES	CLC - CHRYS L. CRAWFORD
CLS - CARA L. STRICKLER	CLW - CHARISSA L. WINTERS	CPD - CHAD P. DAVIS
CSH - CHRIS S. HILL	DDE - DEBRA D. ELLIOTT	DEL - DON E. LIGHTFRITZ
DEV - DAVID E. VANDENBERG	DGB - DOUGLAS G. BUTCHER	DIH - DEANNA I. HESSON
DLB - DAVID L. BUMGARNER	DLP - DOROTHY L. PAYNE	DLR - DIANNA L. RAUCH
ECL - ERIC C. LAWSON	EDL - ERIN D. LONG	ERP - ERIN R. PORTER
FJB - FRANCES J. BOLDEN	HAV - HEMA VILASAGAR	HJR - HOLLY J. REED
JAL - JOHN A. LENT	JBK - JEREMY B. KINNEY	JDH - JUSTIN D. HESSON
JKT - JANE K. THOMPSON	JLL - JOHN L. LENT	JWR - JOHN W. RICHARDS
JWS - JACK W. SHEAVES	JYH - JI Y. HU	KEB - KATIE E. BARNES
KHR - KIM H. RHODES	KRA - KATHY R. ALBERTSON	LKN - LINDA K. NEDEFF
LSB - LESLIE S. BUCINA	MDA - MIKE D. ALBERTSON	MDC - MIKE D. COCHRAN
MES - MARY E. SCHILLING	MMB - MAREN M. BEERY	MRT - MICHELLE R. TAYLOR
MSW - MATT S. WILSON	PDM - PIERCE D. MORRIS	PWD - PAUL W. DENT
RAH - ROY A. HALSTEAD	RB - BOB BUCHANAN	REK - BOB E. KYER
RLK - ROBIN L. KLINGER	RWC - RODNEY W. CAMPBELL	SLM - STEPHANIE L. MOSSBURG
SLP - SHERI L. PFALZGRAF	TIP - TAE I. PARRISH	TMB - TIFFANY M. BAILEY
TMM - TAMMY M. MORRIS	VC - VICKI COLLIER	WJB - WILL J. BEASLEY
WTD - WADE T. DELONG		

Microbac Laboratories Inc.
List of Valid Qualifiers
March 30, 2011

Qualkey: DOD

Qualifier	Description
*	Surrogate or spike compound out of range
+	Correlation coefficient for the MSA is less than 0.995
<	Result is less than the associated numerical value.
>	Result is greater than the associated numerical value.
A	See the report narrative
B	The reported result is associated with a contaminated method blank.
B1	Target analyte detected in method blank at or above the method reporting limit
B3	Target analyte detected in calibration blank at or above the method reporting limit
B4	The BOD unseeded dilution water blank exceeded 0.2 mg/L
C	Confirmed by GC/MS
CG	Confluent growth
DL	Surrogate or spike compound was diluted out
E	Estimated concentration due to sample matrix interference
EDL	Elevated sample reporting limits, presence of non-target analytes
EMPC	Estimated Maximum Possible Concentration
F, S	Estimated result below quantitation limit; method of standard additions(MSA)
FL	Free Liquid
H1	Sample analysis performed past holding time.
I	Semiquantitative result (out of instrument calibration range)
J	Estimated concentration; sample matrix interference.
J	Estimated value ; the analyte concentration was greater than the highest standard
J	Estimated value ; the analyte concentration was less than the low standard (LOQ)
J	The reported result is an estimated value.
J,B	Analyte detected in both the method blank and sample above the MDL.
J,P	Estimate; columns don't agree to within 40%
J,S	Estimated concentration; analyzed by method of standard addition (MSA)
L	Sample reporting limits elevated due to matrix interference
L1	The associated blank spike (LCS) recovery was above the laboratory acceptance limits.
L2	The associated blank spike (LCS) recovery was below the laboratory acceptance limits.
M	Matrix effect; the concentration is an estimate due to matrix effect.
N	Nontarget analyte; the analyte is a tentativlely identified compound (TIC) by GC/MS
NA	Not applicable
ND	Not detected at or above the reporting limit (RL).
ND, L	Not detected; sample reporting limit (RL) elevated due to interference
ND, S	Not detected; analyzed by method of standard addition (MSA)
NF	Not found by library search
NFL	No free liquid
NI	Non-ignitable
NR	Analyte is not required to be analyzed
NS	Not spiked
P	Concentrations >40% difference between the two GC columns
Q	One or more quality control criteria failed. See narrative.
QNS	Quantity of sample not sufficient to perform analysis
RA	Reanalysis confirms reported results
RE	Reanalysis confirms sample matrix interference
S	Analyzed by method of standard addition (MSA)
SMI	Sample matrix interference on surrogate
SP	Reported results are for spike compounds only
TIC	Library Search Compound
TNTC	Too numerous to count
U	Analyte was not detected. The concentration is below the reported LOD.
UJ	Undetected; the analyte was analyzed for, but not detected.
UQ	Undetected; the analyte was analyzed for, but not detected.
W	Post-digestion spike for furnace AA out of control limits
X	Exceeds regulatory limit
X, S	Exceeds regulatory limit; method of standard additions (MSA)
Z	Cannot be resolved from isomer - see below

*****Special Notes for Organic Analytes**

Qualkey: DOD

1. Acrolein and acrylonitrile by method 624 are semi-quantitative screens only.
2. 1,2-Diphenylhydrazine is unstable and is reported as azobenzene.
3. N-nitrosodiphenylamine cannot be separated from diphenylamine.
4. 3-Methylphenol and 4-Methylphenol are unresolvable compounds.
5. m-Xylene and p-Xylene are unresolvable compounds.
6. The reporting limits for Appendix II/IX compounds by method 8270 are based on EPA estimated PQLs referenced in 40 CFR Part 264, Appendix IX. They are not always achievable for every compound an are matrix dependent.

Versar

CHAIN OF CUSTODY RECORD

№ 0158

PROJECT NO.: 111736.0006

PROJECT NAME: CANNON AFB CSE PHASE II

LAB: MICROBAC

SAMPLERS: (Signature)

(Printed): PAMELA CANNON; CRAIG KISH

FIELD SAMPLE NUMBER	DATE	TIME	MATRIX	METH.	LOCATION ID	NO. OF CONTAINERS	PARAMETERS: Part-SVOCs						SBD (ft)	SED (ft)	REMARKS: SACODE	LOTCTLNUM	Preservative
SR042A	3/17/11	1010	SO		SR042	1	X						0.0	0.5	N	–	4°C
SR043A	3/17/11	1030	SO		SR043	1	X								N	–	4°C
SR043ADUP	3/17/11	1030	SO		SR043	1	X								~~N~~ FD	–	4°C
SR044A	3/17/11	1040	SO		SR044	1	X								N	–	4°C
SR045A	3/17/11	1105	SO		SR045	1	X								N	–	4°C
SR046A	3/17/11	1130	SO		SR046	1	X								N	–	4°C
SR047A	3/17/11	1145	SO		SR047	1	X								N	–	4°C
SR048A	3/17/11	1200	SO		SR048	1	X								N	–	4°C
SR048ADUP	3/17/11	1200	SO		SR048	1	X								~~N~~ FD	–	4°C
SR049A	3/17/11	1215	SO		SR049	1	X								N	–	4°C
SR050A	3/17/11	1225	SO		SR050	1	X								N	–	4°C
SR051A	3/17/11	1235	SO		SR051	1	X						↓	↓	N	–	4°C

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time
Gary Torf	3/17/11 1430	FED EX	
(Printed) Gary Torf		(Printed)	
Relinquished by: (Signature)			
(Printed)			

Microbac OVD 221000013302
Received: 03/18/2011 10:55
By: ROBIN KLINGER
Robin L. Klinger

Remarks: QUESTIONS CALL GARY TORF 720.231.8022 (CELL)

Temp Received

Turn-Around-Time: 7 DAYS

FedEx Airbill #

Distribution: Original Plus One Accompanies Shipment (white and yellow); Copy to Coordinator Field Files (pink).

Versar

CHAIN OF CUSTODY RECORD

№ 0159

PROJECT NO.	PROJECT NAME	LAB:
111736.0006	CANNON AFB CSE PHASE II	MICROBAC

SAMPLERS: (Signature) (Printed) PATRICK LAWLER, CRAIG KISK

FIELD SAMPLE NUMBER	DATE	TIME	MATRIX	METH.	LOCATION ID	NO. OF CONTAINERS	Part SW8270C						SBD (ft)	SED (ft)	SACODE	LOTCTLNUM	Preservative
SR052A	3/17/11	1310	SO		SR052	1	X						0.0	0.5	N	—	4°C
SR052AMS	3/17/11	1310	SO		SR052	1	X						↓	↓	MS	—	4°C
SR052AMSD	3/17/11	1310	SO		SR052	1	X						↓	↓	SD	—	4°C
SR053A	3/17/11	1320	SO		SR053	1	X						↓	↓	N	—	4°C

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time
(Printed) Gary Tork	3/17/11 1430	FED EX (Printed)	
Relinquished by: (Signature)			Date / Time
(Printed)			

Microbac OVD 221000013302
Received: 03/18/2011 10:55
By: ROBIN KLINGER
Robin L. Klinger

Remarks: Call GARY TORK WITH QUESTIONS 720.231.8022

Temp Received

Turn-Around-Time 7 DAYS

FedEx Airbill #

Distribution: Original Plus One Accompanies Shipment (white and yellow); Copy to Coordinator Field Files (pink).

10000153302

COOLER INSPECTION

Received: 03/18/2011 10:55
Delivery Method: FedEx
Opened By: Cara Strickler
Comments:

Login(s): L11030658|

Cooler(s)

Cooler #	Temp Gun	Temp	Tracking #	COC #	Comments
0013041	H	3.0	3457507711002562795755504471681 1	0156 0157 0158 0159 0154 0155 0160 0161	
0014958	H	3.0	3457507711002562873530195051215 6	0156 0157 0158 0159 0154 0155 0160 0161	

1	Yes	Were shipping coolers sealed?
2	Yes	Were custody seals intact?
3	Yes	Were cooler temperatures in range of 0-6?
4	Yes	Was ice present?
5	Yes	Were COC's received/information complete/signed and dated?
6	Yes	Were sample containers and labels intact and match COC?
7	Yes	Were the correct containers and volumes received?
8	Yes	Were samples received within EPA hold times?
9	NA	Were correct perservatives used? (water only)
10	NA	Were pH ranges acceptable? (voa's excluded)
11	NA	Were VOA samples free of headspace (less than 6mm)?

Discrepancies:

Look closer. Go further. Do more.

Microbac - Ohio Valley Division
158 Starlite Drive
Marietta, OH 45750
Tel: (740)373-4071 Fax: (740)373-4835

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L11030658
Account: 2415
Project: 2415.036
Samples: 16
Due Date: 25-MAR-2011

Samplenum	Container ID	Products
L11030658-01	809787	827-PAHL PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	18-MAR-2011 15:27	JKT	
2	PREP	W1	EXT	21-MAR-2011 06:47	CEB	AZH
3	STORE	EXT	W1	21-MAR-2011 08:55	JKT	CEB
4	ANALYZ*	EXT	SEMI	21-MAR-2011 14:52	CAA	CEB
5	ANALYZ	W1	WET	23-MAR-2011 13:44	JDH	RLK
6	STORE	WET	A1	24-MAR-2011 08:16	JDH	JDH

Sample extract/digestate/leachate

Samplenum	Container ID	Products
L11030658-02	809788	827-PAHL PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	18-MAR-2011 15:27	JKT	
2	PREP	W1	EXT	21-MAR-2011 06:47	CEB	AZH
3	STORE	EXT	W1	21-MAR-2011 08:55	JKT	CEB
4	ANALYZ*	EXT	SEMI	21-MAR-2011 14:52	CAA	CEB
5	ANALYZ	W1	WET	23-MAR-2011 13:44	JDH	RLK
6	STORE	WET	A1	24-MAR-2011 08:16	JDH	JDH

Sample extract/digestate/leachate

Samplenum	Container ID	Products
L11030658-03	809789	827-PAHL PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	18-MAR-2011 15:27	JKT	
2	PREP	W1	EXT	21-MAR-2011 06:47	CEB	AZH
3	STORE	EXT	W1	21-MAR-2011 08:56	JKT	CEB
4	ANALYZ*	EXT	SEMI	21-MAR-2011 14:52	CAA	CEB
5	ANALYZ	W1	WET	23-MAR-2011 13:44	JDH	RLK
6	STORE	WET	A1	24-MAR-2011 08:16	JDH	JDH

Sample extract/digestate/leachate

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L11030658
Account: 2415
Project: 2415.036
Samples: 16
Due Date: 25-MAR-2011

Samplenum	Container ID	Products
L11030658-04	809790	827-PAHL PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	18-MAR-2011 15:27	JKT	
2	PREP	W1	EXT	21-MAR-2011 06:47	CEB	AZH
3	STORE	EXT	W1	21-MAR-2011 08:56	JKT	CEB
4	ANALYZ*	EXT	SEMI	21-MAR-2011 14:52	CAA	CEB
5	ANALYZ	W1	WET	23-MAR-2011 13:44	JDH	RLK
6	STORE	WET	A1	24-MAR-2011 08:17	JDH	JDH

Sample extract/digestate/leachate

Samplenum	Container ID	Products
L11030658-05	809791	827-PAHL PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	18-MAR-2011 15:27	JKT	
2	PREP	W1	EXT	21-MAR-2011 06:47	CEB	AZH
3	STORE	EXT	W1	21-MAR-2011 08:56	JKT	CEB
4	ANALYZ*	EXT	SEMI	21-MAR-2011 14:52	CAA	CEB
5	ANALYZ	W1	WET	23-MAR-2011 13:44	JDH	RLK
6	STORE	WET	A1	24-MAR-2011 08:17	JDH	JDH

Sample extract/digestate/leachate

Samplenum	Container ID	Products
L11030658-06	809792	827-PAHL PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	18-MAR-2011 15:27	JKT	
2	PREP	W1	EXT	21-MAR-2011 06:47	CEB	AZH
3	STORE	EXT	W1	21-MAR-2011 08:56	JKT	CEB
4	ANALYZ*	EXT	SEMI	21-MAR-2011 14:52	CAA	CEB
5	ANALYZ	W1	WET	23-MAR-2011 13:44	JDH	RLK
6	STORE	WET	A1	24-MAR-2011 08:17	JDH	JDH

Sample extract/digestate/leachate

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L11030658
Account: 2415
Project: 2415.036
Samples: 16
Due Date: 25-MAR-2011

Samplenum	Container ID	Products
L11030658-07	809793	827-PAHL PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	18-MAR-2011 15:27	JKT	
2	PREP	W1	EXT	21-MAR-2011 06:47	CEB	AZH
3	STORE	EXT	W1	21-MAR-2011 08:56	JKT	CEB
4	ANALYZ*	EXT	SEMI	21-MAR-2011 14:52	CAA	CEB
5	ANALYZ	W1	WET	23-MAR-2011 13:44	JDH	RLK
6	STORE	WET	A1	24-MAR-2011 08:17	JDH	JDH

Sample extract/digestate/leachate

Samplenum	Container ID	Products
L11030658-08	809794	827-PAHL PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	18-MAR-2011 15:27	JKT	
2	PREP	W1	EXT	21-MAR-2011 06:47	CEB	AZH
3	STORE	EXT	W1	21-MAR-2011 08:56	JKT	CEB
4	ANALYZ*	EXT	SEMI	21-MAR-2011 14:52	CAA	CEB
5	ANALYZ	W1	WET	23-MAR-2011 13:44	JDH	RLK
6	STORE	WET	A1	24-MAR-2011 08:17	JDH	JDH

Sample extract/digestate/leachate

Samplenum	Container ID	Products
L11030658-09	809795	827-PAHL PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	18-MAR-2011 15:27	JKT	
2	PREP	W1	EXT	21-MAR-2011 06:47	CEB	AZH
3	STORE	EXT	W1	21-MAR-2011 08:56	JKT	CEB
4	ANALYZ*	EXT	SEMI	21-MAR-2011 14:52	CAA	CEB
5	ANALYZ	W1	WET	23-MAR-2011 13:44	JDH	RLK
6	STORE	WET	A1	24-MAR-2011 08:17	JDH	JDH

Sample extract/digestate/leachate

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L11030658
Account: 2415
Project: 2415.036
Samples: 16
Due Date: 25-MAR-2011

Samplenum	Container ID	Products
L11030658-10	809796	827-PAHL PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	18-MAR-2011 15:27	JKT	
2	PREP	W1	EXT	21-MAR-2011 06:47	CEB	AZH
3	STORE	EXT	W1	21-MAR-2011 08:56	JKT	CEB
4	ANALYZ*	EXT	SEMI	21-MAR-2011 14:52	CAA	CEB
5	ANALYZ	W1	WET	23-MAR-2011 13:44	JDH	RLK
6	STORE	WET	A1	24-MAR-2011 08:17	JDH	JDH

Sample extract/digestate/leachate

Samplenum	Container ID	Products
L11030658-11	809797	827-PAHL PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	18-MAR-2011 15:27	JKT	
2	PREP	W1	EXT	21-MAR-2011 06:47	CEB	AZH
3	STORE	EXT	W1	21-MAR-2011 08:56	JKT	CEB
4	ANALYZ*	EXT	SEMI	21-MAR-2011 14:52	CAA	CEB
5	ANALYZ	W1	WET	23-MAR-2011 13:44	JDH	RLK
6	STORE	WET	A1	24-MAR-2011 08:17	JDH	JDH

Sample extract/digestate/leachate

Samplenum	Container ID	Products
L11030658-12	809798	827-PAHL PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	18-MAR-2011 15:27	JKT	
2	PREP	W1	EXT	21-MAR-2011 06:47	CEB	AZH
3	STORE	EXT	W1	21-MAR-2011 08:56	JKT	CEB
4	ANALYZ*	EXT	SEMI	21-MAR-2011 14:52	CAA	CEB
5	ANALYZ	W1	WET	23-MAR-2011 13:44	JDH	RLK
6	STORE	WET	A1	24-MAR-2011 08:17	JDH	JDH

Sample extract/digestate/leachate

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.
Internal Chain of Custody Report

Login: L11030658
Account: 2415
Project: 2415.036
Samples: 16
Due Date: 25-MAR-2011

Samplenum	Container ID	Products
L11030658-13	809799	827-PAHL PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	18-MAR-2011 15:27	JKT	
2	PREP	W1	EXT	21-MAR-2011 06:47	CEB	AZH
3	STORE	EXT	W1	21-MAR-2011 08:56	JKT	CEB
4	ANALYZ*	EXT	SEMI	21-MAR-2011 14:52	CAA	CEB
5	PREP	W1	EXT	23-MAR-2011 13:30	CSH	JKT
6	STORE	EXT	W1	23-MAR-2011 15:15	CSH	JKT

Sample extract/digestate/leachate

Samplenum	Container ID	Products
L11030658-14	809800	827-PAHL PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	18-MAR-2011 15:27	JKT	
2	PREP	W1	EXT	21-MAR-2011 06:47	CEB	AZH
3	STORE	EXT	W1	21-MAR-2011 08:56	JKT	CEB
4	ANALYZ*	EXT	SEMI	21-MAR-2011 14:52	CAA	CEB
5	PREP	W1	EXT	23-MAR-2011 13:30	CSH	JKT
6	STORE	EXT	W1	23-MAR-2011 15:15	CSH	JKT

Sample extract/digestate/leachate

Samplenum	Container ID	Products
L11030658-15	809801	827-PAHL PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	18-MAR-2011 15:27	JKT	
2	PREP	W1	EXT	21-MAR-2011 06:47	CEB	AZH
3	STORE	EXT	W1	21-MAR-2011 08:56	JKT	CEB
4	ANALYZ*	EXT	SEMI	21-MAR-2011 14:52	CAA	CEB
5	PREP	W1	EXT	23-MAR-2011 13:30	CSH	JKT
6	STORE	EXT	W1	23-MAR-2011 15:15	CSH	JKT

Sample extract/digestate/leachate

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Internal Chain of Custody Report

Login: L11030658
Account: 2415
Project: 2415.036
Samples: 16
Due Date: 25-MAR-2011

Samplenum	Container ID	Products
L11030658-16	809802	827-PAHL PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	18-MAR-2011 15:27	JKT	
2	PREP	W1	EXT	21-MAR-2011 06:47	CEB	AZH
3	STORE	EXT	W1	21-MAR-2011 08:56	JKT	CEB
4	ANALYZ*	EXT	SEMI	21-MAR-2011 14:52	CAA	CEB
5	PREP	W1	EXT	23-MAR-2011 13:30	CSH	JKT
6	STORE	EXT	W1	23-MAR-2011 15:15	CSH	JKT

Sample extract/digestate/leachate

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

158 Starlite Drive, Marietta, OH 45750 • T:740-373-4071 • F:740-373-4835 • http://www.microbac.com

Laboratory Report Number: L11030664

Client: Gary Torf, 12050 N. Pecos Street, Westminster, CO, 80234

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories.

Review and compilation of your report was completed by Microbac's Sales and Service Team. If you have questions, comments or require further assistance regarding this report, please contact your team member noted in the reviewed box below at 800-373-4071. Team member e-mail addresses also appear here for your convenience.

Kathy Albertson	*Team Chemist/Data Specialist*	Kathy.Albertson@microbac.com
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Annie Brown	*Client Services Specialist*	Annie.Brown@microbac.com

This report was reviewed on April 07, 2011.

Stephanie Mossburg

Stephanie Mossburg - Team Chemist/Data Specialist

I certify that all test results meet all of the requirements of the accrediting authority listed below. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

This report was certified on April 07, 2011.

David E. Vandenberg

David Vandenberg - Managing Director

State of origin: New Mexico
Accrediting authority: N/A ID:N/A
QAPP: DOD Ver 4.1
This report contains a total of 263 pages.

Look closer. Go further. Do more.

Microbac REPORT L11030664
PREPARED FOR Versar Inc
WORK ID:

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1.0 Introduction

LABORATORY REPORT

L11030664

04/07/11 14:31

Submitted By

Microbac Laboratories Inc.
158 Starlite Drive
Marietta , OH 45750
(740) 373 - 4071

For

Account Name: Versar Inc
12050 N. Pecos Street
Suite 300
Westminster, CO 80234
Attention: Gary Torf

Project Number: 2415.036
Project: Cannon AFB
Site: CANNON AFB

Sample Summary

Client ID	Lab ID	Date Collected	Date Received
SR042B	L11030664-01	03/17/2011 10:20	03/18/2011
SR043B	L11030664-02	03/17/2011 10:35	03/18/2011
SR044B	L11030664-03	03/17/2011 10:45	03/18/2011
SR045B	L11030664-04	03/17/2011 11:10	03/18/2011
SR045C	L11030664-05	03/17/2011 11:25	03/18/2011
SR046B	L11030664-06	03/17/2011 11:35	03/18/2011
SR047B	L11030664-07	03/17/2011 11:50	03/18/2011
SR048B	L11030664-08	03/17/2011 12:05	03/18/2011
SR049B	L11030664-09	03/17/2011 12:20	03/18/2011
SR050B	L11030664-10	03/17/2011 12:30	03/18/2011
SR051B	L11030664-11	03/17/2011 12:40	03/18/2011
SR052B	L11030664-12	03/17/2011 13:15	03/18/2011
SR053B	L11030664-13	03/17/2011 13:25	03/18/2011

L1_A_PROD_COVER - Modified 02/06/2008
PDF File ID: 1962562
Report generated: 04/07/2011 14:31

Report Number: **L11030664**
Report Date : **April 7, 2011**

Sample Number: **L11030664-01**
Client ID: **SR042B**
Matrix: **Soil**
Workgroup Number: **WG360454**
Collect Date: **03/17/2011 10:20**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS7**
Prep Date: **03/30/2011 08:13**
Cal Date: **03/24/2011 11:29**
Run Date: **04/04/2011 15:13**
File ID: **7M50756**
Percent Solid: **94.2**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	5.20	2.60
Acenaphthylene	208-96-8		U	5.20	2.60
Acenaphthene	83-32-9	27.9		5.20	2.60
Fluorene	86-73-7		U	5.20	2.60
Phenanthrene	85-01-8	11.5		5.20	2.60
Anthracene	120-12-7	4.88	J	5.20	2.60
Fluoranthene	206-44-0	44.9		5.20	2.60
Pyrene	129-00-0	59.6		5.20	2.60
Benzo(a)anthracene	56-55-3	87.7		5.20	2.60
Chrysene	218-01-9	107		5.20	2.60
Benzo(b)fluoranthene	205-99-2	148		5.20	2.60
Benzo(k)fluoranthene	207-08-9	186		5.20	2.60
Benzo(a)pyrene	50-32-8	308		5.20	2.60
Indeno(1,2,3-cd)pyrene	193-39-5	268		5.20	2.60
Dibenzo(a,h)anthracene	53-70-3	82.7		5.20	2.60
Benzo(g,h,i)perylene	191-24-2	292		5.20	2.60
1-Methylnaphthalene	90-12-0		U	5.20	2.60
2-Methylnaphthalene	91-57-6		U	5.20	2.60

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	50.7	35	100	
2-Fluorobiphenyl	63.2	45	105	
p-Terphenyl-d14	84.3	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Sample Number: **L11030664-01**
Client ID: **SR042B**
Matrix: **Soil**
Workgroup Number: **WG360614**
Collect Date: **03/17/2011 10:20**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **04/04/2011 08:29**
Cal Date:
Run Date: **04/04/2011 08:29**
File ID: **B1.360614-0141**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	94.2		1.00	1.00

Sample Number: **L11030664-02**
Client ID: **SR043B**
Matrix: **Soil**
Workgroup Number: **WG360454**
Collect Date: **03/17/2011 10:35**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **1**
Units: **ug/kg**

Instrument: **HPMS7**
Prep Date: **03/30/2011 08:13**
Cal Date: **03/24/2011 11:29**
Run Date: **04/04/2011 11:03**
File ID: **7M50747**
Percent Solid: **94.2**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	2.57	1.29
Acenaphthylene	208-96-8		U	2.57	1.29
Acenaphthene	83-32-9		U	2.57	1.29
Fluorene	86-73-7		U	2.57	1.29
Phenanthrene	85-01-8		U	2.57	1.29
Anthracene	120-12-7		U	2.57	1.29
Fluoranthene	206-44-0	2.48	J	2.57	1.29

Report Number: **L11030664**
Report Date : **April 7, 2011**

Sample Number: **L11030664-02**
Client ID: **SR043B**
Matrix: **Soil**
Workgroup Number: **WG360454**
Collect Date: **03/17/2011 10:35**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **1**
Units: **ug/kg**

Instrument: **HPMS7**
Prep Date: **03/30/2011 08:13**
Cal Date: **03/24/2011 11:29**
Run Date: **04/04/2011 11:03**
File ID: **7M50747**
Percent Solid: **94.2**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Pyrene	129-00-0	3.06		2.57	1.29
Benzo(a)anthracene	56-55-3	4.14		2.57	1.29
Chrysene	218-01-9	5.19		2.57	1.29
Benzo(b)fluoranthene	205-99-2	8.38		2.57	1.29
Benzo(k)fluoranthene	207-08-9	11.5		2.57	1.29
Benzo(a)pyrene	50-32-8	15.3		2.57	1.29
Indeno(1,2,3-cd)pyrene	193-39-5	14.6		2.57	1.29
Dibenzo(a,h)anthracene	53-70-3	5.72		2.57	1.29
Benzo(g,h,i)perylene	191-24-2	16.4		2.57	1.29
1-Methylnaphthalene	90-12-0		U	2.57	1.29
2-Methylnaphthalene	91-57-6		U	2.57	1.29

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	43.7	35	100	
2-Fluorobiphenyl	53.1	45	105	
p-Terphenyl-d14	84.4	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Sample Number: **L11030664-02**
Client ID: **SR043B**
Matrix: **Soil**
Workgroup Number: **WG360614**
Collect Date: **03/17/2011 10:35**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **04/04/2011 08:29**
Cal Date:
Run Date: **04/04/2011 08:29**
File ID: **B1.360614-0142**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	94.2		1.00	1.00

Sample Number: **L11030664-03**
Client ID: **SR044B**
Matrix: **Soil**
Workgroup Number: **WG360454**
Collect Date: **03/17/2011 10:45**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **1**
Units: **ug/kg**

Instrument: **HPMS7**
Prep Date: **03/30/2011 08:13**
Cal Date: **03/24/2011 11:29**
Run Date: **04/04/2011 11:31**
File ID: **7M50748**
Percent Solid: **93.7**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	2.63	1.31
Acenaphthylene	208-96-8		U	2.63	1.31
Acenaphthene	83-32-9	1.71	J	2.63	1.31
Fluorene	86-73-7		U	2.63	1.31
Phenanthrene	85-01-8		U	2.63	1.31
Anthracene	120-12-7		U	2.63	1.31
Fluoranthene	206-44-0	3.56		2.63	1.31
Pyrene	129-00-0	4.45		2.63	1.31
Benzo(a)anthracene	56-55-3	6.18		2.63	1.31
Chrysene	218-01-9	8.01		2.63	1.31
Benzo(b)fluoranthene	205-99-2	12.6		2.63	1.31
Benzo(k)fluoranthene	207-08-9	18.7		2.63	1.31
Benzo(a)pyrene	50-32-8	23.3		2.63	1.31
Indeno(1,2,3-cd)pyrene	193-39-5	22.4		2.63	1.31

Report Number: **L11030664**
Report Date : **April 7, 2011**

Sample Number: **L11030664-03**
Client ID: **SR044B**
Matrix: **Soil**
Workgroup Number: **WG360454**
Collect Date: **03/17/2011 10:45**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **1**
Units: **ug/kg**

Instrument: **HPMS7**
Prep Date: **03/30/2011 08:13**
Cal Date: **03/24/2011 11:29**
Run Date: **04/04/2011 11:31**
File ID: **7M50748**
Percent Solid: **93.7**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Dibenzo(a,h)anthracene	53-70-3	8.79		2.63	1.31
Benzo(g,h,i)perylene	191-24-2	24.9		2.63	1.31
1-Methylnaphthalene	90-12-0		U	2.63	1.31
2-Methylnaphthalene	91-57-6		U	2.63	1.31

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	55.9	35	100	
2-Fluorobiphenyl	62.2	45	105	
p-Terphenyl-d14	81.9	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Sample Number: **L11030664-03**
Client ID: **SR044B**
Matrix: **Soil**
Workgroup Number: **WG360614**
Collect Date: **03/17/2011 10:45**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **04/04/2011 08:29**
Cal Date:
Run Date: **04/04/2011 08:29**
File ID: **B1.360614-0143**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	93.7		1.00	1.00

Sample Number: **L11030664-04**
Client ID: **SR045B**
Matrix: **Soil**
Workgroup Number: **WG360454**
Collect Date: **03/17/2011 11:10**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **5**
Units: **ug/kg**

Instrument: **HPMS7**
Prep Date: **03/30/2011 08:13**
Cal Date: **03/24/2011 11:29**
Run Date: **04/04/2011 14:45**
File ID: **7M50755**
Percent Solid: **95.2**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3	24.5		13.0	6.52
Acenaphthylene	208-96-8		U	13.0	6.52
Acenaphthene	83-32-9	39.3		13.0	6.52
Fluorene	86-73-7	36.4		13.0	6.52
Phenanthrene	85-01-8	1290		13.0	6.52
Anthracene	120-12-7	293		13.0	6.52
Fluoranthene	206-44-0	2710	J	13.0	6.52
Pyrene	129-00-0	2300		13.0	6.52
Benzo(a)anthracene	56-55-3	1710		13.0	6.52
Chrysene	218-01-9	1860		13.0	6.52
Benzo(b)fluoranthene	205-99-2	1580		13.0	6.52
Benzo(k)fluoranthene	207-08-9	1430		13.0	6.52
Benzo(a)pyrene	50-32-8	1530		13.0	6.52
Indeno(1,2,3-cd)pyrene	193-39-5	909		13.0	6.52
Dibenzo(a,h)anthracene	53-70-3	377		13.0	6.52
Benzo(g,h,i)perylene	191-24-2	940		13.0	6.52
1-Methylnaphthalene	90-12-0	6.91	J	13.0	6.52
2-Methylnaphthalene	91-57-6	9.16	J	13.0	6.52

Report Number: **L11030664**
Report Date : **April 7, 2011**

Sample Number: **L11030664-04**
Client ID: **SR045B**
Matrix: **Soil**
Workgroup Number: **WG360454**
Collect Date: **03/17/2011 11:10**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **5**
Units: **ug/kg**

Instrument: **HPMS7**
Prep Date: **03/30/2011 08:13**
Cal Date: **03/24/2011 11:29**
Run Date: **04/04/2011 14:45**
File ID: **7M50755**
Percent Solid: **95.2**

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	46.6	35	100	
2-Fluorobiphenyl	60.1	45	105	
p-Terphenyl-d14	89.8	30	125	

J Estimated value ; the analyte concentration was greater than the highest standard
J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Sample Number: **L11030664-04**
Client ID: **SR045B**
Matrix: **Soil**
Workgroup Number: **WG360454**
Collect Date: **03/17/2011 11:10**
Sample Tag: **DL02**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **50**
Units: **ug/kg**

Instrument: **HPMS7**
Prep Date: **03/30/2011 08:13**
Cal Date: **03/24/2011 11:29**
Run Date: **04/05/2011 11:38**
File ID: **7M50765**
Percent Solid: **95.2**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	130	65.2
Acenaphthylene	208-96-8		U	130	65.2
Acenaphthene	83-32-9		U	130	65.2
Fluorene	86-73-7		U	130	65.2
Phenanthrene	85-01-8	1470		130	65.2
Anthracene	120-12-7	306		130	65.2
Fluoranthene	206-44-0	3390		130	65.2
Pyrene	129-00-0	2630		130	65.2
Benzo(a)anthracene	56-55-3	1750		130	65.2
Chrysene	218-01-9	1990		130	65.2
Benzo(b)fluoranthene	205-99-2	1630		130	65.2
Benzo(k)fluoranthene	207-08-9	1710		130	65.2
Benzo(a)pyrene	50-32-8	1640		130	65.2
Indeno(1,2,3-cd)pyrene	193-39-5	971		130	65.2
Dibenzo(a,h)anthracene	53-70-3	388		130	65.2
Benzo(g,h,i)perylene	191-24-2	1040		130	65.2
1-Methylnaphthalene	90-12-0		U	130	65.2
2-Methylnaphthalene	91-57-6		U	130	65.2

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5		35	100	DL
2-Fluorobiphenyl		45	105	DL
p-Terphenyl-d14		30	125	DL

DL Surrogate or spike compound was diluted out
U Analyte was not detected. The concentration is below the reported LOD.

Sample Number: **L11030664-04**
Client ID: **SR045B**
Matrix: **Soil**
Workgroup Number: **WG360614**
Collect Date: **03/17/2011 11:10**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **04/04/2011 08:29**
Cal Date:
Run Date: **04/04/2011 08:29**
File ID: **B1.360614-0144**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	95.2		1.00	1.00

Report Number: **L11030664**
Report Date : **April 7, 2011**

Sample Number: **L11030664-05**
Client ID: **SR045C**
Matrix: **Soil**
Workgroup Number: **WG360454**
Collect Date: **03/17/2011 11:25**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **5**
Units: **ug/kg**

Instrument: **HPMS7**
Prep Date: **03/30/2011 08:13**
Cal Date: **03/24/2011 11:29**
Run Date: **04/04/2011 13:50**
File ID: **7M50753**
Percent Solid: **95.4**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3	10.2	J	12.9	6.46
Acenaphthylene	208-96-8		U	12.9	6.46
Acenaphthene	83-32-9	14.4		12.9	6.46
Fluorene	86-73-7		U	12.9	6.46
Phenanthrene	85-01-8	117		12.9	6.46
Anthracene	120-12-7	25.9		12.9	6.46
Fluoranthene	206-44-0	562		12.9	6.46
Pyrene	129-00-0	525		12.9	6.46
Benzo(a)anthracene	56-55-3	482		12.9	6.46
Chrysene	218-01-9	564		12.9	6.46
Benzo(b)fluoranthene	205-99-2	591		12.9	6.46
Benzo(k)fluoranthene	207-08-9	528		12.9	6.46
Benzo(a)pyrene	50-32-8	602		12.9	6.46
Indeno(1,2,3-cd)pyrene	193-39-5	373		12.9	6.46
Dibenzo(a,h)anthracene	53-70-3	163		12.9	6.46
Benzo(g,h,i)perylene	191-24-2	431		12.9	6.46
1-Methylnaphthalene	90-12-0		U	12.9	6.46
2-Methylnaphthalene	91-57-6		U	12.9	6.46

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	44.3	35	100	
2-Fluorobiphenyl	53.9	45	105	
p-Terphenyl-d14	86.9	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Sample Number: **L11030664-05**
Client ID: **SR045C**
Matrix: **Soil**
Workgroup Number: **WG360614**
Collect Date: **03/17/2011 11:25**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **04/04/2011 08:29**
Cal Date:
Run Date: **04/04/2011 08:29**
File ID: **B1.360614-0145**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	95.4		1.00	1.00

Sample Number: **L11030664-06**
Client ID: **SR046B**
Matrix: **Soil**
Workgroup Number: **WG360454**
Collect Date: **03/17/2011 11:35**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **1**
Units: **ug/kg**

Instrument: **HPMS7**
Prep Date: **03/30/2011 08:13**
Cal Date: **03/24/2011 11:29**
Run Date: **04/04/2011 11:59**
File ID: **7M50749**
Percent Solid: **95.1**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3	2.75		2.57	1.28
Acenaphthylene	208-96-8		U	2.57	1.28
Acenaphthene	83-32-9	2.37	J	2.57	1.28
Fluorene	86-73-7		U	2.57	1.28
Phenanthrene	85-01-8	19.2		2.57	1.28
Anthracene	120-12-7	4.31		2.57	1.28
Fluoranthene	206-44-0	65.8		2.57	1.28

Report Number: **L11030664**
Report Date : **April 7, 2011**

Sample Number: **L11030664-06**
Client ID: **SR046B**
Matrix: **Soil**
Workgroup Number: **WG360454**
Collect Date: **03/17/2011 11:35**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **1**
Units: **ug/kg**

Instrument: **HPMS7**
Prep Date: **03/30/2011 08:13**
Cal Date: **03/24/2011 11:29**
Run Date: **04/04/2011 11:59**
File ID: **7M50749**
Percent Solid: **95.1**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Pyrene	129-00-0	57.0		2.57	1.28
Benzo(a)anthracene	56-55-3	46.0		2.57	1.28
Chrysene	218-01-9	60.2		2.57	1.28
Benzo(b)fluoranthene	205-99-2	47.3		2.57	1.28
Benzo(k)fluoranthene	207-08-9	53.1		2.57	1.28
Benzo(a)pyrene	50-32-8	55.6		2.57	1.28
Indeno(1,2,3-cd)pyrene	193-39-5	34.4		2.57	1.28
Dibenzo(a,h)anthracene	53-70-3	14.6		2.57	1.28
Benzo(g,h,i)perylene	191-24-2	36.9		2.57	1.28
1-Methylnaphthalene	90-12-0		U	2.57	1.28
2-Methylnaphthalene	91-57-6		U	2.57	1.28

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	55.0	35	100	
2-Fluorobiphenyl	64.9	45	105	
p-Terphenyl-d14	85.3	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Sample Number: **L11030664-06**
Client ID: **SR046B**
Matrix: **Soil**
Workgroup Number: **WG360614**
Collect Date: **03/17/2011 11:35**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **04/04/2011 08:29**
Cal Date:
Run Date: **04/04/2011 08:29**
File ID: **B1.360614-0146**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	95.1		1.00	1.00

Sample Number: **L11030664-07**
Client ID: **SR047B**
Matrix: **Soil**
Workgroup Number: **WG360454**
Collect Date: **03/17/2011 11:50**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **5**
Units: **ug/kg**

Instrument: **HPMS7**
Prep Date: **03/30/2011 08:13**
Cal Date: **03/24/2011 11:29**
Run Date: **04/04/2011 13:22**
File ID: **7M50752**
Percent Solid: **95.0**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	12.9	6.45
Acenaphthylene	208-96-8		U	12.9	6.45
Acenaphthene	83-32-9	16.0		12.9	6.45
Fluorene	86-73-7		U	12.9	6.45
Phenanthrene	85-01-8	7.52	J	12.9	6.45
Anthracene	120-12-7		U	12.9	6.45
Fluoranthene	206-44-0	33.2		12.9	6.45
Pyrene	129-00-0	45.5		12.9	6.45
Benzo(a)anthracene	56-55-3	65.6		12.9	6.45
Chrysene	218-01-9	81.7		12.9	6.45
Benzo(b)fluoranthene	205-99-2	116		12.9	6.45
Benzo(k)fluoranthene	207-08-9	151		12.9	6.45
Benzo(a)pyrene	50-32-8	240		12.9	6.45
Indeno(1,2,3-cd)pyrene	193-39-5	214		12.9	6.45

Report Number: **L11030664**
Report Date : **April 7, 2011**

Sample Number: **L11030664-07**
Client ID: **SR047B**
Matrix: **Soil**
Workgroup Number: **WG360454**
Collect Date: **03/17/2011 11:50**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **5**
Units: **ug/kg**

Instrument: **HPMS7**
Prep Date: **03/30/2011 08:13**
Cal Date: **03/24/2011 11:29**
Run Date: **04/04/2011 13:22**
File ID: **7M50752**
Percent Solid: **95.0**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Dibenzo(a,h)anthracene	53-70-3	86.0		12.9	6.45
Benzo(g,h,i)perylene	191-24-2	240		12.9	6.45
1-Methylnaphthalene	90-12-0		U	12.9	6.45
2-Methylnaphthalene	91-57-6		U	12.9	6.45

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	40.5	35	100	
2-Fluorobiphenyl	48.3	45	105	
p-Terphenyl-d14	87.2	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Sample Number: **L11030664-07**
Client ID: **SR047B**
Matrix: **Soil**
Workgroup Number: **WG360614**
Collect Date: **03/17/2011 11:50**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **04/04/2011 08:29**
Cal Date:
Run Date: **04/04/2011 08:29**
File ID: **B1.360614-0147**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	95.0		1.00	1.00

Sample Number: **L11030664-08**
Client ID: **SR048B**
Matrix: **Soil**
Workgroup Number: **WG360454**
Collect Date: **03/17/2011 12:05**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **1**
Units: **ug/kg**

Instrument: **HPMS7**
Prep Date: **03/30/2011 08:13**
Cal Date: **03/24/2011 11:29**
Run Date: **04/04/2011 12:27**
File ID: **7M50750**
Percent Solid: **93.6**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	2.62	1.31
Acenaphthylene	208-96-8		U	2.62	1.31
Acenaphthene	83-32-9		U	2.62	1.31
Fluorene	86-73-7		U	2.62	1.31
Phenanthrene	85-01-8		U	2.62	1.31
Anthracene	120-12-7		U	2.62	1.31
Fluoranthene	206-44-0		U	2.62	1.31
Pyrene	129-00-0	3.22		2.62	1.31
Benzo(a)anthracene	56-55-3	3.51		2.62	1.31
Chrysene	218-01-9	4.25		2.62	1.31
Benzo(b)fluoranthene	205-99-2	5.61		2.62	1.31
Benzo(k)fluoranthene	207-08-9	8.65		2.62	1.31
Benzo(a)pyrene	50-32-8	10.9		2.62	1.31
Indeno(1,2,3-cd)pyrene	193-39-5	10.1		2.62	1.31
Dibenzo(a,h)anthracene	53-70-3	3.00		2.62	1.31
Benzo(g,h,i)perylene	191-24-2	11.0		2.62	1.31
1-Methylnaphthalene	90-12-0		U	2.62	1.31
2-Methylnaphthalene	91-57-6		U	2.62	1.31

Report Number: **L11030664**
Report Date : **April 7, 2011**

Sample Number: **L11030664-08**
Client ID: **SR048B**
Matrix: **Soil**
Workgroup Number: **WG360454**
Collect Date: **03/17/2011 12:05**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **1**
Units: **ug/kg**

Instrument: **HPMS7**
Prep Date: **03/30/2011 08:13**
Cal Date: **03/24/2011 11:29**
Run Date: **04/04/2011 12:27**
File ID: **7M50750**
Percent Solid: **93.6**

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	46.7	35	100	
2-Fluorobiphenyl	54.7	45	105	
p-Terphenyl-d14	79.7	30	125	

U Analyte was not detected. The concentration is below the reported LOD.

Sample Number: **L11030664-08**
Client ID: **SR048B**
Matrix: **Soil**
Workgroup Number: **WG360614**
Collect Date: **03/17/2011 12:05**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **04/04/2011 08:29**
Cal Date:
Run Date: **04/04/2011 08:29**
File ID: **B1.360614-0148**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	93.6		1.00	1.00

Sample Number: **L11030664-09**
Client ID: **SR049B**
Matrix: **Soil**
Workgroup Number: **WG360454**
Collect Date: **03/17/2011 12:20**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **1**
Units: **ug/kg**

Instrument: **HPMS7**
Prep Date: **03/30/2011 08:13**
Cal Date: **03/24/2011 11:29**
Run Date: **04/04/2011 10:36**
File ID: **7M50746**
Percent Solid: **93.1**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	2.65	1.33
Acenaphthylene	208-96-8		U	2.65	1.33
Acenaphthene	83-32-9		U	2.65	1.33
Fluorene	86-73-7		U	2.65	1.33
Phenanthrene	85-01-8		U	2.65	1.33
Anthracene	120-12-7		U	2.65	1.33
Fluoranthene	206-44-0		U	2.65	1.33
Pyrene	129-00-0	1.55	J	2.65	1.33
Benzo(a)anthracene	56-55-3	2.55	J	2.65	1.33
Chrysene	218-01-9	2.85		2.65	1.33
Benzo(b)fluoranthene	205-99-2	4.45		2.65	1.33
Benzo(k)fluoranthene	207-08-9	5.93		2.65	1.33
Benzo(a)pyrene	50-32-8	7.93		2.65	1.33
Indeno(1,2,3-cd)pyrene	193-39-5	7.51		2.65	1.33
Dibenzo(a,h)anthracene	53-70-3	2.31	J	2.65	1.33
Benzo(g,h,i)perylene	191-24-2	8.42		2.65	1.33
1-Methylnaphthalene	90-12-0		U	2.65	1.33
2-Methylnaphthalene	91-57-6		U	2.65	1.33

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	40.4	35	100	
2-Fluorobiphenyl	47.9	45	105	
p-Terphenyl-d14	71.9	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Report Number: **L11030664**
Report Date : **April 7, 2011**

Sample Number: **L11030664-09**
Client ID: **SR049B**
Matrix: **Soil**
Workgroup Number: **WG360614**
Collect Date: **03/17/2011 12:20**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **04/04/2011 08:29**
Cal Date:
Run Date: **04/04/2011 08:29**
File ID: **B1.360614-0149**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	93.1		1.00	1.00

Sample Number: **L11030664-10**
Client ID: **SR050B**
Matrix: **Soil**
Workgroup Number: **WG360454**
Collect Date: **03/17/2011 12:30**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **5**
Units: **ug/kg**

Instrument: **HPMS7**
Prep Date: **03/30/2011 08:13**
Cal Date: **03/24/2011 11:29**
Run Date: **04/04/2011 14:17**
File ID: **7M50754**
Percent Solid: **93.7**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	13.1	6.53
Acenaphthylene	208-96-8		U	13.1	6.53
Acenaphthene	83-32-9	22.4		13.1	6.53
Fluorene	86-73-7		U	13.1	6.53
Phenanthrene	85-01-8	8.87	J	13.1	6.53
Anthracene	120-12-7		U	13.1	6.53
Fluoranthene	206-44-0	40.8		13.1	6.53
Pyrene	129-00-0		U	13.1	6.53
Benzo(a)anthracene	56-55-3	87.4		13.1	6.53
Chrysene	218-01-9	106		13.1	6.53
Benzo(b)fluoranthene	205-99-2	169		13.1	6.53
Benzo(k)fluoranthene	207-08-9	224		13.1	6.53
Benzo(a)pyrene	50-32-8	323		13.1	6.53
Indeno(1,2,3-cd)pyrene	193-39-5	282		13.1	6.53
Dibenzo(a,h)anthracene	53-70-3	86.4		13.1	6.53
Benzo(g,h,i)perylene	191-24-2	310		13.1	6.53
1-Methylnaphthalene	90-12-0		U	13.1	6.53
2-Methylnaphthalene	91-57-6		U	13.1	6.53

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	39.4	35	100	
2-Fluorobiphenyl	47.1	45	105	
p-Terphenyl-d14	83.6	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Sample Number: **L11030664-10**
Client ID: **SR050B**
Matrix: **Soil**
Workgroup Number: **WG360614**
Collect Date: **03/17/2011 12:30**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **04/04/2011 08:29**
Cal Date:
Run Date: **04/04/2011 08:29**
File ID: **B1.360614-0150**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	93.7		1.00	1.00

Report Number: **L11030664**
Report Date : **April 7, 2011**

Sample Number: **L11030664-11**
Client ID: **SR051B**
Matrix: **Soil**
Workgroup Number: **WG360454**
Collect Date: **03/17/2011 12:40**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **1**
Units: **ug/kg**

Instrument: **HPMS7**
Prep Date: **03/30/2011 08:13**
Cal Date: **03/24/2011 11:29**
Run Date: **04/04/2011 09:41**
File ID: **7M50744**
Percent Solid: **95.9**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	2.49	1.25
Acenaphthylene	208-96-8		U	2.49	1.25
Acenaphthene	83-32-9		U	2.49	1.25
Fluorene	86-73-7		U	2.49	1.25
Phenanthrene	85-01-8		U	2.49	1.25
Anthracene	120-12-7		U	2.49	1.25
Fluoranthene	206-44-0		U	2.49	1.25
Pyrene	129-00-0		U	2.49	1.25
Benzo(a)anthracene	56-55-3		U	2.49	1.25
Chrysene	218-01-9		U	2.49	1.25
Benzo(b)fluoranthene	205-99-2		U	2.49	1.25
Benzo(k)fluoranthene	207-08-9		U	2.49	1.25
Benzo(a)pyrene	50-32-8		U	2.49	1.25
Indeno(1,2,3-cd)pyrene	193-39-5		U	2.49	1.25
Dibenzo(a,h)anthracene	53-70-3		U	2.49	1.25
Benzo(g,h,i)perylene	191-24-2		U	2.49	1.25
1-Methylnaphthalene	90-12-0		U	2.49	1.25
2-Methylnaphthalene	91-57-6		U	2.49	1.25

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	66.6	35	100	
2-Fluorobiphenyl	77.3	45	105	
p-Terphenyl-d14	78.3	30	125	

U Analyte was not detected. The concentration is below the reported LOD.

Sample Number: **L11030664-11**
Client ID: **SR051B**
Matrix: **Soil**
Workgroup Number: **WG360614**
Collect Date: **03/17/2011 12:40**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **04/04/2011 08:29**
Cal Date:
Run Date: **04/04/2011 08:29**
File ID: **B1.360614-0151**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	95.9		1.00	1.00

Sample Number: **L11030664-12**
Client ID: **SR052B**
Matrix: **Soil**
Workgroup Number: **WG360454**
Collect Date: **03/17/2011 13:15**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **1**
Units: **ug/kg**

Instrument: **HPMS7**
Prep Date: **03/30/2011 08:13**
Cal Date: **03/24/2011 11:29**
Run Date: **04/04/2011 10:09**
File ID: **7M50745**
Percent Solid: **95.0**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	2.60	1.30
Acenaphthylene	208-96-8		U	2.60	1.30
Acenaphthene	83-32-9		U	2.60	1.30
Fluorene	86-73-7		U	2.60	1.30
Phenanthrene	85-01-8		U	2.60	1.30
Anthracene	120-12-7		U	2.60	1.30
Fluoranthene	206-44-0		U	2.60	1.30
Pyrene	129-00-0		U	2.60	1.30

Report Number: **L11030664**
Report Date : **April 7, 2011**

Sample Number: **L11030664-12**
Client ID: **SR052B**
Matrix: **Soil**
Workgroup Number: **WG360454**
Collect Date: **03/17/2011 13:15**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **1**
Units: **ug/kg**

Instrument: **HPMS7**
Prep Date: **03/30/2011 08:13**
Cal Date: **03/24/2011 11:29**
Run Date: **04/04/2011 10:09**
File ID: **7M50745**
Percent Solid: **95.0**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Benzo(a)anthracene	56-55-3		U	2.60	1.30
Chrysene	218-01-9		U	2.60	1.30
Benzo(b)fluoranthene	205-99-2		U	2.60	1.30
Benzo(k)fluoranthene	207-08-9		U	2.60	1.30
Benzo(a)pyrene	50-32-8	1.47	J	2.60	1.30
Indeno(1,2,3-cd)pyrene	193-39-5	1.33	J	2.60	1.30
Dibenzo(a,h)anthracene	53-70-3		U	2.60	1.30
Benzo(g,h,i)perylene	191-24-2	1.51	J	2.60	1.30
1-Methylnaphthalene	90-12-0		U	2.60	1.30
2-Methylnaphthalene	91-57-6		U	2.60	1.30

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	60.7	35	100	
2-Fluorobiphenyl	71.2	45	105	
p-Terphenyl-d14	75.4	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Sample Number: **L11030664-12**
Client ID: **SR052B**
Matrix: **Soil**
Workgroup Number: **WG360614**
Collect Date: **03/17/2011 13:15**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **04/04/2011 08:29**
Cal Date:
Run Date: **04/04/2011 08:29**
File ID: **B1.360614-0152**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	95.0		1.00	1.00

Sample Number: **L11030664-13**
Client ID: **SR053B**
Matrix: **Soil**
Workgroup Number: **WG360454**
Collect Date: **03/17/2011 13:25**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **5**
Units: **ug/kg**

Instrument: **HPMS7**
Prep Date: **03/30/2011 08:13**
Cal Date: **03/24/2011 11:29**
Run Date: **04/04/2011 12:55**
File ID: **7M50751**
Percent Solid: **93.1**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	13.1	6.56
Acenaphthylene	208-96-8		U	13.1	6.56
Acenaphthene	83-32-9	10.3	J	13.1	6.56
Fluorene	86-73-7		U	13.1	6.56
Phenanthrene	85-01-8		U	13.1	6.56
Anthracene	120-12-7		U	13.1	6.56
Fluoranthene	206-44-0	17.9		13.1	6.56
Pyrene	129-00-0	23.9		13.1	6.56
Benzo(a)anthracene	56-55-3	35.0		13.1	6.56
Chrysene	218-01-9	40.9		13.1	6.56
Benzo(b)fluoranthene	205-99-2	64.8		13.1	6.56
Benzo(k)fluoranthene	207-08-9	89.4		13.1	6.56
Benzo(a)pyrene	50-32-8	126		13.1	6.56
Indeno(1,2,3-cd)pyrene	193-39-5	112		13.1	6.56
Dibenzo(a,h)anthracene	53-70-3	33.1		13.1	6.56

Report Number: **L11030664**
Report Date : **April 7, 2011**

Sample Number: **L11030664-13**
Client ID: **SR053B**
Matrix: **Soil**
Workgroup Number: **WG360454**
Collect Date: **03/17/2011 13:25**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **5**
Units: **ug/kg**

Instrument: **HPMS7**
Prep Date: **03/30/2011 08:13**
Cal Date: **03/24/2011 11:29**
Run Date: **04/04/2011 12:55**
File ID: **7M50751**
Percent Solid: **93.1**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Benzo(g,h,i)perylene	191-24-2	126		13.1	6.56
1-Methylnaphthalene	90-12-0		U	13.1	6.56
2-Methylnaphthalene	91-57-6		U	13.1	6.56

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	50.2	35	100	
2-Fluorobiphenyl	58.4	45	105	
p-Terphenyl-d14	88.6	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Sample Number: **L11030664-13**
Client ID: **SR053B**
Matrix: **Soil**
Workgroup Number: **WG360614**
Collect Date: **03/17/2011 13:25**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **04/04/2011 08:29**
Cal Date:
Run Date: **04/04/2011 08:29**
File ID: **B1.360614-0153**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	93.1		1.00	1.00

Login Number: L11030664

Department: Login

Chain of Custody:

Shipment Conditions

COC #	Cooler #	Temperature
	0013041	3.0
0160	0014958	3.0

Sample Management: All samples were received intact.

Sample Identification

Lab ID	Client ID
L11030664-01	SR042B
L11030664-02	SR043B
L11030664-03	SR044B
L11030664-04	SR045B
L11030664-05	SR045C
L11030664-06	SR046B
L11030664-07	SR047B
L11030664-08	SR048B
L11030664-09	SR049B
L11030664-10	SR050B
L11030664-11	SR051B
L11030664-12	SR052B
L11030664-13	SR053B

Narrative ID: 23796
Approved By: Stephanie Mossburg
Stephanie Mossburg

2.0 Full Sample Data Package

2.1 Semivolatiles Data

2.1.1 Semivolatiles GC/MS Data (827-PAHL)

2.1.1.1 Summary Data

Login Number: L11030664

Department: Semivolatiles

Analyst: Cassie A. Augenstein

METHOD

Preparation 3545

Analysis SW-846 8270C

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: For all compounds that yielded a %RSD greater than 15%, linear or higher order equations were applied. All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Continuing Calibration and Tune: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: Samples 01, 04, 05, 07, 10 and 13 were run at a dilution due to the appearance and viscosity of the extracts. Sample 04 required an additional dilution in order to obtain results within calibration range.

Internal Standards: All acceptance criteria were met.

Surrogates: All acceptance criteria were met.

Manual Integration Reason Codes

Reason #1: Data System Fails to Select Correct Peak In some cases the chromatography system selects and integrates the 'wrong peak'. In this case the analyst must correct the selection and force the system to integrate the proper peak. Other times the system may miss the peak completely.

Reason #2: Data System Splits the Peak Incorrectly or Integrates a False Peak as a Rider Peak This phenomena is common at low concentrations where the signal:noise ratio is low. A single compound (peak) is incorrectly split into multiple peaks or integrated as a main peak with one or more rider peaks resulting in low area counts for the target compound.

Reason #3: Improperly Integrated Isomers and/or coeluting compounds. This system often fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations are wrong, and they must be corrected by manual integration. Prime examples are benzo(k)fluoranthene and benzo(b)fluoranthene which are often unresolved and integrated improperly when both are present at low concentrations in standards or samples.

Reason #4: System Establishes Incorrect Baseline There are numerous situations in chromatography where the system establishes the baseline incorrectly. Some baseline errors will be obvious to the analyst and should be corrected via manual procedures.

Reason #5: Miscellaneous Other situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the laboratory management. If the form of manual integration is not clearly covered by these four cases, then review and approval by the Managing Director or the QAO will be required.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 25191
Approved By: Mike Cochran

LABORATORY REPORT

L11030664

04/07/11 14:31

Submitted By

Microbac Laboratories Inc.
158 Starlite Drive
Marietta , OH 45750
(740) 373 - 4071

For

Account Name: Versar Inc
12050 N. Pecos Street
Suite 300
Westminster, CO 80234
Attention: Gary Torf

Project Number: 2415.036
Project: Cannon AFB
Site: CANNON AFB

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
SR042B	L11030664-01	8270C	2	18-MAR-11
SR043B	L11030664-02	8270C	1	18-MAR-11
SR044B	L11030664-03	8270C	1	18-MAR-11
SR045B	L11030664-04	8270C	5	18-MAR-11
SR045B	L11030664-04	8270C	50	18-MAR-11
SR045C	L11030664-05	8270C	5	18-MAR-11
SR046B	L11030664-06	8270C	1	18-MAR-11
SR047B	L11030664-07	8270C	5	18-MAR-11
SR048B	L11030664-08	8270C	1	18-MAR-11
SR049B	L11030664-09	8270C	1	18-MAR-11
SR050B	L11030664-10	8270C	5	18-MAR-11
SR051B	L11030664-11	8270C	1	18-MAR-11
SR052B	L11030664-12	8270C	1	18-MAR-11
SR053B	L11030664-13	8270C	5	18-MAR-11

Report Number: **L11030664**
Report Date : **April 7, 2011**

Sample Number: **L11030664-01**
Client ID: **SR042B**
Matrix: **Soil**
Workgroup Number: **WG360454**
Collect Date: **03/17/2011 10:20**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS7**
Prep Date: **03/30/2011 08:13**
Cal Date: **03/24/2011 11:29**
Run Date: **04/04/2011 15:13**
File ID: **7M50756**
Percent Solid: **94.2**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	5.20	2.60
Acenaphthylene	208-96-8		U	5.20	2.60
Acenaphthene	83-32-9	27.9		5.20	2.60
Fluorene	86-73-7		U	5.20	2.60
Phenanthrene	85-01-8	11.5		5.20	2.60
Anthracene	120-12-7	4.88	J	5.20	2.60
Fluoranthene	206-44-0	44.9		5.20	2.60
Pyrene	129-00-0	59.6		5.20	2.60
Benzo(a)anthracene	56-55-3	87.7		5.20	2.60
Chrysene	218-01-9	107		5.20	2.60
Benzo(b)fluoranthene	205-99-2	148		5.20	2.60
Benzo(k)fluoranthene	207-08-9	186		5.20	2.60
Benzo(a)pyrene	50-32-8	308		5.20	2.60
Indeno(1,2,3-cd)pyrene	193-39-5	268		5.20	2.60
Dibenzo(a,h)anthracene	53-70-3	82.7		5.20	2.60
Benzo(g,h,i)perylene	191-24-2	292		5.20	2.60
1-Methylnaphthalene	90-12-0		U	5.20	2.60
2-Methylnaphthalene	91-57-6		U	5.20	2.60

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	50.7	35	100	
2-Fluorobiphenyl	63.2	45	105	
p-Terphenyl-d14	84.3	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Report Number: **L11030664**
Report Date : **April 7, 2011**

Sample Number: **L11030664-02**
Client ID: **SR043B**
Matrix: **Soil**
Workgroup Number: **WG360454**
Collect Date: **03/17/2011 10:35**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **1**
Units: **ug/kg**

Instrument: **HPMS7**
Prep Date: **03/30/2011 08:13**
Cal Date: **03/24/2011 11:29**
Run Date: **04/04/2011 11:03**
File ID: **7M50747**
Percent Solid: **94.2**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	2.57	1.29
Acenaphthylene	208-96-8		U	2.57	1.29
Acenaphthene	83-32-9		U	2.57	1.29
Fluorene	86-73-7		U	2.57	1.29
Phenanthrene	85-01-8		U	2.57	1.29
Anthracene	120-12-7		U	2.57	1.29
Fluoranthene	206-44-0	2.48	J	2.57	1.29
Pyrene	129-00-0	3.06		2.57	1.29
Benzo(a)anthracene	56-55-3	4.14		2.57	1.29
Chrysene	218-01-9	5.19		2.57	1.29
Benzo(b)fluoranthene	205-99-2	8.38		2.57	1.29
Benzo(k)fluoranthene	207-08-9	11.5		2.57	1.29
Benzo(a)pyrene	50-32-8	15.3		2.57	1.29
Indeno(1,2,3-cd)pyrene	193-39-5	14.6		2.57	1.29
Dibenzo(a,h)anthracene	53-70-3	5.72		2.57	1.29
Benzo(g,h,i)perylene	191-24-2	16.4		2.57	1.29
1-Methylnaphthalene	90-12-0		U	2.57	1.29
2-Methylnaphthalene	91-57-6		U	2.57	1.29

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	43.7	35	100	
2-Fluorobiphenyl	53.1	45	105	
p-Terphenyl-d14	84.4	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Report Number: **L11030664**
Report Date : **April 7, 2011**

Sample Number: **L11030664-03**
Client ID: **SR044B**
Matrix: **Soil**
Workgroup Number: **WG360454**
Collect Date: **03/17/2011 10:45**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **1**
Units: **ug/kg**

Instrument: **HPMS7**
Prep Date: **03/30/2011 08:13**
Cal Date: **03/24/2011 11:29**
Run Date: **04/04/2011 11:31**
File ID: **7M50748**
Percent Solid: **93.7**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	2.63	1.31
Acenaphthylene	208-96-8		U	2.63	1.31
Acenaphthene	83-32-9	1.71	J	2.63	1.31
Fluorene	86-73-7		U	2.63	1.31
Phenanthrene	85-01-8		U	2.63	1.31
Anthracene	120-12-7		U	2.63	1.31
Fluoranthene	206-44-0	3.56		2.63	1.31
Pyrene	129-00-0	4.45		2.63	1.31
Benzo(a)anthracene	56-55-3	6.18		2.63	1.31
Chrysene	218-01-9	8.01		2.63	1.31
Benzo(b)fluoranthene	205-99-2	12.6		2.63	1.31
Benzo(k)fluoranthene	207-08-9	18.7		2.63	1.31
Benzo(a)pyrene	50-32-8	23.3		2.63	1.31
Indeno(1,2,3-cd)pyrene	193-39-5	22.4		2.63	1.31
Dibenzo(a,h)anthracene	53-70-3	8.79		2.63	1.31
Benzo(g,h,i)perylene	191-24-2	24.9		2.63	1.31
1-Methylnaphthalene	90-12-0		U	2.63	1.31
2-Methylnaphthalene	91-57-6		U	2.63	1.31

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	55.9	35	100	
2-Fluorobiphenyl	62.2	45	105	
p-Terphenyl-d14	81.9	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Report Number: **L11030664**
Report Date : **April 7, 2011**

Sample Number: **L11030664-04**
Client ID: **SR045B**
Matrix: **Soil**
Workgroup Number: **WG360454**
Collect Date: **03/17/2011 11:10**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **5**
Units: **ug/kg**

Instrument: **HPMS7**
Prep Date: **03/30/2011 08:13**
Cal Date: **03/24/2011 11:29**
Run Date: **04/04/2011 14:45**
File ID: **7M50755**
Percent Solid: **95.2**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3	24.5		13.0	6.52
Acenaphthylene	208-96-8		U	13.0	6.52
Acenaphthene	83-32-9	39.3		13.0	6.52
Fluorene	86-73-7	36.4		13.0	6.52
Phenanthrene	85-01-8	1290		13.0	6.52
Anthracene	120-12-7	293		13.0	6.52
Fluoranthene	206-44-0	2710	J	13.0	6.52
Pyrene	129-00-0	2300		13.0	6.52
Benzo(a)anthracene	56-55-3	1710		13.0	6.52
Chrysene	218-01-9	1860		13.0	6.52
Benzo(b)fluoranthene	205-99-2	1580		13.0	6.52
Benzo(k)fluoranthene	207-08-9	1430		13.0	6.52
Benzo(a)pyrene	50-32-8	1530		13.0	6.52
Indeno(1,2,3-cd)pyrene	193-39-5	909		13.0	6.52
Dibenzo(a,h)anthracene	53-70-3	377		13.0	6.52
Benzo(g,h,i)perylene	191-24-2	940		13.0	6.52
1-Methylnaphthalene	90-12-0	6.91	J	13.0	6.52
2-Methylnaphthalene	91-57-6	9.16	J	13.0	6.52

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	46.6	35	100	
2-Fluorobiphenyl	60.1	45	105	
p-Terphenyl-d14	89.8	30	125	

J Estimated value ; the analyte concentration was greater than the highest standard
J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Report Number: **L11030664**
Report Date : **April 7, 2011**

Sample Number: **L11030664-04**
Client ID: **SR045B**
Matrix: **Soil**
Workgroup Number: **WG360454**
Collect Date: **03/17/2011 11:10**
Sample Tag: **DL02**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **50**
Units: **ug/kg**

Instrument: **HPMS7**
Prep Date: **03/30/2011 08:13**
Cal Date: **03/24/2011 11:29**
Run Date: **04/05/2011 11:38**
File ID: **7M50765**
Percent Solid: **95.2**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	130	65.2
Acenaphthylene	208-96-8		U	130	65.2
Acenaphthene	83-32-9		U	130	65.2
Fluorene	86-73-7		U	130	65.2
Phenanthrene	85-01-8	1470		130	65.2
Anthracene	120-12-7	306		130	65.2
Fluoranthene	206-44-0	3390		130	65.2
Pyrene	129-00-0	2630		130	65.2
Benzo(a)anthracene	56-55-3	1750		130	65.2
Chrysene	218-01-9	1990		130	65.2
Benzo(b)fluoranthene	205-99-2	1630		130	65.2
Benzo(k)fluoranthene	207-08-9	1710		130	65.2
Benzo(a)pyrene	50-32-8	1640		130	65.2
Indeno(1,2,3-cd)pyrene	193-39-5	971		130	65.2
Dibenzo(a,h)anthracene	53-70-3	388		130	65.2
Benzo(g,h,i)perylene	191-24-2	1040		130	65.2
1-Methylnaphthalene	90-12-0		U	130	65.2
2-Methylnaphthalene	91-57-6		U	130	65.2

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5		35	100	DL
2-Fluorobiphenyl		45	105	DL
p-Terphenyl-d14		30	125	DL

DL Surrogate or spike compound was diluted out
U Analyte was not detected. The concentration is below the reported LOD.

Report Number: **L11030664**
Report Date : **April 7, 2011**

Sample Number: **L11030664-05**
Client ID: **SR045C**
Matrix: **Soil**
Workgroup Number: **WG360454**
Collect Date: **03/17/2011 11:25**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **5**
Units: **ug/kg**

Instrument: **HPMS7**
Prep Date: **03/30/2011 08:13**
Cal Date: **03/24/2011 11:29**
Run Date: **04/04/2011 13:50**
File ID: **7M50753**
Percent Solid: **95.4**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3	10.2	J	12.9	6.46
Acenaphthylene	208-96-8		U	12.9	6.46
Acenaphthene	83-32-9	14.4		12.9	6.46
Fluorene	86-73-7		U	12.9	6.46
Phenanthrene	85-01-8	117		12.9	6.46
Anthracene	120-12-7	25.9		12.9	6.46
Fluoranthene	206-44-0	562		12.9	6.46
Pyrene	129-00-0	525		12.9	6.46
Benzo(a)anthracene	56-55-3	482		12.9	6.46
Chrysene	218-01-9	564		12.9	6.46
Benzo(b)fluoranthene	205-99-2	591		12.9	6.46
Benzo(k)fluoranthene	207-08-9	528		12.9	6.46
Benzo(a)pyrene	50-32-8	602		12.9	6.46
Indeno(1,2,3-cd)pyrene	193-39-5	373		12.9	6.46
Dibenzo(a,h)anthracene	53-70-3	163		12.9	6.46
Benzo(g,h,i)perylene	191-24-2	431		12.9	6.46
1-Methylnaphthalene	90-12-0		U	12.9	6.46
2-Methylnaphthalene	91-57-6		U	12.9	6.46

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	44.3	35	100	
2-Fluorobiphenyl	53.9	45	105	
p-Terphenyl-d14	86.9	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Report Number: **L11030664**
Report Date : **April 7, 2011**

Sample Number: **L11030664-06**
Client ID: **SR046B**
Matrix: **Soil**
Workgroup Number: **WG360454**
Collect Date: **03/17/2011 11:35**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **1**
Units: **ug/kg**

Instrument: **HPMS7**
Prep Date: **03/30/2011 08:13**
Cal Date: **03/24/2011 11:29**
Run Date: **04/04/2011 11:59**
File ID: **7M50749**
Percent Solid: **95.1**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3	2.75		2.57	1.28
Acenaphthylene	208-96-8		U	2.57	1.28
Acenaphthene	83-32-9	2.37	J	2.57	1.28
Fluorene	86-73-7		U	2.57	1.28
Phenanthrene	85-01-8	19.2		2.57	1.28
Anthracene	120-12-7	4.31		2.57	1.28
Fluoranthene	206-44-0	65.8		2.57	1.28
Pyrene	129-00-0	57.0		2.57	1.28
Benzo(a)anthracene	56-55-3	46.0		2.57	1.28
Chrysene	218-01-9	60.2		2.57	1.28
Benzo(b)fluoranthene	205-99-2	47.3		2.57	1.28
Benzo(k)fluoranthene	207-08-9	53.1		2.57	1.28
Benzo(a)pyrene	50-32-8	55.6		2.57	1.28
Indeno(1,2,3-cd)pyrene	193-39-5	34.4		2.57	1.28
Dibenzo(a,h)anthracene	53-70-3	14.6		2.57	1.28
Benzo(g,h,i)perylene	191-24-2	36.9		2.57	1.28
1-Methylnaphthalene	90-12-0		U	2.57	1.28
2-Methylnaphthalene	91-57-6		U	2.57	1.28

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	55.0	35	100	
2-Fluorobiphenyl	64.9	45	105	
p-Terphenyl-d14	85.3	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Report Number: **L11030664**
Report Date : **April 7, 2011**

Sample Number: **L11030664-07**
Client ID: **SR047B**
Matrix: **Soil**
Workgroup Number: **WG360454**
Collect Date: **03/17/2011 11:50**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **5**
Units: **ug/kg**

Instrument: **HPMS7**
Prep Date: **03/30/2011 08:13**
Cal Date: **03/24/2011 11:29**
Run Date: **04/04/2011 13:22**
File ID: **7M50752**
Percent Solid: **95.0**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	12.9	6.45
Acenaphthylene	208-96-8		U	12.9	6.45
Acenaphthene	83-32-9	16.0		12.9	6.45
Fluorene	86-73-7		U	12.9	6.45
Phenanthrene	85-01-8	7.52	J	12.9	6.45
Anthracene	120-12-7		U	12.9	6.45
Fluoranthene	206-44-0	33.2		12.9	6.45
Pyrene	129-00-0	45.5		12.9	6.45
Benzo(a)anthracene	56-55-3	65.6		12.9	6.45
Chrysene	218-01-9	81.7		12.9	6.45
Benzo(b)fluoranthene	205-99-2	116		12.9	6.45
Benzo(k)fluoranthene	207-08-9	151		12.9	6.45
Benzo(a)pyrene	50-32-8	240		12.9	6.45
Indeno(1,2,3-cd)pyrene	193-39-5	214		12.9	6.45
Dibenzo(a,h)anthracene	53-70-3	86.0		12.9	6.45
Benzo(g,h,i)perylene	191-24-2	240		12.9	6.45
1-Methylnaphthalene	90-12-0		U	12.9	6.45
2-Methylnaphthalene	91-57-6		U	12.9	6.45

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	40.5	35	100	
2-Fluorobiphenyl	48.3	45	105	
p-Terphenyl-d14	87.2	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Report Number: **L11030664**
Report Date : **April 7, 2011**

Sample Number: **L11030664-08**
Client ID: **SR048B**
Matrix: **Soil**
Workgroup Number: **WG360454**
Collect Date: **03/17/2011 12:05**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **1**
Units: **ug/kg**

Instrument: **HPMS7**
Prep Date: **03/30/2011 08:13**
Cal Date: **03/24/2011 11:29**
Run Date: **04/04/2011 12:27**
File ID: **7M50750**
Percent Solid: **93.6**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	2.62	1.31
Acenaphthylene	208-96-8		U	2.62	1.31
Acenaphthene	83-32-9		U	2.62	1.31
Fluorene	86-73-7		U	2.62	1.31
Phenanthrene	85-01-8		U	2.62	1.31
Anthracene	120-12-7		U	2.62	1.31
Fluoranthene	206-44-0		U	2.62	1.31
Pyrene	129-00-0	3.22		2.62	1.31
Benzo(a)anthracene	56-55-3	3.51		2.62	1.31
Chrysene	218-01-9	4.25		2.62	1.31
Benzo(b)fluoranthene	205-99-2	5.61		2.62	1.31
Benzo(k)fluoranthene	207-08-9	8.65		2.62	1.31
Benzo(a)pyrene	50-32-8	10.9		2.62	1.31
Indeno(1,2,3-cd)pyrene	193-39-5	10.1		2.62	1.31
Dibenzo(a,h)anthracene	53-70-3	3.00		2.62	1.31
Benzo(g,h,i)perylene	191-24-2	11.0		2.62	1.31
1-Methylnaphthalene	90-12-0		U	2.62	1.31
2-Methylnaphthalene	91-57-6		U	2.62	1.31

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	46.7	35	100	
2-Fluorobiphenyl	54.7	45	105	
p-Terphenyl-d14	79.7	30	125	

U Analyte was not detected. The concentration is below the reported LOD.

Report Number: **L11030664**
Report Date : **April 7, 2011**

Sample Number: **L11030664-09**
Client ID: **SR049B**
Matrix: **Soil**
Workgroup Number: **WG360454**
Collect Date: **03/17/2011 12:20**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **1**
Units: **ug/kg**

Instrument: **HPMS7**
Prep Date: **03/30/2011 08:13**
Cal Date: **03/24/2011 11:29**
Run Date: **04/04/2011 10:36**
File ID: **7M50746**
Percent Solid: **93.1**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	2.65	1.33
Acenaphthylene	208-96-8		U	2.65	1.33
Acenaphthene	83-32-9		U	2.65	1.33
Fluorene	86-73-7		U	2.65	1.33
Phenanthrene	85-01-8		U	2.65	1.33
Anthracene	120-12-7		U	2.65	1.33
Fluoranthene	206-44-0		U	2.65	1.33
Pyrene	129-00-0	1.55	J	2.65	1.33
Benzo(a)anthracene	56-55-3	2.55	J	2.65	1.33
Chrysene	218-01-9	2.85		2.65	1.33
Benzo(b)fluoranthene	205-99-2	4.45		2.65	1.33
Benzo(k)fluoranthene	207-08-9	5.93		2.65	1.33
Benzo(a)pyrene	50-32-8	7.93		2.65	1.33
Indeno(1,2,3-cd)pyrene	193-39-5	7.51		2.65	1.33
Dibenzo(a,h)anthracene	53-70-3	2.31	J	2.65	1.33
Benzo(g,h,i)perylene	191-24-2	8.42		2.65	1.33
1-Methylnaphthalene	90-12-0		U	2.65	1.33
2-Methylnaphthalene	91-57-6		U	2.65	1.33

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	40.4	35	100	
2-Fluorobiphenyl	47.9	45	105	
p-Terphenyl-d14	71.9	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Report Number: **L11030664**
Report Date : **April 7, 2011**

Sample Number: **L11030664-10**
Client ID: **SR050B**
Matrix: **Soil**
Workgroup Number: **WG360454**
Collect Date: **03/17/2011 12:30**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **5**
Units: **ug/kg**

Instrument: **HPMS7**
Prep Date: **03/30/2011 08:13**
Cal Date: **03/24/2011 11:29**
Run Date: **04/04/2011 14:17**
File ID: **7M50754**
Percent Solid: **93.7**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	13.1	6.53
Acenaphthylene	208-96-8		U	13.1	6.53
Acenaphthene	83-32-9	22.4		13.1	6.53
Fluorene	86-73-7		U	13.1	6.53
Phenanthrene	85-01-8	8.87	J	13.1	6.53
Anthracene	120-12-7		U	13.1	6.53
Fluoranthene	206-44-0	40.8		13.1	6.53
Pyrene	129-00-0		U	13.1	6.53
Benzo(a)anthracene	56-55-3	87.4		13.1	6.53
Chrysene	218-01-9	106		13.1	6.53
Benzo(b)fluoranthene	205-99-2	169		13.1	6.53
Benzo(k)fluoranthene	207-08-9	224		13.1	6.53
Benzo(a)pyrene	50-32-8	323		13.1	6.53
Indeno(1,2,3-cd)pyrene	193-39-5	282		13.1	6.53
Dibenzo(a,h)anthracene	53-70-3	86.4		13.1	6.53
Benzo(g,h,i)perylene	191-24-2	310		13.1	6.53
1-Methylnaphthalene	90-12-0		U	13.1	6.53
2-Methylnaphthalene	91-57-6		U	13.1	6.53

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	39.4	35	100	
2-Fluorobiphenyl	47.1	45	105	
p-Terphenyl-d14	83.6	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Report Number: **L11030664**
Report Date : **April 7, 2011**

Sample Number: **L11030664-11**
Client ID: **SR051B**
Matrix: **Soil**
Workgroup Number: **WG360454**
Collect Date: **03/17/2011 12:40**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **1**
Units: **ug/kg**

Instrument: **HPMS7**
Prep Date: **03/30/2011 08:13**
Cal Date: **03/24/2011 11:29**
Run Date: **04/04/2011 09:41**
File ID: **7M50744**
Percent Solid: **95.9**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	2.49	1.25
Acenaphthylene	208-96-8		U	2.49	1.25
Acenaphthene	83-32-9		U	2.49	1.25
Fluorene	86-73-7		U	2.49	1.25
Phenanthrene	85-01-8		U	2.49	1.25
Anthracene	120-12-7		U	2.49	1.25
Fluoranthene	206-44-0		U	2.49	1.25
Pyrene	129-00-0		U	2.49	1.25
Benzo(a)anthracene	56-55-3		U	2.49	1.25
Chrysene	218-01-9		U	2.49	1.25
Benzo(b)fluoranthene	205-99-2		U	2.49	1.25
Benzo(k)fluoranthene	207-08-9		U	2.49	1.25
Benzo(a)pyrene	50-32-8		U	2.49	1.25
Indeno(1,2,3-cd)pyrene	193-39-5		U	2.49	1.25
Dibenzo(a,h)anthracene	53-70-3		U	2.49	1.25
Benzo(g,h,i)perylene	191-24-2		U	2.49	1.25
1-Methylnaphthalene	90-12-0		U	2.49	1.25
2-Methylnaphthalene	91-57-6		U	2.49	1.25

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	66.6	35	100	
2-Fluorobiphenyl	77.3	45	105	
p-Terphenyl-d14	78.3	30	125	

U Analyte was not detected. The concentration is below the reported LOD.

Report Number: **L11030664**
Report Date : **April 7, 2011**

Sample Number: **L11030664-12**
Client ID: **SR052B**
Matrix: **Soil**
Workgroup Number: **WG360454**
Collect Date: **03/17/2011 13:15**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **1**
Units: **ug/kg**

Instrument: **HPMS7**
Prep Date: **03/30/2011 08:13**
Cal Date: **03/24/2011 11:29**
Run Date: **04/04/2011 10:09**
File ID: **7M50745**
Percent Solid: **95.0**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	2.60	1.30
Acenaphthylene	208-96-8		U	2.60	1.30
Acenaphthene	83-32-9		U	2.60	1.30
Fluorene	86-73-7		U	2.60	1.30
Phenanthrene	85-01-8		U	2.60	1.30
Anthracene	120-12-7		U	2.60	1.30
Fluoranthene	206-44-0		U	2.60	1.30
Pyrene	129-00-0		U	2.60	1.30
Benzo(a)anthracene	56-55-3		U	2.60	1.30
Chrysene	218-01-9		U	2.60	1.30
Benzo(b)fluoranthene	205-99-2		U	2.60	1.30
Benzo(k)fluoranthene	207-08-9		U	2.60	1.30
Benzo(a)pyrene	50-32-8	1.47	J	2.60	1.30
Indeno(1,2,3-cd)pyrene	193-39-5	1.33	J	2.60	1.30
Dibenzo(a,h)anthracene	53-70-3		U	2.60	1.30
Benzo(g,h,i)perylene	191-24-2	1.51	J	2.60	1.30
1-Methylnaphthalene	90-12-0		U	2.60	1.30
2-Methylnaphthalene	91-57-6		U	2.60	1.30

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	60.7	35	100	
2-Fluorobiphenyl	71.2	45	105	
p-Terphenyl-d14	75.4	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Report Number: **L11030664**
Report Date : **April 7, 2011**

Sample Number: **L11030664-13**
Client ID: **SR053B**
Matrix: **Soil**
Workgroup Number: **WG360454**
Collect Date: **03/17/2011 13:25**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **5**
Units: **ug/kg**

Instrument: **HPMS7**
Prep Date: **03/30/2011 08:13**
Cal Date: **03/24/2011 11:29**
Run Date: **04/04/2011 12:55**
File ID: **7M50751**
Percent Solid: **93.1**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	13.1	6.56
Acenaphthylene	208-96-8		U	13.1	6.56
Acenaphthene	83-32-9	10.3	J	13.1	6.56
Fluorene	86-73-7		U	13.1	6.56
Phenanthrene	85-01-8		U	13.1	6.56
Anthracene	120-12-7		U	13.1	6.56
Fluoranthene	206-44-0	17.9		13.1	6.56
Pyrene	129-00-0	23.9		13.1	6.56
Benzo(a)anthracene	56-55-3	35.0		13.1	6.56
Chrysene	218-01-9	40.9		13.1	6.56
Benzo(b)fluoranthene	205-99-2	64.8		13.1	6.56
Benzo(k)fluoranthene	207-08-9	89.4		13.1	6.56
Benzo(a)pyrene	50-32-8	126		13.1	6.56
Indeno(1,2,3-cd)pyrene	193-39-5	112		13.1	6.56
Dibenzo(a,h)anthracene	53-70-3	33.1		13.1	6.56
Benzo(g,h,i)perylene	191-24-2	126		13.1	6.56
1-Methylnaphthalene	90-12-0		U	13.1	6.56
2-Methylnaphthalene	91-57-6		U	13.1	6.56

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	50.2	35	100	
2-Fluorobiphenyl	58.4	45	105	
p-Terphenyl-d14	88.6	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

2.1.1.2 QC Summary Data

Example 8270 Calculations

1.0 Calculating the Response Factor (RF) from the initial calibration (ICAL) data:

RF = [(Ax) (Cis)] / [(Ais) (Cx)]

where:

	Example
Ax = Area of the characteristic ion for the compound being measured:	1261197
Cis = Concentration of the specific internal standard (ug/mL)	40
Ais = Area of the characteristic ion of the specific internal standard	608044
Cx = Concentration of the compound in the standard being measured (ug/mL)	50
RF = Calculated Response Factor	**1.65935**

2.0 Calculating the concentration (C) of a compound in water using the data from the prep log and quantitation report: *

Cx = [(Ax) (Cis) (Vf) (D)] / [(Ais) (RF) (Vi)]

where:

	Example
Ax = Area of the characteristic ion for the compound being measured	367250
Cis = Concentration of the specific internal standard (ug/mL)	40
Vf = Final volume of sample extract from prep log (mL)	1
D = Dilution factor for sample as a multiplier (10x = 10)	1
Ais = Area of the characteristic ion of the specific internal standard	511641
RF = Average RF from the ICAL	1.65935
Vi = Initial volume of sample extracted from prep log (mL)	1021
Cx = Concentration of the compound in the sample being measured (ug/mL)	0.016947
Cx = Concentration of the compound in the sample being measured (ug/L)	**16.947**

3.0 Calculating the concentration (C) of a compound in soil using the data from the prep log and quantitation report: *

Cx = [(Ax) (Cis) (Vf) (D)] / [(Ais) (RF) (Wi)]

where:

	Example
Ax = Area of the characteristic ion for the compound being measured	367250
Cis = Concentration of the specific internal standard (ug/mL)	40
Vf = Final volume of sample extract from prep log (mL)	1
D = Dilution factor for sample as a multiplier (10x = 10)	1
Ais = Area of the characteristic ion of the specific internal standard	511641
RF = Average RF from the ICAL	1.65935
Wi = Initial weight of sample extracted (g) from prep log	30
Cx = Concentration of the compound in the sample being measured (ug/g)	0.576763
Cx = Concentration of the compound in the sample being measured (ug/kg)	**576.7627**

Dry weight correction:

Percent solids (PCT_S)	50
Cd = (Cx) (100)/PCT_S	**1153.525** ug/kg

* Concentrations appearing on the instrument quantitation reports are on-column results and do not take into account initial volume, final volume, and the dilution factor.

4.0 Concentration from Linear Regression

Step 1: Retrieve Curve Data From Plot, y = mx + b

y = response ratio = response of analyte / response of IS = Ax/Ais

x = amount ratio = concentration analyte/concentration internal standard = Cx / Cis

m = slope from curve plot

b = intercept from curve plot

Step 2: Calculate y from Quantitation Report

y = 16790/784838 = 0.02139

Step 3: Solve for x

x = (y - b)/m = [(0.02139 -(- 0.0435)]/ 0.0783 = 0.829

Step 4: Solve for analyte concentration Cx

Cx = Cis (x) = (25.0)(0.829) = 20.72 ug/L

Example Spreadsheet Calculation:

Slope from curve, m:	0.0783	
Intercept from curve, b:	-0.0435	
Area of analyte, Ax:	16790	
Area of Internal Standard , Ais:	784484	
Concentration of IS, Cis	25.00	ug/L
Response Ratio (y) :	0.021403	
Amount Ratio:	0.828897	
Concentration (Cx):	20.72241	ug/L

5.0 Concentration from Quadratic Regression

Step 1 - Retrieve Curve Data from Plot, y = Ax^2 + Bx + C
Where:
Ax^2 + Bx + (C - y) = 0
A, B, C = constants from the ICAL quadratic regression
y = Response ratio = Area of analyte/Area of internal standard (IS)
x = Amount ratio = Concentration of analyte/concentration of IS

Step 2: Calculate y from Quantitation Report

y = Ax/Ais

Step 3: Solve for x using the quadratic formula
Ax^2 + Bx + C - y = 0

$$x = \frac{b \pm \sqrt{\left(b^2 - 4a(c - y)\right)}}{2a}$$ (Two possible solutions)

Step 4: Solve for analyte concentration Cx

Cx = (Cis)(Amount ratio)

Example Spreadsheet Calculation:

Value of A from plot:	**0.0259**	
Value of B from plot:	**0.0596**	
Value of C from plot:	**-0.0165**	
Area of analyte from quantitation report:	**203233**	
Area of IS from quantiation report:	**1425653**	
Response ratio, y:	**0.142554**	
C - y:	**-0.15905**	
Root 1 - Computed amount ratio , X1:	**-3.88278**	
Root 2 - Computed amount ratio , X2:	**1.581623**	use this solution
Concentration of IS, Cis:	**40.00**	
Concentration of analyte, Cx:	**63.26**	ug/L

Microbac Laboratories Inc.
Sample Extract Log

Workgroup: WG360300
Analyst: CPD
Spike Analyst: CPD
Method: 3545
Run Date: 03/30/2011 08:13
SOP: ASE01 Revison 8
Spike Witness: RAH
Surr Solution: STD42350

Methylene Chloride Lot #: COA15249
Purified Lab Sand Lot #: COA14882
Diatomaceous Earth Lot #: COA14693
Sodium Sulfate,Anhydrous,Granular (Lot #: COA15226

	SAMPLE #	Type	Reference	pH	Prod	Init Amnt	Surr Amnt	Spike Amnt	Spike Sol	Final Vol	Color
1	L11030664-01	SAMP			827-PAHL	20.39 g	.25 mL			1 mL	Colored
2	L11030664-02	SAMP			827-PAHL	20.62 g	.25 mL			1 mL	Colored
3	L11030664-03	SAMP			827-PAHL	20.32 g	.25 mL			1 mL	Colored
4	L11030664-04	SAMP			827-PAHL	20.15 g	.25 mL			1 mL	Colored
5	L11030664-05	SAMP			827-PAHL	20.28 g	.25 mL			1 mL	Colored
6	L11030664-06	SAMP			827-PAHL	20.46 g	.25 mL			1 mL	Colored
7	L11030664-07	SAMP			827-PAHL	20.41 g	.25 mL			1 mL	Colored
8	L11030664-08	SAMP			827-PAHL	20.37 g	.25 mL			1 mL	Colored
9	L11030664-09	SAMP			827-PAHL	20.24 g	.25 mL			1 mL	Colored
10	L11030664-10	SAMP			827-PAHL	20.42 g	.25 mL			1 mL	Colored
11	L11030664-11	SAMP			827-PAHL	20.91 g	.25 mL			1 mL	Colored
12	L11030664-12	SAMP			827-PAHL	20.23 g	.25 mL			1 mL	Colored
13	L11030664-13	SAMP			827-PAHL	20.47 g	.25 mL			1 mL	Colored
14	WG360300-01	BLANK			827-PAHL	20 g	.25 mL			1 mL	Transparent
15	WG360300-02	LCS			827-PAHL	20 g	.25 mL	1 mL	STD43935	1 mL	Transparent
16	WG360300-03	LCS2			827-PAHL	20 g	.25 mL	1 mL	STD43935	1 mL	Transparent

Due to insufficient sample volume, this preparation batch failed to include the method prescribed MS and MSD.

Analyst: Chelsea Davis

Reviewer: [illegible]

EXTRACT - Modified 10/22/2008
PDF ID: 1958534
Report generated: 03/30/2011 16:15

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS7 Dataset: 032411
Analyst1: CAA Analyst2: NA
Method: 8270L SOP: MSS03 Rev: 9

Maintenance Log ID: 36824 Syringe Filter Lot#:

Column 1 ID: RXI-5MS Column 2 ID: NA

Workgroups:

CCV Std: LCS STD:
Internal STD: COA15233 Surrogate STD: NA Calibration STD

Comments: Samples were anlayzed at a dilution due to the extracts' dark color and viscosity.

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	7M50690	WG359798-01 5ppm DFTPP	1	1	STD41383	03/24/11 08:28
2	7M50691	WG359798-02 1ppm PAHL STD	1	1	STD41768	03/24/11 08:45
3	7M50692	WG359798-03 10ppm PAHL STD	1	1	STD41768	03/24/11 09:12
4	7M50693	WG359798-04 5ppm PAHL STD	1	1	STD41768	03/24/11 09:39
5	7M50694	WG359798-05 2.5ppm PAHL STD	1	1	STD41768	03/24/11 10:06
6	7M50695	WG359798-06 0.5ppm PAHL STD	1	1	STD41768	03/24/11 10:34
7	7M50696	WG359798-07 0.1ppm PAHL STD	1	1	STD41768	03/24/11 11:01
8	7M50697	WG359798-08 0.05ppm PAHL STD	1	1	STD41768	03/24/11 11:29
9	7M50698	WG359798-09 1ppm PAHL Alt Src STD	1	1	STD43326	03/24/11 11:56
10	7M50699	WG359867-01 5ppm DFTPP	1	1	STD41383	03/24/11 13:54
11	7M50700	WG359867-02 1ppm PAHL STD	1	1	STD41768	03/24/11 14:11
12	7M50701	WG359782-02 BLK 03/24	1	1		03/24/11 14:38
13	7M50702	WG359782-03 LCS 03/24	1	1		03/24/11 15:05
14	7M50703	WG359763-01 FBLK	18	1	SPLP	03/24/11 15:33
15	7M50704	WG359783-02 BLK 03/24	7	1	SOIL	03/24/11 16:00
16	7M50705	WG359783-03 LCS 03/24	7	1	SOIL	03/24/11 16:27
17	7M50706	L11030760-01	1	1		03/24/11 16:54
18	7M50707	L11030767-01	1	1		03/24/11 17:21
19	7M50708	L11030767-03 REF	1	1	SPLP	03/24/11 17:48
20	7M50709	L11030767-05 MS	1	1	SPLP	03/24/11 18:15
21	7M50710	L11030767-07 MSD	1	1	SPLP	03/24/11 18:42
22	7M50711	L11030767-09	18	1	SPLP	03/24/11 19:10
23	7M50712	L11030767-11	18	1	SPLP	03/24/11 19:37
24	7M50713	L11030767-13	18	1	SPLP	03/24/11 20:04
25	7M50714	L11030767-15	18	1	SPLP	03/24/11 20:31
26	7M50715	L11030767-17	18	1	SPLP	03/24/11 20:59
27	7M50716	L11030767-16	7	1	SOIL	03/24/11 21:26
28	7M50717	L11030767-12	7	1	SOIL	03/24/11 21:53
29	7M50718	L11030671-01	1	1		03/24/11 22:20
30	7M50719	L11030671-02	1	1		03/24/11 22:48
31	7M50720	L11030767-10 2X	7	2	SOIL	03/24/11 23:15
32	7M50721	L11030767-14 2X	7	2	SOIL	03/24/11 23:42
33	7M50722	L11030767-02 REF 10X	7	10	SOIL	03/25/11 00:08
34	7M50723	L11030767-04 MS 10X	7	10	SOIL	03/25/11 00:35

Page: 1 Approved: 25-MAR-11

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS7 Dataset: 032411
Analyst1: CAA Analyst2: NA
Method: 8270L SOP: MSS03 Rev: 9

Maintenance Log ID: 36824 Syringe Filter Lot#:

Column 1 ID: RXI-5MS Column 2 ID: NA

Workgroups:

CCV Std: LCS STD:
Internal STD: COA15233 Surrogate STD: NA

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
35	7M50724	L11030767-06 MSD 10X	7	10	SOIL	03/25/11 01:02
36	7M50725	L11030767-08 10X	7	10	SOIL	03/25/11 01:29

Comments

Seq.	Rerun	Dil.	Reason	Analytes
2				
	WG359798-02 1ppm PAHL STD - SS NBZ high, run ICAL.			
19	X	10	Over Calibration Range	#3, 9, 10, 12
	L11030767-03 REF			
22	X	10	Over Calibration Range	#12
	L11030767-09			
23	X	10	Over Calibration Range	#12
	L11030767-11			
32				
	L11030767-14 2X - SS NBZ low.			
33	X	100	Over Calibration Range	#12, 14, 16, 18, 19
	L11030767-02 REF 10X			
36	X	100	Over Calibration Range	#12, 14, 16
	L11030767-08 10X			

Page: 2 Approved: 25-MAR-11

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS7 Dataset: 040411
Analyst1: CAA Analyst2: NA
Method: 8270L SOP: MSS03 Rev: 9

Maintenance Log ID: 36956 Syringe Filter Lot#:

Column 1 ID: RXI-5MS Column 2 ID: NA

Workgroups: WG360454

CCV Std: LCS STD:
Internal STD: COA15233 Surrogate STD: NA Calibration STD:

Comments: Samples were analyzed at a dilution due to extract appearance.

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	7M50739	WG360251-01 5ppm DFTPP	1	1	STD41383	04/04/11 07:34
2	7M50740	WG360251-02 1ppm PAHL STD	1	1	STD41768	04/04/11 07:51
3	7M50741	WG360300-01 BLK 03/3	7	1	SOIL	04/04/11 08:18
4	7M50742	WG360300-02 LCS 03/3	7	1	SOIL	04/04/11 08:45
5	7M50743	WG360300-03 LCS DUP 03/3	7	1	SOIL	04/04/11 09:13
6	7M50744	L11030664-11	7	1	SOIL	04/04/11 09:41
7	7M50745	L11030664-12	7	1	SOIL	04/04/11 10:09
8	7M50746	L11030664-09	7	1	SOIL	04/04/11 10:36
9	7M50747	L11030664-02	7	1	SOIL	04/04/11 11:03
10	7M50748	L11030664-03	7	1	SOIL	04/04/11 11:31
11	7M50749	L11030664-06	7	1	SOIL	04/04/11 11:59
12	7M50750	L11030664-08	7	1	SOIL	04/04/11 12:27
13	7M50751	L11030664-13 5X	7	5	SOIL	04/04/11 12:55
14	7M50752	L11030664-07 5X	7	5	SOIL	04/04/11 13:22
15	7M50753	L11030664-05 5X	7	5	SOIL	04/04/11 13:50
16	7M50754	L11030664-10 5X	7	5	SOIL	04/04/11 14:17
17	7M50755	L11030664-04 5X	7	5	SOIL	04/04/11 14:45
18	7M50756	L11030664-01 2X	7	2	SOIL	04/04/11 15:13

Comments

Seq.	Rerun	Dil.	Reason	Analytes
17	X	50	Over Calibration Range	#14
	L11030664-04 5X			

Page: 1 Approved: 05-APR-11

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS7 Dataset: 040511
Analyst1: CAA Analyst2: NA
Method: 8270L SOP: MSS03 Rev: 9

Maintenance Log ID: 36973 Syringe Filter Lot#:

Column 1 ID: RXI-5MS Column 2 ID: NA

Workgroups: WG360778, WG360454

CCV Std: LCS STD:
Internal STD: COA15233 Surrogate STD: NA Calibration STD:

Comments:

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	7M50757	WG360786-01 5ppm DFTPP	1	1	STD41383	04/05/11 08:10
2	7M50758	WG360786-02 1ppm PAHL STD	1	1	STD41768	04/05/11 08:27
3	7M50759	WG360720-01 BLK 04/04	7	1	SOIL	04/05/11 08:54
4	7M50760	WG360720-02 LCS 04/04	7	1	SOIL	04/05/11 09:21
5	7M50761	WG360720-03 LCS DUP 04/04	7	1	SOIL	04/05/11 09:48
6	7M50762	L11040003-01 LOD	7	1	SOIL	04/05/11 10:15
7	7M50763	L11040005-01 LOQ	7	1	SOIL	04/05/11 10:43
8	7M50764	L11040059-06	7	1	SOIL	04/05/11 11:11
9	7M50765	L11030664-04 50X	7	50	SOIL	04/05/11 11:38

Comments

Seq.	Rerun	Dil.	Reason	Analytes

Page: 1 Approved:

Microbac Laboratories Inc.

Data Checklist

Date: 24-MAR-2011
Analyst: CAA
Analyst: NA
Method: 8270L
Instrument: HPMS7
Curve Workgroup: NA
Runlog ID: 39652
Analytical Workgroups: L11030760, L11030767, L11030671

ANALYTICAL	
System Performance Check	X
DFTPP (MS)	X
Endrin/DDT breakdown (8081/MS)	NA
Pentachlorophenol/benzidine tailing (MS)	NA
Eluent check (IC)/system pressure (HPLC)	NA
Window standard (FID)	NA
Initial Calibration	X
Average RF	X
Linear regression or higher order curve	NA
Alternate source standard (ICV) % Difference	X
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (MS)	X
Continuing calibration blank (CCB) (IC)	NA
Special standards	NA
Blanks	X
TCL hits	X
Surrogate recoveries	X
LCS/LCSD (Laboratory Control Sample)	X
Recoveries	X
Surrogate recoveries	X
MS/MSD/Sample duplicates	X
Recoveries	X
%RPD	X
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	X
Surrogate recoveries	X
Internal standard areas (MS)	X
Library searches (MS)	NA
Calculations & correct factors	X
Compounds above calibration range	X
Reruns	NA
Manual integrations	X
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	NA
Check for completeness	X
Primary Reviewer	CAA
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	ECL

Primary Reviewer:
25-MAR-2011

Secondary Reviewer:
25-MAR-2011

CHECKLIST1 - Modified 03/05/2008
Generated: MAR-25-2011 13:47:56

Microbac Laboratories Inc.

Data Checklist

Date: 04-APR-2011
Analyst: CAA
Analyst: NA
Method: 8270L
Instrument: HPMS7
Curve Workgroup: NA
Runlog ID: 39834
Analytical Workgroups: L11030664

ANALYTICAL	
System Performance Check	X
DFTPP (MS)	X
Endrin/DDT breakdown (8081/MS)	NA
Pentachlorophenol/benzidine tailing (MS)	NA
Eluent check (IC)/system pressure (HPLC)	NA
Window standard (FID)	NA
Initial Calibration	NA
Average RF	NA
Linear regression or higher order curve	NA
Alternate source standard (ICV) % Difference	NA
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (MS)	X
Continuing calibration blank (CCB) (IC)	NA
Special standards	NA
Blanks	X
TCL hits	X
Surrogate recoveries	X
LCS/LCSD (Laboratory Control Sample)	X
Recoveries	X
Surrogate recoveries	X
MS/MSD/Sample duplicates	NA
Recoveries	NA
%RPD	NA
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	X
Surrogate recoveries	X
Internal standard areas (MS)	X
Library searches (MS)	NA
Calculations & correct factors	X
Compounds above calibration range	X
Reruns	NA
Manual integrations	X
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	NA
Check for completeness	X
Primary Reviewer	CAA
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	ECL

Primary Reviewer:
05-APR-2011

Secondary Reviewer:
05-APR-2011

CHECKLIST1 - Modified 03/05/2008
Generated: APR-05-2011 09:27:55

Microbac Laboratories Inc.

Data Checklist

Date: 05-APR-2011
Analyst: CAA
Analyst: NA
Method: 8270L
Instrument: HPMS7
Curve Workgroup: NA
Runlog ID: 39850
Analytical Workgroups: L11040003, L11040005, L11040059, L11030664

ANALYTICAL	
System Performance Check	X
DFTPP (MS)	X
Endrin/DDT breakdown (8081/MS)	NA
Pentachlorophenol/benzidine tailing (MS)	NA
Eluent check (IC)/system pressure (HPLC)	NA
Window standard (FID)	NA
Initial Calibration	NA
Average RF	NA
Linear regression or higher order curve	NA
Alternate source standard (ICV) % Difference	NA
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (MS)	X
Continuing calibration blank (CCB) (IC)	NA
Special standards	NA
Blanks	X
TCL hits	X
Surrogate recoveries	X
LCS/LCSD (Laboratory Control Sample)	X
Recoveries	X
Surrogate recoveries	X
MS/MSD/Sample duplicates	NA
Recoveries	NA
%RPD	NA
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	X
Surrogate recoveries	X
Internal standard areas (MS)	X
Library searches (MS)	NA
Calculations & correct factors	X
Compounds above calibration range	NA
Reruns	X
Manual integrations	X
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	NA
Check for completeness	X
Primary Reviewer	CAA
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	MDC

Primary Reviewer:
06-APR-2011

Secondary Reviewer:
06-APR-2011

CHECKLIST1 - Modified 03/05/2008
Generated: APR-06-2011 15:42:50

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method 8270C AAB#: WG360454

Login Number: L11030664

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
SR042B	01	03/17/11					03/30/11	12.9	14		04/04/11	5.3	40	
SR043B	02	03/17/11					03/30/11	12.9	14		04/04/11	5.1	40	
SR044B	03	03/17/11					03/30/11	12.9	14		04/04/11	5.1	40	
SR045B	04	03/17/11					03/30/11	12.9	14		04/04/11	5.3	40	
SR045B	04	03/17/11					03/30/11	12.9	14		04/05/11	6.1	40	
SR045C	05	03/17/11					03/30/11	12.9	14		04/04/11	5.2	40	
SR046B	06	03/17/11					03/30/11	12.9	14		04/04/11	5.2	40	
SR047B	07	03/17/11					03/30/11	12.8	14		04/04/11	5.2	40	
SR048B	08	03/17/11					03/30/11	12.8	14		04/04/11	5.2	40	
SR049B	09	03/17/11					03/30/11	12.8	14		04/04/11	5.1	40	
SR050B	10	03/17/11					03/30/11	12.8	14		04/04/11	5.3	40	
SR051B	11	03/17/11					03/30/11	12.8	14		04/04/11	5.1	40	
SR052B	12	03/17/11					03/30/11	12.8	14		04/04/11	5.1	40	
SR053B	13	03/17/11					03/30/11	12.8	14		04/04/11	5.2	40	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 1967313
Report generated 04/07/2011 08:24

Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L11030664
Instrument Id: HPMS7
Workgroup (AAB#): WG360454

Method: 8270L
CAL ID: HPMS7-24-MAR-11
Matrix: Soil

Sample Number	Dilution	Tag	1	2	3
L11030664-01	2.00	DL01	63.2	50.7	84.3
L11030664-02	1.00	01	53.1	43.7	84.4
L11030664-03	1.00	01	62.2	55.9	81.9
L11030664-04	5.00	DL01	60.1	46.6	89.8
L11030664-04	50.0	DL02	DL	DL	DL
L11030664-05	5.00	DL01	53.9	44.3	86.9
L11030664-06	1.00	01	64.9	55.0	85.3
L11030664-07	5.00	DL01	48.3	40.5	87.2
L11030664-08	1.00	01	54.7	46.7	79.7
L11030664-09	1.00	01	47.9	40.4	71.9
L11030664-10	5.00	DL01	47.1	39.4	83.6
L11030664-11	1.00	01	77.3	66.6	78.3
L11030664-12	1.00	01	71.2	60.7	75.4
L11030664-13	5.00	DL01	58.4	50.2	88.6
WG360300-01	1.00	01	58.2	50.2	67.1
WG360300-02	1.00	01	59.6	50.7	78.4
WG360300-03	1.00	01	57.0	48.9	71.0

Surrogates	Surrogate Limits		
1 - 2-Fluorobiphenyl	45	-	105
2 - Nitrobenzene-d5	35	-	100
3 - p-Terphenyl-d14	30	-	125

Underline = Result out of surrogate limits

DL = surrogate diluted out
ND = surrogate not detected

SURROGATES - Modified 03/06/2008
PDF File ID: 1963368
Report generated: 04/07/2011 08:24

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L11030664
Blank File ID: 7M50741
Prep Date: 03/30/11 08:13
Analyzed Date: 04/04/11 08:18
Analyst: CAA

Work Group: WG360454
Blank Sample ID: WG360300-01
Instrument ID: HPMS7
Method: 8270C

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG360300-02	7M50742	04/04/11 08:45	01
LCS2	WG360300-03	7M50743	04/04/11 09:13	01
SR051B	L11030664-11	7M50744	04/04/11 09:41	01
SR052B	L11030664-12	7M50745	04/04/11 10:09	01
SR049B	L11030664-09	7M50746	04/04/11 10:36	01
SR043B	L11030664-02	7M50747	04/04/11 11:03	01
SR044B	L11030664-03	7M50748	04/04/11 11:31	01
SR046B	L11030664-06	7M50749	04/04/11 11:59	01
SR048B	L11030664-08	7M50750	04/04/11 12:27	01
SR053B	L11030664-13	7M50751	04/04/11 12:55	DL01
SR047B	L11030664-07	7M50752	04/04/11 13:22	DL01
SR045C	L11030664-05	7M50753	04/04/11 13:50	DL01
SR050B	L11030664-10	7M50754	04/04/11 14:17	DL01
SR045B	L11030664-04	7M50755	04/04/11 14:45	DL01
SR042B	L11030664-01	7M50756	04/04/11 15:13	DL01
SR045B	L11030664-04	7M50765	04/05/11 11:38	DL02

Report Name: BLANK_SUMMARY
PDF File ID: 1967314
Report generated 04/07/2011 08:24

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L11030664 Prep Date: 03/30/11 08:13 Sample ID: WG360300-01
Instrument ID: HPMS7 Run Date: 04/04/11 08:18 Prep Method: 3545
File ID: 7M50741 Analyst: CAA Method: 8270C
Workgroup (AAB#): WG360454 Matrix: Soil Units: ug/kg
Contract #: Cal ID: HPMS7-24-MAR-11

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Naphthalene	1.25	2.50	1.25	1	U
Acenaphthylene	1.25	2.50	1.25	1	U
Acenaphthene	1.25	2.50	1.25	1	U
Fluorene	1.25	2.50	1.25	1	U
Phenanthrene	1.25	2.50	1.25	1	U
Anthracene	1.25	2.50	1.25	1	U
Fluoranthene	1.25	2.50	1.25	1	U
Pyrene	1.25	2.50	1.25	1	U
Benzo(a)anthracene	1.25	2.50	1.25	1	U
Chrysene	1.25	2.50	1.25	1	U
Benzo(b)fluoranthene	1.25	2.50	1.25	1	U
Benzo(k)fluoranthene	1.25	2.50	1.25	1	U
Benzo(a)pyrene	1.25	2.50	1.25	1	U
Indeno(1,2,3-cd)pyrene	1.25	2.50	1.25	1	U
Dibenzo(a,h)anthracene	1.25	2.50	1.25	1	U
Benzo(g,h,i)perylene	1.25	2.50	1.25	1	U
1-Methylnaphthalene	1.25	2.50	1.25	1	U
2-Methylnaphthalene	1.25	2.50	1.25	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
Nitrobenzene-d5	50.2	35 - 100	PASS
2-Fluorobiphenyl	58.2	45 - 105	PASS
p-Terphenyl-d14	67.1	30 - 125	PASS

LOD Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name: BLANK
PDF ID: 1963366
07-APR-2011 08:24

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L11030664 Analyst: CAA Prep Method: 3545
Instrument ID: HPMS7 Matrix: Soil Method: 8270C
Workgroup (AAB#): WG360454 Units: ug/kg
QC Key: DOD4 Lot #: STD43935

Sample ID: WG360300-02 LCS File ID: 7M50742 Run Date: 04/04/2011 08:45
Sample ID: WG360300-03 LCS2 File ID: 7M50743 Run Date: 04/04/2011 09:13

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Naphthalene	50.0	27.2	54.5	50.0	26.6	53.3	2.25	40 - 105	30	
Acenaphthylene	50.0	27.4	54.8	50.0	26.5	53.1	3.13	45 - 105	30	
Acenaphthene	50.0	27.2	54.4	50.0	26.2	52.5	3.59	45 - 110	30	
Fluorene	50.0	28.7	57.3	50.0	27.6	55.2	3.69	50 - 110	30	
Phenanthrene	50.0	29.3	58.6	50.0	28.8	57.5	1.95	50 - 110	30	
Anthracene	50.0	31.7	63.4	50.0	31.0	62.0	2.28	55 - 105	30	
Fluoranthene	50.0	36.6	73.3	50.0	34.1	68.1	7.30	55 - 115	30	
Pyrene	50.0	33.6	67.3	50.0	31.2	62.4	7.49	45 - 125	30	
Benzo(a)anthracene	50.0	35.5	70.9	50.0	32.4	64.7	9.15	50 - 110	30	
Chrysene	50.0	37.8	75.6	50.0	34.5	69.1	9.03	55 - 110	30	
Benzo(b)fluoranthene	50.0	35.2	70.3	50.0	31.8	63.6	10.1	45 - 115	30	
Benzo(k)fluoranthene	50.0	36.4	72.8	50.0	33.3	66.7	8.77	45 - 125	30	
Benzo(a)pyrene	50.0	37.4	74.8	50.0	34.0	68.0	9.43	50 - 110	30	
Indeno(1,2,3-cd)pyrene	50.0	35.7	71.4	50.0	32.4	64.7	9.79	40 - 120	30	
Dibenzo(a,h)anthracene	50.0	35.9	71.8	50.0	32.7	65.4	9.37	40 - 125	30	
Benzo(g,h,i)perylene	50.0	35.3	70.7	50.0	32.1	64.2	9.51	40 - 125	30	
1-Methylnaphthalene	50.0	26.9	53.8	50.0	26.1	52.3	2.88	35 - 100	30	
2-Methylnaphthalene	50.0	28.0	56.0	50.0	27.1	54.2	3.19	45 - 105	30	

Surogates	LCS	LCS2	Surrogate Limits	Qualifier
	% Recovery	% Recovery		
Nitrobenzene-d5	50.7	48.9	35 - 100	PASS
2-Fluorobiphenyl	59.6	57.0	45 - 105	PASS
p-Terphenyl-d14	78.4	71.0	30 - 125	PASS

* EXCEEDS %REC LIMIT

\# EXCEEDS RPD LIMIT

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 1963367
Report generated: 04/07/2011 08:24

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

DFTPP

Login Number: L11030664
Instrument: HPMS7
Analyst: CAA
Workgroup: WG359798

Tune ID: WG359798-01
Run Date: 03/24/2011
Run Time: 08:28
File ID: 7M50690
Cal ID: HPMS7 - 24-MAR-11

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51.0	198	30.0	60.0	39.4	20074	PASS
68.0	69.0	0	2.00	0.555	144	PASS
69.0	198	0	100	51.0	25954	PASS
70.0	69.0	0	2.00	0	0	PASS
127	198	40.0	60.0	51.0	25933	PASS
197	198	0	1.00	0.340	173	PASS
198	198	100	100	100	50890	PASS
199	198	5.00	9.00	6.93	3529	PASS
275	198	10.0	30.0	25.7	13066	PASS
365	198	1.00	100	3.46	1762	PASS
441	443	0.0100	100	81.7	4478	PASS
442	198	40.0	100	57.4	29224	PASS
443	442	17.0	23.0	18.7	5478	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG359798-02	STD-CCV	01	03/24/2011 08:45	
WG359798-03	STD	01	03/24/2011 09:12	
WG359798-04	STD	01	03/24/2011 09:39	
WG359798-05	STD	01	03/24/2011 10:06	
WG359798-06	STD	01	03/24/2011 10:34	
WG359798-07	STD	01	03/24/2011 11:01	
WG359798-08	STD	01	03/24/2011 11:29	
WG359798-09	SSCV	01	03/24/2011 11:56	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 1967317
Report generated 04/07/2011 08:24

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

DFTPP

Login Number: L11030664
Instrument: HPMS7
Analyst: CAA
Workgroup: WG360251

Tune ID: WG360251-01
Run Date: 04/04/2011
Run Time: 07:34
File ID: 7M50739
Cal ID: HPMS7 - 24-MAR-11

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51.0	198	30.0	60.0	41.2	22069	PASS
68.0	69.0	0	2.00	1.53	445	PASS
69.0	198	0	100	54.2	29024	PASS
70.0	69.0	0	2.00	0	0	PASS
127	198	40.0	60.0	55.4	29682	PASS
197	198	0	1.00	0	0	PASS
198	198	100	100	100	53544	PASS
199	198	5.00	9.00	7.26	3886	PASS
275	198	10.0	30.0	24.0	12861	PASS
365	198	1.00	100	3.65	1956	PASS
441	443	0.0100	100	72.3	3454	PASS
442	198	40.0	100	42.9	22992	PASS
443	442	17.0	23.0	20.8	4777	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG360251-02	CCV	01	04/04/2011 07:51	
WG360300-01	BLANK	01	04/04/2011 08:18	
WG360300-02	LCS	01	04/04/2011 08:45	
WG360300-03	LCS2	01	04/04/2011 09:13	
L11030664-11	SR051B	01	04/04/2011 09:41	
L11030664-12	SR052B	01	04/04/2011 10:09	
L11030664-09	SR049B	01	04/04/2011 10:36	
L11030664-02	SR043B	01	04/04/2011 11:03	
L11030664-03	SR044B	01	04/04/2011 11:31	
L11030664-06	SR046B	01	04/04/2011 11:59	
L11030664-08	SR048B	01	04/04/2011 12:27	
L11030664-13	SR053B	DL01	04/04/2011 12:55	
L11030664-07	SR047B	DL01	04/04/2011 13:22	
L11030664-05	SR045C	DL01	04/04/2011 13:50	
L11030664-10	SR050B	DL01	04/04/2011 14:17	
L11030664-04	SR045B	DL01	04/04/2011 14:45	
L11030664-01	SR042B	DL01	04/04/2011 15:13	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 1967317
Report generated 04/07/2011 08:24

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

DFTPP

Login Number: L11030664
Instrument: HPMS7
Analyst: CAA
Workgroup: WG360786

Tune ID: WG360786-01
Run Date: 04/05/2011
Run Time: 08:10
File ID: 7M50757
Cal ID: HPMS7 - 24-MAR-11

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51.0	198	30.0	60.0	39.8	19901	PASS
68.0	69.0	0	2.00	0.900	243	PASS
69.0	198	0	100	54.1	27008	PASS
70.0	69.0	0	2.00	0	0	PASS
127	198	40.0	60.0	55.1	27514	PASS
197	198	0	1.00	0	0	PASS
198	198	100	100	100	49952	PASS
199	198	5.00	9.00	7.02	3507	PASS
275	198	10.0	30.0	24.5	12239	PASS
365	198	1.00	100	3.68	1838	PASS
441	443	0.0100	100	81.4	3425	PASS
442	198	40.0	100	45.7	22814	PASS
443	442	17.0	23.0	18.4	4207	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG360786-02	CCV	01	04/05/2011 08:27	
L11030664-04	SR045B	DL02	04/05/2011 11:38	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 1967317
Report generated 04/07/2011 08:24

Microbac Laboratories Inc.

INITIAL CALIBRATION SUMMARY

Login Number: L11030664
Analytical Method: 8270C
ICAL Workgroup: WG359798

Instrument ID: HPMS7
Initial Calibration Date: 24-MAR-11 11:29
Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD (R^2)
Acenaphthene	CCC	1.012	4.68		
Benzo[a]pyrene	CCC	1.150	2.98		
Fluoranthene	CCC	1.246	5.94		
1-Methylnaphthalene		0.6514	6.21		
2-Methylnaphthalene		0.7056	4.73		
Acenaphthylene		1.667	5.67		
Anthracene		0.9685	6.34		
Benzo[a]anthracene		1.184	3.64		
Benzo[b]fluoranthene		1.239	2.65		
Benzo[ghi]perylene		1.130	3.65		
Benzo[k]fluoranthene		1.075	4.75		
Chrysene		1.069	3.58		
Dibenz[ah]anthracene		1.093	3.52		
Fluorene		1.225	4.51		
Indeno[1,2,3-cd]pyrene		1.338	3.07		
Naphthalene		1.023	4.75		
Phenanthrene		1.084	5.07		
Pyrene		1.355	4.47		

R = Correlation coefficient; 0.995 minimum
R^2 = Coefficient of determination; 0.99 minimum

If the %RSD is greater than the limit specified by the method or project QAP, then linear or quadratic equations will be used.

INT_CAL - Modified 03/06/2008
PDF File ID: 1967315
Report generated 04/07/2011 08:24

Microbac Laboratories Inc.

INITIAL CALIBRATION DATA

Login Number: L11030664
Analytical Method: 8270C

Instrument ID: HPMS7
Initial Calibration Date: 24-MAR-11 11:29
Column ID: F

Analyte	WG359798-02			WG359798-03			WG359798-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Acenaphthene	1.00	102541.000	1.110	10.0	792562.000	0.9872	5.00	391613.000	1.010
Benzo[a]pyrene	1.00	192891.000	1.221	10.0	1506224.00	1.137	5.00	746188.000	1.158
Fluoranthene	1.00	214410.000	1.366	10.0	1617974.00	1.118	5.00	823472.000	1.217
1-Methylnaphthalene	1.00	107464.000	0.6814	10.0	810202.000	0.5826	5.00	393094.000	0.6245
2-Methylnaphthalene	1.00	117780.000	0.7469	10.0	901687.000	0.6484	5.00	432840.000	0.6877
Acenaphthylene	1.00	172216.000	1.864	10.0	1314826.00	1.638	5.00	648240.000	1.672
Anthracene	1.00	170300.000	1.085	10.0	1292130.00	0.8930	5.00	650075.000	0.9605
Benzo[a]anthracene	1.00	206354.000	1.272	10.0	1603778.00	1.171	5.00	807943.000	1.188
Benzo[b]fluoranthene	1.00	204484.000	1.295	10.0	1582035.00	1.194	5.00	815863.000	1.266
Benzo[ghi]perylene	1.00	189422.000	1.199	10.0	1419664.00	1.071	5.00	714307.000	1.109
Benzo[k]fluoranthene	1.00	176787.000	1.119	10.0	1328251.00	1.002	5.00	693261.000	1.076
Chrysene	1.00	186596.000	1.151	10.0	1437046.00	1.049	5.00	721673.000	1.061
Dibenz[ah]anthracene	1.00	183578.000	1.162	10.0	1454298.00	1.097	5.00	717221.000	1.113
Fluorene	1.00	124068.000	1.343	10.0	964003.000	1.201	5.00	473936.000	1.222
Indeno[1,2,3-cd]pyrene	1.00	224158.000	1.419	10.0	1761259.00	1.329	5.00	872388.000	1.354
Naphthalene	1.00	173845.000	1.102	10.0	1314210.00	0.9450	5.00	631197.000	1.003
Phenanthrene	1.00	185298.000	1.181	10.0	1445591.00	0.9990	5.00	715661.000	1.057
Pyrene	1.00	238551.000	1.471	10.0	1762543.00	1.287	5.00	896114.000	1.318

INT_CAL - Modified 03/06/2008
PDF File ID: 1967315
Report generated 04/07/2011 08:24

Microbac Laboratories Inc.

INITIAL CALIBRATION DATA

Login Number: L11030664
Analytical Method: 8270C

Instrument ID: HPMS7
Initial Calibration Date: 24-MAR-11 11:29
Column ID: F

Analyte	WG359798-05			WG359798-06			WG359798-07		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Acenaphthene	2.50	194016.000	1.003	0.500	43654.0000	1.028	0.100	8668.00000	0.9706
Benzo[a]pyrene	2.50	370301.000	1.143	0.500	79002.0000	1.138	0.100	15765.0000	1.113
Fluoranthene	2.50	415919.000	1.240	0.500	90964.0000	1.281	0.100	18346.0000	1.246
1-Methylnaphthalene	2.50	197886.000	0.6274	0.500	44129.0000	0.6705	0.100	9261.00000	0.6830
2-Methylnaphthalene	2.50	216382.000	0.6861	0.500	47299.0000	0.7187	0.100	9779.00000	0.7212
Acenaphthylene	2.50	323567.000	1.673	0.500	70390.0000	1.658	0.100	14190.0000	1.589
Anthracene	2.50	326879.000	0.9744	0.500	70847.0000	0.9976	0.100	13876.0000	0.9424
Benzo[a]anthracene	2.50	403801.000	1.165	0.500	87669.0000	1.150	0.100	18244.0000	1.144
Benzo[b]fluoranthene	2.50	397507.000	1.227	0.500	86038.0000	1.240	0.100	17282.0000	1.220
Benzo[ghi]perylene	2.50	358806.000	1.108	0.500	78405.0000	1.130	0.100	16001.0000	1.130
Benzo[k]fluoranthene	2.50	333594.000	1.030	0.500	74088.0000	1.068	0.100	15232.0000	1.076
Chrysene	2.50	361941.000	1.044	0.500	80230.0000	1.053	0.100	16640.0000	1.044
Dibenz[ah]anthracene	2.50	354368.000	1.094	0.500	74943.0000	1.080	0.100	14757.0000	1.042
Fluorene	2.50	236824.000	1.224	0.500	51777.0000	1.219	0.100	10597.0000	1.187
Indeno[1,2,3-cd]pyrene	2.50	432599.000	1.336	0.500	92261.0000	1.329	0.100	18257.0000	1.289
Naphthalene	2.50	314626.000	0.9976	0.500	67742.0000	1.029	0.100	14038.0000	1.035
Phenanthrene	2.50	358236.000	1.068	0.500	77493.0000	1.091	0.100	15970.0000	1.085
Pyrene	2.50	458653.000	1.324	0.500	103263.000	1.355	0.100	21319.0000	1.337

INT_CAL - Modified 03/06/2008
PDF File ID: 1967315
Report generated 04/07/2011 08:24

Microbac Laboratories Inc.

INITIAL CALIBRATION DATA

Login Number: L11030664
Analytical Method: 8270C

Instrument ID: HPMS7
Initial Calibration Date: 24-MAR-11 11:29
Column ID: F

Analyte	WG359798-08		
	CONC	RESP	RF
Acenaphthene	0.0500	4363.00000	0.9765
Benzo[a]pyrene	0.0500	7950.00000	1.137
Fluoranthene	0.0500	9156.00000	1.253
1-Methylnaphthalene	0.0500	4633.00000	0.6904
2-Methylnaphthalene	0.0500	4899.00000	0.7300
Acenaphthylene	0.0500	7052.00000	1.578
Anthracene	0.0500	6771.00000	0.9267
Benzo[a]anthracene	0.0500	9475.00000	1.193
Benzo[b]fluoranthene	0.0500	8591.00000	1.228
Benzo[ghi]perylene	0.0500	8127.00000	1.162
Benzo[k]fluoranthene	0.0500	8073.00000	1.154
Chrysene	0.0500	8602.00000	1.083
Dibenz[ah]anthracene	0.0500	7437.00000	1.063
Fluorene	0.0500	5253.00000	1.176
Indeno[1,2,3-cd]pyrene	0.0500	9171.00000	1.311
Naphthalene	0.0500	7021.00000	1.046
Phenanthrene	0.0500	8089.00000	1.107
Pyrene	0.0500	11042.0000	1.391

INT_CAL - Modified 03/06/2008
PDF File ID: 1967315
Report generated 04/07/2011 08:24

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L11030664 Run Date: 03/24/2011 Sample ID: WG359798-09
Instrument ID: HPMS7 Run Time: 11:56 Method: 8270C
File ID: 7M50698 Analyst: CAA QC Key: DOD4
ICal Workgroup: WG359798 Cal ID: HPMS7 - 24-MAR-11

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Acenaphthene	CCC	1000	928	ug/L	0.939	7.20	30	
Fluoranthene	CCC	1000	921	ug/L	1.15	7.90	30	
Benzo[a]pyrene	CCC	1000	914	ug/L	1.05	8.70	30	
Naphthalene		1000	916	ug/L	0.936	8.40	30	
Acenaphthylene		1000	906	ug/L	1.51	9.40	30	
Fluorene		1000	891	ug/L	1.09	10.9	30	
Phenanthrene		1000	913	ug/L	0.990	8.70	30	
Anthracene		1000	985	ug/L	0.954	1.60	30	
Pyrene		1000	874	ug/L	1.18	12.6	30	
Benzo[a]anthracene		1000	840	ug/L	0.994	16.0	30	
Chrysene		1000	906	ug/L	0.969	9.40	30	
Benzo[b]fluoranthene		1000	900	ug/L	1.11	10.0	30	
Benzo[k]fluoranthene		1000	919	ug/L	0.988	8.10	30	
Indeno[1,2,3-cd]pyrene		1000	868	ug/L	1.16	13.2	30	
Dibenz[ah]anthracene		1000	856	ug/L	0.936	14.4	30	
Benzo[ghi]perylene		1000	903	ug/L	1.02	9.80	30	
1-Methylnaphthalene		1000	860	ug/L	0.560	14.0	30	
2-Methylnaphthalene		1000	900	ug/L	0.635	10.0	30	

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 1967316
Report generated 04/07/2011 08:24

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11030664 Run Date: 04/04/2011 Sample ID: WG360251-02
Instrument ID: HPMS7 Run Time: 07:51 Method: 8270C
File ID: 7M50740 Analyst: CAA QC Key: DOD4
Workgroup (AAB#): WG360454 Cal ID: HPMS7 - 24-MAR-11
Matrix: SOIL

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Acenaphthene	CCC	1000	1120	ug/L	1.13	11.7	20	
Fluoranthene	CCC	1000	1090	ug/L	1.36	8.79	20	
Benzo[a]pyrene	CCC	1000	1060	ug/L	1.21	5.52	20	
Naphthalene		1000	1030	ug/L	1.06	3.37	20	
Acenaphthylene		1000	1070	ug/L	1.78	6.50	20	
Fluorene		1000	1100	ug/L	1.34	9.78	20	
Phenanthrene		1000	1060	ug/L	1.15	6.01	20	
Anthracene		1000	1060	ug/L	1.03	6.47	20	
Pyrene		1000	1060	ug/L	1.43	5.94	20	
Benzo[a]anthracene		1000	1050	ug/L	1.24	4.71	20	
Chrysene		1000	1070	ug/L	1.15	7.14	20	
Benzo[b]fluoranthene		1000	1120	ug/L	1.38	11.8	20	
Benzo[k]fluoranthene		1000	1110	ug/L	1.20	11.3	20	
Indeno[1,2,3-cd]pyrene		1000	1020	ug/L	1.37	2.29	20	
Dibenz[ah]anthracene		1000	1020	ug/L	1.11	1.62	20	
Benzo[ghi]perylene		1000	1040	ug/L	1.18	4.03	20	
1-Methylnaphthalene		1000	1000	ug/L	0.654	0.340	20	
2-Methylnaphthalene		1000	1020	ug/L	0.720	2.10	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 1967318
Report generated 04/07/2011 08:24

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11030664 Run Date: 04/05/2011 Sample ID: WG360786-02
Instrument ID: HPMS7 Run Time: 08:27 Method: 8270C
File ID: 7M50758 Analyst: CAA QC Key: DOD4
Workgroup (AAB#): WG360454 Cal ID: HPMS7 - 24-MAR-11
Matrix: SOIL

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Acenaphthene	CCC	1000	1130	ug/L	1.14	12.6	20	
Fluoranthene	CCC	1000	1100	ug/L	1.37	9.74	20	
Benzo[a]pyrene	CCC	1000	1060	ug/L	1.22	6.02	20	
Naphthalene		1000	1040	ug/L	1.06	3.98	20	
Acenaphthylene		1000	1090	ug/L	1.82	8.98	20	
Fluorene		1000	1110	ug/L	1.36	10.9	20	
Phenanthrene		1000	1060	ug/L	1.15	6.15	20	
Anthracene		1000	1080	ug/L	1.05	8.23	20	
Pyrene		1000	1060	ug/L	1.44	6.42	20	
Benzo[a]anthracene		1000	1060	ug/L	1.26	6.13	20	
Chrysene		1000	1070	ug/L	1.14	6.66	20	
Benzo[b]fluoranthene		1000	1060	ug/L	1.31	5.66	20	
Benzo[k]fluoranthene		1000	1050	ug/L	1.12	4.60	20	
Indeno[1,2,3-cd]pyrene		1000	1060	ug/L	1.42	5.84	20	
Dibenz[ah]anthracene		1000	1060	ug/L	1.16	6.39	20	
Benzo[ghi]perylene		1000	1060	ug/L	1.19	5.66	20	
1-Methylnaphthalene		1000	1020	ug/L	0.663	1.75	20	
2-Methylnaphthalene		1000	1030	ug/L	0.727	3.02	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 1967318
Report generated 04/07/2011 08:24

Microbac Laboratories Inc.
INTERNAL STANDARD AREA SUMMARY

Login Number: L11030664
Instrument ID: HPMS7
Workgroup (AAB#): WG360454

ICAL CCV Number: WG359798-02
CAL ID: HPMS7-24-MAR-11
Matrix: SOLID

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3	IS-4	IS-5
WG359798-02	NA	NA	92417	162187	157700	157952	156965
Upper Limit	NA	NA	184834	324374	315400	315904	313930
Lower Limit	NA	NA	46209	81094	78850	78976	78483
L11030664-01	2.00	DL01	93090	178314	140501	166220	159157
L11030664-02	1.00	01	106931	215961	163872	197522	181481
L11030664-03	1.00	01	107444	212528	162015	194626	180807
L11030664-04	5.00	DL01	101785	163767	150927	159435	171921
L11030664-04	50.0	DL02	93188	164684	141722	155303	159063
L11030664-05	5.00	DL01	102022	179897	153731	170204	174901
L11030664-06	1.00	01	100392	197435	153296	184193	171590
L11030664-07	5.00	DL01	106025	200282	159632	185684	181633
L11030664-08	1.00	01	99644	204215	151968	190320	169690
L11030664-09	1.00	01	105568	214204	162798	194717	179097
L11030664-10	5.00	DL01	96244	183585	144928	170118	165560
L11030664-11	1.00	01	100245	208126	153164	187525	170728
L11030664-12	1.00	01	101578	207747	157194	190801	173670
L11030664-13	5.00	DL01	108548	207689	161552	190706	182115
WG360300-01	1.00	01	92927	191033	142490	177736	161799
WG360300-02	1.00	01	98122	191630	155443	181950	169167
WG360300-03	1.00	01	95440	186490	152061	177249	166086

IS-1 - Acenaphthene-d10
IS-2 - Chrysene-d12
IS-3 - Naphthalene-d8
IS-4 - Perylene-d12
IS-5 - Phenanthrene-d10

Underline = Response outside limits

INTERNAL_STD_ICAL - Modified 03/06/2008
PDF File ID: 1967319
Report generated 04/07/2011 08:24

Microbac Laboratories Inc.
INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L11030664
Instrument ID: HPMS7
Workgroup (AAB#): WG360454

ICAL CCV Number: WG359798-02
CAL ID: HPMS7-24-MAR-11
Matrix: SOLID

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3	IS-4	IS-5
WG359798-02	NA	NA	8.42	13.66	6.22	16.01	10.28
Upper Limit	NA	NA	8.92	14.16	6.72	16.51	10.78
Lower Limit	NA	NA	7.92	13.16	5.72	15.51	9.78
L11030664-01	2.00	DL01	8.41	13.65	6.22	16	10.28
L11030664-02	1.00	01	8.41	13.65	6.22	16	10.28
L11030664-03	1.00	01	8.41	13.65	6.21	16	10.28
L11030664-04	5.00	DL01	8.41	13.65	6.21	16	10.28
L11030664-04	50.0	DL02	8.41	13.65	6.21	15.99	10.28
L11030664-05	5.00	DL01	8.41	13.65	6.22	16	10.28
L11030664-06	1.00	01	8.41	13.65	6.21	16	10.28
L11030664-07	5.00	DL01	8.41	13.65	6.21	16	10.28
L11030664-08	1.00	01	8.41	13.65	6.21	16	10.28
L11030664-09	1.00	01	8.41	13.65	6.22	16	10.28
L11030664-10	5.00	DL01	8.41	13.65	6.21	16	10.28
L11030664-11	1.00	01	8.41	13.65	6.21	16	10.28
L11030664-12	1.00	01	8.41	13.65	6.21	16	10.28
L11030664-13	5.00	DL01	8.41	13.65	6.21	16	10.28
WG360300-01	1.00	01	8.41	13.65	6.21	16	10.28
WG360300-02	1.00	01	8.41	13.65	6.21	16	10.28
WG360300-03	1.00	01	8.41	13.65	6.21	16	10.28

IS-1 - Acenaphthene-d10
IS-2 - Chrysene-d12
IS-3 - Naphthalene-d8
IS-4 - Perylene-d12
IS-5 - Phenanthrene-d10

Underline = Response outside limits

INTERNAL_STD_RT_ICAL - Modified 03/06/2008
PDF File ID: 1967320
Report generated: 04/07/2011 08:24

2.1.1.3 Sample Data

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\1\DATA\040411\7M50756.D Vial: 18
Acq On : 4 Apr 2011 3:13 pm Operator: CAA
Sample : L11030664-01 2X Inst : HPMS7
Misc : 7,2 SOIL Multiplr: 2.00
MS Integration Params: RTEINT.P
Quant Time: Apr 05 07:19:23 2011 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Tue Apr 05 07:19:03 2011
Response via : Initial Calibration
DataAcq Meth : PAHLSIM

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	6.22	136	140501	1.00 ug/ml	0.00
6) Acenaphthene-d10	8.41	164	93090	1.00 ug/ml	0.00
11) Phenanthrene-d10	10.28	188	159157	1.00 ug/ml	0.00
15) Chrysene-d12	13.65	240	178314	1.00 ug/ml	0.00
20) Perylene-d12	16.00	264	166220	1.00 ug/ml	0.00

System Monitoring Compounds					
2) Nitrobenzene-d5	5.36	82	40403	1.2677 ug/ml	0.00
Spiked Amount 2.500	Range 23 - 120		Recovery	= 50.80%	
7) 2-Fluorobiphenyl	7.52	172	90000	1.5801 ug/ml	0.00
Spiked Amount 2.500	Range 30 - 115		Recovery	= 63.20%	
17) p-Terphenyl-d14	12.26	244	137451	2.1071 ug/ml	0.00
Spiked Amount 2.500	Range 18 - 137		Recovery	= 84.40%	

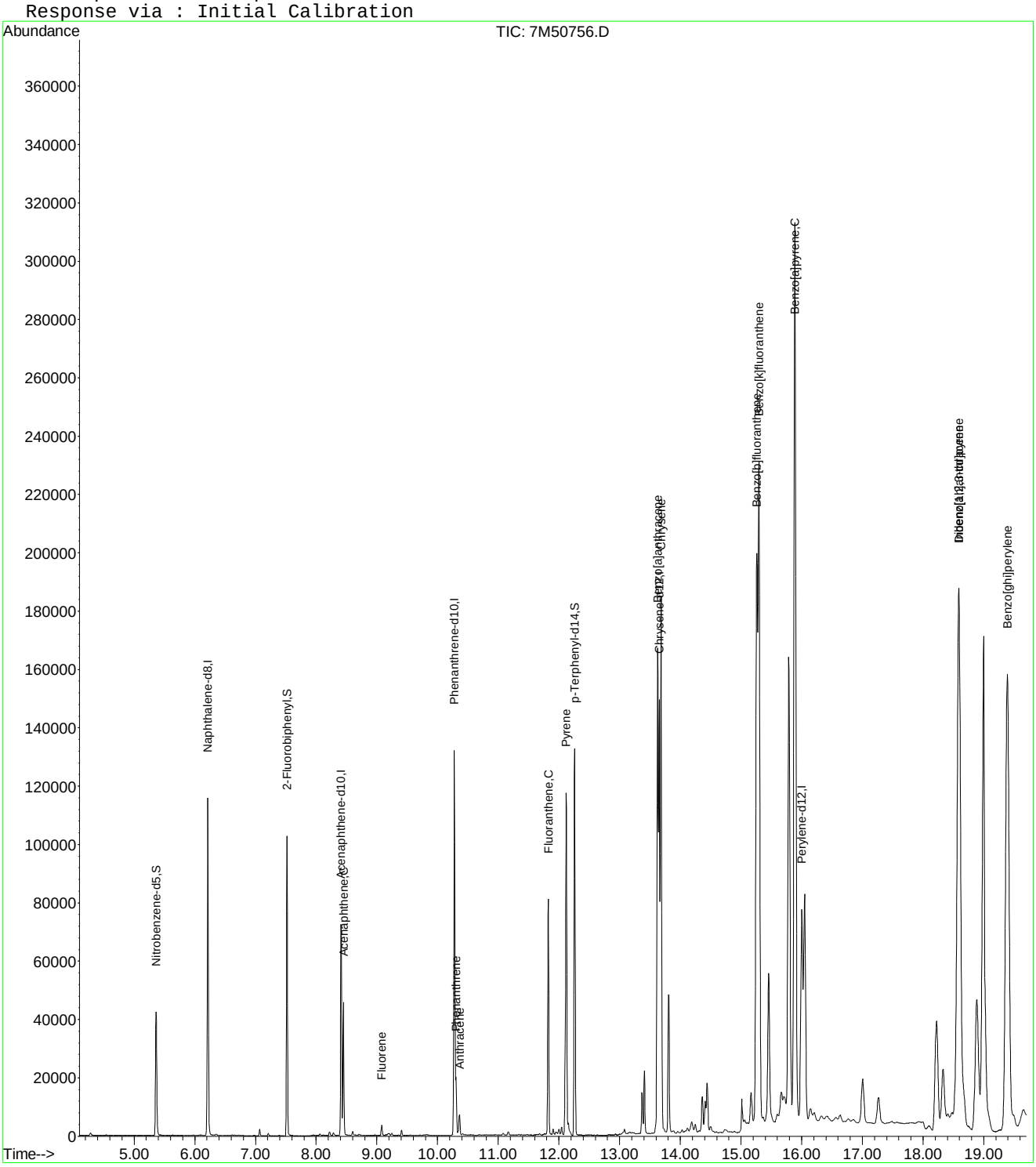
Target Compounds					Qvalue
9) Acenaphthene	8.45	154	25256	0.2681 ug/ml	83
10) Fluorene	9.08	166	2311	0.0203 ug/ml	97
12) Phenanthrene	10.30	178	19090	0.1107 ug/ml	99
13) Anthracene	10.36	178	7221	0.0468 ug/ml	99
14) Fluoranthene	11.82	202	85611	0.4318 ug/ml	99
16) Pyrene	12.12	202	138352	0.5728 ug/ml#	77
18) Benzo[a]anthracene	13.62	228	177701	0.8420 ug/ml	98
19) Chrysene	13.68	228	196410	1.0301 ug/ml	97
21) Benzo[b]fluoranthene	15.26	252	292114	1.4189 ug/ml	97
22) Benzo[k]fluoranthene	15.30	252	319583	1.7886 ug/ml#	54
23) Benzo[a]pyrene	15.89	252	565590	2.9598 ug/ml	94
24) Indeno[1,2,3-cd]pyrene	18.59	276	573223	2.5770 ug/ml	100
25) Dibenz[ah]anthracene	18.58	278	144310	0.7942 ug/ml	100
26) Benzo[ghi]perylene	19.39	276	526658	2.8045 ug/ml	98

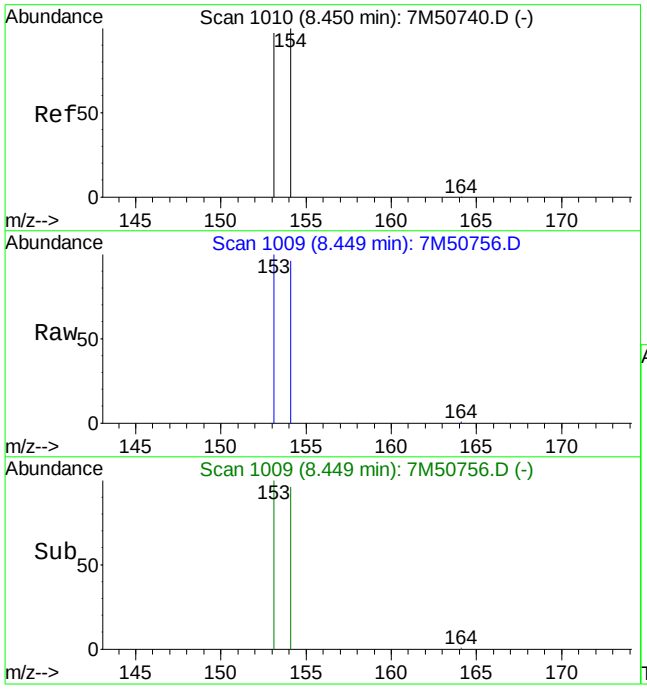
(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\1\DATA\040411\7M50756.D Vial: 18
Acq On : 4 Apr 2011 3:13 pm Operator: CAA
Sample : L11030664-01 2X Inst : HPMS7
Misc : 7,2 SOIL Multiplr: 2.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 7:19 2011 Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Tue Apr 05 07:19:03 2011
Response via : Initial Calibration

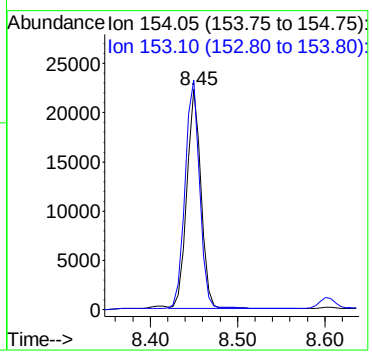


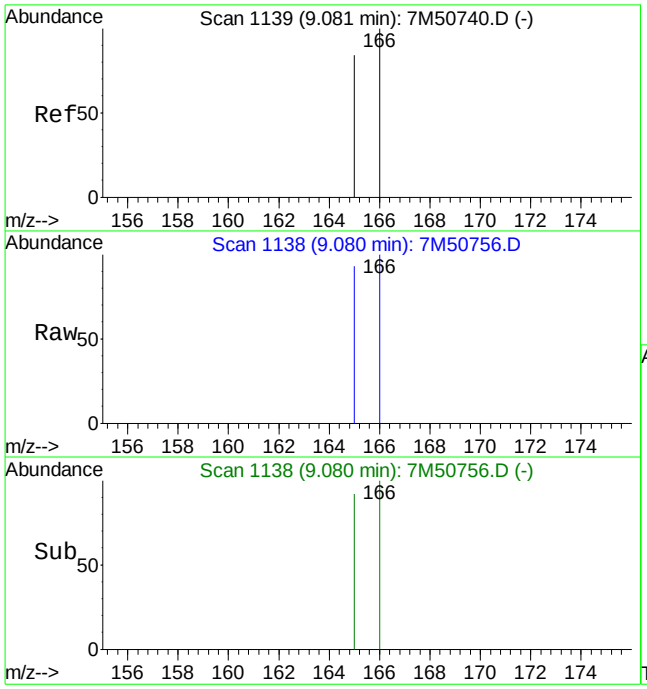


#9
Acenaphthene
Concen: 0.27 ug/ml
RT: 8.45 min Scan# 1009
Delta R.T. -0.00 min
Lab File: 7M50756.D
Acq: 4 Apr 2011 3:13 pm

Tgt Ion:154 Resp: 25256

Ion	Ratio	Lower	Upper
154	100		
153	117.3	60.1	140.1

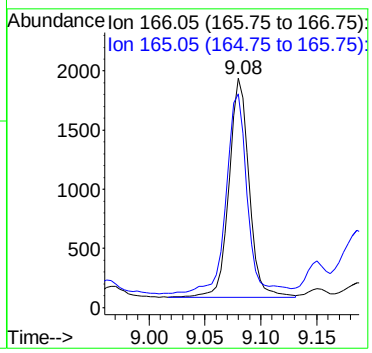


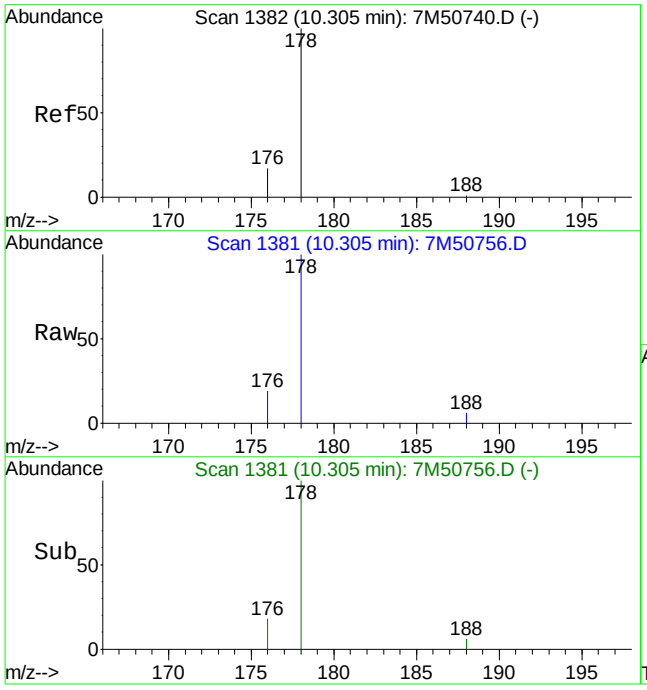


#10
Fluorene
Concen: 0.02 ug/ml
RT: 9.08 min Scan# 1138
Delta R.T. -0.00 min
Lab File: 7M50756.D
Acq: 4 Apr 2011 3:13 pm

Tgt Ion:166 Resp: 2311

Ion	Ratio	Lower	Upper
166	100		
165	96.3	56.0	130.6

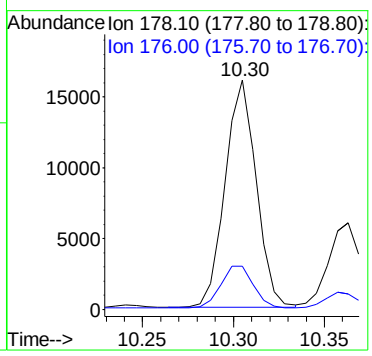


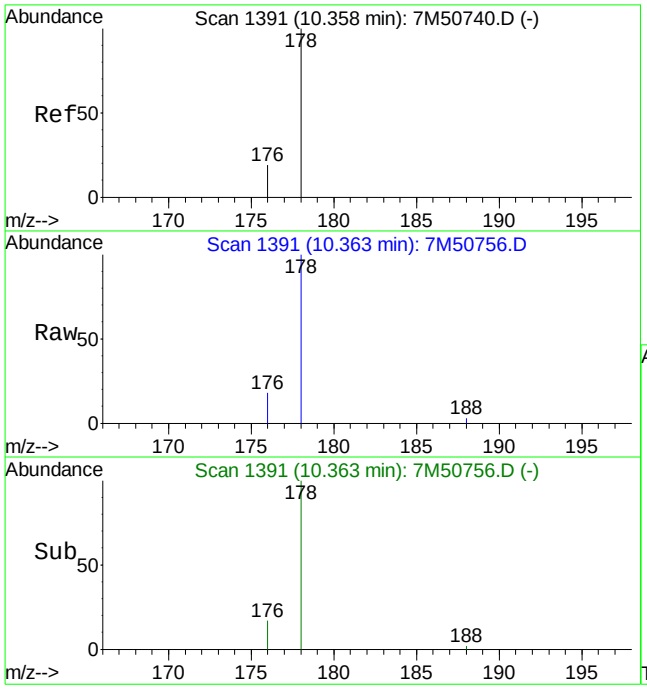


#12
Phenanthrene
Concen: 0.11 ug/ml
RT: 10.30 min Scan# 1381
Delta R.T. -0.00 min
Lab File: 7M50756.D
Acq: 4 Apr 2011 3:13 pm

Tgt Ion:178 Resp: 19090

Ion	Ratio	Lower	Upper
178	100		
176	19.6	11.5	26.9

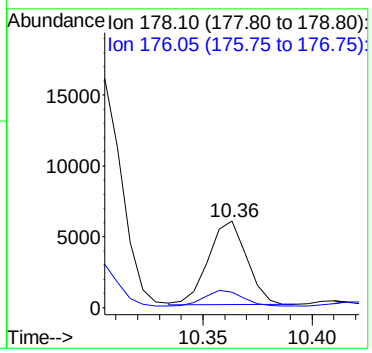


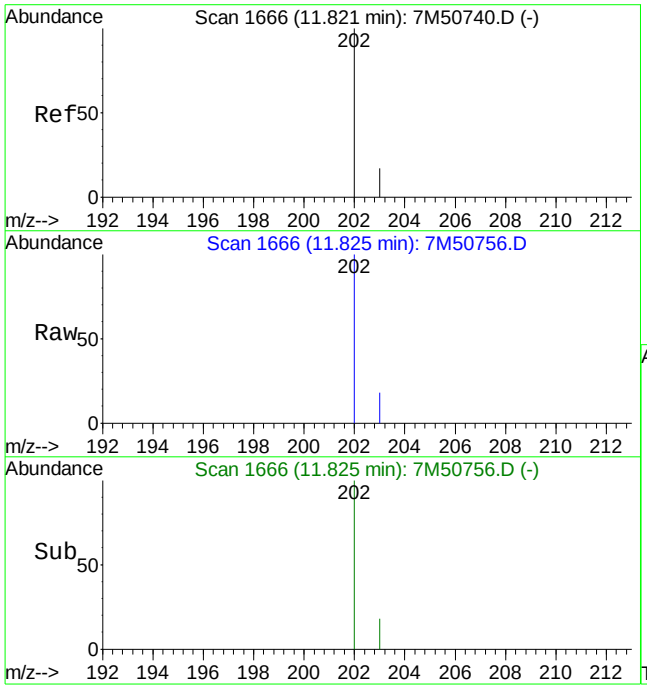


#13
Anthracene
Concen: 0.05 ug/ml
RT: 10.36 min Scan# 1391
Delta R.T. -0.00 min
Lab File: 7M50756.D
Acq: 4 Apr 2011 3:13 pm

Tgt Ion:178 Resp: 7221

Ion	Ratio	Lower	Upper
178	100		
176	18.9	11.0	25.8

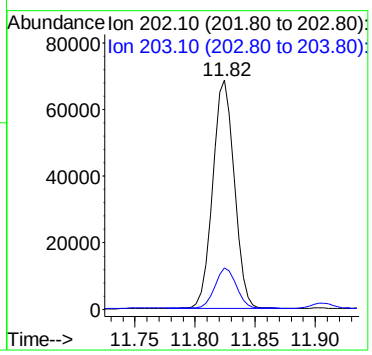


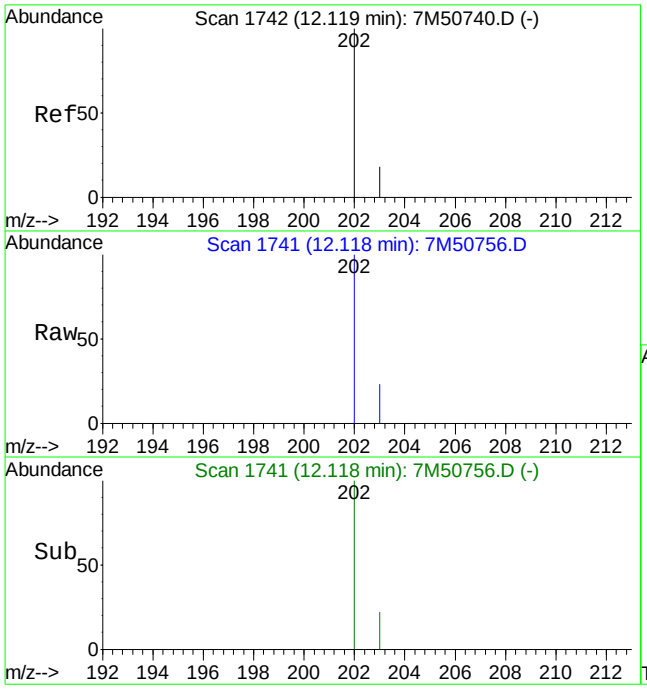


#14
Fluoranthene
Concen: 0.43 ug/ml
RT: 11.82 min Scan# 1666
Delta R.T. -0.00 min
Lab File: 7M50756.D
Acq: 4 Apr 2011 3:13 pm

Tgt Ion:202 Resp: 85611

Ion	Ratio	Lower	Upper
202	100		
203	17.9	10.6	24.6

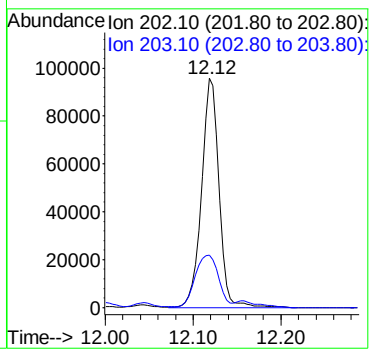


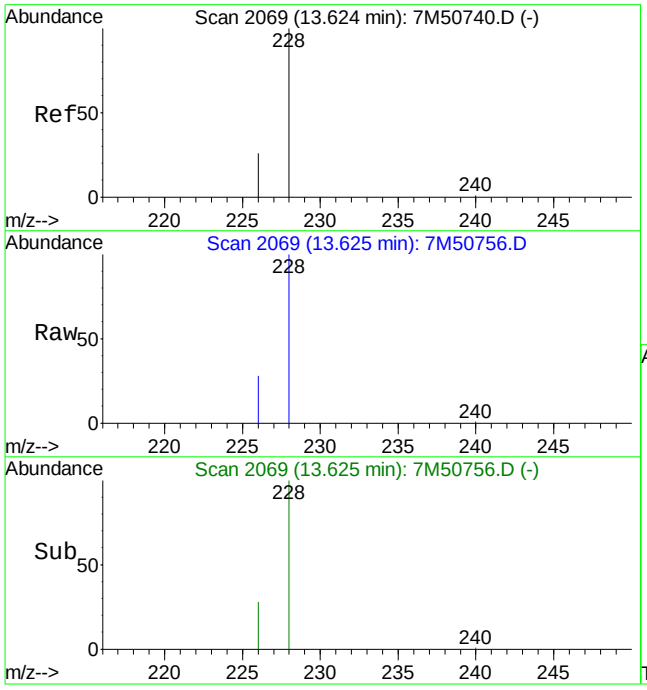


#16
Pyrene
Concen: 0.57 ug/ml
RT: 12.12 min Scan# 1741
Delta R.T. -0.00 min
Lab File: 7M50756.D
Acq: 4 Apr 2011 3:13 pm

Tgt Ion:202 Resp: 138352

Ion	Ratio	Lower	Upper
202	100		
203	28.7	11.0	25.8#

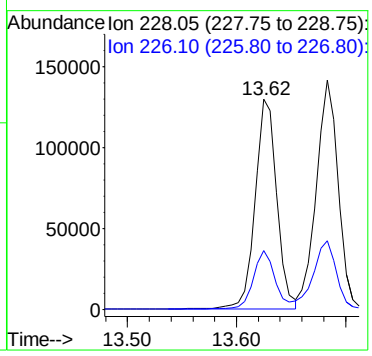


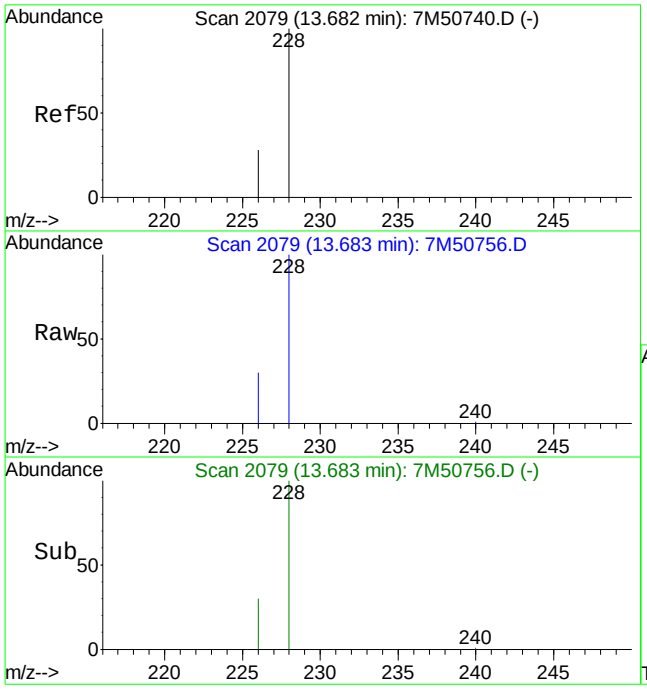


#18
Benzo[a]anthracene
Concen: 0.84 ug/ml
RT: 13.62 min Scan# 2069
Delta R.T. -0.01 min
Lab File: 7M50756.D
Acq: 4 Apr 2011 3:13 pm

Tgt Ion:228 Resp: 177701

Ion	Ratio	Lower	Upper
228	100		
226	27.7	16.0	37.2

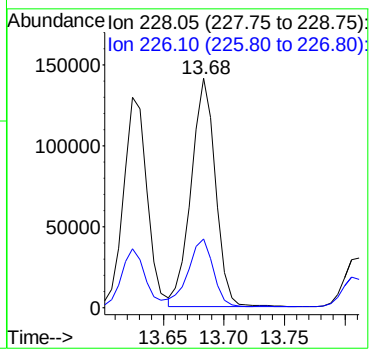


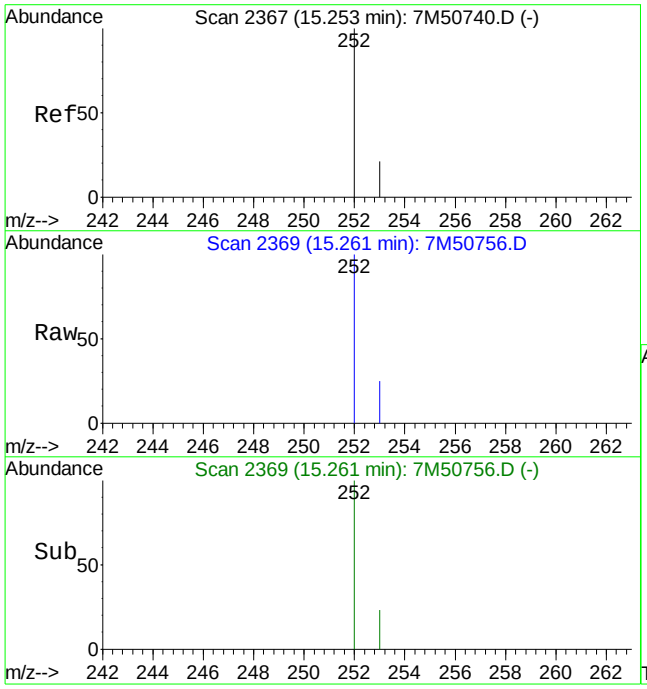


#19
Chrysene
Concen: 1.03 ug/ml
RT: 13.68 min Scan# 2079
Delta R.T. -0.01 min
Lab File: 7M50756.D
Acq: 4 Apr 2011 3:13 pm

Tgt Ion:228 Resp: 196410

Ion	Ratio	Lower	Upper
228	100		
226	31.0	17.6	41.2

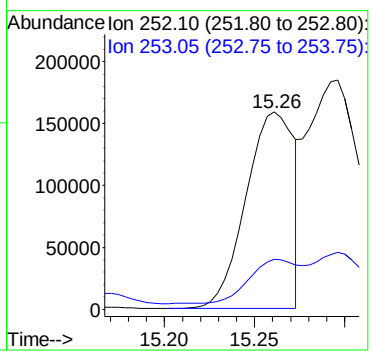


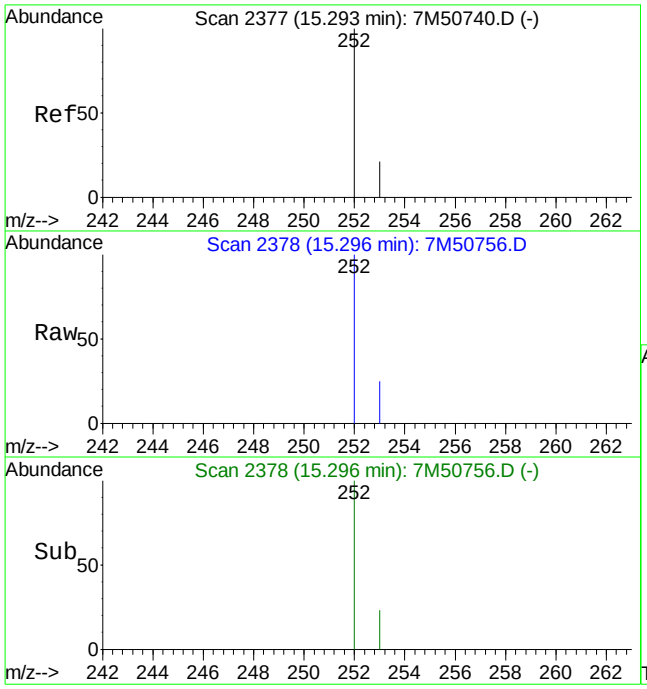


#21
Benzo[b]fluoranthene
Concen: 1.42 ug/ml
RT: 15.26 min Scan# 2369
Delta R.T. -0.00 min
Lab File: 7M50756.D
Acq: 4 Apr 2011 3:13 pm

Tgt Ion:252 Resp: 292114

Ion	Ratio	Lower	Upper
252	100		
253	23.8	13.5	31.5

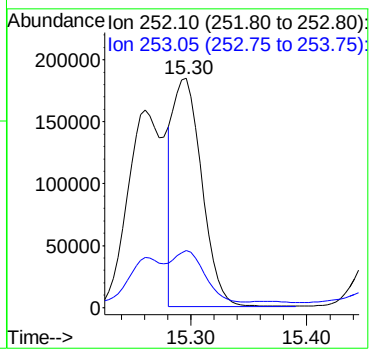


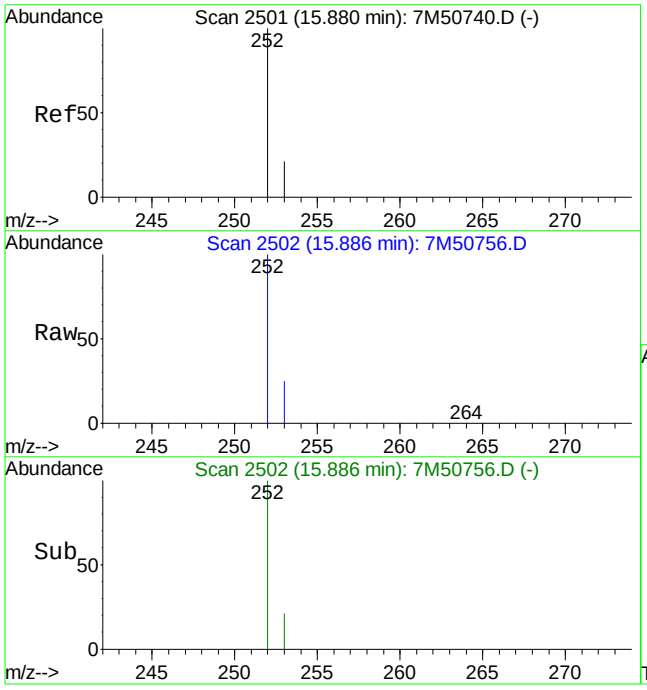


#22
Benzo[k]fluoranthene
Concen: 1.79 ug/ml
RT: 15.30 min Scan# 2378
Delta R.T. -0.01 min
Lab File: 7M50756.D
Acq: 4 Apr 2011 3:13 pm

Tgt Ion:252 Resp: 319583

Ion	Ratio	Lower	Upper
252	100		
253	0.0	13.3	31.1#

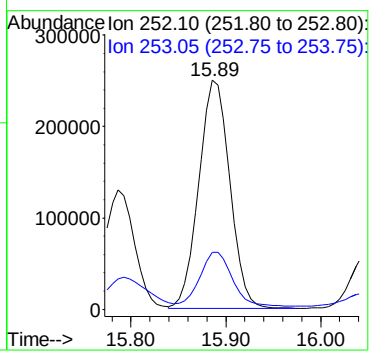


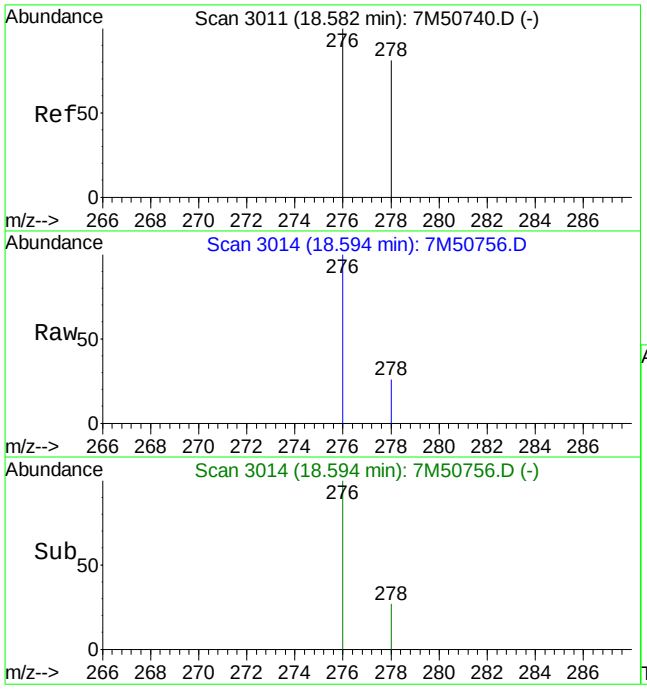


#23
Benzo[a]pyrene
Concen: 2.96 ug/ml
RT: 15.89 min Scan# 2502
Delta R.T. -0.01 min
Lab File: 7M50756.D
Acq: 4 Apr 2011 3:13 pm

Tgt Ion:252 Resp: 565590

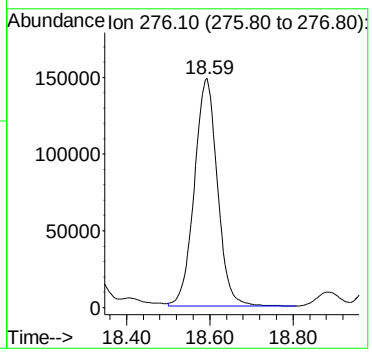
Ion	Ratio	Lower	Upper
252	100		
253	24.4	13.0	30.4

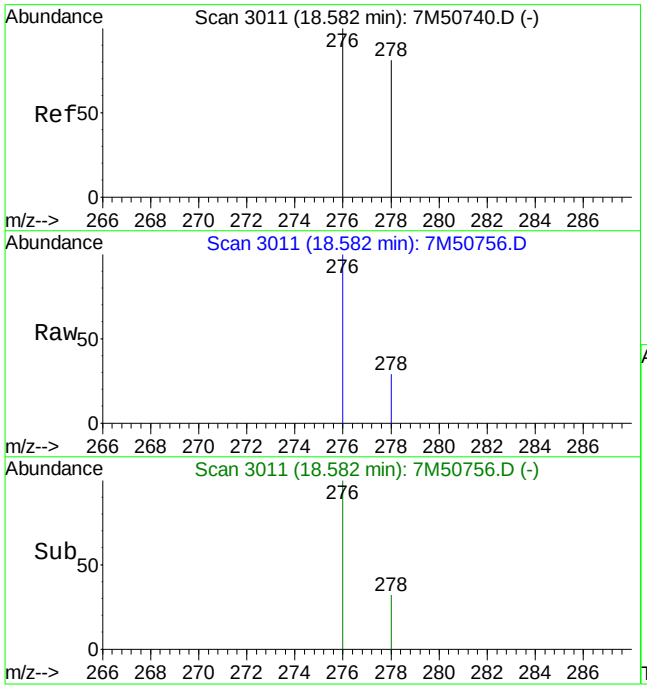




#24
Indeno[1,2,3-cd]pyrene
Concen: 2.58 ug/ml
RT: 18.59 min Scan# 3014
Delta R.T. -0.00 min
Lab File: 7M50756.D
Acq: 4 Apr 2011 3:13 pm

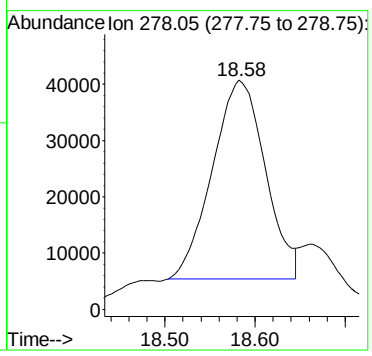
Tgt Ion:276 Resp: 573223

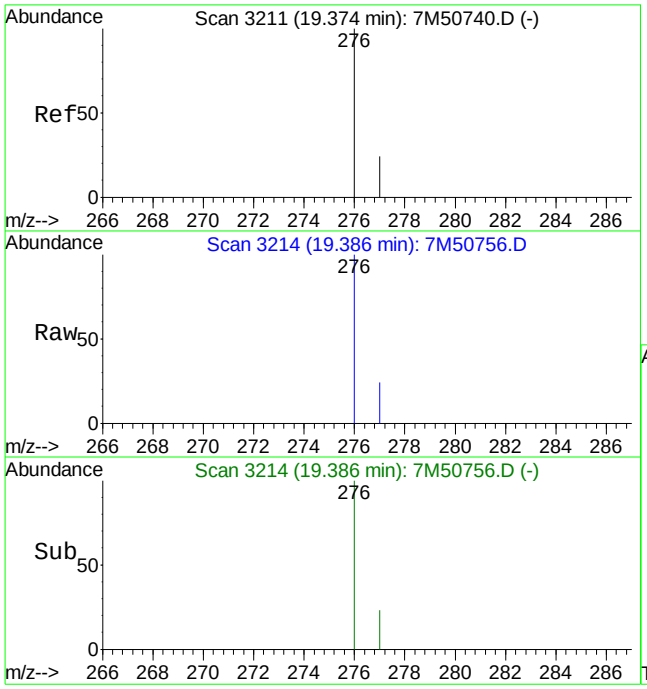




#25
Dibenz[ah]anthracene
Concen: 0.79 ug/ml
RT: 18.58 min Scan# 3011
Delta R.T. -0.02 min
Lab File: 7M50756.D
Acq: 4 Apr 2011 3:13 pm

Tgt Ion:278 Resp: 144310

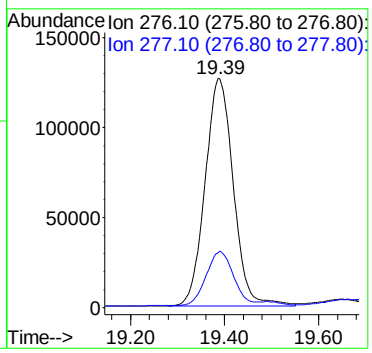




#26
Benzo[ghi]perylene
Concen: 2.80 ug/ml
RT: 19.39 min Scan# 3214
Delta R.T. -0.00 min
Lab File: 7M50756.D
Acq: 4 Apr 2011 3:13 pm

Tgt Ion:276 Resp: 526658

Ion	Ratio	Lower	Upper
276	100		
277	22.9	14.2	33.2



Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\1\DATA\040411\7M50747.D Vial: 9
Acq On : 4 Apr 2011 11:03 am Operator: CAA
Sample : L11030664-02 Inst : HPMS7
Misc : 7,1 SOIL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 05 07:19:22 2011 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Tue Apr 05 07:19:03 2011
Response via : Initial Calibration
DataAcq Meth : PAHLSIM

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	6.22	136	163872	1.00 ug/ml	0.00
6) Acenaphthene-d10	8.41	164	106931	1.00 ug/ml	0.00
11) Phenanthrene-d10	10.28	188	181481	1.00 ug/ml	0.00
15) Chrysene-d12	13.65	240	215961	1.00 ug/ml	0.00
20) Perylene-d12	16.00	264	197522	1.00 ug/ml	-0.01
System Monitoring Compounds					
2) Nitrobenzene-d5	5.36	82	81278	1.0932 ug/ml	0.00
Spiked Amount 2.500	Range 23 - 120		Recovery	= 43.60%	
7) 2-Fluorobiphenyl	7.52	172	173657	1.3271 ug/ml	0.00
Spiked Amount 2.500	Range 30 - 115		Recovery	= 53.20%	
17) p-Terphenyl-d14	12.25	244	333295	2.1093 ug/ml	0.00
Spiked Amount 2.500	Range 18 - 137		Recovery	= 84.40%	

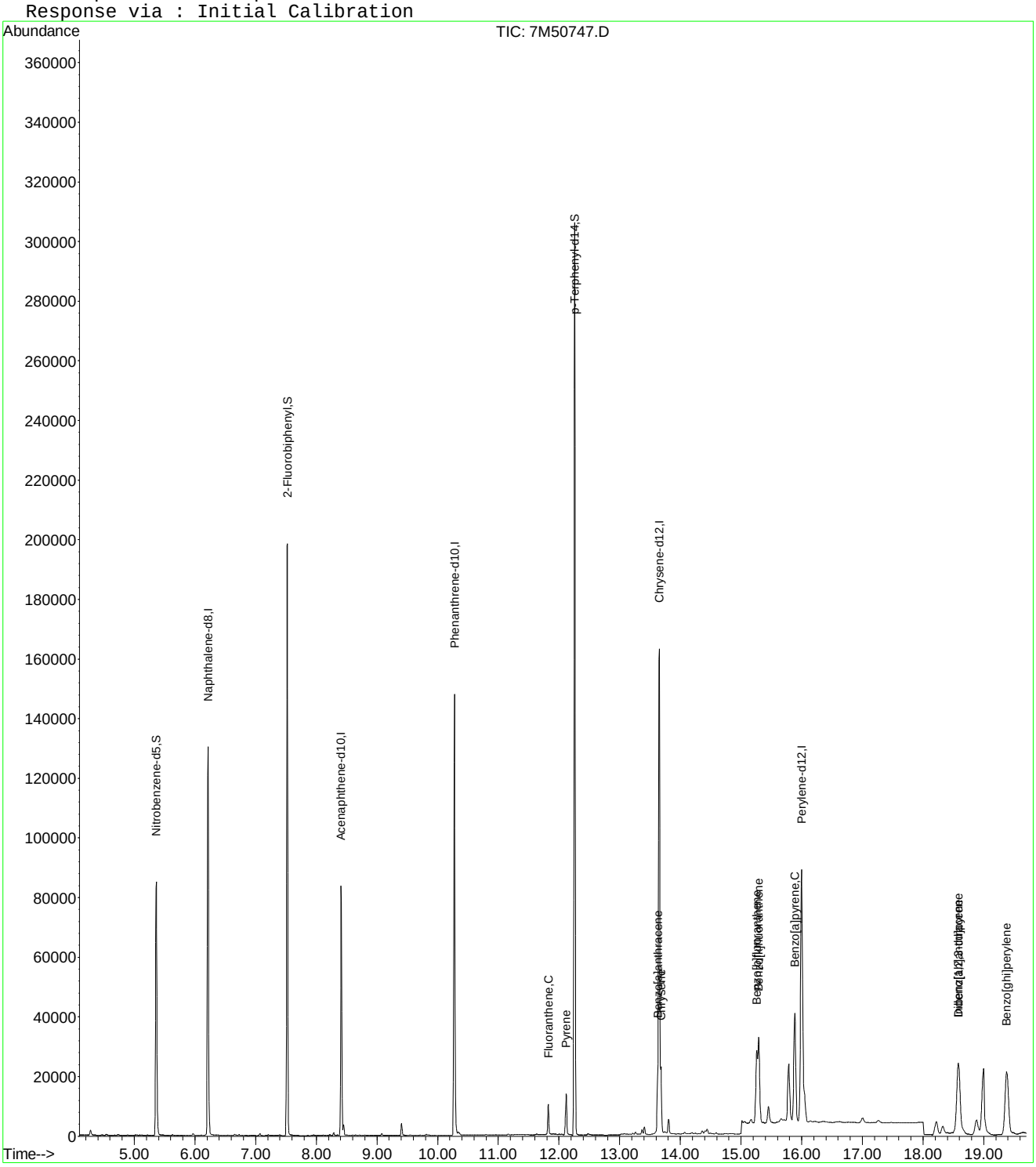
Target Compounds					Qvalue
14) Fluoranthene	11.82	202	10914	0.0483 ug/ml	86
16) Pyrene	12.12	202	17398	0.0595 ug/ml	88
18) Benzo[a]anthracene	13.62	228	20562	0.0804 ug/ml	93
19) Chrysene	13.68	228	23307	0.1009 ug/ml	97
21) Benzo[b]fluoranthene	15.26	252	39858	0.1629 ug/ml	96
22) Benzo[k]fluoranthene	15.29	252	47326m	0.2229 ug/ml	
23) Benzo[a]pyrene	15.89	252	67537	0.2974 ug/ml	96
24) Indeno[1,2,3-cd]pyrene	18.58	276	75029	0.2839 ug/ml	100
25) Dibenz[ah]anthracene	18.58	278	23989	0.1111 ug/ml	100
26) Benzo[ghi]perylene	19.38	276	71044	0.3184 ug/ml	98

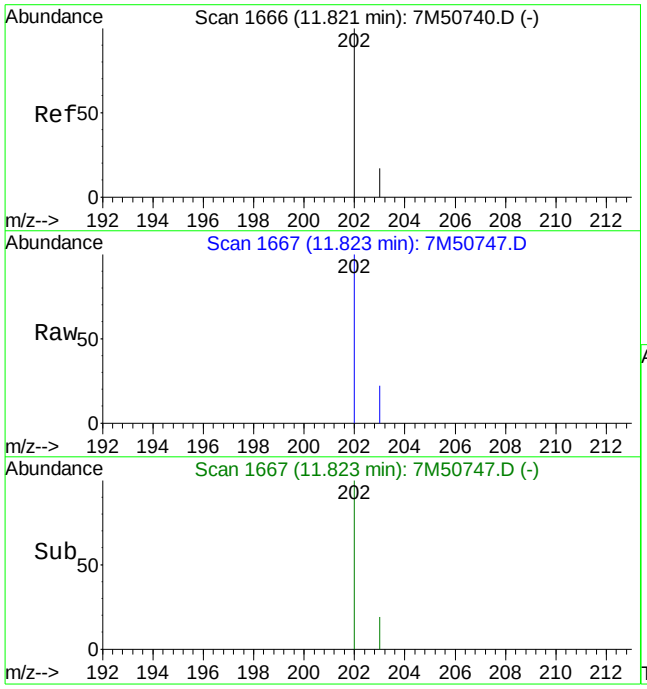
(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\1\DATA\040411\7M50747.D Vial: 9
Acq On : 4 Apr 2011 11:03 am Operator: CAA
Sample : L11030664-02 Inst : HPMS7
Misc : 7,1 SOIL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 7:22 2011 Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Tue Apr 05 07:19:03 2011
Response via : Initial Calibration

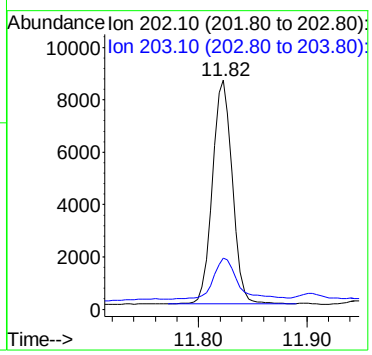


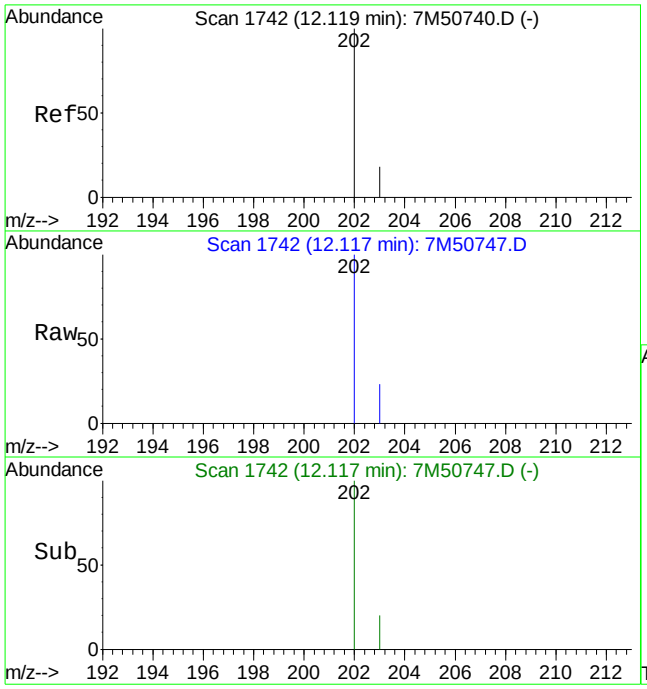


#14
Fluoranthene
Concen: 0.05 ug/ml
RT: 11.82 min Scan# 1667
Delta R.T. -0.00 min
Lab File: 7M50747.D
Acq: 4 Apr 2011 11:03 am

Tgt Ion:202 Resp: 10914

Ion	Ratio	Lower	Upper
202	100		
203	24.0	10.6	24.6

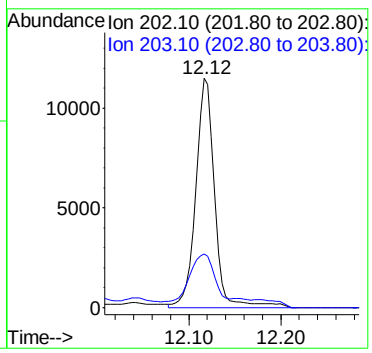


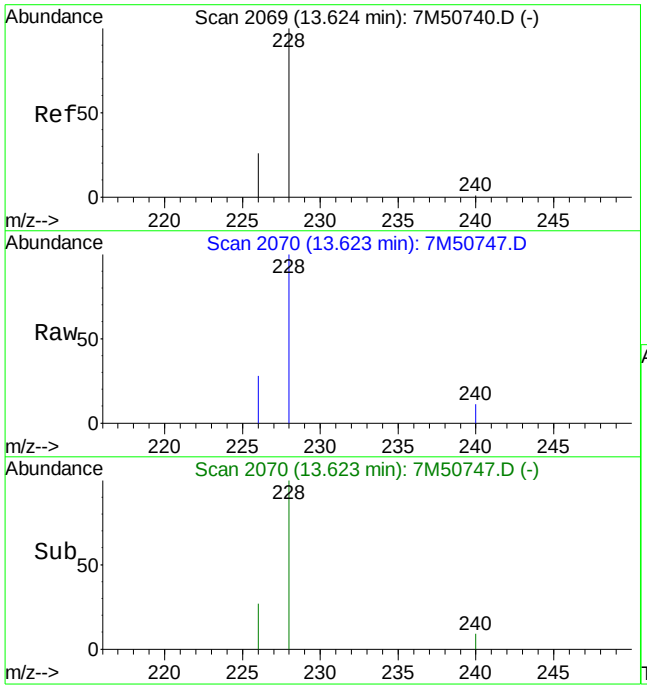


#16
Pyrene
Concen: 0.06 ug/ml
RT: 12.12 min Scan# 1742
Delta R.T. -0.00 min
Lab File: 7M50747.D
Acq: 4 Apr 2011 11:03 am

Tgt Ion:202 Resp: 17398

Ion	Ratio	Lower	Upper
202	100		
203	23.9	11.0	25.8

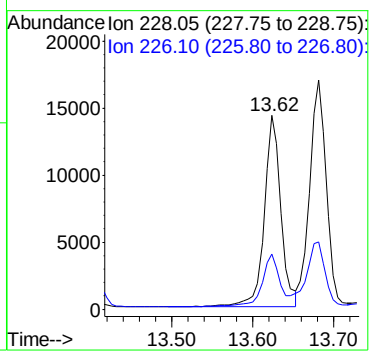


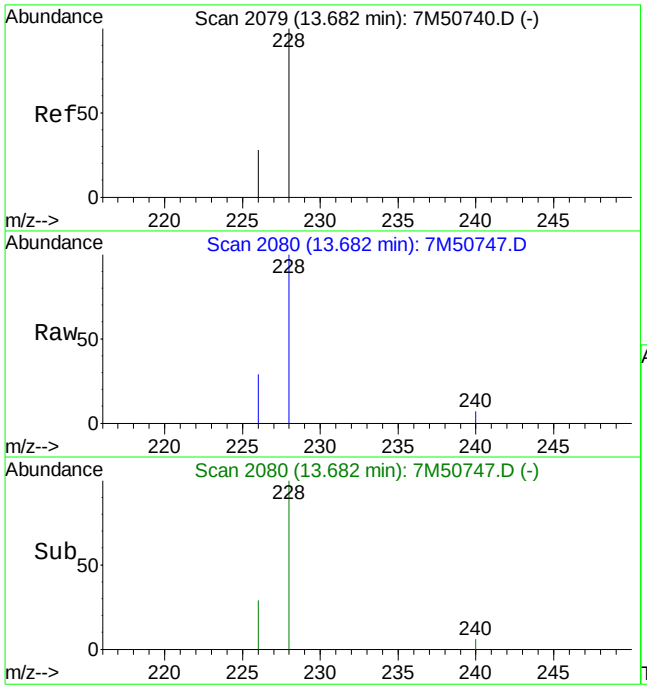


#18
Benzo[a]anthracene
Concen: 0.08 ug/ml
RT: 13.62 min Scan# 2070
Delta R.T. -0.01 min
Lab File: 7M50747.D
Acq: 4 Apr 2011 11:03 am

Tgt Ion:228 Resp: 20562

Ion	Ratio	Lower	Upper
228	100		
226	30.1	16.0	37.2

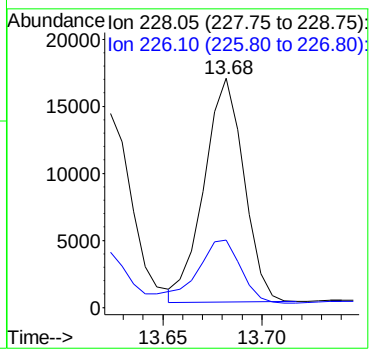


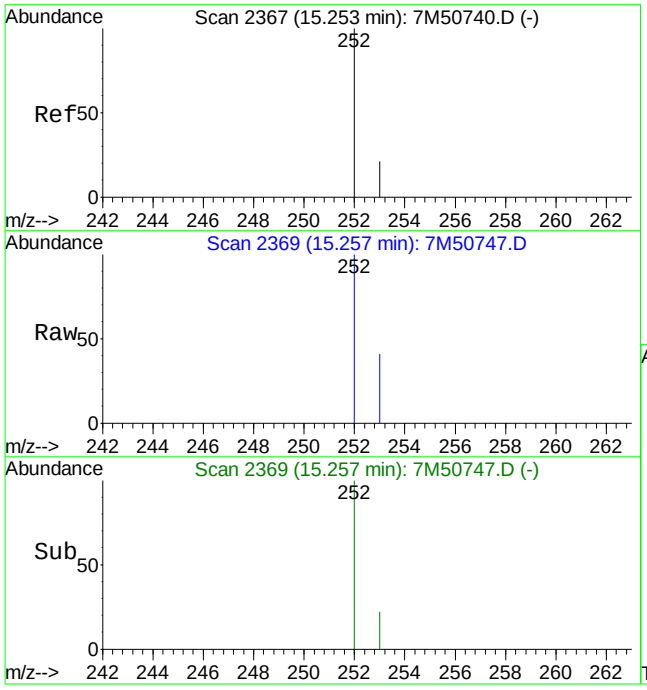


#19
Chrysene
Concen: 0.10 ug/ml
RT: 13.68 min Scan# 2080
Delta R.T. -0.01 min
Lab File: 7M50747.D
Acq: 4 Apr 2011 11:03 am

Tgt Ion:228 Resp: 23307

Ion	Ratio	Lower	Upper
228	100		
226	31.2	17.6	41.2

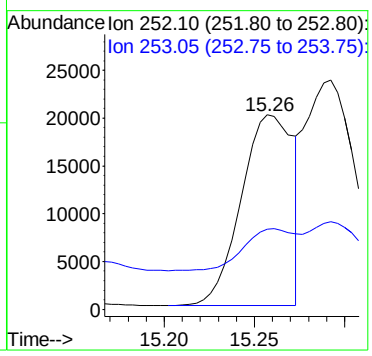


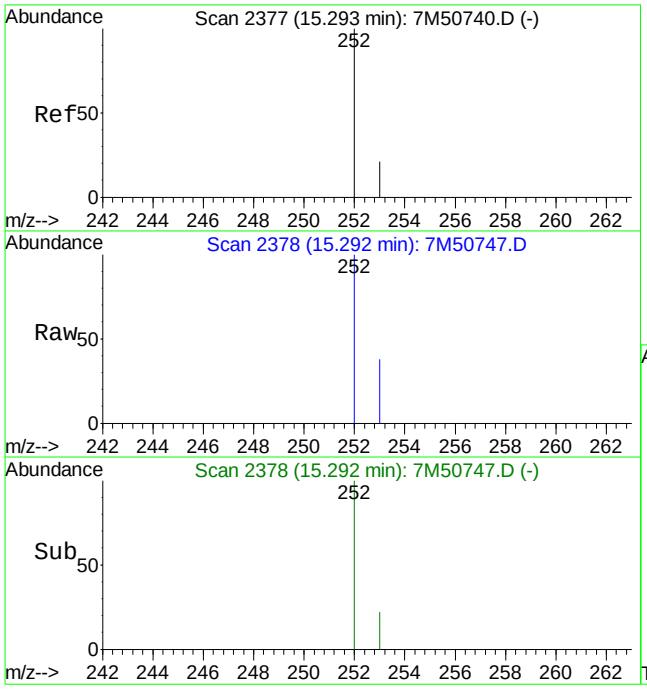


#21
Benzo[b]fluoranthene
Concen: 0.16 ug/ml
RT: 15.26 min Scan# 2369
Delta R.T. -0.01 min
Lab File: 7M50747.D
Acq: 4 Apr 2011 11:03 am

Tgt Ion:252 Resp: 39858

Ion	Ratio	Lower	Upper
252	100		
253	24.2	13.5	31.5

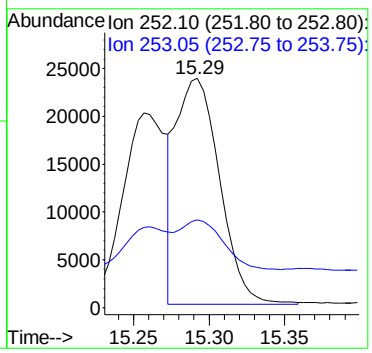


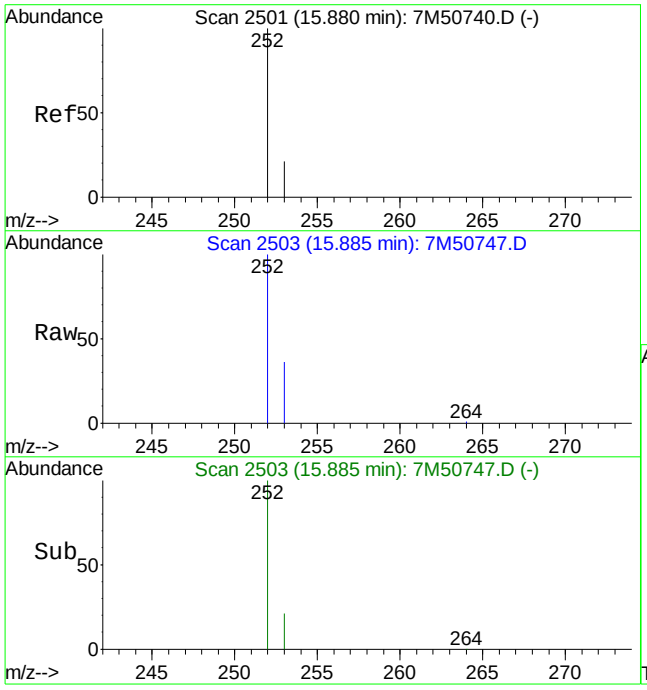


#22
Benzo[k]fluoranthene
Concen: 0.22 ug/ml m
RT: 15.29 min Scan# 2378
Delta R.T. -0.01 min
Lab File: 7M50747.D
Acq: 4 Apr 2011 11:03 am

Tgt Ion:252 Resp: 47326

Ion	Ratio	Lower	Upper
252	100		
253	20.2	13.3	31.1

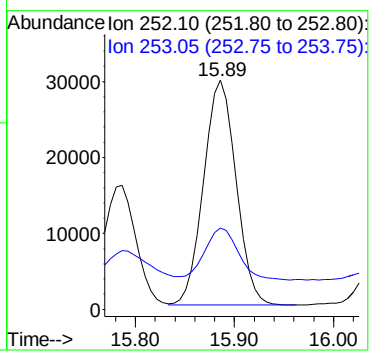


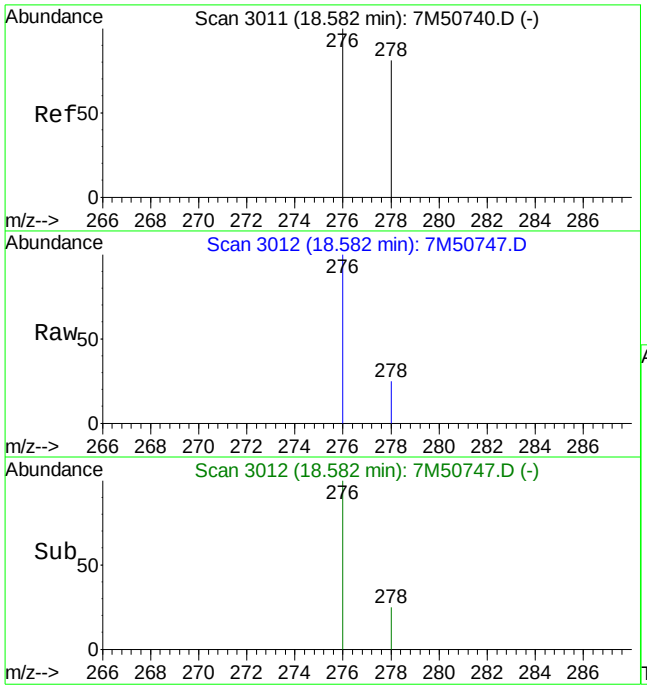


#23
Benzo[a]pyrene
Concen: 0.30 ug/ml
RT: 15.89 min Scan# 2503
Delta R.T. -0.01 min
Lab File: 7M50747.D
Acq: 4 Apr 2011 11:03 am

Tgt Ion:252 Resp: 67537

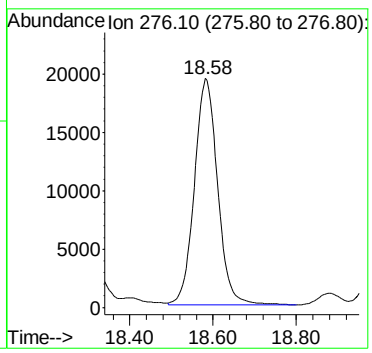
Ion	Ratio	Lower	Upper
252	100		
253	23.5	13.0	30.4

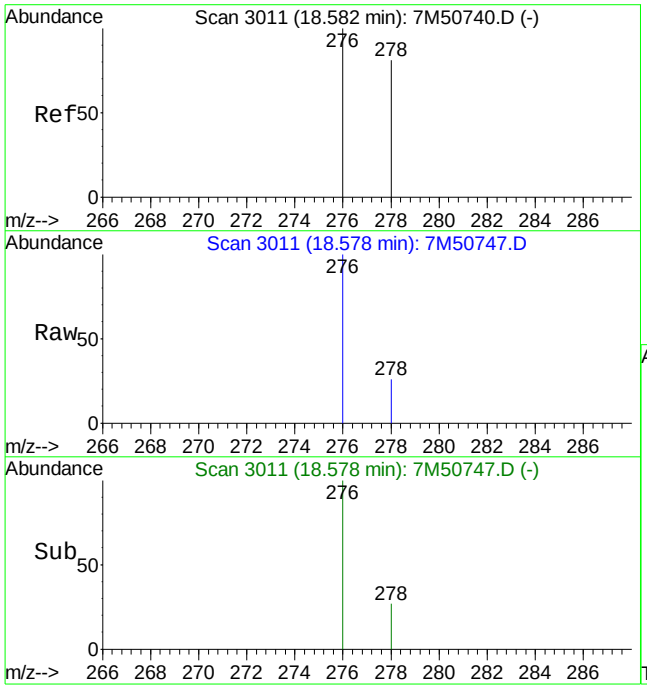




#24
Indeno[1,2,3-cd]pyrene
Concen: 0.28 ug/ml
RT: 18.58 min Scan# 3012
Delta R.T. -0.01 min
Lab File: 7M50747.D
Acq: 4 Apr 2011 11:03 am

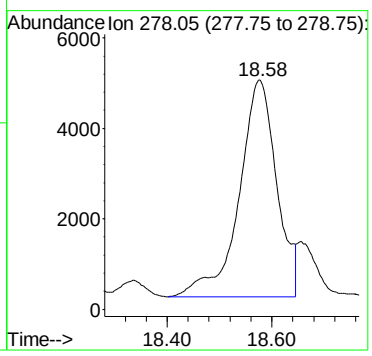
Tgt Ion:276 Resp: 75029

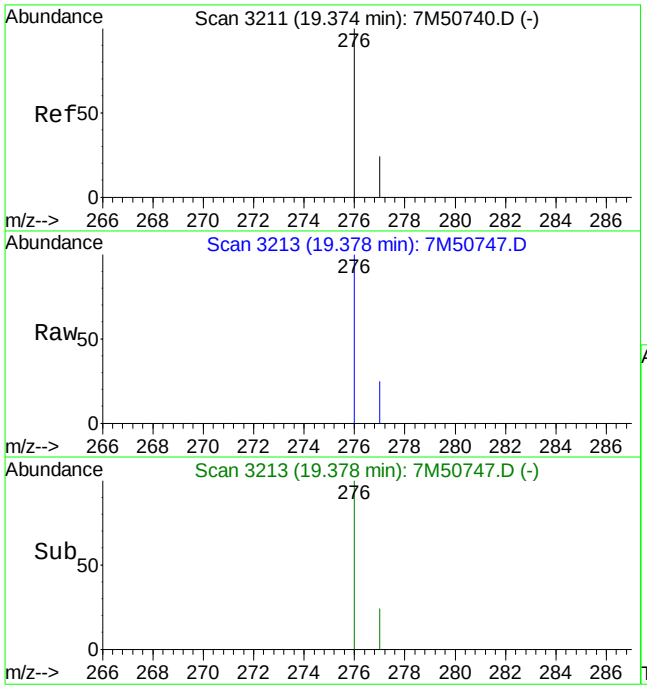




#25
Dibenz[ah]anthracene
Concen: 0.11 ug/ml
RT: 18.58 min Scan# 3011
Delta R.T. -0.02 min
Lab File: 7M50747.D
Acq: 4 Apr 2011 11:03 am

Tgt Ion:278 Resp: 23989

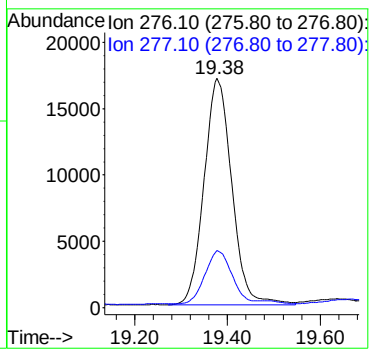




#26
Benzo[ghi]perylene
Concen: 0.32 ug/ml
RT: 19.38 min Scan# 3213
Delta R.T. -0.01 min
Lab File: 7M50747.D
Acq: 4 Apr 2011 11:03 am

Tgt Ion:276 Resp: 71044

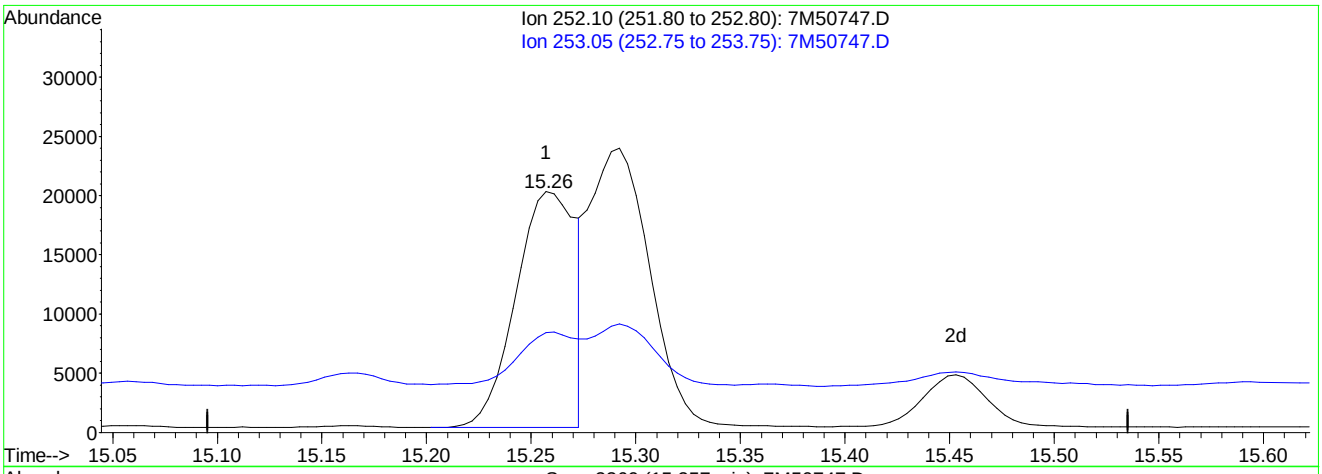
Ion	Ratio	Lower	Upper
276	100		
277	22.7	14.2	33.2

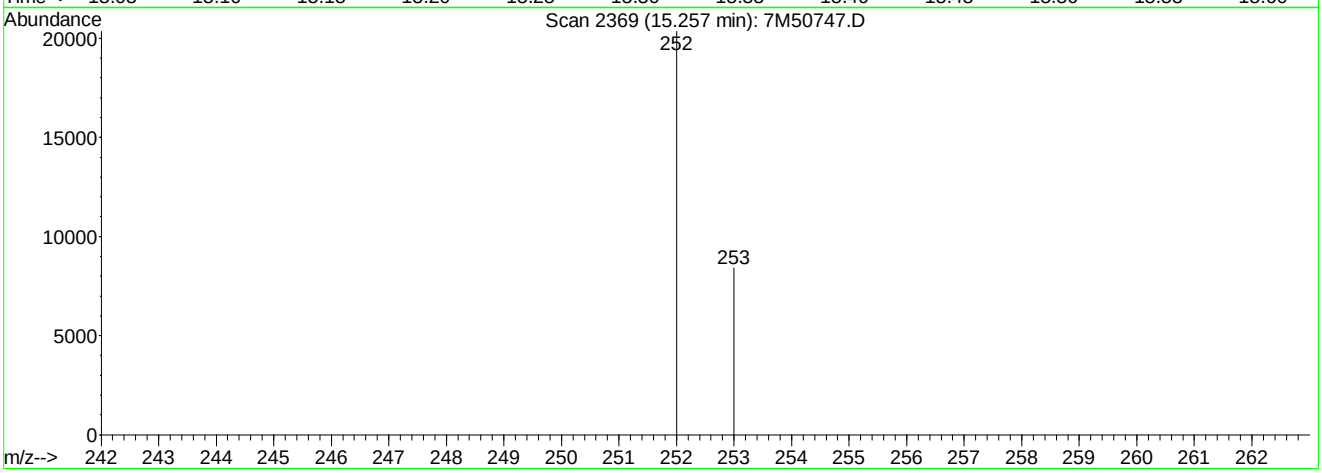


Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\040411\7M50747.D Vial: 9
Acq On : 4 Apr 2011 11:03 am Operator: CAA
Sample : L11030664-02 Inst : HPMS7
Misc : 7,1 SOIL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 7:19 2011 Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Tue Apr 05 07:19:03 2011
Response via : Multiple Level Calibration





TIC: 7M50747.D

(22) Benzo[k]fluoranthene

15.26min 0.19ug/ml

response 39858

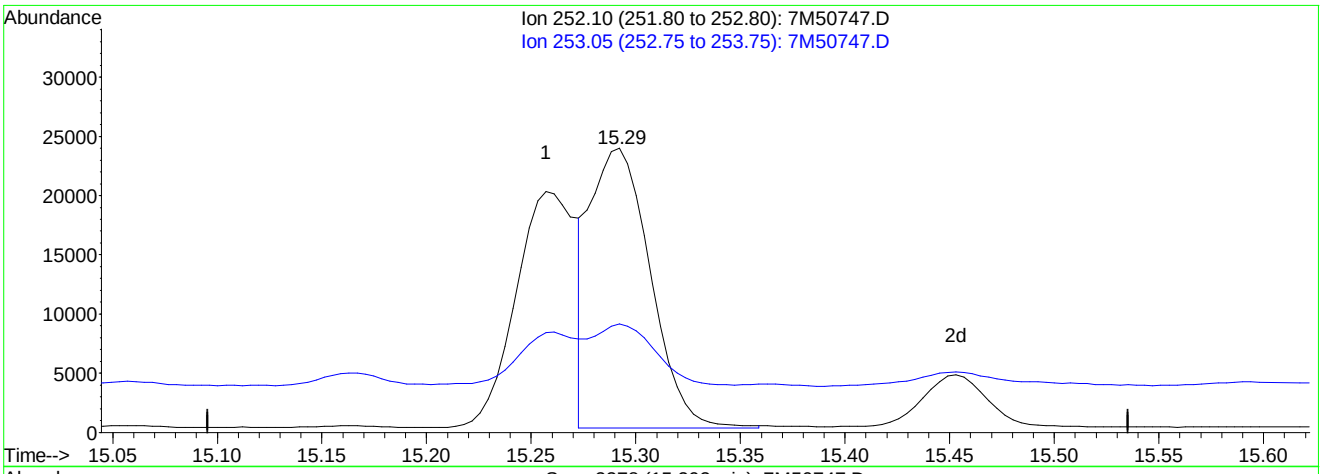
Ion	Exp%	Act%
252.10	100	100
253.05	22.20	23.93
0.00	0.00	0.00
0.00	0.00	0.00

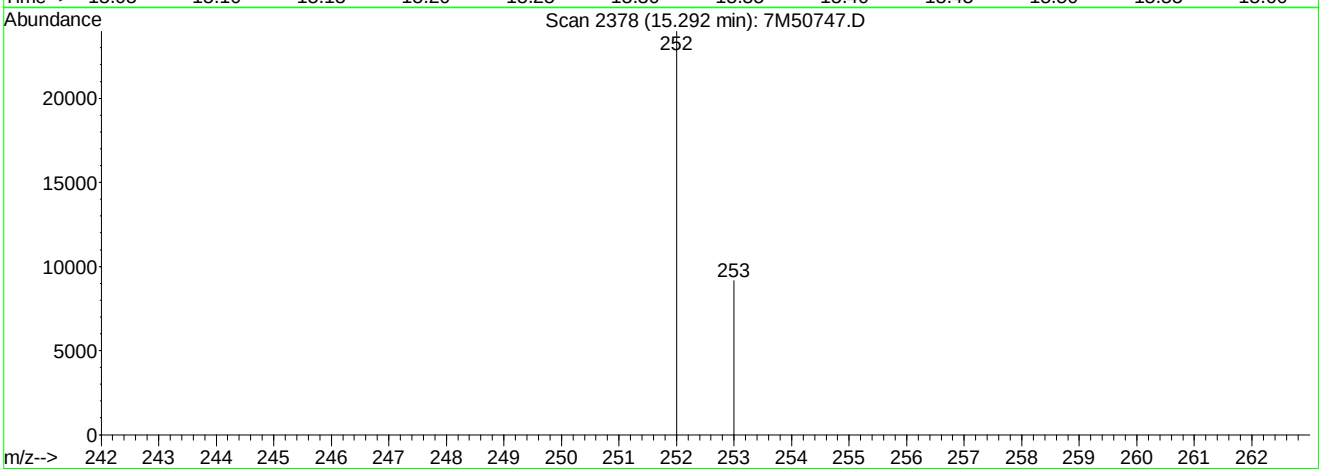
7M50747.D SIMPAHL.M Tue Apr 05 07:22:30 2011

Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\040411\7M50747.D Vial: 9
Acq On : 4 Apr 2011 11:03 am Operator: CAA
Sample : L11030664-02 Inst : HPMS7
Misc : 7,1 SOIL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 7:22 2011 Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Tue Apr 05 07:19:03 2011
Response via : Multiple Level Calibration





TIC: 7M50747.D

(22) Benzo[k]fluoranthene

15.29min 0.22ug/ml mint

response 47326

Ion	Exp%	Act%
252.10	100	100
253.05	22.20	20.15
0.00	0.00	0.00
0.00	0.00	0.00

7M50747.D SIMPAHL.M Tue Apr 05 07:22:43 2011

Analyst: 04/05/2011 08:34 Supervisor: 04/05/2011 09:16

#3 - Improperly integrated isomers and/or coeluting compounds

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\1\DATA\040411\7M50748.D Vial: 10
Acq On : 4 Apr 2011 11:31 am Operator: CAA
Sample : L11030664-03 Inst : HPMS7
Misc : 7,1 SOIL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 05 07:19:22 2011 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Tue Apr 05 07:19:03 2011
Response via : Initial Calibration
DataAcq Meth : PAHLSIM

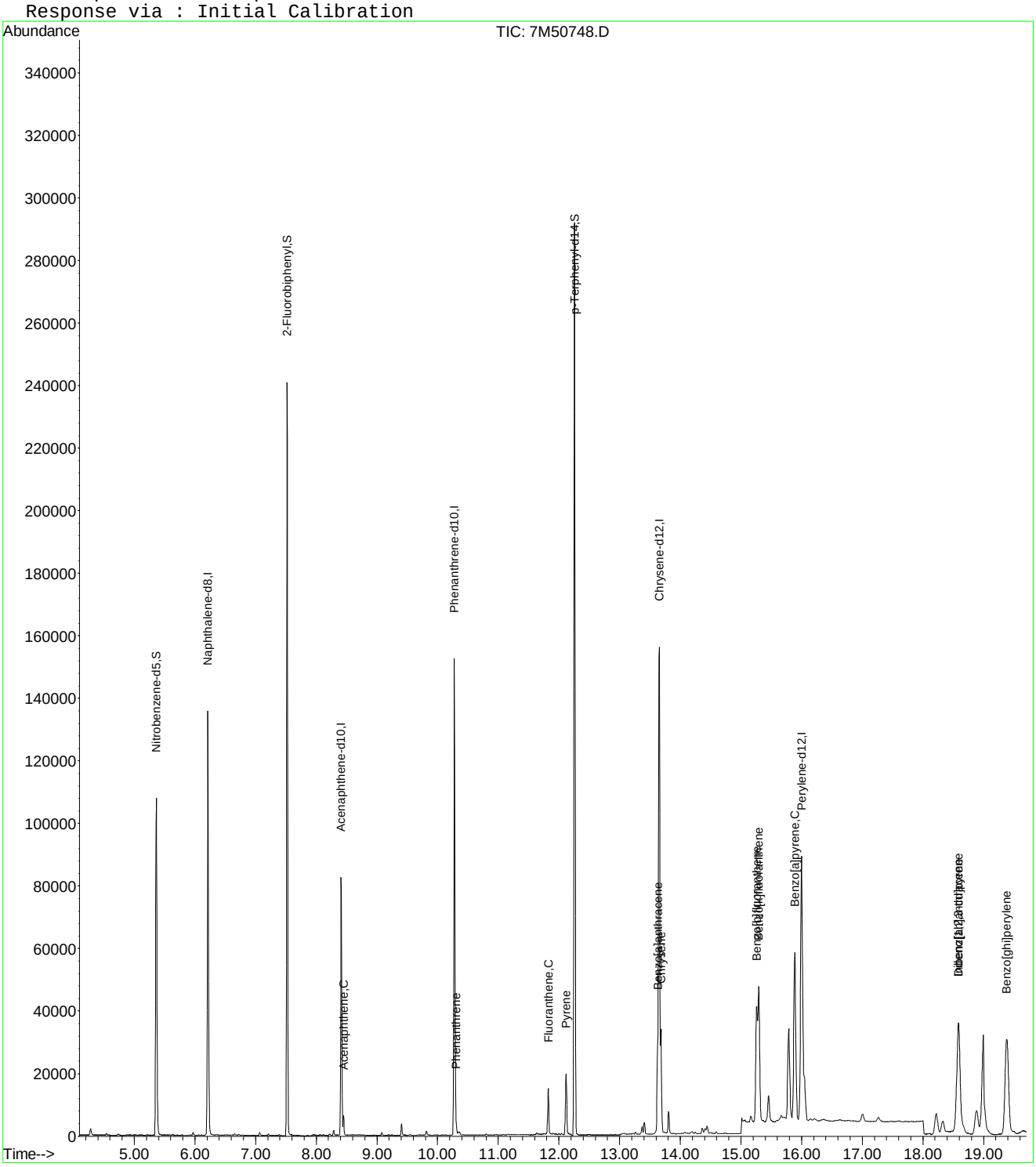
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	6.21	136	162015	1.00 ug/ml	0.00
6) Acenaphthene-d10	8.41	164	107444	1.00 ug/ml	0.00
11) Phenanthrene-d10	10.28	188	180807	1.00 ug/ml	0.00
15) Chrysene-d12	13.65	240	212528	1.00 ug/ml	0.00
20) Perylene-d12	16.00	264	194626	1.00 ug/ml	0.00
System Monitoring Compounds					
2) Nitrobenzene-d5	5.36	82	102661	1.3967 ug/ml	0.00
Spiked Amount 2.500	Range 23 - 120		Recovery	= 56.00%	
7) 2-Fluorobiphenyl	7.52	172	204595	1.5561 ug/ml	0.00
Spiked Amount 2.500	Range 30 - 115		Recovery	= 62.40%	
17) p-Terphenyl-d14	12.26	244	318361	2.0473 ug/ml	0.00
Spiked Amount 2.500	Range 18 - 137		Recovery	= 82.00%	
Target Compounds					Qvalue
9) Acenaphthene	8.45	154	3534	0.0325 ug/ml	93
12) Phenanthrene	10.31	178	4027	0.0205 ug/ml	100
14) Fluoranthene	11.82	202	15260	0.0677 ug/ml	94
16) Pyrene	12.12	202	24370	0.0847 ug/ml	85
18) Benzo[a]anthracene	13.63	228	29589	0.1176 ug/ml	96
19) Chrysene	13.68	228	34666	0.1525 ug/ml	96
21) Benzo[b]fluoranthene	15.26	252	57691	0.2393 ug/ml	98
22) Benzo[k]fluoranthene	15.29	252	74504m	0.3561 ug/ml	
23) Benzo[a]pyrene	15.89	252	99037	0.4426 ug/ml	96
24) Indeno[1,2,3-cd]pyrene	18.58	276	111141	0.4267 ug/ml	100
25) Dibenz[ah]anthracene	18.58	278	35582	0.1672 ug/ml	100
26) Benzo[ghi]perylene	19.38	276	104003	0.4730 ug/ml	98

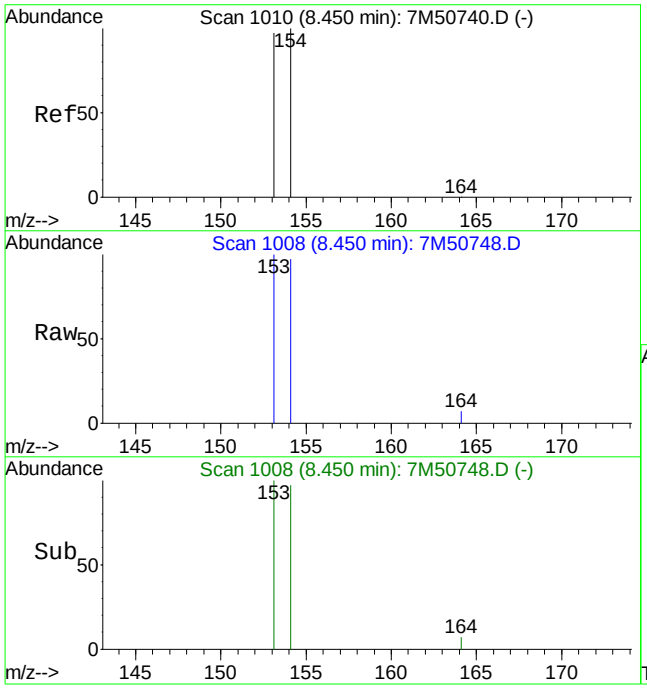
(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\1\DATA\040411\7M50748.D Vial: 10
Acq On : 4 Apr 2011 11:31 am Operator: CAA
Sample : L11030664-03 Inst : HPMS7
Misc : 7,1 SOIL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 7:22 2011 Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Tue Apr 05 07:19:03 2011
Response via : Initial Calibration

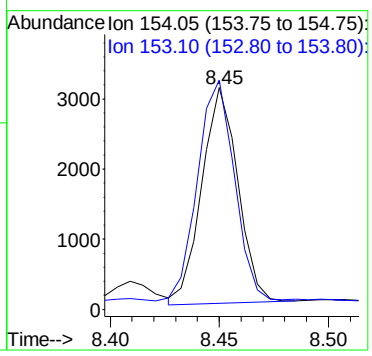


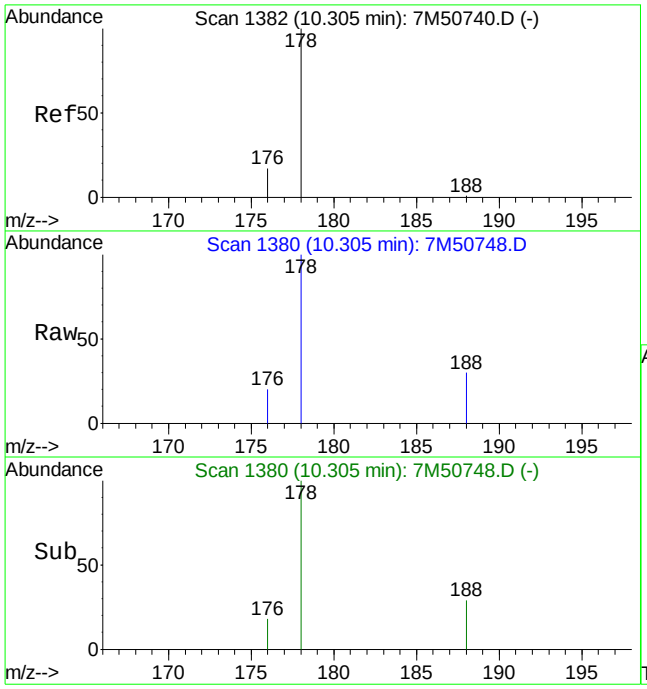


#9
Acenaphthene
Concen: 0.03 ug/ml
RT: 8.45 min Scan# 1008
Delta R.T. -0.00 min
Lab File: 7M50748.D
Acq: 4 Apr 2011 11:31 am

Tgt Ion:154 Resp: 3534

Ion	Ratio	Lower	Upper
154	100		
153	107.2	60.1	140.1

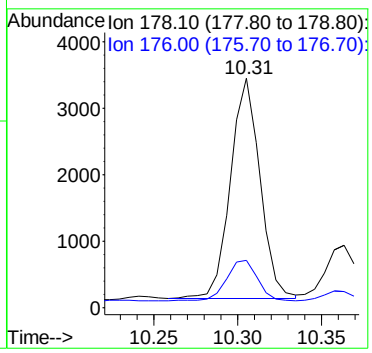


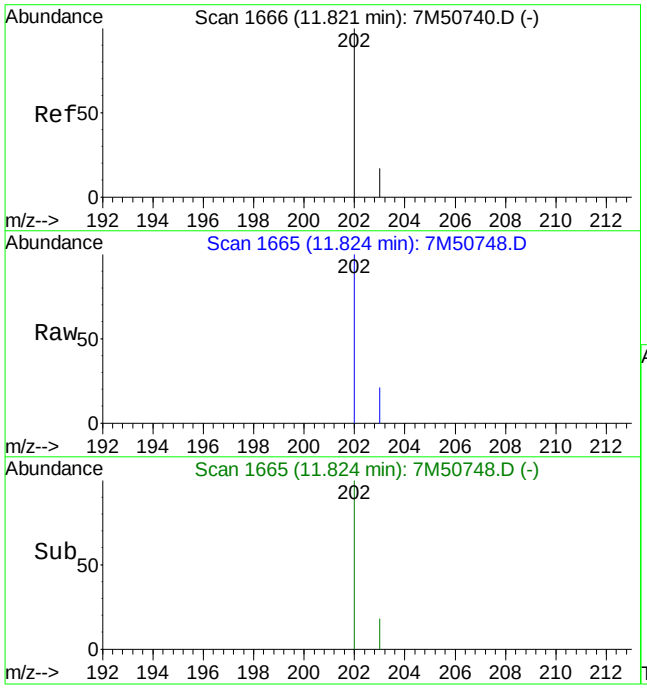


#12
Phenanthrene
Concen: 0.02 ug/ml
RT: 10.31 min Scan# 1380
Delta R.T. -0.00 min
Lab File: 7M50748.D
Acq: 4 Apr 2011 11:31 am

Tgt Ion:178 Resp: 4027

Ion	Ratio	Lower	Upper
178	100		
176	19.3	11.5	26.9

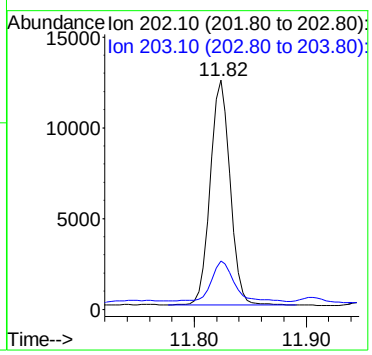


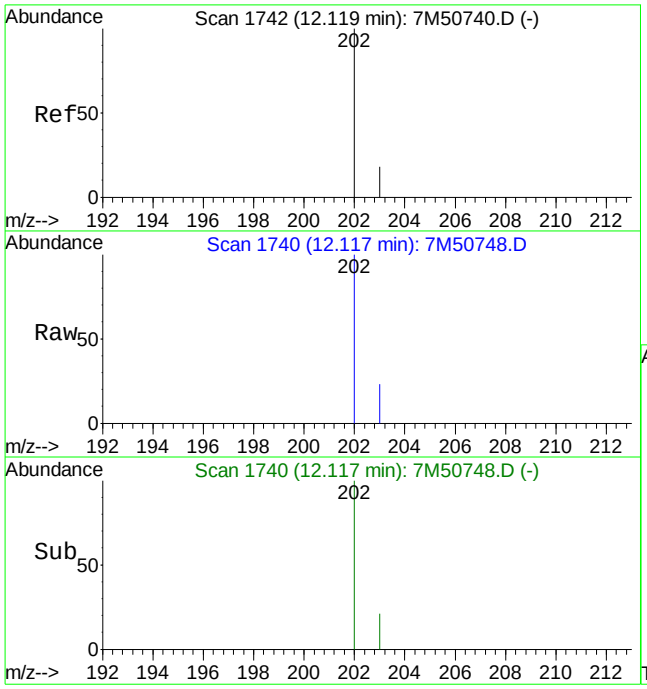


#14
Fluoranthene
Concen: 0.07 ug/ml
RT: 11.82 min Scan# 1665
Delta R.T. -0.00 min
Lab File: 7M50748.D
Acq: 4 Apr 2011 11:31 am

Tgt Ion:202 Resp: 15260

Ion	Ratio	Lower	Upper
202	100		
203	20.1	10.6	24.6

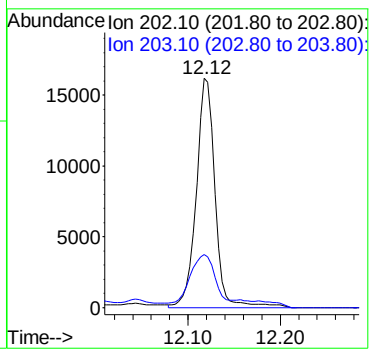


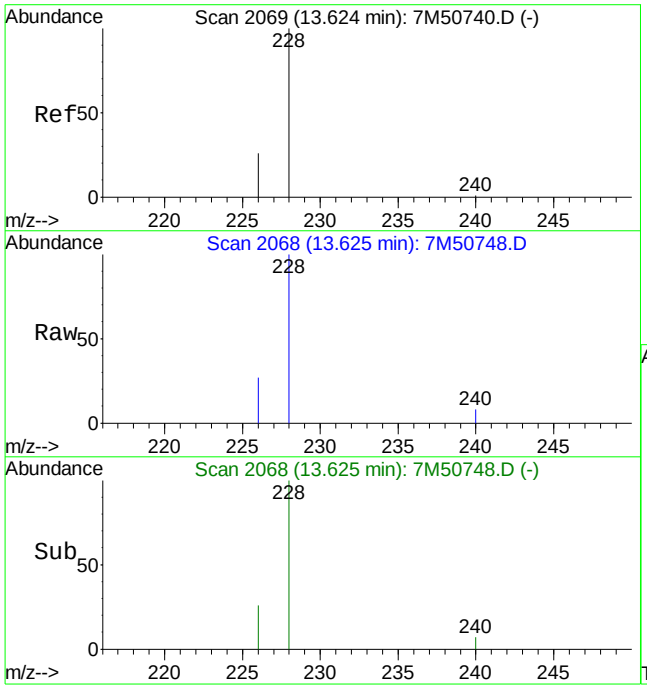


#16
Pyrene
Concen: 0.08 ug/ml
RT: 12.12 min Scan# 1740
Delta R.T. -0.00 min
Lab File: 7M50748.D
Acq: 4 Apr 2011 11:31 am

Tgt Ion:202 Resp: 24370

Ion	Ratio	Lower	Upper
202	100		
203	24.9	11.0	25.8

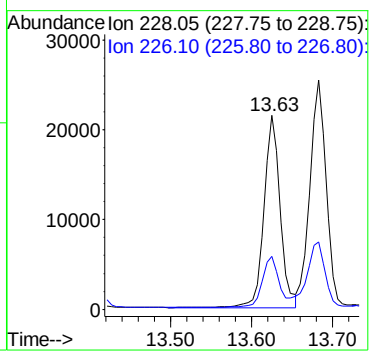


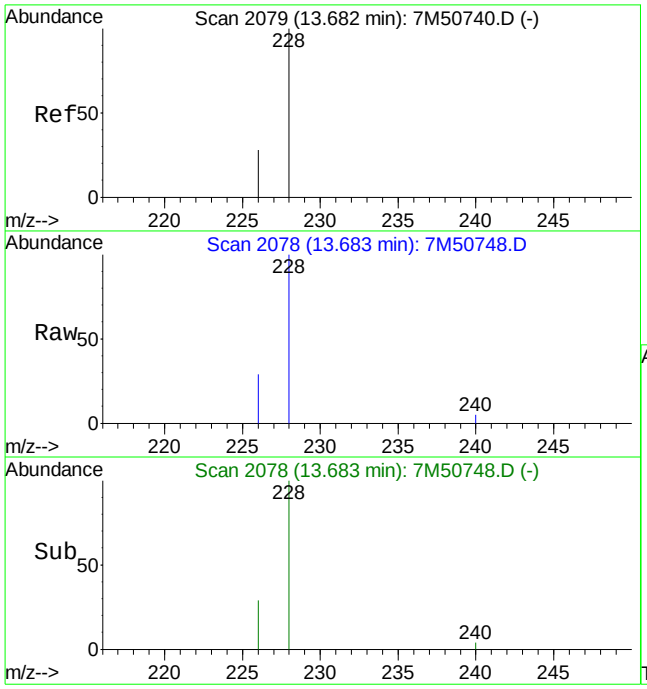


#18
Benzo[a]anthracene
Concen: 0.12 ug/ml
RT: 13.63 min Scan# 2068
Delta R.T. -0.00 min
Lab File: 7M50748.D
Acq: 4 Apr 2011 11:31 am

Tgt Ion:228 Resp: 29589

Ion	Ratio	Lower	Upper
228	100		
226	28.4	16.0	37.2

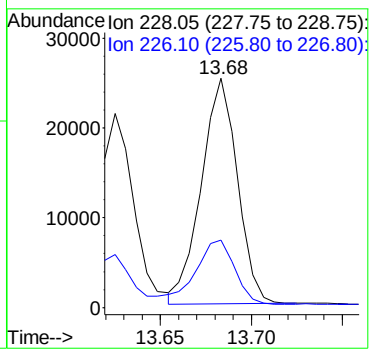


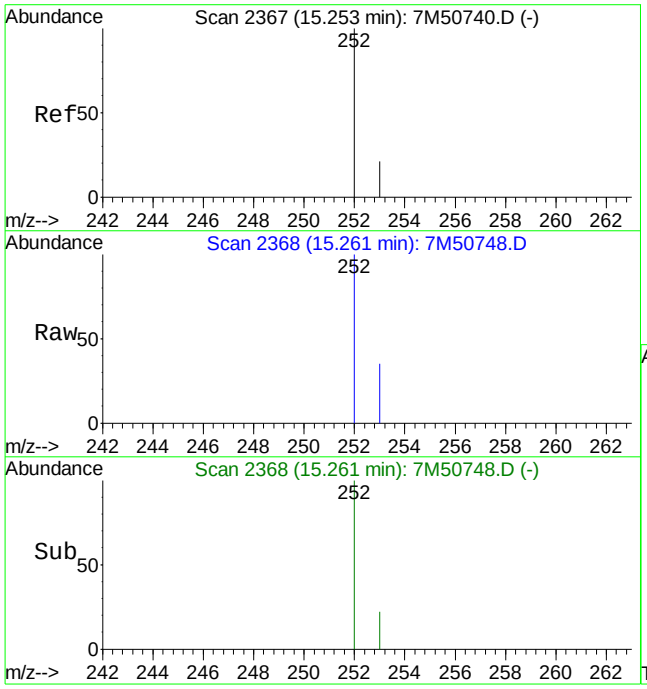


#19
Chrysene
Concen: 0.15 ug/ml
RT: 13.68 min Scan# 2078
Delta R.T. -0.00 min
Lab File: 7M50748.D
Acq: 4 Apr 2011 11:31 am

Tgt Ion:228 Resp: 34666

Ion	Ratio	Lower	Upper
228	100		
226	31.6	17.6	41.2

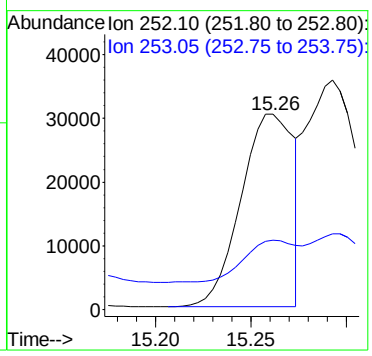


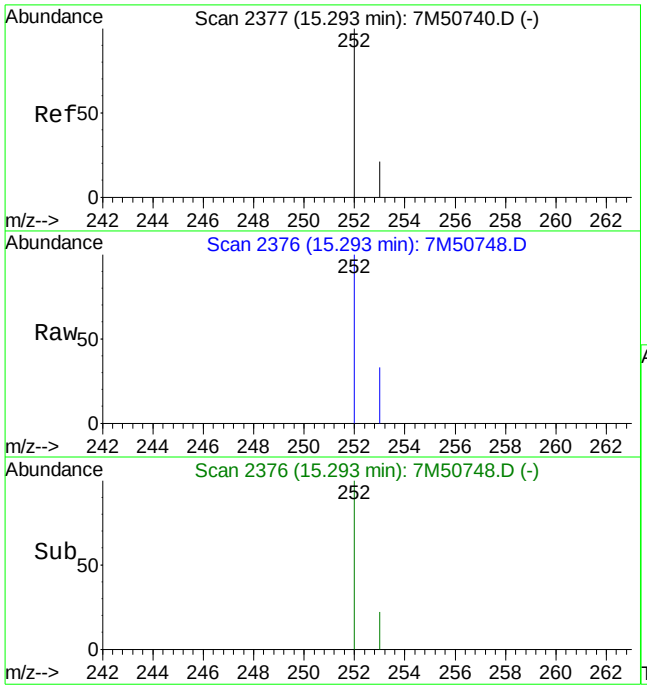


#21
Benzo[b]fluoranthene
Concen: 0.24 ug/ml
RT: 15.26 min Scan# 2368
Delta R.T. -0.00 min
Lab File: 7M50748.D
Acq: 4 Apr 2011 11:31 am

Tgt Ion:252 Resp: 57691

Ion	Ratio	Lower	Upper
252	100		
253	23.6	13.5	31.5

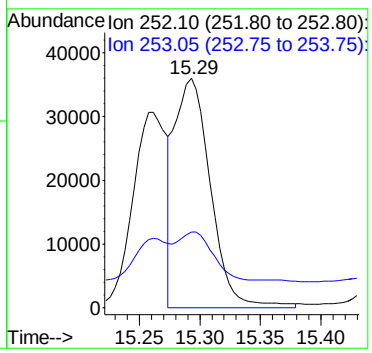


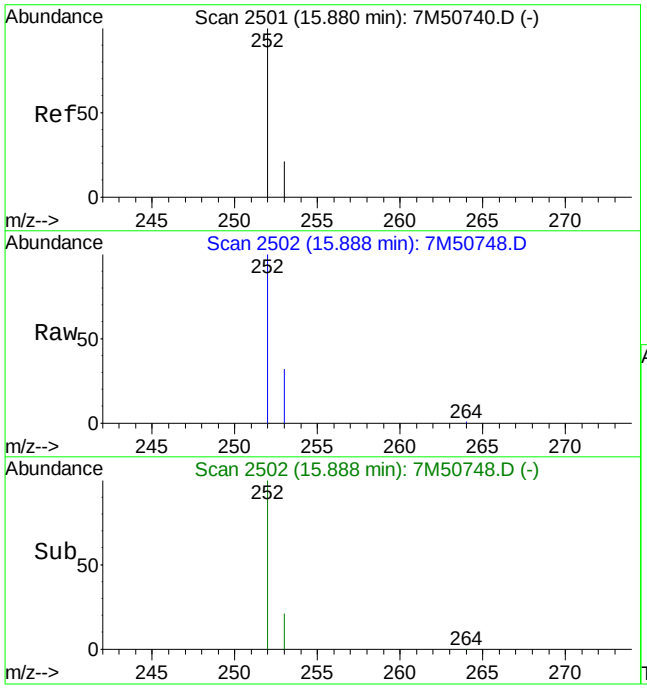


#22
Benzo[k]fluoranthene
Concen: 0.36 ug/ml m
RT: 15.29 min Scan# 2376
Delta R.T. -0.01 min
Lab File: 7M50748.D
Acq: 4 Apr 2011 11:31 am

Tgt Ion:252 Resp: 74504

Ion	Ratio	Lower	Upper
252	100		
253	18.2	13.3	31.1

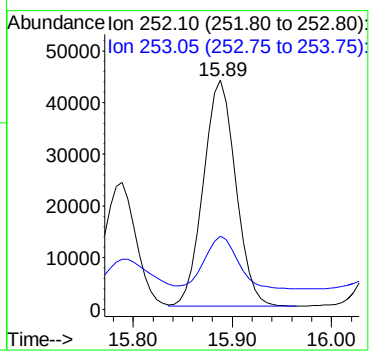


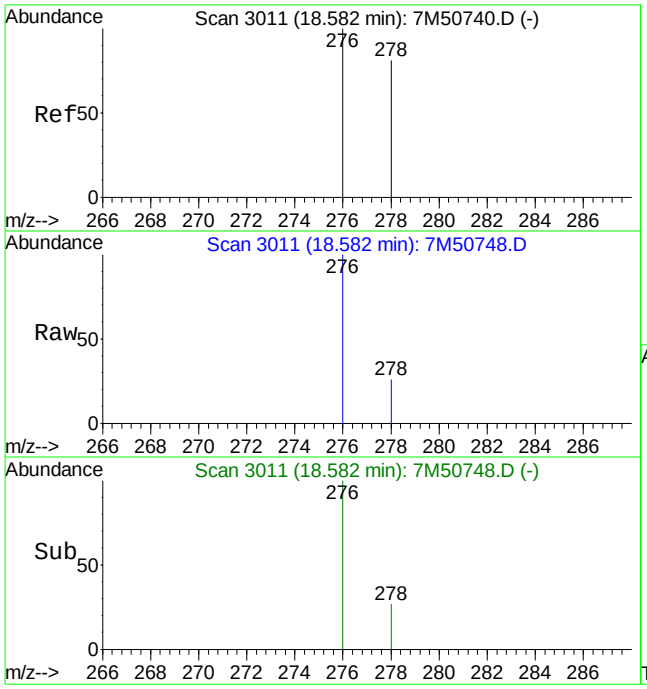


#23
Benzo[a]pyrene
Concen: 0.44 ug/ml
RT: 15.89 min Scan# 2502
Delta R.T. -0.01 min
Lab File: 7M50748.D
Acq: 4 Apr 2011 11:31 am

Tgt Ion:252 Resp: 99037

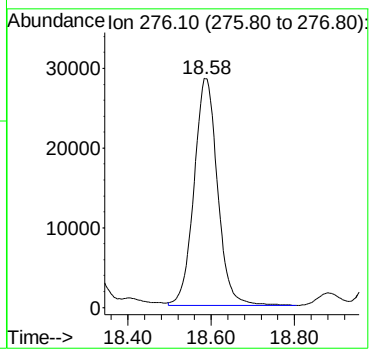
Ion	Ratio	Lower	Upper
252	100		
253	23.8	13.0	30.4

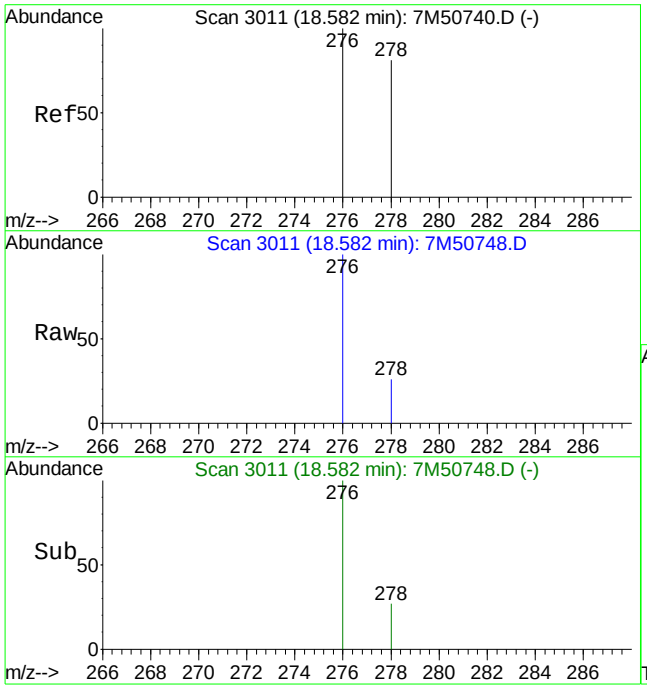




#24
Indeno[1,2,3-cd]pyrene
Concen: 0.43 ug/ml
RT: 18.58 min Scan# 3011
Delta R.T. -0.01 min
Lab File: 7M50748.D
Acq: 4 Apr 2011 11:31 am

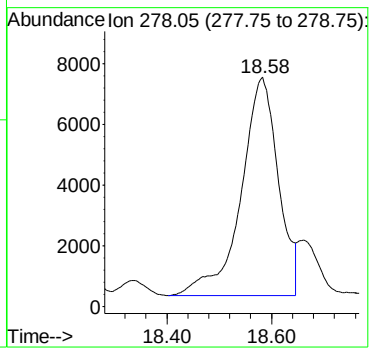
Tgt Ion:276 Resp: 111141

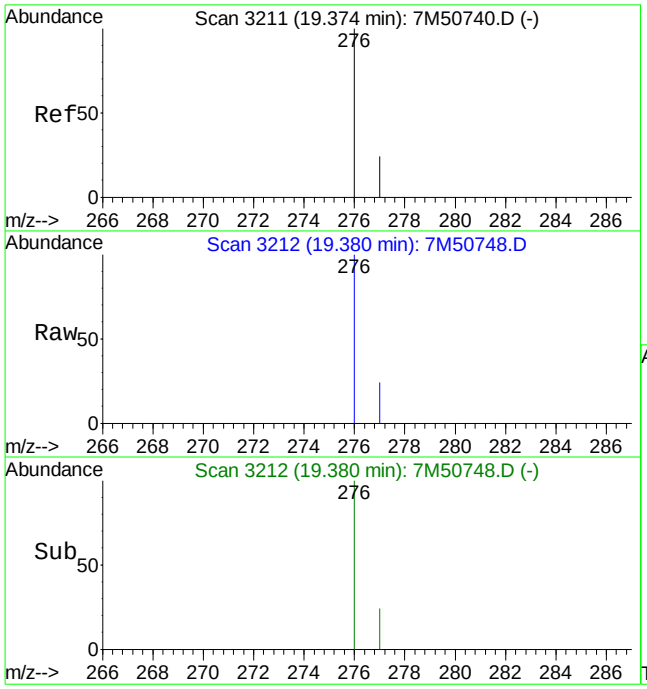




#25
Dibenz[ah]anthracene
Concen: 0.17 ug/ml
RT: 18.58 min Scan# 3011
Delta R.T. -0.02 min
Lab File: 7M50748.D
Acq: 4 Apr 2011 11:31 am

Tgt Ion:278 Resp: 35582

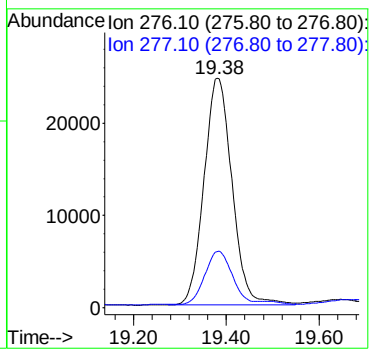




#26
Benzo[ghi]perylene
Concen: 0.47 ug/ml
RT: 19.38 min Scan# 3212
Delta R.T. -0.01 min
Lab File: 7M50748.D
Acq: 4 Apr 2011 11:31 am

Tgt Ion:276 Resp: 104003

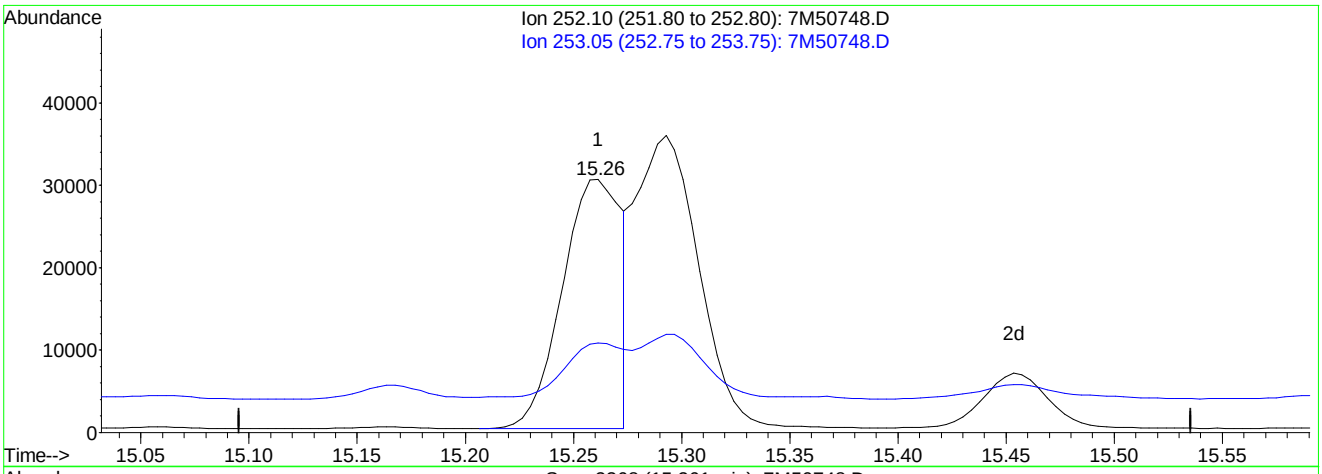
Ion	Ratio	Lower	Upper
276	100		
277	22.8	14.2	33.2

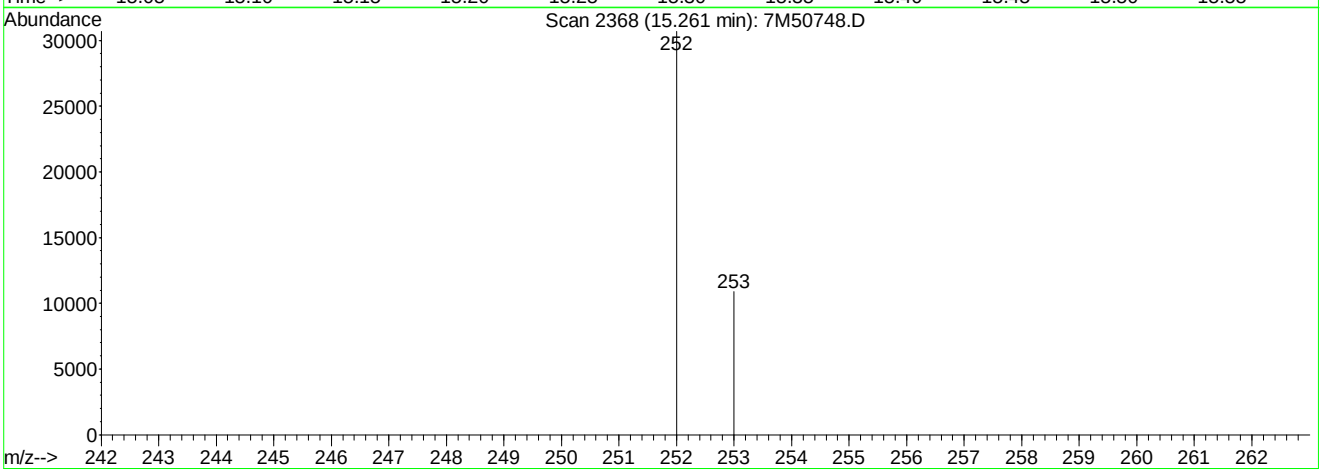


Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\040411\7M50748.D Vial: 10
Acq On : 4 Apr 2011 11:31 am Operator: CAA
Sample : L11030664-03 Inst : HPMS7
Misc : 7,1 SOIL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 7:19 2011 Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Tue Apr 05 07:19:03 2011
Response via : Multiple Level Calibration





TIC: 7M50748.D

(22) Benzo[k]fluoranthene

15.26min 0.28ug/ml

response 57691

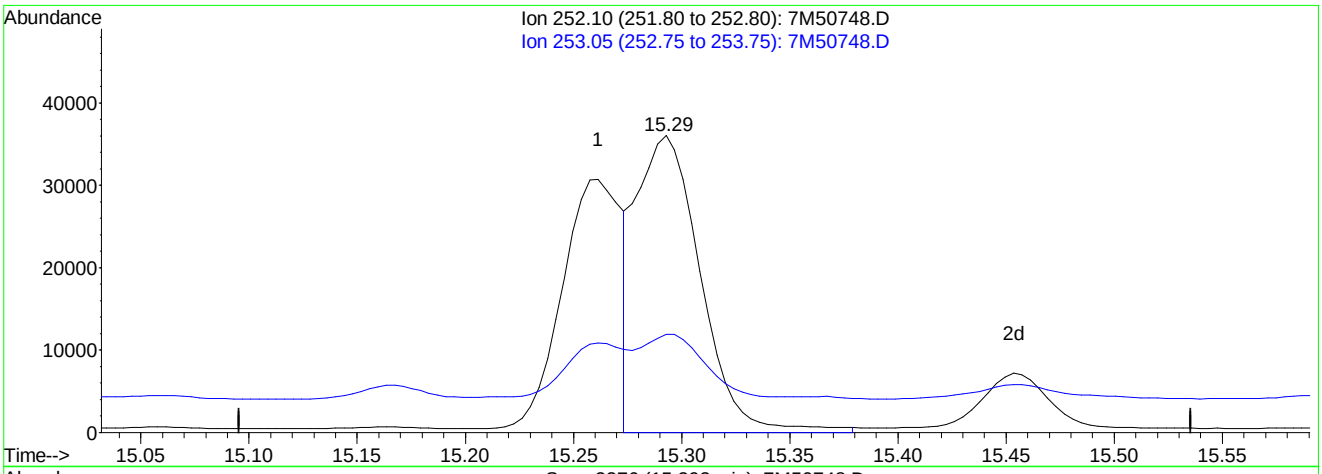
Ion	Exp%	Act%
252.10	100	100
253.05	22.20	23.57
0.00	0.00	0.00
0.00	0.00	0.00

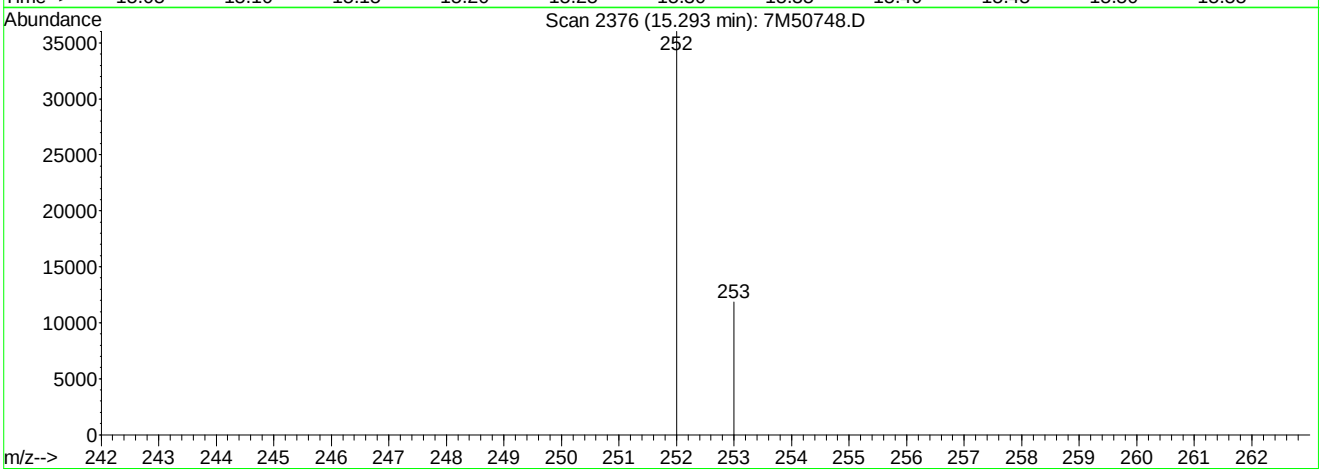
7M50748.D SIMPAHL.M Tue Apr 05 07:22:49 2011

Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\040411\7M50748.D Vial: 10
Acq On : 4 Apr 2011 11:31 am Operator: CAA
Sample : L11030664-03 Inst : HPMS7
Misc : 7,1 SOIL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 7:22 2011 Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Tue Apr 05 07:19:03 2011
Response via : Multiple Level Calibration





TIC: 7M50748.D

(22) Benzo[k]fluoranthene

15.29min 0.36ug/ml mint

response 74504

Ion	Exp%	Act%
252.10	100	100
253.05	22.20	18.25
0.00	0.00	0.00
0.00	0.00	0.00

7M50748.D SIMPAHL.M Tue Apr 05 07:22:55 2011

Analyst: 04/05/2011 08:34 Supervisor: 04/05/2011 09:17

#3 - Improperly integrated isomers and/or coeluting compounds

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\1\DATA\040411\7M50755.D Vial: 17
Acq On : 4 Apr 2011 2:45 pm Operator: CAA
Sample : L11030664-04 5X Inst : HPMS7
Misc : 7,5 SOIL Multiplr: 5.00
MS Integration Params: RTEINT.P
Quant Time: Apr 05 07:19:23 2011 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Tue Apr 05 07:19:03 2011
Response via : Initial Calibration
DataAcq Meth : PAHLSIM

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	6.21	136	150927	1.00 ug/ml	0.00
6) Acenaphthene-d10	8.41	164	101785	1.00 ug/ml	0.00
11) Phenanthrene-d10	10.28	188	171921	1.00 ug/ml	0.00
15) Chrysene-d12	13.65	240	163767	1.00 ug/ml	0.00
20) Perylene-d12	16.00	264	159435	1.00 ug/ml	0.00

System Monitoring Compounds					
2) Nitrobenzene-d5	5.36	82	15943	1.1642 ug/ml	0.00
Spiked Amount 2.500	Range 23 - 120		Recovery	= 46.40%	
7) 2-Fluorobiphenyl	7.52	172	37459	1.5037 ug/ml	0.00
Spiked Amount 2.500	Range 30 - 115		Recovery	= 60.00%	
17) p-Terphenyl-d14	12.26	244	53828	2.2461 ug/ml	0.00
Spiked Amount 2.500	Range 18 - 137		Recovery	= 90.00%	

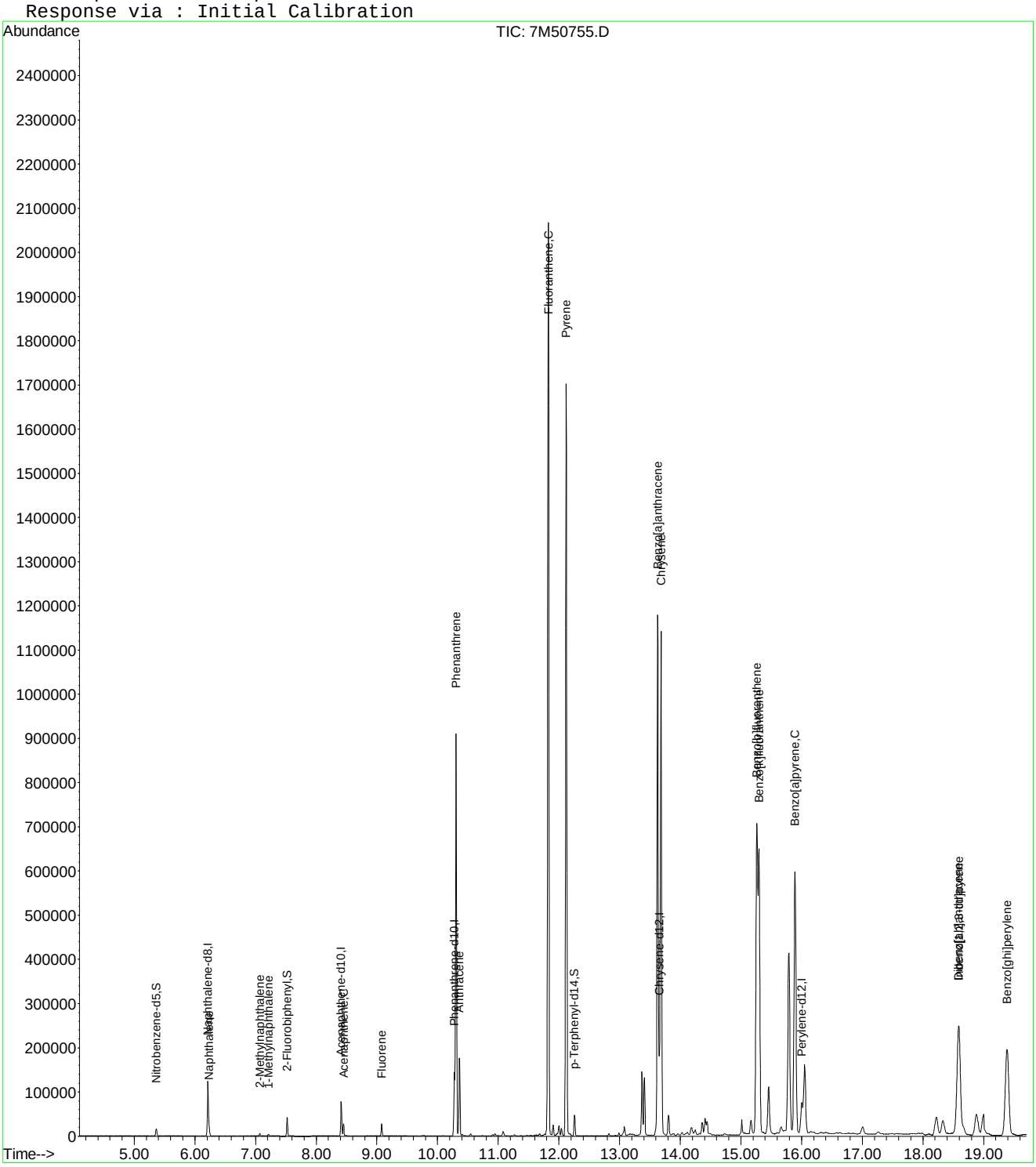
Target Compounds					Qvalue
3) Naphthalene	6.24	128	14519	0.0941 ug/ml	100
4) 2-Methylnaphthalene	7.07	142	3741	0.0351 ug/ml	99
5) 1-Methylnaphthalene	7.21	142	2607	0.0265 ug/ml	98
9) Acenaphthene	8.45	154	15507	0.1505 ug/ml	76
10) Fluorene	9.08	166	17416	0.1397 ug/ml	98
12) Phenanthrene	10.31	178	925031	4.9638 ug/ml	98
13) Anthracene	10.36	178	186799	1.1219 ug/ml	100
14) Fluoranthene	11.82	202	2225946	10.3930 ug/ml	95
16) Pyrene	12.12	202	1956968	8.8220 ug/ml	97
18) Benzo[a]anthracene	13.63	228	1271438	6.5599 ug/ml	97
19) Chrysene	13.68	228	1248379	7.1288 ug/ml	96
21) Benzo[b]fluoranthene	15.27	252	1195170	6.0523 ug/ml	100
22) Benzo[k]fluoranthene	15.30	252	937614m	5.4708 ug/ml	
23) Benzo[a]pyrene	15.89	252	1077272	5.8775 ug/ml	96
24) Indeno[1,2,3-cd]pyrene	18.59	276	743543	3.4850 ug/ml	100
25) Dibenz[ah]anthracene	18.58	278	251711	1.4443 ug/ml	100
26) Benzo[ghi]perylene	19.38	276	649595	3.6064 ug/ml	99

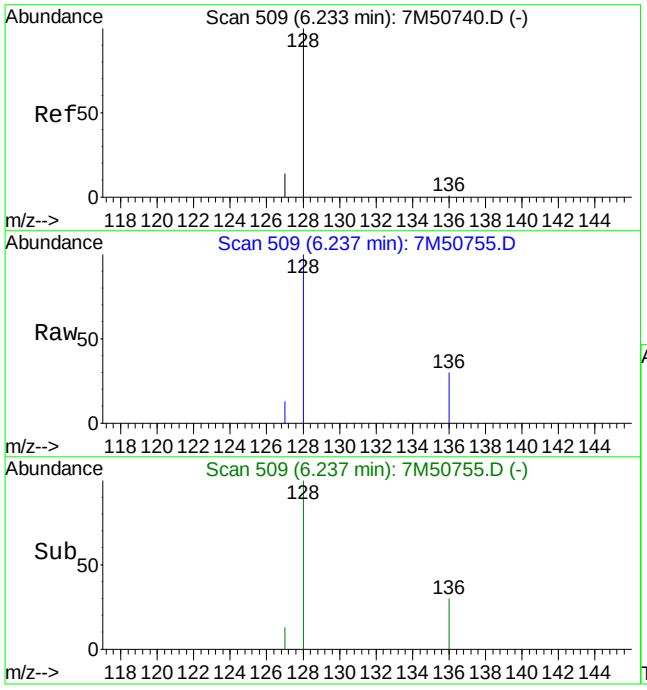
(#) = qualifier out of range (m) = manual integration
7M50755.D SIMPAHL.M Tue Apr 05 07:30:25 2011 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\1\DATA\040411\7M50755.D Vial: 17
Acq On : 4 Apr 2011 2:45 pm Operator: CAA
Sample : L11030664-04 5X Inst : HPMS7
Misc : 7,5 SOIL Multiplr: 5.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 7:24 2011 Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Tue Apr 05 07:19:03 2011
Response via : Initial Calibration

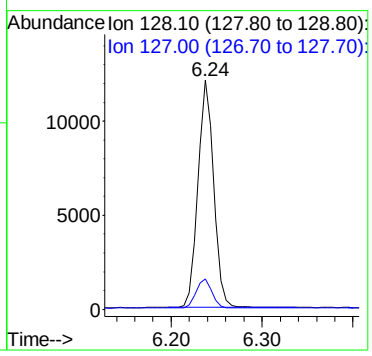


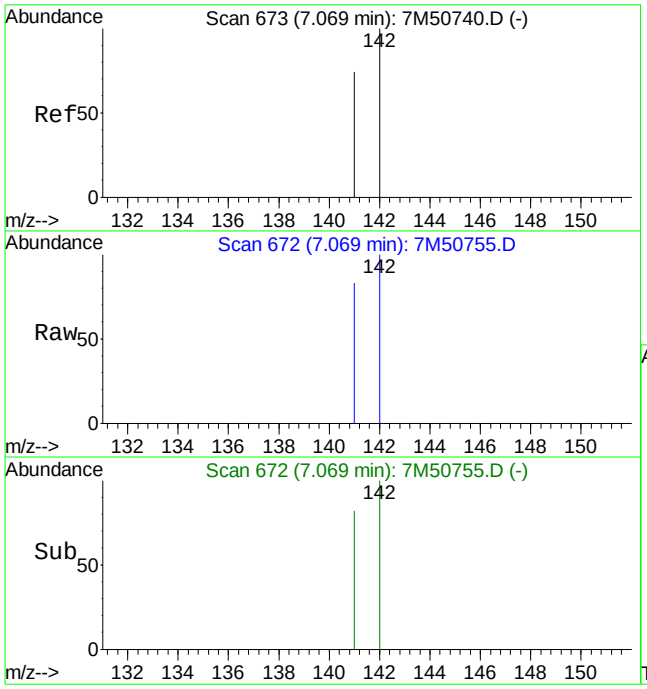


#3
Naphthalene
Concen: 0.09 ug/ml
RT: 6.24 min Scan# 509
Delta R.T. -0.00 min
Lab File: 7M50755.D
Acq: 4 Apr 2011 2:45 pm

Tgt Ion:128 Resp: 14519

Ion	Ratio	Lower	Upper
128	100		
127	12.9	7.8	18.2

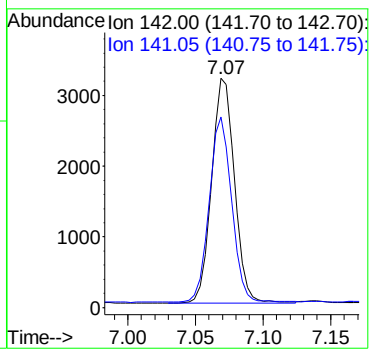


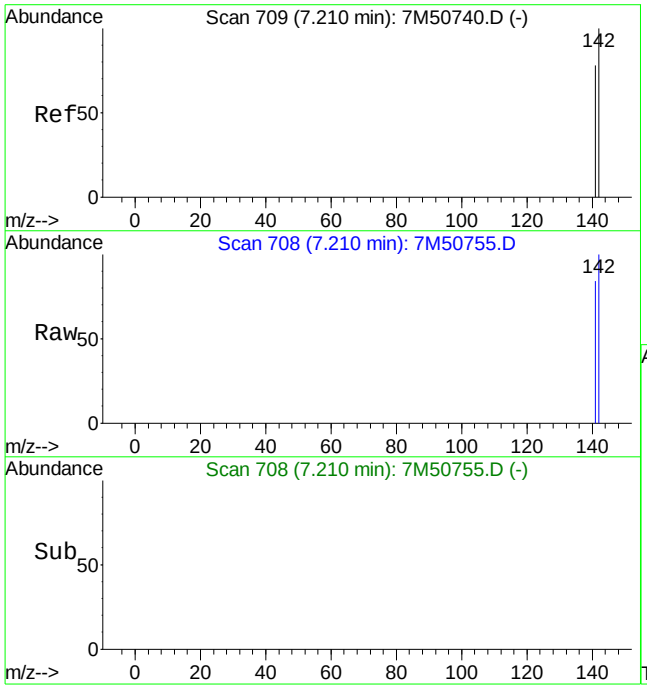


#4
2-Methylnaphthalene
Concen: 0.04 ug/ml
RT: 7.07 min Scan# 672
Delta R.T. -0.00 min
Lab File: 7M50755.D
Acq: 4 Apr 2011 2:45 pm

Tgt Ion:142 Resp: 3741

Ion	Ratio	Lower	Upper
142	100		
141	80.5	49.1	114.5

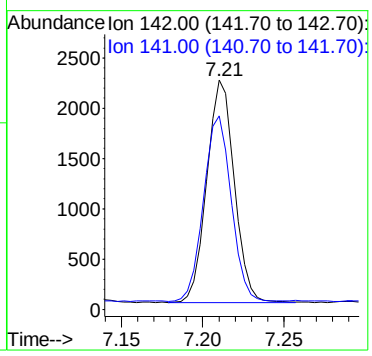


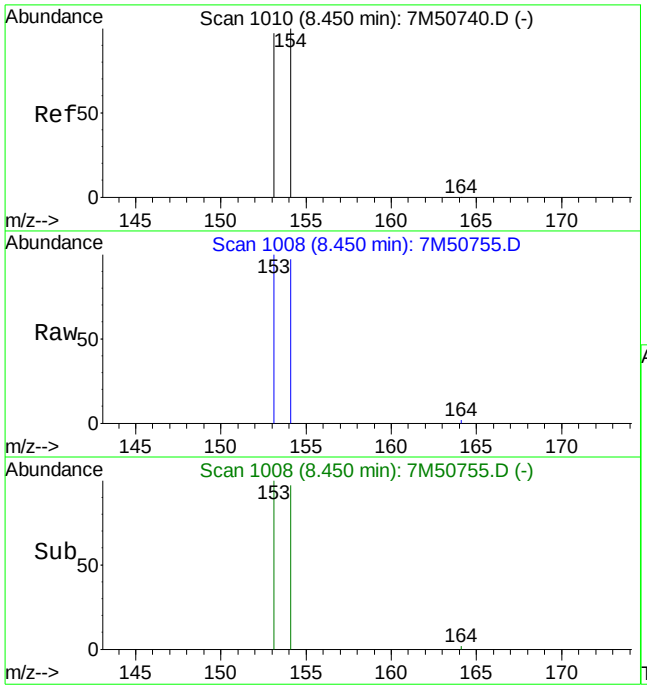


#5
1-Methylnaphthalene
Concen: 0.03 ug/ml
RT: 7.21 min Scan# 708
Delta R.T. -0.00 min
Lab File: 7M50755.D
Acq: 4 Apr 2011 2:45 pm

Tgt Ion:142 Resp: 2607

Ion	Ratio	Lower	Upper
142	100		
141	83.4	51.1	119.3

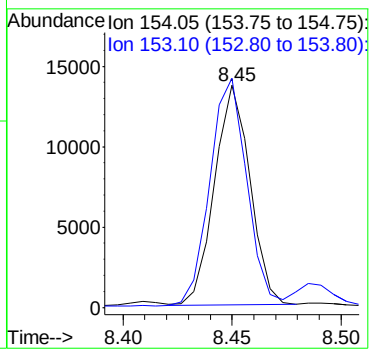


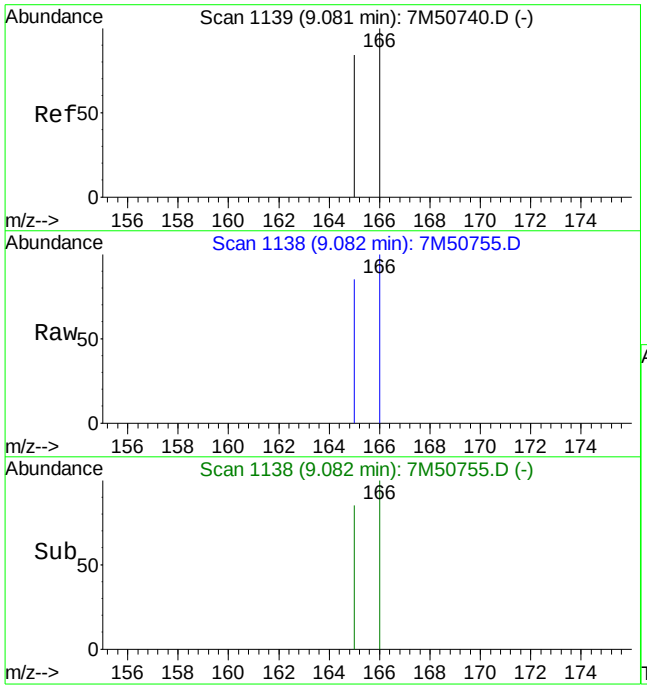


#9
Acenaphthene
Concen: 0.15 ug/ml
RT: 8.45 min Scan# 1008
Delta R.T. -0.00 min
Lab File: 7M50755.D
Acq: 4 Apr 2011 2:45 pm

Tgt Ion:154 Resp: 15507

Ion	Ratio	Lower	Upper
154	100		
153	123.7	60.1	140.1

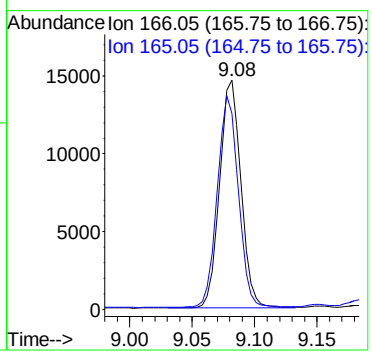


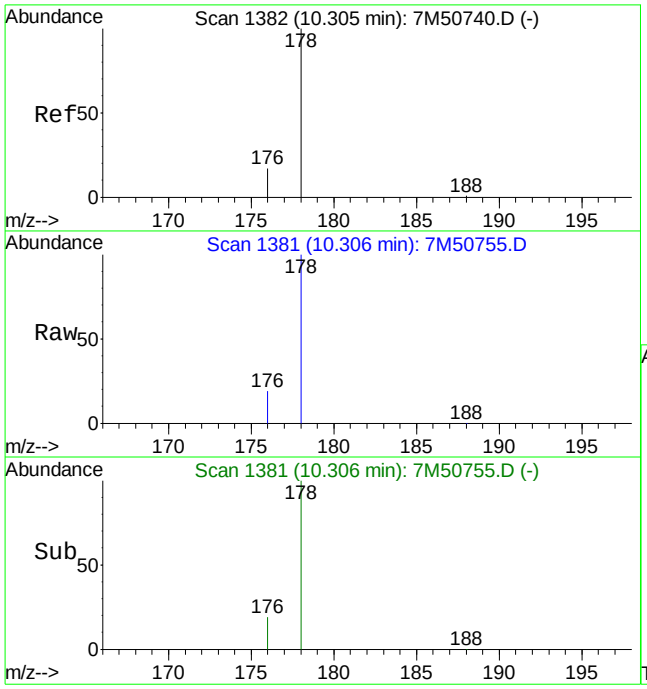


#10
Fluorene
Concen: 0.14 ug/ml
RT: 9.08 min Scan# 1138
Delta R.T. -0.00 min
Lab File: 7M50755.D
Acq: 4 Apr 2011 2:45 pm

Tgt Ion:166 Resp: 17416

Ion	Ratio	Lower	Upper
166	100		
165	91.7	56.0	130.6

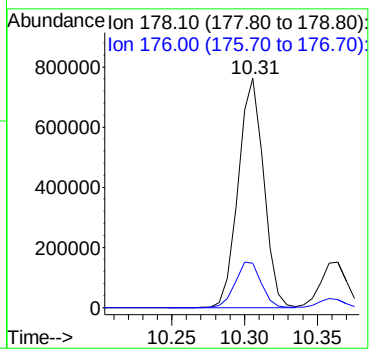


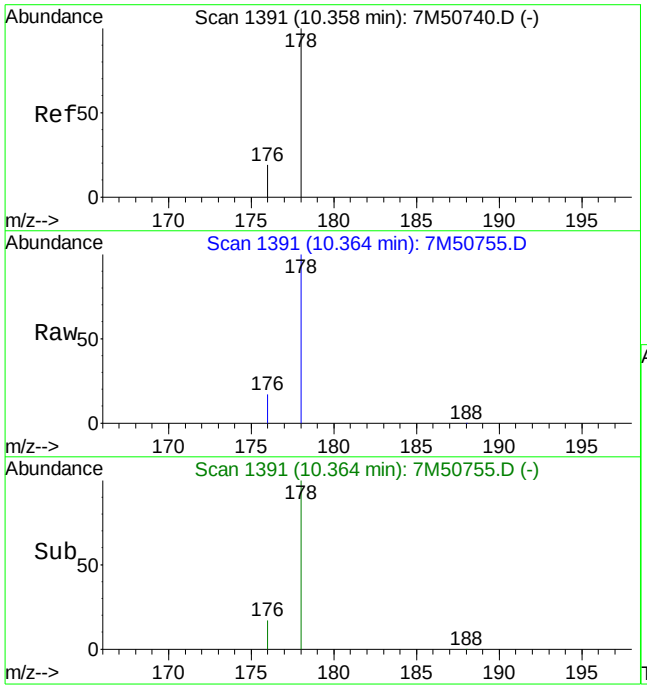


#12
Phenanthrene
Concen: 4.96 ug/ml
RT: 10.31 min Scan# 1381
Delta R.T. 0.00 min
Lab File: 7M50755.D
Acq: 4 Apr 2011 2:45 pm

Tgt Ion:178 Resp: 925031

Ion	Ratio	Lower	Upper
178	100		
176	20.3	11.5	26.9

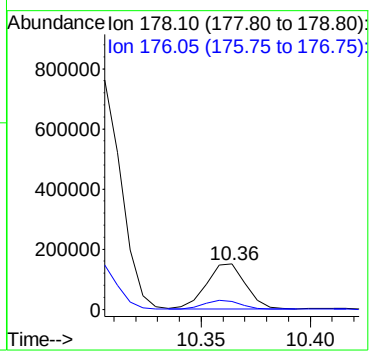


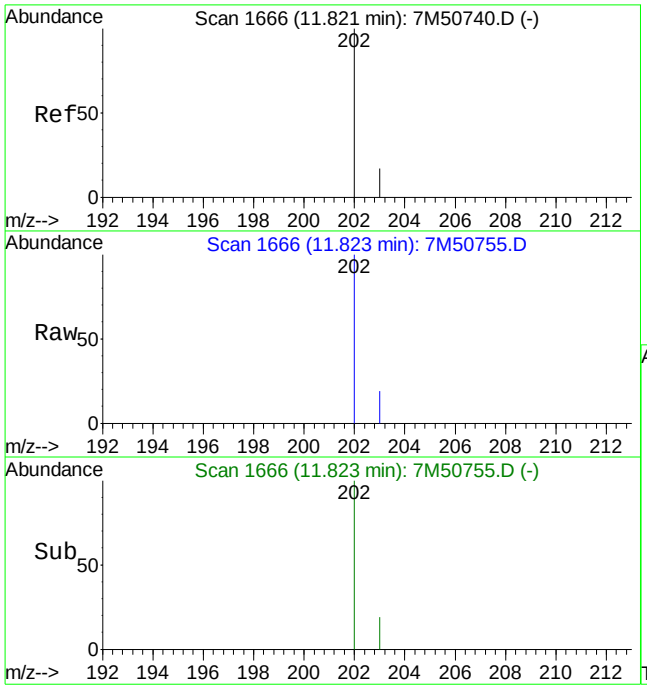


#13
Anthracene
Concen: 1.12 ug/ml
RT: 10.36 min Scan# 1391
Delta R.T. 0.00 min
Lab File: 7M50755.D
Acq: 4 Apr 2011 2:45 pm

Tgt Ion:178 Resp: 186799

Ion	Ratio	Lower	Upper
178	100		
176	18.6	11.0	25.8

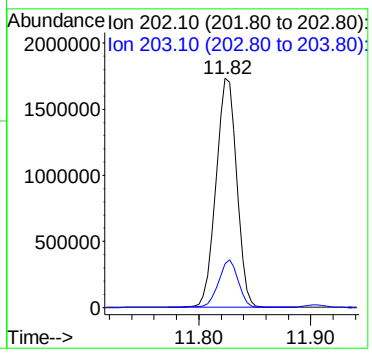


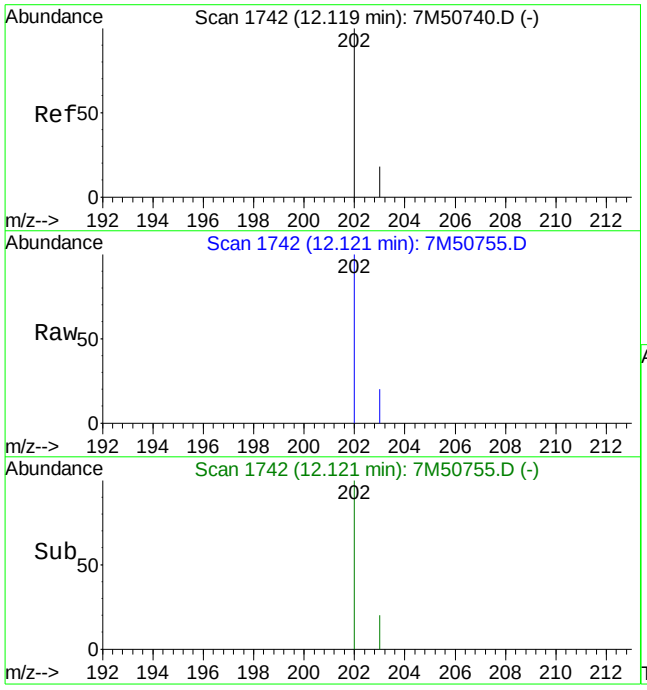


#14
Fluoranthene
Concen: 10.39 ug/ml
RT: 11.82 min Scan# 1666
Delta R.T. -0.00 min
Lab File: 7M50755.D
Acq: 4 Apr 2011 2:45 pm

Tgt Ion:202 Resp: 2225946

Ion	Ratio	Lower	Upper
202	100		
203	19.7	10.6	24.6

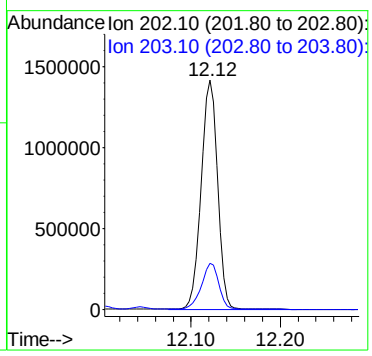


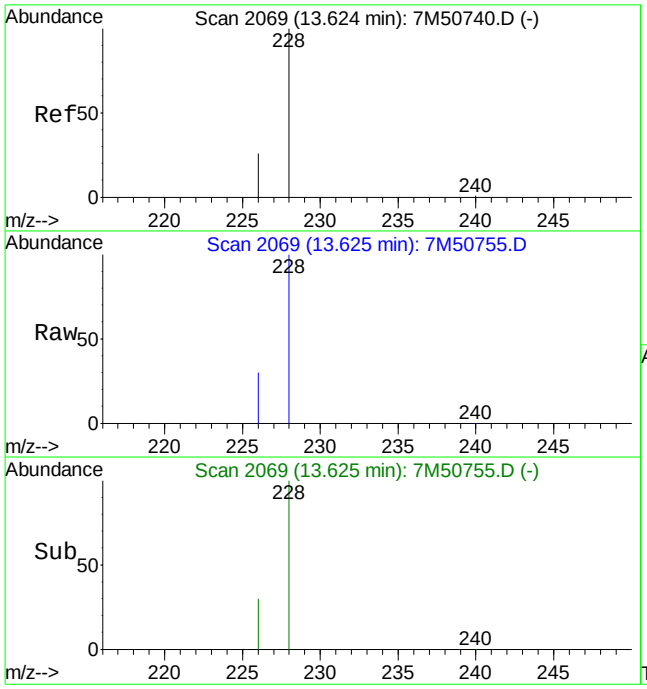


#16
Pyrene
Concen: 8.82 ug/ml
RT: 12.12 min Scan# 1742
Delta R.T. 0.00 min
Lab File: 7M50755.D
Acq: 4 Apr 2011 2:45 pm

Tgt Ion:202 Resp: 1956968

Ion	Ratio	Lower	Upper
202	100		
203	19.8	11.0	25.8

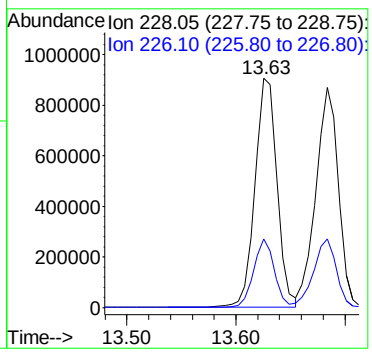


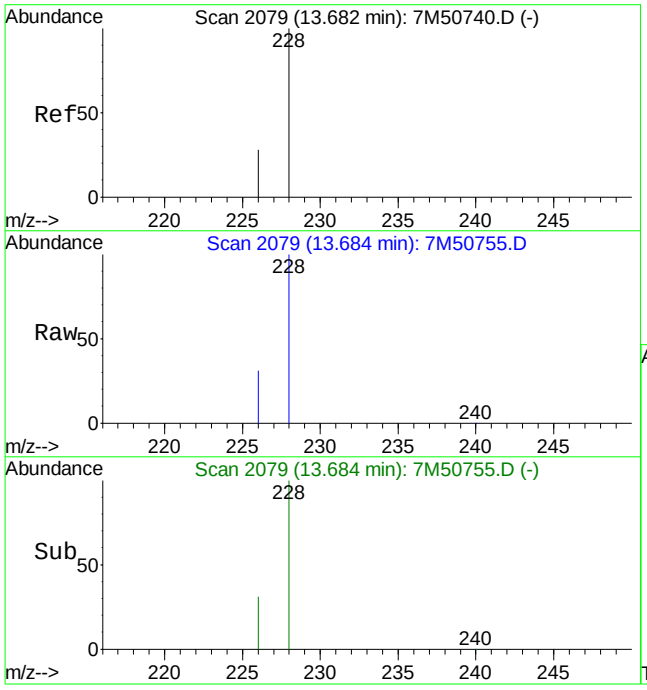


#18
Benzo[a]anthracene
Concen: 6.56 ug/ml
RT: 13.63 min Scan# 2069
Delta R.T. -0.00 min
Lab File: 7M50755.D
Acq: 4 Apr 2011 2:45 pm

Tgt Ion:228 Resp: 1271438

Ion	Ratio	Lower	Upper
228	100		
226	27.9	16.0	37.2

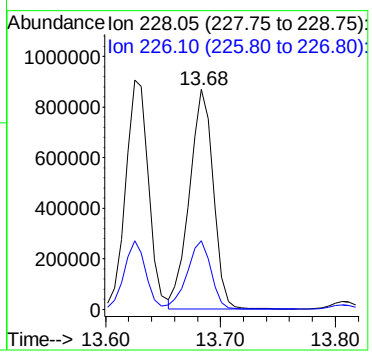


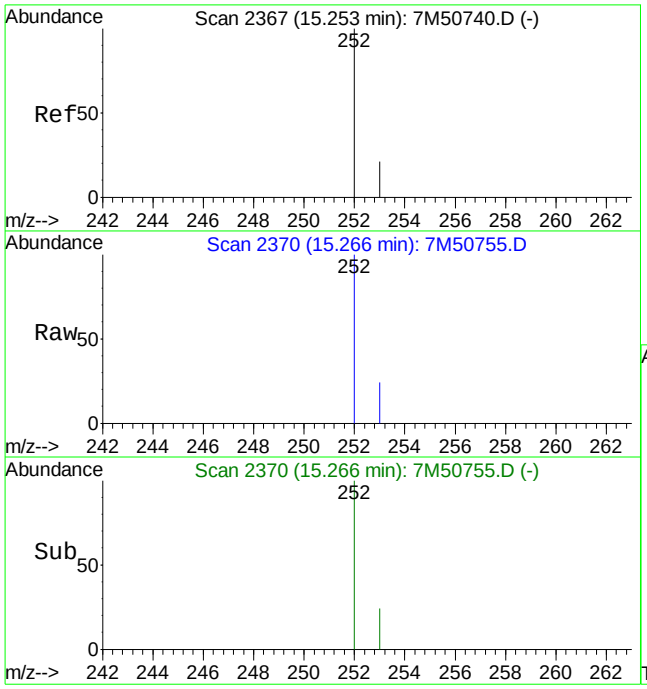


#19
Chrysene
Concen: 7.13 ug/ml
RT: 13.68 min Scan# 2079
Delta R.T. -0.00 min
Lab File: 7M50755.D
Acq: 4 Apr 2011 2:45 pm

Tgt Ion:228 Resp: 1248379

Ion	Ratio	Lower	Upper
228	100		
226	31.5	17.6	41.2

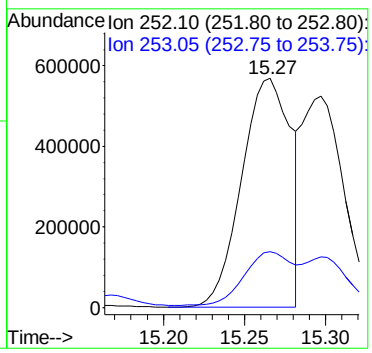


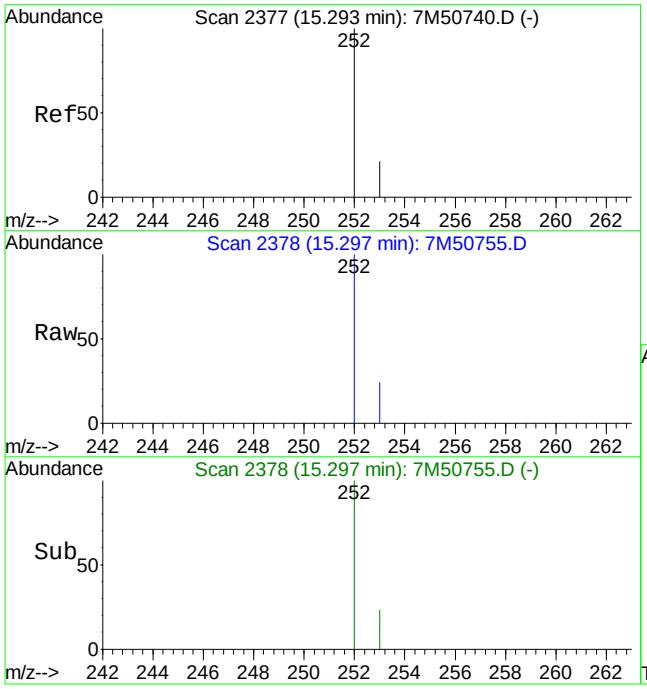


#21
Benzo[b]fluoranthene
Concen: 6.05 ug/ml
RT: 15.27 min Scan# 2370
Delta R.T. 0.00 min
Lab File: 7M50755.D
Acq: 4 Apr 2011 2:45 pm

Tgt Ion:252 Resp: 1195170

Ion	Ratio	Lower	Upper
252	100		
253	22.3	13.5	31.5

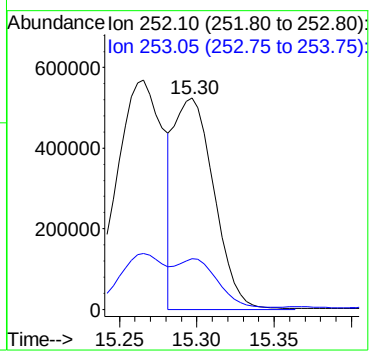


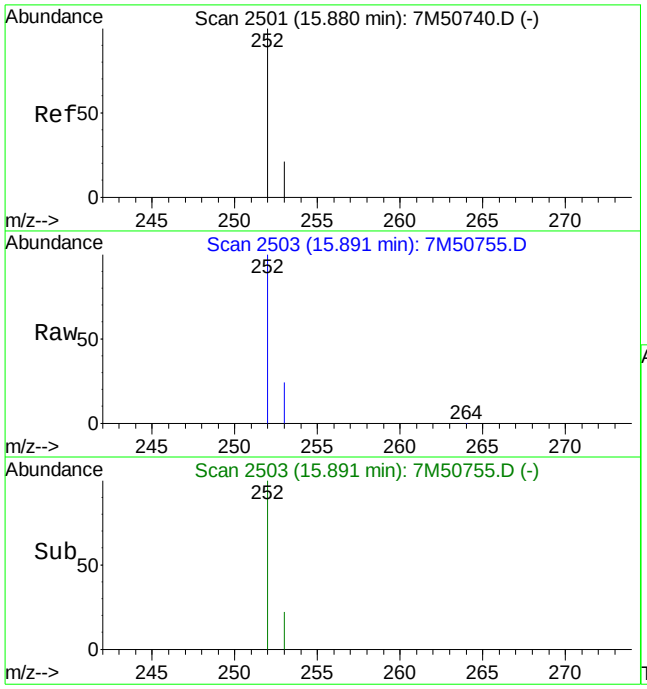


#22
Benzo[k]fluoranthene
Concen: 5.47 ug/ml m
RT: 15.30 min Scan# 2378
Delta R.T. -0.01 min
Lab File: 7M50755.D
Acq: 4 Apr 2011 2:45 pm

Tgt Ion:252 Resp: 937614

Ion	Ratio	Lower	Upper
252	100		
253	28.4	13.3	31.1

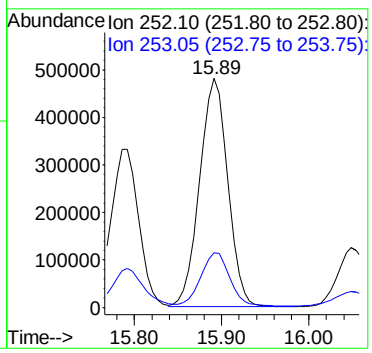


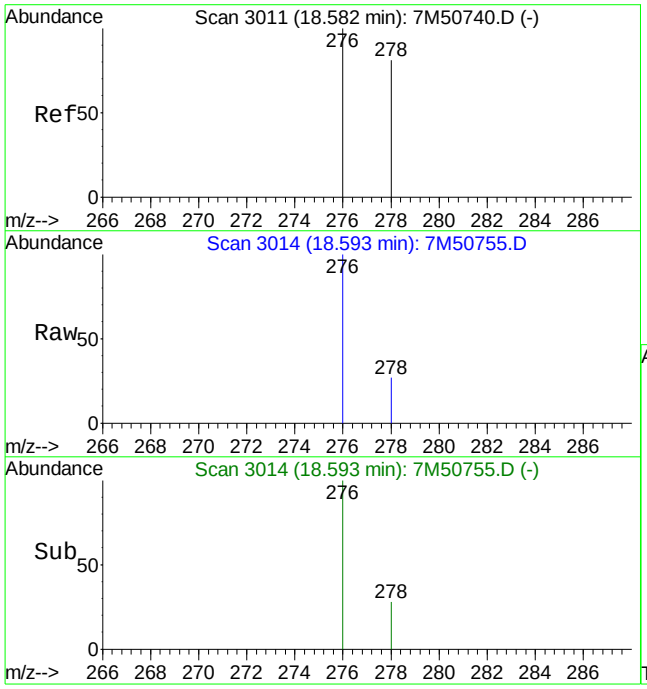


#23
Benzo[a]pyrene
Concen: 5.88 ug/ml
RT: 15.89 min Scan# 2503
Delta R.T. -0.01 min
Lab File: 7M50755.D
Acq: 4 Apr 2011 2:45 pm

Tgt Ion:252 Resp: 1077272

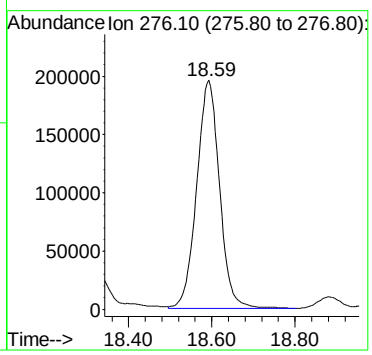
Ion	Ratio	Lower	Upper
252	100		
253	23.7	13.0	30.4

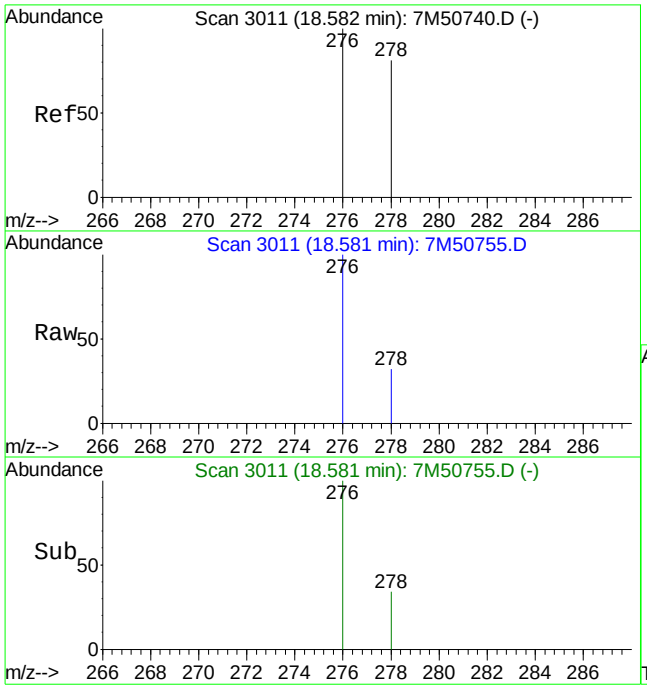




#24
Indeno[1,2,3-cd]pyrene
Concen: 3.48 ug/ml
RT: 18.59 min Scan# 3014
Delta R.T. -0.00 min
Lab File: 7M50755.D
Acq: 4 Apr 2011 2:45 pm

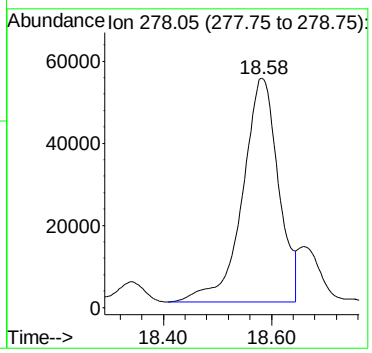
Tgt Ion:276 Resp: 743543

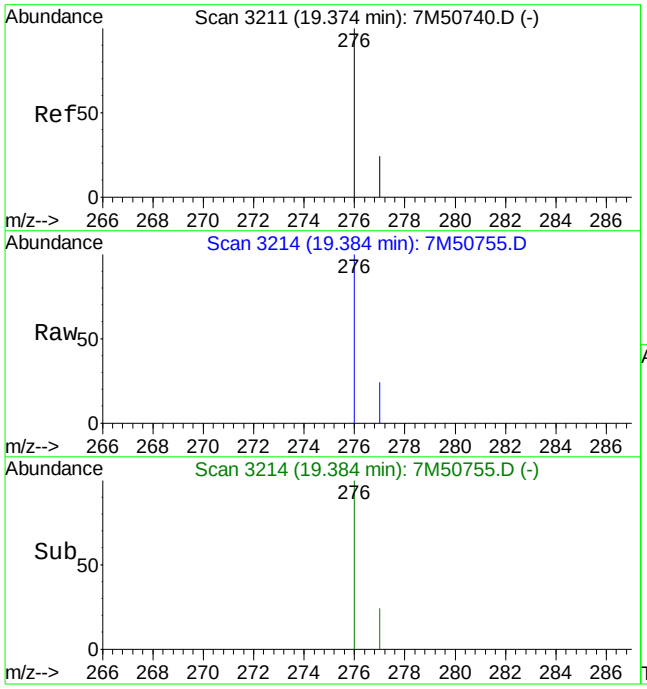




#25
Dibenz[ah]anthracene
Concen: 1.44 ug/ml
RT: 18.58 min Scan# 3011
Delta R.T. -0.02 min
Lab File: 7M50755.D
Acq: 4 Apr 2011 2:45 pm

Tgt Ion:278 Resp: 251711

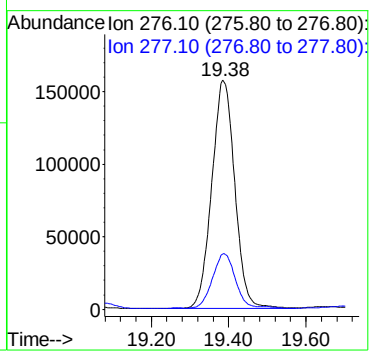




#26
Benzo[ghi]perylene
Concen: 3.61 ug/ml
RT: 19.38 min Scan# 3214
Delta R.T. -0.01 min
Lab File: 7M50755.D
Acq: 4 Apr 2011 2:45 pm

Tgt Ion:276 Resp: 649595

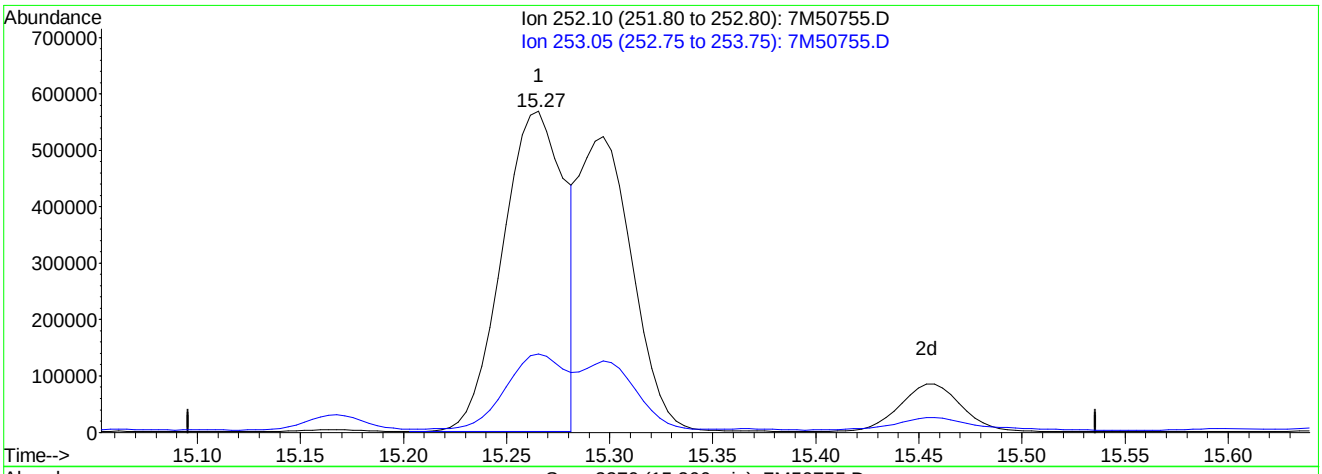
Ion	Ratio	Lower	Upper
276	100		
277	23.4	14.2	33.2

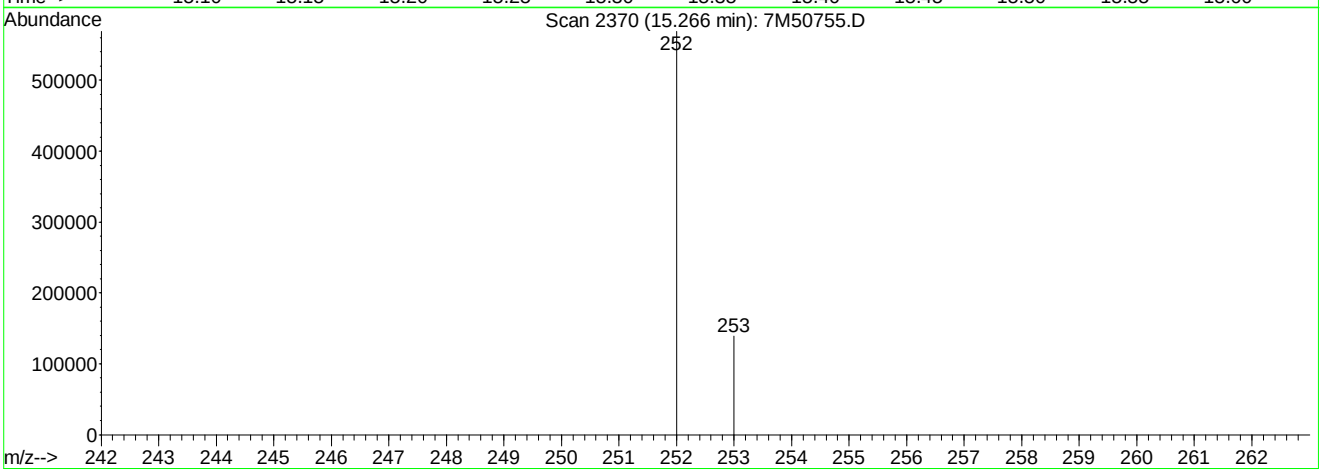


Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\040411\7M50755.D Vial: 17
Acq On : 4 Apr 2011 2:45 pm Operator: CAA
Sample : L11030664-04 5X Inst : HPMS7
Misc : 7,5 SOIL Multiplr: 5.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 7:19 2011 Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Tue Apr 05 07:19:03 2011
Response via : Multiple Level Calibration





TIC: 7M50755.D

(22) Benzo[k]fluoranthene

15.27min 6.97ug/ml

response 1195170

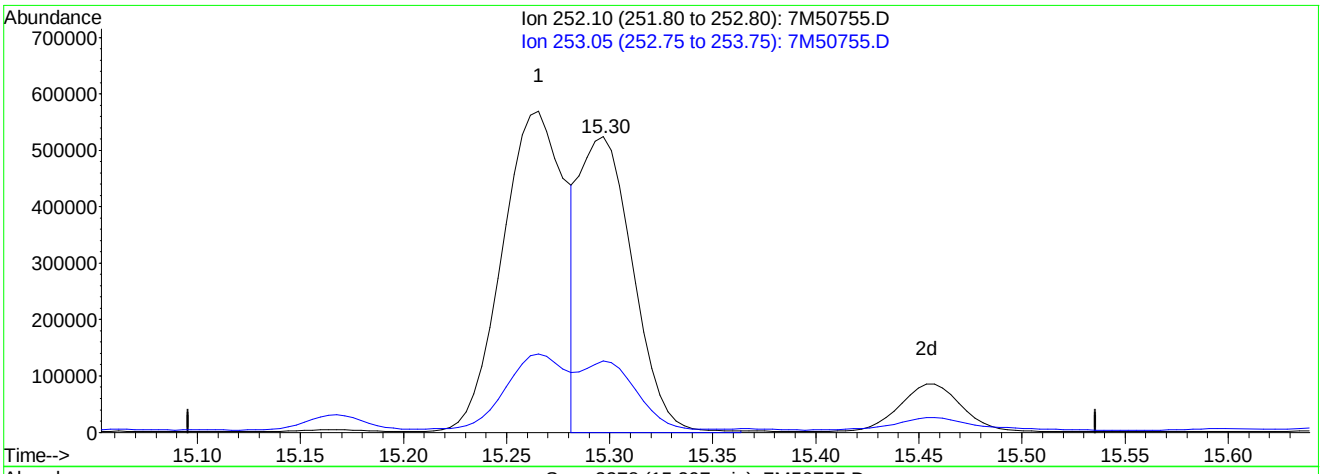
Ion	Exp%	Act%
252.10	100	100
253.05	22.20	22.32
0.00	0.00	0.00
0.00	0.00	0.00

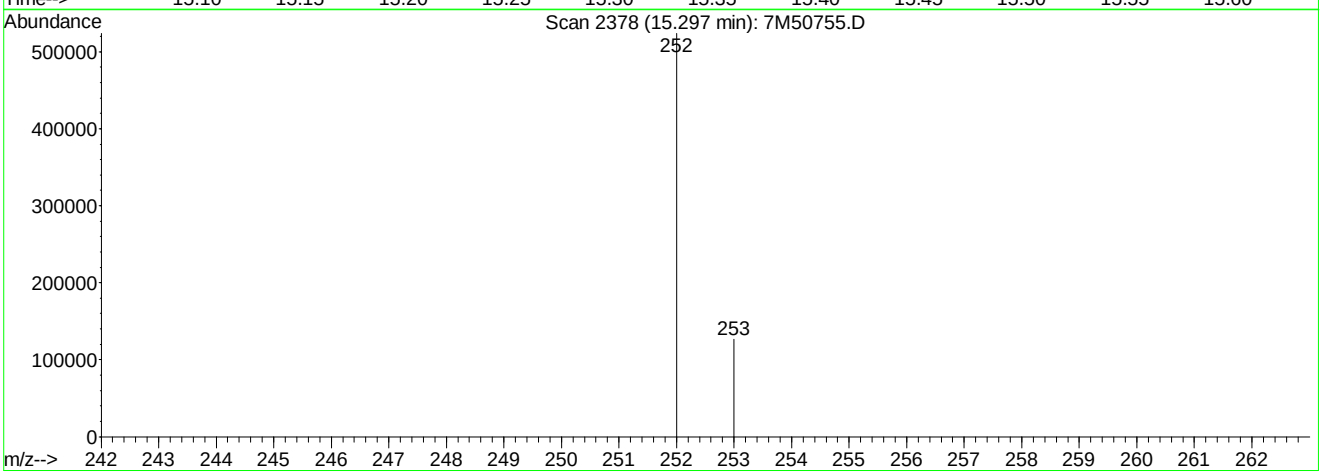
7M50755.D SIMPAHL.M Tue Apr 05 07:24:19 2011

Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\040411\7M50755.D Vial: 17
Acq On : 4 Apr 2011 2:45 pm Operator: CAA
Sample : L11030664-04 5X Inst : HPMS7
Misc : 7,5 SOIL Multiplr: 5.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 7:24 2011 Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Tue Apr 05 07:19:03 2011
Response via : Multiple Level Calibration





TIC: 7M50755.D

(22) Benzo[k]fluoranthene

15.30min 5.47ug/ml mint

response 937614

Ion	Exp%	Act%
252.10	100	100
253.05	22.20	28.45
0.00	0.00	0.00
0.00	0.00	0.00

7M50755.D SIMPAHL.M Tue Apr 05 07:24:23 2011

Analyst: 04/05/2011 08:34 Supervisor: 04/05/2011 09:17

#3 - Improperly integrated isomers and/or coeluting compounds

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\1\DATA\040511\7M50765.D Vial: 9
Acq On : 5 Apr 2011 11:38 am Operator: CAA
Sample : L11030664-04 50X Inst : HPMS7
Misc : 7,50 SOIL Multiplr: 50.00
MS Integration Params: RTEINT.P
Quant Time: Apr 06 07:02:40 2011 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Wed Apr 06 07:02:26 2011
Response via : Initial Calibration
DataAcq Meth : PAHLSIM

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	6.21	136	141722	1.00 ug/ml	0.00
6) Acenaphthene-d10	8.41	164	93188	1.00 ug/ml	0.00
11) Phenanthrene-d10	10.28	188	159063	1.00 ug/ml	0.00
15) Chrysene-d12	13.65	240	164684	1.00 ug/ml	-0.01
20) Perylene-d12	15.99	264	155303	1.00 ug/ml	-0.02

System Monitoring Compounds					
2) Nitrobenzene-d5	5.36	82	1549	1.2046 ug/ml	0.00
Spiked Amount 2.500	Range 23 - 120		Recovery = 48.00%		
7) 2-Fluorobiphenyl	7.52	172	3756	1.6469 ug/ml	0.00
Spiked Amount 2.500	Range 30 - 115		Recovery = 66.00%		
17) p-Terphenyl-d14	12.26	244	6123	2.5408 ug/ml	0.00
Spiked Amount 2.500	Range 18 - 137		Recovery = 101.60%		

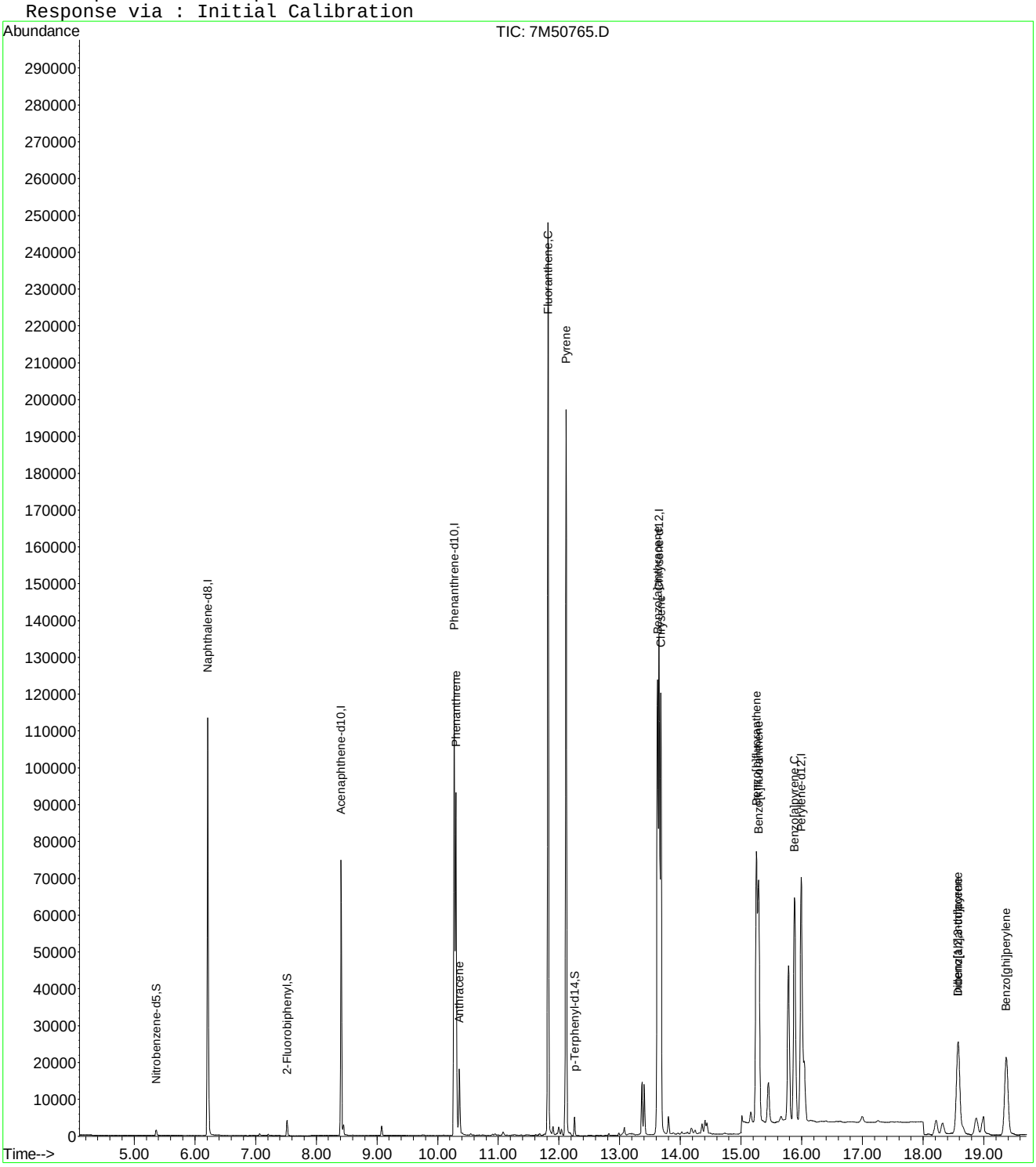
Target Compounds					Qvalue
12) Phenanthrene	10.30	178	96888	0.5619 ug/ml	100
13) Anthracene	10.36	178	18061	0.1172 ug/ml	97
14) Fluoranthene	11.82	202	257345	1.2987 ug/ml	100
16) Pyrene	12.12	202	224721	1.0074 ug/ml	100
18) Benzo[a]anthracene	13.62	228	131058	0.6724 ug/ml	99
19) Chrysene	13.68	228	134232	0.7623 ug/ml	99
21) Benzo[b]fluoranthene	15.25	252	119908	0.6234 ug/ml	98
22) Benzo[k]fluoranthene	15.29	252	109343m	0.6550 ug/ml	
23) Benzo[a]pyrene	15.88	252	112602	0.6307 ug/ml	97
24) Indeno[1,2,3-cd]pyrene	18.58	276	77416	0.3725 ug/ml	100
25) Dibenz[ah]anthracene	18.57	278	25252	0.1487 ug/ml	100
26) Benzo[ghi]perylene	19.37	276	70022	0.3991 ug/ml	100

(#) = qualifier out of range (m) = manual integration

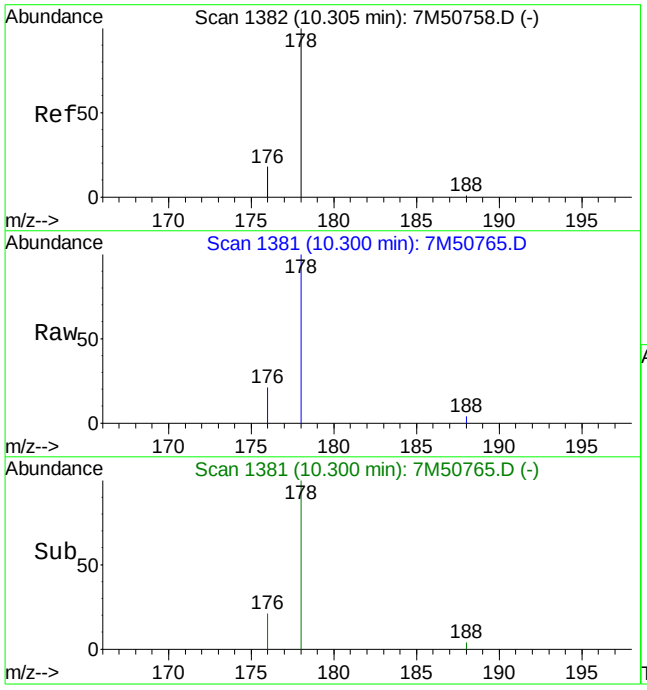
Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\1\DATA\040511\7M50765.D Vial: 9
Acq On : 5 Apr 2011 11:38 am Operator: CAA
Sample : L11030664-04 50X Inst : HPMS7
Misc : 7,50 SOIL Multiplr: 50.00
MS Integration Params: RTEINT.P
Quant Time: Apr 6 7:04 2011 Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Wed Apr 06 07:02:26 2011
Response via : Initial Calibration



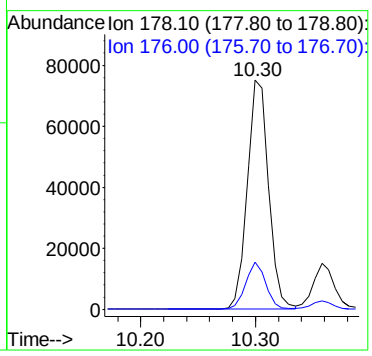
7M50765.D SIMPAHL.M Wed Apr 06 07:07:08 2011 Page 2

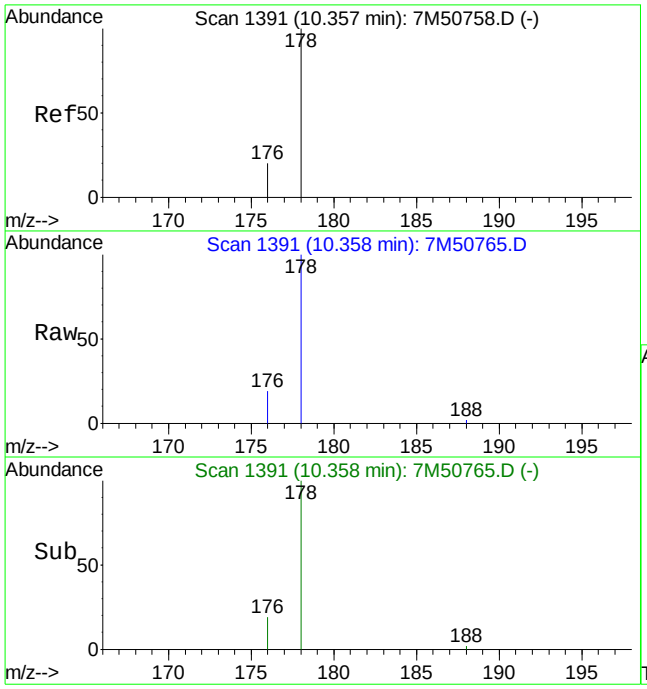


#12
Phenanthrene
Concen: 0.56 ug/ml
RT: 10.30 min Scan# 1381
Delta R.T. -0.01 min
Lab File: 7M50765.D
Acq: 5 Apr 2011 11:38 am

Tgt Ion:178 Resp: 96888

Ion	Ratio	Lower	Upper
178	100		
176	19.4	11.5	26.9

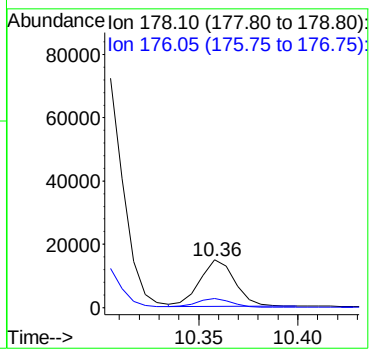


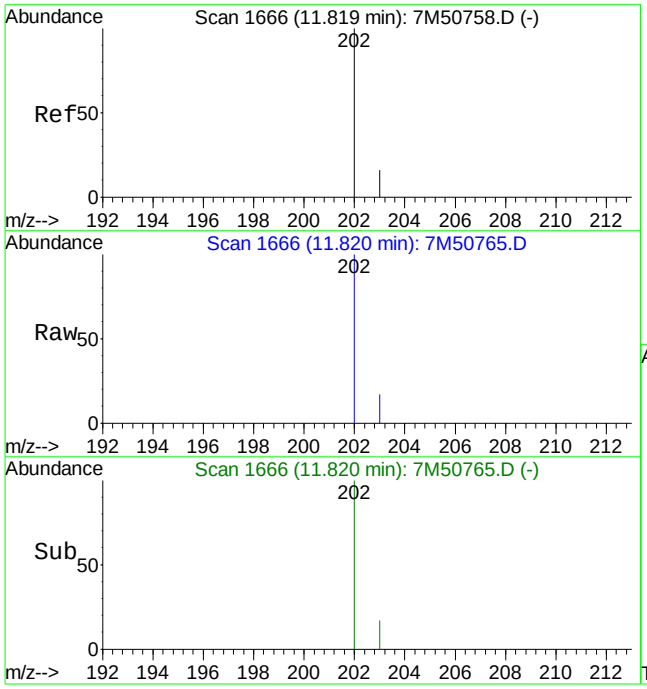


#13
Anthracene
Concen: 0.12 ug/ml
RT: 10.36 min Scan# 1391
Delta R.T. -0.01 min
Lab File: 7M50765.D
Acq: 5 Apr 2011 11:38 am

Tgt Ion:178 Resp: 18061

Ion	Ratio	Lower	Upper
178	100		
176	19.9	11.0	25.8

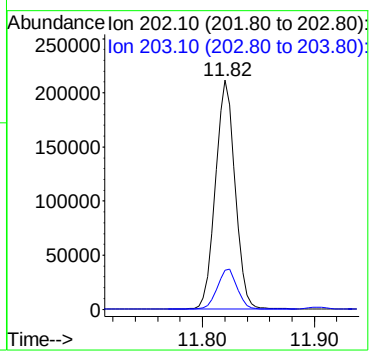


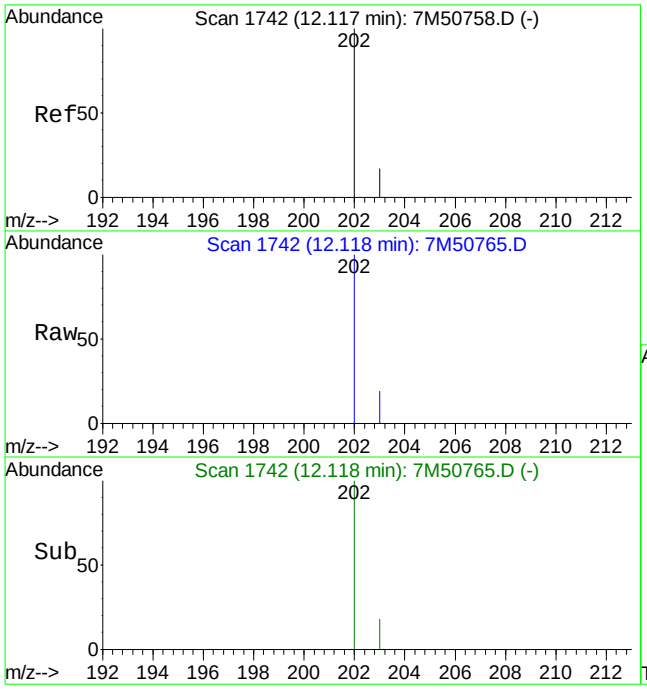


#14
Fluoranthene
Concen: 1.30 ug/ml
RT: 11.82 min Scan# 1666
Delta R.T. -0.01 min
Lab File: 7M50765.D
Acq: 5 Apr 2011 11:38 am

Tgt Ion:202 Resp: 257345

Ion	Ratio	Lower	Upper
202	100		
203	17.7	10.6	24.6

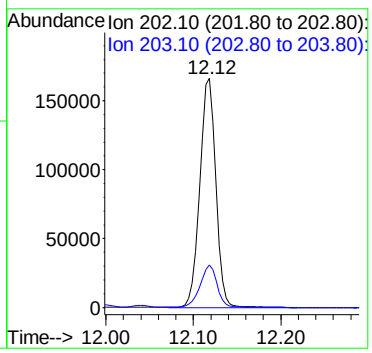


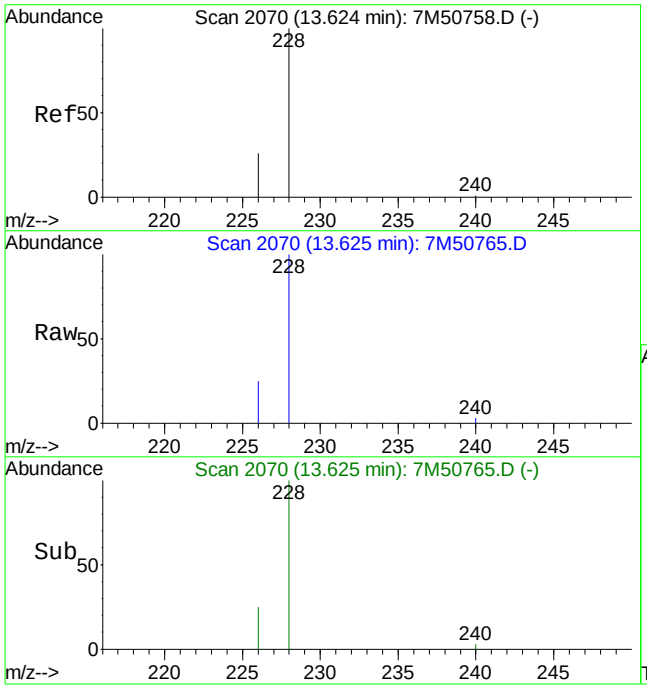


#16
Pyrene
Concen: 1.01 ug/ml
RT: 12.12 min Scan# 1742
Delta R.T. -0.00 min
Lab File: 7M50765.D
Acq: 5 Apr 2011 11:38 am

Tgt Ion:202 Resp: 224721

Ion	Ratio	Lower	Upper
202	100		
203	18.3	11.0	25.8

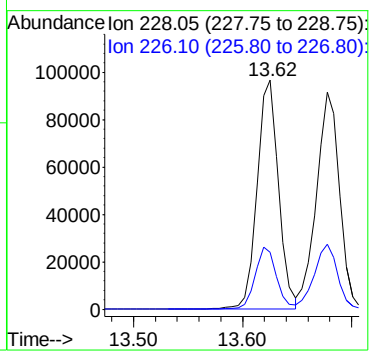


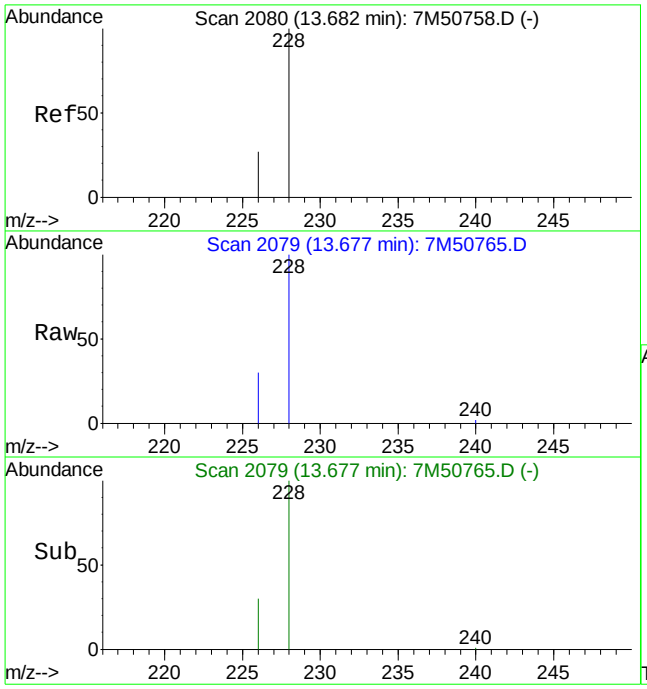


#18
Benzo[a]anthracene
Concen: 0.67 ug/ml
RT: 13.62 min Scan# 2070
Delta R.T. -0.00 min
Lab File: 7M50765.D
Acq: 5 Apr 2011 11:38 am

Tgt Ion:228 Resp: 131058

Ion	Ratio	Lower	Upper
228	100		
226	27.1	16.0	37.2

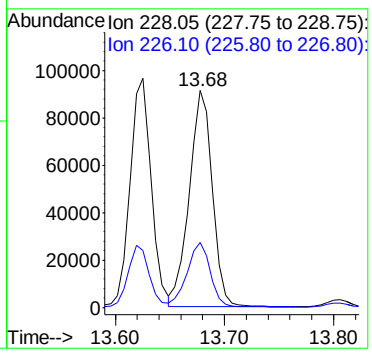


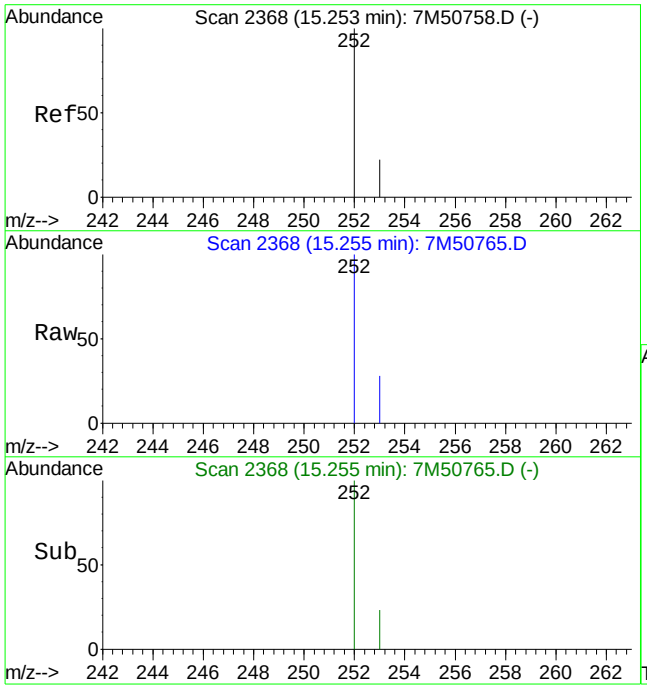


#19
Chrysene
Concen: 0.76 ug/ml
RT: 13.68 min Scan# 2079
Delta R.T. -0.01 min
Lab File: 7M50765.D
Acq: 5 Apr 2011 11:38 am

Tgt Ion:228 Resp: 134232

Ion	Ratio	Lower	Upper
228	100		
226	29.9	17.6	41.2

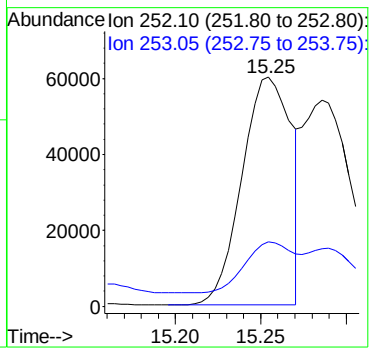


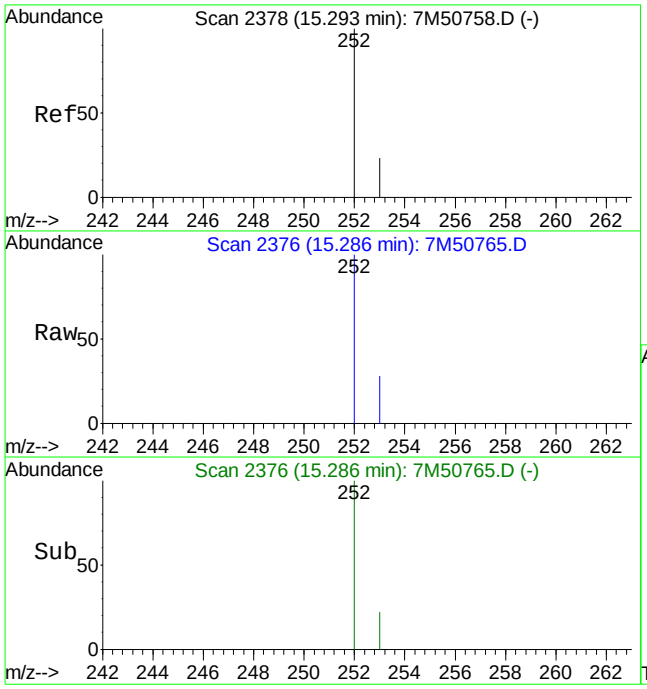


#21
Benzo[b]fluoranthene
Concen: 0.62 ug/ml
RT: 15.25 min Scan# 2368
Delta R.T. -0.01 min
Lab File: 7M50765.D
Acq: 5 Apr 2011 11:38 am

Tgt Ion:252 Resp: 119908

Ion	Ratio	Lower	Upper
252	100		
253	23.3	13.5	31.5

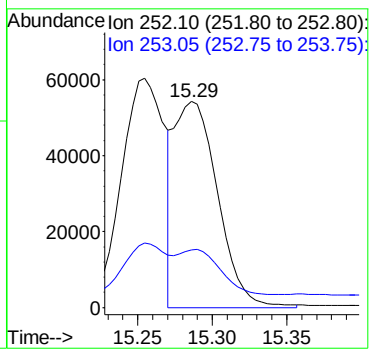


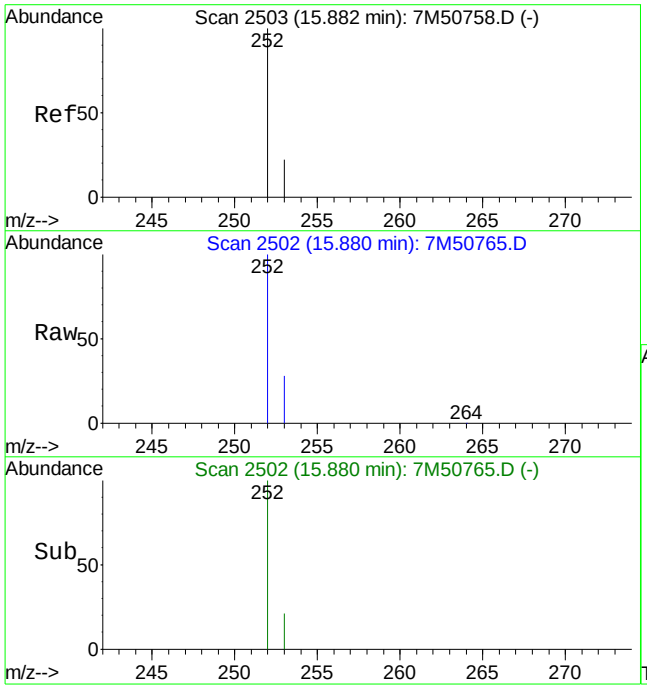


#22
Benzo[k]fluoranthene
Concen: 0.65 ug/ml m
RT: 15.29 min Scan# 2376
Delta R.T. -0.02 min
Lab File: 7M50765.D
Acq: 5 Apr 2011 11:38 am

Tgt Ion:252 Resp: 109343

Ion	Ratio	Lower	Upper
252	100		
253	25.5	13.3	31.1

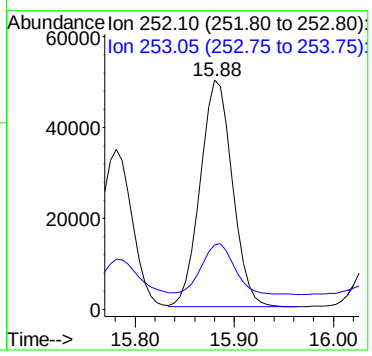


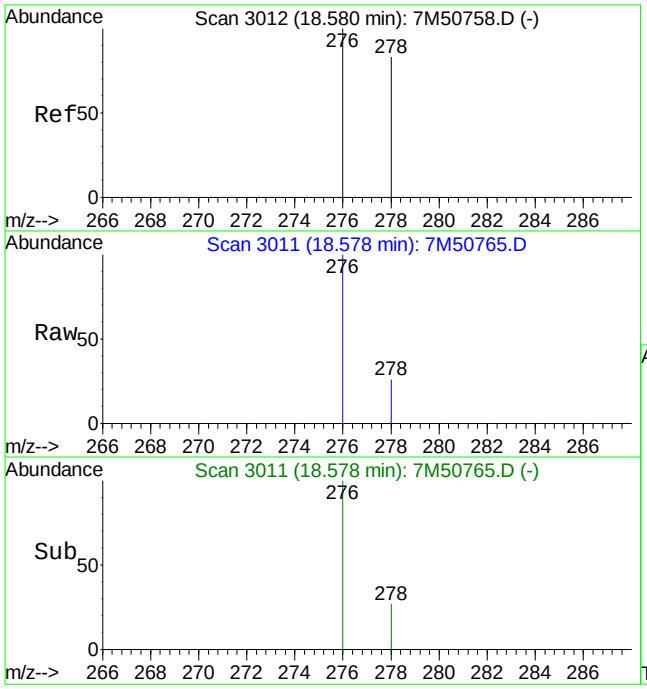


#23
Benzo[a]pyrene
Concen: 0.63 ug/ml
RT: 15.88 min Scan# 2502
Delta R.T. -0.02 min
Lab File: 7M50765.D
Acq: 5 Apr 2011 11:38 am

Tgt Ion:252 Resp: 112602

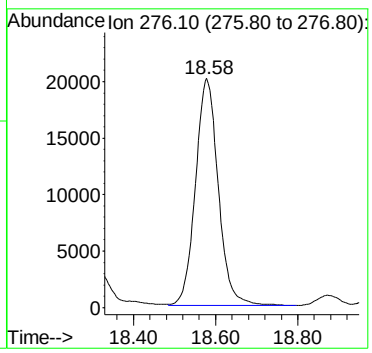
Ion	Ratio	Lower	Upper
252	100		
253	22.9	13.0	30.4

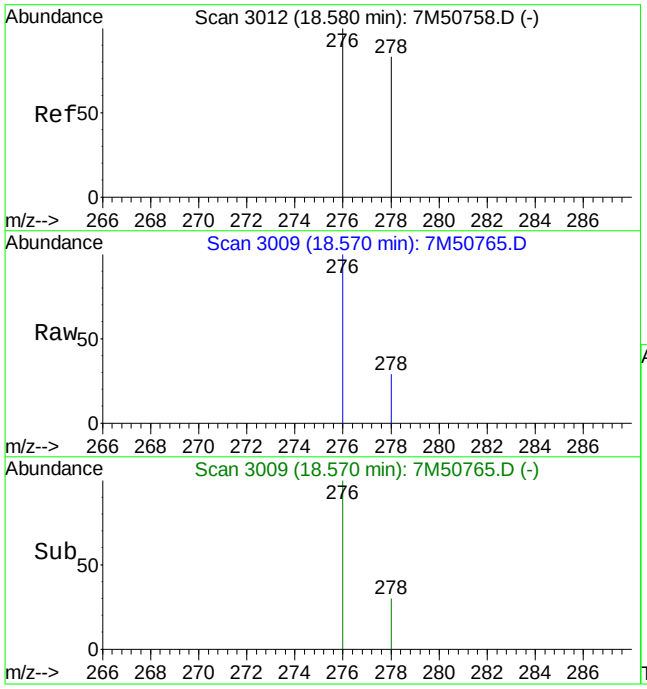




#24
Indeno[1,2,3-cd]pyrene
Concen: 0.37 ug/ml
RT: 18.58 min Scan# 3011
Delta R.T. -0.02 min
Lab File: 7M50765.D
Acq: 5 Apr 2011 11:38 am

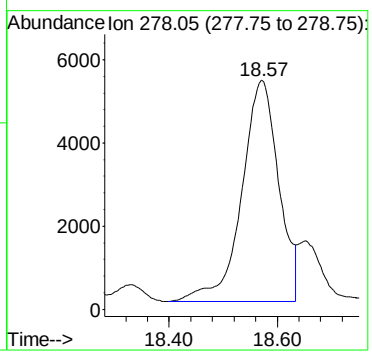
Tgt Ion:276 Resp: 77416

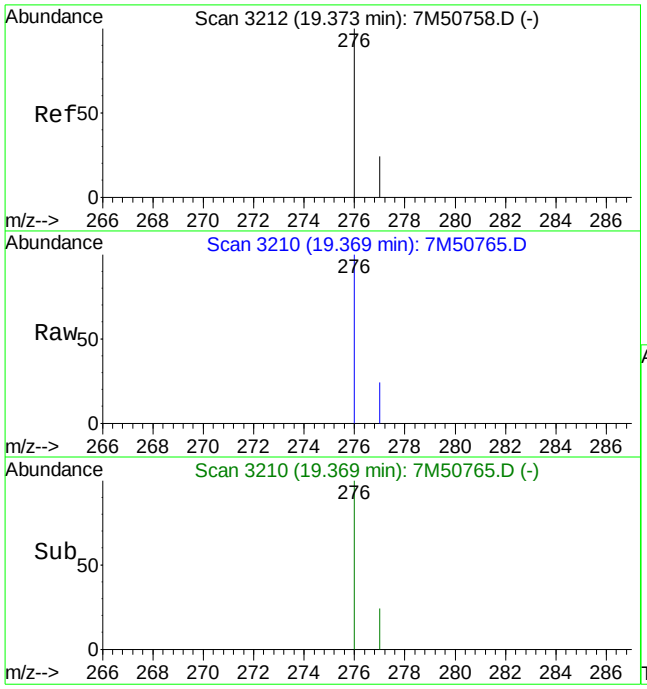




#25
Dibenz[ah]anthracene
Concen: 0.15 ug/ml
RT: 18.57 min Scan# 3009
Delta R.T. -0.03 min
Lab File: 7M50765.D
Acq: 5 Apr 2011 11:38 am

Tgt Ion:278 Resp: 25252

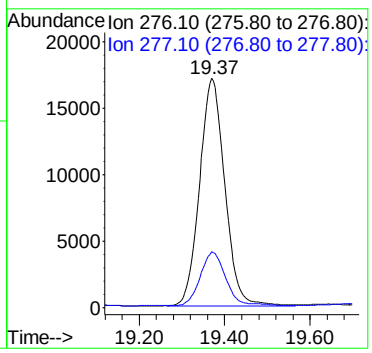




#26
Benzo[ghi]perylene
Concen: 0.40 ug/ml
RT: 19.37 min Scan# 3210
Delta R.T. -0.02 min
Lab File: 7M50765.D
Acq: 5 Apr 2011 11:38 am

Tgt Ion:276 Resp: 70022

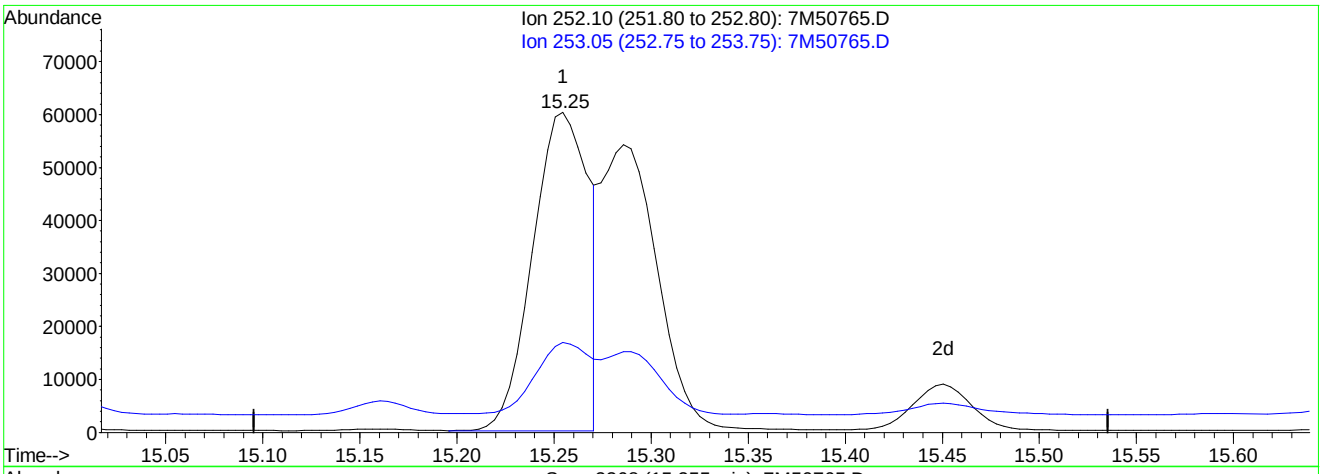
Ion	Ratio	Lower	Upper
276	100		
277	23.8	14.2	33.2

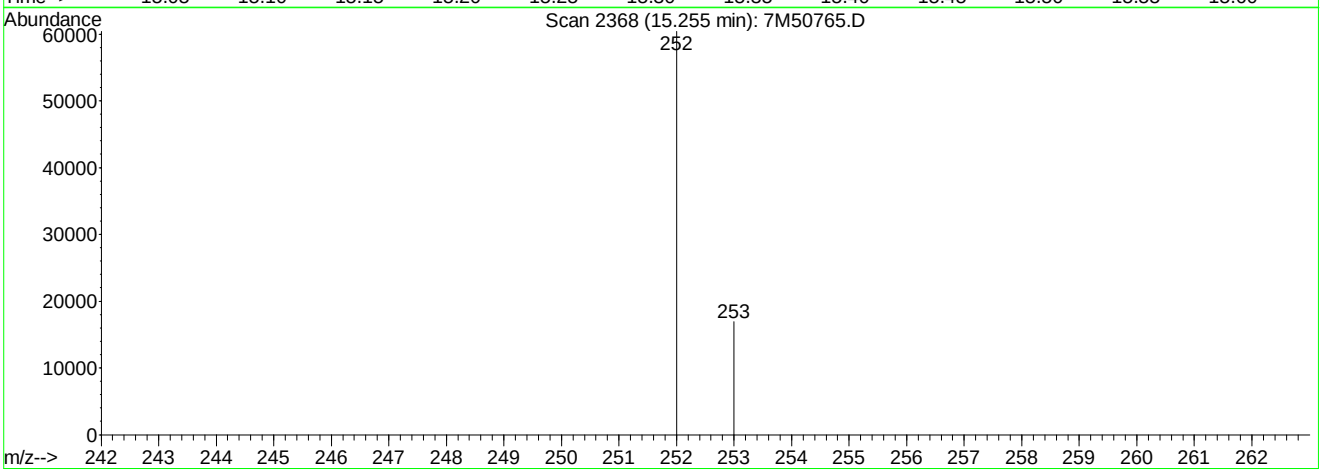


Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\040511\7M50765.D Vial: 9
Acq On : 5 Apr 2011 11:38 am Operator: CAA
Sample : L11030664-04 50X Inst : HPMS7
Misc : 7,50 SOIL Multiplr: 50.00
MS Integration Params: RTEINT.P
Quant Time: Apr 6 7:02 2011 Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Wed Apr 06 07:02:26 2011
Response via : Multiple Level Calibration





TIC: 7M50765.D

(22) Benzo[k]fluoranthene

15.25min 0.72ug/ml

response 119908

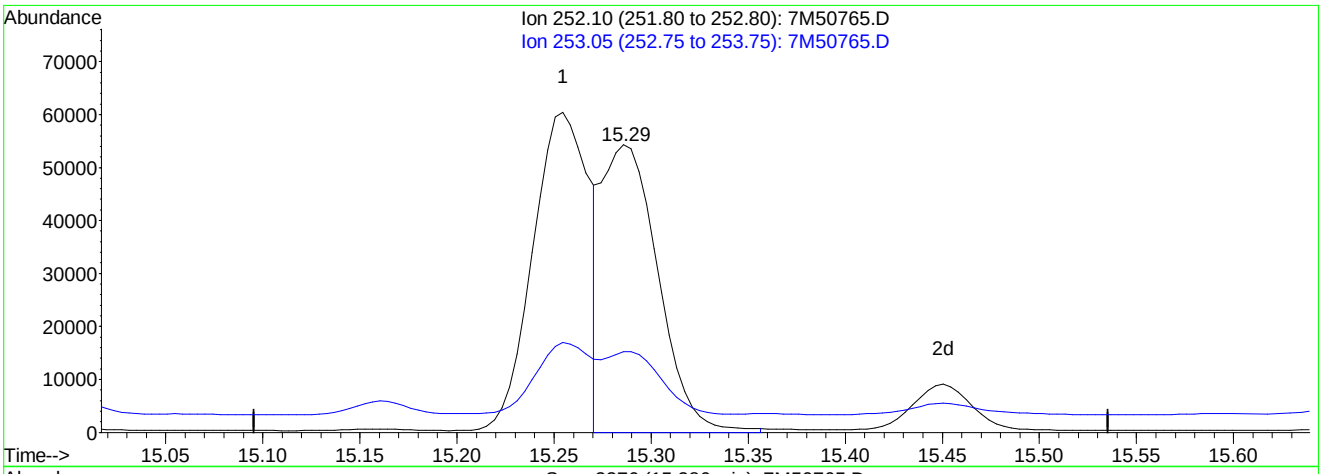
Ion	Exp%	Act%
252.10	100	100
253.05	22.20	23.30
0.00	0.00	0.00
0.00	0.00	0.00

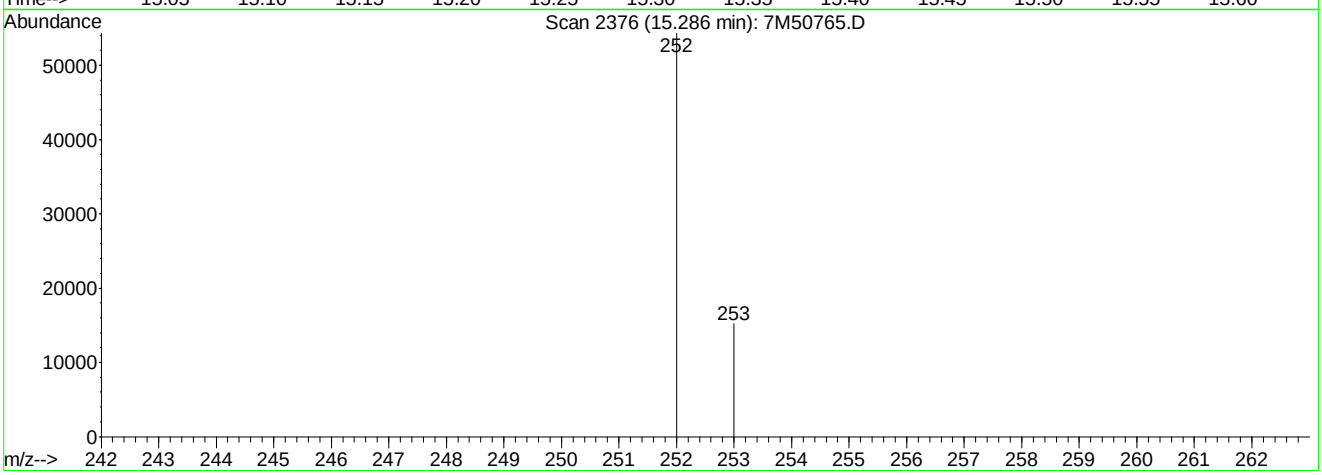
7M50765.D SIMPAHL.M Wed Apr 06 07:04:48 2011

Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\040511\7M50765.D Vial: 9
Acq On : 5 Apr 2011 11:38 am Operator: CAA
Sample : L11030664-04 50X Inst : HPMS7
Misc : 7,50 SOIL Multiplr: 50.00
MS Integration Params: RTEINT.P
Quant Time: Apr 6 7:04 2011 Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Wed Apr 06 07:02:26 2011
Response via : Multiple Level Calibration





TIC: 7M50765.D

(22) Benzo[k]fluoranthene

15.29min 0.65ug/ml mint

response 109343

Ion	Exp%	Act%
252.10	100	100
253.05	22.20	25.55
0.00	0.00	0.00
0.00	0.00	0.00

7M50765.D SIMPAHL.M Wed Apr 06 07:04:53 2011

Analyst: 04/06/2011 07:17 Supervisor: 04/06/2011 15:44

#3 - Improperly integrated isomers and/or coeluting compounds

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\1\DATA\040411\7M50753.D Vial: 15
Acq On : 4 Apr 2011 1:50 pm Operator: CAA
Sample : L11030664-05 5X Inst : HPMS7
Misc : 7,5 SOIL Multiplr: 5.00
MS Integration Params: RTEINT.P
Quant Time: Apr 05 07:19:23 2011 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Tue Apr 05 07:19:03 2011
Response via : Initial Calibration
DataAcq Meth : PAHLSIM

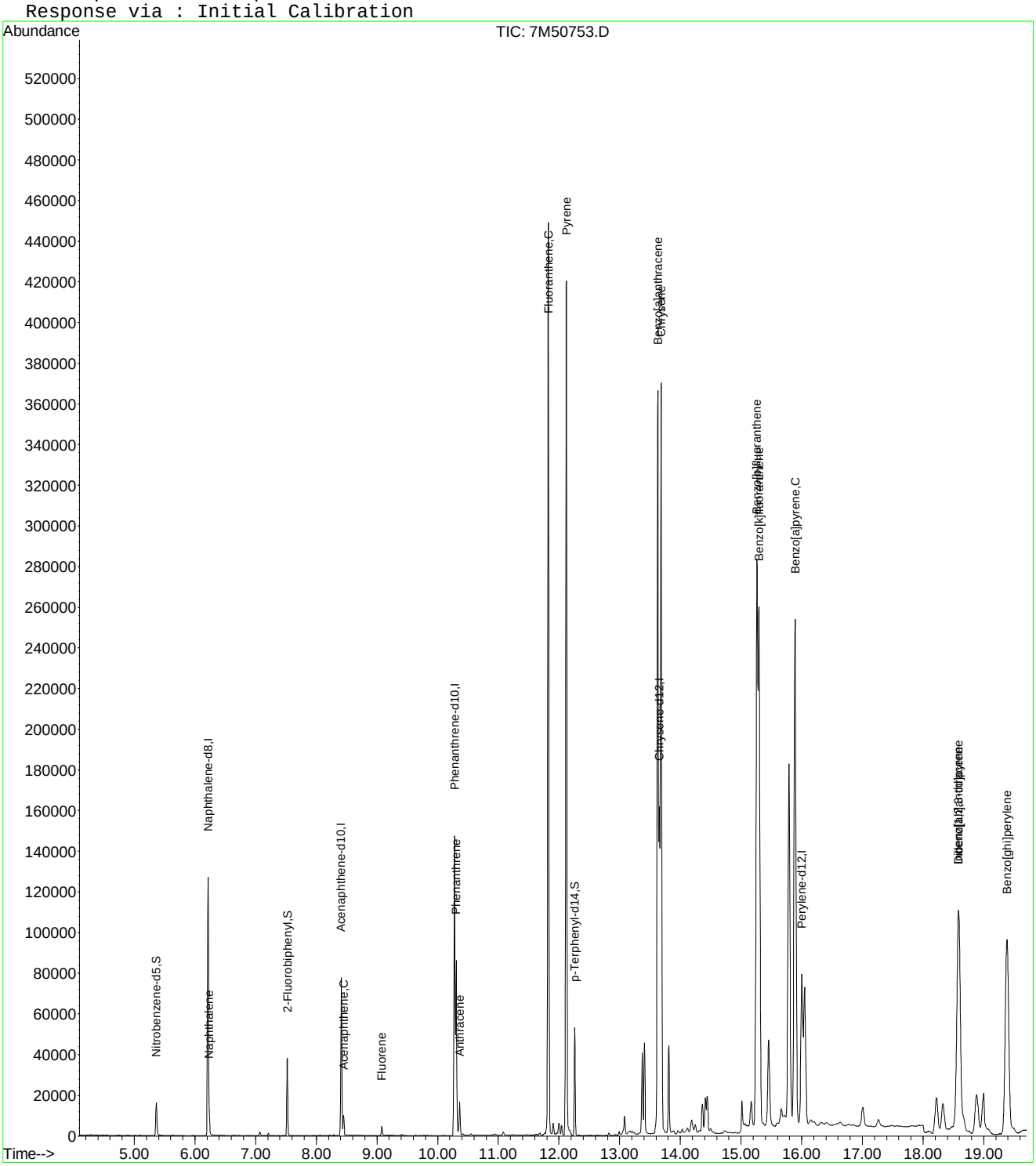
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	6.22	136	153731	1.00 ug/ml	0.00
6) Acenaphthene-d10	8.41	164	102022	1.00 ug/ml	0.00
11) Phenanthrene-d10	10.28	188	174901	1.00 ug/ml	0.00
15) Chrysene-d12	13.65	240	179897	1.00 ug/ml	0.00
20) Perylene-d12	16.00	264	170204	1.00 ug/ml	0.00
System Monitoring Compounds					
2) Nitrobenzene-d5	5.36	82	15449	1.1075 ug/ml	0.00
Spiked Amount 2.500	Range 23 - 120		Recovery	= 44.40%	
7) 2-Fluorobiphenyl	7.52	172	33669	1.3484 ug/ml	0.00
Spiked Amount 2.500	Range 30 - 115		Recovery	= 54.00%	
17) p-Terphenyl-d14	12.26	244	57191	2.1725 ug/ml	0.00
Spiked Amount 2.500	Range 18 - 137		Recovery	= 86.80%	
Target Compounds					Qvalue
3) Naphthalene	6.24	128	6231	0.0396 ug/ml	100
9) Acenaphthene	8.45	154	5744	0.0556 ug/ml	79
10) Fluorene	9.08	166	2829	0.0226 ug/ml	99
12) Phenanthrene	10.31	178	85493	0.4510 ug/ml	99
13) Anthracene	10.36	178	16948	0.1001 ug/ml	100
14) Fluoranthene	11.82	202	473763	2.1743 ug/ml	99
16) Pyrene	12.12	202	494395	2.0289 ug/ml	94
18) Benzo[a]anthracene	13.63	228	396959	1.8645 ug/ml	99
19) Chrysene	13.68	228	419983	2.1833 ug/ml	97
21) Benzo[b]fluoranthene	15.26	252	481949	2.2861 ug/ml	99
22) Benzo[k]fluoranthene	15.30	252	373732m	2.0427 ug/ml	
23) Benzo[a]pyrene	15.89	252	455773	2.3293 ug/ml	96
24) Indeno[1,2,3-cd]pyrene	18.59	276	328881	1.4439 ug/ml	100
25) Dibenz[ah]anthracene	18.57	278	117422	0.6311 ug/ml	100
26) Benzo[ghi]perylene	19.38	276	320211	1.6652 ug/ml	99

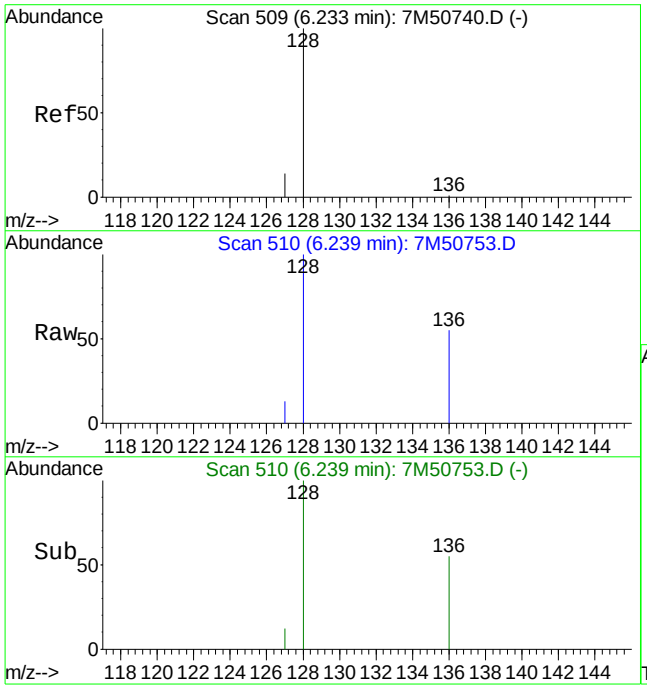
(#) = qualifier out of range (m) = manual integration
7M50753.D SIMPAHL.M Tue Apr 05 07:30:20 2011 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\1\DATA\040411\7M50753.D Vial: 15
Acq On : 4 Apr 2011 1:50 pm Operator: CAA
Sample : L11030664-05 5X Inst : HPMS7
Misc : 7,5 SOIL Multiplr: 5.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 7:23 2011 Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Tue Apr 05 07:19:03 2011
Response via : Initial Calibration

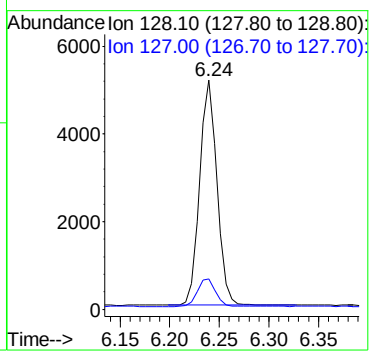


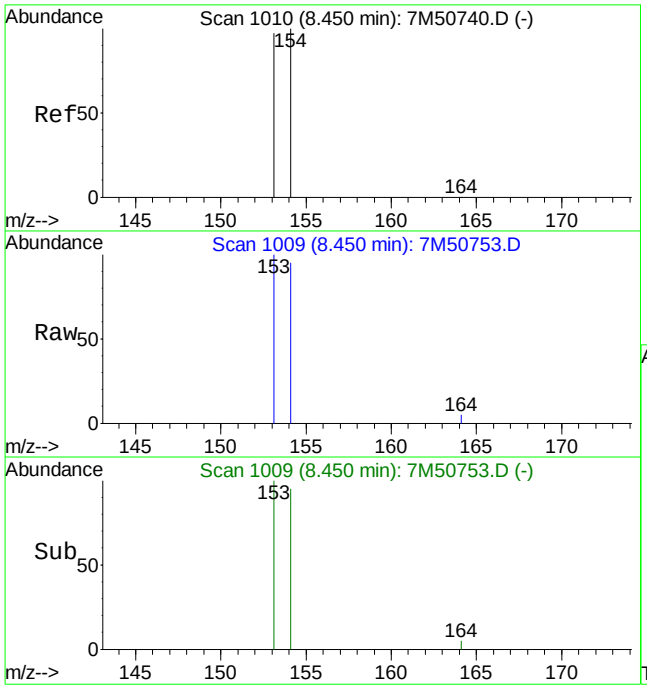


#3
Naphthalene
Concen: 0.04 ug/ml
RT: 6.24 min Scan# 510
Delta R.T. -0.00 min
Lab File: 7M50753.D
Acq: 4 Apr 2011 1:50 pm

Tgt Ion:128 Resp: 6231

Ion	Ratio	Lower	Upper
128	100		
127	12.9	7.8	18.2

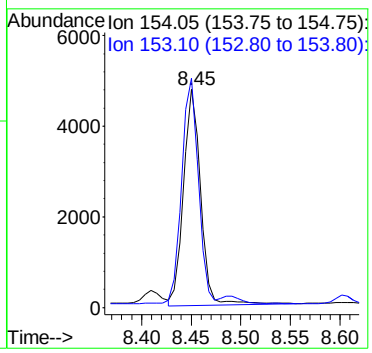


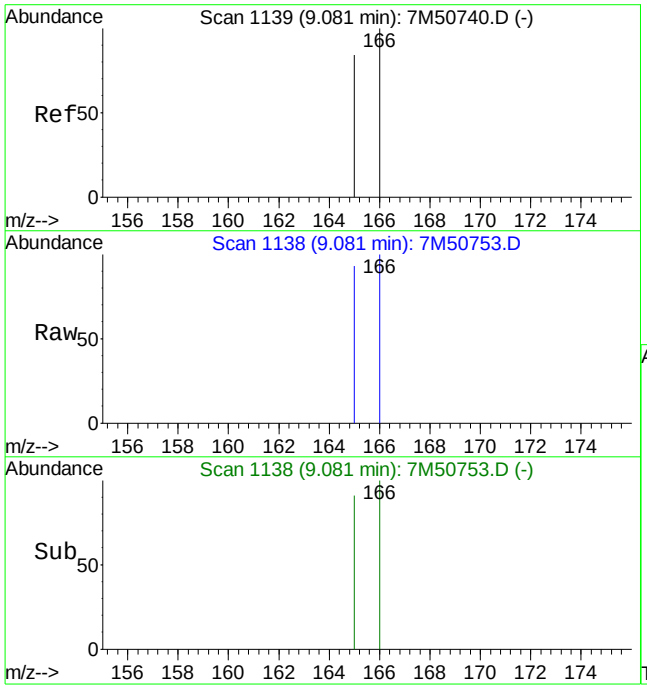


#9
Acenaphthene
Concen: 0.06 ug/ml
RT: 8.45 min Scan# 1009
Delta R.T. 0.00 min
Lab File: 7M50753.D
Acq: 4 Apr 2011 1:50 pm

Tgt Ion:154 Resp: 5744

Ion	Ratio	Lower	Upper
154	100		
153	121.3	60.1	140.1

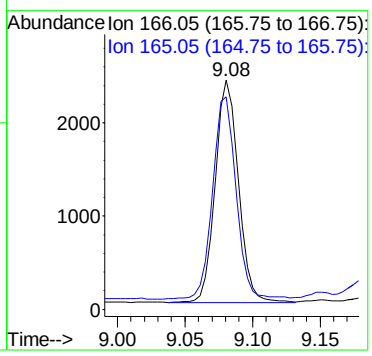


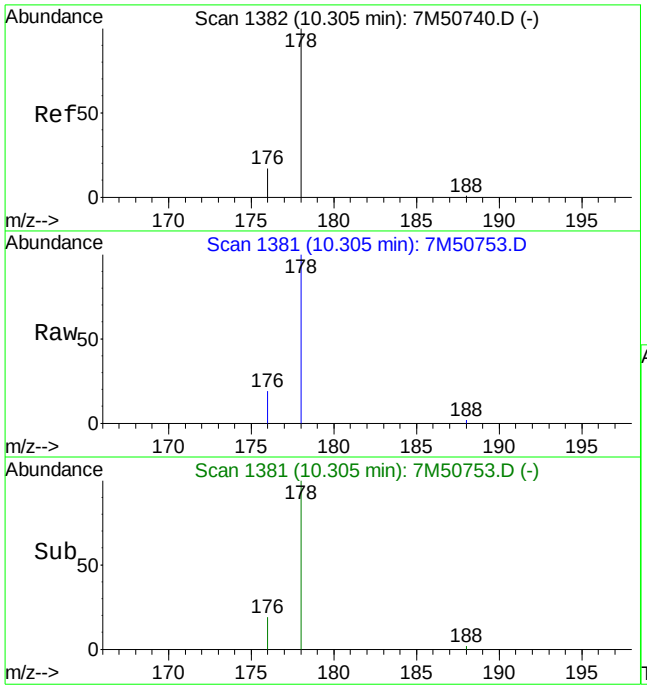


#10
Fluorene
Concen: 0.02 ug/ml
RT: 9.08 min Scan# 1138
Delta R.T. -0.00 min
Lab File: 7M50753.D
Acq: 4 Apr 2011 1:50 pm

Tgt Ion:166 Resp: 2829

Ion	Ratio	Lower	Upper
166	100		
165	92.0	56.0	130.6

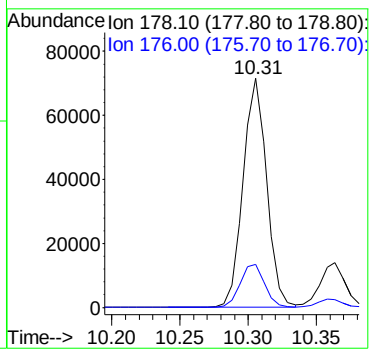


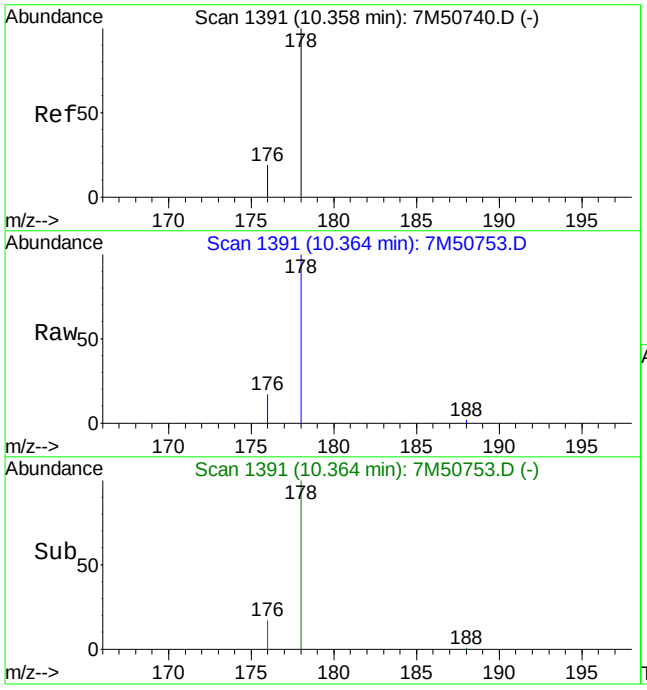


#12
Phenanthrene
Concen: 0.45 ug/ml
RT: 10.31 min Scan# 1381
Delta R.T. 0.00 min
Lab File: 7M50753.D
Acq: 4 Apr 2011 1:50 pm

Tgt Ion:178 Resp: 85493

Ion	Ratio	Lower	Upper
178	100		
176	19.4	11.5	26.9

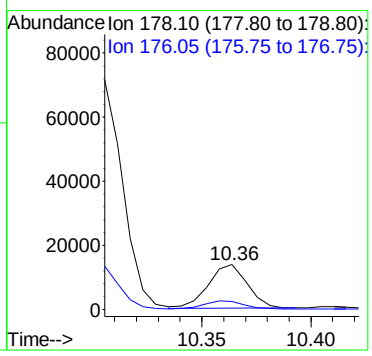


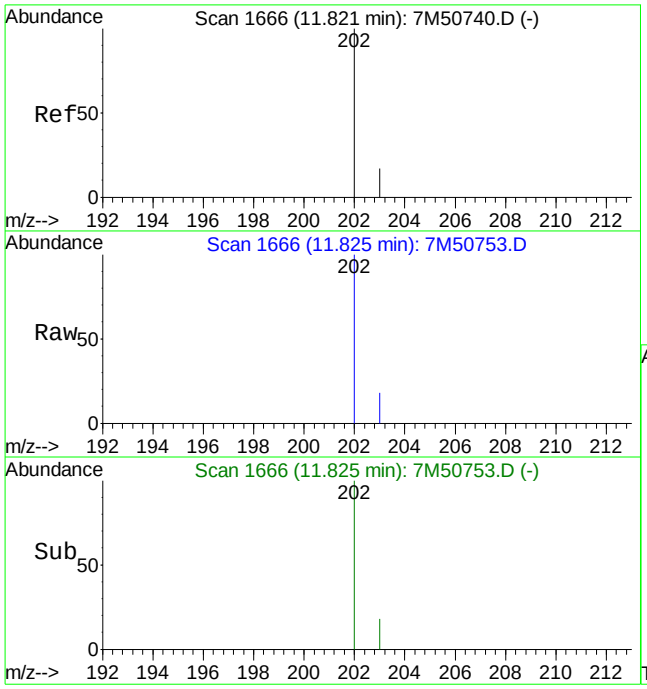


#13
Anthracene
Concen: 0.10 ug/ml
RT: 10.36 min Scan# 1391
Delta R.T. 0.00 min
Lab File: 7M50753.D
Acq: 4 Apr 2011 1:50 pm

Tgt Ion:178 Resp: 16948

Ion	Ratio	Lower	Upper
178	100		
176	18.4	11.0	25.8

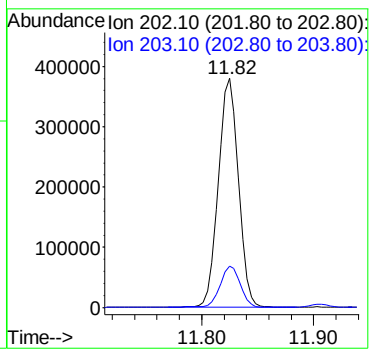


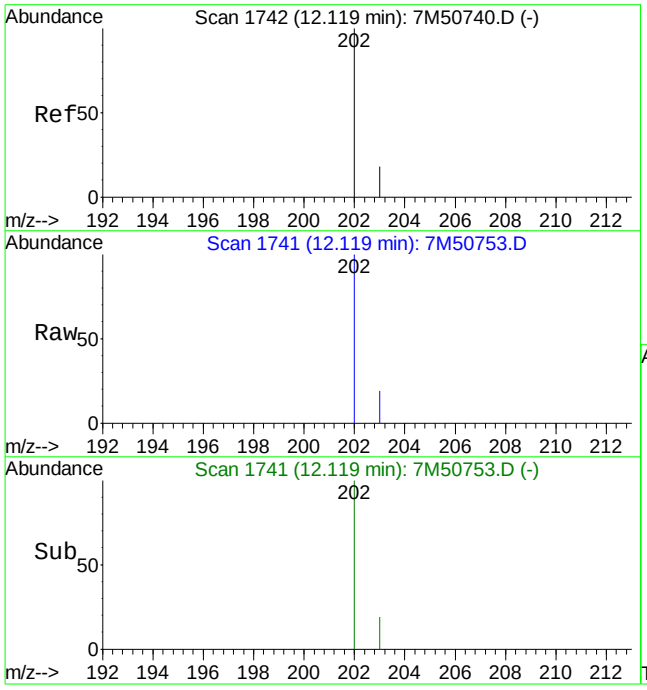


#14
Fluoranthene
Concen: 2.17 ug/ml
RT: 11.82 min Scan# 1666
Delta R.T. -0.00 min
Lab File: 7M50753.D
Acq: 4 Apr 2011 1:50 pm

Tgt Ion:202 Resp: 473763

Ion	Ratio	Lower	Upper
202	100		
203	18.2	10.6	24.6

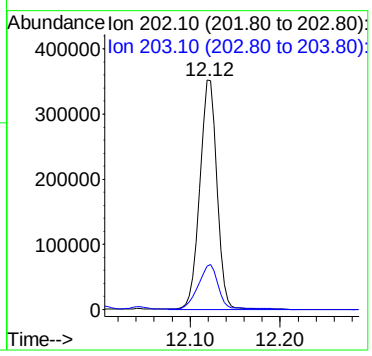


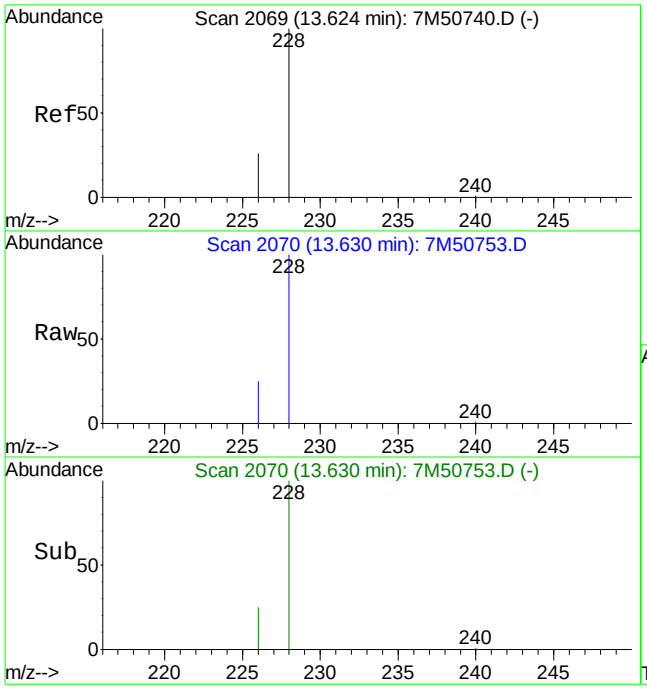


#16
Pyrene
Concen: 2.03 ug/ml
RT: 12.12 min Scan# 1741
Delta R.T. -0.00 min
Lab File: 7M50753.D
Acq: 4 Apr 2011 1:50 pm

Tgt Ion:202 Resp: 494395

Ion	Ratio	Lower	Upper
202	100		
203	21.3	11.0	25.8

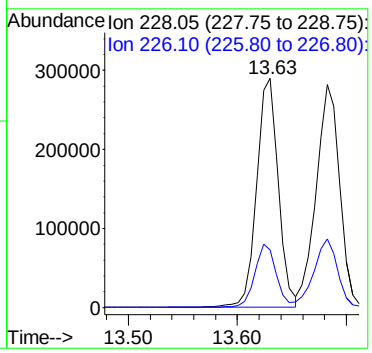


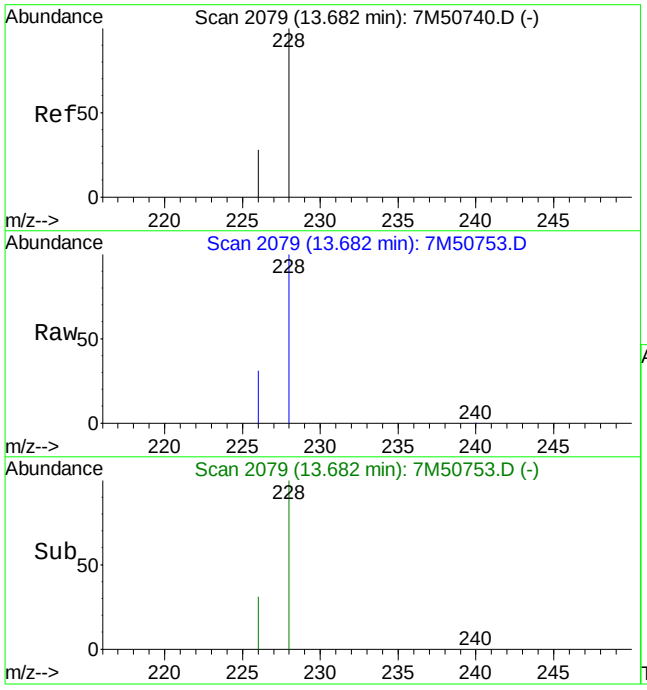


#18
Benzo[a]anthracene
Concen: 1.86 ug/ml
RT: 13.63 min Scan# 2070
Delta R.T. 0.00 min
Lab File: 7M50753.D
Acq: 4 Apr 2011 1:50 pm

Tgt Ion:228 Resp: 396959

Ion	Ratio	Lower	Upper
228	100		
226	27.0	16.0	37.2

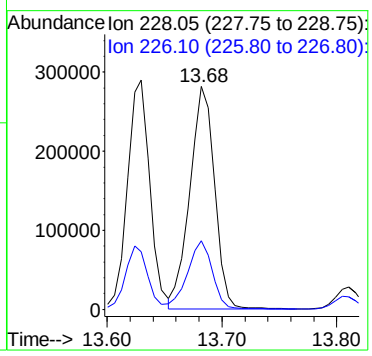


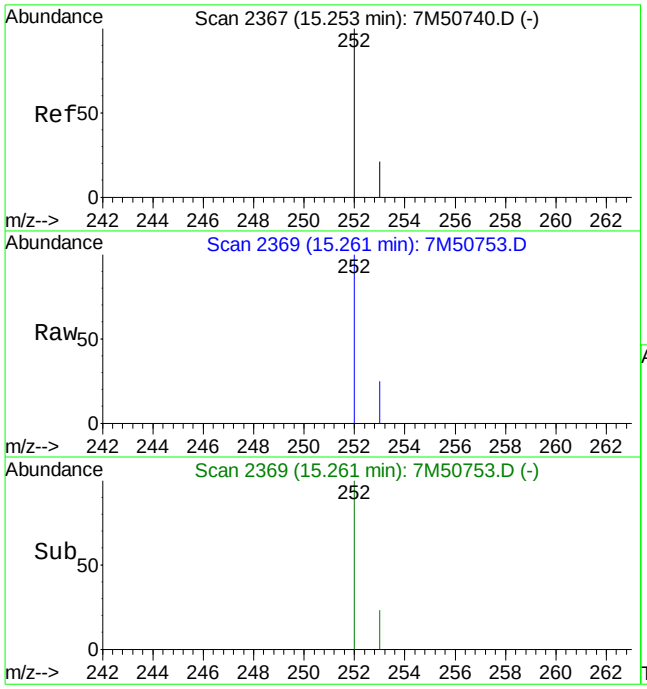


#19
Chrysene
Concen: 2.18 ug/ml
RT: 13.68 min Scan# 2079
Delta R.T. -0.01 min
Lab File: 7M50753.D
Acq: 4 Apr 2011 1:50 pm

Tgt Ion:228 Resp: 419983

Ion	Ratio	Lower	Upper
228	100		
226	31.0	17.6	41.2

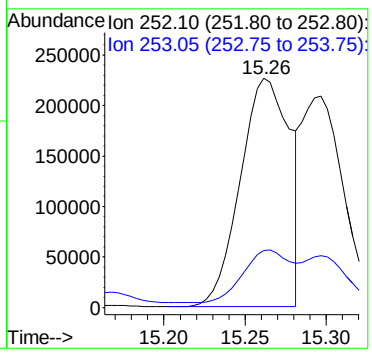


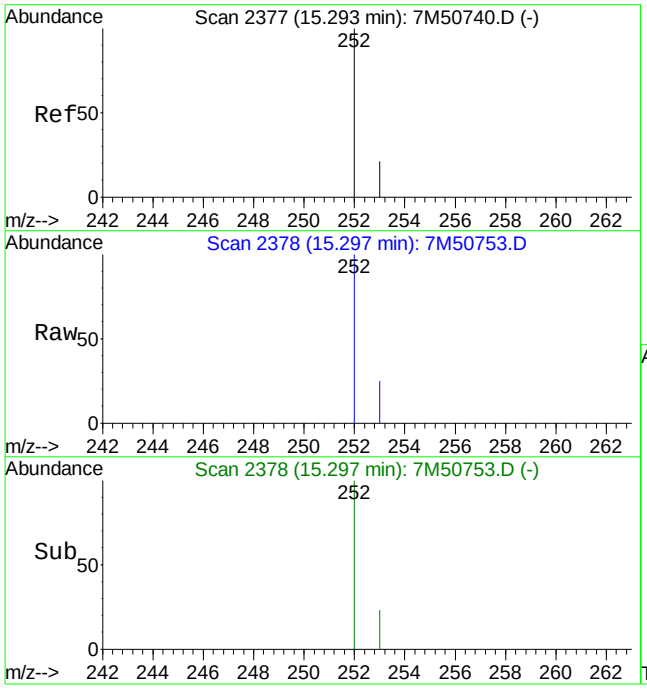


#21
Benzo[b]fluoranthene
Concen: 2.29 ug/ml
RT: 15.26 min Scan# 2369
Delta R.T. -0.00 min
Lab File: 7M50753.D
Acq: 4 Apr 2011 1:50 pm

Tgt Ion:252 Resp: 481949

Ion	Ratio	Lower	Upper
252	100		
253	22.0	13.5	31.5

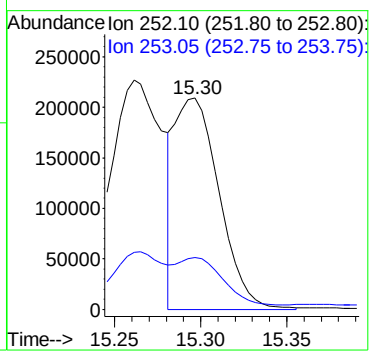


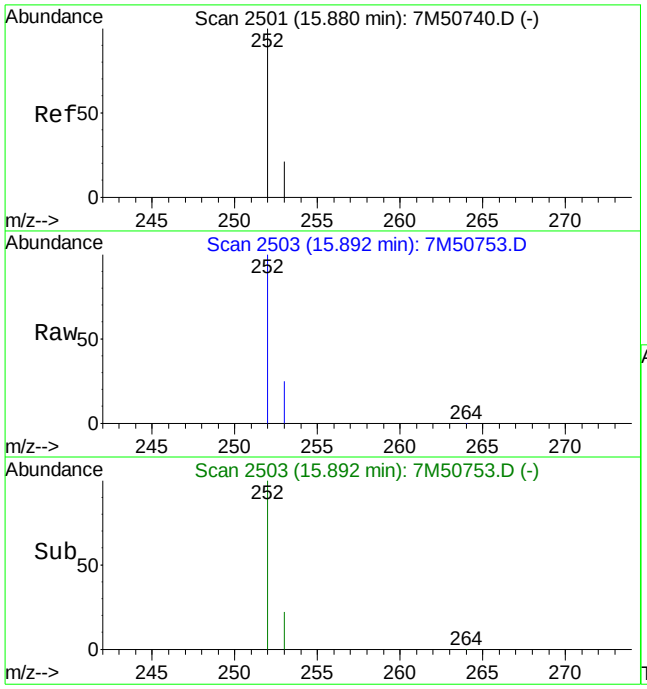


#22
Benzo[k]fluoranthene
Concen: 2.04 ug/ml m
RT: 15.30 min Scan# 2378
Delta R.T. -0.01 min
Lab File: 7M50753.D
Acq: 4 Apr 2011 1:50 pm

Tgt Ion:252 Resp: 373732

Ion	Ratio	Lower	Upper
252	100		
253	28.4	13.3	31.1

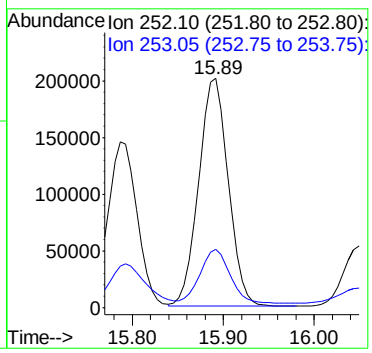


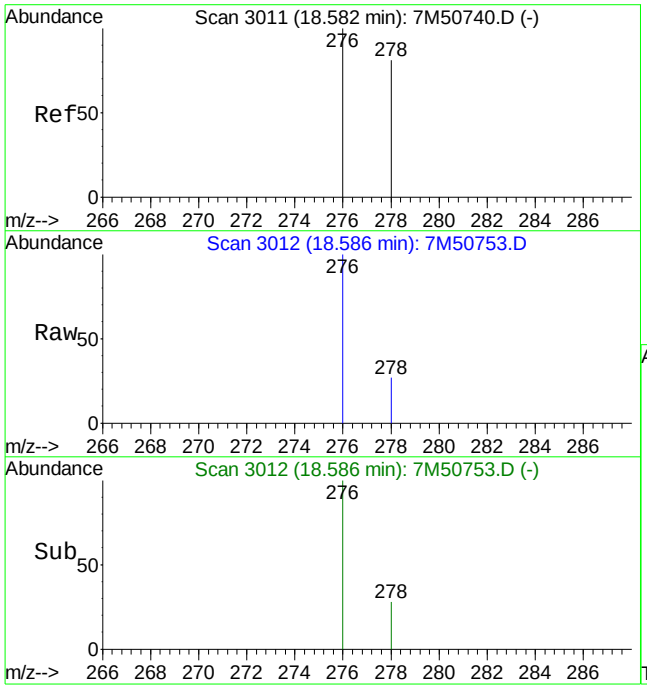


#23
Benzo[a]pyrene
Concen: 2.33 ug/ml
RT: 15.89 min Scan# 2503
Delta R.T. -0.01 min
Lab File: 7M50753.D
Acq: 4 Apr 2011 1:50 pm

Tgt Ion:252 Resp: 455773

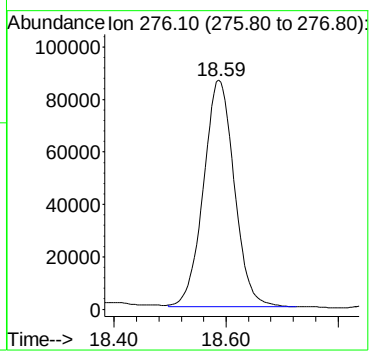
Ion	Ratio	Lower	Upper
252	100		
253	23.8	13.0	30.4

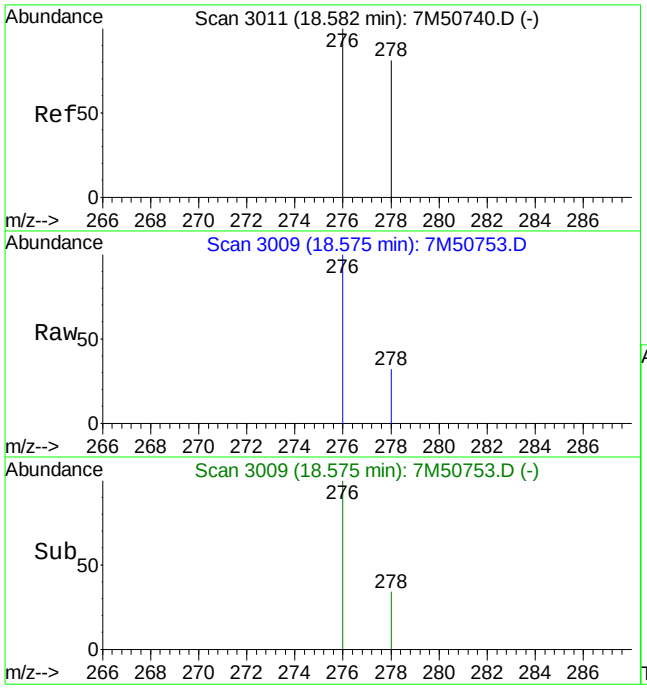




#24
Indeno[1,2,3-cd]pyrene
Concen: 1.44 ug/ml
RT: 18.59 min Scan# 3012
Delta R.T. -0.01 min
Lab File: 7M50753.D
Acq: 4 Apr 2011 1:50 pm

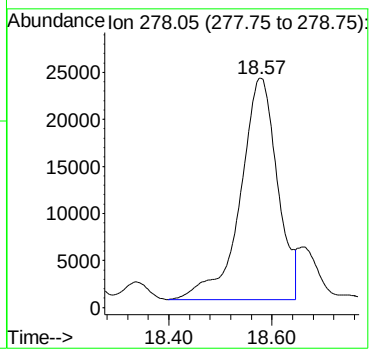
Tgt Ion:276 Resp: 328881

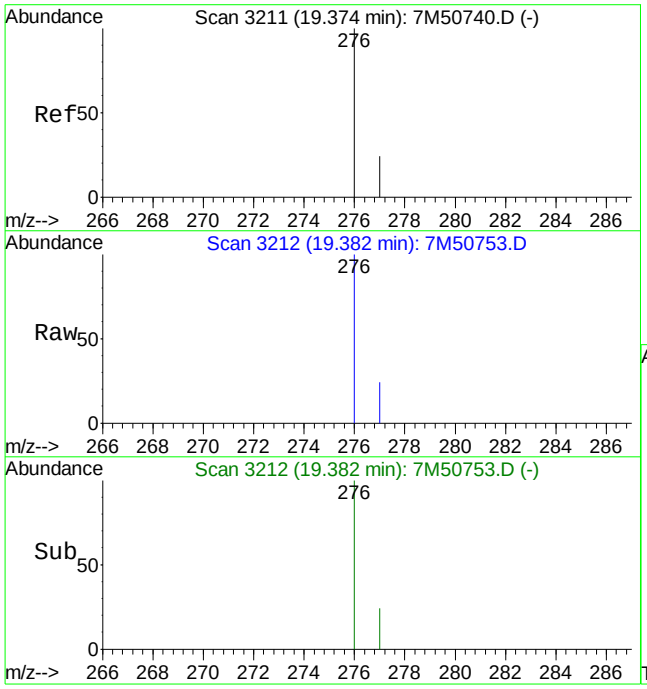




#25
Dibenz[ah]anthracene
Concen: 0.63 ug/ml
RT: 18.57 min Scan# 3009
Delta R.T. -0.02 min
Lab File: 7M50753.D
Acq: 4 Apr 2011 1:50 pm

Tgt Ion:278 Resp: 117422

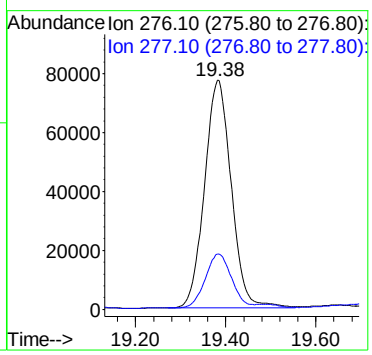




#26
Benzo[ghi]perylene
Concen: 1.67 ug/ml
RT: 19.38 min Scan# 3212
Delta R.T. -0.01 min
Lab File: 7M50753.D
Acq: 4 Apr 2011 1:50 pm

Tgt Ion:276 Resp: 320211

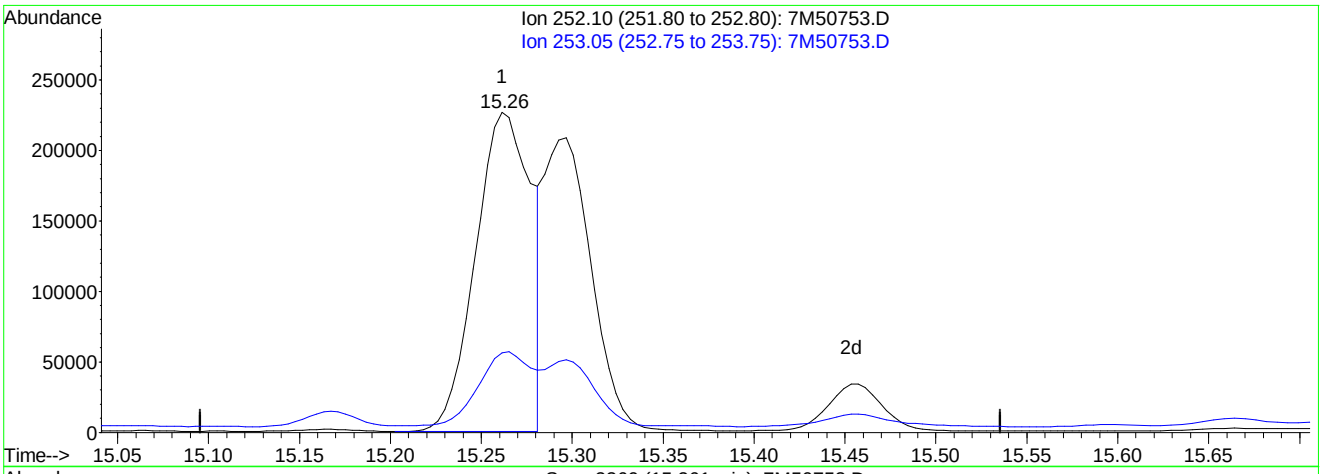
Ion	Ratio	Lower	Upper
276	100		
277	23.2	14.2	33.2

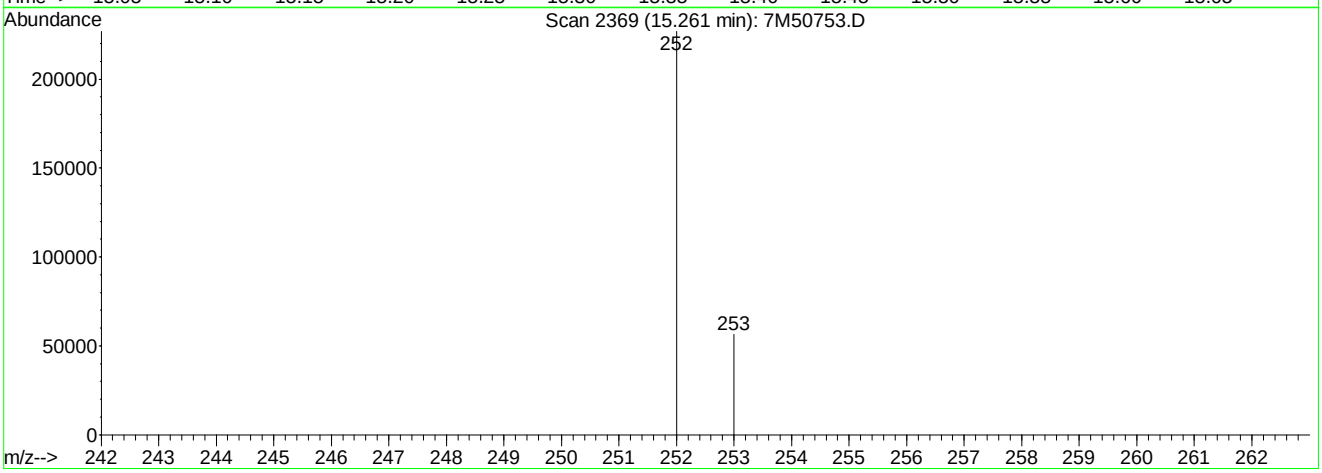


Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\040411\7M50753.D Vial: 15
Acq On : 4 Apr 2011 1:50 pm Operator: CAA
Sample : L11030664-05 5X Inst : HPMS7
Misc : 7,5 SOIL Multiplr: 5.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 7:19 2011 Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Tue Apr 05 07:19:03 2011
Response via : Multiple Level Calibration





TIC: 7M50753.D

(22) Benzo[k]fluoranthene

15.26min 2.63ug/ml

response 481949

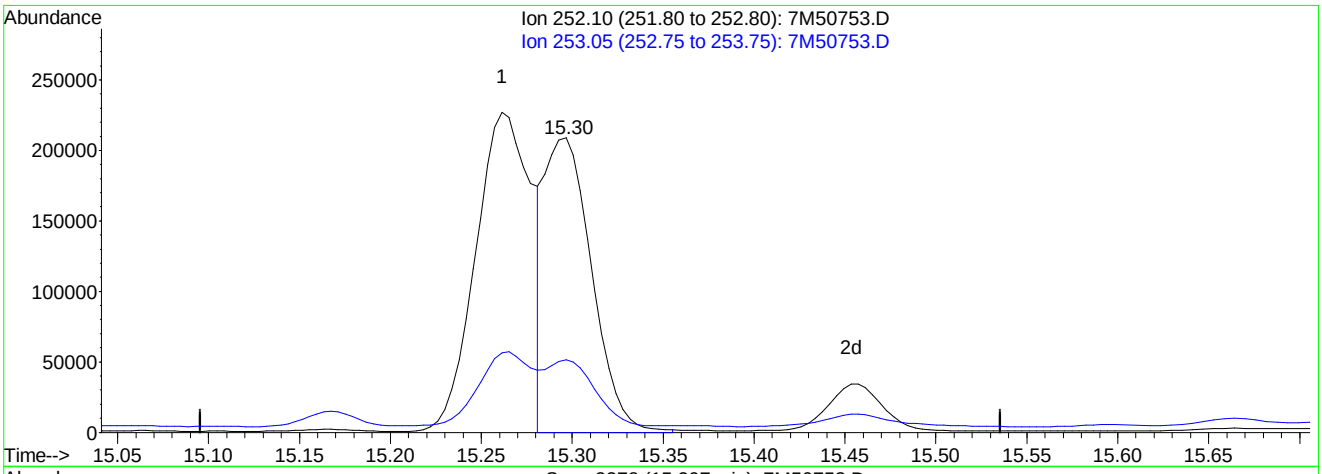
Ion	Exp%	Act%
252.10	100	100
253.05	22.20	22.03
0.00	0.00	0.00
0.00	0.00	0.00

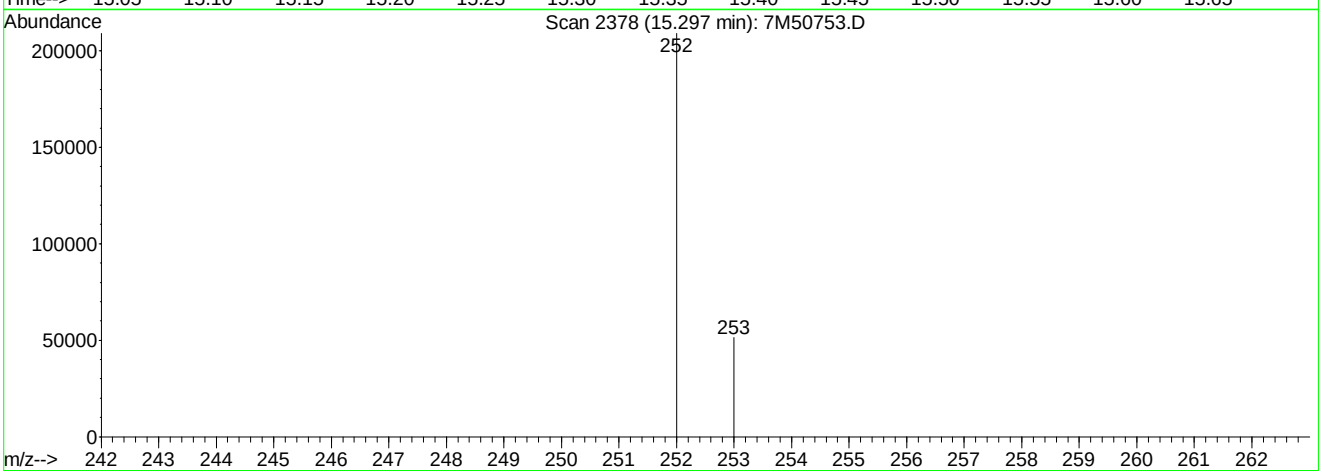
7M50753.D SIMPAHL.M Tue Apr 05 07:23:52 2011

Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\040411\7M50753.D Vial: 15
Acq On : 4 Apr 2011 1:50 pm Operator: CAA
Sample : L11030664-05 5X Inst : HPMS7
Misc : 7,5 SOIL Multiplr: 5.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 7:23 2011 Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Tue Apr 05 07:19:03 2011
Response via : Multiple Level Calibration





TIC: 7M50753.D

(22) Benzo[k]fluoranthene

15.30min 2.04ug/ml mint

response 373732

Ion	Exp%	Act%
252.10	100	100
253.05	22.20	28.42
0.00	0.00	0.00
0.00	0.00	0.00

7M50753.D SIMPAHL.M Tue Apr 05 07:23:58 2011

Analyst: 04/05/2011 08:34 Supervisor: 04/05/2011 09:17

#3 - Improperly integrated isomers and/or coeluting compounds

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\1\DATA\040411\7M50749.D Vial: 11
Acq On : 4 Apr 2011 11:59 am Operator: CAA
Sample : L11030664-06 Inst : HPMS7
Misc : 7,1 SOIL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 05 07:19:22 2011 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Tue Apr 05 07:19:03 2011
Response via : Initial Calibration
DataAcq Meth : PAHLSIM

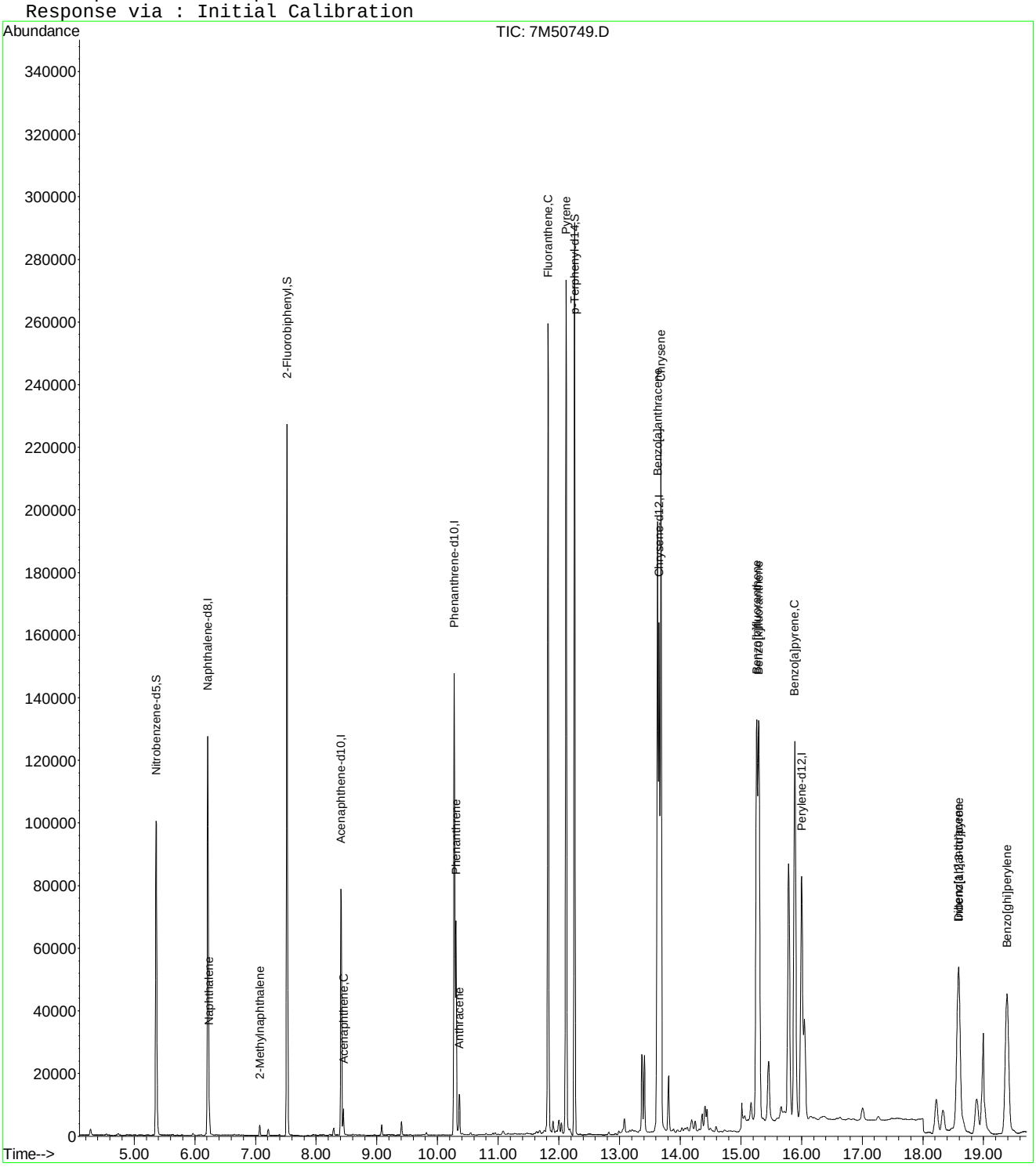
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	6.21	136	153296	1.00 ug/ml	0.00
6) Acenaphthene-d10	8.41	164	100392	1.00 ug/ml	0.00
11) Phenanthrene-d10	10.28	188	171590	1.00 ug/ml	0.00
15) Chrysene-d12	13.65	240	197435	1.00 ug/ml	0.00
20) Perylene-d12	16.00	264	184193	1.00 ug/ml	0.00
System Monitoring Compounds					
2) Nitrobenzene-d5	5.36	82	95698	1.3760 ug/ml	0.00
Spiked Amount 2.500	Range 23 - 120		Recovery	= 55.20%	
7) 2-Fluorobiphenyl	7.52	172	199226	1.6217 ug/ml	0.00
Spiked Amount 2.500	Range 30 - 115		Recovery	= 64.80%	
17) p-Terphenyl-d14	12.26	244	308132	2.1330 ug/ml	0.00
Spiked Amount 2.500	Range 18 - 137		Recovery	= 85.20%	
Target Compounds					Qvalue
3) Naphthalene	6.24	128	8378	0.0534 ug/ml	100
4) 2-Methylnaphthalene	7.07	142	2266	0.0210 ug/ml	98
9) Acenaphthene	8.45	154	4687	0.0461 ug/ml	90
12) Phenanthrene	10.31	178	69649	0.3745 ug/ml	100
13) Anthracene	10.36	178	13928	0.0838 ug/ml	100
14) Fluoranthene	11.82	202	273740	1.2806 ug/ml	98
16) Pyrene	12.12	202	296791	1.1098 ug/ml	92
18) Benzo[a]anthracene	13.62	228	209327	0.8958 ug/ml	99
19) Chrysene	13.68	228	247458	1.1721 ug/ml	97
21) Benzo[b]fluoranthene	15.26	252	209893	0.9200 ug/ml	98
22) Benzo[k]fluoranthene	15.29	252	204639m	1.0335 ug/ml	
23) Benzo[a]pyrene	15.89	252	229273	1.0828 ug/ml	96
24) Indeno[1,2,3-cd]pyrene	18.59	276	164835	0.6687 ug/ml	100
25) Dibenz[ah]anthracene	18.58	278	57122	0.2837 ug/ml	100
26) Benzo[ghi]perylene	19.39	276	149376	0.7178 ug/ml	98

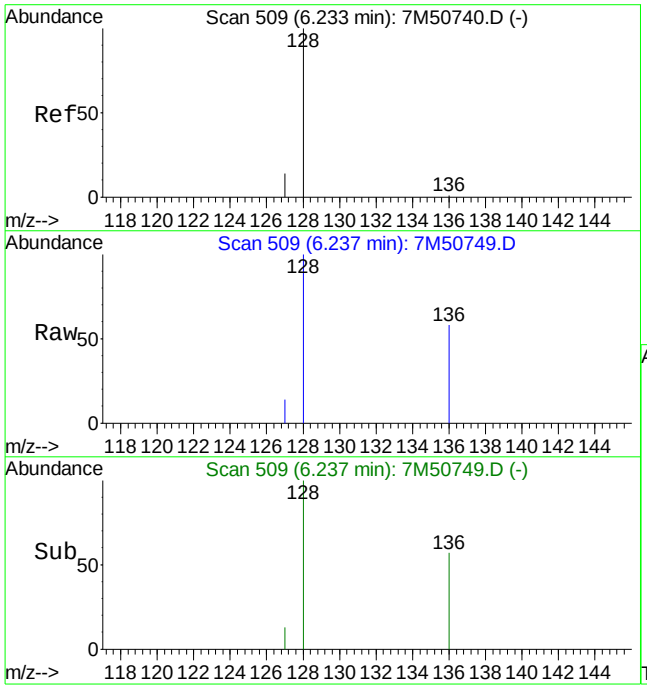
(#) = qualifier out of range (m) = manual integration
7M50749.D SIMPAHL.M Tue Apr 05 07:30:12 2011 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\1\DATA\040411\7M50749.D Vial: 11
Acq On : 4 Apr 2011 11:59 am Operator: CAA
Sample : L11030664-06 Inst : HPMS7
Misc : 7,1 SOIL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 7:23 2011 Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Tue Apr 05 07:19:03 2011
Response via : Initial Calibration

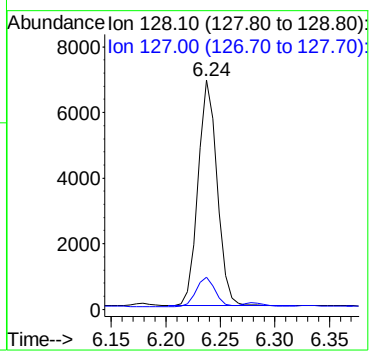


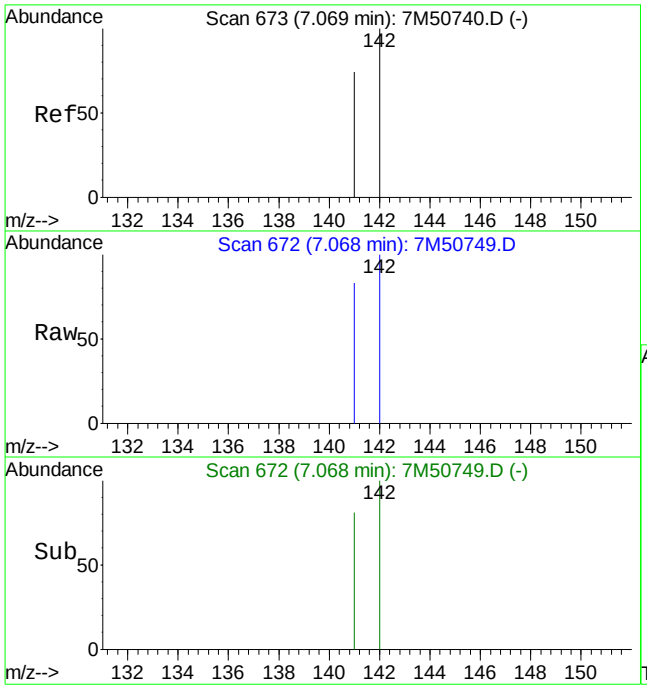


#3
Naphthalene
Concen: 0.05 ug/ml
RT: 6.24 min Scan# 509
Delta R.T. -0.01 min
Lab File: 7M50749.D
Acq: 4 Apr 2011 11:59 am

Tgt Ion:128 Resp: 8378

Ion	Ratio	Lower	Upper
128	100		
127	12.9	7.8	18.2

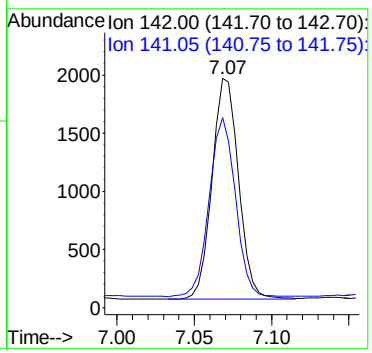


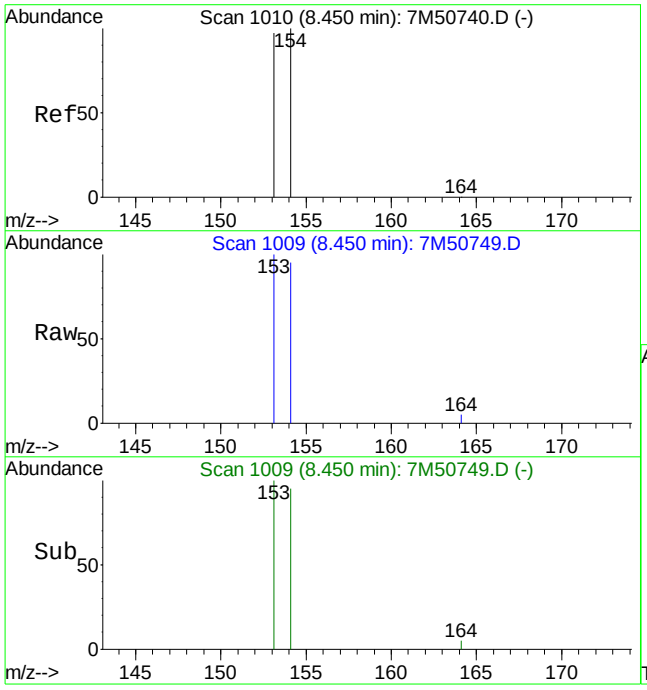


#4
2-Methylnaphthalene
Concen: 0.02 ug/ml
RT: 7.07 min Scan# 672
Delta R.T. -0.00 min
Lab File: 7M50749.D
Acq: 4 Apr 2011 11:59 am

Tgt Ion:142 Resp: 2266

Ion	Ratio	Lower	Upper
142	100		
141	79.7	49.1	114.5

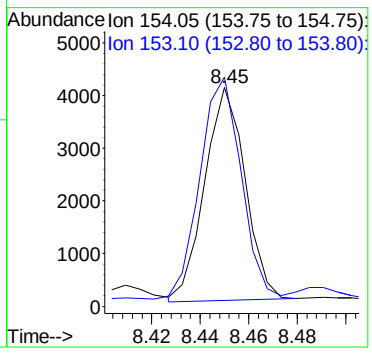


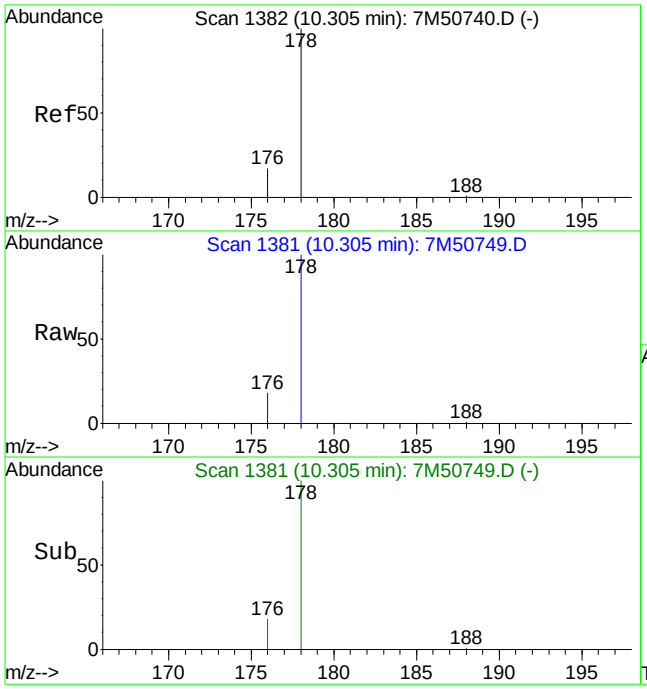


#9
Acenaphthene
Concen: 0.05 ug/ml
RT: 8.45 min Scan# 1009
Delta R.T. 0.00 min
Lab File: 7M50749.D
Acq: 4 Apr 2011 11:59 am

Tgt Ion:154 Resp: 4687

Ion	Ratio	Lower	Upper
154	100		
153	110.6	60.1	140.1

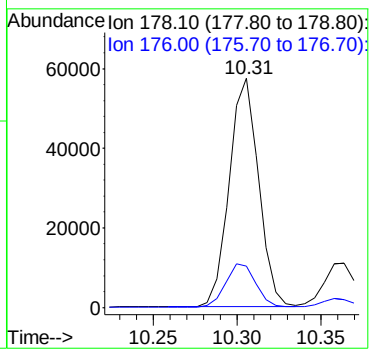


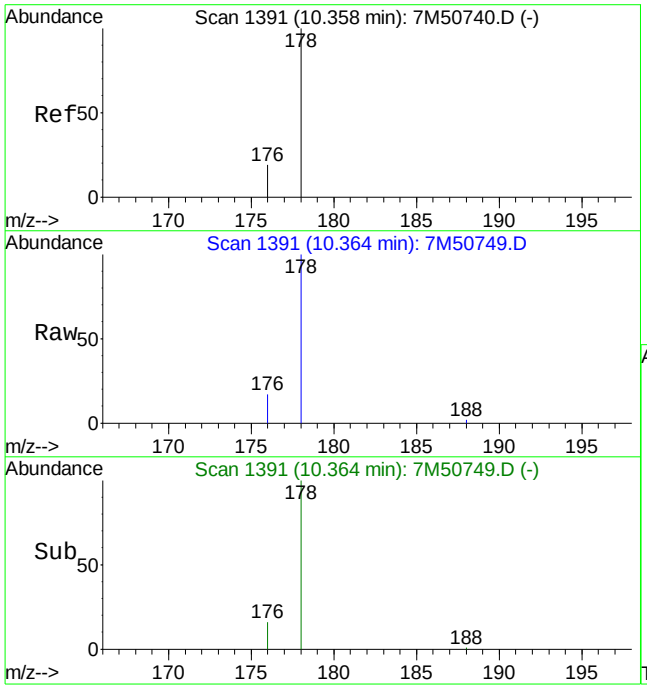


#12
Phenanthrene
Concen: 0.37 ug/ml
RT: 10.31 min Scan# 1381
Delta R.T. 0.00 min
Lab File: 7M50749.D
Acq: 4 Apr 2011 11:59 am

Tgt Ion:178 Resp: 69649

Ion	Ratio	Lower	Upper
178	100		
176	19.4	11.5	26.9

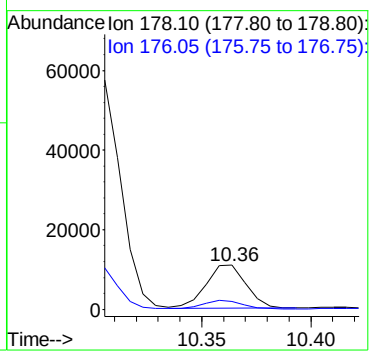


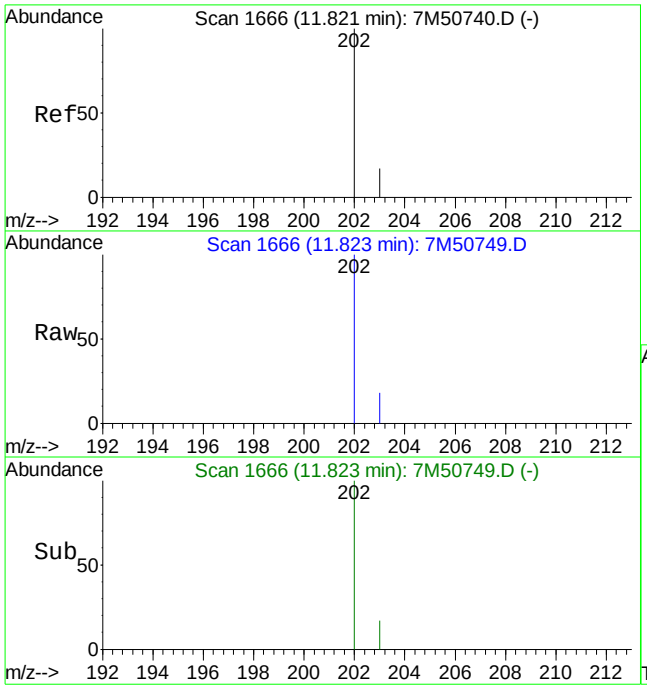


#13
Anthracene
Concen: 0.08 ug/ml
RT: 10.36 min Scan# 1391
Delta R.T. 0.00 min
Lab File: 7M50749.D
Acq: 4 Apr 2011 11:59 am

Tgt Ion:178 Resp: 13928

Ion	Ratio	Lower	Upper
178	100		
176	18.3	11.0	25.8

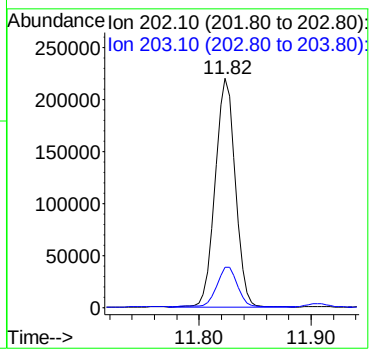


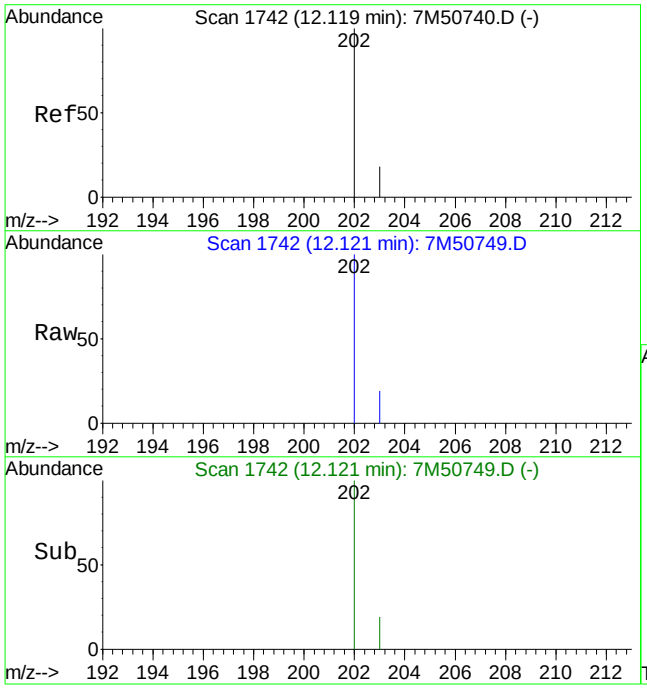


#14
Fluoranthene
Concen: 1.28 ug/ml
RT: 11.82 min Scan# 1666
Delta R.T. -0.00 min
Lab File: 7M50749.D
Acq: 4 Apr 2011 11:59 am

Tgt Ion:202 Resp: 273740

Ion	Ratio	Lower	Upper
202	100		
203	18.4	10.6	24.6

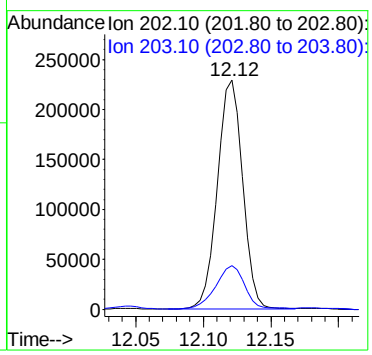


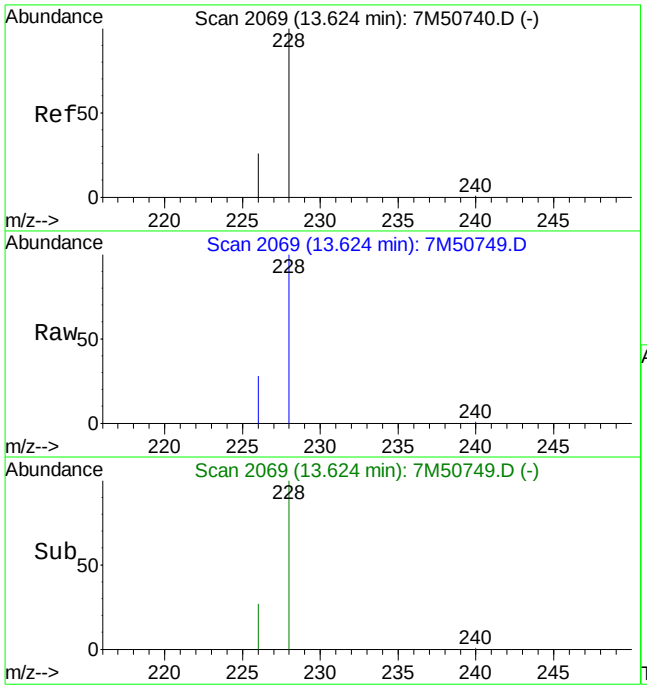


#16
Pyrene
Concen: 1.11 ug/ml
RT: 12.12 min Scan# 1742
Delta R.T. 0.00 min
Lab File: 7M50749.D
Acq: 4 Apr 2011 11:59 am

Tgt Ion:202 Resp: 296791

Ion	Ratio	Lower	Upper
202	100		
203	22.0	11.0	25.8

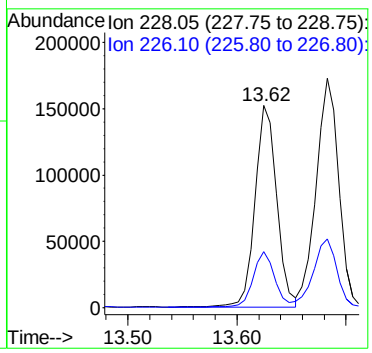


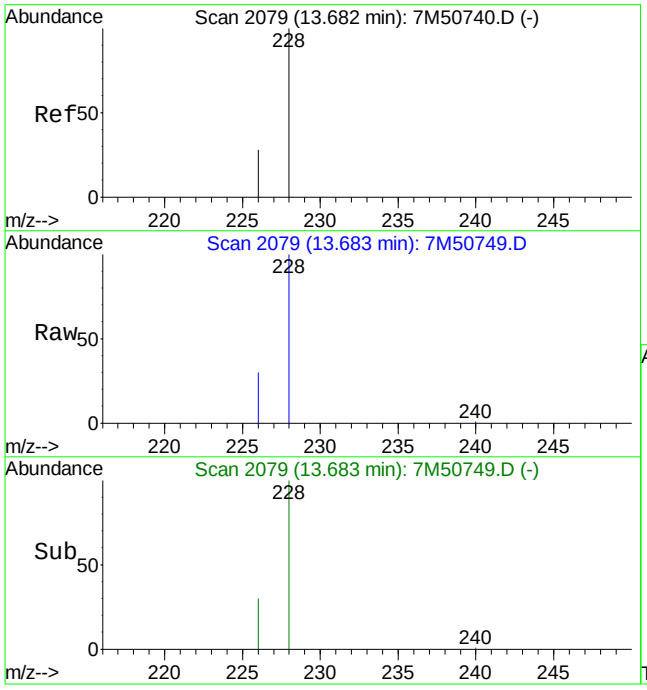


#18
Benzo[a]anthracene
Concen: 0.90 ug/ml
RT: 13.62 min Scan# 2069
Delta R.T. -0.01 min
Lab File: 7M50749.D
Acq: 4 Apr 2011 11:59 am

Tgt Ion:228 Resp: 209327

Ion	Ratio	Lower	Upper
228	100		
226	27.1	16.0	37.2

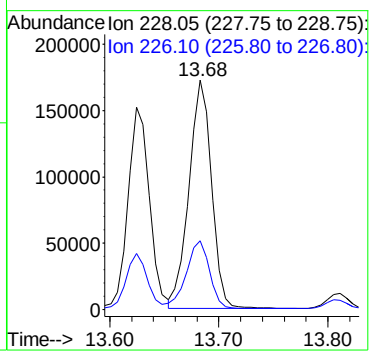


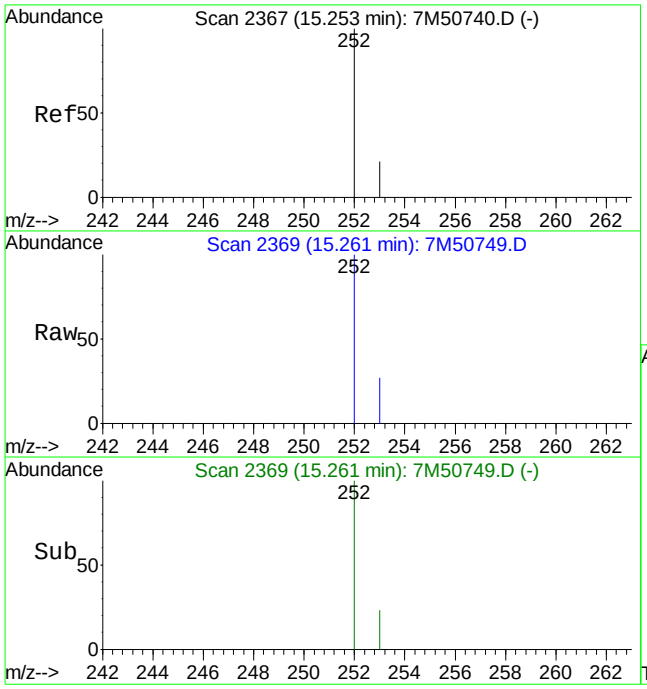


#19
Chrysene
Concen: 1.17 ug/ml
RT: 13.68 min Scan# 2079
Delta R.T. -0.01 min
Lab File: 7M50749.D
Acq: 4 Apr 2011 11:59 am

Tgt Ion:228 Resp: 247458

Ion	Ratio	Lower	Upper
228	100		
226	31.0	17.6	41.2

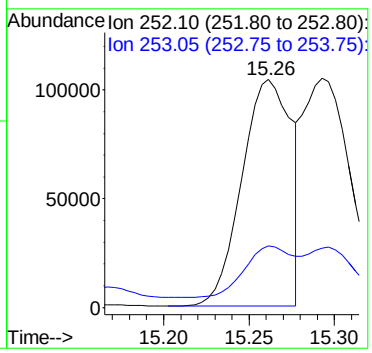


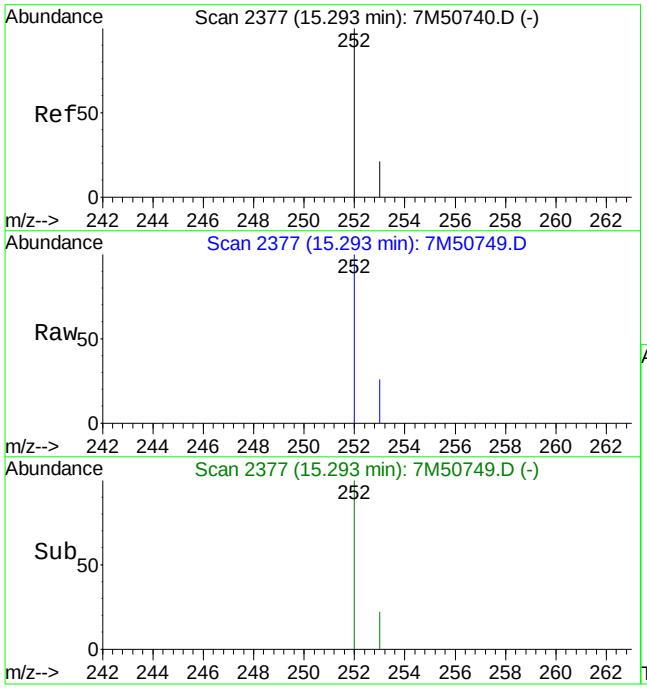


#21
Benzo[b]fluoranthene
Concen: 0.92 ug/ml
RT: 15.26 min Scan# 2369
Delta R.T. -0.00 min
Lab File: 7M50749.D
Acq: 4 Apr 2011 11:59 am

Tgt Ion:252 Resp: 209893

Ion	Ratio	Lower	Upper
252	100		
253	23.6	13.5	31.5

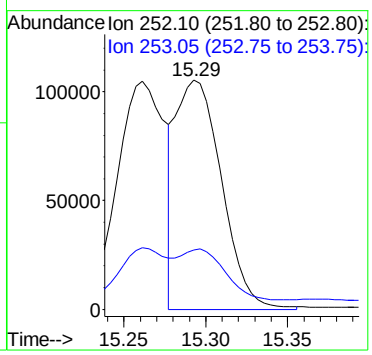


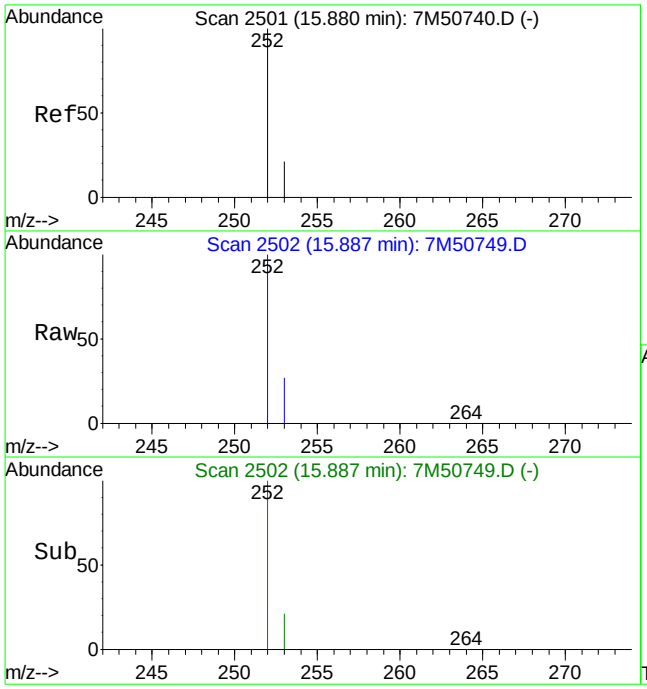


#22
Benzo[k]fluoranthene
Concen: 1.03 ug/ml m
RT: 15.29 min Scan# 2377
Delta R.T. -0.01 min
Lab File: 7M50749.D
Acq: 4 Apr 2011 11:59 am

Tgt Ion:252 Resp: 204639

Ion	Ratio	Lower	Upper
252	100		
253	24.2	13.3	31.1

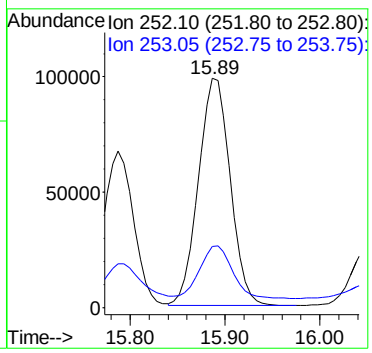


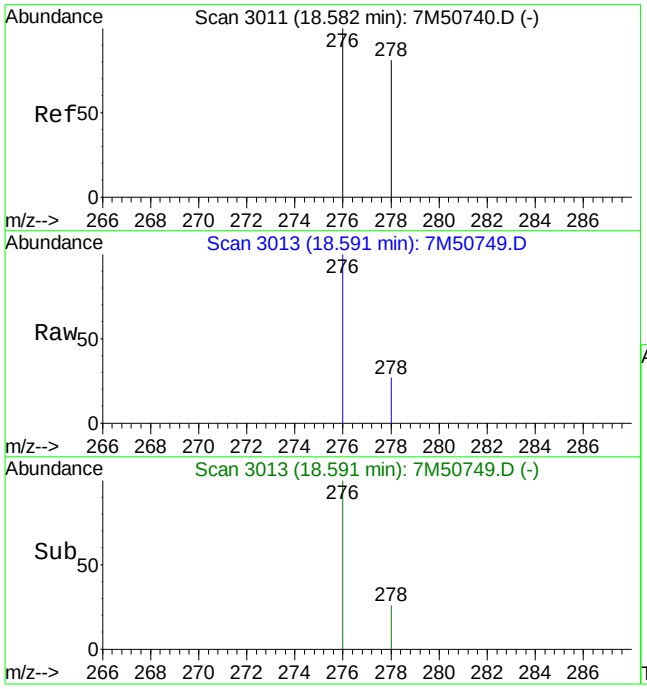


#23
Benzo[a]pyrene
Concen: 1.08 ug/ml
RT: 15.89 min Scan# 2502
Delta R.T. -0.01 min
Lab File: 7M50749.D
Acq: 4 Apr 2011 11:59 am

Tgt Ion:252 Resp: 229273

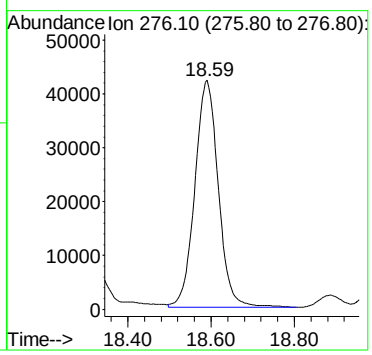
Ion	Ratio	Lower	Upper
252	100		
253	23.5	13.0	30.4

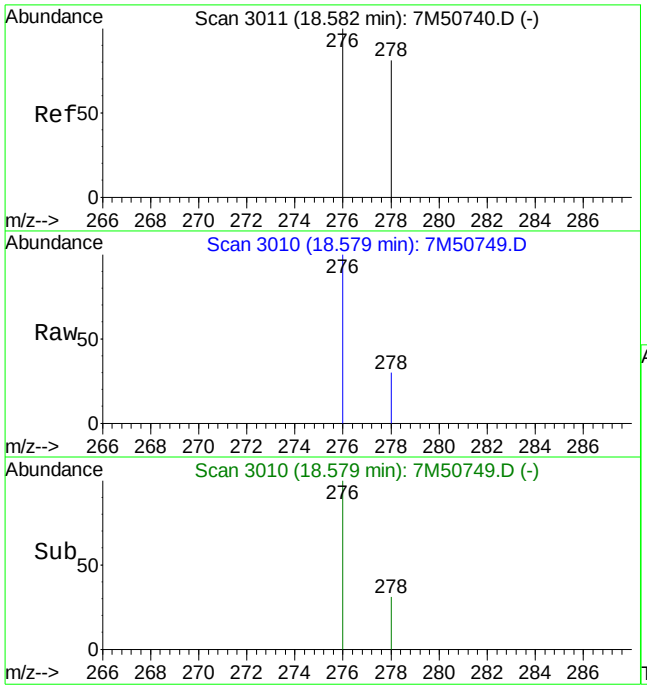




#24
Indeno[1,2,3-cd]pyrene
Concen: 0.67 ug/ml
RT: 18.59 min Scan# 3013
Delta R.T. -0.00 min
Lab File: 7M50749.D
Acq: 4 Apr 2011 11:59 am

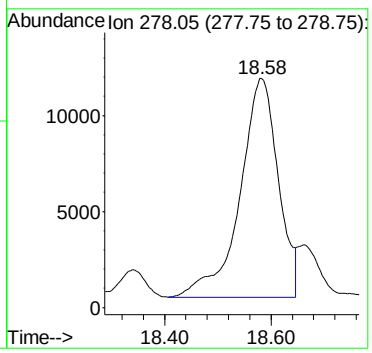
Tgt Ion:276 Resp: 164835

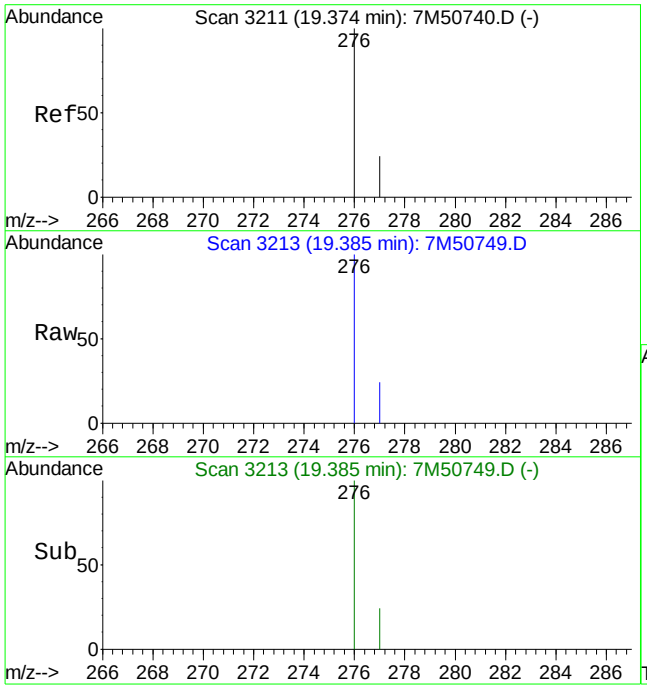




#25
Dibenz[ah]anthracene
Concen: 0.28 ug/ml
RT: 18.58 min Scan# 3010
Delta R.T. -0.02 min
Lab File: 7M50749.D
Acq: 4 Apr 2011 11:59 am

Tgt Ion:278 Resp: 57122

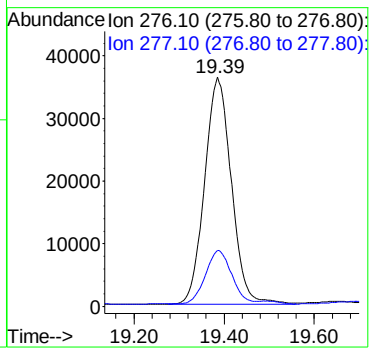




#26
Benzo[ghi]perylene
Concen: 0.72 ug/ml
RT: 19.39 min Scan# 3213
Delta R.T. -0.00 min
Lab File: 7M50749.D
Acq: 4 Apr 2011 11:59 am

Tgt Ion:276 Resp: 149376

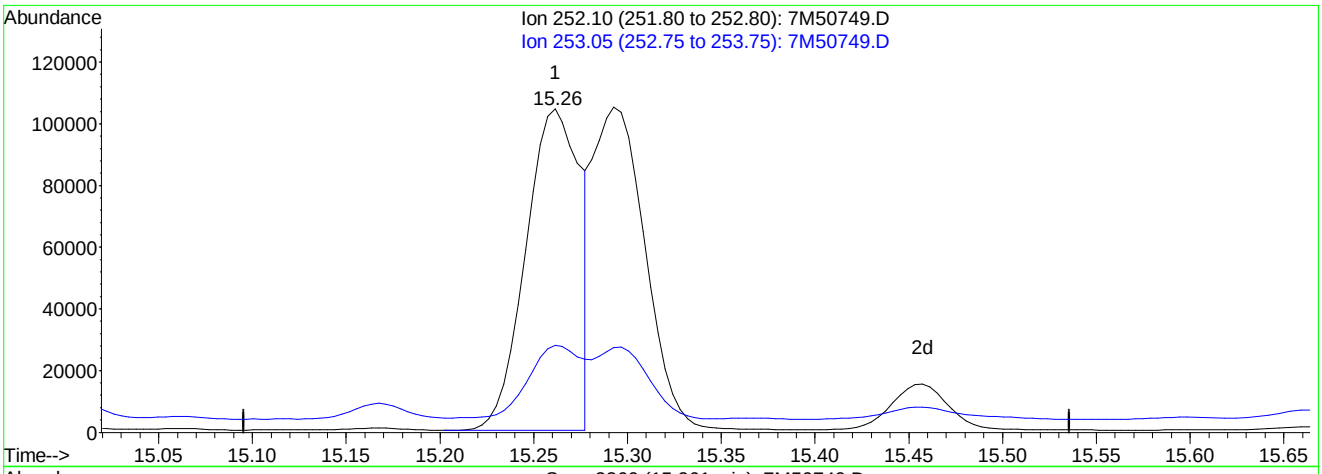
Ion	Ratio	Lower	Upper
276	100		
277	22.9	14.2	33.2

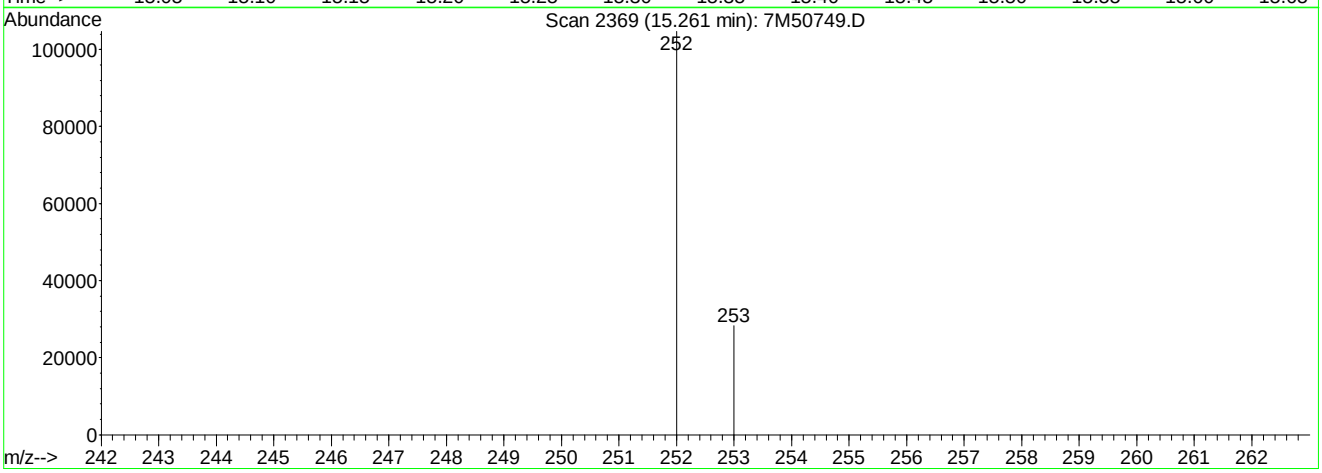


Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\040411\7M50749.D Vial: 11
Acq On : 4 Apr 2011 11:59 am Operator: CAA
Sample : L11030664-06 Inst : HPMS7
Misc : 7,1 SOIL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 7:19 2011 Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Tue Apr 05 07:19:03 2011
Response via : Multiple Level Calibration





TIC: 7M50749.D

(22) Benzo[k]fluoranthene

15.26min 1.06ug/ml

response 209893

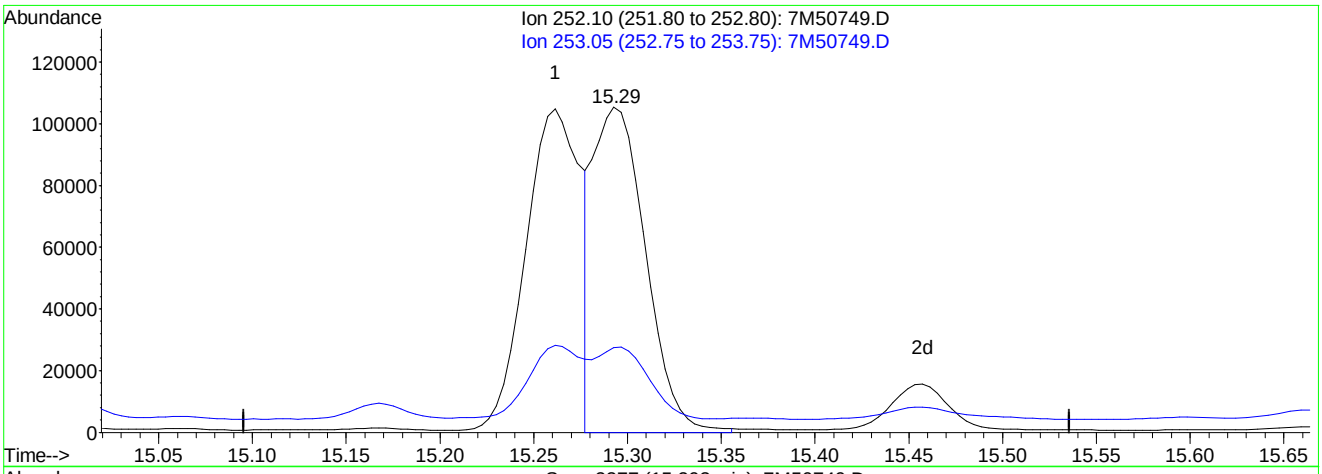
Ion	Exp%	Act%
252.10	100	100
253.05	22.20	23.60
0.00	0.00	0.00
0.00	0.00	0.00

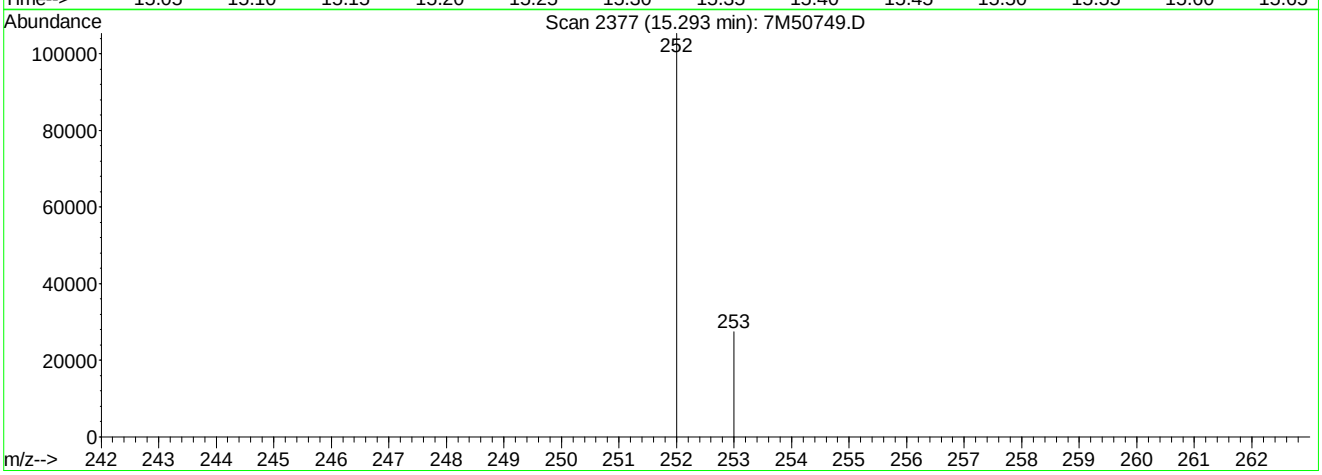
7M50749.D SIMPAHL.M Tue Apr 05 07:23:02 2011

Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\040411\7M50749.D Vial: 11
Acq On : 4 Apr 2011 11:59 am Operator: CAA
Sample : L11030664-06 Inst : HPMS7
Misc : 7,1 SOIL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 7:23 2011 Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Tue Apr 05 07:19:03 2011
Response via : Multiple Level Calibration





TIC: 7M50749.D

(22) Benzo[k]fluoranthene

15.29min 1.03ug/ml mint

response 204639

Ion	Exp%	Act%
252.10	100	100
253.05	22.20	24.21
0.00	0.00	0.00
0.00	0.00	0.00

7M50749.D SIMPAHL.M Tue Apr 05 07:23:08 2011

Analyst: 04/05/2011 08:34 Supervisor: 04/05/2011 09:17

#3 - Improperly integrated isomers and/or coeluting compounds

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\1\DATA\040411\7M50752.D Vial: 14
Acq On : 4 Apr 2011 1:22 pm Operator: CAA
Sample : L11030664-07 5X Inst : HPMS7
Misc : 7,5 SOIL Multiplr: 5.00
MS Integration Params: RTEINT.P
Quant Time: Apr 05 07:19:23 2011 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Tue Apr 05 07:19:03 2011
Response via : Initial Calibration
DataAcq Meth : PAHLSIM

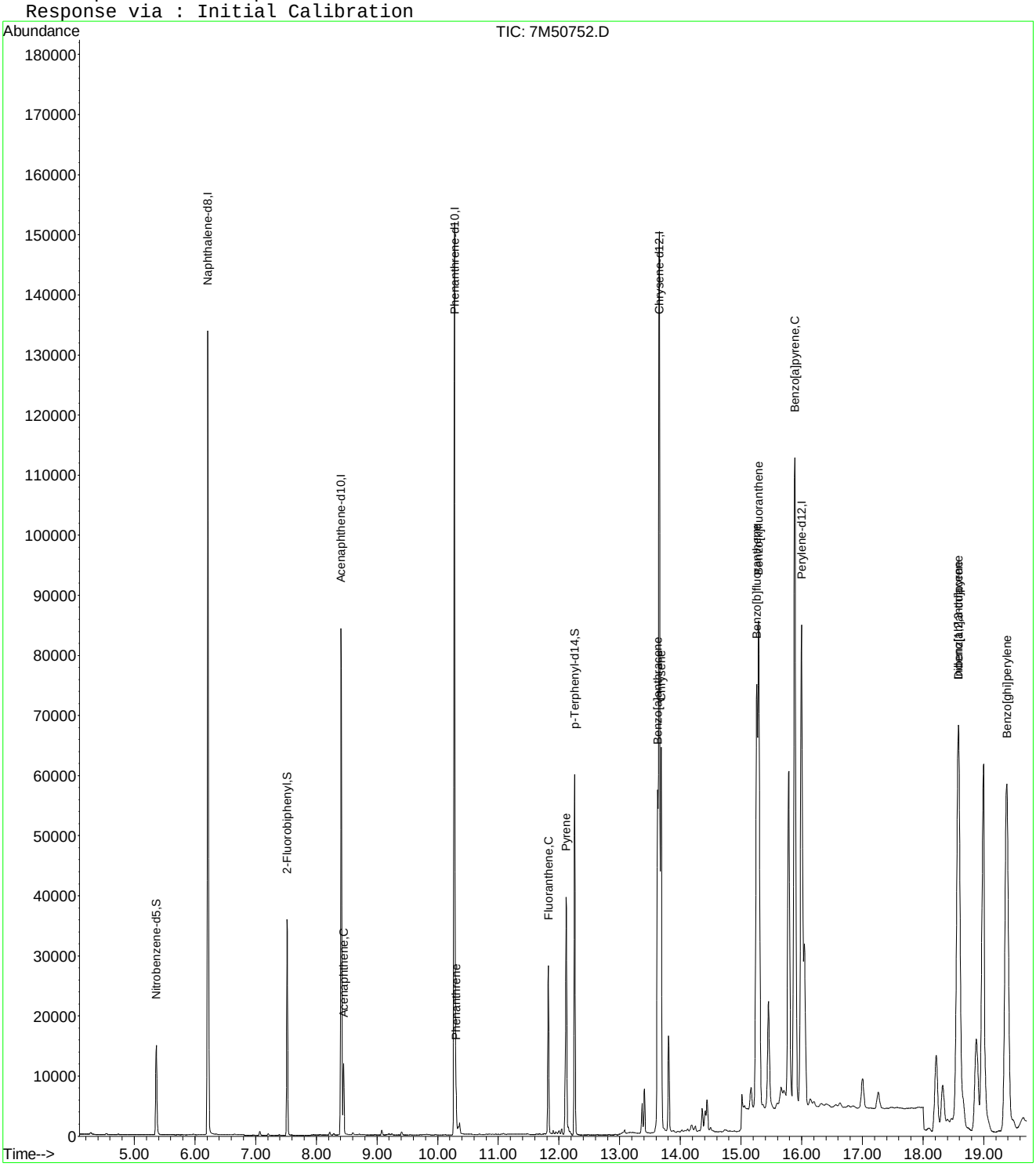
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	6.21	136	159632	1.00 ug/ml	0.00
6) Acenaphthene-d10	8.41	164	106025	1.00 ug/ml	0.00
11) Phenanthrene-d10	10.28	188	181633	1.00 ug/ml	0.00
15) Chrysene-d12	13.65	240	200282	1.00 ug/ml	0.00
20) Perylene-d12	16.00	264	185684	1.00 ug/ml	-0.01
System Monitoring Compounds					
2) Nitrobenzene-d5	5.36	82	14659	1.0121 ug/ml	0.00
Spiked Amount 2.500	Range 23 - 120		Recovery	= 40.40%	
7) 2-Fluorobiphenyl	7.52	172	31361	1.2086 ug/ml	0.00
Spiked Amount 2.500	Range 30 - 115		Recovery	= 48.40%	
17) p-Terphenyl-d14	12.26	244	63860	2.1789 ug/ml	0.00
Spiked Amount 2.500	Range 18 - 137		Recovery	= 87.20%	
Target Compounds					Qvalue
9) Acenaphthene	8.45	154	6651	0.0620 ug/ml	73
12) Phenanthrene	10.31	178	5746	0.0292 ug/ml	99
14) Fluoranthene	11.82	202	29180	0.1290 ug/ml	99
16) Pyrene	12.12	202	47881	0.1765 ug/ml#	80
18) Benzo[a]anthracene	13.62	228	60273	0.2543 ug/ml	98
19) Chrysene	13.68	228	67875	0.3169 ug/ml	97
21) Benzo[b]fluoranthene	15.26	252	103303	0.4492 ug/ml	98
22) Benzo[k]fluoranthene	15.29	252	117180	0.5871 ug/ml#	54
23) Benzo[a]pyrene	15.89	252	198321	0.9291 ug/ml	95
24) Indeno[1,2,3-cd]pyrene	18.58	276	206699	0.8318 ug/ml	100
25) Dibenz[ah]anthracene	18.58	278	67687	0.3335 ug/ml	100
26) Benzo[ghi]perylene	19.38	276	195332	0.9311 ug/ml	98

(#) = qualifier out of range (m) = manual integration

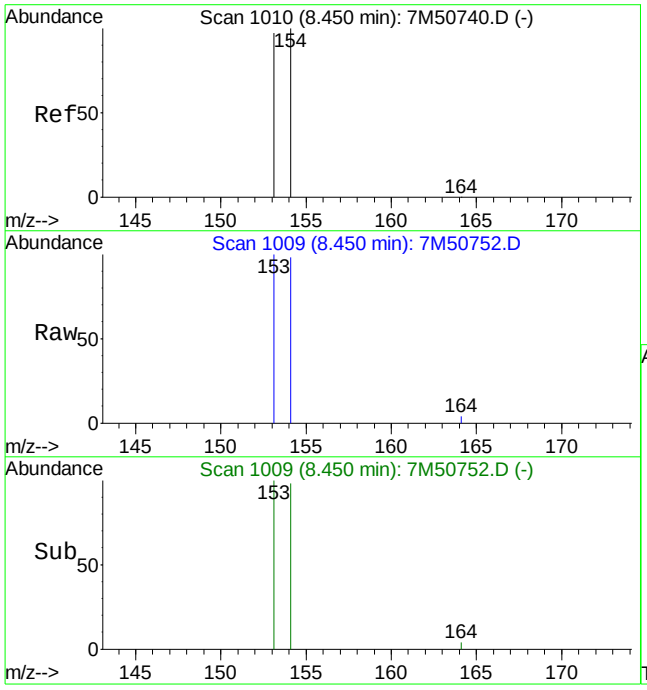
Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\1\DATA\040411\7M50752.D Vial: 14
Acq On : 4 Apr 2011 1:22 pm Operator: CAA
Sample : L11030664-07 5X Inst : HPMS7
Misc : 7,5 SOIL Multiplr: 5.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 7:19 2011 Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Tue Apr 05 07:19:03 2011
Response via : Initial Calibration



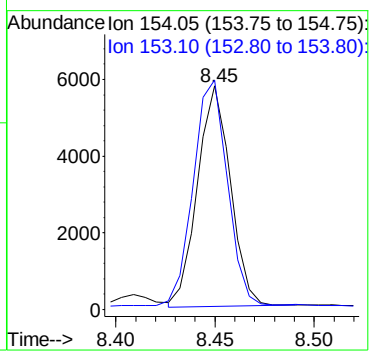
7M50752.D SIMPAHL.M Tue Apr 05 07:30:18 2011 Page 2

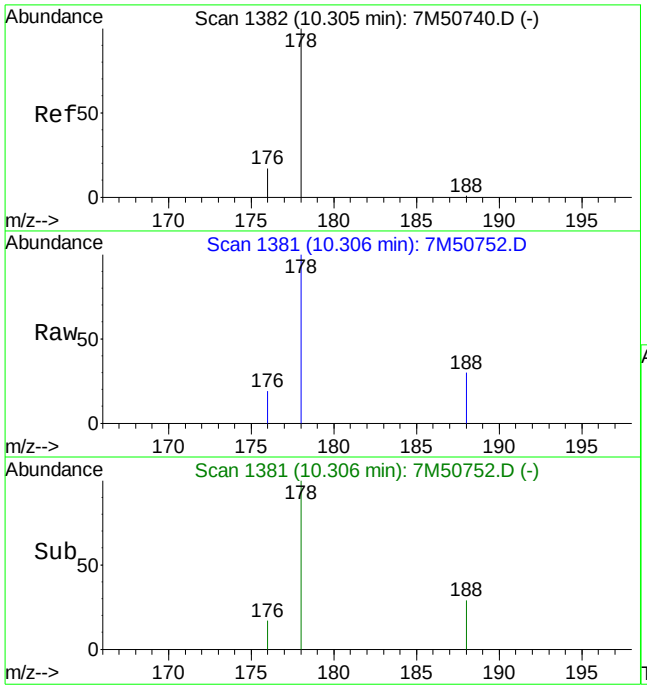


#9
Acenaphthene
Concen: 0.06 ug/ml
RT: 8.45 min Scan# 1009
Delta R.T. -0.00 min
Lab File: 7M50752.D
Acq: 4 Apr 2011 1:22 pm

Tgt Ion:154 Resp: 6651

Ion	Ratio	Lower	Upper
154	100		
153	126.6	60.1	140.1

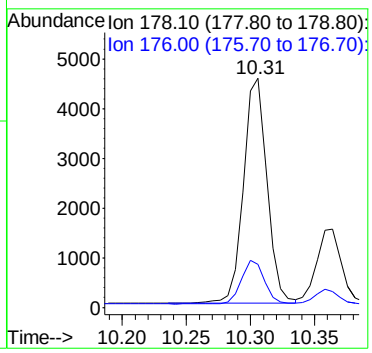


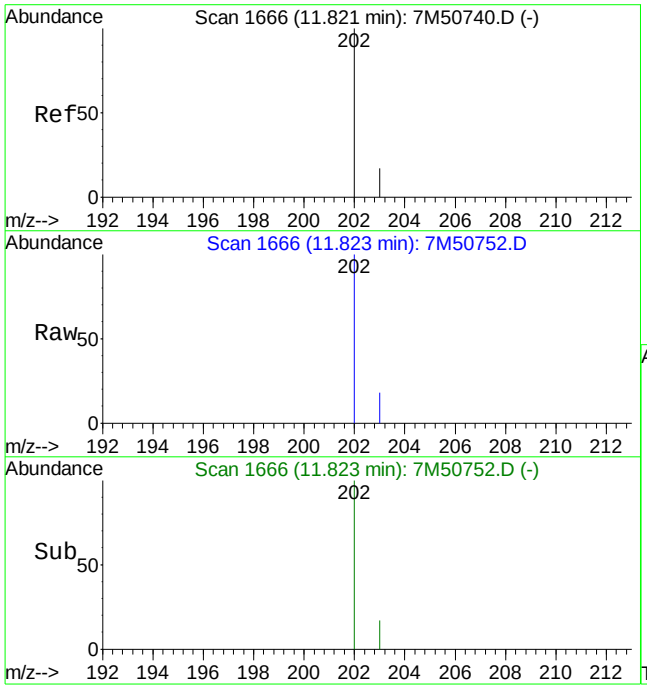


#12
Phenanthrene
Concen: 0.03 ug/ml
RT: 10.31 min Scan# 1381
Delta R.T. 0.00 min
Lab File: 7M50752.D
Acq: 4 Apr 2011 1:22 pm

Tgt Ion:178 Resp: 5746

Ion	Ratio	Lower	Upper
178	100		
176	19.0	11.5	26.9

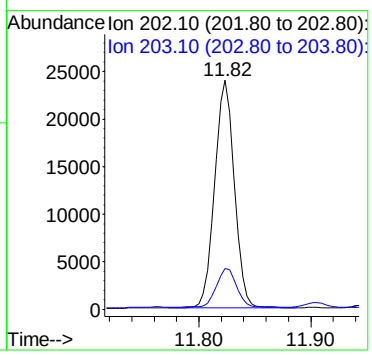


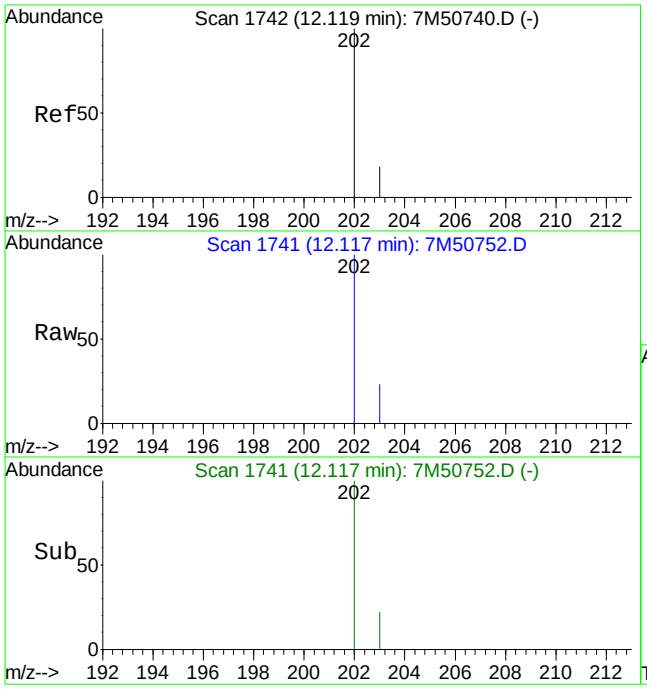


#14
Fluoranthene
Concen: 0.13 ug/ml
RT: 11.82 min Scan# 1666
Delta R.T. -0.00 min
Lab File: 7M50752.D
Acq: 4 Apr 2011 1:22 pm

Tgt Ion:202 Resp: 29180

Ion	Ratio	Lower	Upper
202	100		
203	18.0	10.6	24.6

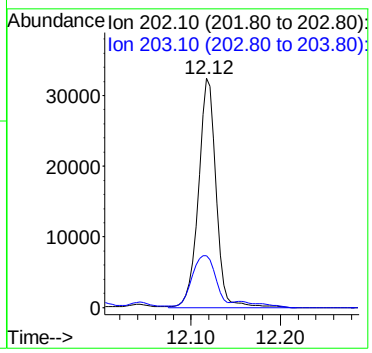


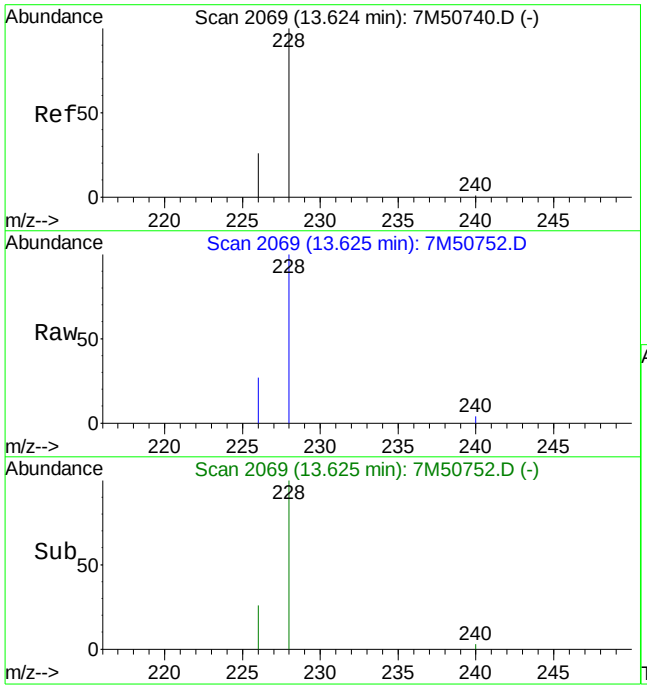


#16
Pyrene
Concen: 0.18 ug/ml
RT: 12.12 min Scan# 1741
Delta R.T. -0.00 min
Lab File: 7M50752.D
Acq: 4 Apr 2011 1:22 pm

Tgt Ion:202 Resp: 47881

Ion	Ratio	Lower	Upper
202	100		
203	27.2	11.0	25.8#

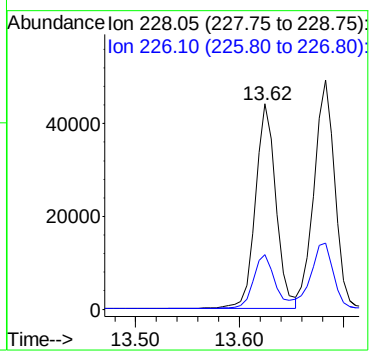


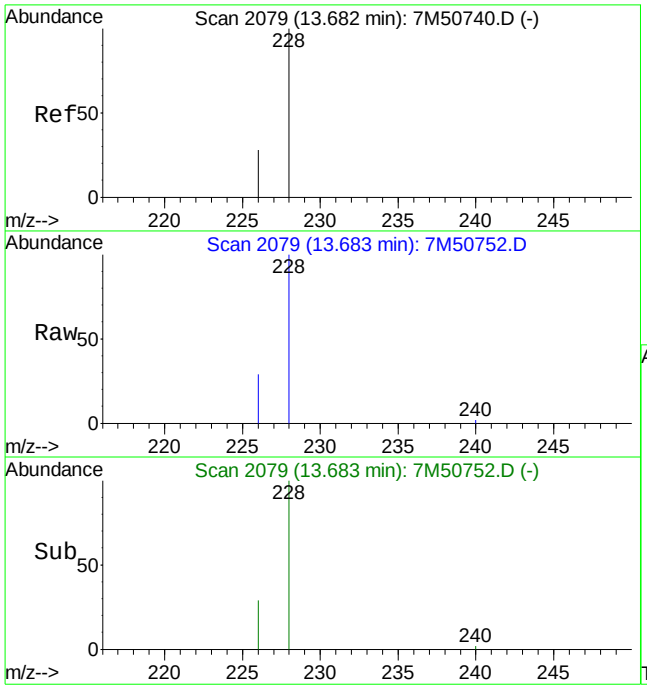


#18
Benzo[a]anthracene
Concen: 0.25 ug/ml
RT: 13.62 min Scan# 2069
Delta R.T. -0.01 min
Lab File: 7M50752.D
Acq: 4 Apr 2011 1:22 pm

Tgt Ion:228 Resp: 60273

Ion	Ratio	Lower	Upper
228	100		
226	27.7	16.0	37.2

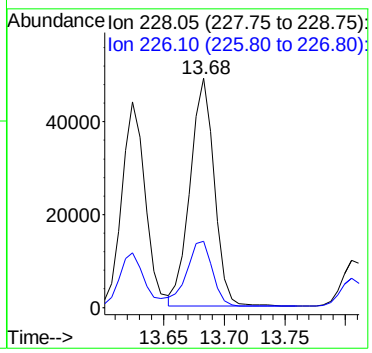


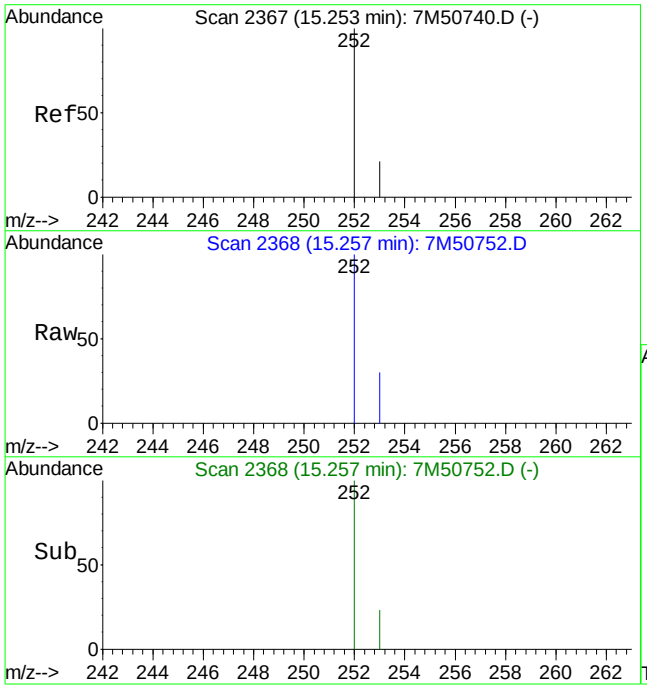


#19
Chrysene
Concen: 0.32 ug/ml
RT: 13.68 min Scan# 2079
Delta R.T. -0.01 min
Lab File: 7M50752.D
Acq: 4 Apr 2011 1:22 pm

Tgt Ion:228 Resp: 67875

Ion	Ratio	Lower	Upper
228	100		
226	30.9	17.6	41.2

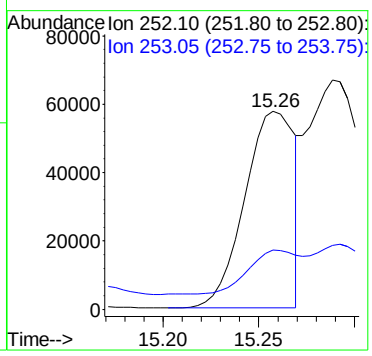


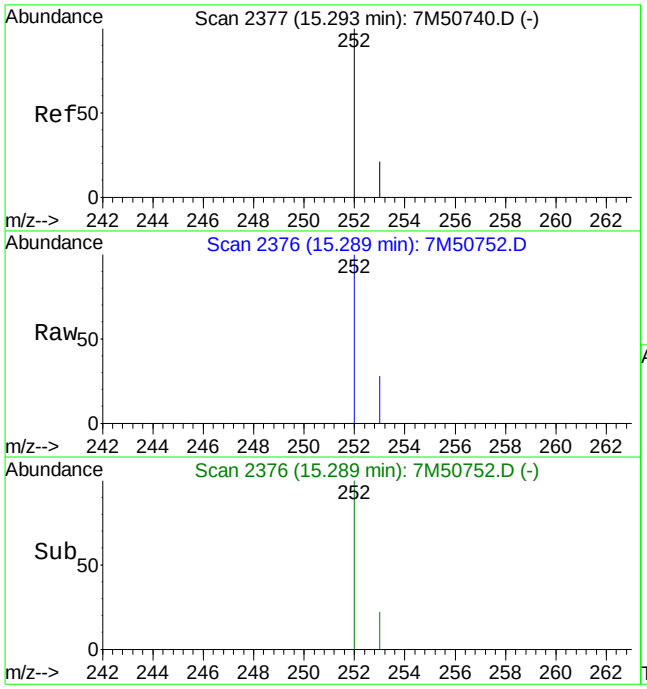


#21
Benzo[b]fluoranthene
Concen: 0.45 ug/ml
RT: 15.26 min Scan# 2368
Delta R.T. -0.01 min
Lab File: 7M50752.D
Acq: 4 Apr 2011 1:22 pm

Tgt Ion:252 Resp: 103303

Ion	Ratio	Lower	Upper
252	100		
253	23.6	13.5	31.5

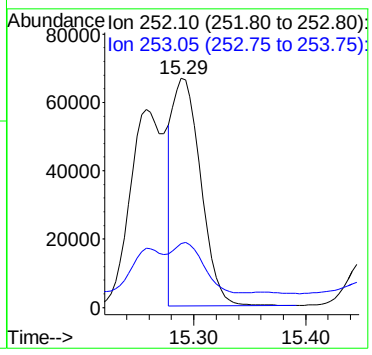


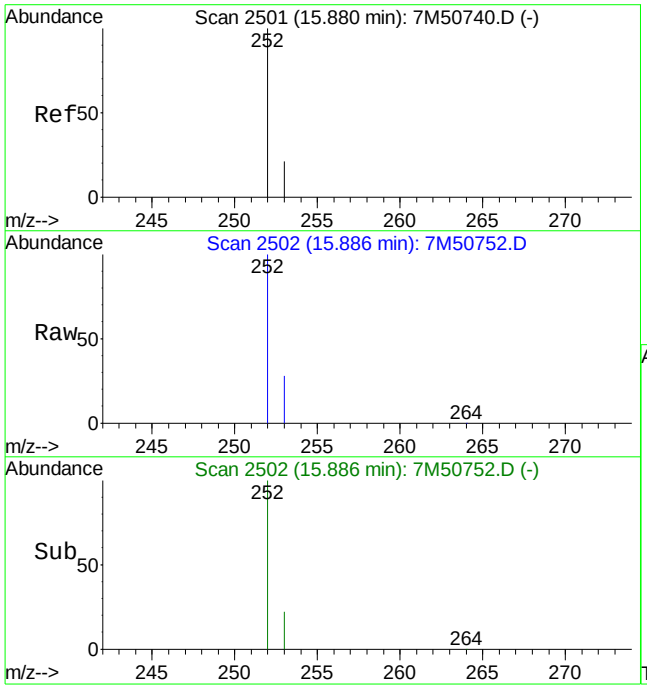


#22
Benzo[k]fluoranthene
Concen: 0.59 ug/ml
RT: 15.29 min Scan# 2376
Delta R.T. -0.02 min
Lab File: 7M50752.D
Acq: 4 Apr 2011 1:22 pm

Tgt Ion:252 Resp: 117180

Ion	Ratio	Lower	Upper
252	100		
253	0.0	13.3	31.1#

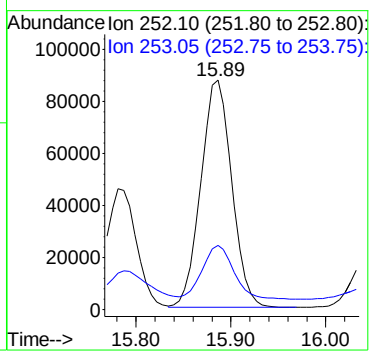


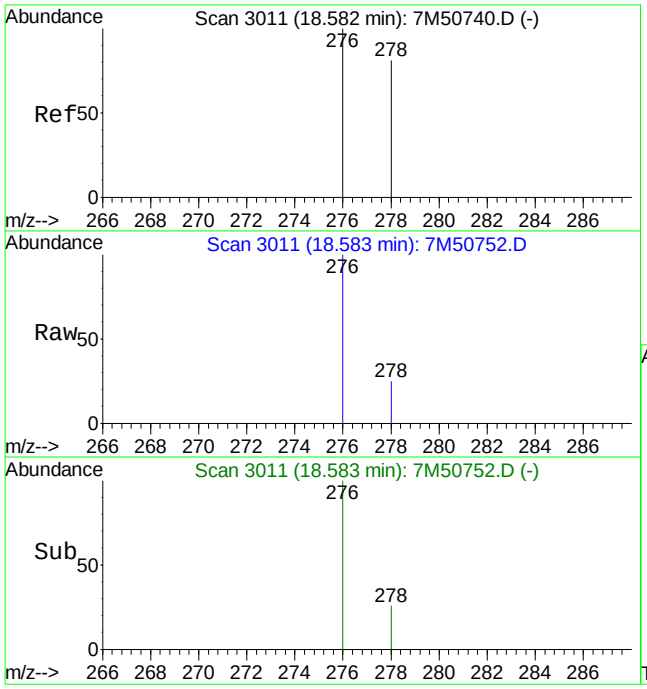


#23
Benzo[a]pyrene
Concen: 0.93 ug/ml
RT: 15.89 min Scan# 2502
Delta R.T. -0.01 min
Lab File: 7M50752.D
Acq: 4 Apr 2011 1:22 pm

Tgt Ion:252 Resp: 198321

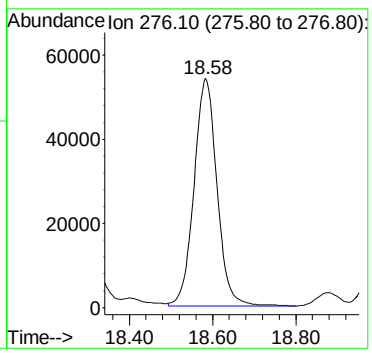
Ion	Ratio	Lower	Upper
252	100		
253	23.9	13.0	30.4

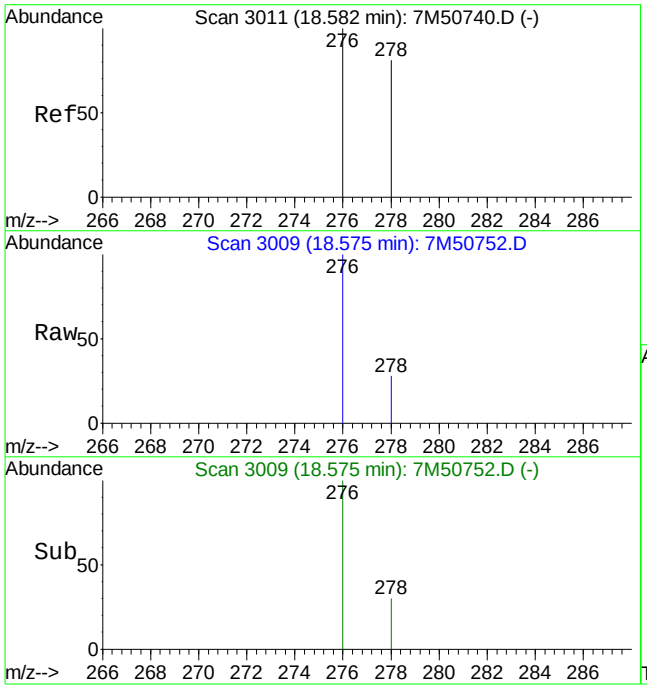




#24
Indeno[1,2,3-cd]pyrene
Concen: 0.83 ug/ml
RT: 18.58 min Scan# 3011
Delta R.T. -0.01 min
Lab File: 7M50752.D
Acq: 4 Apr 2011 1:22 pm

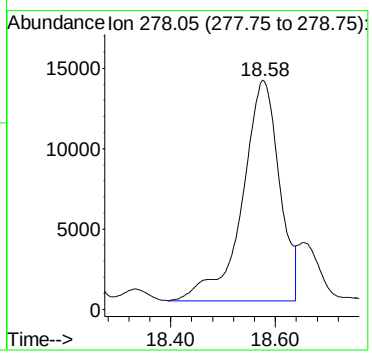
Tgt Ion:276 Resp: 206699

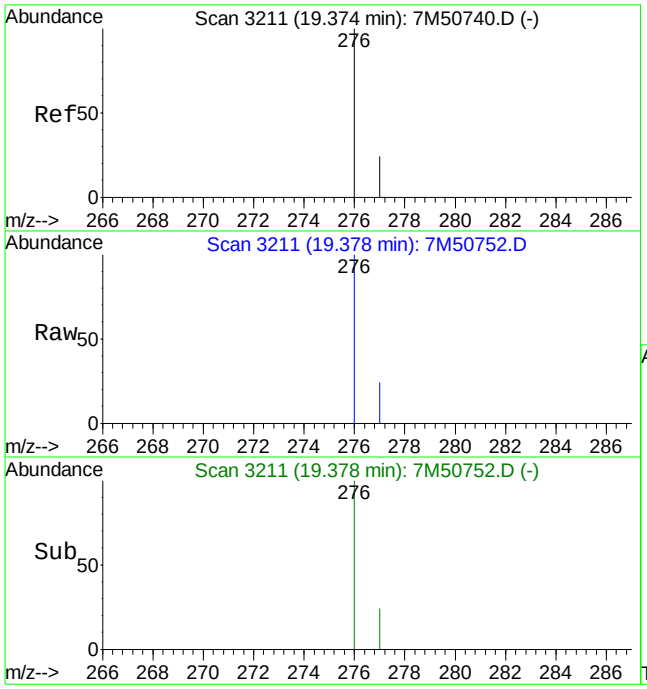




#25
Dibenz[ah]anthracene
Concen: 0.33 ug/ml
RT: 18.58 min Scan# 3009
Delta R.T. -0.02 min
Lab File: 7M50752.D
Acq: 4 Apr 2011 1:22 pm

Tgt Ion:278 Resp: 67687

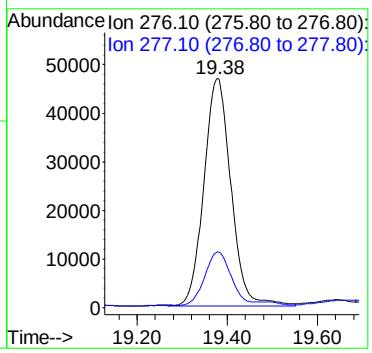




#26
Benzo[ghi]perylene
Concen: 0.93 ug/ml
RT: 19.38 min Scan# 3211
Delta R.T. -0.01 min
Lab File: 7M50752.D
Acq: 4 Apr 2011 1:22 pm

Tgt Ion:276 Resp: 195332

Ion	Ratio	Lower	Upper
276	100		
277	22.6	14.2	33.2



Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\1\DATA\040411\7M50750.D Vial: 12
Acq On : 4 Apr 2011 12:27 pm Operator: CAA
Sample : L11030664-08 Inst : HPMS7
Misc : 7,1 SOIL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 05 07:19:22 2011 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Tue Apr 05 07:19:03 2011
Response via : Initial Calibration
DataAcq Meth : PAHLSIM

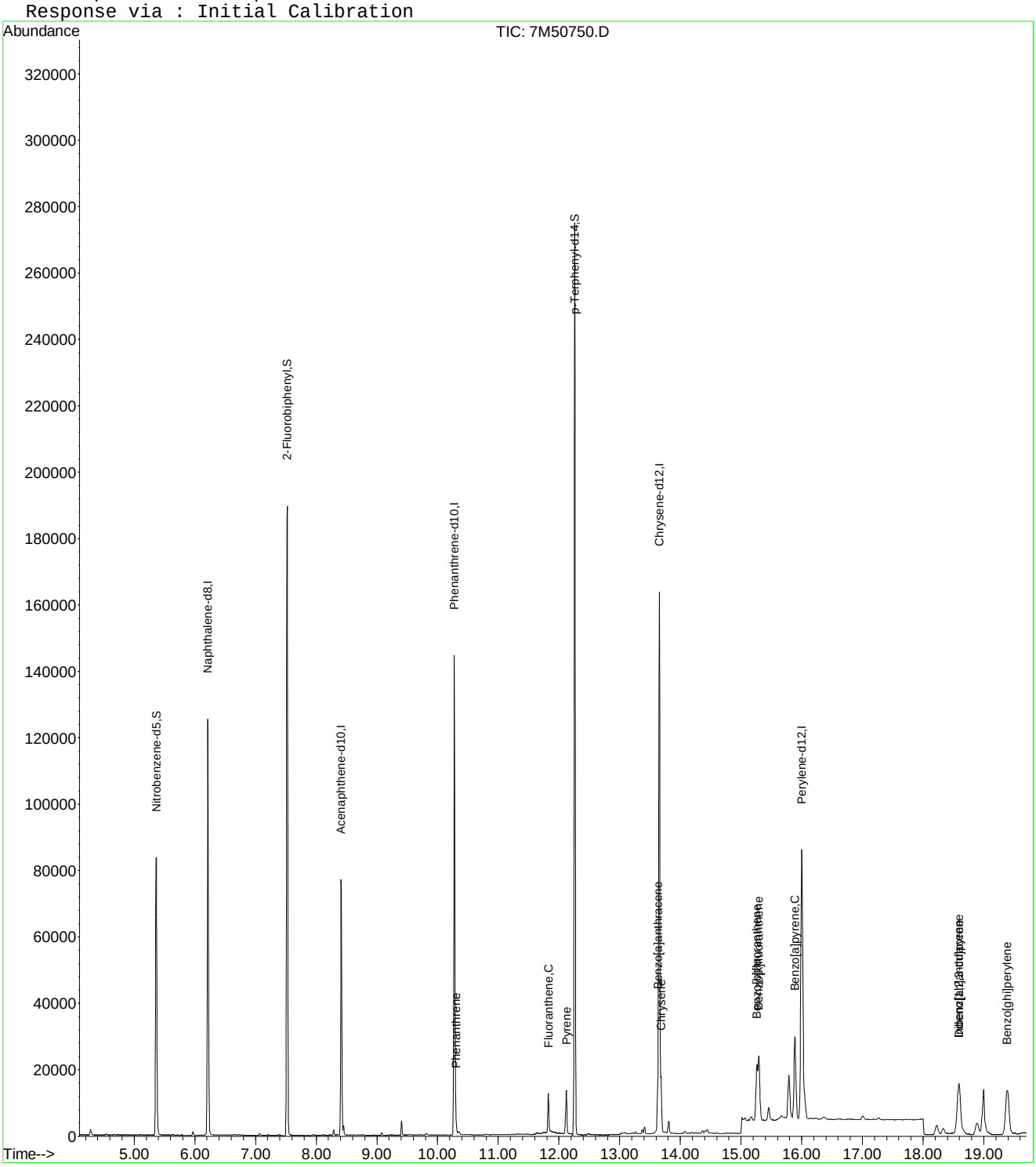
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	6.21	136	151968	1.00 ug/ml	0.00
6) Acenaphthene-d10	8.41	164	99644	1.00 ug/ml	0.00
11) Phenanthrene-d10	10.28	188	169690	1.00 ug/ml	0.00
15) Chrysene-d12	13.65	240	204215	1.00 ug/ml	0.00
20) Perylene-d12	16.00	264	190320	1.00 ug/ml	0.00
System Monitoring Compounds					
2) Nitrobenzene-d5	5.36	82	80436	1.1667 ug/ml	0.00
Spiked Amount 2.500	Range 23 - 120		Recovery	= 46.80%	
7) 2-Fluorobiphenyl	7.52	172	166601	1.3663 ug/ml	0.00
Spiked Amount 2.500	Range 30 - 115		Recovery	= 54.80%	
17) p-Terphenyl-d14	12.26	244	297718	1.9925 ug/ml	0.00
Spiked Amount 2.500	Range 18 - 137		Recovery	= 79.60%	
Target Compounds					Qvalue
12) Phenanthrene	10.31	178	4579	0.0249 ug/ml	100
14) Fluoranthene	11.82	202	12684	0.0600 ug/ml#	68
16) Pyrene	12.12	202	16975	0.0614 ug/ml	94
18) Benzo[a]anthracene	13.63	228	16156	0.0668 ug/ml	93
19) Chrysene	13.68	228	17713	0.0811 ug/ml	96
21) Benzo[b]fluoranthene	15.26	252	25210	0.1069 ug/ml	99
22) Benzo[k]fluoranthene	15.29	252	33752m	0.1650 ug/ml	
23) Benzo[a]pyrene	15.89	252	45675	0.2088 ug/ml	94
24) Indeno[1,2,3-cd]pyrene	18.59	276	49099	0.1928 ug/ml	100
25) Dibenz[ah]anthracene	18.59	278	11898	0.0572 ug/ml	100
26) Benzo[ghi]perylene	19.39	276	44908	0.2089 ug/ml	98

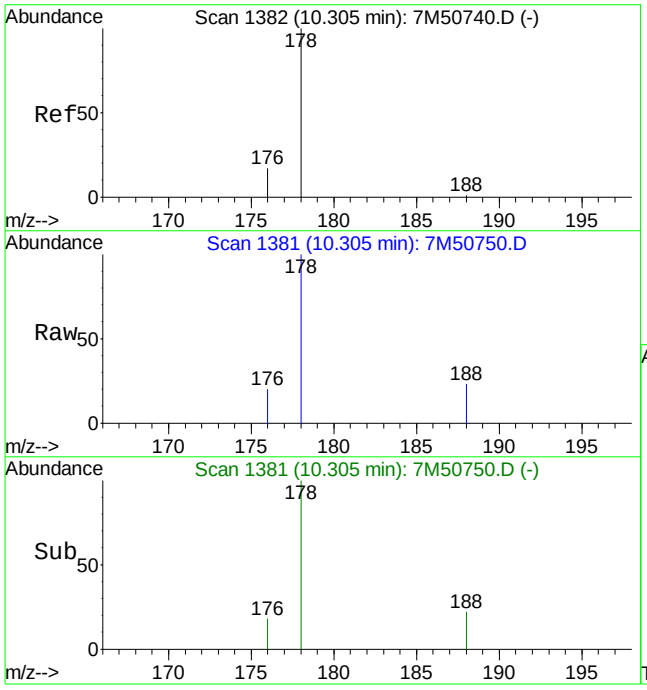
(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\1\DATA\040411\7M50750.D Vial: 12
Acq On : 4 Apr 2011 12:27 pm Operator: CAA
Sample : L11030664-08 Inst : HPMS7
Misc : 7,1 SOIL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 7:23 2011 Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Tue Apr 05 07:19:03 2011
Response via : Initial Calibration

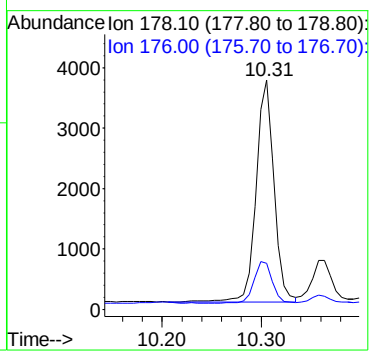


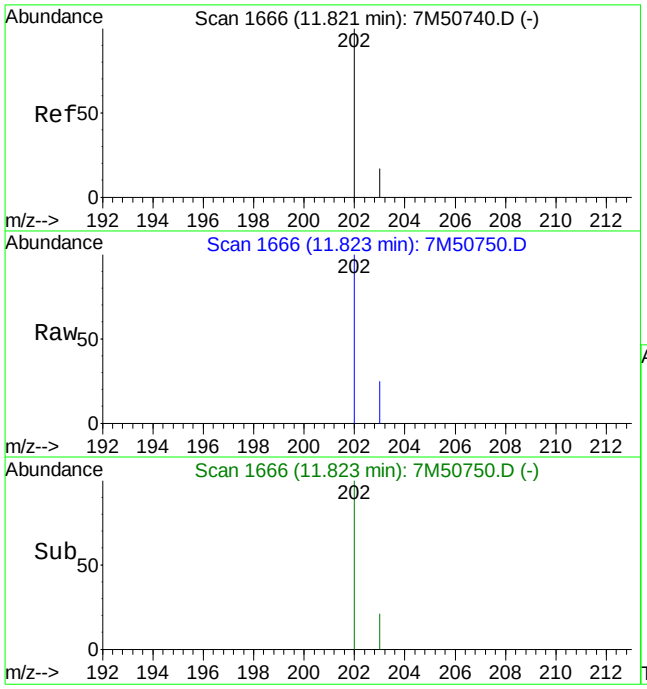


#12
Phenanthrene
Concen: 0.02 ug/ml
RT: 10.31 min Scan# 1381
Delta R.T. -0.00 min
Lab File: 7M50750.D
Acq: 4 Apr 2011 12:27 pm

Tgt Ion:178 Resp: 4579

Ion	Ratio	Lower	Upper
178	100		
176	19.3	11.5	26.9

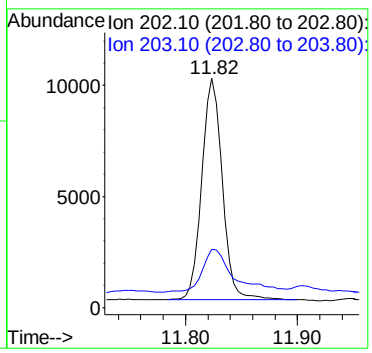


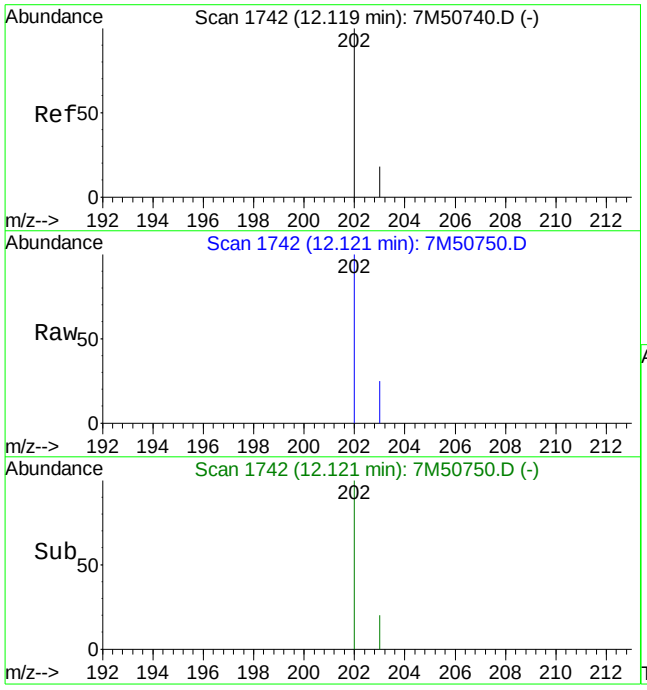


#14
Fluoranthene
Concen: 0.06 ug/ml
RT: 11.82 min Scan# 1666
Delta R.T. -0.00 min
Lab File: 7M50750.D
Acq: 4 Apr 2011 12:27 pm

Tgt Ion:202 Resp: 12684

Ion	Ratio	Lower	Upper
202	100		
203	31.7	10.6	24.6#

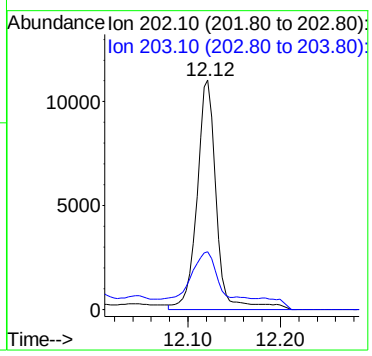


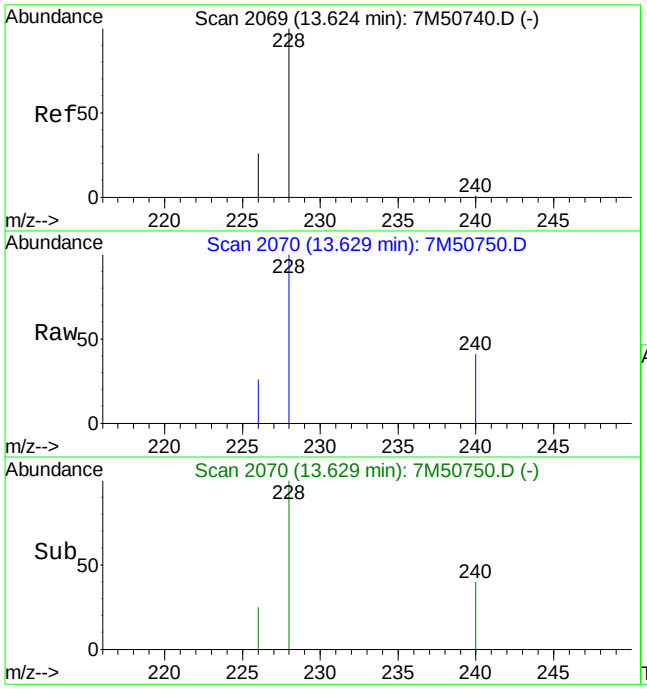


#16
Pyrene
Concen: 0.06 ug/ml
RT: 12.12 min Scan# 1742
Delta R.T. 0.00 min
Lab File: 7M50750.D
Acq: 4 Apr 2011 12:27 pm

Tgt Ion:202 Resp: 16975

Ion	Ratio	Lower	Upper
202	100		
203	21.1	11.0	25.8

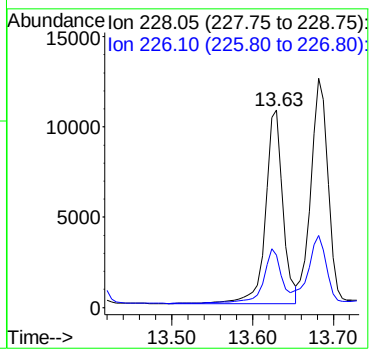


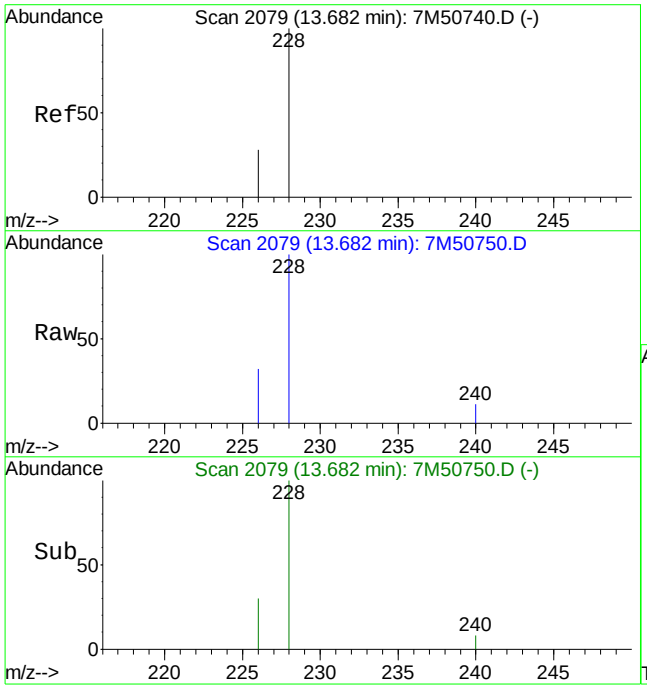


#18
Benzo[a]anthracene
Concen: 0.07 ug/ml
RT: 13.63 min Scan# 2070
Delta R.T. -0.00 min
Lab File: 7M50750.D
Acq: 4 Apr 2011 12:27 pm

Tgt Ion:228 Resp: 16156

Ion	Ratio	Lower	Upper
228	100		
226	30.0	16.0	37.2

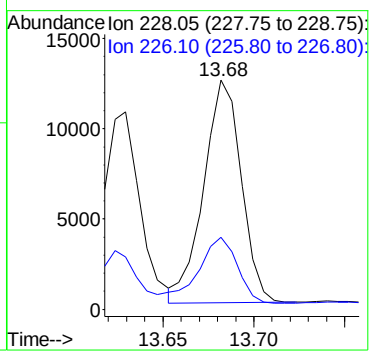


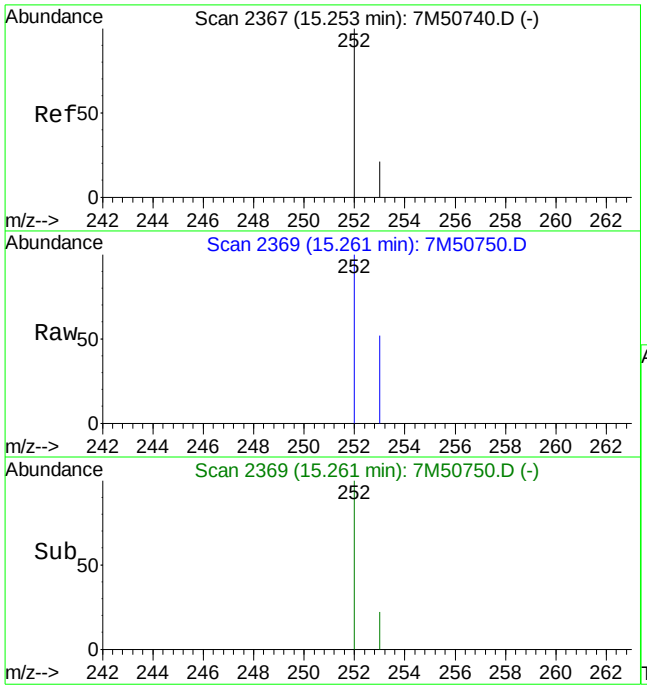


#19
Chrysene
Concen: 0.08 ug/ml
RT: 13.68 min Scan# 2079
Delta R.T. -0.01 min
Lab File: 7M50750.D
Acq: 4 Apr 2011 12:27 pm

Tgt Ion:228 Resp: 17713

Ion	Ratio	Lower	Upper
228	100		
226	31.3	17.6	41.2

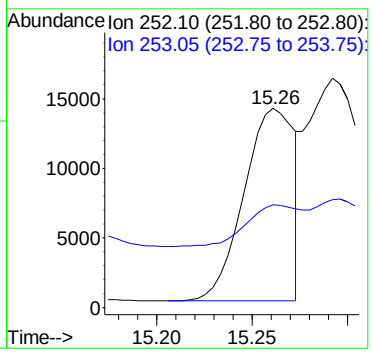


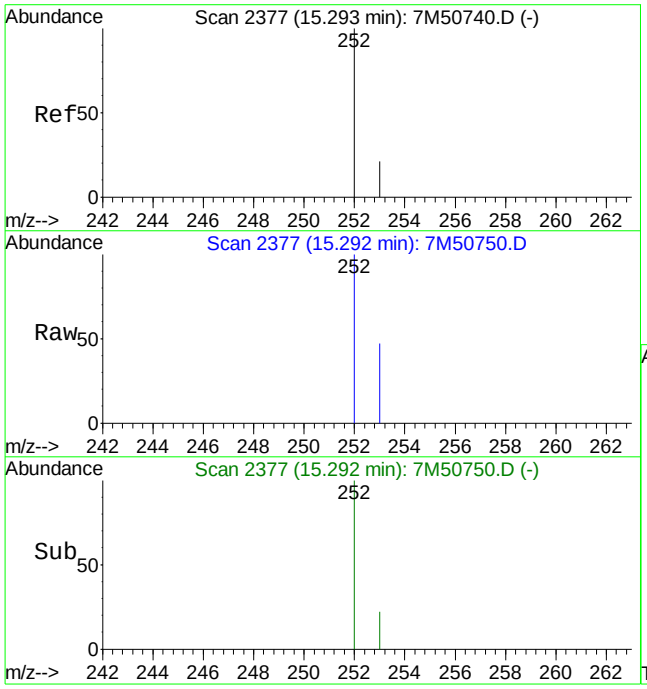


#21
Benzo[b]fluoranthene
Concen: 0.11 ug/ml
RT: 15.26 min Scan# 2369
Delta R.T. -0.00 min
Lab File: 7M50750.D
Acq: 4 Apr 2011 12:27 pm

Tgt Ion:252 Resp: 25210

Ion	Ratio	Lower	Upper
252	100		
253	22.9	13.5	31.5

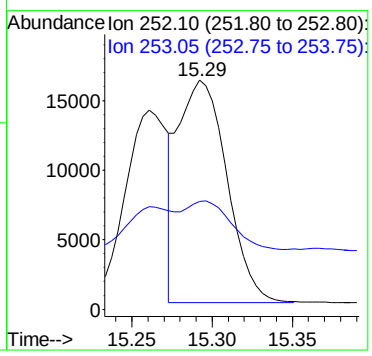


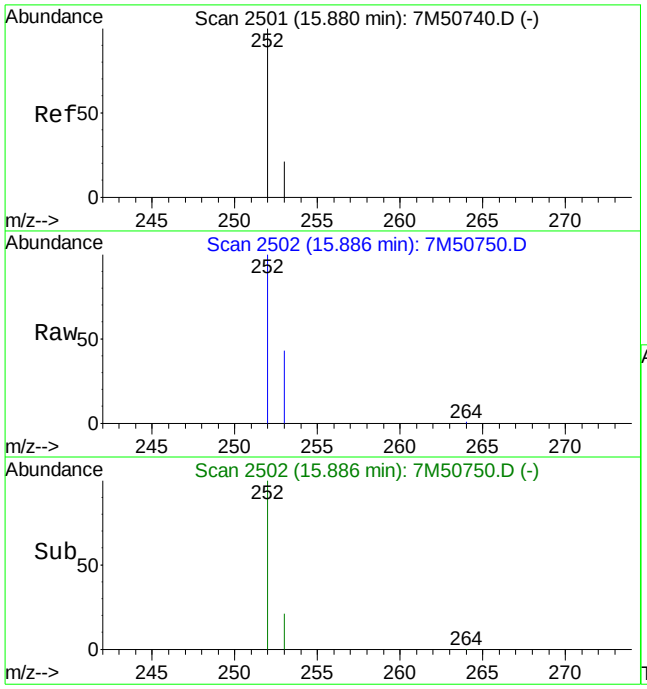


#22
Benzo[k]fluoranthene
Concen: 0.16 ug/ml m
RT: 15.29 min Scan# 2377
Delta R.T. -0.01 min
Lab File: 7M50750.D
Acq: 4 Apr 2011 12:27 pm

Tgt Ion:252 Resp: 33752

Ion	Ratio	Lower	Upper
252	100		
253	17.1	13.3	31.1

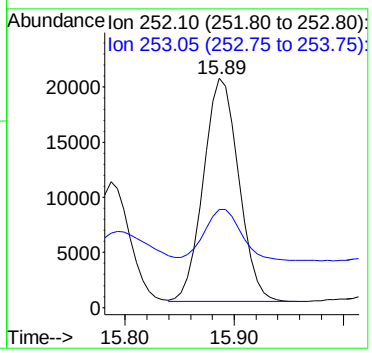


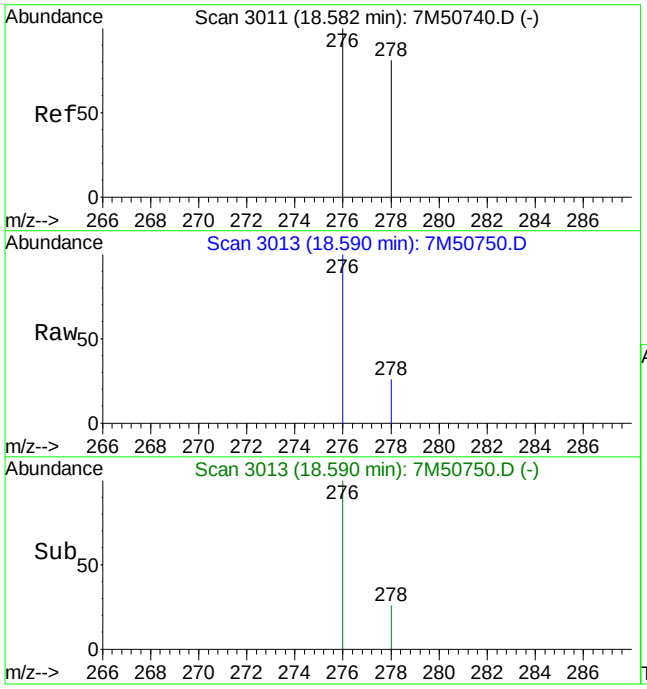


#23
Benzo[a]pyrene
Concen: 0.21 ug/ml
RT: 15.89 min Scan# 2502
Delta R.T. -0.01 min
Lab File: 7M50750.D
Acq: 4 Apr 2011 12:27 pm

Tgt Ion:252 Resp: 45675

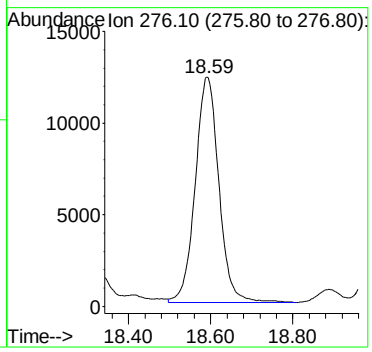
Ion	Ratio	Lower	Upper
252	100		
253	24.4	13.0	30.4

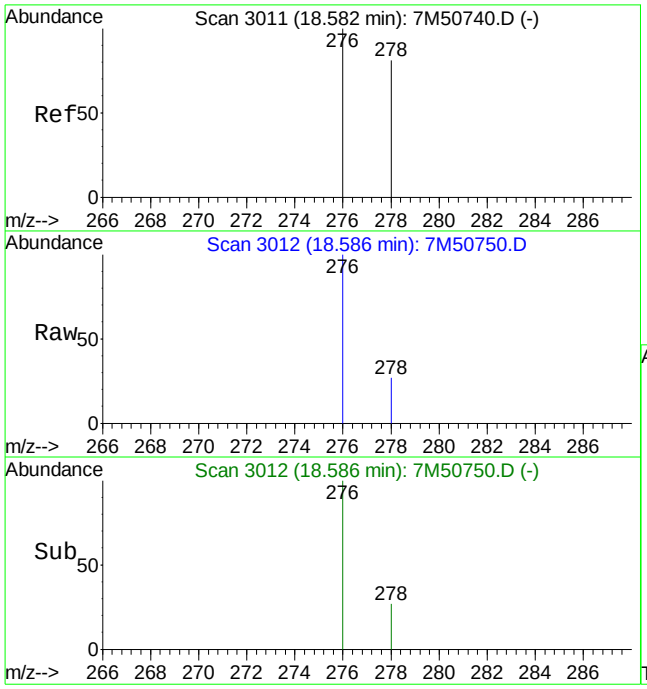




#24
Indeno[1,2,3-cd]pyrene
Concen: 0.19 ug/ml
RT: 18.59 min Scan# 3013
Delta R.T. -0.00 min
Lab File: 7M50750.D
Acq: 4 Apr 2011 12:27 pm

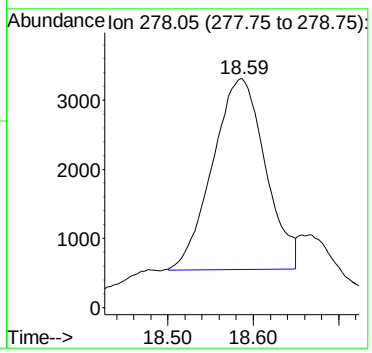
Tgt Ion:276 Resp: 49099

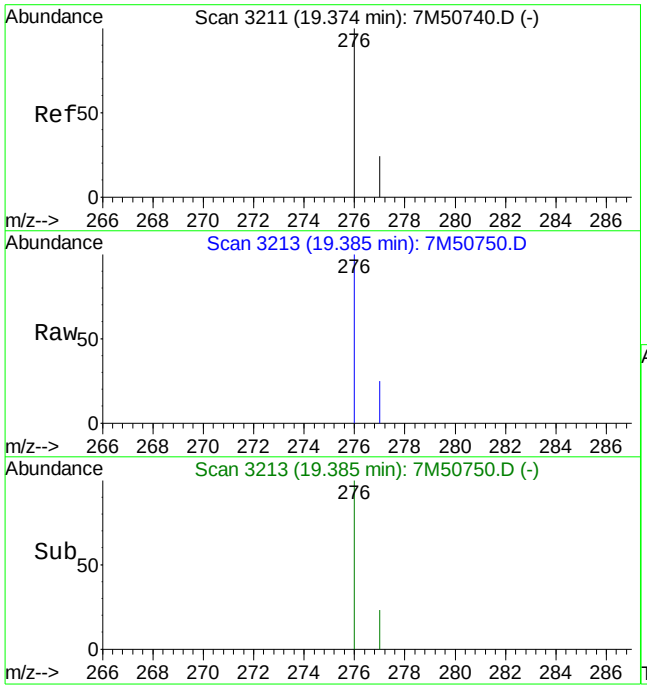




#25
Dibenz[ah]anthracene
Concen: 0.06 ug/ml
RT: 18.59 min Scan# 3012
Delta R.T. -0.01 min
Lab File: 7M50750.D
Acq: 4 Apr 2011 12:27 pm

Tgt Ion:278 Resp: 11898

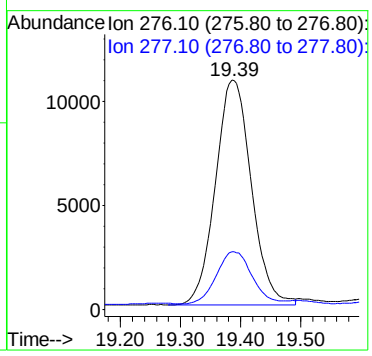




#26
Benzo[ghi]perylene
Concen: 0.21 ug/ml
RT: 19.39 min Scan# 3213
Delta R.T. -0.00 min
Lab File: 7M50750.D
Acq: 4 Apr 2011 12:27 pm

Tgt Ion:276 Resp: 44908

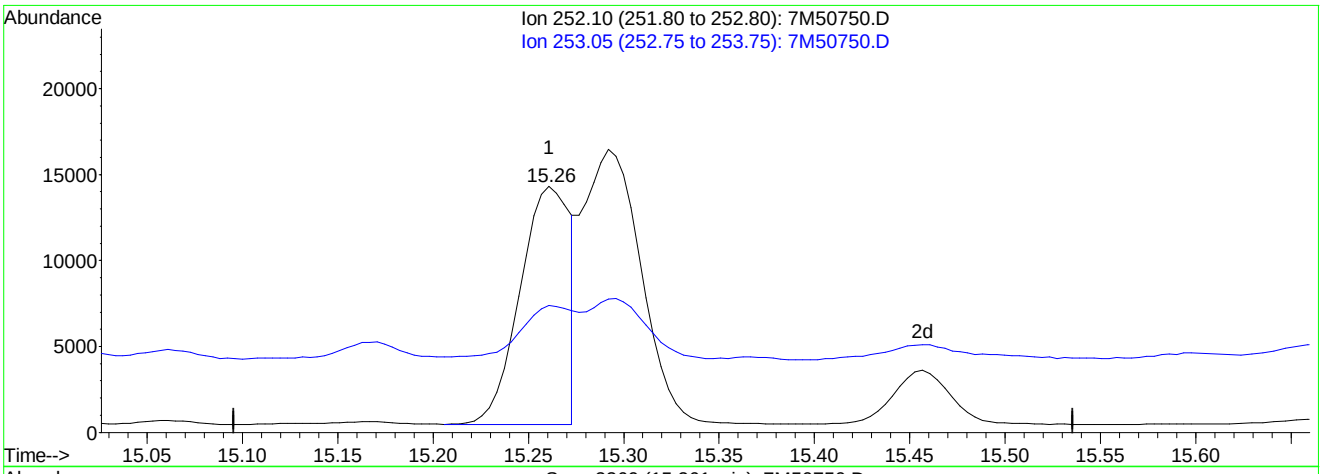
Ion	Ratio	Lower	Upper
276	100		
277	22.7	14.2	33.2

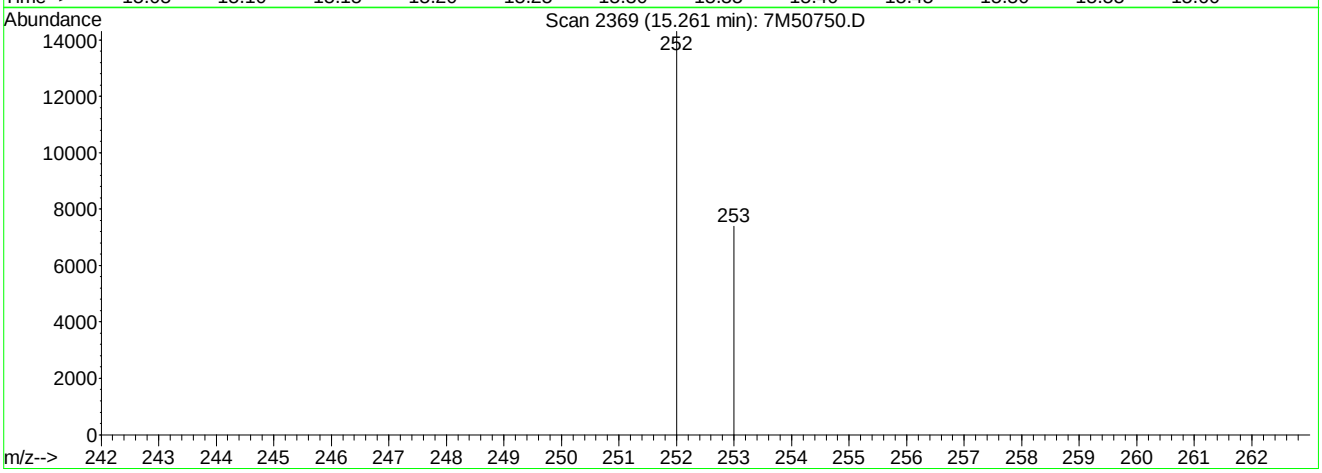


Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\040411\7M50750.D Vial: 12
Acq On : 4 Apr 2011 12:27 pm Operator: CAA
Sample : L11030664-08 Inst : HPMS7
Misc : 7,1 SOIL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 7:19 2011 Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Tue Apr 05 07:19:03 2011
Response via : Multiple Level Calibration





TIC: 7M50750.D

(22) Benzo[k]fluoranthene

15.26min 0.12ug/ml

response 25210

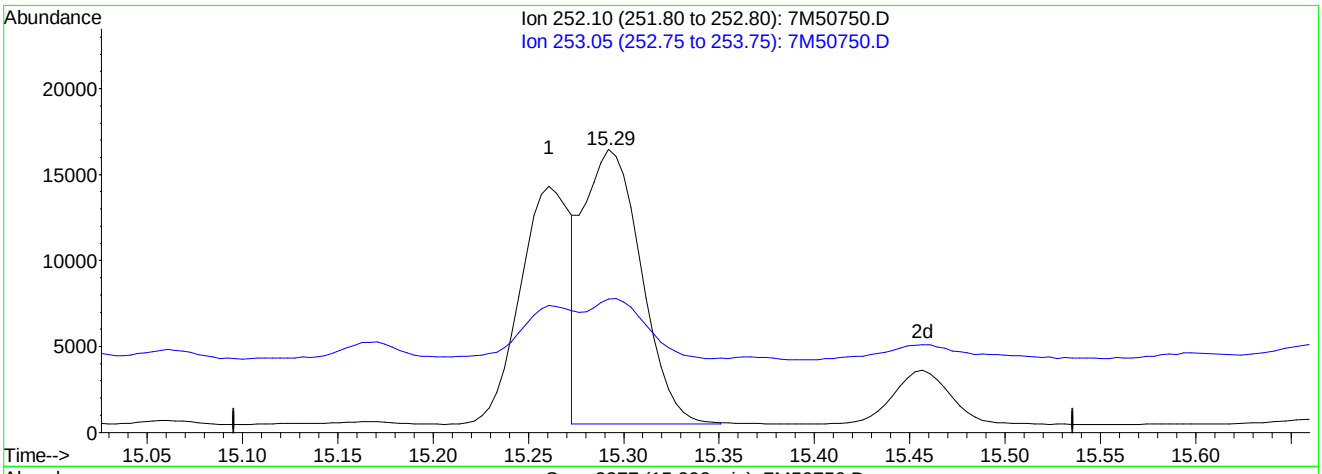
Ion	Exp%	Act%
252.10	100	100
253.05	22.20	22.95
0.00	0.00	0.00
0.00	0.00	0.00

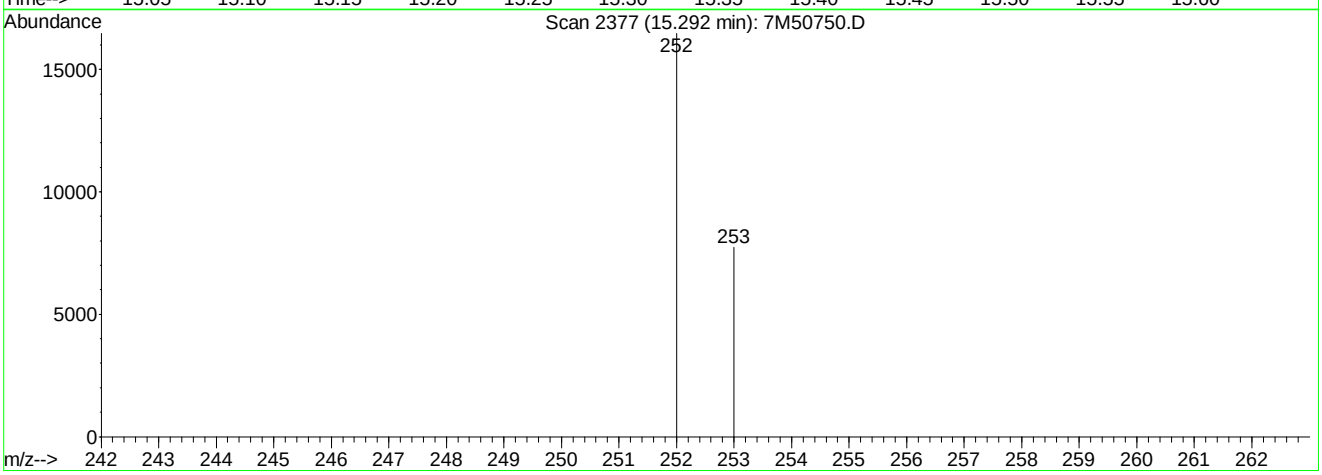
7M50750.D SIMPAHL.M Tue Apr 05 07:23:15 2011

Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\040411\7M50750.D Vial: 12
Acq On : 4 Apr 2011 12:27 pm Operator: CAA
Sample : L11030664-08 Inst : HPMS7
Misc : 7,1 SOIL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 7:23 2011 Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Tue Apr 05 07:19:03 2011
Response via : Multiple Level Calibration





TIC: 7M50750.D

(22) Benzo[k]fluoranthene

15.29min 0.16ug/ml mint

response 33752

Ion	Exp%	Act%
252.10	100	100
253.05	22.20	17.14
0.00	0.00	0.00
0.00	0.00	0.00

7M50750.D SIMPAHL.M Tue Apr 05 07:23:23 2011

Analyst: 04/05/2011 08:34 Supervisor: 04/05/2011 09:17

#3 - Improperly integrated isomers and/or coeluting compounds

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\1\DATA\040411\7M50746.D Vial: 8
Acq On : 4 Apr 2011 10:36 am Operator: CAA
Sample : L11030664-09 Inst : HPMS7
Misc : 7,1 SOIL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 05 07:19:21 2011 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Tue Apr 05 07:19:03 2011
Response via : Initial Calibration
DataAcq Meth : PAHLSIM

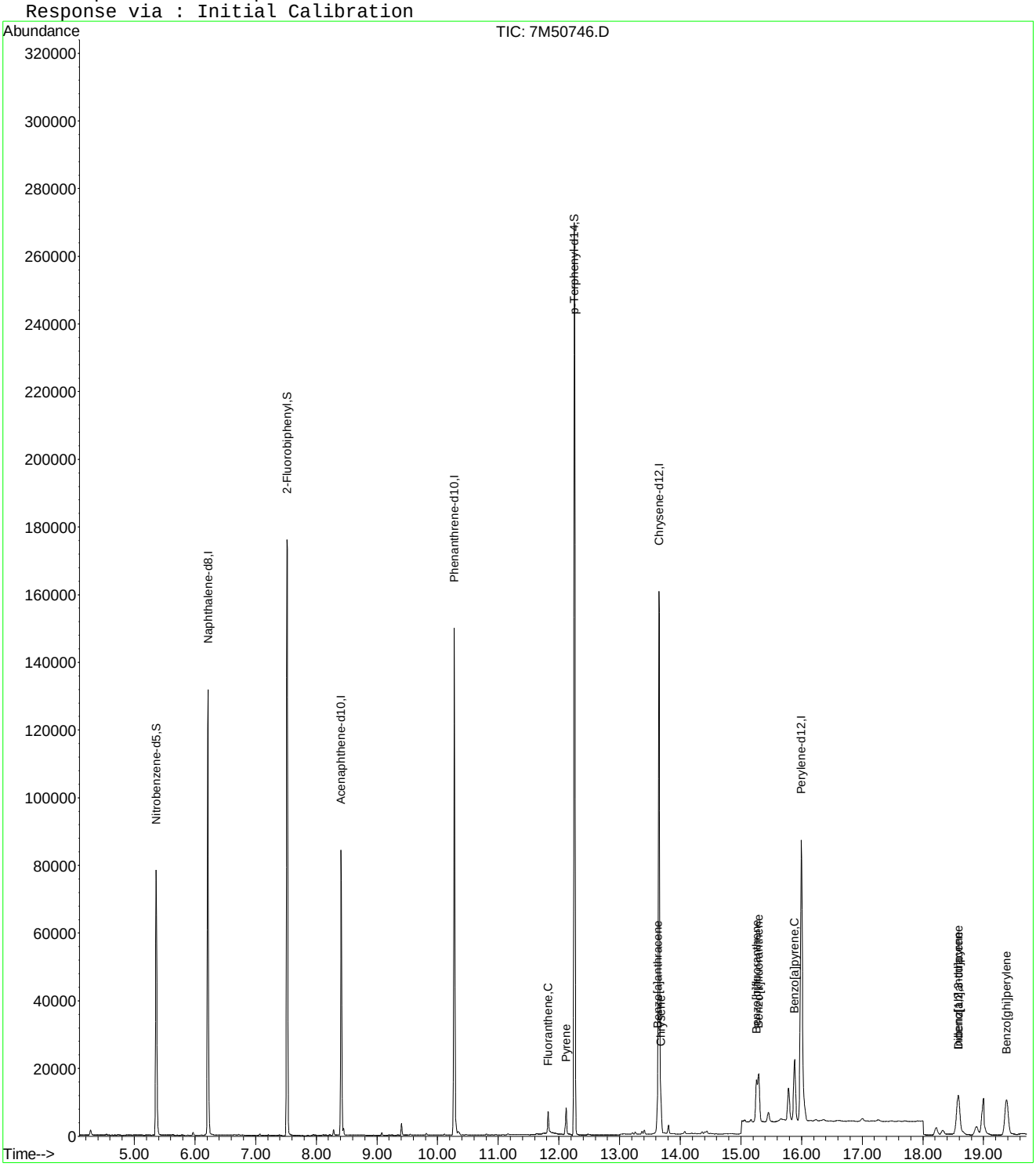
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	6.22	136	162798	1.00 ug/ml	0.00
6) Acenaphthene-d10	8.41	164	105568	1.00 ug/ml	0.00
11) Phenanthrene-d10	10.28	188	179097	1.00 ug/ml	0.00
15) Chrysene-d12	13.65	240	214204	1.00 ug/ml	-0.01
20) Perylene-d12	16.00	264	194717	1.00 ug/ml	-0.01
System Monitoring Compounds					
2) Nitrobenzene-d5	5.36	82	74647	1.0107 ug/ml	0.00
Spiked Amount 2.500	Range 23 - 120		Recovery	= 40.40%	
7) 2-Fluorobiphenyl	7.52	172	154622	1.1969 ug/ml	0.00
Spiked Amount 2.500	Range 30 - 115		Recovery	= 48.00%	
17) p-Terphenyl-d14	12.26	244	281821	1.7982 ug/ml	0.00
Spiked Amount 2.500	Range 18 - 137		Recovery	= 72.00%	
Target Compounds					Qvalue
14) Fluoranthene	11.82	202	7245	0.0325 ug/ml#	60
16) Pyrene	12.12	202	8481	0.0292 ug/ml#	81
18) Benzo[a]anthracene	13.62	228	12203	0.0481 ug/ml	94
19) Chrysene	13.68	228	12322	0.0538 ug/ml	96
21) Benzo[b]fluoranthene	15.26	252	20217	0.0838 ug/ml	96
22) Benzo[k]fluoranthene	15.29	252	23387m	0.1117 ug/ml	
23) Benzo[a]pyrene	15.89	252	33473	0.1495 ug/ml	94
24) Indeno[1,2,3-cd]pyrene	18.58	276	36877	0.1415 ug/ml	100
25) Dibenz[ah]anthracene	18.57	278	9259	0.0435 ug/ml	100
26) Benzo[ghi]perylene	19.38	276	34894	0.1586 ug/ml	98

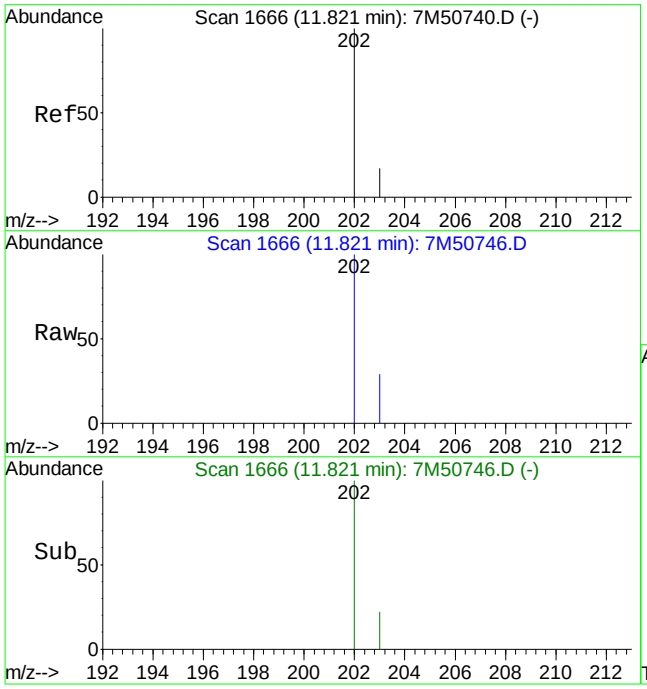
(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\1\DATA\040411\7M50746.D Vial: 8
Acq On : 4 Apr 2011 10:36 am Operator: CAA
Sample : L11030664-09 Inst : HPMS7
Misc : 7,1 SOIL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 7:22 2011 Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Tue Apr 05 07:19:03 2011
Response via : Initial Calibration

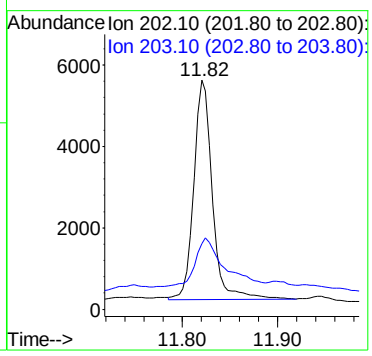


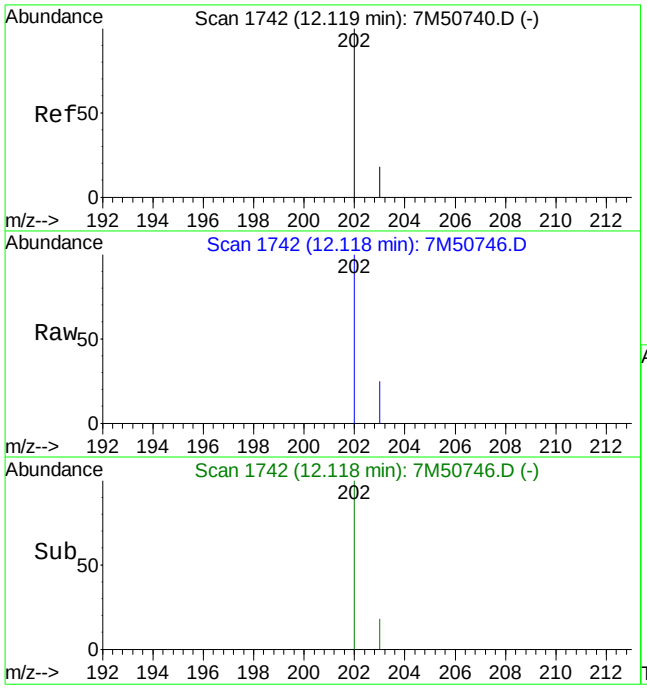


#14
Fluoranthene
Concen: 0.03 ug/ml
RT: 11.82 min Scan# 1666
Delta R.T. -0.01 min
Lab File: 7M50746.D
Acq: 4 Apr 2011 10:36 am

Tgt Ion:202 Resp: 7245

Ion	Ratio	Lower	Upper
202	100		
203	35.1	10.6	24.6#

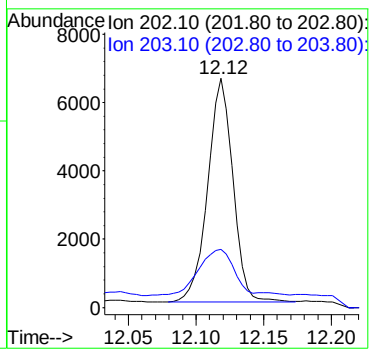


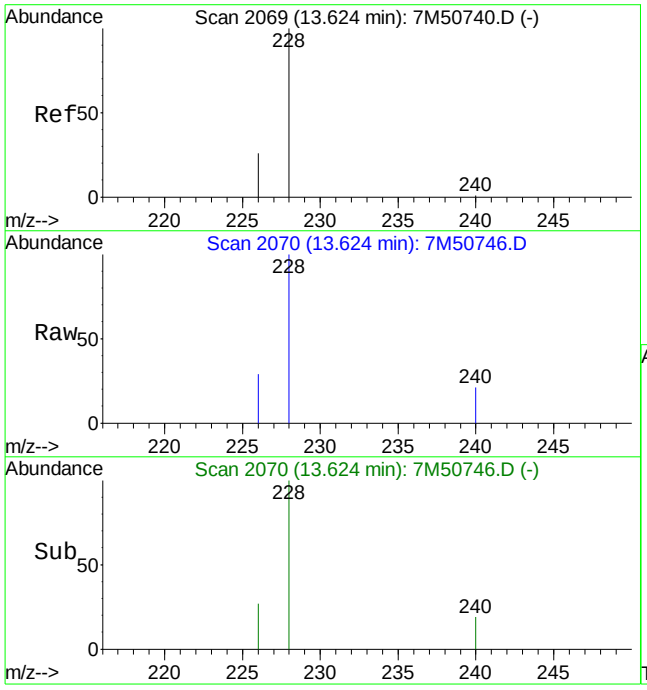


#16
Pyrene
Concen: 0.03 ug/ml
RT: 12.12 min Scan# 1742
Delta R.T. -0.00 min
Lab File: 7M50746.D
Acq: 4 Apr 2011 10:36 am

Tgt Ion:202 Resp: 8481

Ion	Ratio	Lower	Upper
202	100		
203	26.8	11.0	25.8#

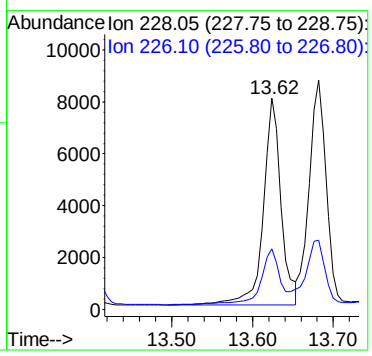


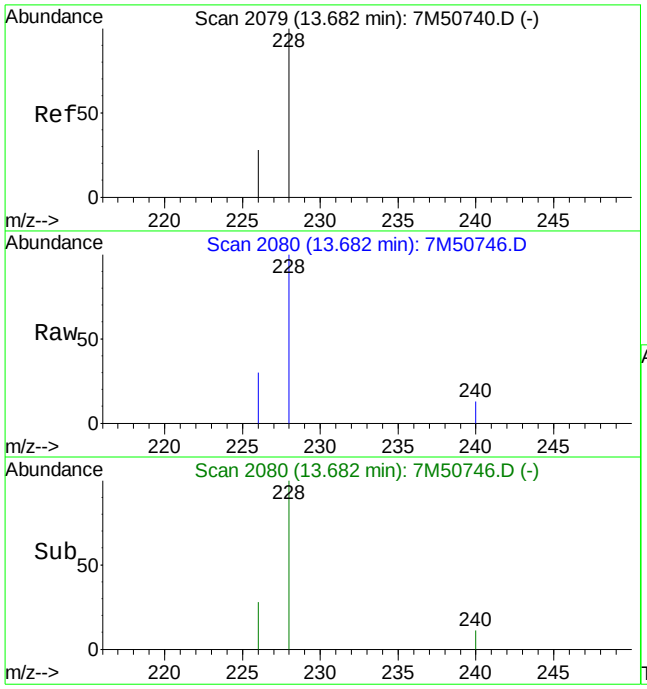


#18
Benzo[a]anthracene
Concen: 0.05 ug/ml
RT: 13.62 min Scan# 2070
Delta R.T. -0.01 min
Lab File: 7M50746.D
Acq: 4 Apr 2011 10:36 am

Tgt Ion:228 Resp: 12203

Ion	Ratio	Lower	Upper
228	100		
226	29.7	16.0	37.2

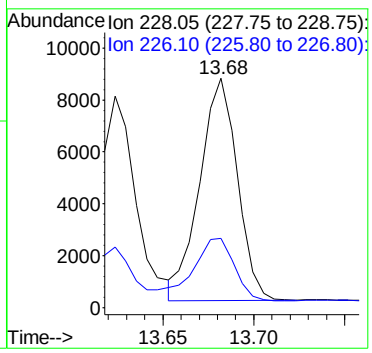


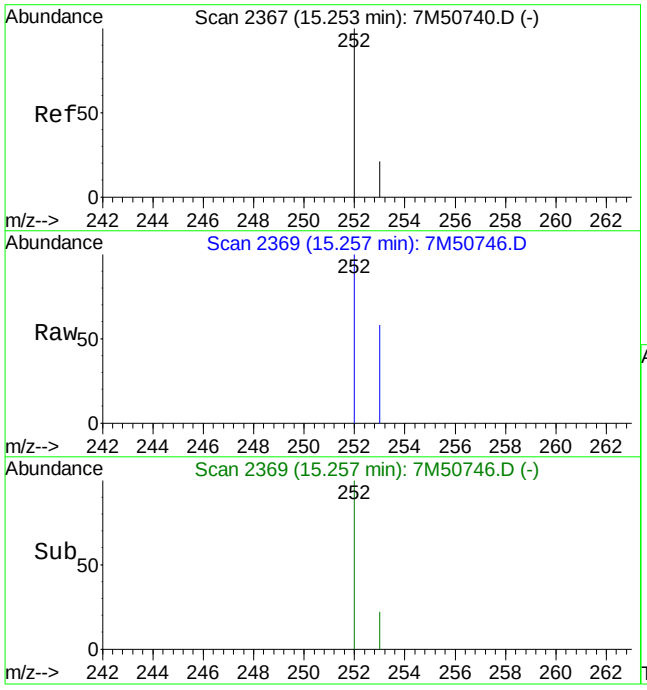


#19
Chrysene
Concen: 0.05 ug/ml
RT: 13.68 min Scan# 2080
Delta R.T. -0.01 min
Lab File: 7M50746.D
Acq: 4 Apr 2011 10:36 am

Tgt Ion:228 Resp: 12322

Ion	Ratio	Lower	Upper
228	100		
226	31.4	17.6	41.2

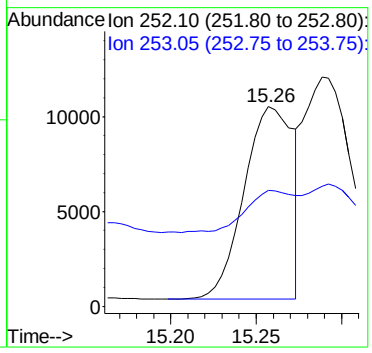


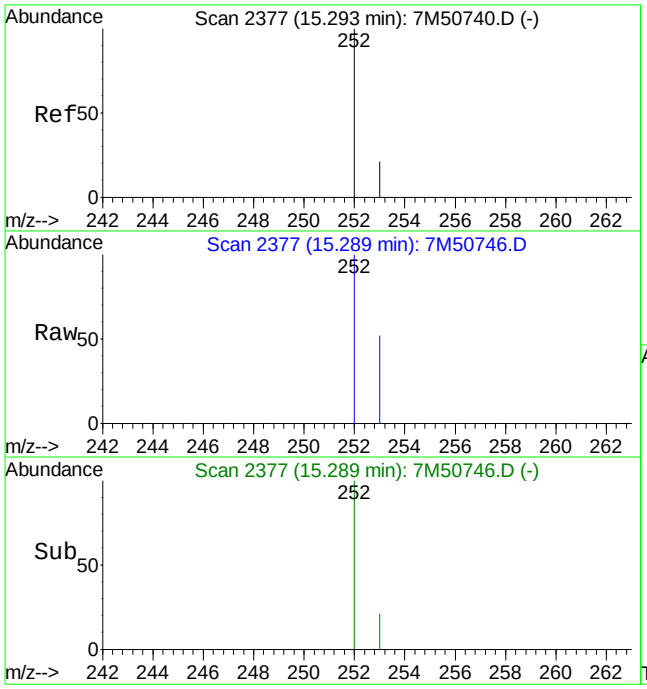


#21
Benzo[b]fluoranthene
Concen: 0.08 ug/ml
RT: 15.26 min Scan# 2369
Delta R.T. -0.01 min
Lab File: 7M50746.D
Acq: 4 Apr 2011 10:36 am

Tgt Ion:252 Resp: 20217

Ion	Ratio	Lower	Upper
252	100		
253	20.8	13.5	31.5

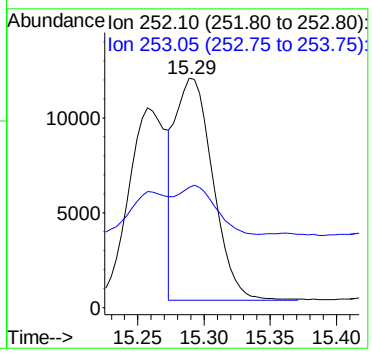


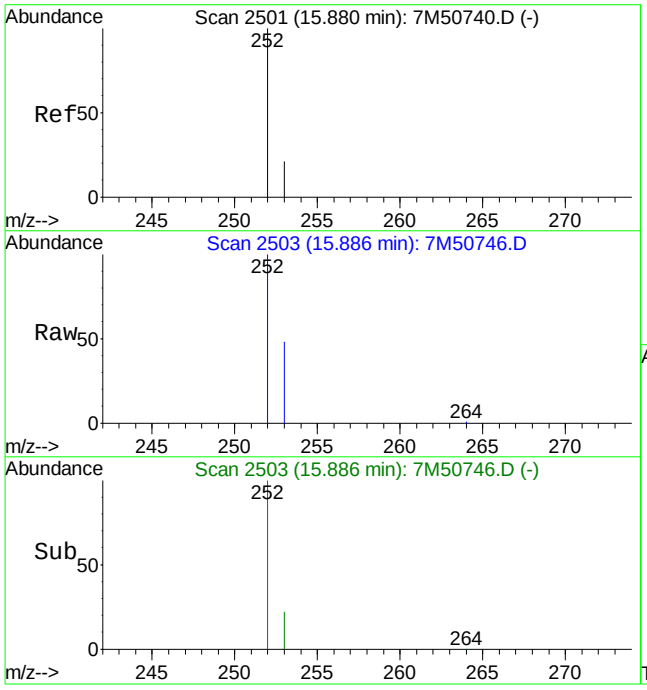


#22
Benzo[k]fluoranthene
Concen: 0.11 ug/ml m
RT: 15.29 min Scan# 2377
Delta R.T. -0.02 min
Lab File: 7M50746.D
Acq: 4 Apr 2011 10:36 am

Tgt Ion:252 Resp: 23387

Ion	Ratio	Lower	Upper
252	100		
253	18.0	13.3	31.1

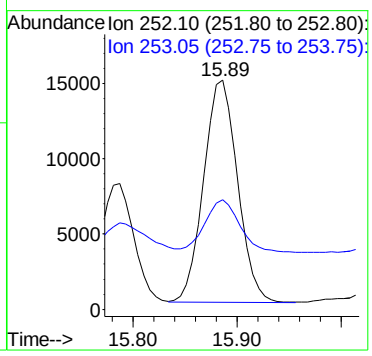


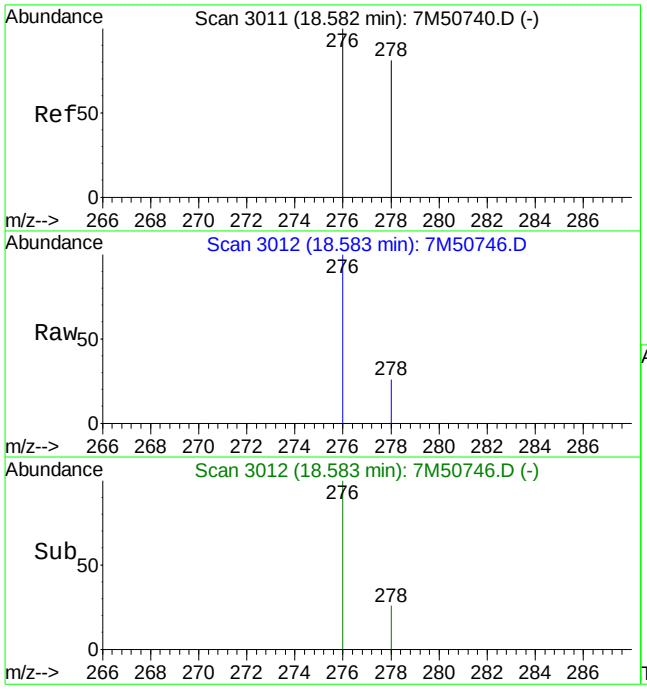


#23
Benzo[a]pyrene
Concen: 0.15 ug/ml
RT: 15.89 min Scan# 2503
Delta R.T. -0.01 min
Lab File: 7M50746.D
Acq: 4 Apr 2011 10:36 am

Tgt Ion:252 Resp: 33473

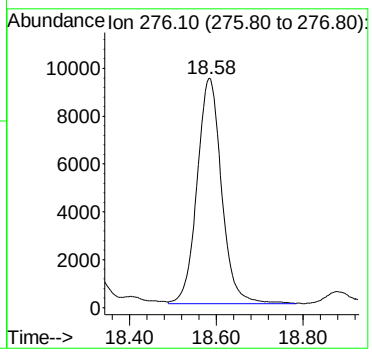
Ion	Ratio	Lower	Upper
252	100		
253	24.6	13.0	30.4

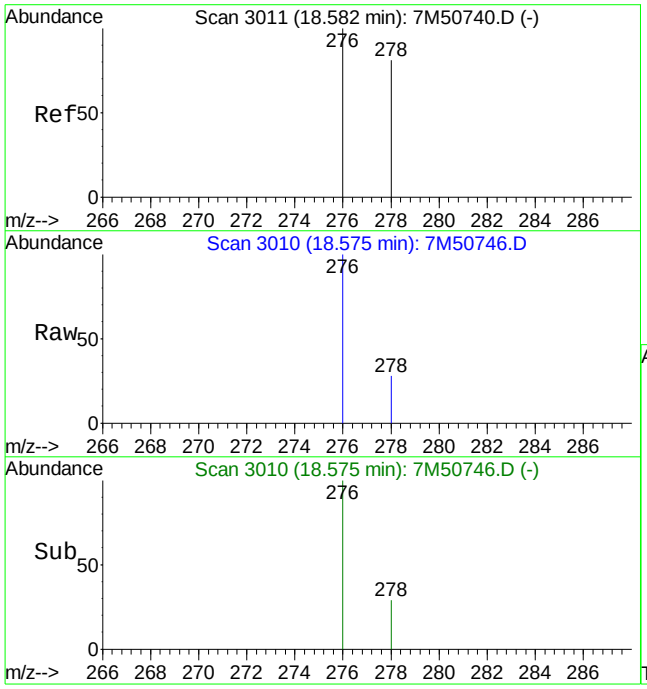




#24
Indeno[1,2,3-cd]pyrene
Concen: 0.14 ug/ml
RT: 18.58 min Scan# 3012
Delta R.T. -0.01 min
Lab File: 7M50746.D
Acq: 4 Apr 2011 10:36 am

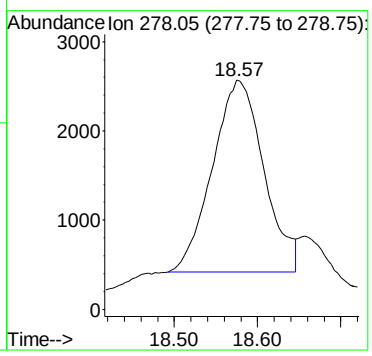
Tgt Ion:276 Resp: 36877

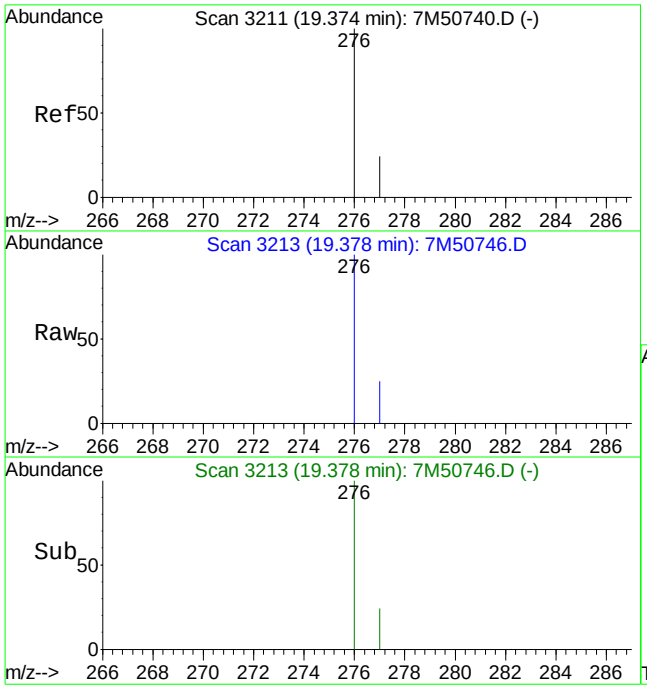




#25
Dibenz[ah]anthracene
Concen: 0.04 ug/ml
RT: 18.57 min Scan# 3010
Delta R.T. -0.02 min
Lab File: 7M50746.D
Acq: 4 Apr 2011 10:36 am

Tgt Ion:278 Resp: 9259

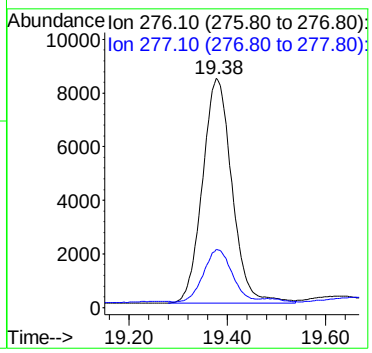




#26
Benzo[ghi]perylene
Concen: 0.16 ug/ml
RT: 19.38 min Scan# 3213
Delta R.T. -0.01 min
Lab File: 7M50746.D
Acq: 4 Apr 2011 10:36 am

Tgt Ion:276 Resp: 34894

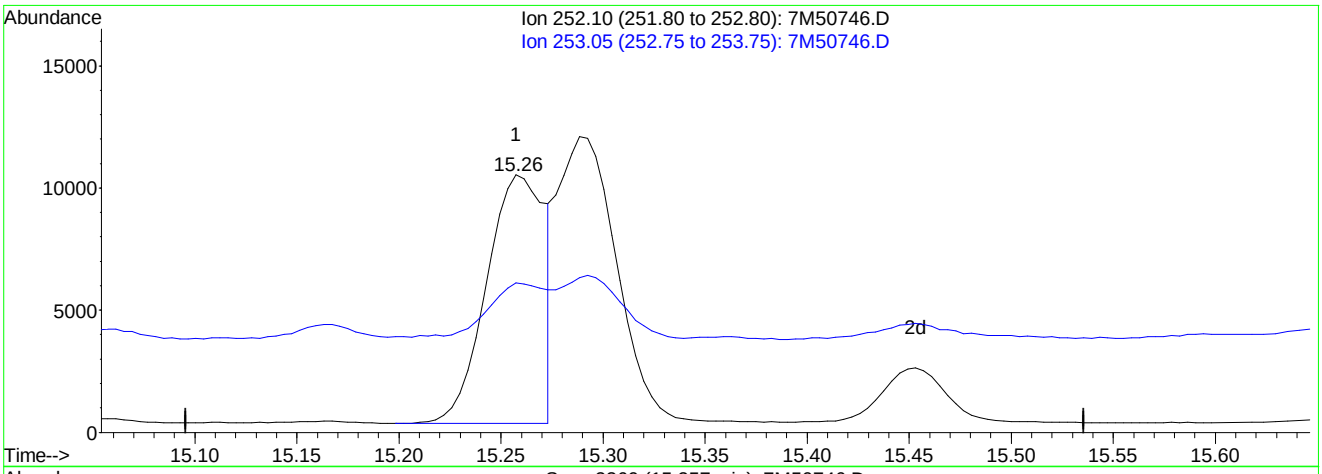
Ion	Ratio	Lower	Upper
276	100		
277	22.5	14.2	33.2

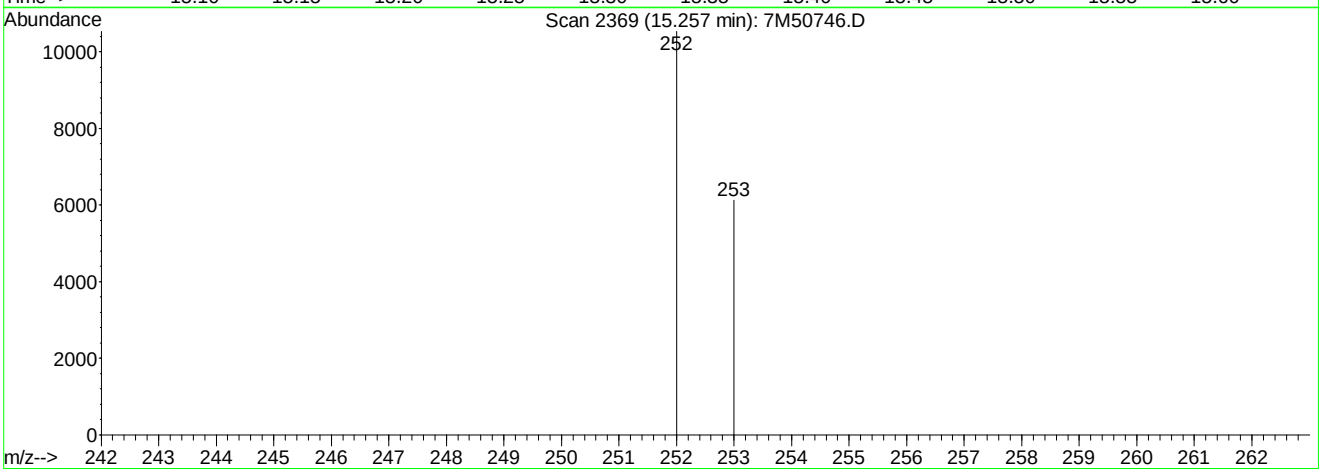


Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\040411\7M50746.D Vial: 8
Acq On : 4 Apr 2011 10:36 am Operator: CAA
Sample : L11030664-09 Inst : HPMS7
Misc : 7,1 SOIL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 7:19 2011 Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Tue Apr 05 07:19:03 2011
Response via : Multiple Level Calibration





TIC: 7M50746.D

(22) Benzo[k]fluoranthene

15.26min 0.10ug/ml

response 20217

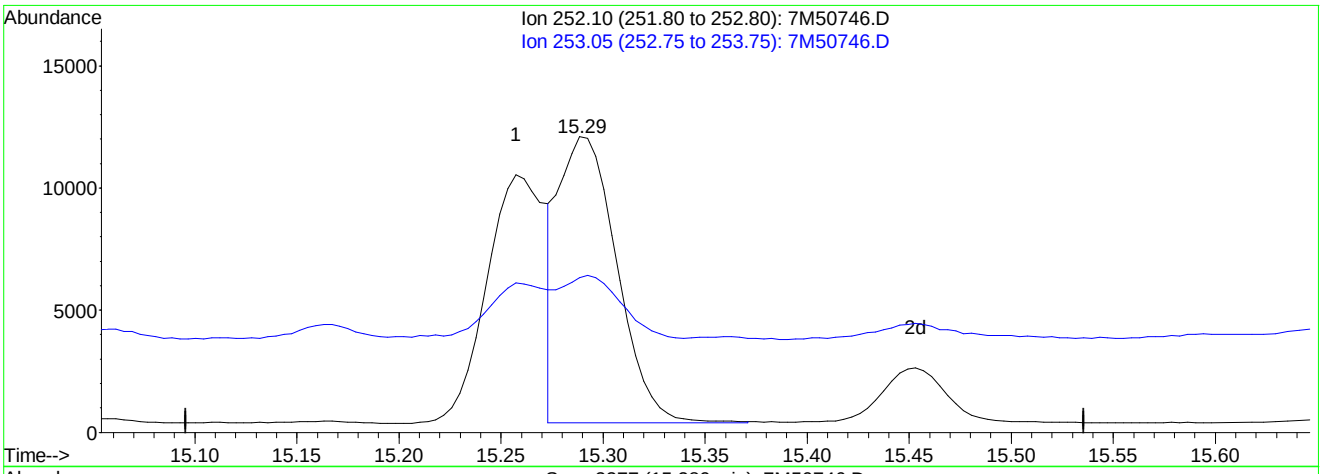
Ion	Exp%	Act%
252.10	100	100
253.05	22.20	20.81
0.00	0.00	0.00
0.00	0.00	0.00

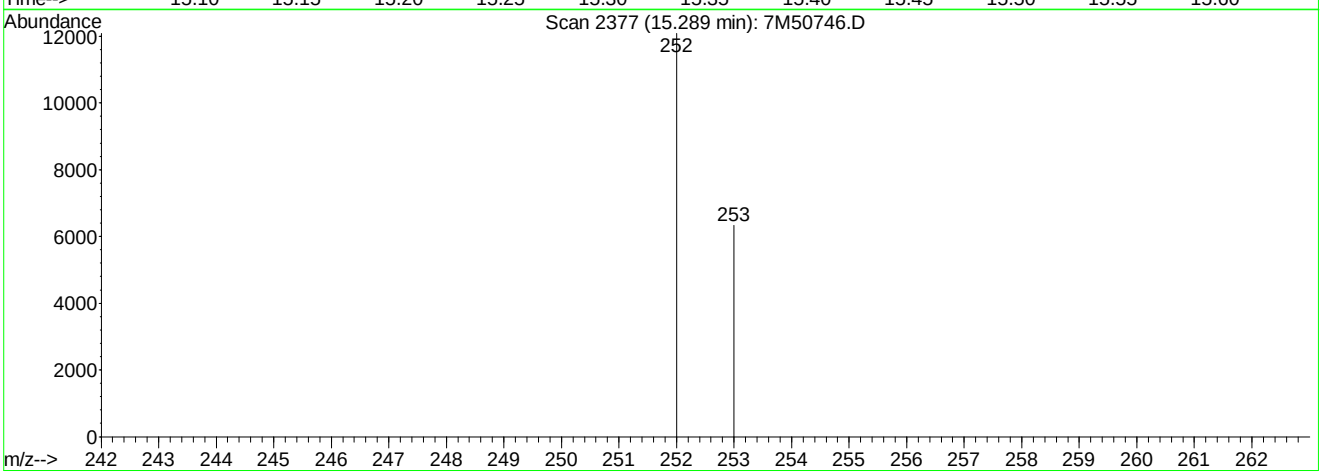
7M50746.D SIMPAHL.M Tue Apr 05 07:22:10 2011

Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\040411\7M50746.D Vial: 8
Acq On : 4 Apr 2011 10:36 am Operator: CAA
Sample : L11030664-09 Inst : HPMS7
Misc : 7,1 SOIL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 7:22 2011 Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Tue Apr 05 07:19:03 2011
Response via : Multiple Level Calibration





TIC: 7M50746.D

(22) Benzo[k]fluoranthene

15.29min 0.11ug/ml mint

response 23387

Ion	Exp%	Act%
252.10	100	100
253.05	22.20	17.99
0.00	0.00	0.00
0.00	0.00	0.00

7M50746.D SIMPAHL.M Tue Apr 05 07:22:23 2011

Analyst: 04/05/2011 08:34 Supervisor: 04/05/2011 09:16

#3 - Improperly integrated isomers and/or coeluting compounds

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\1\DATA\040411\7M50754.D Vial: 16
Acq On : 4 Apr 2011 2:17 pm Operator: CAA
Sample : L11030664-10 5X Inst : HPMS7
Misc : 7,5 SOIL Multiplr: 5.00
MS Integration Params: RTEINT.P
Quant Time: Apr 05 07:19:23 2011 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Tue Apr 05 07:19:03 2011
Response via : Initial Calibration
DataAcq Meth : PAHLSIM

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	6.21	136	144928	1.00 ug/ml	0.00
6) Acenaphthene-d10	8.41	164	96244	1.00 ug/ml	0.00
11) Phenanthrene-d10	10.28	188	165560	1.00 ug/ml	0.00
15) Chrysene-d12	13.65	240	183585	1.00 ug/ml	-0.01
20) Perylene-d12	16.00	264	170118	1.00 ug/ml	-0.01
System Monitoring Compounds					
2) Nitrobenzene-d5	5.36	82	12966	0.9860 ug/ml	0.00
Spiked Amount 2.500	Range 23 - 120		Recovery	= 39.60%	
7) 2-Fluorobiphenyl	7.52	172	27714	1.1766 ug/ml	0.00
Spiked Amount 2.500	Range 30 - 115		Recovery	= 47.20%	
17) p-Terphenyl-d14	12.25	244	56161	2.0905 ug/ml	0.00
Spiked Amount 2.500	Range 18 - 137		Recovery	= 83.60%	

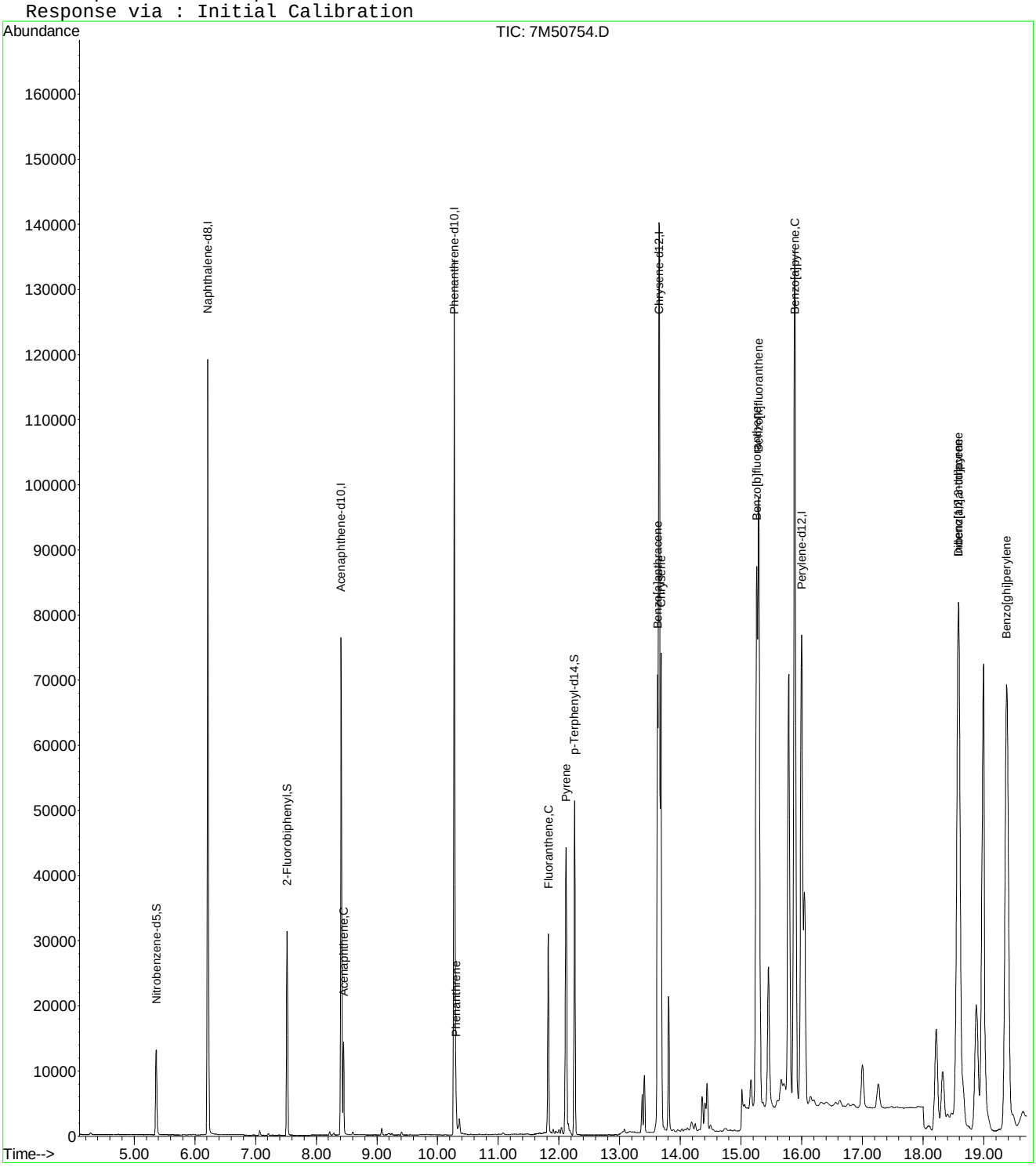
Target Compounds					Qvalue
9) Acenaphthene	8.45	154	8353	0.0857 ug/ml	81
12) Phenanthrene	10.31	178	6093	0.0340 ug/ml	100
14) Fluoranthene	11.82	202	32204	0.1561 ug/ml	98
16) Pyrene	12.12	202	54228	0.2181 ug/ml#	75
18) Benzo[a]anthracene	13.62	228	72670	0.3345 ug/ml	98
19) Chrysene	13.68	228	79855	0.4068 ug/ml	98
21) Benzo[b]fluoranthene	15.26	252	136540	0.6480 ug/ml	97
22) Benzo[k]fluoranthene	15.29	252	156879m	0.8579 ug/ml	
23) Benzo[a]pyrene	15.89	252	241904	1.2369 ug/ml	95
24) Indeno[1,2,3-cd]pyrene	18.58	276	245541	1.0786 ug/ml	100
25) Dibenz[ah]anthracene	18.57	278	61480	0.3306 ug/ml	100
26) Benzo[ghi]perylene	19.38	276	228112	1.1869 ug/ml	98

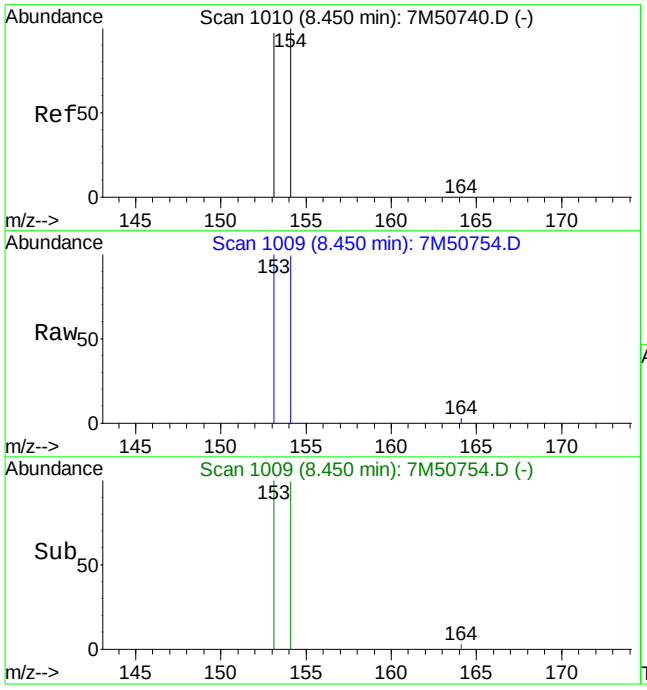
(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\1\DATA\040411\7M50754.D Vial: 16
Acq On : 4 Apr 2011 2:17 pm Operator: CAA
Sample : L11030664-10 5X Inst : HPMS7
Misc : 7,5 SOIL Multiplr: 5.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 7:24 2011 Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Tue Apr 05 07:19:03 2011
Response via : Initial Calibration

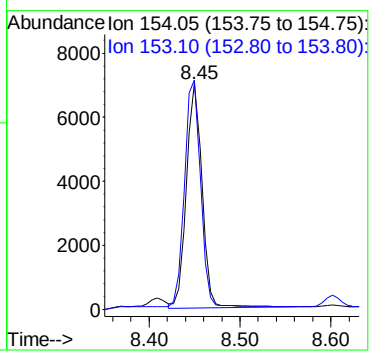


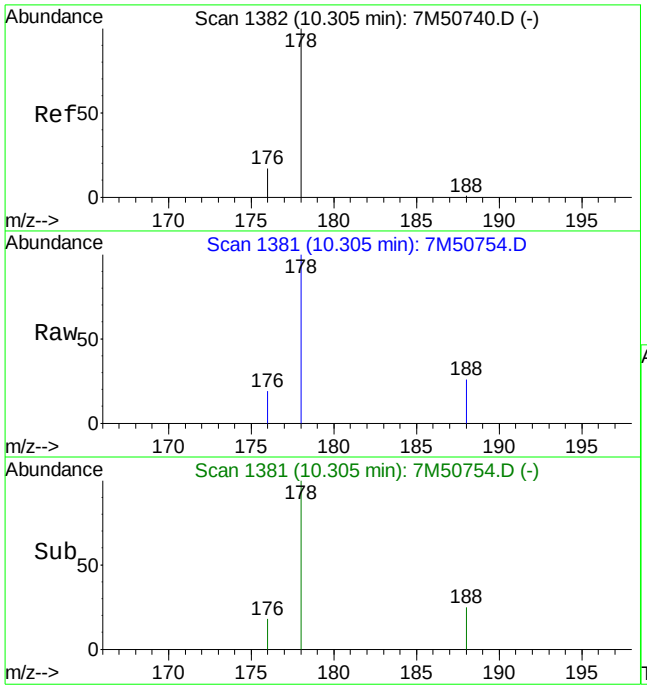


#9
Acenaphthene
Concen: 0.09 ug/ml
RT: 8.45 min Scan# 1009
Delta R.T. -0.00 min
Lab File: 7M50754.D
Acq: 4 Apr 2011 2:17 pm

Tgt Ion:154 Resp: 8353

Ion	Ratio	Lower	Upper
154	100		
153	118.7	60.1	140.1

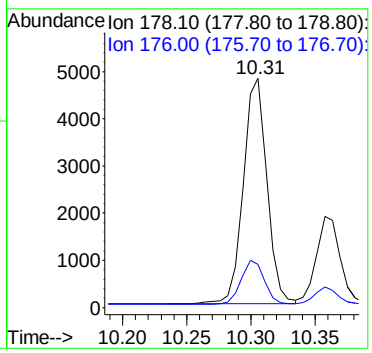


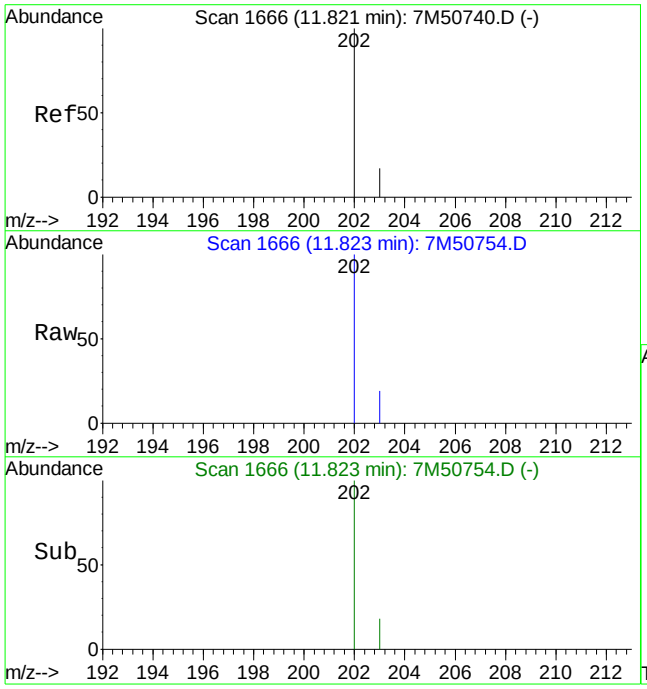


#12
Phenanthrene
Concen: 0.03 ug/ml
RT: 10.31 min Scan# 1381
Delta R.T. 0.00 min
Lab File: 7M50754.D
Acq: 4 Apr 2011 2:17 pm

Tgt Ion:178 Resp: 6093

Ion	Ratio	Lower	Upper
178	100		
176	19.2	11.5	26.9

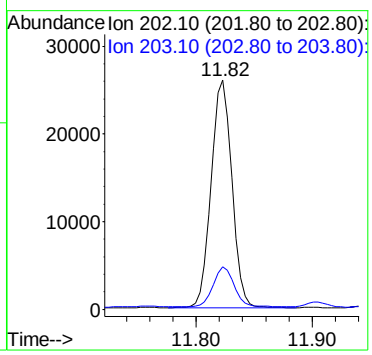


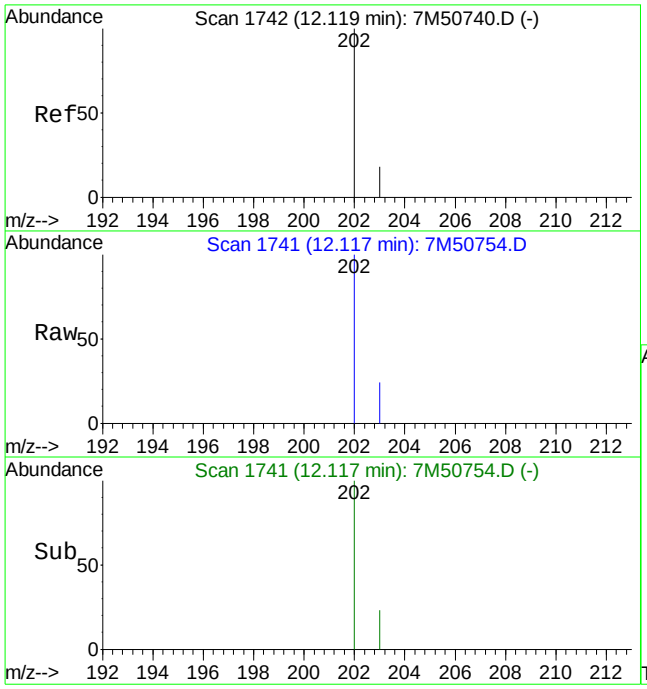


#14
Fluoranthene
Concen: 0.16 ug/ml
RT: 11.82 min Scan# 1666
Delta R.T. -0.00 min
Lab File: 7M50754.D
Acq: 4 Apr 2011 2:17 pm

Tgt Ion:202 Resp: 32204

Ion	Ratio	Lower	Upper
202	100		
203	18.6	10.6	24.6

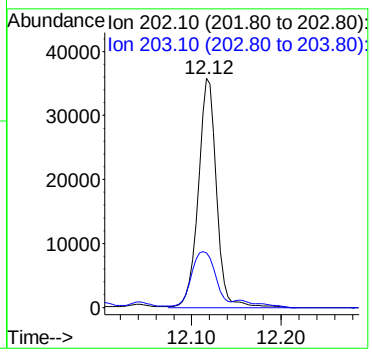


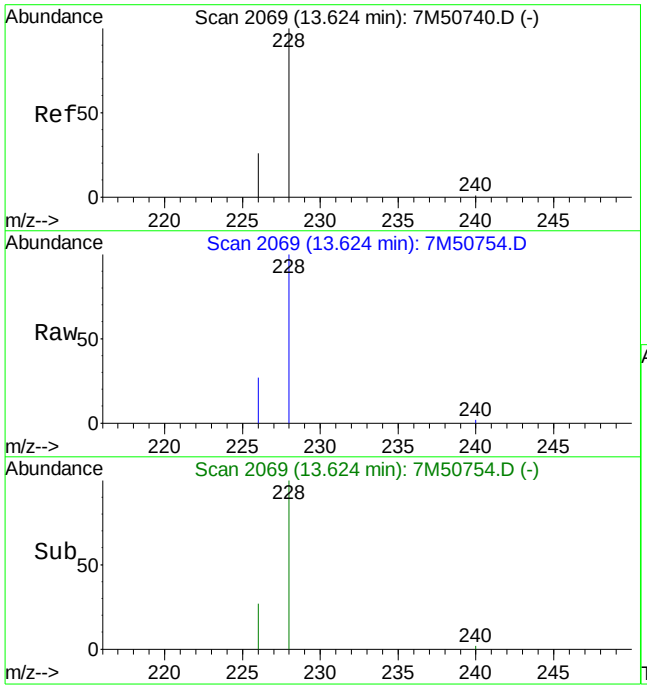


#16
Pyrene
Concen: 0.22 ug/ml
RT: 12.12 min Scan# 1741
Delta R.T. -0.00 min
Lab File: 7M50754.D
Acq: 4 Apr 2011 2:17 pm

Tgt Ion:202 Resp: 54228

Ion	Ratio	Lower	Upper
202	100		
203	29.6	11.0	25.8#

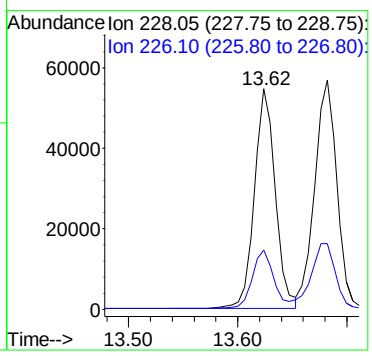


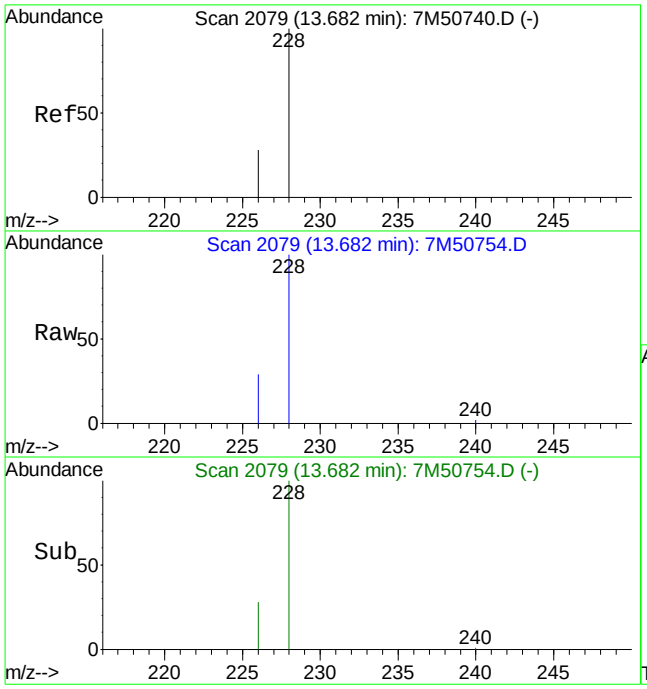


#18
Benzo[a]anthracene
Concen: 0.33 ug/ml
RT: 13.62 min Scan# 2069
Delta R.T. -0.01 min
Lab File: 7M50754.D
Acq: 4 Apr 2011 2:17 pm

Tgt Ion:228 Resp: 72670

Ion	Ratio	Lower	Upper
228	100		
226	27.5	16.0	37.2

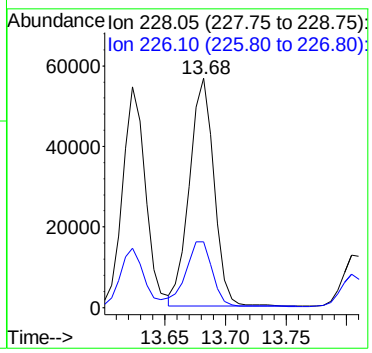


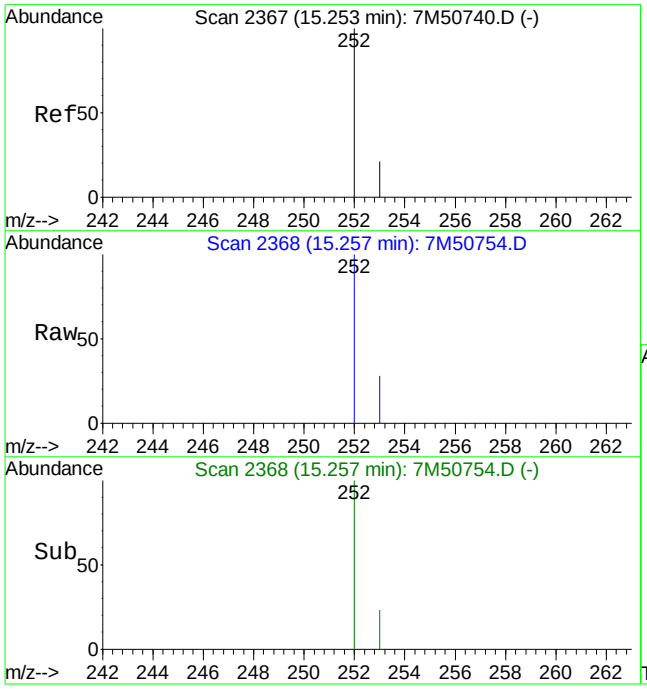


#19
Chrysene
Concen: 0.41 ug/ml
RT: 13.68 min Scan# 2079
Delta R.T. -0.01 min
Lab File: 7M50754.D
Acq: 4 Apr 2011 2:17 pm

Tgt Ion:228 Resp: 79855

Ion	Ratio	Lower	Upper
228	100		
226	30.7	17.6	41.2

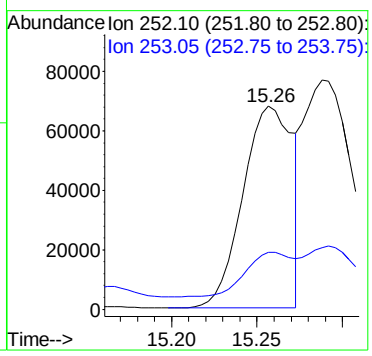


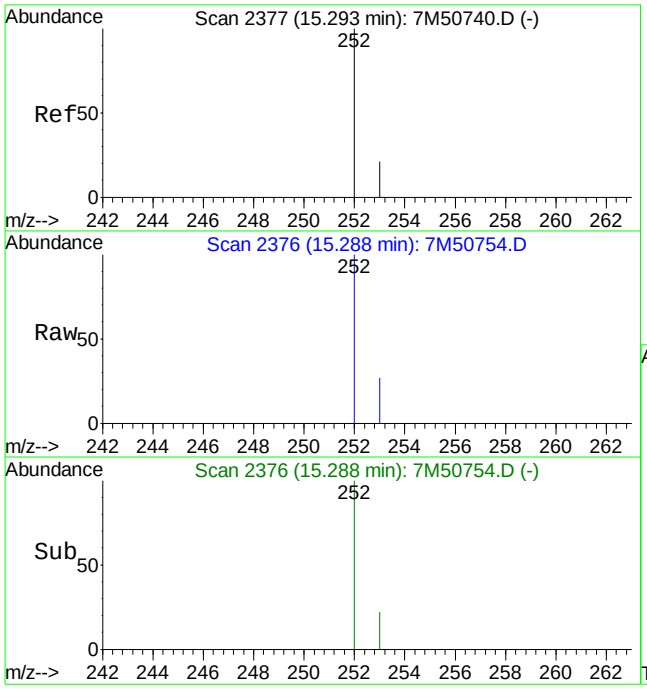


#21
Benzo[b]fluoranthene
Concen: 0.65 ug/ml
RT: 15.26 min Scan# 2368
Delta R.T. -0.01 min
Lab File: 7M50754.D
Acq: 4 Apr 2011 2:17 pm

Tgt Ion:252 Resp: 136540

Ion	Ratio	Lower	Upper
252	100		
253	21.0	13.5	31.5

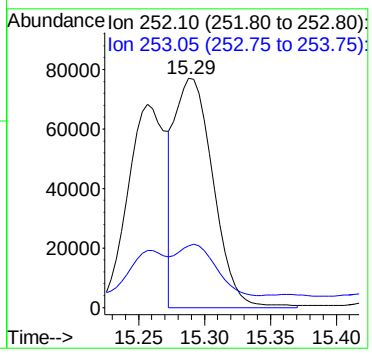


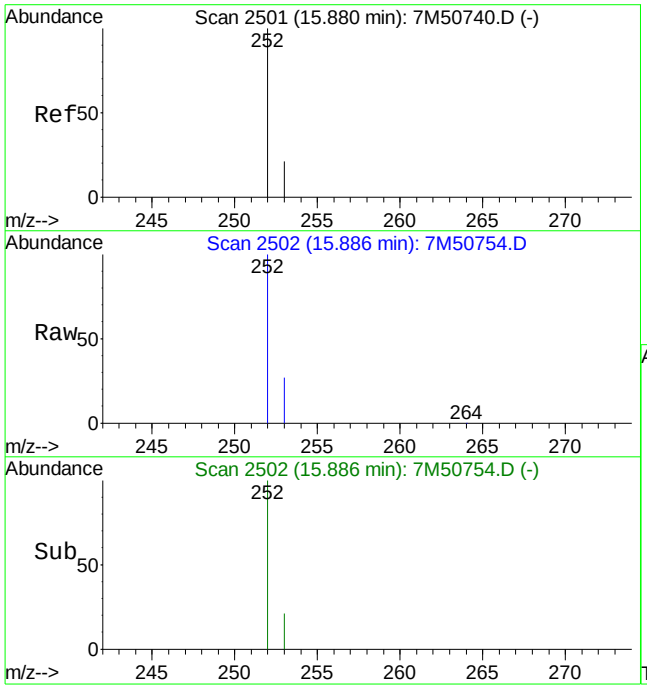


#22
Benzo[k]fluoranthene
Concen: 0.86 ug/ml m
RT: 15.29 min Scan# 2376
Delta R.T. -0.02 min
Lab File: 7M50754.D
Acq: 4 Apr 2011 2:17 pm

Tgt Ion:252 Resp: 156879

Ion	Ratio	Lower	Upper
252	100		
253	18.3	13.3	31.1

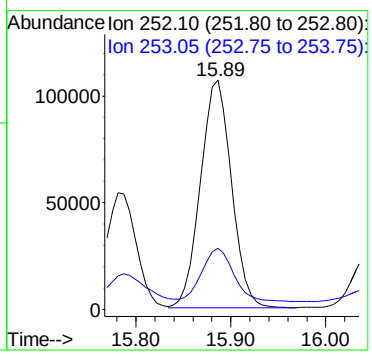


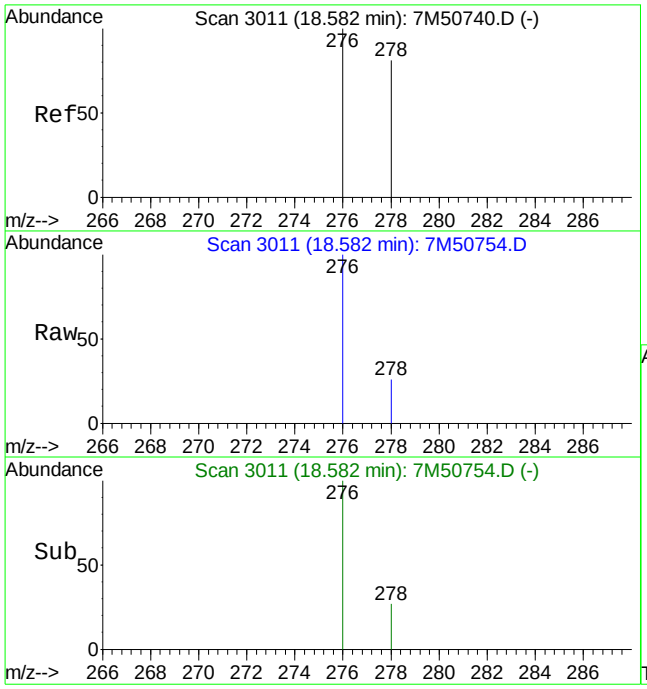


#23
Benzo[a]pyrene
Concen: 1.24 ug/ml
RT: 15.89 min Scan# 2502
Delta R.T. -0.01 min
Lab File: 7M50754.D
Acq: 4 Apr 2011 2:17 pm

Tgt Ion:252 Resp: 241904

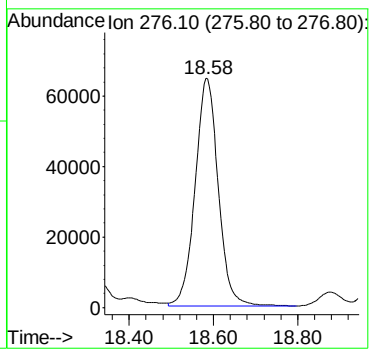
Ion	Ratio	Lower	Upper
252	100		
253	24.0	13.0	30.4

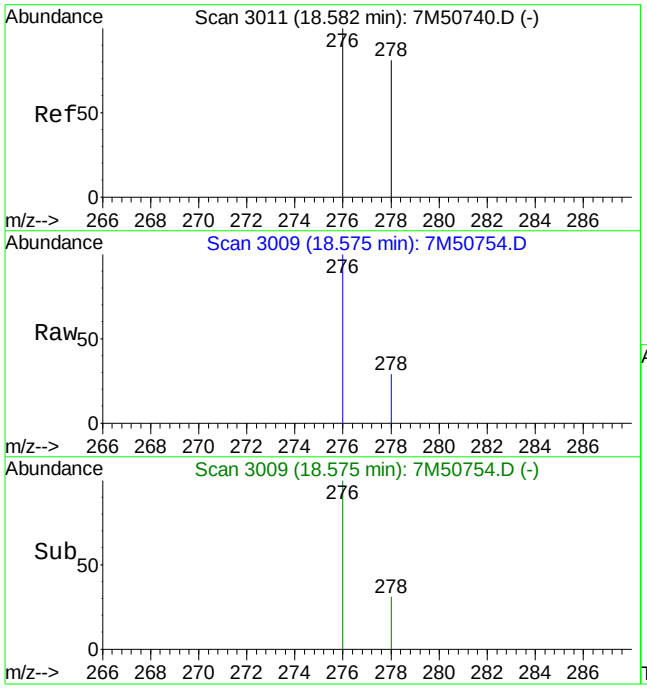




#24
Indeno[1,2,3-cd]pyrene
Concen: 1.08 ug/ml
RT: 18.58 min Scan# 3011
Delta R.T. -0.01 min
Lab File: 7M50754.D
Acq: 4 Apr 2011 2:17 pm

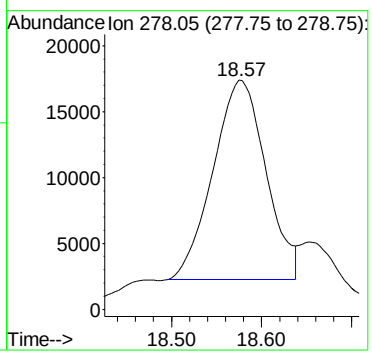
Tgt Ion:276 Resp: 245541

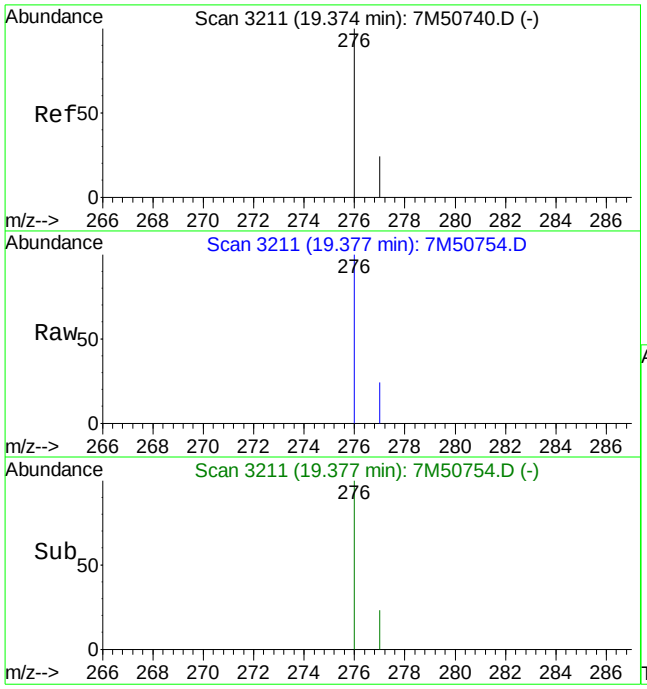




#25
Dibenz[ah]anthracene
Concen: 0.33 ug/ml
RT: 18.57 min Scan# 3009
Delta R.T. -0.02 min
Lab File: 7M50754.D
Acq: 4 Apr 2011 2:17 pm

Tgt Ion:278 Resp: 61480

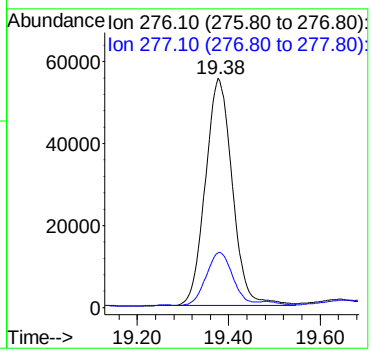




#26
Benzo[ghi]perylene
Concen: 1.19 ug/ml
RT: 19.38 min Scan# 3211
Delta R.T. -0.01 min
Lab File: 7M50754.D
Acq: 4 Apr 2011 2:17 pm

Tgt Ion:276 Resp: 228112

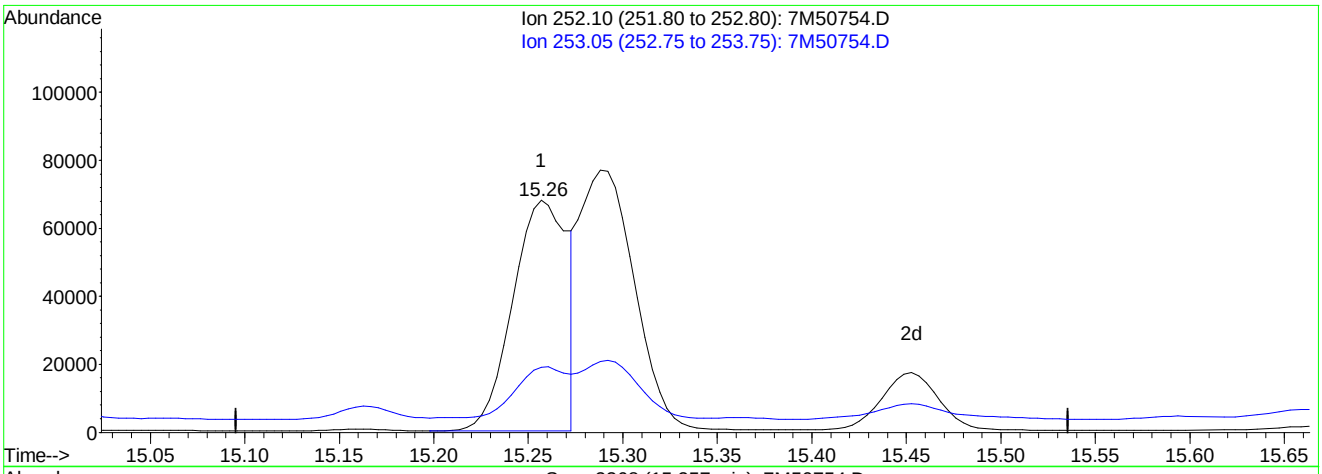
Ion	Ratio	Lower	Upper
276	100		
277	22.7	14.2	33.2

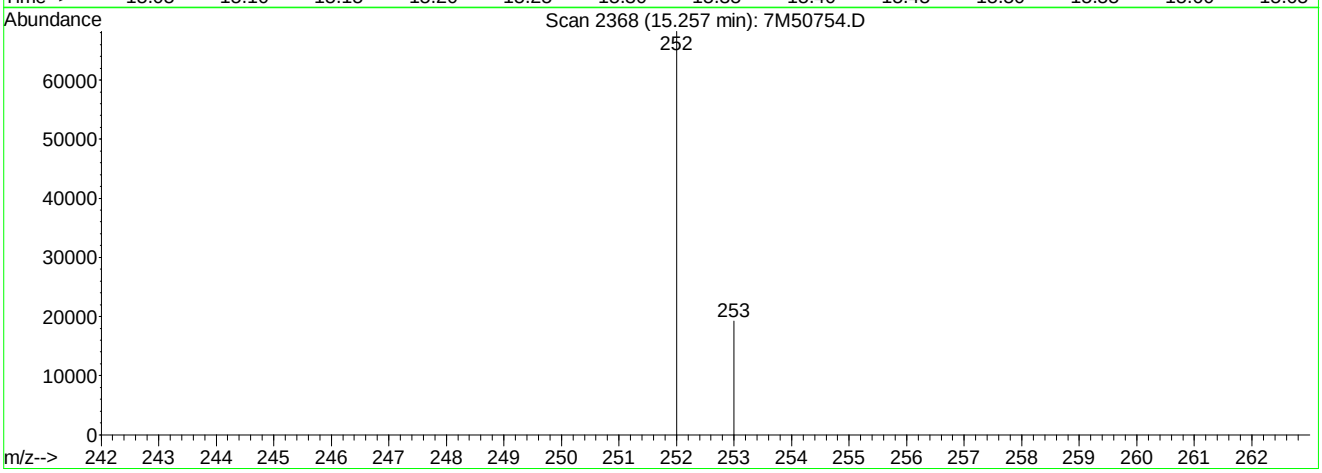


Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\040411\7M50754.D Vial: 16
Acq On : 4 Apr 2011 2:17 pm Operator: CAA
Sample : L11030664-10 5X Inst : HPMS7
Misc : 7,5 SOIL Multiplr: 5.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 7:19 2011 Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Tue Apr 05 07:19:03 2011
Response via : Multiple Level Calibration





TIC: 7M50754.D

(22) Benzo[k]fluoranthene

15.26min 0.75ug/ml

response 136540

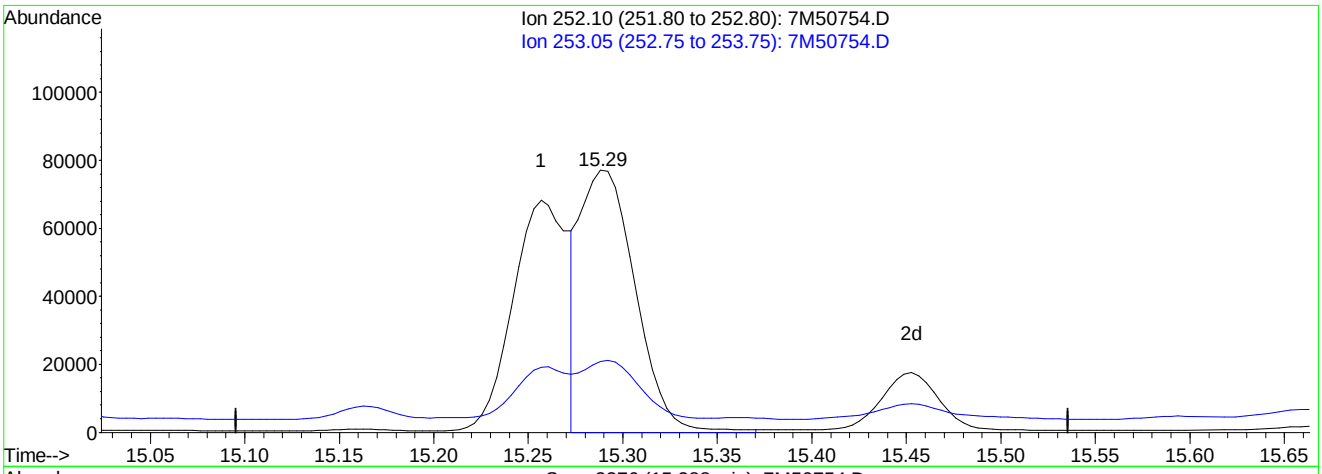
Ion	Exp%	Act%
252.10	100	100
253.05	22.20	20.97
0.00	0.00	0.00
0.00	0.00	0.00

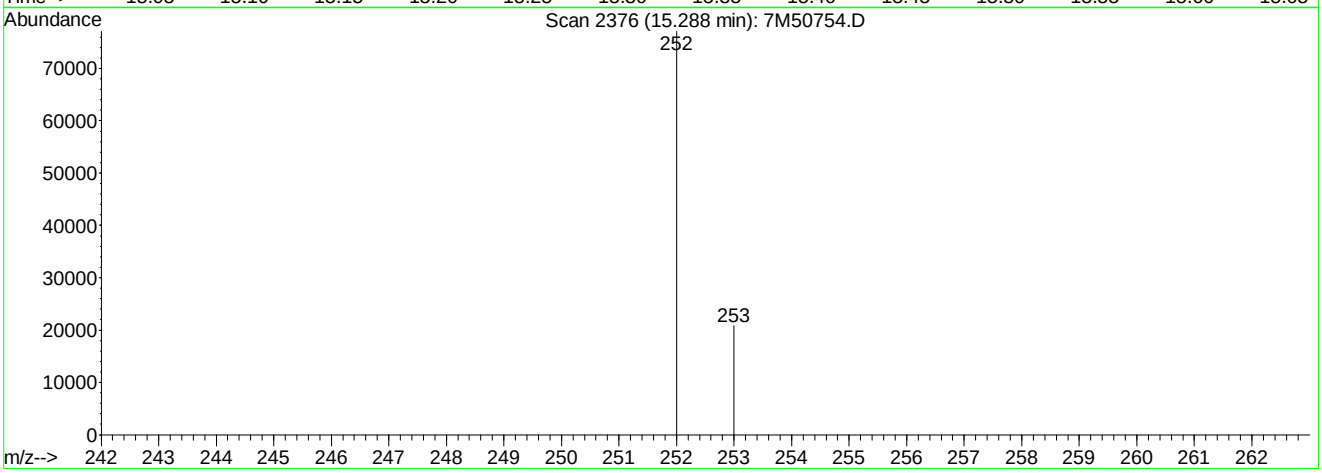
7M50754.D SIMPAHL.M Tue Apr 05 07:24:05 2011

Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\040411\7M50754.D Vial: 16
Acq On : 4 Apr 2011 2:17 pm Operator: CAA
Sample : L11030664-10 5X Inst : HPMS7
Misc : 7,5 SOIL Multiplr: 5.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 7:24 2011 Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Tue Apr 05 07:19:03 2011
Response via : Multiple Level Calibration





TIC: 7M50754.D

(22) Benzo[k]fluoranthene

15.29min 0.86ug/ml mint

response 156879

Ion	Exp%	Act%
252.10	100	100
253.05	22.20	18.25
0.00	0.00	0.00
0.00	0.00	0.00

7M50754.D SIMPAHL.M Tue Apr 05 07:24:10 2011

Analyst: 04/05/2011 08:34 Supervisor: 04/05/2011 09:17

#3 - Improperly integrated isomers and/or coeluting compounds

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\1\DATA\040411\7M50744.D Vial: 6
Acq On : 4 Apr 2011 9:41 am Operator: CAA
Sample : L11030664-11 Inst : HPMS7
Misc : 7,1 SOIL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 05 07:19:21 2011 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Tue Apr 05 07:19:03 2011
Response via : Initial Calibration
DataAcq Meth : PAHLSIM

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	6.21	136	153164	1.00 ug/ml	0.00
6) Acenaphthene-d10	8.41	164	100245	1.00 ug/ml	0.00
11) Phenanthrene-d10	10.28	188	170728	1.00 ug/ml	0.00
15) Chrysene-d12	13.65	240	208126	1.00 ug/ml	0.00
20) Perylene-d12	16.00	264	187525	1.00 ug/ml	0.00

System Monitoring Compounds

2) Nitrobenzene-d5	5.36	82	115624	1.6639 ug/ml	0.00
Spiked Amount 2.500	Range 23 - 120		Recovery	= 66.40%	
7) 2-Fluorobiphenyl	7.52	172	237128	1.9330 ug/ml	0.00
Spiked Amount 2.500	Range 30 - 115		Recovery	= 77.20%	
17) p-Terphenyl-d14	12.26	244	298240	1.9585 ug/ml	0.00
Spiked Amount 2.500	Range 18 - 137		Recovery	= 78.40%	

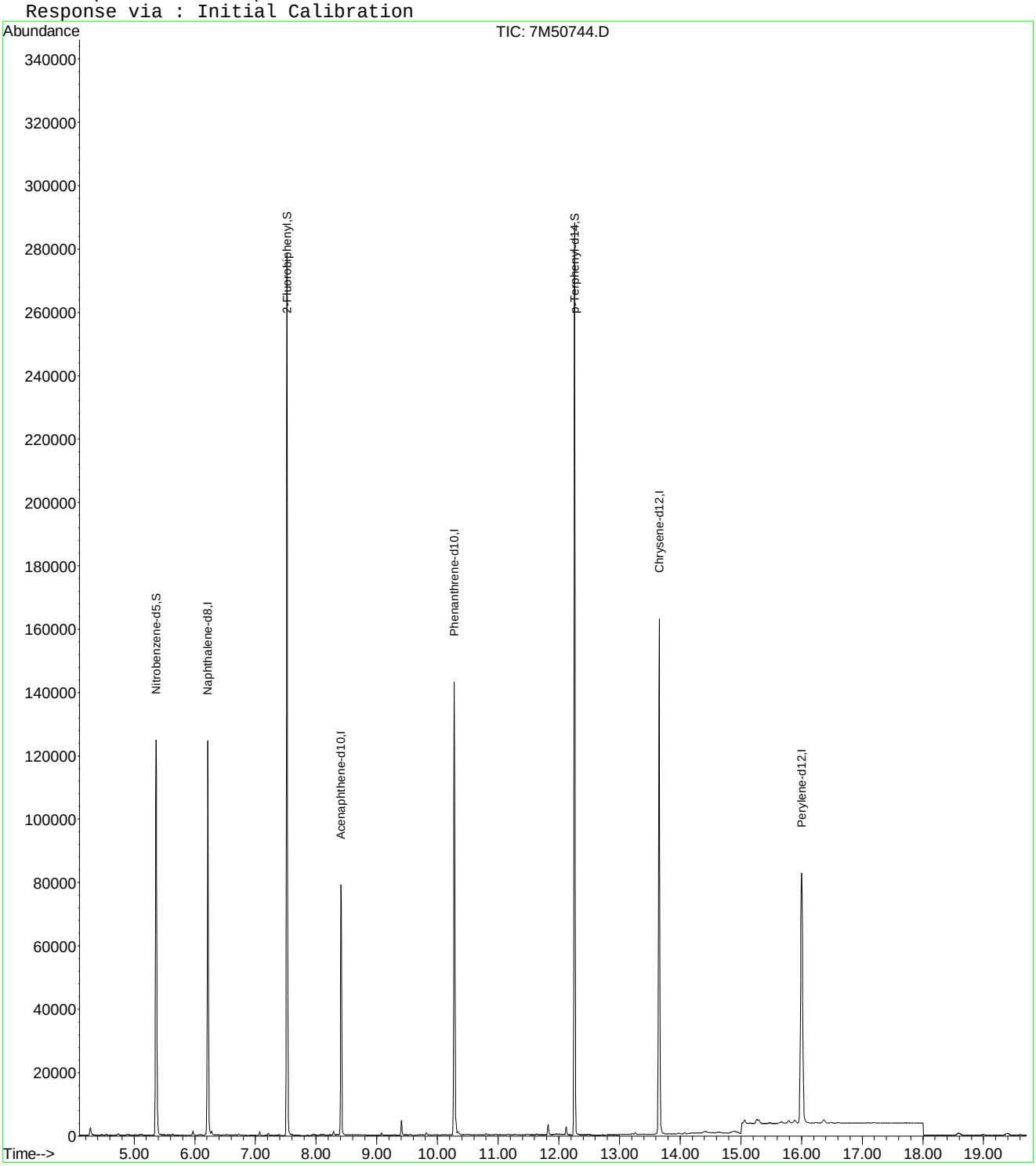
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
7M50744.D SIMPAHL.M Tue Apr 05 07:30:05 2011 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\1\DATA\040411\7M50744.D Vial: 6
Acq On : 4 Apr 2011 9:41 am Operator: CAA
Sample : L11030664-11 Inst : HPMS7
Misc : 7,1 SOIL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 7:19 2011 Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Tue Apr 05 07:19:03 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\1\DATA\040411\7M50745.D Vial: 7
Acq On : 4 Apr 2011 10:09 am Operator: CAA
Sample : L11030664-12 Inst : HPMS7
Misc : 7,1 SOIL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 05 07:19:21 2011 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Tue Apr 05 07:19:03 2011
Response via : Initial Calibration
DataAcq Meth : PAHLSIM

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	6.21	136	157194	1.00 ug/ml	0.00
6) Acenaphthene-d10	8.41	164	101578	1.00 ug/ml	0.00
11) Phenanthrene-d10	10.28	188	173670	1.00 ug/ml	0.00
15) Chrysene-d12	13.65	240	207747	1.00 ug/ml	0.00
20) Perylene-d12	16.00	264	190801	1.00 ug/ml	-0.01

System Monitoring Compounds					
2) Nitrobenzene-d5	5.36	82	108271	1.5182 ug/ml	0.00
Spiked Amount 2.500	Range 23 - 120		Recovery	= 60.80%	
7) 2-Fluorobiphenyl	7.52	172	221305	1.7804 ug/ml	0.00
Spiked Amount 2.500	Range 30 - 115		Recovery	= 71.20%	
17) p-Terphenyl-d14	12.26	244	286435	1.8844 ug/ml	0.00
Spiked Amount 2.500	Range 18 - 137		Recovery	= 75.20%	

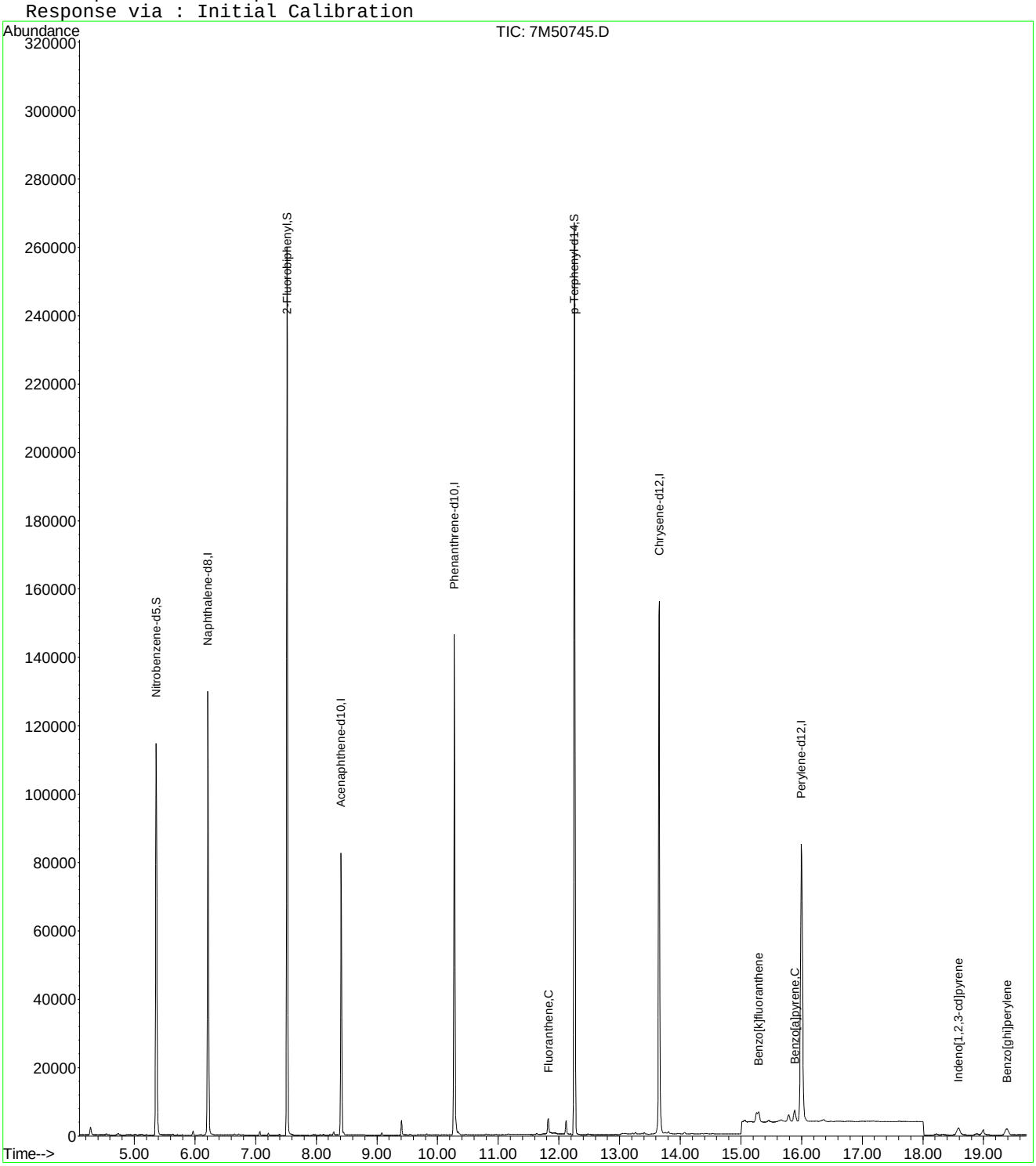
Target Compounds					Qvalue
14) Fluoranthene	11.82	202	4994	0.0231 ug/ml#	70
22) Benzo[k]fluoranthene	15.29	252	5050m	0.0246 ug/ml	
23) Benzo[a]pyrene	15.89	252	6187	0.0282 ug/ml	89
24) Indeno[1,2,3-cd]pyrene	18.59	276	6534	0.0256 ug/ml	100
26) Benzo[ghi]perylene	19.38	276	6261	0.0290 ug/ml	98

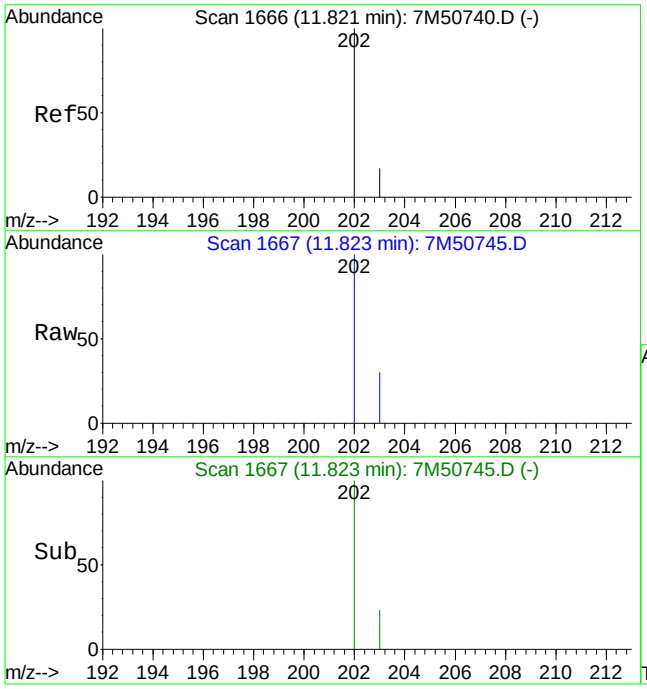
(#) = qualifier out of range (m) = manual integration
7M50745.D SIMPAHL.M Tue Apr 05 07:30:05 2011 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\1\DATA\040411\7M50745.D Vial: 7
Acq On : 4 Apr 2011 10:09 am Operator: CAA
Sample : L11030664-12 Inst : HPMS7
Misc : 7,1 SOIL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 7:22 2011 Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Tue Apr 05 07:19:03 2011
Response via : Initial Calibration

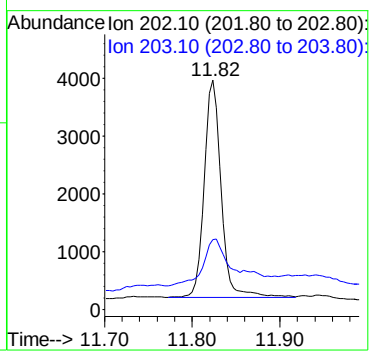


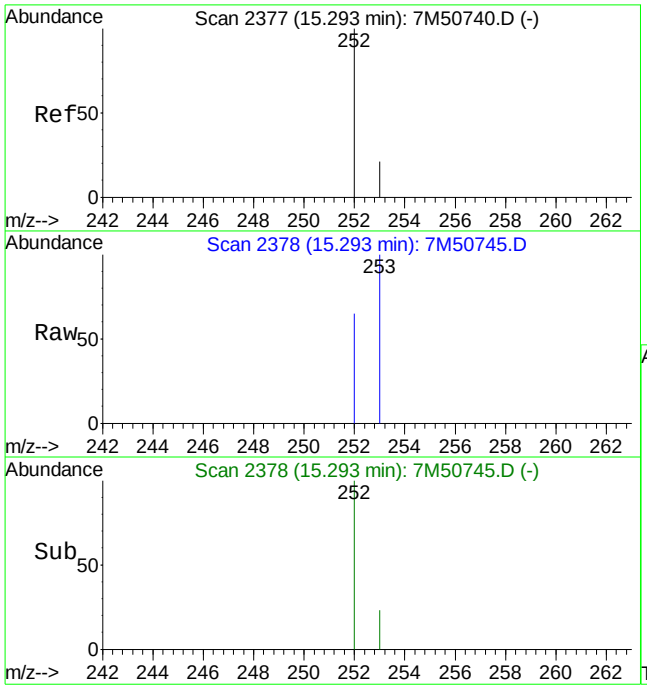


#14
Fluoranthene
Concen: 0.02 ug/ml
RT: 11.82 min Scan# 1667
Delta R.T. -0.00 min
Lab File: 7M50745.D
Acq: 4 Apr 2011 10:09 am

Tgt Ion:202 Resp: 4994

Ion	Ratio	Lower	Upper
202	100		
203	30.7	10.6	24.6#

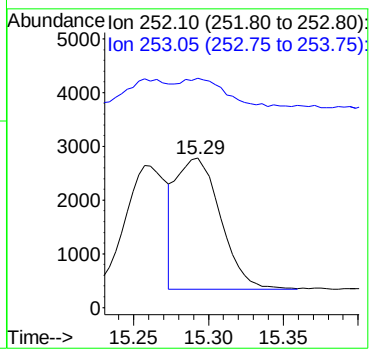


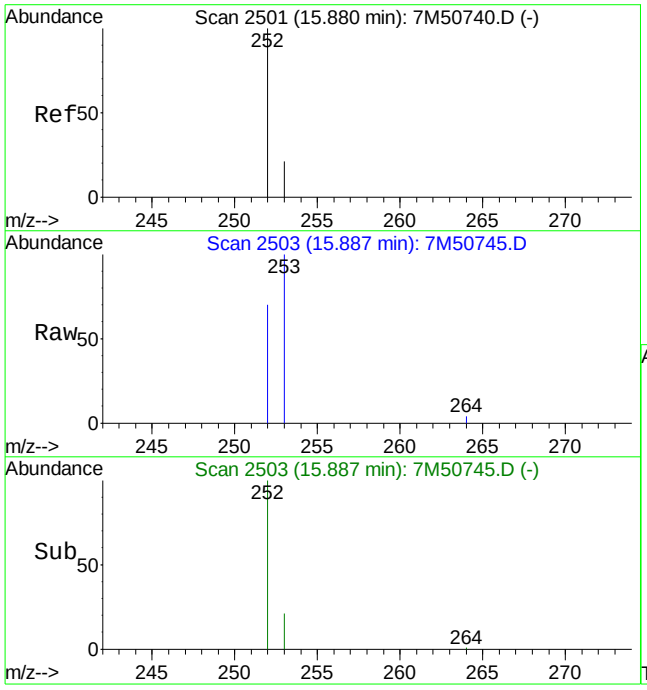


#22
Benzo[k]fluoranthene
Concen: 0.02 ug/ml m
RT: 15.29 min Scan# 2378
Delta R.T. -0.01 min
Lab File: 7M50745.D
Acq: 4 Apr 2011 10:09 am

Tgt Ion:252 Resp: 5050

Ion	Ratio	Lower	Upper
252	100		
253	19.8	13.3	31.1

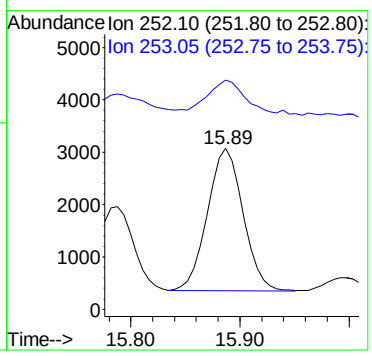


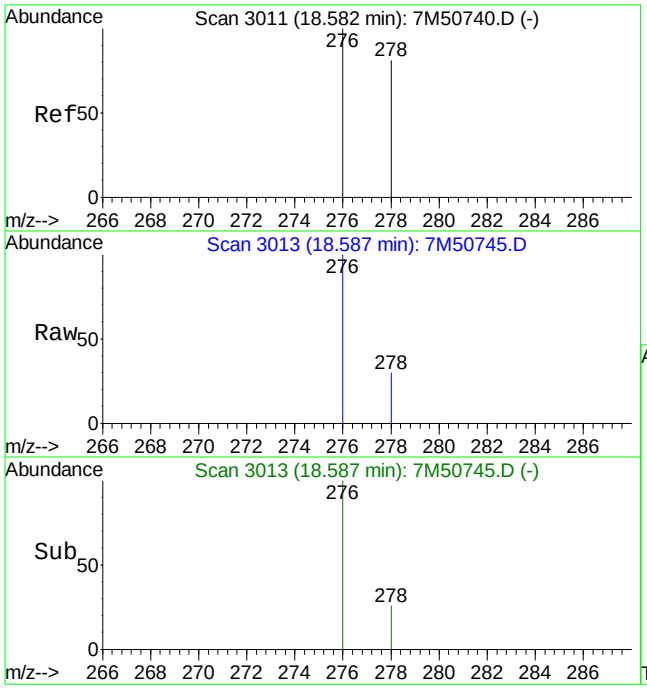


#23
Benzo[a]pyrene
Concen: 0.03 ug/ml
RT: 15.89 min Scan# 2503
Delta R.T. -0.01 min
Lab File: 7M50745.D
Acq: 4 Apr 2011 10:09 am

Tgt Ion:252 Resp: 6187

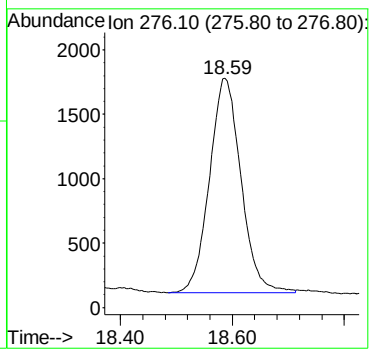
Ion	Ratio	Lower	Upper
252	100		
253	26.8	13.0	30.4

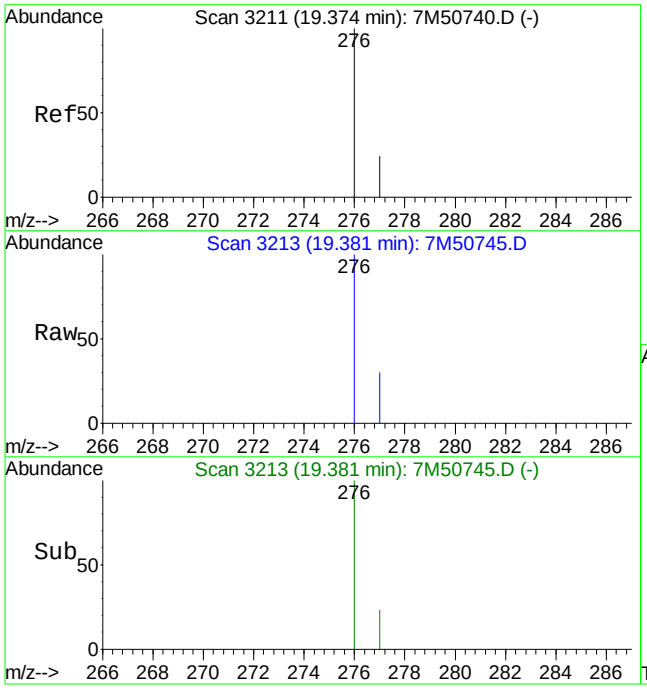




#24
Indeno[1,2,3-cd]pyrene
Concen: 0.03 ug/ml
RT: 18.59 min Scan# 3013
Delta R.T. -0.01 min
Lab File: 7M50745.D
Acq: 4 Apr 2011 10:09 am

Tgt Ion:276 Resp: 6534

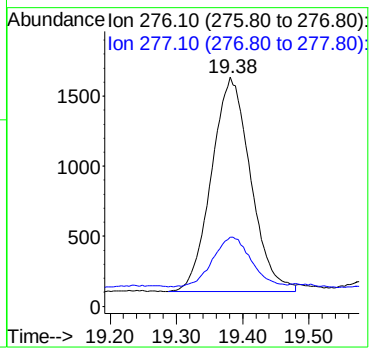




#26
Benzo[ghi]perylene
Concen: 0.03 ug/ml
RT: 19.38 min Scan# 3213
Delta R.T. -0.01 min
Lab File: 7M50745.D
Acq: 4 Apr 2011 10:09 am

Tgt Ion:276 Resp: 6261

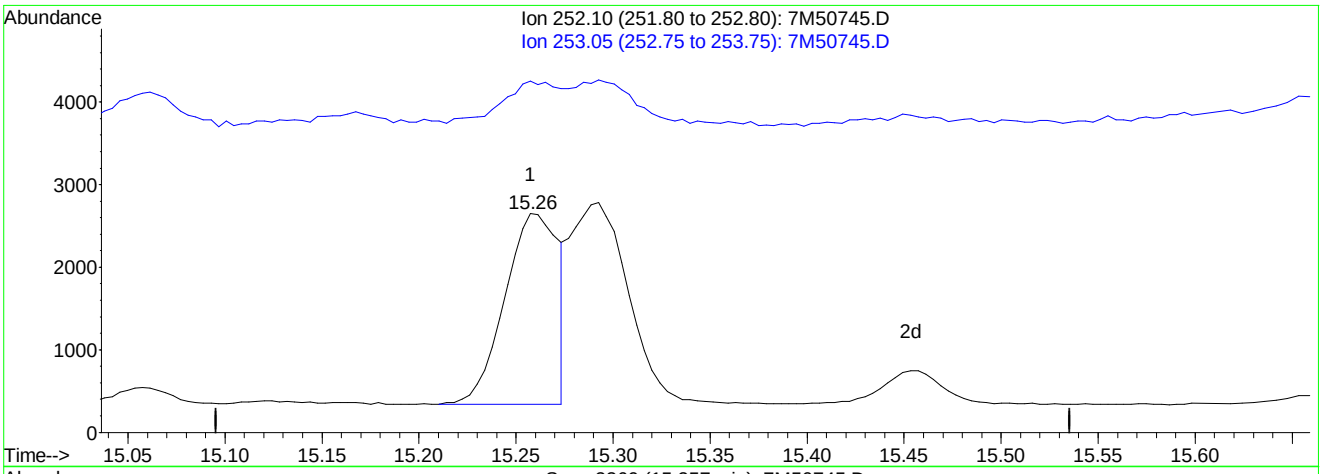
Ion	Ratio	Lower	Upper
276	100		
277	22.6	14.2	33.2

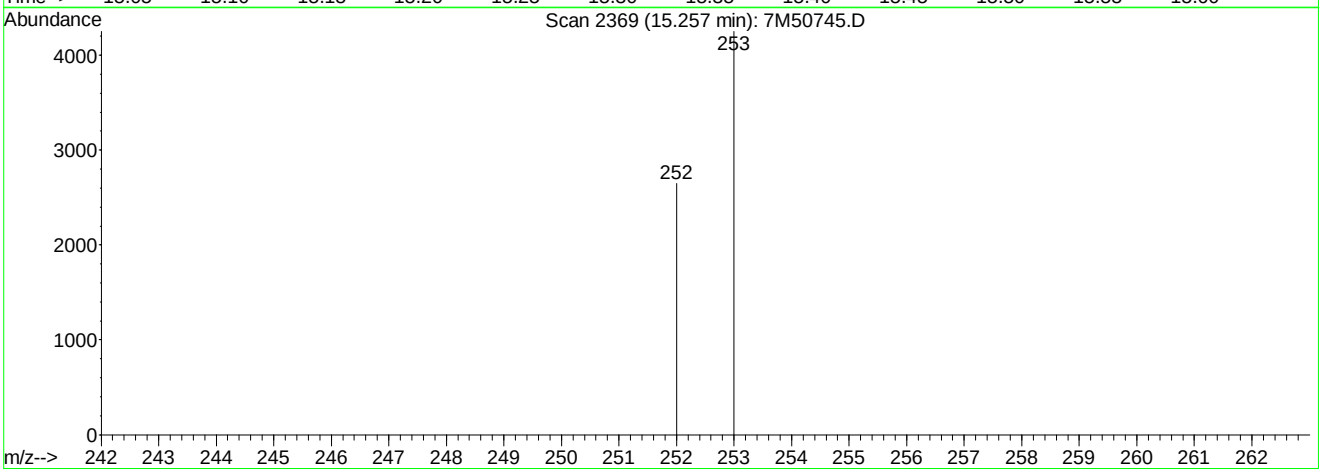


Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\040411\7M50745.D Vial: 7
Acq On : 4 Apr 2011 10:09 am Operator: CAA
Sample : L11030664-12 Inst : HPMS7
Misc : 7,1 SOIL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 7:19 2011 Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Tue Apr 05 07:19:03 2011
Response via : Multiple Level Calibration





TIC: 7M50745.D

(22) Benzo[k]fluoranthene

15.26min 0.02ug/ml

response 4427

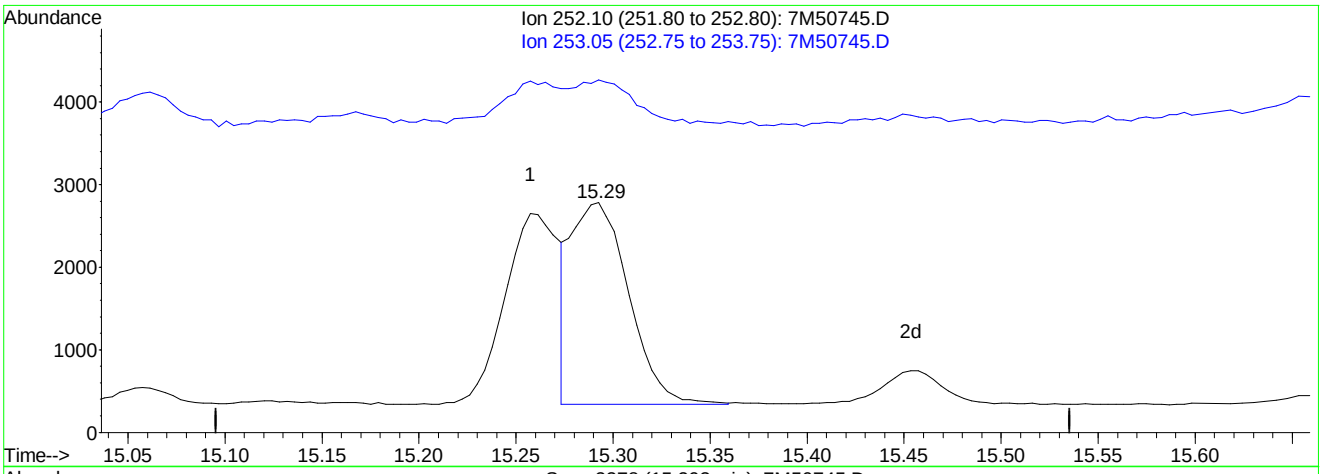
Ion	Exp%	Act%
252.10	100	100
253.05	22.20	22.59
0.00	0.00	0.00
0.00	0.00	0.00

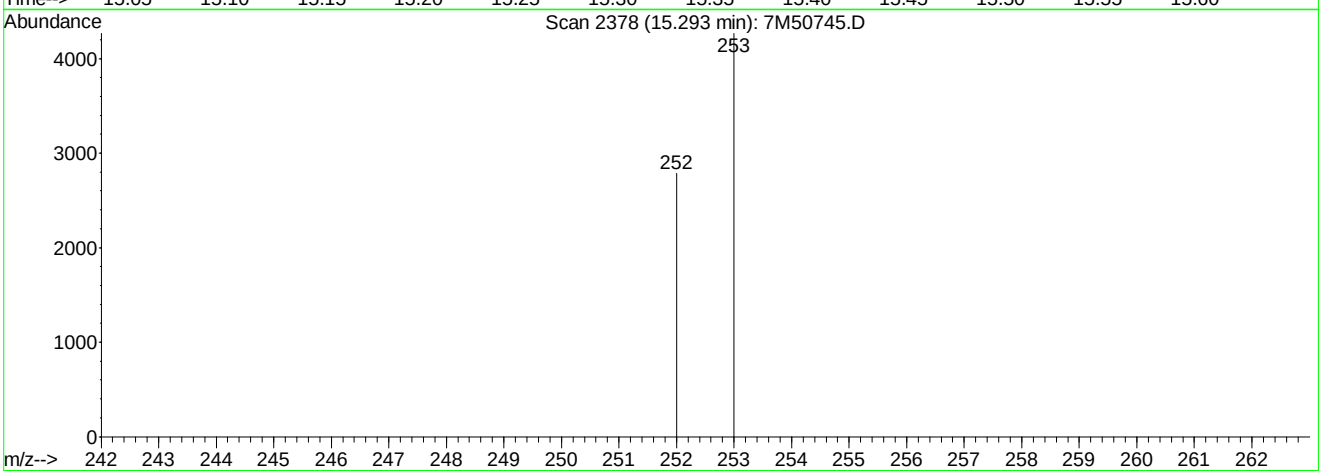
7M50745.D SIMPAHL.M Tue Apr 05 07:21:52 2011

Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\040411\7M50745.D Vial: 7
Acq On : 4 Apr 2011 10:09 am Operator: CAA
Sample : L11030664-12 Inst : HPMS7
Misc : 7,1 SOIL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 7:22 2011 Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Tue Apr 05 07:19:03 2011
Response via : Multiple Level Calibration





TIC: 7M50745.D

(22) Benzo[k]fluoranthene

15.29min 0.02ug/ml mint

response 5050

Ion	Exp%	Act%
252.10	100	100
253.05	22.20	19.80
0.00	0.00	0.00
0.00	0.00	0.00

7M50745.D SIMPAHL.M Tue Apr 05 07:22:03 2011

Analyst: 04/05/2011 08:34 Supervisor: 04/05/2011 09:16

#3 - Improperly integrated isomers and/or coeluting compounds

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\1\DATA\040411\7M50751.D Vial: 13
Acq On : 4 Apr 2011 12:55 pm Operator: CAA
Sample : L11030664-13 5X Inst : HPMS7
Misc : 7,5 SOIL Multiplr: 5.00
MS Integration Params: RTEINT.P
Quant Time: Apr 05 07:19:22 2011 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Tue Apr 05 07:19:03 2011
Response via : Initial Calibration
DataAcq Meth : PAHLSIM

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	6.21	136	161552	1.00 ug/ml	0.00
6) Acenaphthene-d10	8.41	164	108548	1.00 ug/ml	0.00
11) Phenanthrene-d10	10.28	188	182115	1.00 ug/ml	0.00
15) Chrysene-d12	13.65	240	207689	1.00 ug/ml	-0.01
20) Perylene-d12	16.00	264	190706	1.00 ug/ml	-0.01

System Monitoring Compounds					
2) Nitrobenzene-d5	5.36	82	18409	1.2558 ug/ml	0.00
Spiked Amount 2.500	Range 23 - 120		Recovery	= 50.40%	
7) 2-Fluorobiphenyl	7.52	172	38810	1.4609 ug/ml	0.00
Spiked Amount 2.500	Range 30 - 115		Recovery	= 58.40%	
17) p-Terphenyl-d14	12.26	244	67317	2.2150 ug/ml	0.00
Spiked Amount 2.500	Range 18 - 137		Recovery	= 88.40%	

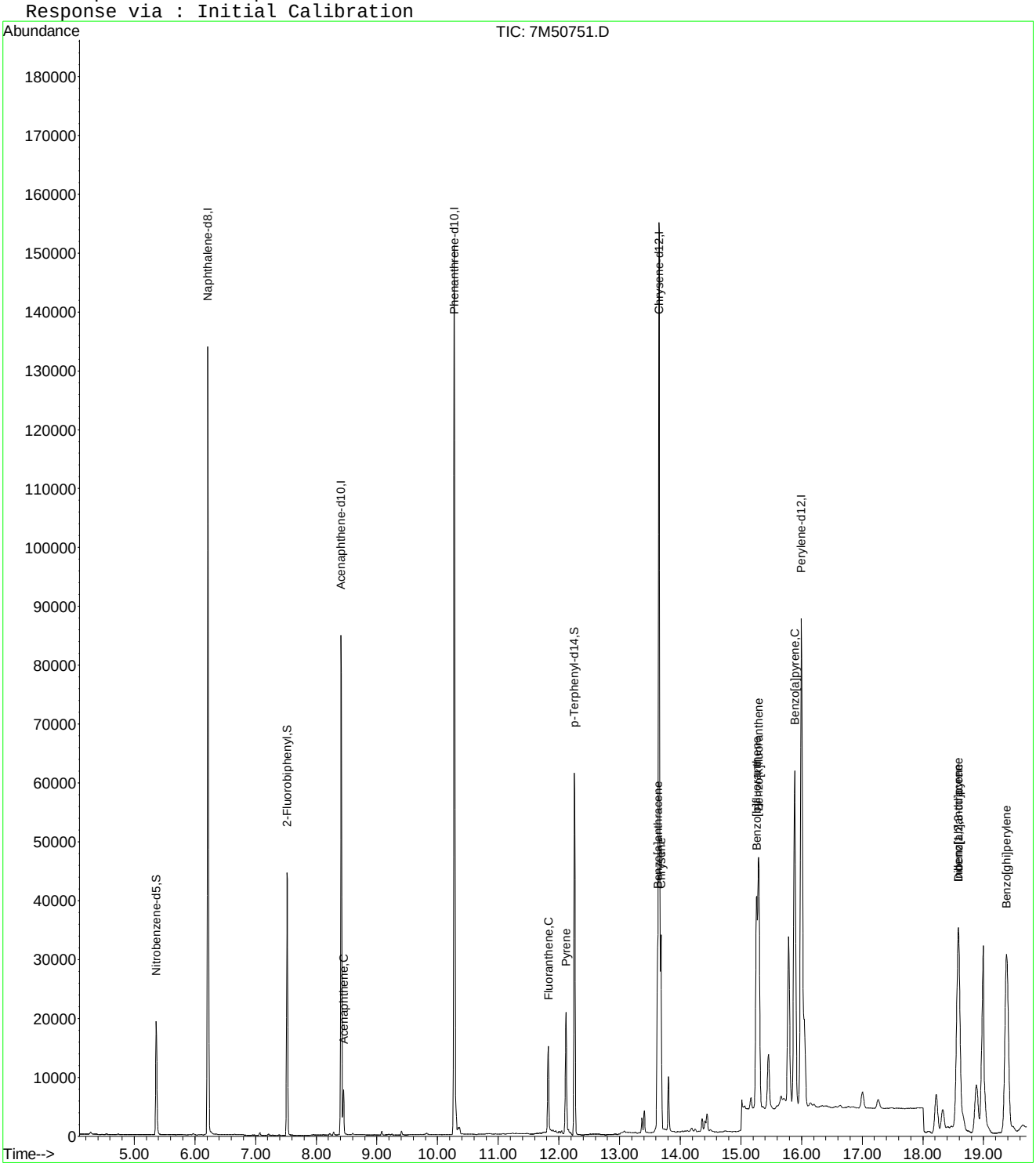
Target Compounds					Qvalue
9) Acenaphthene	8.45	154	4304	0.0392 ug/ml	91
14) Fluoranthene	11.82	202	15515	0.0684 ug/ml#	84
16) Pyrene	12.12	202	25628	0.0911 ug/ml#	79
18) Benzo[a]anthracene	13.62	228	32737	0.1332 ug/ml	99
19) Chrysene	13.68	228	34572	0.1557 ug/ml	97
21) Benzo[b]fluoranthene	15.26	252	58311	0.2469 ug/ml	97
22) Benzo[k]fluoranthene	15.29	252	69849m	0.3407 ug/ml	
23) Benzo[a]pyrene	15.89	252	105085	0.4793 ug/ml	95
24) Indeno[1,2,3-cd]pyrene	18.58	276	108787	0.4263 ug/ml	100
25) Dibenz[ah]anthracene	18.58	278	26271	0.1260 ug/ml	100
26) Benzo[ghi]perylene	19.38	276	103508	0.4804 ug/ml	98

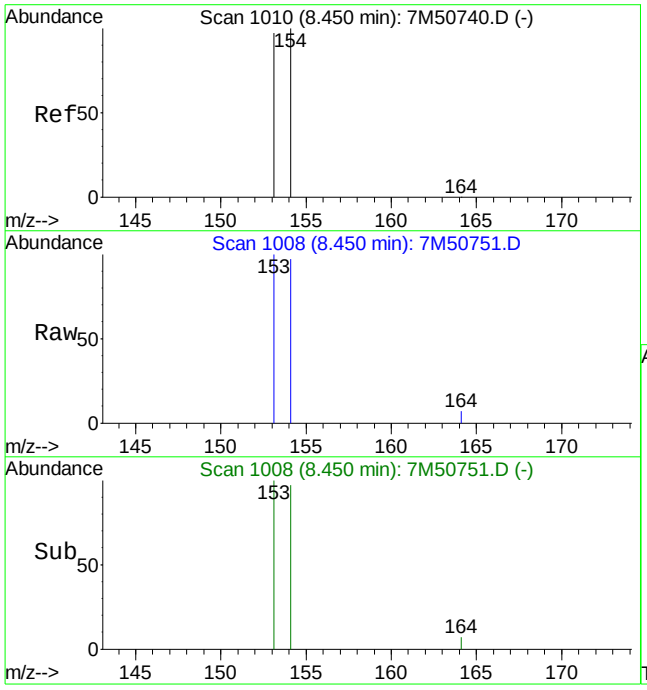
(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\1\DATA\040411\7M50751.D Vial: 13
Acq On : 4 Apr 2011 12:55 pm Operator: CAA
Sample : L11030664-13 5X Inst : HPMS7
Misc : 7,5 SOIL Multiplr: 5.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 7:23 2011 Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Tue Apr 05 07:19:03 2011
Response via : Initial Calibration

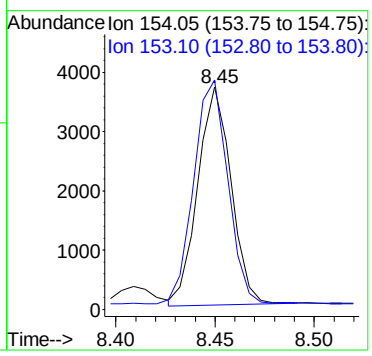


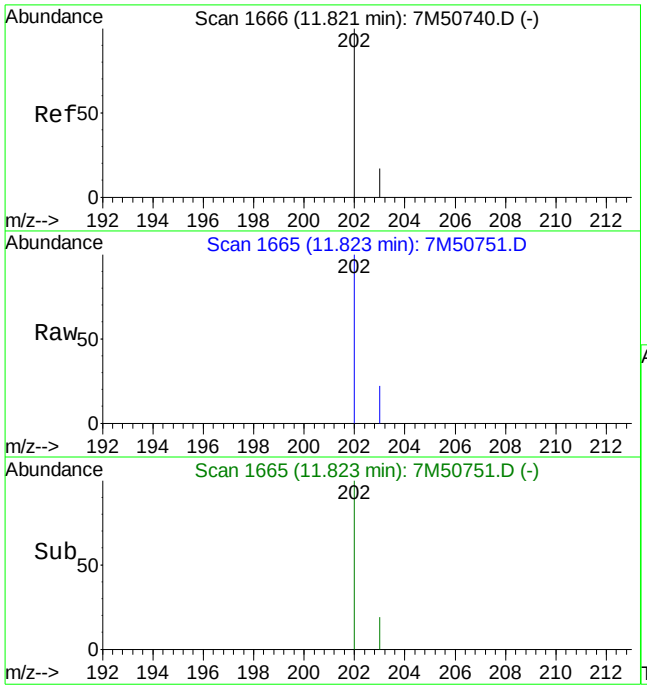


#9
Acenaphthene
Concen: 0.04 ug/ml
RT: 8.45 min Scan# 1008
Delta R.T. -0.00 min
Lab File: 7M50751.D
Acq: 4 Apr 2011 12:55 pm

Tgt Ion:154 Resp: 4304

Ion	Ratio	Lower	Upper
154	100		
153	109.5	60.1	140.1

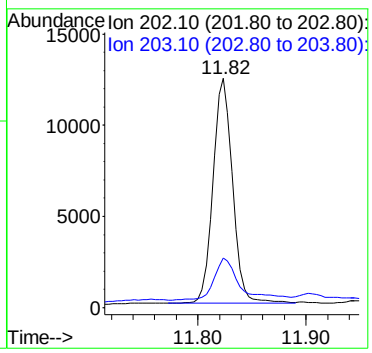


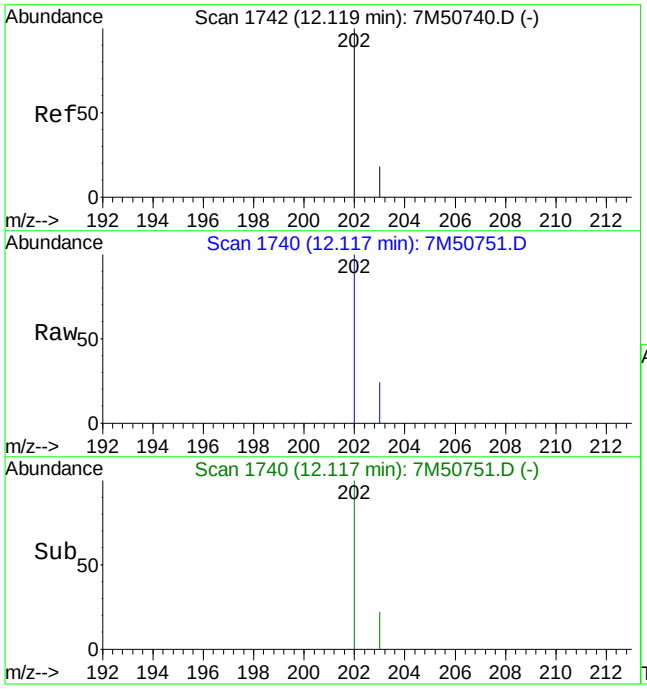


#14
Fluoranthene
Concen: 0.07 ug/ml
RT: 11.82 min Scan# 1665
Delta R.T. -0.00 min
Lab File: 7M50751.D
Acq: 4 Apr 2011 12:55 pm

Tgt Ion:202 Resp: 15515

Ion	Ratio	Lower	Upper
202	100		
203	24.7	10.6	24.6#

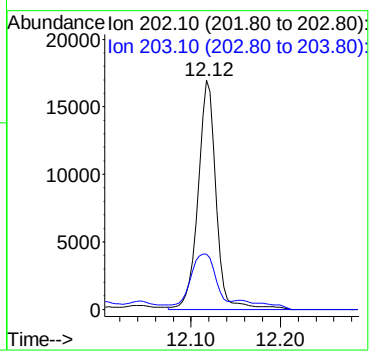


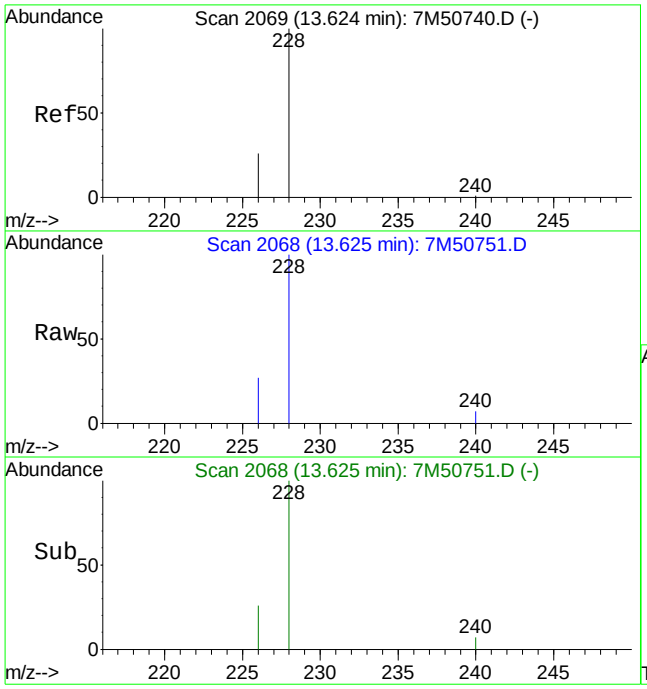


#16
Pyrene
Concen: 0.09 ug/ml
RT: 12.12 min Scan# 1740
Delta R.T. -0.00 min
Lab File: 7M50751.D
Acq: 4 Apr 2011 12:55 pm

Tgt Ion:202 Resp: 25628

Ion	Ratio	Lower	Upper
202	100		
203	27.6	11.0	25.8#

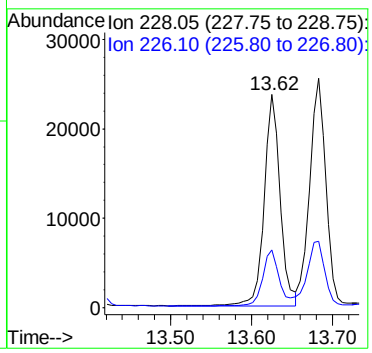


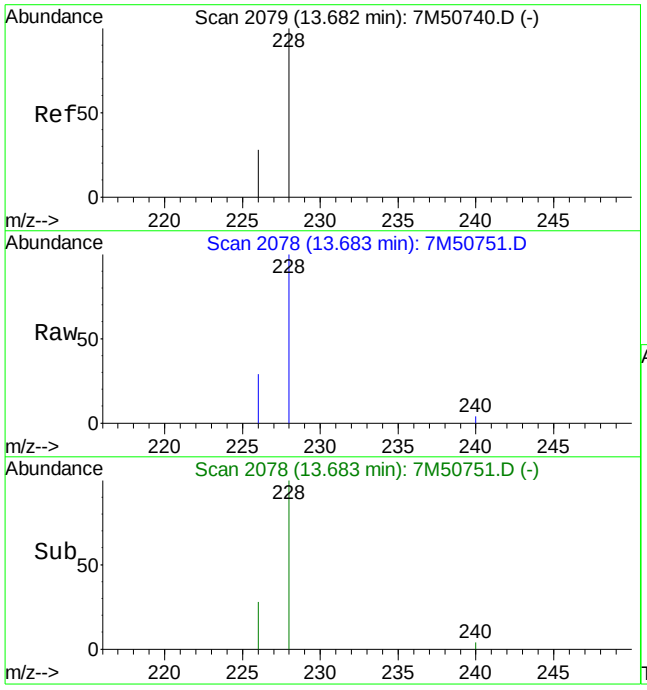


#18
Benzo[a]anthracene
Concen: 0.13 ug/ml
RT: 13.62 min Scan# 2068
Delta R.T. -0.00 min
Lab File: 7M50751.D
Acq: 4 Apr 2011 12:55 pm

Tgt Ion:228 Resp: 32737

Ion	Ratio	Lower	Upper
228	100		
226	27.0	16.0	37.2

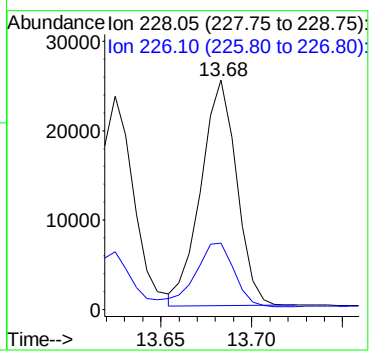


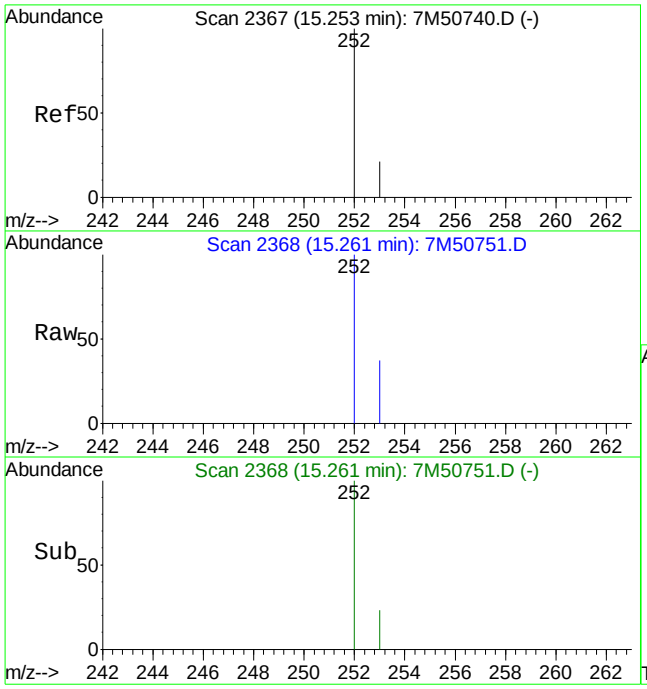


#19
Chrysene
Concen: 0.16 ug/ml
RT: 13.68 min Scan# 2078
Delta R.T. -0.00 min
Lab File: 7M50751.D
Acq: 4 Apr 2011 12:55 pm

Tgt Ion:228 Resp: 34572

Ion	Ratio	Lower	Upper
228	100		
226	31.1	17.6	41.2

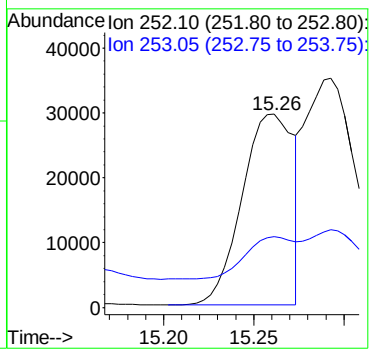


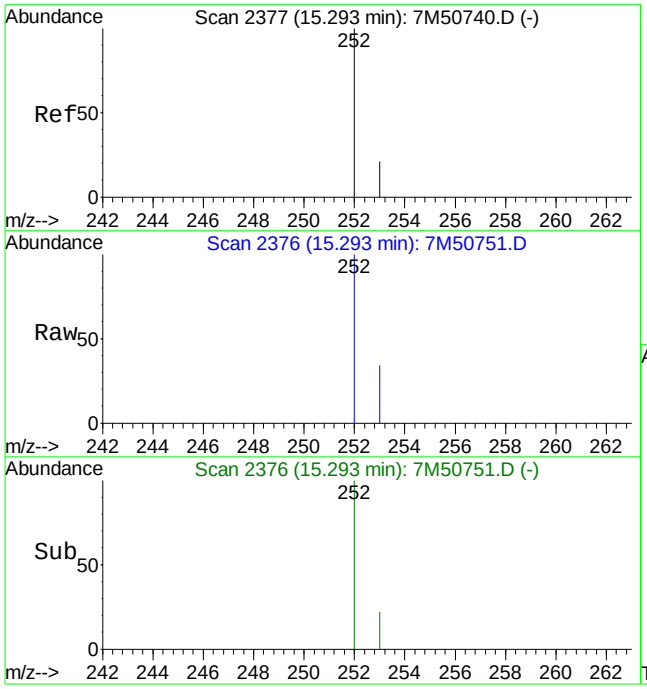


#21
Benzo[b]fluoranthene
Concen: 0.25 ug/ml
RT: 15.26 min Scan# 2368
Delta R.T. -0.00 min
Lab File: 7M50751.D
Acq: 4 Apr 2011 12:55 pm

Tgt Ion:252 Resp: 58311

Ion	Ratio	Lower	Upper
252	100		
253	21.2	13.5	31.5

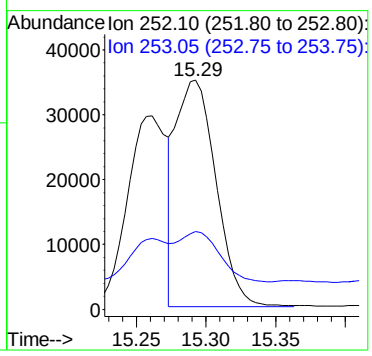


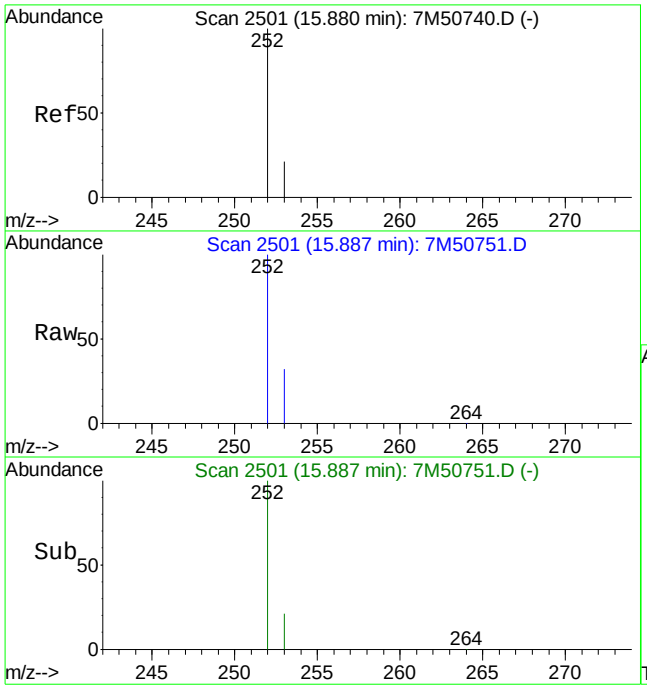


#22
Benzo[k]fluoranthene
Concen: 0.34 ug/ml m
RT: 15.29 min Scan# 2376
Delta R.T. -0.01 min
Lab File: 7M50751.D
Acq: 4 Apr 2011 12:55 pm

Tgt Ion:252 Resp: 69849

Ion	Ratio	Lower	Upper
252	100		
253	17.7	13.3	31.1

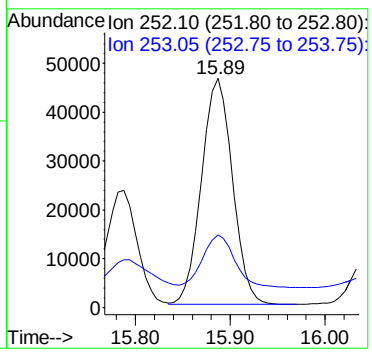


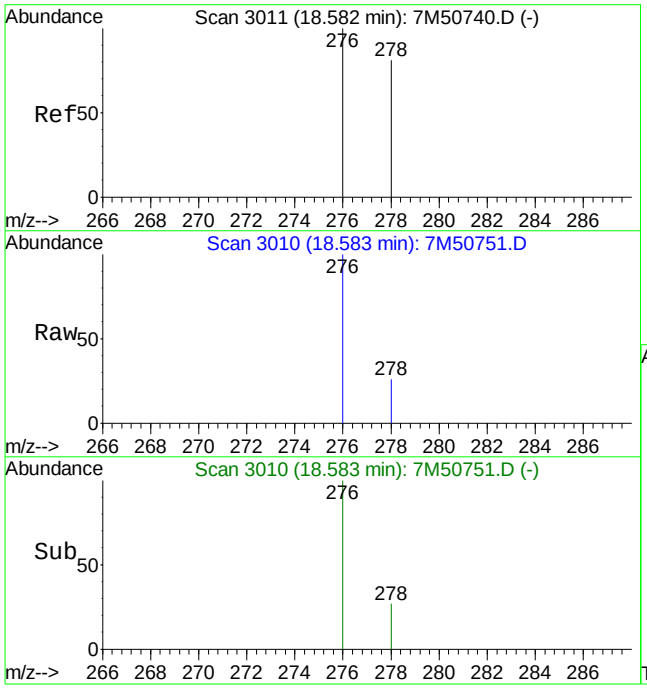


#23
Benzo[a]pyrene
Concen: 0.48 ug/ml
RT: 15.89 min Scan# 2501
Delta R.T. -0.01 min
Lab File: 7M50751.D
Acq: 4 Apr 2011 12:55 pm

Tgt Ion:252 Resp: 105085

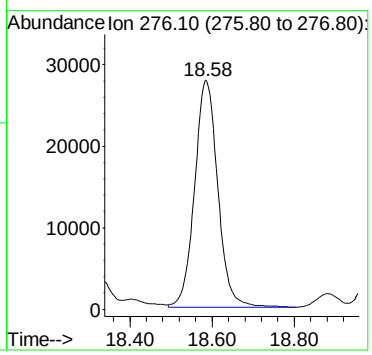
Ion	Ratio	Lower	Upper
252	100		
253	23.9	13.0	30.4

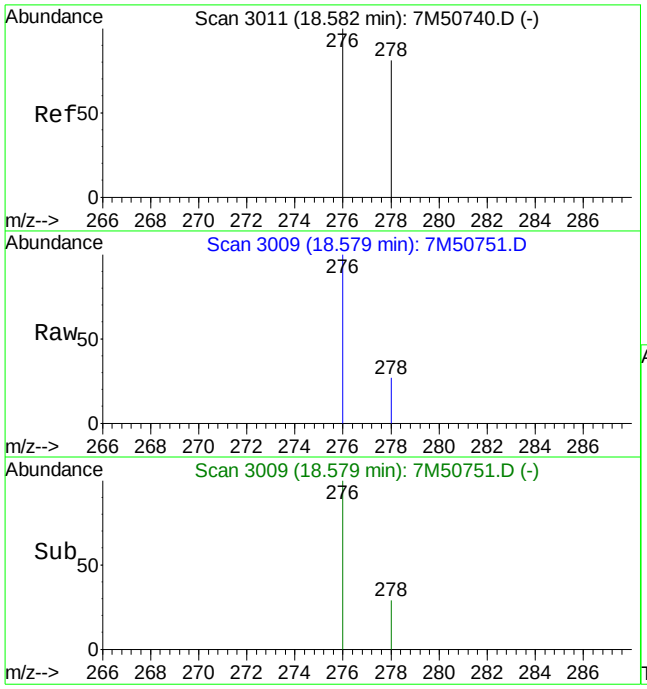




#24
Indeno[1,2,3-cd]pyrene
Concen: 0.43 ug/ml
RT: 18.58 min Scan# 3010
Delta R.T. -0.01 min
Lab File: 7M50751.D
Acq: 4 Apr 2011 12:55 pm

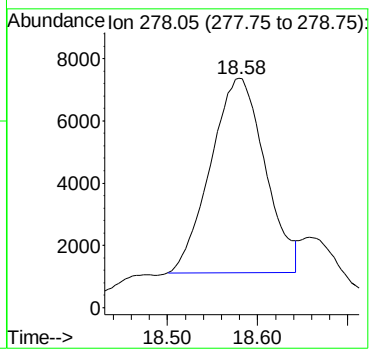
Tgt Ion:276 Resp: 108787

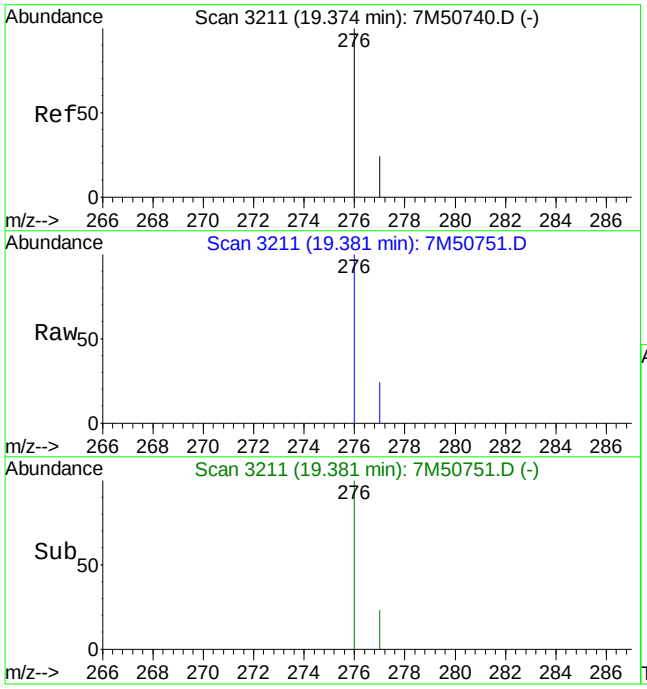




#25
Dibenz[ah]anthracene
Concen: 0.13 ug/ml
RT: 18.58 min Scan# 3009
Delta R.T. -0.02 min
Lab File: 7M50751.D
Acq: 4 Apr 2011 12:55 pm

Tgt Ion:278 Resp: 26271

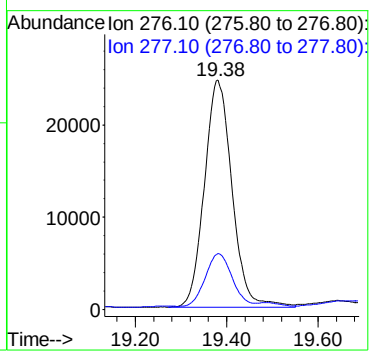




#26
Benzo[ghi]perylene
Concen: 0.48 ug/ml
RT: 19.38 min Scan# 3211
Delta R.T. -0.01 min
Lab File: 7M50751.D
Acq: 4 Apr 2011 12:55 pm

Tgt Ion:276 Resp: 103508

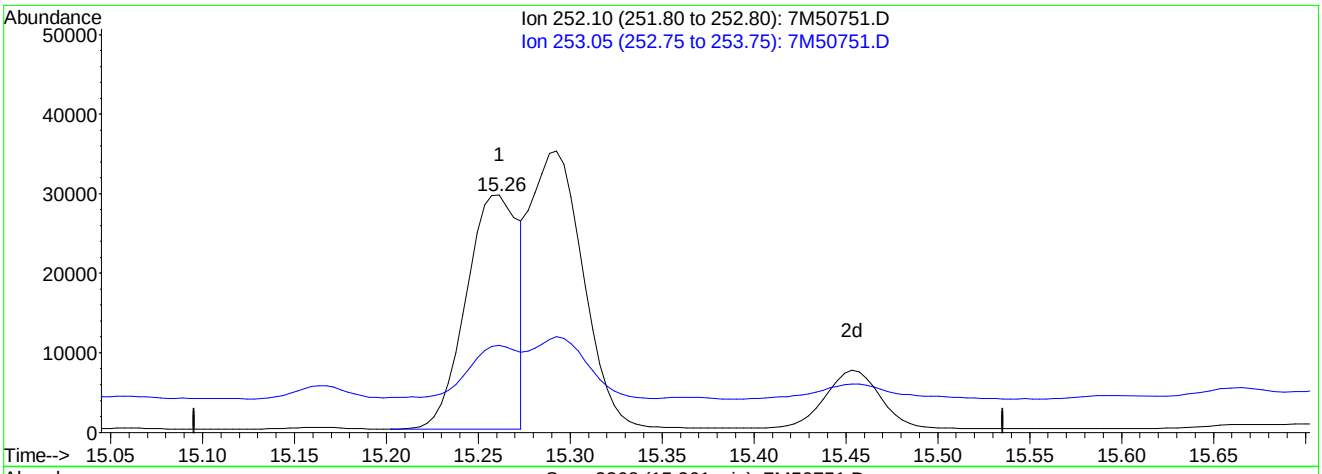
Ion	Ratio	Lower	Upper
276	100		
277	22.6	14.2	33.2

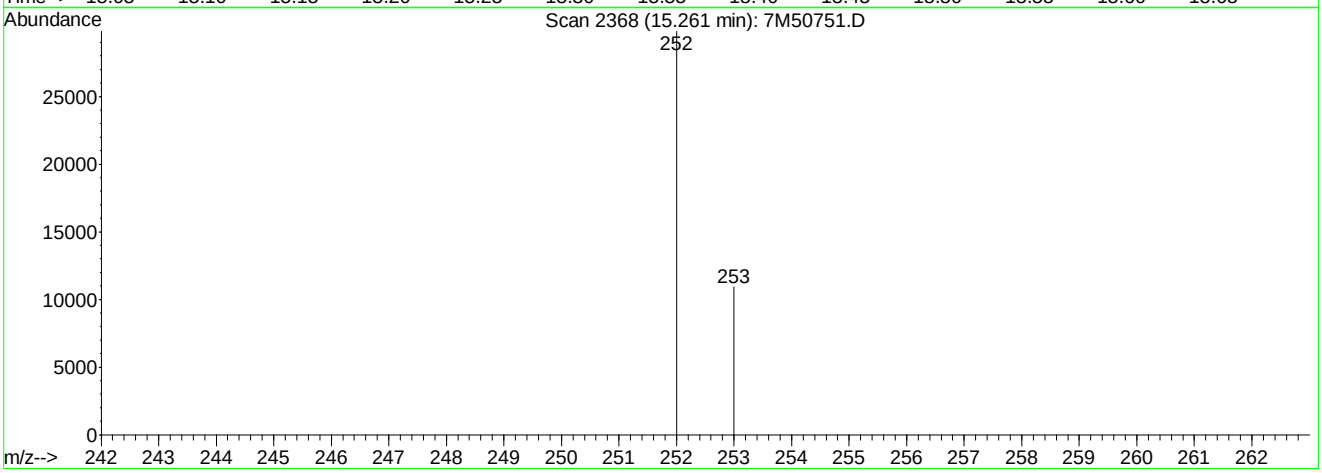


Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\040411\7M50751.D Vial: 13
Acq On : 4 Apr 2011 12:55 pm Operator: CAA
Sample : L11030664-13 5X Inst : HPMS7
Misc : 7,5 SOIL Multiplr: 5.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 7:19 2011 Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Tue Apr 05 07:19:03 2011
Response via : Multiple Level Calibration





TIC: 7M50751.D

(22) Benzo[k]fluoranthene

15.26min 0.28ug/ml

response 58311

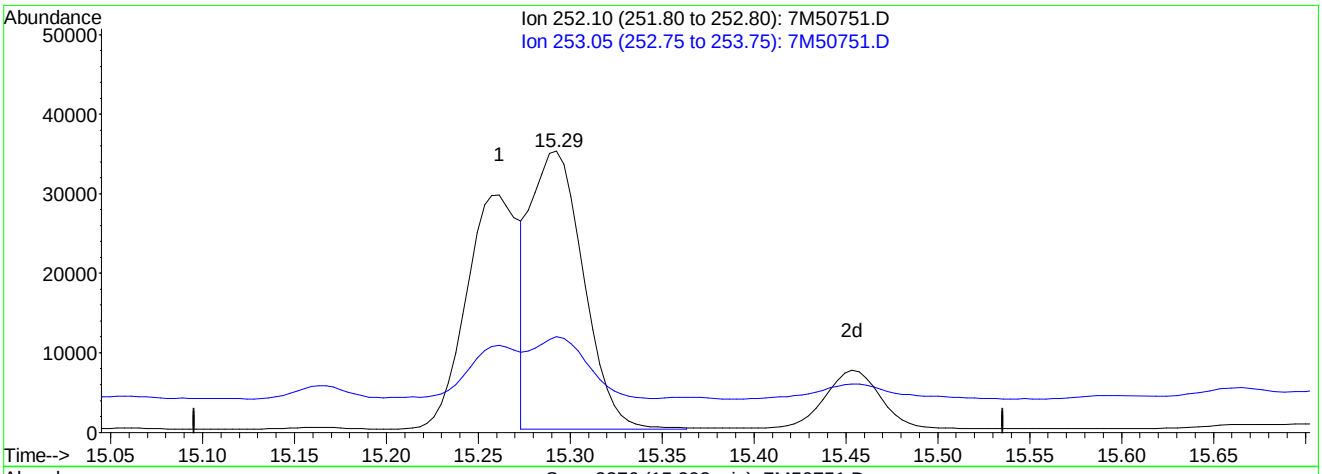
Ion	Exp%	Act%
252.10	100	100
253.05	22.20	21.20
0.00	0.00	0.00
0.00	0.00	0.00

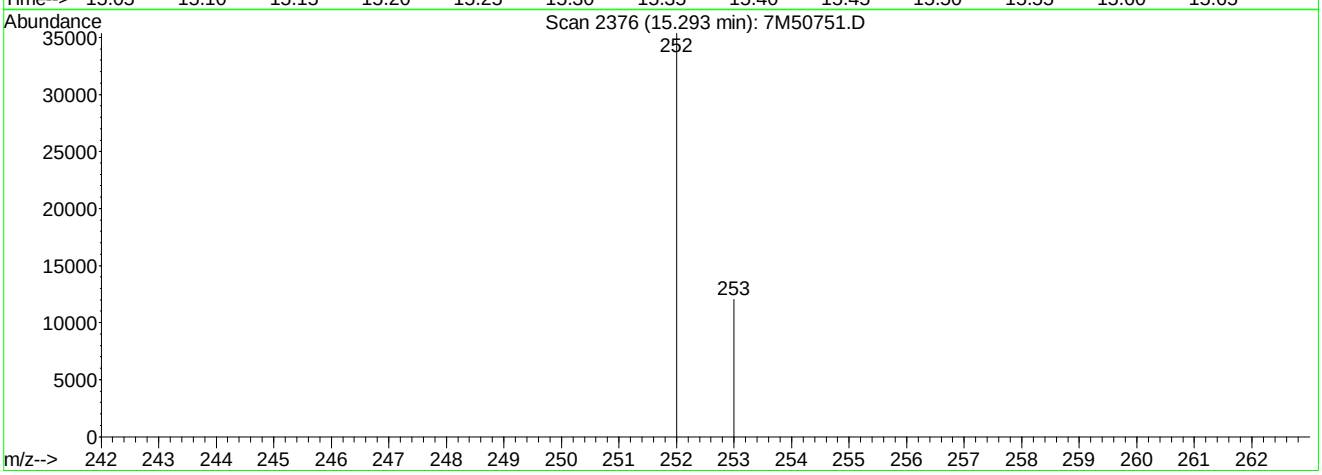
7M50751.D SIMPAHL.M Tue Apr 05 07:23:30 2011

Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\040411\7M50751.D Vial: 13
Acq On : 4 Apr 2011 12:55 pm Operator: CAA
Sample : L11030664-13 5X Inst : HPMS7
Misc : 7,5 SOIL Multiplr: 5.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 7:23 2011 Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Tue Apr 05 07:19:03 2011
Response via : Multiple Level Calibration





TIC: 7M50751.D

(22) Benzo[k]fluoranthene

15.29min 0.34ug/ml mint

response 69849

Ion	Exp%	Act%
252.10	100	100
253.05	22.20	17.70
0.00	0.00	0.00
0.00	0.00	0.00

7M50751.D SIMPAHL.M Tue Apr 05 07:23:39 2011

Analyst: 04/05/2011 08:34 Supervisor: 04/05/2011 09:17

#3 - Improperly integrated isomers and/or coeluting compounds

2.1.1.4 Standards Data

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\1\DATA\032411\7M50691.D Vial: 2
Acq On : 24 Mar 2011 8:45 am Operator: CAA
Sample : WG359798-02 1ppm PAHL STD Inst : HPMS7
Misc : 1,1 STD41768 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 24 11:23:57 2011 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Thu Mar 24 11:23:52 2011
Response via : Initial Calibration
DataAcq Meth : PAHLSIM

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	6.22	136	157700	1.00 ug/ml	0.00
6) Acenaphthene-d10	8.42	164	92417	1.00 ug/ml	0.00
11) Phenanthrene-d10	10.28	188	156965	1.00 ug/ml	0.00
15) Chrysene-d12	13.66	240	162187	1.00 ug/ml	0.00
20) Perylene-d12	16.01	264	157952	1.00 ug/ml	0.00

System Monitoring Compounds					
2) Nitrobenzene-d5	5.36	82	75797	1.2718 ug/ml	0.00
Spiked Amount 2.500	Range 35 - 114		Recovery	= 50.80%	
7) 2-Fluorobiphenyl	7.52	172	123916	1.0925 ug/ml	0.00
Spiked Amount 2.500	Range 43 - 116		Recovery	= 43.60%	
17) p-Terphenyl-d14	12.26	244	125732	1.0943 ug/ml	0.00
Spiked Amount 2.500	Range 33 - 141		Recovery	= 43.60%	

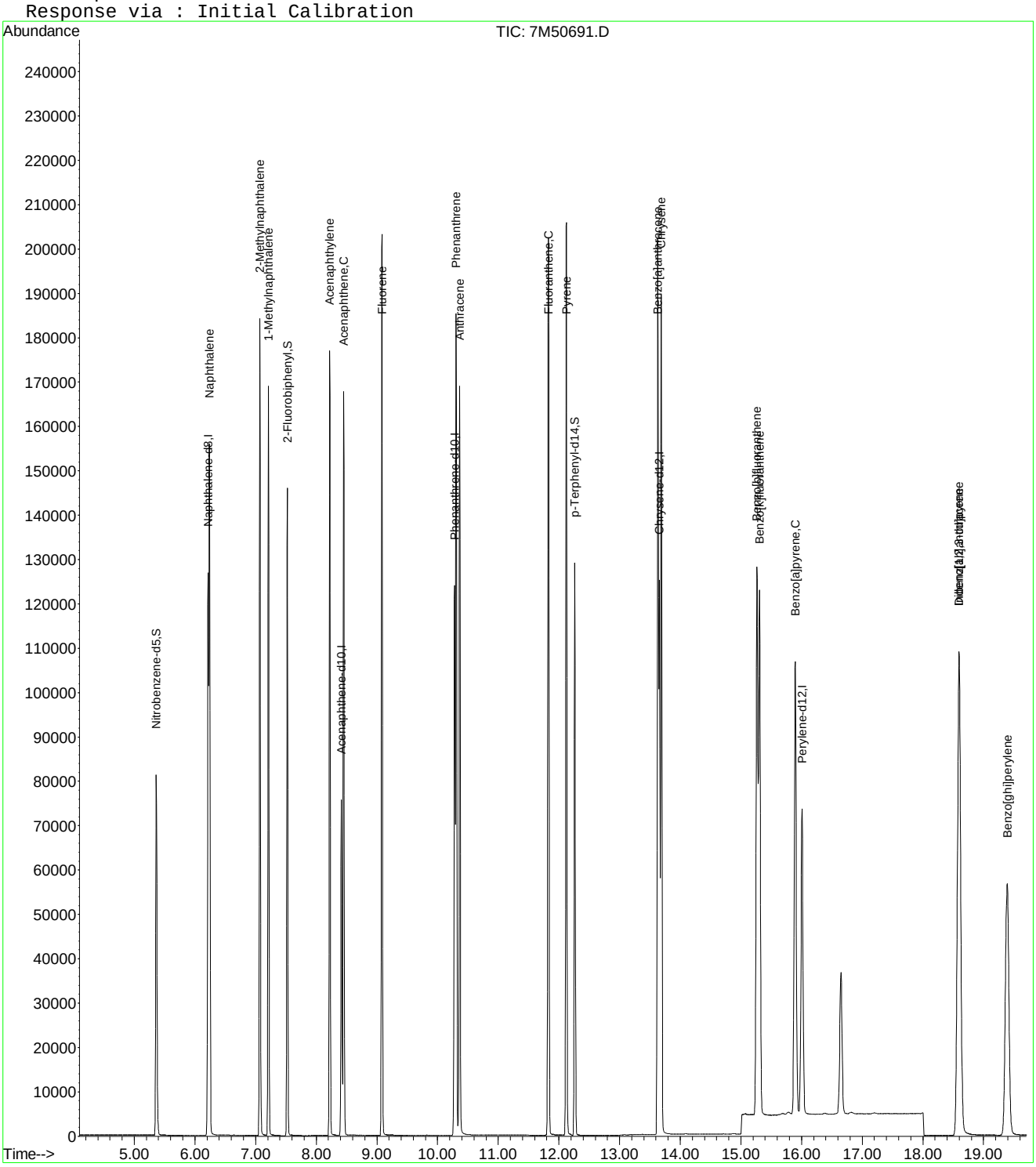
Target Compounds					Qvalue
3) Naphthalene	6.24	128	173845	1.0880 ug/ml	100
4) 2-Methylnaphthalene	7.07	142	117780	1.0769 ug/ml	100
5) 1-Methylnaphthalene	7.21	142	107464	1.0649 ug/ml	100
8) Acenaphthylene	8.22	152	172216	1.1143 ug/ml	100
9) Acenaphthene	8.45	154	102541	1.1175 ug/ml	95
10) Fluorene	9.08	166	124068	1.1002 ug/ml	100
12) Phenanthrene	10.31	178	185298	1.0973 ug/ml	100
13) Anthracene	10.36	178	170300	1.1242 ug/ml	100
14) Fluoranthene	11.83	202	214410	1.1003 ug/ml	100
16) Pyrene	12.12	202	238551	1.1186 ug/ml	100
18) Benzo[a]anthracene	13.63	228	206354	1.0858 ug/ml	100
19) Chrysene	13.69	228	186596	1.0768 ug/ml	100
21) Benzo[b]fluoranthene	15.27	252	204484	1.0480 ug/ml	97
22) Benzo[k]fluoranthene	15.30	252	176787	1.0262 ug/ml	96
23) Benzo[a]pyrene	15.90	252	192891	1.0669 ug/ml	100
24) Indeno[1,2,3-cd]pyrene	18.59	276	224158	1.0517 ug/ml	100
25) Dibenz[ah]anthracene	18.60	278	183578	1.0538 ug/ml	100
26) Benzo[ghi]perylene	19.39	276	189422	1.0411 ug/ml	100

(#) = qualifier out of range (m) = manual integration
7M50691.D SIMPAHL.M Thu Mar 24 12:25:45 2011 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\1\DATA\032411\7M50691.D Vial: 2
Acq On : 24 Mar 2011 8:45 am Operator: CAA
Sample : WG359798-02 1ppm PAHL STD Inst : HPMS7
Misc : 1,1 STD41768 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 24 11:23 2011 Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Thu Mar 24 11:49:28 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\1\DATA\032411\7M50692.D Vial: 3
Acq On : 24 Mar 2011 9:12 am Operator: CAA
Sample : WG359798-03 10ppm PAHL STD Inst : HPMS7
Misc : 1,1 STD41768 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 24 11:24:12 2011 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Thu Mar 24 11:24:08 2011
Response via : Initial Calibration
DataAcq Meth : PAHLSIM

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	6.21	136	139069	1.00 ug/ml	0.00
6) Acenaphthene-d10	8.42	164	80287	1.00 ug/ml	0.00
11) Phenanthrene-d10	10.28	188	144700	1.00 ug/ml	0.00
15) Chrysene-d12	13.66	240	136976	1.00 ug/ml	0.00
20) Perylene-d12	16.00	264	132528	1.00 ug/ml	0.00

System Monitoring Compounds					
2) Nitrobenzene-d5	5.36	82	527508	9.7444 ug/ml	0.00
Spiked Amount 2.500	Range 35 - 114		Recovery	= 389.60%#	
7) 2-Fluorobiphenyl	7.52	172	936313	9.4914 ug/ml	0.00
Spiked Amount 2.500	Range 43 - 116		Recovery	= 379.60%#	
17) p-Terphenyl-d14	12.26	244	947008	9.7122 ug/ml	0.00
Spiked Amount 2.500	Range 33 - 141		Recovery	= 388.40%#	

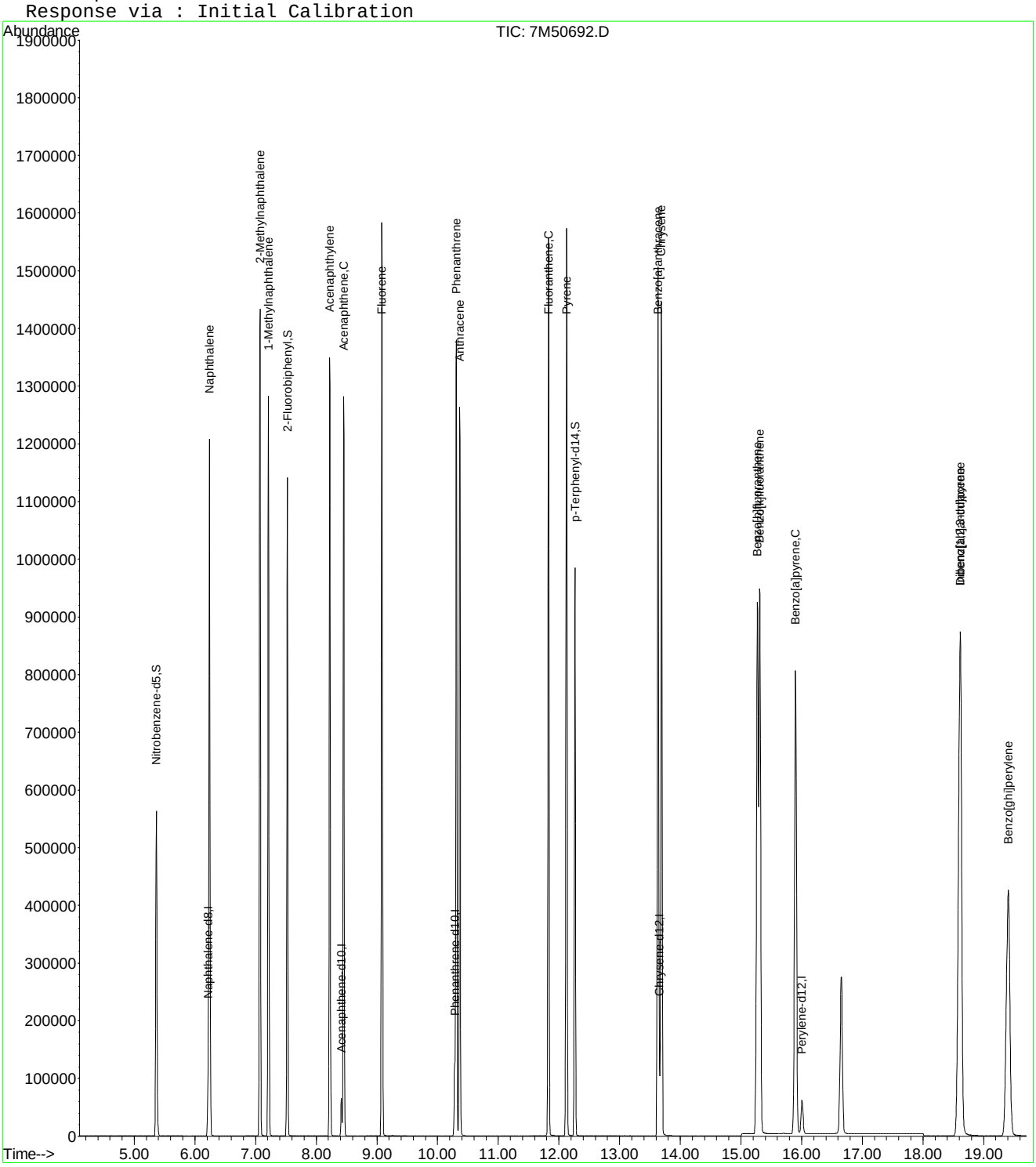
Target Compounds					Qvalue
3) Naphthalene	6.24	128	1314210	9.3351 ug/ml	98
4) 2-Methylnaphthalene	7.07	142	901687	9.3663 ug/ml	99
5) 1-Methylnaphthalene	7.21	142	810202	9.1296 ug/ml	99
8) Acenaphthylene	8.22	152	1314826	9.7982 ug/ml	97
9) Acenaphthene	8.46	154	792562	9.9492 ug/ml	100
10) Fluorene	9.09	166	964003	9.8393 ug/ml	100
12) Phenanthrene	10.31	178	1445591	9.2888 ug/ml	98
13) Anthracene	10.36	178	1292130	9.2589 ug/ml	97
14) Fluoranthene	11.83	202	1617974	9.0271 ug/ml	97
16) Pyrene	12.13	202	1762543	9.7347 ug/ml	99
18) Benzo[a]anthracene	13.64	228	1603778	9.9968 ug/ml	97
19) Chrysene	13.69	228	1437046	9.8301 ug/ml	97
21) Benzo[b]fluoranthene	15.27	252	1582035	9.7306 ug/ml	98
22) Benzo[k]fluoranthene	15.31	252	1328251	9.2467 ug/ml	97
23) Benzo[a]pyrene	15.90	252	1506224	9.9386 ug/ml	98
24) Indeno[1,2,3-cd]pyrene	18.61	276	1761259	9.8796 ug/ml	100
25) Dibenz[ah]anthracene	18.61	278	1454298	9.9835 ug/ml	100
26) Benzo[ghi]perylene	19.41	276	1419664	9.3239 ug/ml	99

(#) = qualifier out of range (m) = manual integration
7M50692.D SIMPAHL.M Thu Mar 24 12:25:49 2011 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\1\DATA\032411\7M50692.D Vial: 3
Acq On : 24 Mar 2011 9:12 am Operator: CAA
Sample : WG359798-03 10ppm PAHL STD Inst : HPMS7
Misc : 1,1 STD41768 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 24 11:24 2011 Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Thu Mar 24 11:49:28 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\1\DATA\032411\7M50693.D Vial: 4
Acq On : 24 Mar 2011 9:39 am Operator: CAA
Sample : WG359798-04 5ppm PAHL STD Inst : HPMS7
Misc : 1,1 STD41768 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 24 11:24:31 2011 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Thu Mar 24 11:24:26 2011
Response via : Initial Calibration
DataAcq Meth : PAHLSIM

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	6.21	136	125884	1.00 ug/ml	0.00
6) Acenaphthene-d10	8.42	164	77541	1.00 ug/ml	0.00
11) Phenanthrene-d10	10.28	188	135367	1.00 ug/ml	0.00
15) Chrysene-d12	13.65	240	135988	1.00 ug/ml	0.00
20) Perylene-d12	16.00	264	128866	1.00 ug/ml	0.00

System Monitoring Compounds					
2) Nitrobenzene-d5	5.36	82	304024	6.1781 ug/ml	0.00
Spiked Amount 2.500	Range 35 - 114		Recovery	= 247.20%#	
7) 2-Fluorobiphenyl	7.52	172	456197	4.7733 ug/ml	0.00
Spiked Amount 2.500	Range 43 - 116		Recovery	= 190.80%#	
17) p-Terphenyl-d14	12.26	244	477450	4.9008 ug/ml	0.00
Spiked Amount 2.500	Range 33 - 141		Recovery	= 196.00%#	

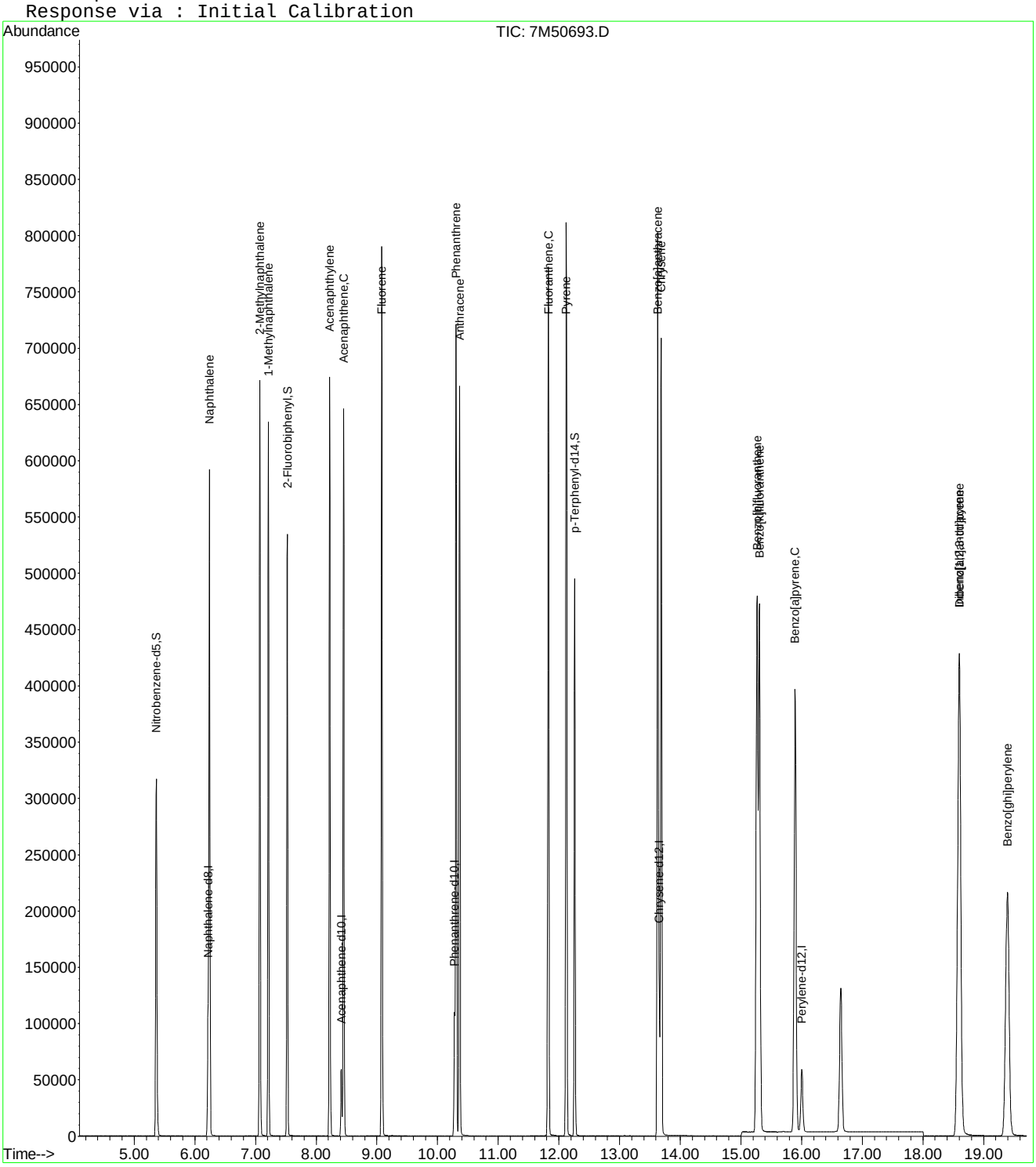
Target Compounds					Qvalue
3) Naphthalene	6.24	128	631197	4.9315 ug/ml	99
4) 2-Methylnaphthalene	7.07	142	432840	4.9398 ug/ml	100
5) 1-Methylnaphthalene	7.21	142	393094	4.8686 ug/ml	100
8) Acenaphthylene	8.22	152	648240	4.9803 ug/ml	99
9) Acenaphthene	8.45	154	391613	5.0643 ug/ml	99
10) Fluorene	9.08	166	473936	4.9887 ug/ml	100
12) Phenanthrene	10.31	178	715661	4.8895 ug/ml	99
13) Anthracene	10.36	178	650075	4.9604 ug/ml	99
14) Fluoranthene	11.82	202	823472	4.8886 ug/ml	99
16) Pyrene	12.12	202	896114	4.9498 ug/ml	98
18) Benzo[a]anthracene	13.63	228	807943	5.0469 ug/ml	99
19) Chrysene	13.69	228	721673	4.9503 ug/ml	99
21) Benzo[b]fluoranthene	15.27	252	815863	5.1342 ug/ml	98
22) Benzo[k]fluoranthene	15.31	252	693261	4.9570 ug/ml	97
23) Benzo[a]pyrene	15.89	252	746188	5.0482 ug/ml	99
24) Indeno[1,2,3-cd]pyrene	18.60	276	872388	5.0288 ug/ml	100
25) Dibenz[ah]anthracene	18.60	278	717221	5.0562 ug/ml	100
26) Benzo[ghi]perylene	19.39	276	714307	4.8283 ug/ml	99

(#) = qualifier out of range (m) = manual integration
7M50693.D SIMPAHL.M Thu Mar 24 12:25:53 2011 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\1\DATA\032411\7M50693.D Vial: 4
Acq On : 24 Mar 2011 9:39 am Operator: CAA
Sample : WG359798-04 5ppm PAHL STD Inst : HPMS7
Misc : 1,1 STD41768 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 24 11:24 2011 Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Thu Mar 24 11:49:28 2011
Response via : Initial Calibration



7M50693.D SIMPAHL.M Thu Mar 24 12:25:53 2011 Page 2

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\1\DATA\032411\7M50694.D Vial: 5
Acq On : 24 Mar 2011 10:06 am Operator: CAA
Sample : WG359798-05 2.5ppm PAHL STD Inst : HPMS7
Misc : 1,1 STD41768 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 24 11:24:44 2011 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Thu Mar 24 11:24:40 2011
Response via : Initial Calibration
DataAcq Meth : PAHLSIM

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	6.21	136	126155	1.00 ug/ml	0.00
6) Acenaphthene-d10	8.42	164	77375	1.00 ug/ml	0.00
11) Phenanthrene-d10	10.28	188	134181	1.00 ug/ml	0.00
15) Chrysene-d12	13.65	240	138616	1.00 ug/ml	0.00
20) Perylene-d12	16.00	264	129570	1.00 ug/ml	0.00

System Monitoring Compounds					
2) Nitrobenzene-d5	5.36	82	149157	2.9166 ug/ml	0.00
Spiked Amount 2.500	Range 35 - 114		Recovery	= 116.80%#	
7) 2-Fluorobiphenyl	7.52	172	230206	2.4169 ug/ml	0.00
Spiked Amount 2.500	Range 43 - 116		Recovery	= 96.80%	
17) p-Terphenyl-d14	12.26	244	242740	2.4344 ug/ml	0.00
Spiked Amount 2.500	Range 33 - 141		Recovery	= 97.20%	

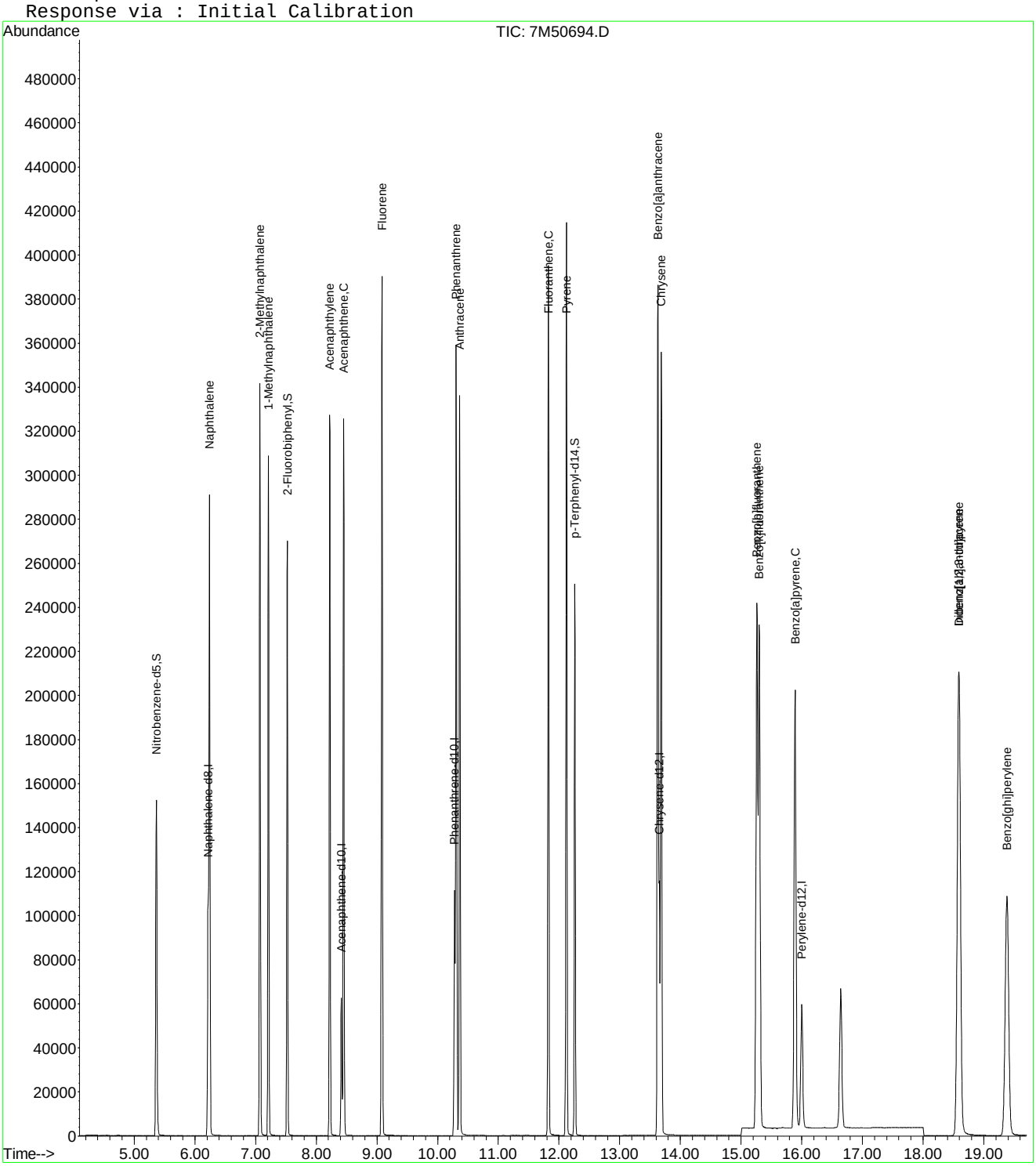
Target Compounds					Qvalue
3) Naphthalene	6.24	128	314626	2.4431 ug/ml	100
4) 2-Methylnaphthalene	7.07	142	216382	2.4492 ug/ml	100
5) 1-Methylnaphthalene	7.21	142	197886	2.4302 ug/ml	100
8) Acenaphthylene	8.22	152	323567	2.4927 ug/ml	99
9) Acenaphthene	8.45	154	194016	2.5102 ug/ml	100
10) Fluorene	9.08	166	236824	2.4983 ug/ml	100
12) Phenanthrene	10.31	178	358236	2.4626 ug/ml	100
13) Anthracene	10.36	178	326879	2.5100 ug/ml	100
14) Fluoranthene	11.82	202	415919	2.4857 ug/ml	100
16) Pyrene	12.12	202	458653	2.4745 ug/ml	100
18) Benzo[a]anthracene	13.63	228	403801	2.4671 ug/ml	100
19) Chrysene	13.68	228	361941	2.4304 ug/ml	99
21) Benzo[b]fluoranthene	15.26	252	397507	2.4652 ug/ml	99
22) Benzo[k]fluoranthene	15.30	252	333594	2.3589 ug/ml	100
23) Benzo[a]pyrene	15.89	252	370301	2.4873 ug/ml	99
24) Indeno[1,2,3-cd]pyrene	18.59	276	432599	2.4785 ug/ml	100
25) Dibenz[ah]anthracene	18.59	278	354368	2.4829 ug/ml	100
26) Benzo[ghi]perylene	19.38	276	358806	2.4138 ug/ml	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\1\DATA\032411\7M50694.D Vial: 5
Acq On : 24 Mar 2011 10:06 am Operator: CAA
Sample : WG359798-05 2.5ppm PAHL STD Inst : HPMS7
Misc : 1,1 STD41768 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 24 11:24 2011 Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Thu Mar 24 11:49:28 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\1\DATA\032411\7M50695.D Vial: 6
Acq On : 24 Mar 2011 10:34 am Operator: CAA
Sample : WG359798-06 0.5ppm PAHL STD Inst : HPMS7
Misc : 1,1 STD41768 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 24 11:24:57 2011 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Thu Mar 24 11:24:53 2011
Response via : Initial Calibration
DataAcq Meth : PAHLSIM

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	6.22	136	131627	1.00 ug/ml	0.00
6) Acenaphthene-d10	8.41	164	84926	1.00 ug/ml	0.00
11) Phenanthrene-d10	10.28	188	142037	1.00 ug/ml	0.00
15) Chrysene-d12	13.65	240	152444	1.00 ug/ml	0.00
20) Perylene-d12	16.00	264	138796	1.00 ug/ml	0.00

System Monitoring Compounds					
2) Nitrobenzene-d5	5.36	82	30437	0.5520 ug/ml	0.00
Spiked Amount 2.500	Range 35 - 114		Recovery	= 22.00%#	
7) 2-Fluorobiphenyl	7.52	172	51718	0.4951 ug/ml	0.00
Spiked Amount 2.500	Range 43 - 116		Recovery	= 20.00%#	
17) p-Terphenyl-d14	12.26	244	54869	0.4976 ug/ml	0.00
Spiked Amount 2.500	Range 33 - 141		Recovery	= 20.00%#	

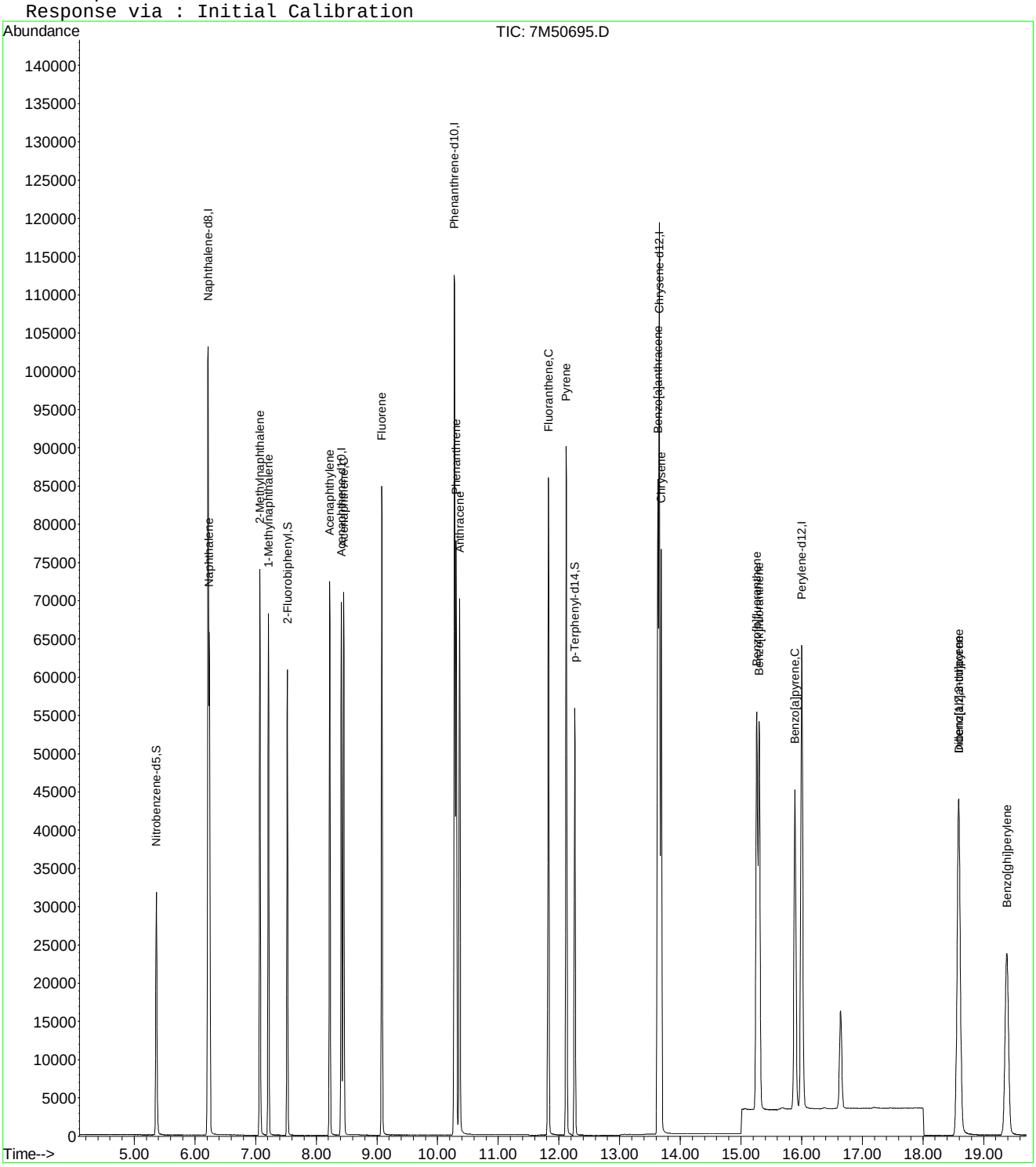
Target Compounds					Qvalue
3) Naphthalene	6.24	128	67742	0.5034 ug/ml	100
4) 2-Methylnaphthalene	7.07	142	47299	0.5112 ug/ml	100
5) 1-Methylnaphthalene	7.21	142	44129	0.5173 ug/ml	100
8) Acenaphthylene	8.22	152	70390	0.4943 ug/ml	100
9) Acenaphthene	8.45	154	43654	0.5141 ug/ml	99
10) Fluorene	9.08	166	51777	0.4975 ug/ml	100
12) Phenanthrene	10.30	178	77493	0.5025 ug/ml	100
13) Anthracene	10.36	178	70847	0.5134 ug/ml	100
14) Fluoranthene	11.83	202	90964	0.5127 ug/ml	100
16) Pyrene	12.12	202	103263	0.5034 ug/ml	100
18) Benzo[a]anthracene	13.63	228	87669	0.4858 ug/ml	99
19) Chrysene	13.69	228	80230	0.4900 ug/ml	100
21) Benzo[b]fluoranthene	15.26	252	86038	0.4965 ug/ml	100
22) Benzo[k]fluoranthene	15.30	252	74088	0.4900 ug/ml	100
23) Benzo[a]pyrene	15.89	252	79002	0.4956 ug/ml	100
24) Indeno[1,2,3-cd]pyrene	18.59	276	92261	0.4943 ug/ml	100
25) Dibenz[ah]anthracene	18.59	278	74943	0.4910 ug/ml	100
26) Benzo[ghi]perylene	19.38	276	78405	0.4934 ug/ml	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\1\DATA\032411\7M50695.D Vial: 6
Acq On : 24 Mar 2011 10:34 am Operator: CAA
Sample : WG359798-06 0.5ppm PAHL STD Inst : HPMS7
Misc : 1,1 STD41768 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 24 11:24 2011 Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Thu Mar 24 11:49:28 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\1\DATA\032411\7M50696.D Vial: 7
Acq On : 24 Mar 2011 11:01 am Operator: CAA
Sample : WG359798-07 0.1ppm PAHL STD Inst : HPMS7
Misc : 1,1 STD41768 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 24 11:25:11 2011 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Thu Mar 24 11:25:08 2011
Response via : Initial Calibration
DataAcq Meth : PAHLSIM

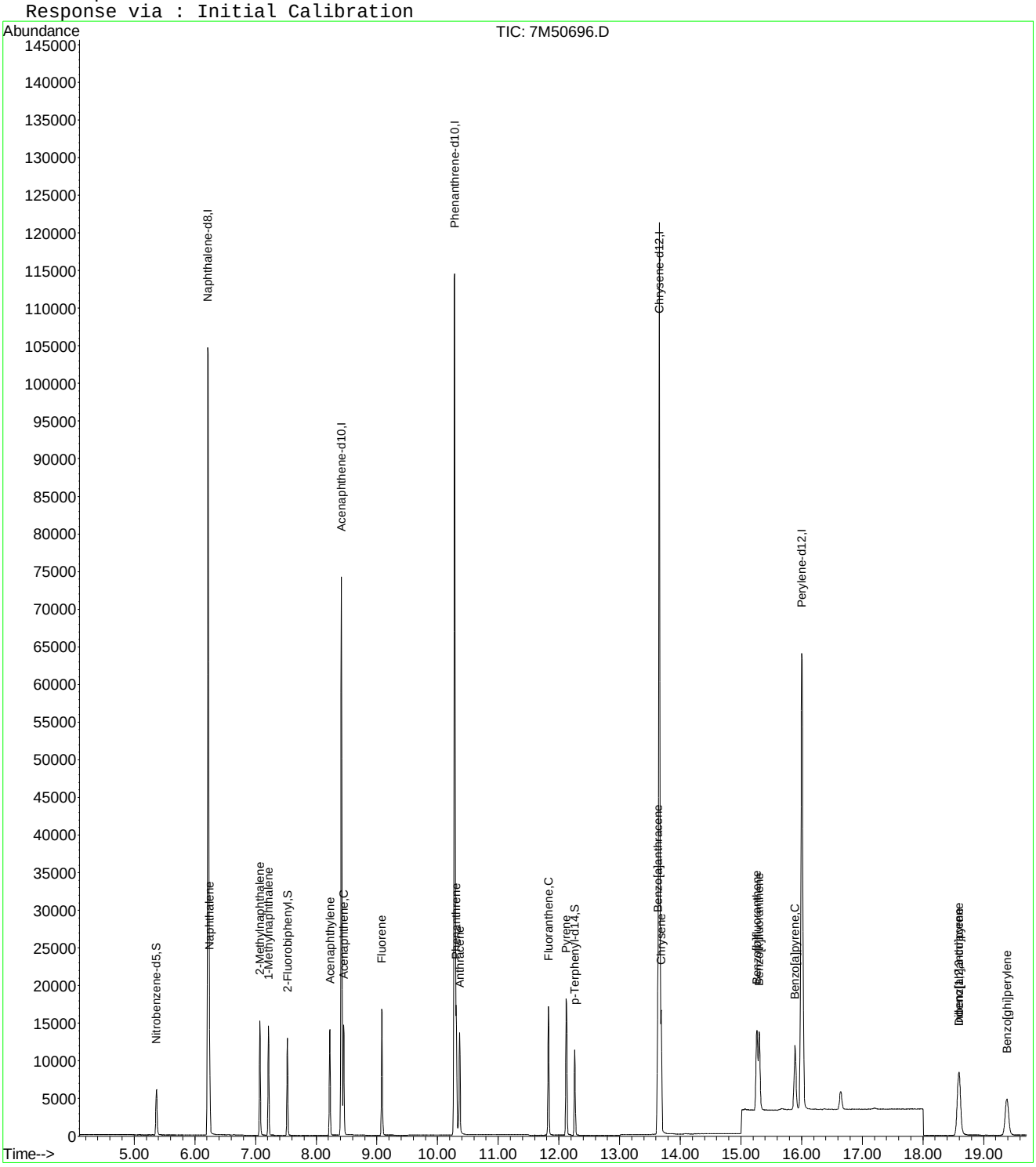
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	6.21	136	135594	1.00 ug/ml	0.00
6) Acenaphthene-d10	8.42	164	89307	1.00 ug/ml	0.00
11) Phenanthrene-d10	10.28	188	147241	1.00 ug/ml	0.00
15) Chrysene-d12	13.65	240	159422	1.00 ug/ml	0.00
20) Perylene-d12	16.00	264	141618	1.00 ug/ml	0.00
System Monitoring Compounds					
2) Nitrobenzene-d5	5.36	82	6056	0.1037 ug/ml	0.00
Spiked Amount 2.500	Range 35 - 114		Recovery	= 4.00%#	
7) 2-Fluorobiphenyl	7.52	172	10993	0.1003 ug/ml	0.00
Spiked Amount 2.500	Range 43 - 116		Recovery	= 4.00%#	
17) p-Terphenyl-d14	12.26	244	11751	0.1015 ug/ml	0.00
Spiked Amount 2.500	Range 33 - 141		Recovery	= 4.00%#	
Target Compounds					Qvalue
3) Naphthalene	6.24	128	14038	0.1013 ug/ml	100
4) 2-Methylnaphthalene	7.07	142	9779	0.1024 ug/ml	100
5) 1-Methylnaphthalene	7.21	142	9261	0.1052 ug/ml	99
8) Acenaphthylene	8.23	152	14190	0.0950 ug/ml	100
9) Acenaphthene	8.46	154	8668	0.0961 ug/ml	96
10) Fluorene	9.09	166	10597	0.0969 ug/ml	100
12) Phenanthrene	10.31	178	15970	0.1000 ug/ml	100
13) Anthracene	10.36	178	13876	0.0970 ug/ml	100
14) Fluoranthene	11.83	202	18346	0.0998 ug/ml	99
16) Pyrene	12.12	202	21319	0.0991 ug/ml	95
18) Benzo[a]anthracene	13.63	228	18244	0.0967 ug/ml	99
19) Chrysene	13.69	228	16640	0.0974 ug/ml	99
21) Benzo[b]fluoranthene	15.26	252	17282	0.0982 ug/ml	97
22) Benzo[k]fluoranthene	15.30	252	15232	0.0994 ug/ml	100
23) Benzo[a]pyrene	15.89	252	15765	0.0970 ug/ml	97
24) Indeno[1,2,3-cd]pyrene	18.59	276	18257	0.0961 ug/ml	100
25) Dibenz[ah]anthracene	18.60	278	14757	0.0951 ug/ml	100
26) Benzo[ghi]perylene	19.38	276	16001	0.0989 ug/ml	100

(#) = qualifier out of range (m) = manual integration
7M50696.D SIMPAHL.M Thu Mar 24 12:26:06 2011 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\1\DATA\032411\7M50696.D Vial: 7
Acq On : 24 Mar 2011 11:01 am Operator: CAA
Sample : WG359798-07 0.1ppm PAHL STD Inst : HPMS7
Misc : 1,1 STD41768 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 24 11:25 2011 Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Thu Mar 24 11:49:28 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\1\DATA\032411\7M50697.D Vial: 8
Acq On : 24 Mar 2011 11:29 am Operator: CAA
Sample : WG359798-08 0.05ppm PAHL STD Inst : HPMS7
Misc : 1,1 STD41768 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 24 11:49:08 2011 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Thu Mar 24 11:25:21 2011
Response via : Initial Calibration
DataAcq Meth : PAHLSIM

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	6.22	136	134215	1.00 ug/ml	0.00
6) Acenaphthene-d10	8.42	164	89358	1.00 ug/ml	0.00
11) Phenanthrene-d10	10.28	188	146136	1.00 ug/ml	0.00
15) Chrysene-d12	13.65	240	158801	1.00 ug/ml	0.00
20) Perylene-d12	16.00	264	139884	1.00 ug/ml	0.00

System Monitoring Compounds					
2) Nitrobenzene-d5	5.36	82	3025	0.0510 ug/ml	0.00
Spiked Amount 2.500	Range 35 - 114		Recovery =	2.00%#	
7) 2-Fluorobiphenyl	7.52	172	5555	0.0507 ug/ml	0.00
Spiked Amount 2.500	Range 43 - 116		Recovery =	2.00%#	
17) p-Terphenyl-d14	12.26	244	6316	0.0546 ug/ml	0.00
Spiked Amount 2.500	Range 33 - 141		Recovery =	2.00%#	

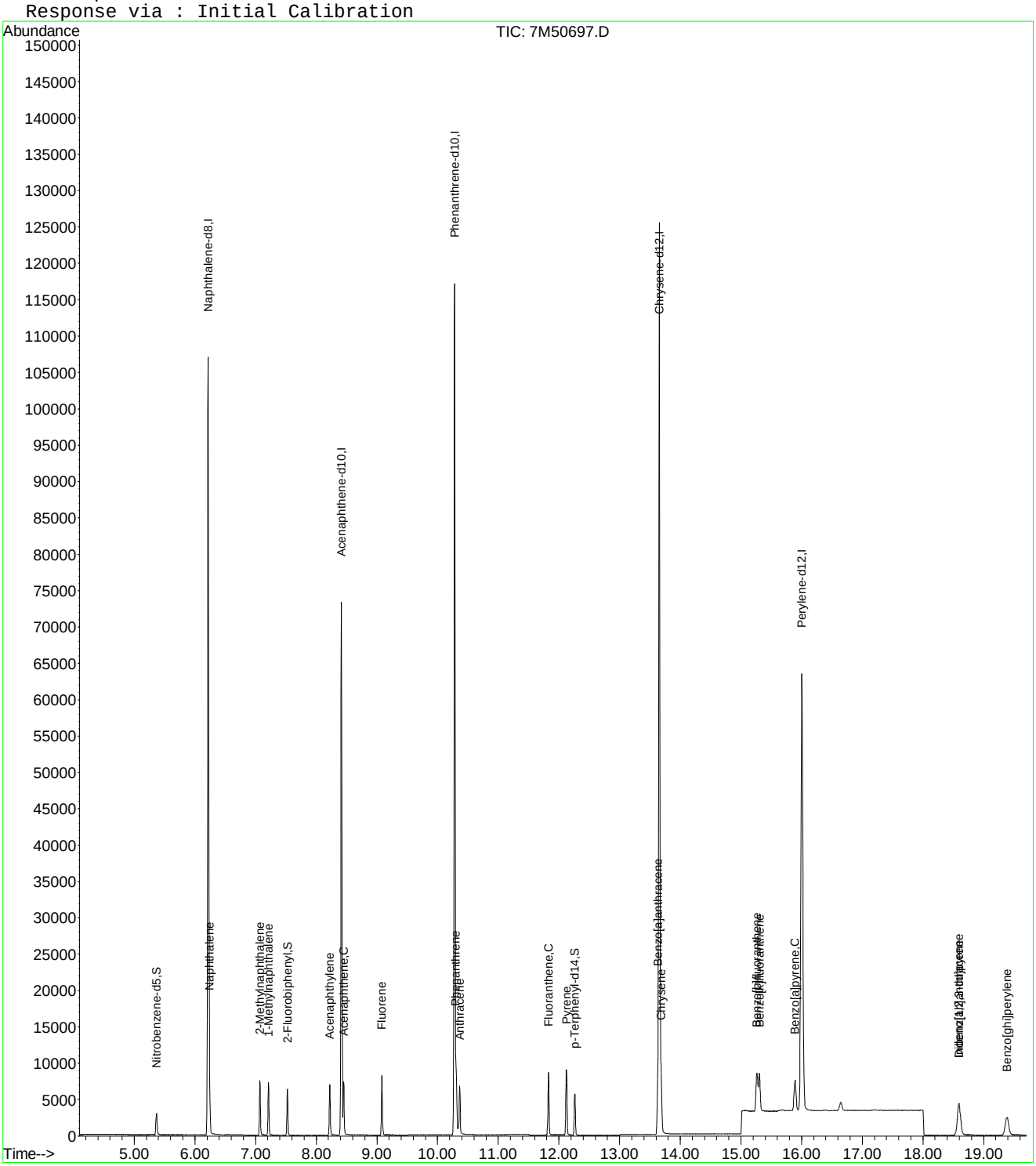
Target Compounds					Qvalue
3) Naphthalene	6.24	128	7021	0.0511 ug/ml	99
4) 2-Methylnaphthalene	7.07	142	4899	0.0518 ug/ml	100
5) 1-Methylnaphthalene	7.21	142	4633	0.0531 ug/ml	100
8) Acenaphthylene	8.23	152	7052	0.0473 ug/ml	99
9) Acenaphthene	8.46	154	4363	0.0483 ug/ml	97
10) Fluorene	9.08	166	5253	0.0480 ug/ml	100
12) Phenanthrene	10.30	178	8089	0.0511 ug/ml	100
13) Anthracene	10.36	178	6771	0.0478 ug/ml	100
14) Fluoranthene	11.83	202	9156	0.0503 ug/ml	100
16) Pyrene	12.12	202	11042	0.0515 ug/ml	94
18) Benzo[a]anthracene	13.63	228	9475	0.0504 ug/ml	99
19) Chrysene	13.69	228	8602	0.0506 ug/ml	99
21) Benzo[b]fluoranthene	15.26	252	8591	0.0495 ug/ml	97
22) Benzo[k]fluoranthene	15.30	252	8073	0.0539 ug/ml	98
23) Benzo[a]pyrene	15.89	252	7950	0.0495 ug/ml	96
24) Indeno[1,2,3-cd]pyrene	18.59	276	9171	0.0489 ug/ml	100
25) Dibenz[ah]anthracene	18.59	278	7437	0.0486 ug/ml	100
26) Benzo[ghi]perylene	19.38	276	8127	0.0513 ug/ml	99

(#) = qualifier out of range (m) = manual integration
7M50697.D SIMPAHL.M Thu Mar 24 12:26:11 2011 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\1\DATA\032411\7M50697.D Vial: 8
Acq On : 24 Mar 2011 11:29 am Operator: CAA
Sample : WG359798-08 0.05ppm PAHL STD Inst : HPMS7
Misc : 1,1 STD41768 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 24 11:49 2011 Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Thu Mar 24 11:49:28 2011
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\032411\7M50698.D Vial: 9
Acq On : 24 Mar 2011 11:56 am Operator: CAA
Sample : WG359798-09 1ppm PAHL Alt Src STD Inst : HPMS7
Misc : 1,1 STD43326 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 24 12:25:03 2011 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Thu Mar 24 11:49:28 2011
Response via : Initial Calibration
DataAcq Meth : PAHLSIM

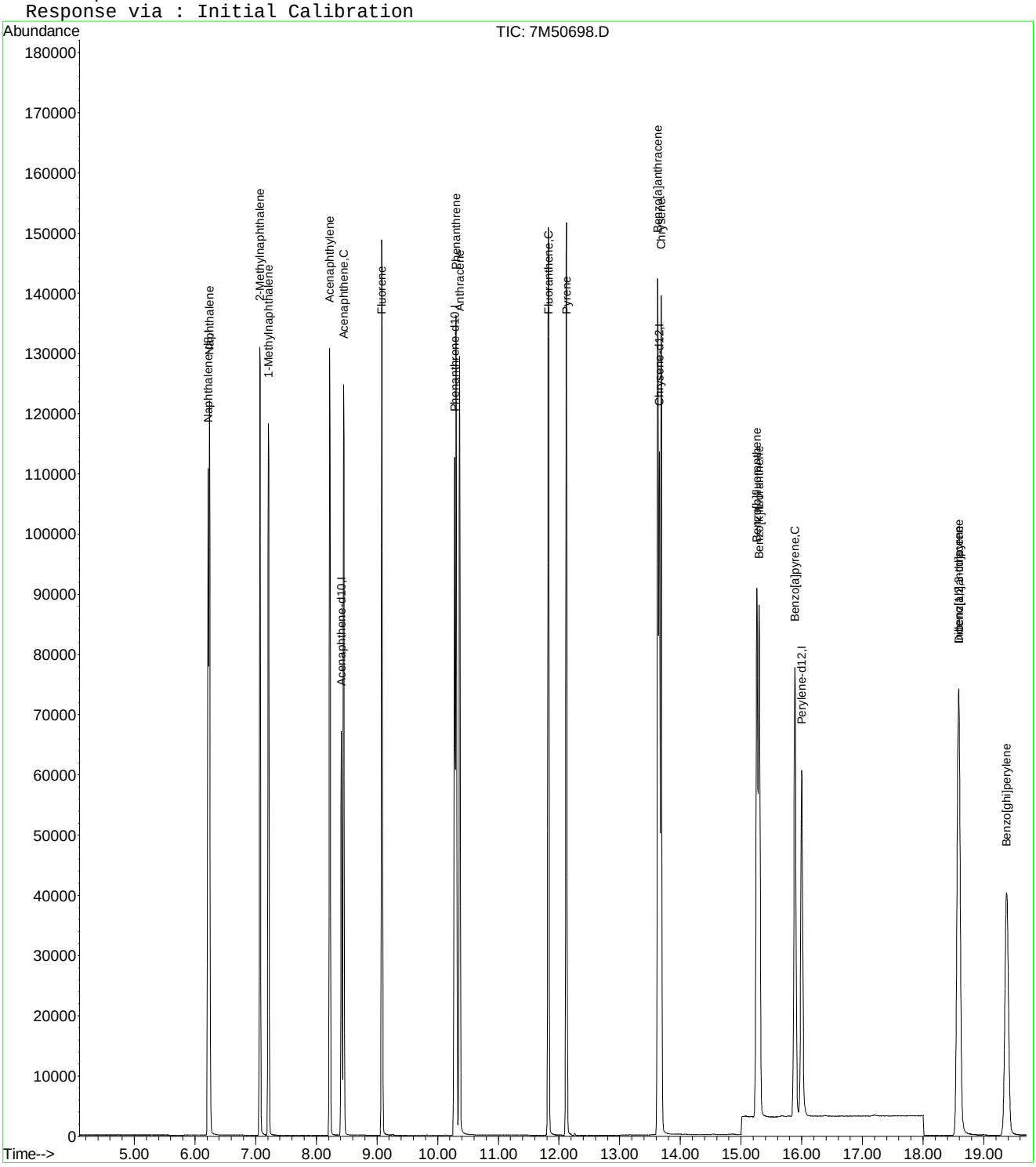
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	6.22	136	133896	1.00 ug/ml	0.00
6) Acenaphthene-d10	8.41	164	82885	1.00 ug/ml	0.00
11) Phenanthrene-d10	10.28	188	137333	1.00 ug/ml	0.00
15) Chrysene-d12	13.65	240	146491	1.00 ug/ml	0.00
20) Perylene-d12	16.00	264	132477	1.00 ug/ml	-0.01
System Monitoring Compounds					
2) Nitrobenzene-d5	5.38	82	71	0.0012 ug/ml	0.02
Spiked Amount 2.500	Range 35 - 114		Recovery	=	0.00%#
7) 2-Fluorobiphenyl	7.41	172	92	0.0009 ug/ml	-0.11
Spiked Amount 2.500	Range 43 - 116		Recovery	=	0.00%#
17) p-Terphenyl-d14	12.26	244	692	0.0065 ug/ml	0.00
Spiked Amount 2.500	Range 33 - 141		Recovery	=	0.40%#
Target Compounds					Qvalue
3) Naphthalene	6.24	128	125367	0.9156 ug/ml	100
4) 2-Methylnaphthalene	7.07	142	84991	0.8996 ug/ml	100
5) 1-Methylnaphthalene	7.21	142	74987	0.8597 ug/ml	100
8) Acenaphthylene	8.22	152	125149	0.9056 ug/ml	100
9) Acenaphthene	8.45	154	77853	0.9280 ug/ml	99
10) Fluorene	9.08	166	90446	0.8912 ug/ml	100
12) Phenanthrene	10.30	178	135894	0.9129 ug/ml	100
13) Anthracene	10.36	178	130948	0.9845 ug/ml	100
14) Fluoranthene	11.82	202	157606	0.9212 ug/ml	100
16) Pyrene	12.12	202	173415	0.8739 ug/ml	100
18) Benzo[a]anthracene	13.63	228	145607	0.8398 ug/ml	100
19) Chrysene	13.68	228	141962	0.9063 ug/ml	100
21) Benzo[b]fluoranthene	15.26	252	147666	0.8999 ug/ml	97
22) Benzo[k]fluoranthene	15.30	252	130880	0.9191 ug/ml	96
23) Benzo[a]pyrene	15.89	252	139116	0.9135 ug/ml	100
24) Indeno[1,2,3-cd]pyrene	18.59	276	153875	0.8680 ug/ml	100
25) Dibenz[ah]anthracene	18.59	278	123940	0.8558 ug/ml	100
26) Benzo[ghi]perylene	19.37	276	135070	0.9025 ug/ml	100

(#) = qualifier out of range (m) = manual integration
7M50698.D SIMPAHL.M Thu Mar 24 12:26:19 2011 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\032411\7M50698.D Vial: 9
Acq On : 24 Mar 2011 11:56 am Operator: CAA
Sample : WG359798-09 1ppm PAHL Alt Src STD Inst : HPMS7
Misc : 1,1 STD43326 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 24 12:25 2011 Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Thu Mar 24 11:49:28 2011
Response via : Initial Calibration



7M50698.D SIMPAHL.M Thu Mar 24 12:26:20 2011 Page 2

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\1\DATA\040411\7M50740.D Vial: 2
Acq On : 4 Apr 2011 7:51 am Operator: CAA
Sample : WG360251-02 1ppm PAHL STD Inst : HPMS7
Misc : 1,1 STD41768 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 04 08:11:49 2011 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Fri Mar 25 12:42:54 2011
Response via : Initial Calibration
DataAcq Meth : PAHLSIM

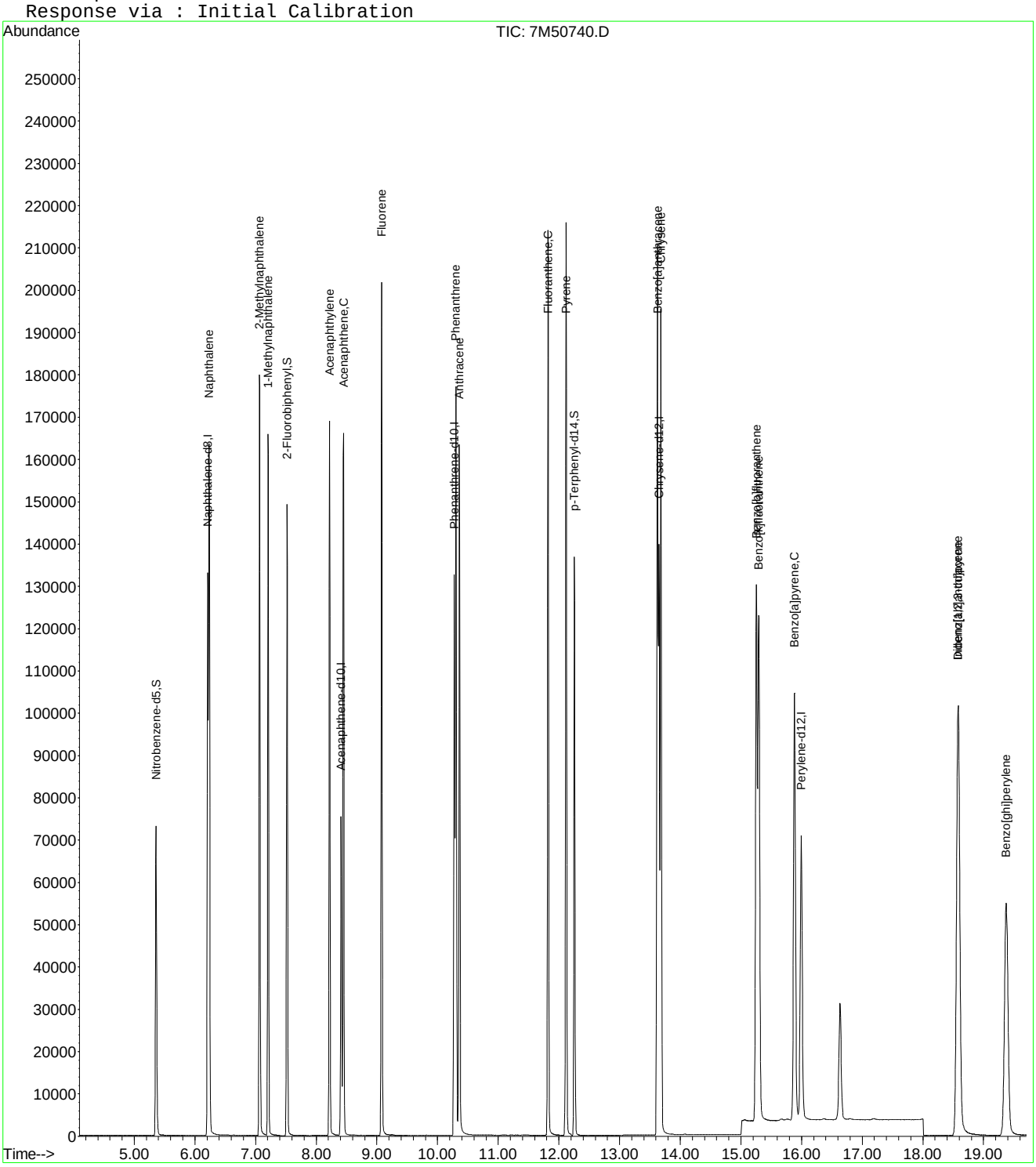
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	6.21	136	164088	1.00 ug/ml	0.00
6) Acenaphthene-d10	8.41	164	92762	1.00 ug/ml	0.00
11) Phenanthrene-d10	10.28	188	163882	1.00 ug/ml	0.00
15) Chrysene-d12	13.65	240	175053	1.00 ug/ml	-0.01
20) Perylene-d12	16.00	264	157163	1.00 ug/ml	-0.01
System Monitoring Compounds					
2) Nitrobenzene-d5	5.36	82	68294	0.9174 ug/ml	0.00
Spiked Amount 2.500	Range 35 - 114		Recovery	= 36.80%	
7) 2-Fluorobiphenyl	7.52	172	127278	1.1213 ug/ml	0.00
Spiked Amount 2.500	Range 43 - 116		Recovery	= 44.80%	
17) p-Terphenyl-d14	12.26	244	133698	1.0439 ug/ml	0.00
Spiked Amount 2.500	Range 33 - 141		Recovery	= 41.60%	
Target Compounds					Qvalue
3) Naphthalene	6.23	128	173463	1.0337 ug/ml	100
4) 2-Methylnaphthalene	7.07	142	118208	1.0210 ug/ml	99
5) 1-Methylnaphthalene	7.21	142	107251	1.0034 ug/ml	98
8) Acenaphthylene	8.22	152	164710	1.0650 ug/ml	100
9) Acenaphthene	8.45	154	104908	1.1174 ug/ml	95
10) Fluorene	9.08	166	124699	1.0978 ug/ml	99
12) Phenanthrene	10.31	178	188310	1.0601 ug/ml	100
13) Anthracene	10.36	178	168982	1.0647 ug/ml	99
14) Fluoranthene	11.82	202	222111	1.0879 ug/ml	100
16) Pyrene	12.12	202	251192	1.0594 ug/ml	100
18) Benzo[a]anthracene	13.62	228	216943	1.0471 ug/ml	100
19) Chrysene	13.68	228	200558	1.0714 ug/ml	100
21) Benzo[b]fluoranthene	15.25	252	217560	1.1176 ug/ml	97
22) Benzo[k]fluoranthene	15.29	252	187947	1.1125 ug/ml	100
23) Benzo[a]pyrene	15.88	252	190648	1.0552 ug/ml	100
24) Indeno[1,2,3-cd]pyrene	18.58	276	215127	1.0229 ug/ml	100
25) Dibenz[ah]anthracene	18.58	278	174583	1.0162 ug/ml	100
26) Benzo[ghi]perylene	19.37	276	184714	1.0403 ug/ml	100

(#) = qualifier out of range (m) = manual integration
7M50740.D SIMPAHL.M Tue Apr 05 07:19:02 2011 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\1\DATA\040411\7M50740.D Vial: 2
Acq On : 4 Apr 2011 7:51 am Operator: CAA
Sample : WG360251-02 1ppm PAHL STD Inst : HPMS7
Misc : 1,1 STD41768 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 4 8:11 2011 Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Fri Mar 25 12:42:54 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\1\DATA\040511\7M50758.D Vial: 2
Acq On : 5 Apr 2011 8:27 am Operator: CAA
Sample : WG360786-02 1ppm PAHL STD Inst : HPMS7
Misc : 1,1 STD41768 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 05 08:47:11 2011 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Tue Apr 05 07:19:03 2011
Response via : Initial Calibration
DataAcq Meth : PAHLSIM

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	6.21	136	156443	1.00 ug/ml	0.00
6) Acenaphthene-d10	8.41	164	89424	1.00 ug/ml	0.00
11) Phenanthrene-d10	10.28	188	158130	1.00 ug/ml	0.00
15) Chrysene-d12	13.65	240	166520	1.00 ug/ml	-0.01
20) Perylene-d12	15.99	264	155426	1.00 ug/ml	-0.02

System Monitoring Compounds					
2) Nitrobenzene-d5	5.36	82	66028	0.9303 ug/ml	0.00
Spiked Amount 2.500	Range 35 - 114		Recovery	= 37.20%	
7) 2-Fluorobiphenyl	7.52	172	122497	1.1194 ug/ml	0.00
Spiked Amount 2.500	Range 43 - 116		Recovery	= 44.80%	
17) p-Terphenyl-d14	12.26	244	127430	1.0459 ug/ml	0.00
Spiked Amount 2.500	Range 33 - 141		Recovery	= 42.00%	

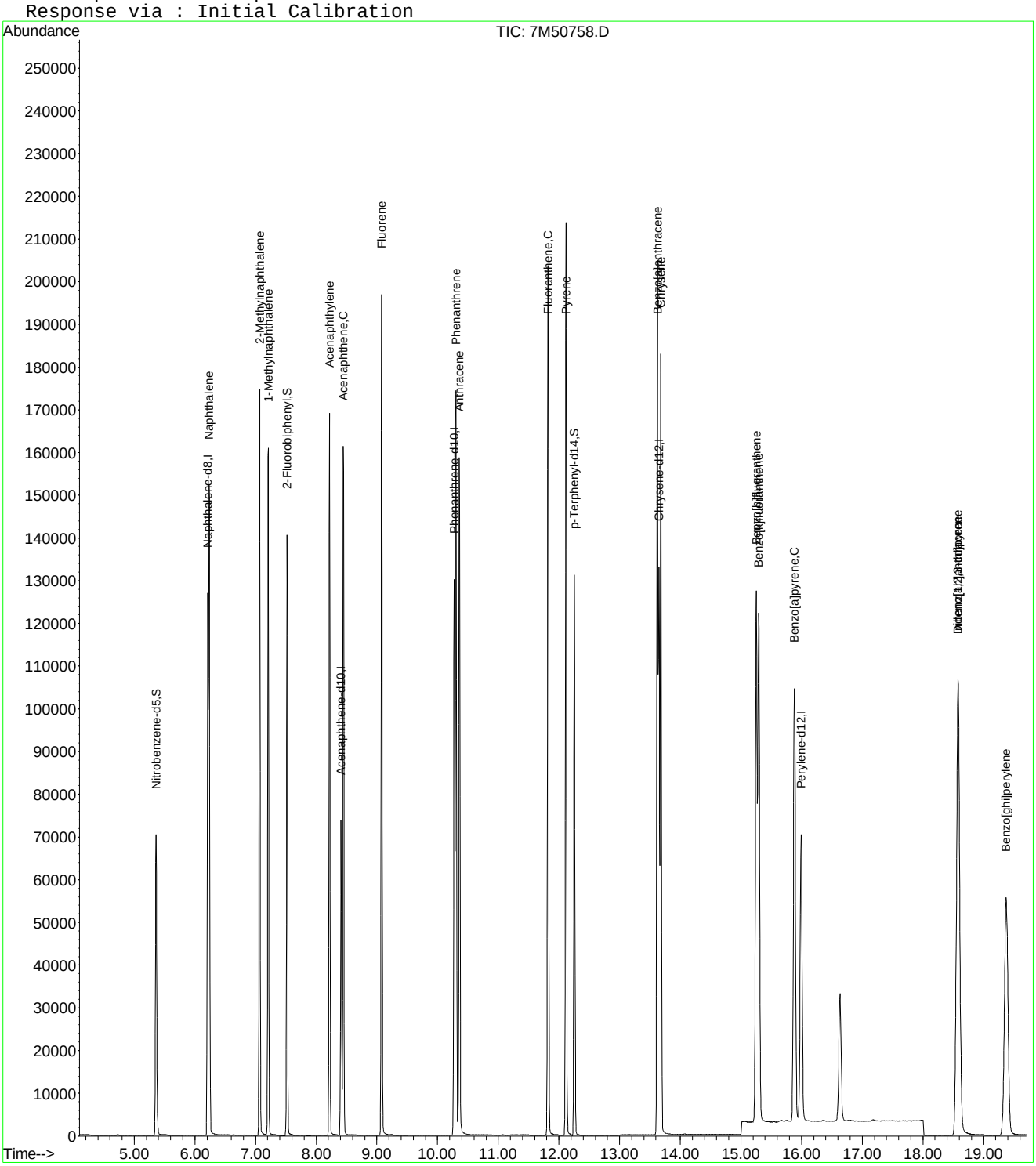
Target Compounds					Qvalue
3) Naphthalene	6.24	128	166358	1.0398 ug/ml	100
4) 2-Methylnaphthalene	7.07	142	113713	1.0302 ug/ml	99
5) 1-Methylnaphthalene	7.21	142	103690	1.0175 ug/ml	98
8) Acenaphthylene	8.22	152	162477	1.0898 ug/ml	100
9) Acenaphthene	8.45	154	101896	1.1258 ug/ml	94
10) Fluorene	9.08	166	121378	1.1085 ug/ml	99
12) Phenanthrene	10.30	178	181954	1.0615 ug/ml	99
13) Anthracene	10.36	178	165749	1.0823 ug/ml	99
14) Fluoranthene	11.82	202	216180	1.0974 ug/ml	100
16) Pyrene	12.12	202	240047	1.0642 ug/ml	100
18) Benzo[a]anthracene	13.62	228	209156	1.0613 ug/ml	99
19) Chrysene	13.68	228	189923	1.0666 ug/ml	100
21) Benzo[b]fluoranthene	15.25	252	203409	1.0566 ug/ml	100
22) Benzo[k]fluoranthene	15.29	252	174756	1.0460 ug/ml	100
23) Benzo[a]pyrene	15.88	252	189439	1.0602 ug/ml	100
24) Indeno[1,2,3-cd]pyrene	18.58	276	220132	1.0584 ug/ml	100
25) Dibenz[ah]anthracene	18.58	278	180751	1.0639 ug/ml	100
26) Benzo[ghi]perylene	19.37	276	185537	1.0566 ug/ml	100

(#) = qualifier out of range (m) = manual integration
7M50758.D SIMPAHL.M Wed Apr 06 07:02:25 2011 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\1\DATA\040511\7M50758.D Vial: 2
Acq On : 5 Apr 2011 8:27 am Operator: CAA
Sample : WG360786-02 1ppm PAHL STD Inst : HPMS7
Misc : 1,1 STD41768 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 8:47 2011 Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Tue Apr 05 07:19:03 2011
Response via : Initial Calibration



7M50758.D SIMPAHL.M Wed Apr 06 07:02:25 2011 Page 2

2.1.1.5 Raw QC Data

```
Data File : C:\MSDCHEM\1\DATA\032411\7M50690.D          Vial: 1
Acq On    : 24 Mar 2011   8:28 am                   Operator: CAA
Sample    : WG359798-01 5ppm DFTPP                  Inst    : HPMS7
Misc      : 1,1 STD41383                            Multiplr: 1.00
MS Integration Params: rteint.p
Method    : C:\MSDCHEM\1\METHODS\DFTPP.M (RTE Integrator)
Title     : DFTPP
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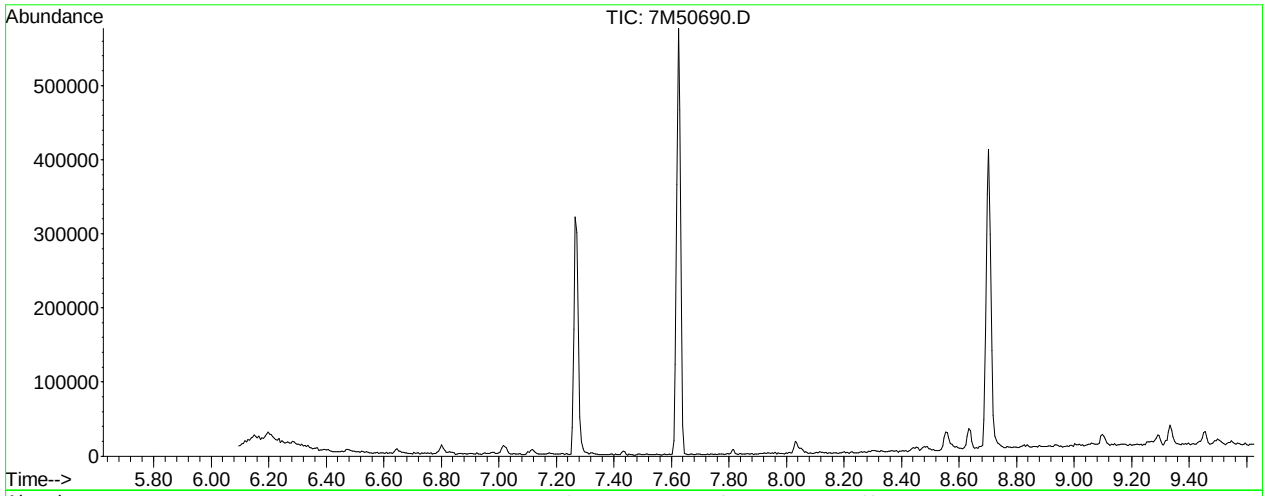
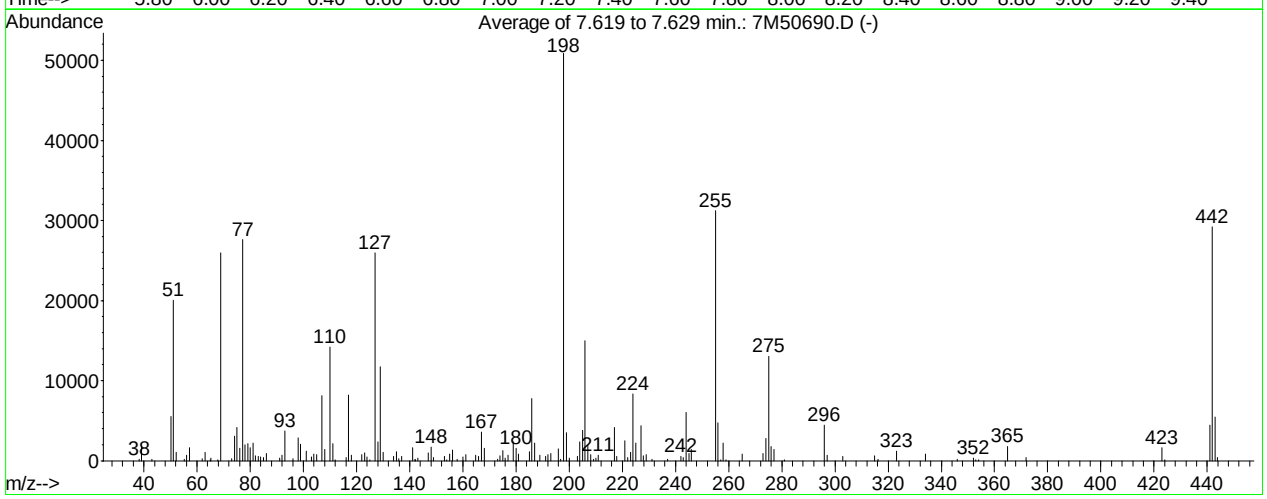


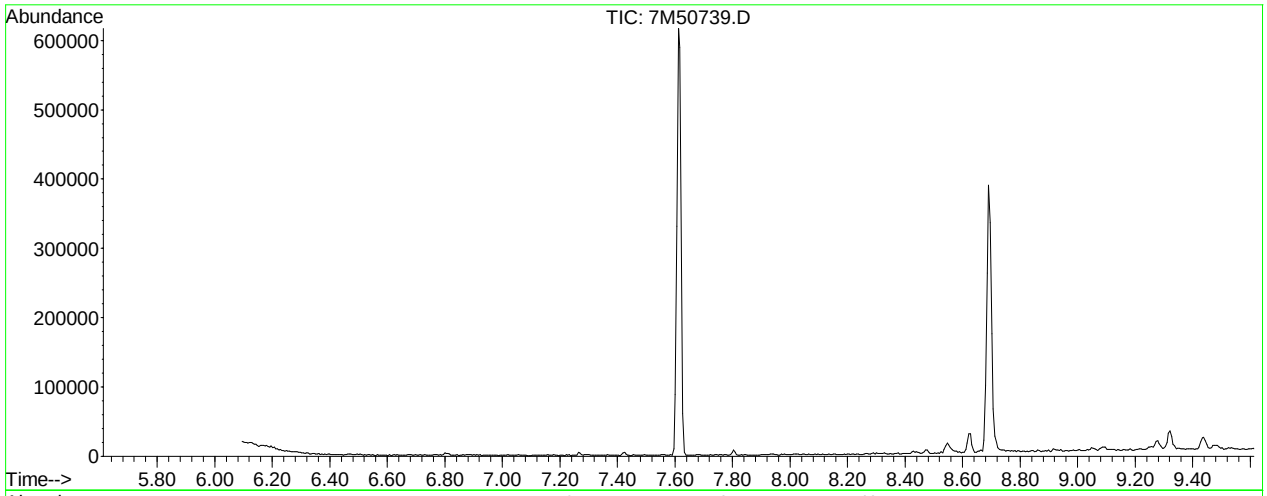


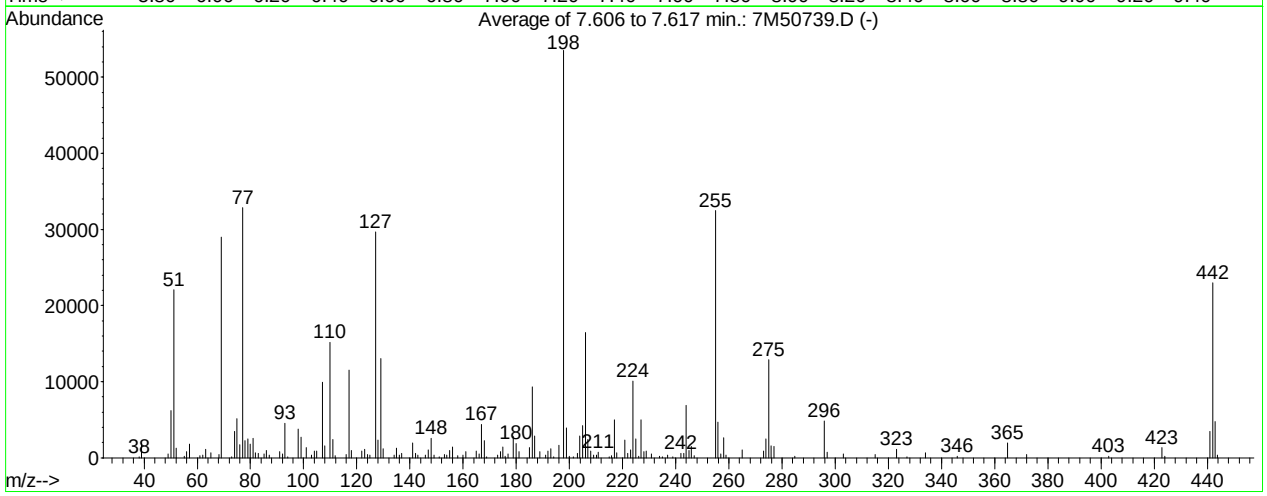
AutoFind: Scans 286, 287, 288; Background Corrected with Scan 281

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	39.4	20074	PASS
68	69	0.00	2	0.6	144	PASS
69	198	0.00	100	51.0	25954	PASS
70	69	0.00	2	0.0	0	PASS
127	198	40	60	51.0	25933	PASS
197	198	0.00	1	0.3	173	PASS
198	198	100	100	100.0	50890	PASS
199	198	5	9	6.9	3529	PASS
275	198	10	30	25.7	13066	PASS
365	198	1	100	3.5	1762	PASS
441	443	0.01	100	81.7	4478	PASS
442	198	40	100	57.4	29224	PASS
443	442	17	23	18.7	5478	PASS

7M50690.D DFTPP.M Thu Mar 24 12:25:30 2011

Data File : C:\MSDCHEM\1\DATA\040411\7M50739.D Vial: 1
Acq On : 4 Apr 2011 7:34 am Operator: CAA
Sample : WG360251-01 5ppm DFTPP Inst : HPMS7
Misc : 1,1 STD41383 Multiplr: 1.00
MS Integration Params: rteint.p
Method : C:\MSDCHEM\1\METHODS\DFTPP.M (RTE Integrator)
Title : DFTPP



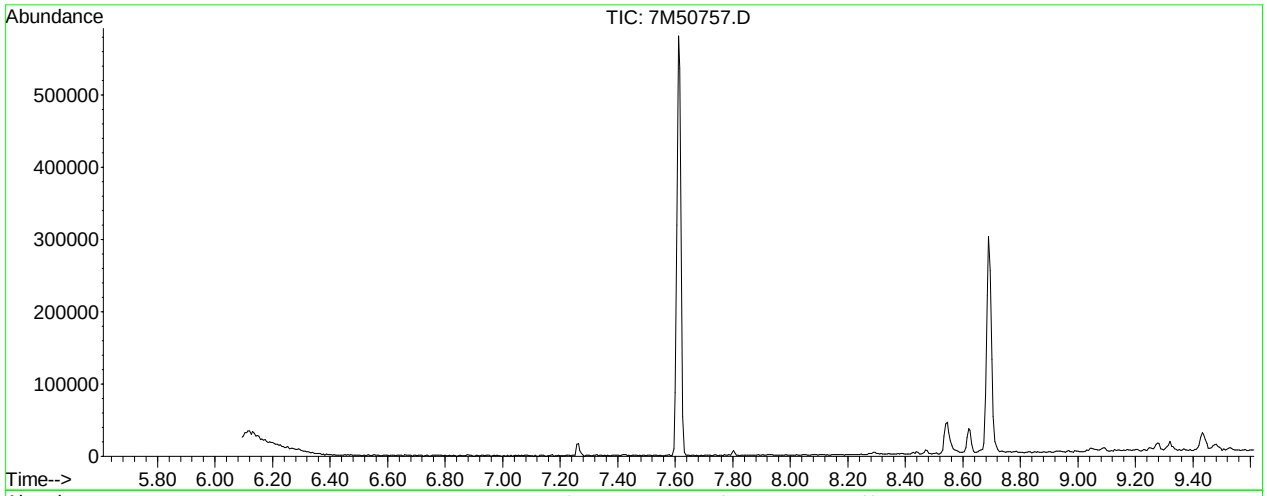


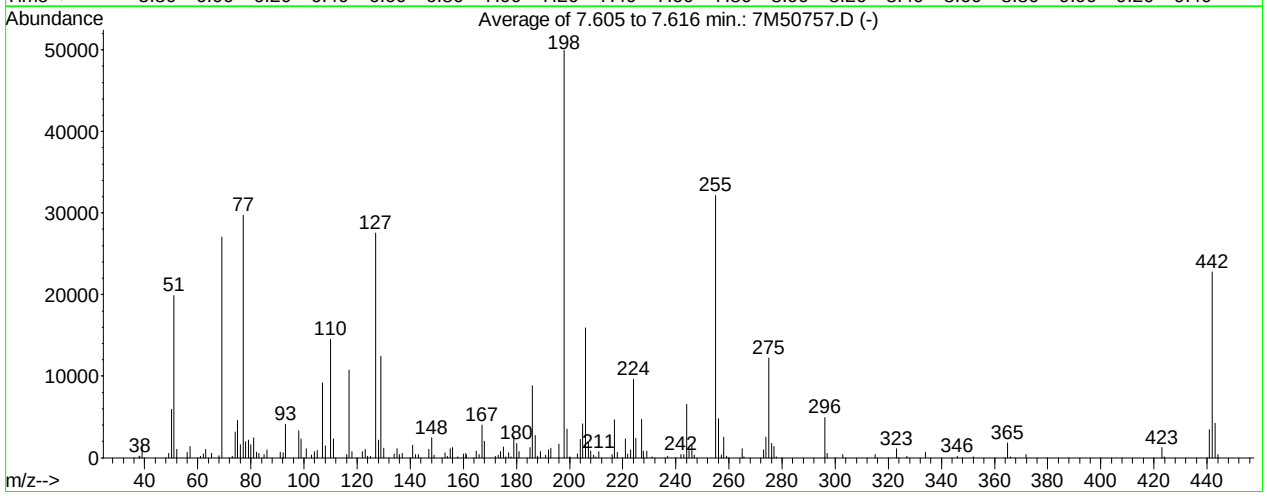
AutoFind: Scans 284, 285, 286; Background Corrected with Scan 279

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	41.2	22069	PASS
68	69	0.00	2	1.5	445	PASS
69	198	0.00	100	54.2	29024	PASS
70	69	0.00	2	0.0	0	PASS
127	198	40	60	55.4	29682	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	53544	PASS
199	198	5	9	7.3	3886	PASS
275	198	10	30	24.0	12861	PASS
365	198	1	100	3.7	1956	PASS
441	443	0.01	100	72.3	3454	PASS
442	198	40	100	42.9	22992	PASS
443	442	17	23	20.8	4777	PASS

7M50739.D DFTPP.M Tue Apr 05 07:18:46 2011

Data File : C:\MSDCHEM\1\DATA\040511\7M50757.D Vial: 1
Acq On : 5 Apr 2011 8:10 am Operator: CAA
Sample : WG360786-01 5ppm DFTPP Inst : HPMS7
Misc : 1,1 STD41383 Multiplr: 1.00
MS Integration Params: rteint.p
Method : C:\MSDCHEM\1\METHODS\DFTPP.M (RTE Integrator)
Title : DFTPP





AutoFind: Scans 284, 285, 286; Background Corrected with Scan 279

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	39.8	19901	PASS
68	69	0.00	2	0.9	243	PASS
69	198	0.00	100	54.1	27008	PASS
70	69	0.00	2	0.0	0	PASS
127	198	40	60	55.1	27514	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	49952	PASS
199	198	5	9	7.0	3507	PASS
275	198	10	30	24.5	12239	PASS
365	198	1	100	3.7	1838	PASS
441	443	0.01	100	81.4	3425	PASS
442	198	40	100	45.7	22814	PASS
443	442	17	23	18.4	4207	PASS

7M50757.D DFTPP.M Wed Apr 06 07:02:09 2011

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\040411\7M50741.D Vial: 3
Acq On : 4 Apr 2011 8:18 am Operator: CAA
Sample : WG360300-01 BLK 03/3 Inst : HPMS7
Misc : 7,1 SOIL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 05 07:19:21 2011 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Tue Apr 05 07:19:03 2011
Response via : Initial Calibration
DataAcq Meth : PAHLSIM

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	6.21	136	142490	1.00 ug/ml	0.00
6) Acenaphthene-d10	8.41	164	92927	1.00 ug/ml	0.00
11) Phenanthrene-d10	10.28	188	161799	1.00 ug/ml	0.00
15) Chrysene-d12	13.65	240	191033	1.00 ug/ml	-0.01
20) Perylene-d12	16.00	264	177736	1.00 ug/ml	-0.01

System Monitoring Compounds

2) Nitrobenzene-d5	5.36	82	81161	1.2555 ug/ml	0.00
Spiked Amount 2.500	Range 23 - 120		Recovery	= 50.40%	
7) 2-Fluorobiphenyl	7.52	172	165511	1.4555 ug/ml	0.00
Spiked Amount 2.500	Range 30 - 115		Recovery	= 58.40%	
17) p-Terphenyl-d14	12.26	244	234637	1.6787 ug/ml	0.00
Spiked Amount 2.500	Range 18 - 137		Recovery	= 67.20%	

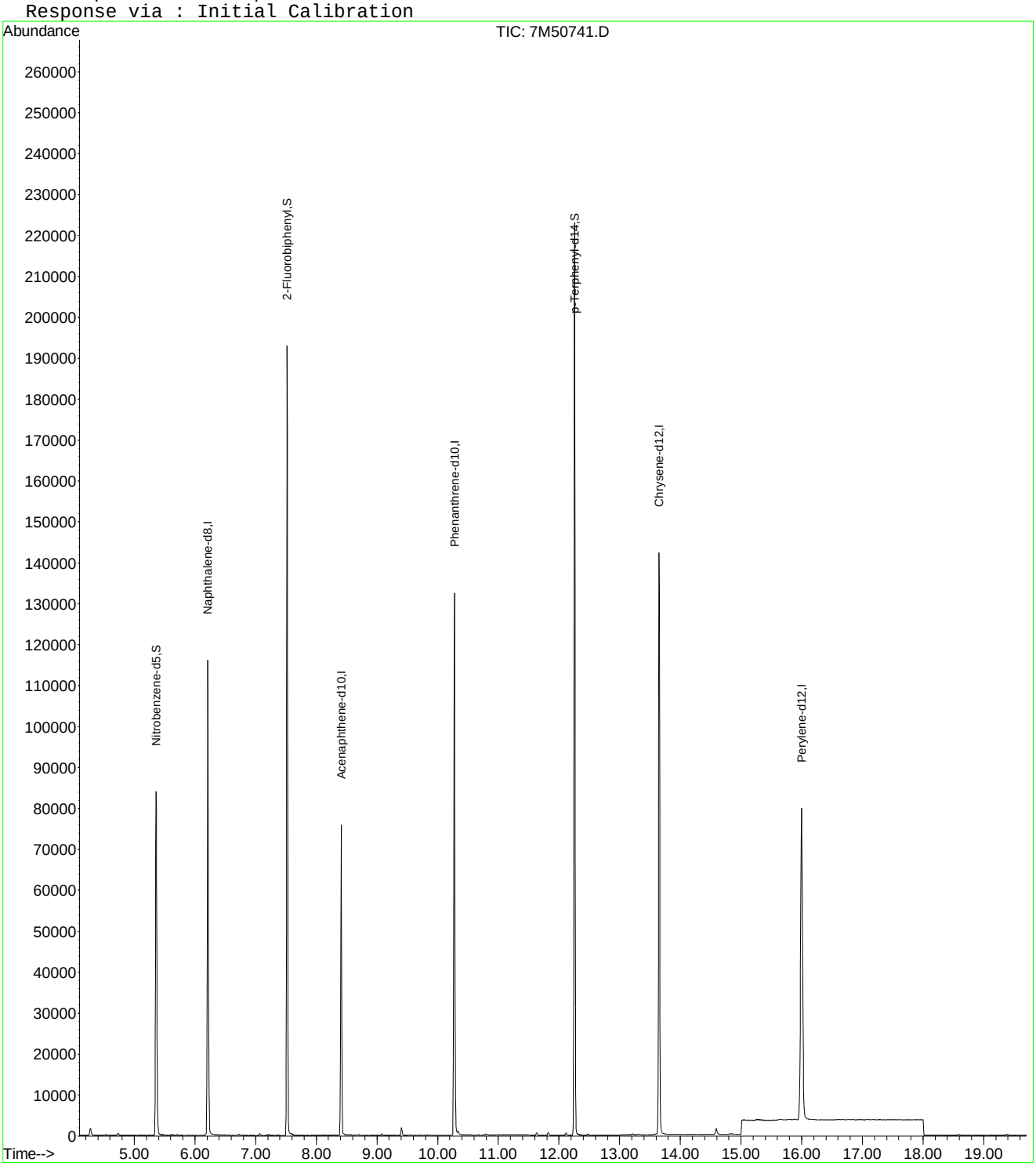
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
7M50741.D SIMPAHL.M Tue Apr 05 07:30:04 2011 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\040411\7M50741.D Vial: 3
Acq On : 4 Apr 2011 8:18 am Operator: CAA
Sample : WG360300-01 BLK 03/3 Inst : HPMS7
Misc : 7,1 SOIL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 7:19 2011 Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Tue Apr 05 07:19:03 2011
Response via : Initial Calibration



7M50741.D SIMPAHL.M Tue Apr 05 07:30:04 2011 Page 2

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\1\DATA\040411\7M50742.D Vial: 4
Acq On : 4 Apr 2011 8:45 am Operator: CAA
Sample : WG360300-02 LCS 03/3 Inst : HPMS7
Misc : 7,1 SOIL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 05 07:19:21 2011 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Tue Apr 05 07:19:03 2011
Response via : Initial Calibration
DataAcq Meth : PAHLSIM

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	6.21	136	155443	1.00 ug/ml	0.00
6) Acenaphthene-d10	8.41	164	98122	1.00 ug/ml	0.00
11) Phenanthrene-d10	10.28	188	169167	1.00 ug/ml	0.00
15) Chrysene-d12	13.65	240	191630	1.00 ug/ml	0.00
20) Perylene-d12	16.00	264	181950	1.00 ug/ml	-0.01

System Monitoring Compounds					
2) Nitrobenzene-d5	5.36	82	89338	1.2668 ug/ml	0.00
Spiked Amount 2.500	Range 23 - 120		Recovery	= 50.80%	
7) 2-Fluorobiphenyl	7.52	172	178886	1.4898 ug/ml	0.00
Spiked Amount 2.500	Range 30 - 115		Recovery	= 59.60%	
17) p-Terphenyl-d14	12.26	244	274736	1.9595 ug/ml	0.00
Spiked Amount 2.500	Range 18 - 137		Recovery	= 78.40%	

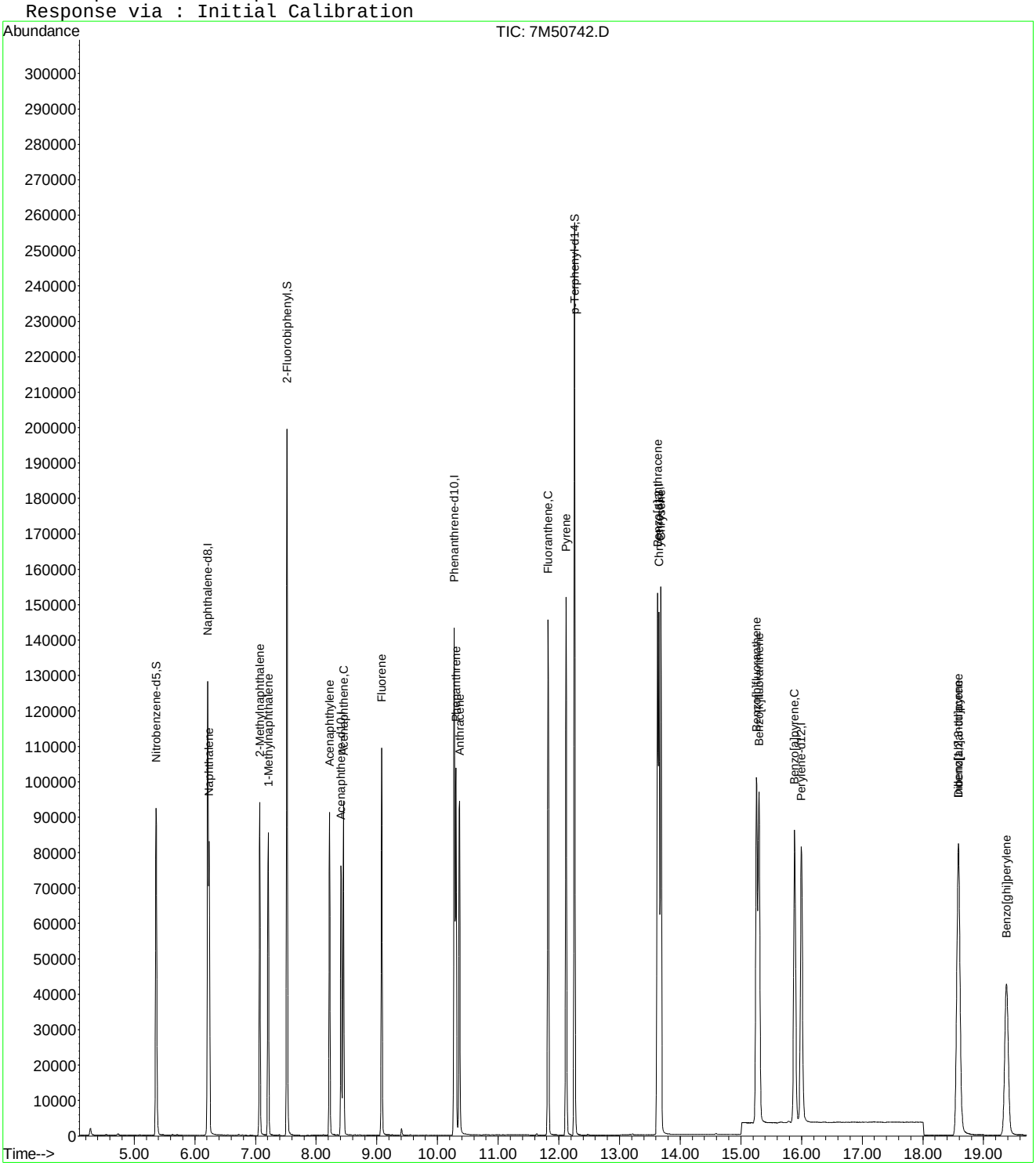
Target Compounds					Qvalue
3) Naphthalene	6.24	128	86598	0.5448 ug/ml	100
4) 2-Methylnaphthalene	7.07	142	61389	0.5597 ug/ml	98
5) 1-Methylnaphthalene	7.21	142	54497	0.5382 ug/ml	98
8) Acenaphthylene	8.22	152	89624	0.5478 ug/ml	100
9) Acenaphthene	8.45	154	54041	0.5442 ug/ml	86
10) Fluorene	9.08	166	68875	0.5732 ug/ml	99
12) Phenanthrene	10.30	178	107545	0.5865 ug/ml	99
13) Anthracene	10.36	178	103953	0.6345 ug/ml	100
14) Fluoranthene	11.82	202	154422	0.7327 ug/ml	100
16) Pyrene	12.12	202	174668	0.6729 ug/ml	96
18) Benzo[a]anthracene	13.62	228	160879	0.7094 ug/ml	99
19) Chrysene	13.68	228	154905	0.7560 ug/ml	100
21) Benzo[b]fluoranthene	15.26	252	158538	0.7035 ug/ml	100
22) Benzo[k]fluoranthene	15.30	252	142380	0.7280 ug/ml	100
23) Benzo[a]pyrene	15.89	252	156356	0.7475 ug/ml	100
24) Indeno[1,2,3-cd]pyrene	18.59	276	173761	0.7136 ug/ml	100
25) Dibenz[ah]anthracene	18.59	278	142853	0.7182 ug/ml	100
26) Benzo[ghi]perylene	19.38	276	145233	0.7065 ug/ml	100

(#) = qualifier out of range (m) = manual integration
7M50742.D SIMPAHL.M Tue Apr 05 07:24:41 2011 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\1\DATA\040411\7M50742.D Vial: 4
Acq On : 4 Apr 2011 8:45 am Operator: CAA
Sample : WG360300-02 LCS 03/3 Inst : HPMS7
Misc : 7,1 SOIL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 7:19 2011 Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Tue Apr 05 07:19:03 2011
Response via : Initial Calibration



7M50742.D SIMPAHL.M Tue Apr 05 07:24:42 2011 Page 2

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\1\DATA\040411\7M50743.D Vial: 5
Acq On : 4 Apr 2011 9:13 am Operator: CAA
Sample : WG360300-03 LCS DUP 03/3 Inst : HPMS7
Misc : 7,1 SOIL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 05 07:19:21 2011 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Tue Apr 05 07:19:03 2011
Response via : Initial Calibration
DataAcq Meth : PAHLSIM

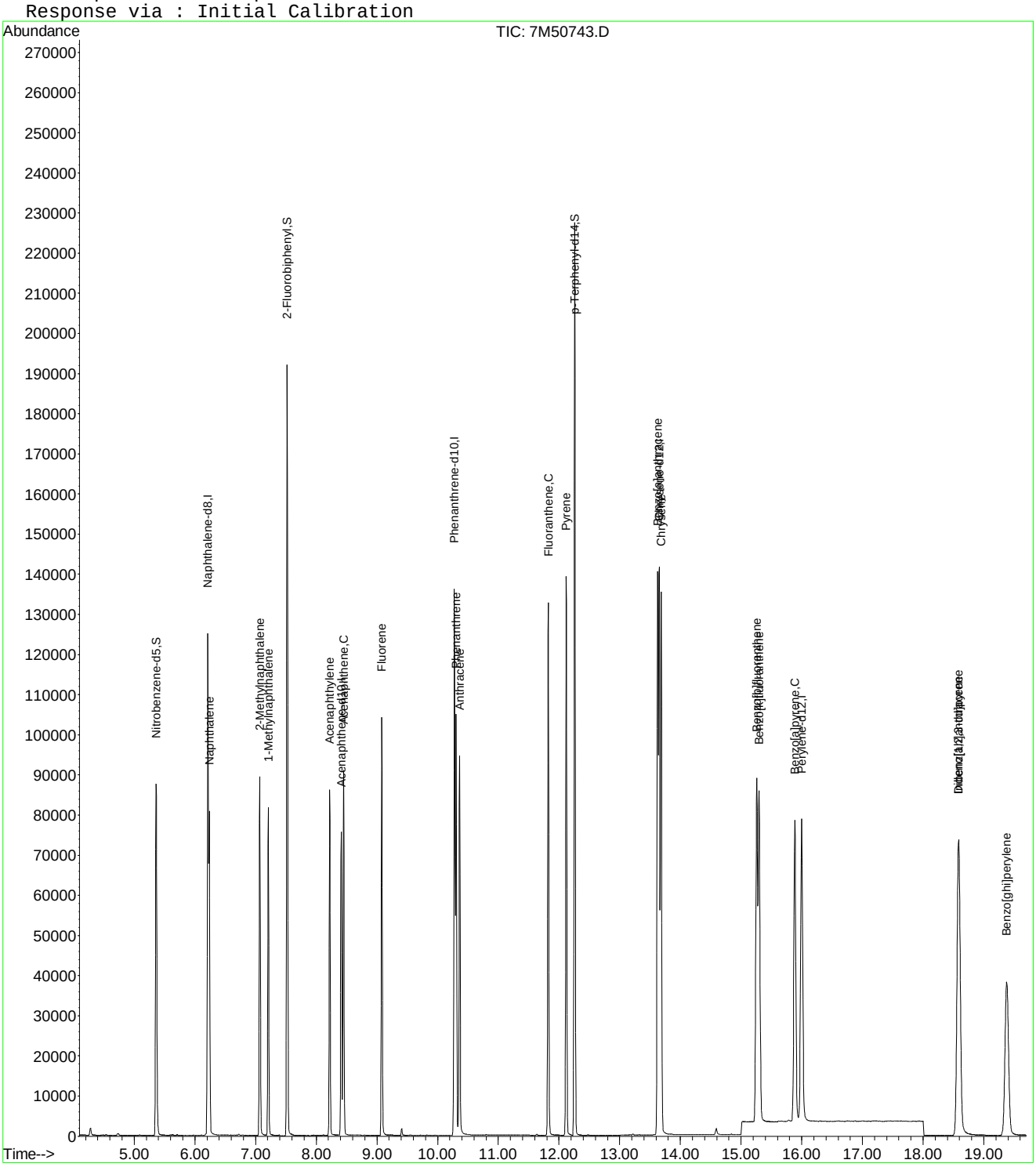
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	6.21	136	152061	1.00 ug/ml	0.00
6) Acenaphthene-d10	8.41	164	95440	1.00 ug/ml	0.00
11) Phenanthrene-d10	10.28	188	166086	1.00 ug/ml	0.00
15) Chrysene-d12	13.65	240	186490	1.00 ug/ml	0.00
20) Perylene-d12	16.00	264	177249	1.00 ug/ml	-0.01
System Monitoring Compounds					
2) Nitrobenzene-d5	5.36	82	84276	1.2216 ug/ml	0.00
Spiked Amount 2.500	Range 23 - 120		Recovery	= 48.80%	
7) 2-Fluorobiphenyl	7.52	172	166380	1.4246 ug/ml	0.00
Spiked Amount 2.500	Range 30 - 115		Recovery	= 56.80%	
17) p-Terphenyl-d14	12.26	244	242233	1.7753 ug/ml	0.00
Spiked Amount 2.500	Range 18 - 137		Recovery	= 71.20%	
Target Compounds					Qvalue
3) Naphthalene	6.24	128	82829	0.5326 ug/ml	100
4) 2-Methylnaphthalene	7.07	142	58167	0.5422 ug/ml	99
5) 1-Methylnaphthalene	7.21	142	51800	0.5229 ug/ml	98
8) Acenaphthylene	8.22	152	84487	0.5310 ug/ml	100
9) Acenaphthene	8.45	154	50709	0.5249 ug/ml	87
10) Fluorene	9.08	166	64568	0.5525 ug/ml	99
12) Phenanthrene	10.30	178	103543	0.5751 ug/ml	100
13) Anthracene	10.36	178	99762	0.6202 ug/ml	100
14) Fluoranthene	11.82	202	140933	0.6811 ug/ml	100
16) Pyrene	12.12	202	157712	0.6243 ug/ml	100
18) Benzo[a]anthracene	13.62	228	142858	0.6473 ug/ml	99
19) Chrysene	13.68	228	137719	0.6906 ug/ml	100
21) Benzo[b]fluoranthene	15.26	252	139563	0.6357 ug/ml	100
22) Benzo[k]fluoranthene	15.30	252	127054	0.6668 ug/ml	99
23) Benzo[a]pyrene	15.89	252	138598	0.6802 ug/ml	100
24) Indeno[1,2,3-cd]pyrene	18.59	276	153474	0.6470 ug/ml	100
25) Dibenz[ah]anthracene	18.59	278	126705	0.6539 ug/ml	100
26) Benzo[ghi]perylene	19.38	276	128632	0.6424 ug/ml	100

(#) = qualifier out of range (m) = manual integration
7M50743.D SIMPAHL.M Tue Apr 05 07:24:42 2011 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\1\DATA\040411\7M50743.D Vial: 5
Acq On : 4 Apr 2011 9:13 am Operator: CAA
Sample : WG360300-03 LCS DUP 03/3 Inst : HPMS7
Misc : 7,1 SOIL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 7:19 2011 Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 03/24/11
Last Update : Tue Apr 05 07:19:03 2011
Response via : Initial Calibration



7M50743.D SIMPAHL.M Tue Apr 05 07:24:42 2011 Page 2

2.2 General Chemistry Data

2.2.1 Percent Solids Data

2.2.1.1 Raw Data

LABORATORY REPORT

L11030664

04/04/11 12:58

Submitted By

Microbac Laboratories Inc.
158 Starlite Drive
Marietta , OH 45750
(740) 373 - 4071

For

Account Name: Versar Inc
12050 N. Pecos Street
Suite 300
Westminster, CO 80234
Attention: Gary Torf

Project Number: 2415.036
Project: Cannon AFB
Site: CANNON AFB

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
SR042B	L11030664-01	D2216-90	1	18-MAR-11
SR043B	L11030664-02	D2216-90	1	18-MAR-11
SR044B	L11030664-03	D2216-90	1	18-MAR-11
SR045B	L11030664-04	D2216-90	1	18-MAR-11
SR045C	L11030664-05	D2216-90	1	18-MAR-11
SR046B	L11030664-06	D2216-90	1	18-MAR-11
SR047B	L11030664-07	D2216-90	1	18-MAR-11
SR048B	L11030664-08	D2216-90	1	18-MAR-11
SR049B	L11030664-09	D2216-90	1	18-MAR-11
SR050B	L11030664-10	D2216-90	1	18-MAR-11
SR051B	L11030664-11	D2216-90	1	18-MAR-11
SR052B	L11030664-12	D2216-90	1	18-MAR-11
SR053B	L11030664-13	D2216-90	1	18-MAR-11

Microbac Laboratories Inc.

Report Number: **L11030664**

Report Date : **April 4, 2011**

Sample Number: **L11030664-01**
Client ID: **SR042B**
Matrix: **Soil**
Workgroup Number: **WG360614**
Collect Date: **03/17/2011 10:20**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **04/04/2011 08:29**
Cal Date:
Run Date: **04/04/2011 08:29**
File ID: **B1.360614-0141**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	**10-02-6**	**94.2**		**1.00**	**1.00**

Report Number: **L11030664**
Report Date : **April 4, 2011**

Sample Number: **L11030664-02**
Client ID: **SR043B**
Matrix: **Soil**
Workgroup Number: **WG360614**
Collect Date: **03/17/2011 10:35**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **04/04/2011 08:29**
Cal Date:
Run Date: **04/04/2011 08:29**
File ID: **B1.360614-0142**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	**10-02-6**	**94.2**		**1.00**	**1.00**

Report Number: **L11030664**
Report Date : **April 4, 2011**

Sample Number: **L11030664-03**
Client ID: **SR044B**
Matrix: **Soil**
Workgroup Number: **WG360614**
Collect Date: **03/17/2011 10:45**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **04/04/2011 08:29**
Cal Date:
Run Date: **04/04/2011 08:29**
File ID: **B1.360614-0143**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	93.7		1.00	1.00

Report Number: **L11030664**
Report Date : **April 4, 2011**

Sample Number: **L11030664-04**
Client ID: **SR045B**
Matrix: **Soil**
Workgroup Number: **WG360614**
Collect Date: **03/17/2011 11:10**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **04/04/2011 08:29**
Cal Date:
Run Date: **04/04/2011 08:29**
File ID: **B1.360614-0144**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	**10-02-6**	**95.2**		**1.00**	**1.00**

Report Number: **L11030664**
Report Date : **April 4, 2011**

Sample Number: **L11030664-05**
Client ID: **SR045C**
Matrix: **Soil**
Workgroup Number: **WG360614**
Collect Date: **03/17/2011 11:25**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **04/04/2011 08:29**
Cal Date:
Run Date: **04/04/2011 08:29**
File ID: **B1.360614-0145**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	95.4		1.00	1.00

Report Number: **L11030664**
Report Date : **April 4, 2011**

Sample Number: **L11030664-06**
Client ID: **SR046B**
Matrix: **Soil**
Workgroup Number: **WG360614**
Collect Date: **03/17/2011 11:35**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **04/04/2011 08:29**
Cal Date:
Run Date: **04/04/2011 08:29**
File ID: **B1.360614-0146**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	**10-02-6**	**95.1**		**1.00**	**1.00**

Report Number: **L11030664**
Report Date : **April 4, 2011**

Sample Number: **L11030664-07**
Client ID: **SR047B**
Matrix: **Soil**
Workgroup Number: **WG360614**
Collect Date: **03/17/2011 11:50**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **04/04/2011 08:29**
Cal Date:
Run Date: **04/04/2011 08:29**
File ID: **B1.360614-0147**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	95.0		1.00	1.00

Report Number: **L11030664**
Report Date : **April 4, 2011**

Sample Number: **L11030664-08**
Client ID: **SR048B**
Matrix: **Soil**
Workgroup Number: **WG360614**
Collect Date: **03/17/2011 12:05**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **04/04/2011 08:29**
Cal Date:
Run Date: **04/04/2011 08:29**
File ID: **B1.360614-0148**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	93.6		1.00	1.00

Report Number: **L11030664**
Report Date : **April 4, 2011**

Sample Number: **L11030664-09**
Client ID: **SR049B**
Matrix: **Soil**
Workgroup Number: **WG360614**
Collect Date: **03/17/2011 12:20**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **04/04/2011 08:29**
Cal Date:
Run Date: **04/04/2011 08:29**
File ID: **B1.360614-0149**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	**10-02-6**	**93.1**		**1.00**	**1.00**

Report Number: **L11030664**
Report Date : **April 4, 2011**

Sample Number: **L11030664-10**
Client ID: **SR050B**
Matrix: **Soil**
Workgroup Number: **WG360614**
Collect Date: **03/17/2011 12:30**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **04/04/2011 08:29**
Cal Date:
Run Date: **04/04/2011 08:29**
File ID: **B1.360614-0150**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	93.7		1.00	1.00

Report Number: **L11030664**
Report Date : **April 4, 2011**

Sample Number: **L11030664-11**
Client ID: **SR051B**
Matrix: **Soil**
Workgroup Number: **WG360614**
Collect Date: **03/17/2011 12:40**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **04/04/2011 08:29**
Cal Date:
Run Date: **04/04/2011 08:29**
File ID: **B1.360614-0151**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	95.9		1.00	1.00

Report Number: **L11030664**
Report Date : **April 4, 2011**

Sample Number: **L11030664-12**
Client ID: **SR052B**
Matrix: **Soil**
Workgroup Number: **WG360614**
Collect Date: **03/17/2011 13:15**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **04/04/2011 08:29**
Cal Date:
Run Date: **04/04/2011 08:29**
File ID: **B1.360614-0152**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	95.0		1.00	1.00

Report Number: **L11030664**
Report Date : **April 4, 2011**

Sample Number: **L11030664-13**
Client ID: **SR053B**
Matrix: **Soil**
Workgroup Number: **WG360614**
Collect Date: **03/17/2011 13:25**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **04/04/2011 08:29**
Cal Date:
Run Date: **04/04/2011 08:29**
File ID: **B1.360614-0153**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	93.1		1.00	1.00

Example Percent Solids Calculations

1.0 Calculating the percent solids of a sample.

$$\%Solids = \frac{WT3 - WT1}{WT2 - WT1} \times F$$

Where:	
WT1 = Weight, in grams, of the empty container	1.30 g
WT2 = Weight, in grams, of the container and wet sample	21.274 g
WT3 = Weight, in grams, of the container and dried sample	5.21 g
F = Factor to get units as percent weight	100
%Solids = Percent solids present in sample.	19.58%

2.0 Calculating the percent moisture of a sample.

% Moisture = 100 - % Solids from 1.0 calculation

Microbac Laboratories Inc.

PERCENT SOLIDS

Workgroup (AAB#): WG360614 Analyst: JDH ADT(on): 04/01/2011 14:34
Method: D2216-90 Instrument: BAL001 ADT(off): 04/04/2011 08:29
SOP: K0003 Rev: 11

SAMPLE NUMBER	EMPTY PAN WT 1	WET WT 2	DRY WT 3A	DRY WT 3B	DRY WT 3C	PERCENT SOLID	PERCENT MOISTURE
L11030664-01	1.33	20.91	19.78			94.23	
L11030664-02	1.31	27.87	26.34			94.24	
L11030664-03	1.32	31.34	29.44			93.67	
L11030664-04	1.34	28.57	27.25			95.15	
L11030664-05	1.35	27.67	26.45			95.36	
L11030664-06	1.32	29.76	28.38			95.15	
L11030664-07	1.32	32.01	30.48			95.01	
L11030664-08	1.32	26.68	25.06			93.61	
L11030664-09	1.34	23.57	22.04			93.12	
L11030664-10	1.31	18.94	17.83			93.70	
L11030664-11	1.34	42.75	41.05			95.89	
L11030664-12	1.32	26.21	24.97			95.02	
L11030664-13	1.32	22.97	21.47			93.07	
L11030931-01	1.31	35.37	31.52			88.70	
L11030931-02	1.31	26.52	23.43			87.74	
L11030932-01	1.34	27.6	24.64			88.73	
L11030932-02	1.34	26.73	20.07			73.77	
L11030932-03	1.31	25.05	21.32			84.29	
L11030932-04	1.31	24.24	21.19			86.70	
L11030932-05	1.33	31.68	24.9			77.66	
L11030932-06	1.32	28.48	25.24			88.07	
L11030932-07	1.32	28.48	25.24			88.07	
L11030932-08	1.32	28.48	25.24			88.07	
L11030932-09	1.3	34.68	30.97			88.89	
L11030932-10	1.32	31.26	27.49			87.41	
L11030932-11	1.32	30.29	26.46			86.78	
L11030932-12	1.33	30.07	26.26			86.74	
L11030932-13	1.32	27.11	24.34			89.26	
L11030932-14	1.33	34.37	31.32			90.77	
L11030932-15	1.32	30.38	26.49			86.61	
L11030932-16	1.32	30.34	25.74			84.15	
L11030932-17	1.33	39	32.84			83.65	
L11030932-18	1.33	30.82	27.61			89.11	
L11031002-01	1.3	20.97	16.25			76.00	
L11031004-01	1.33	19.07	12.84			64.88	
L11031004-03	1.33	26.48	19.18			70.97	
L11031006-01	1.3	38.61	33.07			85.15	
L11031008-01	1.31	25.47	17.64			67.59	
L11031008-03	1.32	24.53	13.05			50.54	
L11031012-01	1.32	21.3	15.11			69.02	
L11031012-03	1.33	29.89	19.99			65.34	
L11040020-01	1.32	28.41	26.27			92.10	

PERCENT_SOLIDS - Modified 04/24/2008
PDF ID: 1961463
Report generated: 04/04/2011 08:34

Microbac Laboratories Inc.

PERCENT SOLIDS

Workgroup (AAB#): WG360614 Analyst: JDH ADT(on): 04/01/2011 14:34
Method: D2216-90 Instrument: BAL001 ADT(off): 04/04/2011 08:29
SOP: K0003 Rev: 11

SAMPLE NUMBER	EMPTY PAN WT 1	WET WT 2	DRY WT 3A	DRY WT 3B	DRY WT 3C	PERCENT SOLID	PERCENT MOISTURE
L11040020-02	1.32	21.75	20.93			95.99	
L11040020-03	1.31	19.01	16.42			85.37	
L11040020-04	1.31	13.57	10.29			73.25	
L11040020-05	1.32	23.25	19.78			84.18	
L11040020-06	1.31	22.05	20.28			91.47	
L11040020-07	1.32	16.6	14.59			86.85	
L11040020-08	1.31	17.48	14.83			83.61	
L11040020-09	1.31	31.15	27.47			87.67	
L11040020-10	1.3	24.32	21.96			89.75	
L11040020-11	1.31	17.95	14.73			80.65	
L11040020-12	1.3	15.15	13.83			90.47	
L11040020-13	1.32	15.98	12.51			76.33	
L11040020-14	1.33	14.7	12.36			82.50	
L11040020-15	1.34	41.22	40.28			97.64	
WG360614-01	1.31	25.47	17.64			67.59	32.41
WG360614-02	1.34	27.6	24.64			88.73	11.27
WG360614-03	1.32	22.97	21.47			93.07	6.928
WG360614-04	1.32	16.88	11.99			68.57	31.43
WG360614-05	1.32	31.77	27.67			86.54	13.46
WG360614-06	1.32	23.11	21.52			92.70	7.297

Analyst: Justin Hesson

PERCENT_SOLIDS - Modified 04/24/2008
PDF ID: 1961463
Report generated: 04/04/2011 08:34

Microbac

3.0 Attachments

Microbac Laboratories Inc.
Analyst Listing
April 7, 2011

ADC - ANTHONY D. CANTER	AJF - AMANDA J. FICKIESEN	ALB - ANNIE L. BROWN
ALV - AMY L. VALENTINE	AML - TONY M. LONG	AZH - AFTER HOURS
BLG - BRENDA L. GREENWALT	BRG - BRENDA R. GREGORY	CAA - CASSIE A. AUGENSTEIN
CAF - CHERYL A. FLOWERS	CEB - CHAD E. BARNES	CLC - CHRYS L. CRAWFORD
CLS - CARA L. STRICKLER	CLW - CHARISSA L. WINTERS	CPD - CHAD P. DAVIS
CSH - CHRIS S. HILL	DDE - DEBRA D. ELLIOTT	DEL - DON E. LIGHTFRITZ
DEV - DAVID E. VANDENBERG	DGB - DOUGLAS G. BUTCHER	DIH - DEANNA I. HESSON
DLB - DAVID L. BUMGARNER	DLP - DOROTHY L. PAYNE	DLR - DIANNA L. RAUCH
ECL - ERIC C. LAWSON	EDL - ERIN D. LONG	ERP - ERIN R. PORTER
FJB - FRANCES J. BOLDEN	HAV - HEMA VILASAGAR	HJR - HOLLY J. REED
JAL - JOHN A. LENT	JBK - JEREMY B. KINNEY	JDH - JUSTIN D. HESSON
JKT - JANE K. THOMPSON	JLL - JOHN L. LENT	JWR - JOHN W. RICHARDS
JWS - JACK W. SHEAVES	JYH - JI Y. HU	KEB - KATIE E. BARNES
KHR - KIM H. RHODES	KRA - KATHY R. ALBERTSON	LKN - LINDA K. NEDEFF
LSB - LESLIE S. BUCINA	MDA - MIKE D. ALBERTSON	MDC - MIKE D. COCHRAN
MES - MARY E. SCHILLING	MMB - MAREN M. BEERY	MRT - MICHELLE R. TAYLOR
MSW - MATT S. WILSON	PDM - PIERCE D. MORRIS	PWD - PAUL W. DENT
RAH - ROY A. HALSTEAD	RB - BOB BUCHANAN	REK - BOB E. KYER
RLK - ROBIN L. KLINGER	RWC - RODNEY W. CAMPBELL	SLM - STEPHANIE L. MOSSBURG
SLP - SHERI L. PFALZGRAF	TIP - TAE I. PARRISH	TMB - TIFFANY M. BAILEY
TMM - TAMMY M. MORRIS	VC - VICKI COLLIER	WJB - WILL J. BEASLEY
WTD - WADE T. DELONG		

Microbac Laboratories Inc.
List of Valid Qualifiers
April 07, 2011

Qualkey: DOD

Qualifier	Description
*	Surrogate or spike compound out of range
+	Correlation coefficient for the MSA is less than 0.995
<	Result is less than the associated numerical value.
>	Result is greater than the associated numerical value.
A	See the report narrative
B	The reported result is associated with a contaminated method blank.
B1	Target analyte detected in method blank at or above the method reporting limit
B3	Target analyte detected in calibration blank at or above the method reporting limit
B4	The BOD unseeded dilution water blank exceeded 0.2 mg/L
C	Confirmed by GC/MS
CG	Confluent growth
DL	Surrogate or spike compound was diluted out
E	Estimated concentration due to sample matrix interference
EDL	Elevated sample reporting limits, presence of non-target analytes
EMPC	Estimated Maximum Possible Concentration
F, S	Estimated result below quantitation limit; method of standard additions(MSA)
FL	Free Liquid
H1	Sample analysis performed past holding time.
I	Semiquantitative result (out of instrument calibration range)
J	Estimated concentration; sample matrix interference.
J	Estimated value ; the analyte concentration was greater than the highest standard
J	Estimated value ; the analyte concentration was less than the low standard (LOQ)
J	The reported result is an estimated value.
J,B	Analyte detected in both the method blank and sample above the MDL.
J,P	Estimate; columns don't agree to within 40%
J,S	Estimated concentration; analyzed by method of standard addition (MSA)
L	Sample reporting limits elevated due to matrix interference
L1	The associated blank spike (LCS) recovery was above the laboratory acceptance limits.
L2	The associated blank spike (LCS) recovery was below the laboratory acceptance limits.
M	Matrix effect; the concentration is an estimate due to matrix effect.
N	Nontarget analyte; the analyte is a tentativlely identified compound (TIC) by GC/MS
NA	Not applicable
ND	Not detected at or above the reporting limit (RL).
ND, L	Not detected; sample reporting limit (RL) elevated due to interference
ND, S	Not detected; analyzed by method of standard addition (MSA)
NF	Not found by library search
NFL	No free liquid
NI	Non-ignitable
NR	Analyte is not required to be analyzed
NS	Not spiked
P	Concentrations >40% difference between the two GC columns
Q	One or more quality control criteria failed. See narrative.
QNS	Quantity of sample not sufficient to perform analysis
RA	Reanalysis confirms reported results
RE	Reanalysis confirms sample matrix interference
S	Analyzed by method of standard addition (MSA)
SMI	Sample matrix interference on surrogate
SP	Reported results are for spike compounds only
TIC	Library Search Compound
TNTC	Too numerous to count
U	Analyte was not detected. The concentration is below the reported LOD.
UJ	Undetected; the analyte was analyzed for, but not detected.
UQ	Undetected; the analyte was analyzed for, but not detected.
W	Post-digestion spike for furnace AA out of control limits
X	Exceeds regulatory limit
X, S	Exceeds regulatory limit; method of standard additions (MSA)
Z	Cannot be resolved from isomer - see below

*****Special Notes for Organic Analytes**

1. Acrolein and acrylonitrile by method 624 are semi-quantitative screens only.
2. 1,2-Diphenylhydrazine is unstable and is reported as azobenzene.
3. N-nitrosodiphenylamine cannot be separated from diphenylamine.
4. 3-Methylphenol and 4-Methylphenol are unresolvable compounds.
5. m-Xylene and p-Xylene are unresolvable compounds.
6. The reporting limits for Appendix II/IX compounds by method 8270 are based on EPA estimated PQLs referenced in 40 CFR Part 264, Appendix IX. They are not always achievable for every compound an are matrix dependent.

Versar

CHAIN OF CUSTODY RECORD

№ 0160

PROJECT NO.	PROJECT NAME	LAB:
111736.0006	CANNON AFB CSE PHASE II	MICROBAC

SAMPLERS: (Signature) (Printed) PATRICK LANGER, CRAIG KISV

PARAMETERS: RAM 8270C

HOLD ALL

FIELD SAMPLE NUMBER	DATE	TIME	MATRIX	METH.	LOCATION ID	NO. OF CONTAINERS	RAM 8270C						SBD (ft)	SED (ft)	SACODE	LOTCTLNUM	Preservative
SR042G	3/17/11	1020	SO		SR042	1	X						0.5	1.0	N	-	-
SR043G		1035			SR043	1	X								N	-	-
SR044G		1045			SR044	1	X								N	-	-
SR045G		1110			SR045	1	X								N	-	-
SR045C		1125			SR045	1	X						1.0	1.5	N	-	-
SR046G		1135			SR046	1	X						0.5	1.0	N	-	-
SR047G		1150			SR047	1	X								N	-	-
SR048G		1205			SR048	1	X								N	-	-
SR049G		1220			SR049	1	X								N	-	-
SR050G		1230			SR050	1	X								N	-	-
SR051G		1240			SR051	1	X								N	-	-
SR052G		1315			SR052	1	X								N	-	-

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time
(Printed) Gary Tokp	3/17/11 1430	FED EX (Printed)	
Relinquished by: (Signature)	Da		
(Printed)			

Microbac OVD 221000013287
Received: 03/18/2011 10:55
By: CARA STRICKLER
Cara Strickler

Remarks: CALL GARY TOKP WITH QUESTIONS 720.231.8022 (CELL)

Temp Received

Turn-Around-Time HOLD ALL SAMPLE ANALYSIS

FedEx Airbill #

Distribution: Original Plus One Accompanies Shipment (white and yellow); Copy to Coordinator Field Files (pink).

Versar

CHAIN OF CUSTODY RECORD

№ 0161

PROJECT NO.	PROJECT NAME	LAB:
1111736.0006	CANNON AFB CSE PHASE II	MICROBAC

SAMPLERS: (Signature)

(Printed) PATRICK LAWLER, CRAIG KISV

PARAMETERS: RAH 8270C

HOLD ALL

FIELD SAMPLE NUMBER	DATE	TIME	MATRIX	METH.	LOCATION ID	NO. OF CONTAINERS	RAH 8270C						SBD (ft)	SED (ft)	SACODE	LOTCTLNUM	Preservative
SR053B	3/17/11	1325	SO		SR053	1	X						0.5	1.0	N	–	–

REMARKS

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time
Gary Tore	3/17/11 1430	FED EX	
(Printed) Gary Tore		(Printed)	
Relinquished by: (Signature)			Time
(Printed)			

Microbac OVD 221000013287
Received: 03/18/2011 10:55
By: CARA STRICKLER

Cara Strickler

Remarks: CALL GARY TORE WITH QUESTIONS 720.231.8022 (CELL)

Temp Received

Turn-Around-Time HOLD ALL SAMPLE ANALYSIS

FedEx Airbill #

Distribution: Original Plus One Accompanies Shipment (white and yellow); Copy to Coordinator Field Files (pink).

1000013287

COOLER INSPECTION

Received: 03/18/2011 10:55
Delivery Method: FedEx
Opened By: Cara Strickler
Comments:

Login(s): L11030664|

Cooler(s)

Cooler #	Temp Gun	Temp	Tracking #	COC #	Comments
0013041	H	3.0	3457507711002562795755504471681 1	0160	
0014958	H	3.0	3457507711002562873530195051215 6	0160	

1	Yes	Were shipping coolers sealed?
2	Yes	Were custody seals intact?
3	Yes	Were cooler temperatures in range of 0-6?
4	Yes	Was ice present?
5	Yes	Were COC's received/information complete/signed and dated?
6	Yes	Were sample containers and labels intact and match COC?
7	Yes	Were the correct containers and volumes received?
8	Yes	Were samples received within EPA hold times?
9	NA	Were correct perservatives used? (water only)
10	NA	Were pH ranges acceptable? (voa's excluded)
11	NA	Were VOA samples free of headspace (less than 6mm)?

Discrepancies:

Look closer. Go further. Do more.

Microbac - Ohio Valley Division
158 Starlite Drive
Marietta, OH 45750
Tel: (740)373-4071 Fax: (740)373-4835

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L11030664
Account: 2415
Project: 2415.036
Samples: 13
Due Date: 05-APR-2011

Samplenum	Container ID	Products
L11030664-01	809848	

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	HOLD	18-MAR-2011 15:52	JKT	

Samplenum	Container ID	Products
L11030664-01	813755	PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	29-MAR-2011 09:28	RLK	
2	PREP	W1	EXT	30-MAR-2011 06:49	CEB	AZH
3	STORE	EXT	W1	30-MAR-2011 13:38	RLK	CEB
4	ANALYZ*	EXT	SEMI	31-MAR-2011 08:53	ADC	CEB
5	ANALYZ	W1	WET	31-MAR-2011 12:51	JDH	RLK
6	STORE	WET	A1	01-APR-2011 15:58	RLK	JDH

Sample extract/digestate/leachate

Samplenum	Container ID	Products
L11030664-02	809849	

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	HOLD	18-MAR-2011 15:52	JKT	

Samplenum	Container ID	Products
L11030664-02	813756	PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	29-MAR-2011 09:28	RLK	
2	PREP	W1	EXT	30-MAR-2011 06:49	CEB	AZH
3	STORE	EXT	W1	30-MAR-2011 13:38	RLK	CEB
4	ANALYZ*	EXT	SEMI	31-MAR-2011 08:53	ADC	CEB
5	ANALYZ	W1	WET	31-MAR-2011 12:51	JDH	RLK
6	STORE	WET	A1	01-APR-2011 15:58	RLK	JDH

Sample extract/digestate/leachate

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L11030664
Account: 2415
Project: 2415.036
Samples: 13
Due Date: 05-APR-2011

Samplenum	Container ID	Products
L11030664-03	809850	

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	HOLD	18-MAR-2011 15:52	JKT	

Samplenum	Container ID	Products
L11030664-03	813757	PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	29-MAR-2011 09:28	RLK	
2	PREP	W1	EXT	30-MAR-2011 06:49	CEB	AZH
3	STORE	EXT	W1	30-MAR-2011 13:38	RLK	CEB
4	ANALYZ*	EXT	SEMI	31-MAR-2011 08:53	ADC	CEB
5	ANALYZ	W1	WET	31-MAR-2011 12:51	JDH	RLK
6	STORE	WET	A1	01-APR-2011 15:58	RLK	JDH

Sample extract/digestate/leachate

Samplenum	Container ID	Products
L11030664-04	809851	

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	HOLD	18-MAR-2011 15:52	JKT	

Samplenum	Container ID	Products
L11030664-04	813758	PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	29-MAR-2011 09:28	RLK	
2	PREP	W1	EXT	30-MAR-2011 06:49	CEB	AZH
3	STORE	EXT	W1	30-MAR-2011 13:38	RLK	CEB
4	ANALYZ*	EXT	SEMI	31-MAR-2011 08:53	ADC	CEB
5	ANALYZ	W1	WET	31-MAR-2011 12:51	JDH	RLK
6	STORE	WET	A1	01-APR-2011 15:58	RLK	JDH

Sample extract/digestate/leachate

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L11030664
Account: 2415
Project: 2415.036
Samples: 13
Due Date: 05-APR-2011

Samplenum	Container ID	Products
L11030664-05	809852	

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	HOLD	18-MAR-2011 15:52	JKT	

Samplenum	Container ID	Products
L11030664-05	813759	PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	29-MAR-2011 09:28	RLK	
2	PREP	W1	EXT	30-MAR-2011 06:49	CEB	AZH
3	STORE	EXT	W1	30-MAR-2011 13:38	RLK	CEB
4	ANALYZ*	EXT	SEMI	31-MAR-2011 08:53	ADC	CEB
5	ANALYZ	W1	WET	31-MAR-2011 12:51	JDH	RLK
6	STORE	WET	A1	01-APR-2011 15:58	RLK	JDH

Sample extract/digestate/leachate

Samplenum	Container ID	Products
L11030664-06	809853	

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	HOLD	18-MAR-2011 15:52	JKT	

Samplenum	Container ID	Products
L11030664-06	813760	PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	29-MAR-2011 09:28	RLK	
2	PREP	W1	EXT	30-MAR-2011 06:49	CEB	AZH
3	STORE	EXT	W1	30-MAR-2011 13:38	RLK	CEB
4	ANALYZ*	EXT	SEMI	31-MAR-2011 08:53	ADC	CEB
5	ANALYZ	W1	WET	31-MAR-2011 12:51	JDH	RLK
6	STORE	WET	A1	01-APR-2011 15:58	RLK	JDH

Sample extract/digestate/leachate

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L11030664
Account: 2415
Project: 2415.036
Samples: 13
Due Date: 05-APR-2011

Samplenum	Container ID	Products
L11030664-07	809854	

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	HOLD	18-MAR-2011 15:52	JKT	

Samplenum	Container ID	Products
L11030664-07	813761	PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	29-MAR-2011 09:28	RLK	
2	PREP	W1	EXT	30-MAR-2011 06:49	CEB	AZH
3	STORE	EXT	W1	30-MAR-2011 13:38	RLK	CEB
4	ANALYZ*	EXT	SEMI	31-MAR-2011 08:53	ADC	CEB
5	ANALYZ	W1	WET	31-MAR-2011 12:51	JDH	RLK
6	STORE	WET	A1	01-APR-2011 15:58	RLK	JDH

Sample extract/digestate/leachate

Samplenum	Container ID	Products
L11030664-08	809855	

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	HOLD	18-MAR-2011 15:52	JKT	

Samplenum	Container ID	Products
L11030664-08	813762	PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	29-MAR-2011 09:28	RLK	
2	PREP	W1	EXT	30-MAR-2011 06:49	CEB	AZH
3	STORE	EXT	W1	30-MAR-2011 13:38	RLK	CEB
4	ANALYZ*	EXT	SEMI	31-MAR-2011 08:53	ADC	CEB
5	ANALYZ	W1	WET	31-MAR-2011 12:51	JDH	RLK
6	STORE	WET	A1	01-APR-2011 15:58	RLK	JDH

Sample extract/digestate/leachate

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L11030664
Account: 2415
Project: 2415.036
Samples: 13
Due Date: 05-APR-2011

Samplenum	Container ID	Products
L11030664-09	809856	

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	HOLD	18-MAR-2011 15:52	JKT	

Samplenum	Container ID	Products
L11030664-09	813763	PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	29-MAR-2011 09:28	RLK	
2	PREP	W1	EXT	30-MAR-2011 06:50	CEB	AZH
3	STORE	EXT	W1	30-MAR-2011 13:38	RLK	CEB
4	ANALYZ*	EXT	SEMI	31-MAR-2011 08:53	ADC	CEB
5	ANALYZ	W1	WET	31-MAR-2011 12:51	JDH	RLK
6	STORE	WET	A1	01-APR-2011 15:58	RLK	JDH

Sample extract/digestate/leachate

Samplenum	Container ID	Products
L11030664-10	809857	

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	HOLD	18-MAR-2011 15:52	JKT	

Samplenum	Container ID	Products
L11030664-10	813764	PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	29-MAR-2011 09:28	RLK	
2	PREP	W1	EXT	30-MAR-2011 06:50	CEB	AZH
3	STORE	EXT	W1	30-MAR-2011 13:38	RLK	CEB
4	ANALYZ*	EXT	SEMI	31-MAR-2011 08:53	ADC	CEB
5	ANALYZ	W1	WET	31-MAR-2011 12:51	JDH	RLK
6	STORE	WET	A1	01-APR-2011 15:58	RLK	JDH

Sample extract/digestate/leachate

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L11030664
Account: 2415
Project: 2415.036
Samples: 13
Due Date: 05-APR-2011

Samplenum	Container ID	Products
L11030664-11	809858	

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	HOLD	18-MAR-2011 15:52	JKT	

Samplenum	Container ID	Products
L11030664-11	813765	PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	29-MAR-2011 09:28	RLK	
2	PREP	W1	EXT	30-MAR-2011 06:50	CEB	AZH
3	STORE	EXT	W1	30-MAR-2011 13:38	RLK	CEB
4	ANALYZ*	EXT	SEMI	31-MAR-2011 08:53	ADC	CEB
5	ANALYZ	W1	WET	31-MAR-2011 12:51	JDH	RLK
6	STORE	WET	A1	01-APR-2011 15:58	RLK	JDH

Sample extract/digestate/leachate

Samplenum	Container ID	Products
L11030664-12	809859	

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	HOLD	18-MAR-2011 15:52	JKT	

Samplenum	Container ID	Products
L11030664-12	813766	PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	29-MAR-2011 09:28	RLK	
2	PREP	W1	EXT	30-MAR-2011 06:50	CEB	AZH
3	STORE	EXT	W1	30-MAR-2011 13:38	RLK	CEB
4	ANALYZ*	EXT	SEMI	31-MAR-2011 08:53	ADC	CEB
5	ANALYZ	W1	WET	31-MAR-2011 12:51	JDH	RLK
6	STORE	WET	A1	01-APR-2011 15:58	RLK	JDH

Sample extract/digestate/leachate

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L11030664
Account: 2415
Project: 2415.036
Samples: 13
Due Date: 05-APR-2011

Samplenum	Container ID	Products
L11030664-13	809860	

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	HOLD	18-MAR-2011 15:52	JKT	

Samplenum	Container ID	Products
L11030664-13	813767	PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	29-MAR-2011 09:28	RLK	
2	PREP	W1	EXT	30-MAR-2011 06:50	CEB	AZH
3	STORE	EXT	W1	30-MAR-2011 13:39	RLK	CEB
4	ANALYZ*	EXT	SEMI	31-MAR-2011 08:53	ADC	CEB
5	ANALYZ	W1	WET	31-MAR-2011 12:51	JDH	RLK
6	STORE	WET	A1	01-APR-2011 15:58	RLK	JDH

Sample extract/digestate/leachate

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

158 Starlite Drive, Marietta, OH 45750 • T:740-373-4071 • F:740-373-4835 • http://www.microbac.com

Laboratory Report Number: L11030665

Client: Gary Torf, 12050 N. Pecos Street, Westminster, CO, 80234

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories.

Review and compilation of your report was completed by Microbac's Sales and Service Team. If you have questions, comments or require further assistance regarding this report, please contact your team member noted in the reviewed box below at 800-373-4071. Team member e-mail addresses also appear here for your convenience.

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Annie Brown	*Client Services Specialist*	Annie.Brown@microbac.com

This report was reviewed on March 25, 2011.

Stephanie Mossburg

Stephanie Mossburg - Team Chemist/Data Specialist

I certify that all test results meet all of the requirements of the accrediting authority listed below. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

This report was certified on March 25, 2011.

David E. Vandenberg

David Vandenberg - Managing Director

State of origin: New Mexico
Accrediting authority: N/A ID:N/A
QAPP: DOD Ver 4.1
This report contains a total of 695 pages.

Look closer. Go further. Do more.

Microbac REPORT L11030665
PREPARED FOR Versar Inc
WORK ID:

1.0 Introduction 3
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1.0 Introduction

LABORATORY REPORT

L11030665

03/25/11 15:26

Submitted By

Microbac Laboratories Inc.
158 Starlite Drive
Marietta , OH 45750
(740) 373 - 4071

For

Account Name: Versar Inc
12050 N. Pecos Street
Suite 300
Westminster, CO 80234
Attention: Gary Torf

Project Number: 2415.036
Project: Cannon AFB
Site: CANNON AFB

Sample Summary

Client ID	Lab ID	Date Collected	Date Received
SR001A	L11030665-01	03/16/2011 10:33	03/18/2011
SR001AMS	L11030665-02	03/16/2011 10:33	03/18/2011
SR001AMSD	L11030665-03	03/16/2011 10:33	03/18/2011
SR003A	L11030665-04	03/16/2011 10:44	03/18/2011
SR004A	L11030665-05	03/16/2011 10:50	03/18/2011
SR008A	L11030665-06	03/16/2011 11:10	03/18/2011
SR010A	L11030665-07	03/16/2011 11:20	03/18/2011
SR016A	L11030665-08	03/16/2011 13:20	03/18/2011
SR020A	L11030665-09	03/16/2011 13:38	03/18/2011
SR024A	L11030665-10	03/16/2011 13:55	03/18/2011
SR027A	L11030665-11	03/16/2011 14:15	03/18/2011
SR027ADUP	L11030665-12	03/16/2011 14:15	03/18/2011
SR032A	L11030665-13	03/16/2011 14:55	03/18/2011
SR034A	L11030665-14	03/16/2011 15:05	03/18/2011
SR034ADUP	L11030665-15	03/16/2011 15:05	03/18/2011
SR037A	L11030665-16	03/16/2011 15:25	03/18/2011

L1_A_PROD_COVER - Modified 02/06/2008
PDF File ID: 1950970
Report generated: 03/25/2011 15:26

Report Number: **L11030665**
Report Date : **March 25, 2011**

Sample Number: **L11030665-01**
Client ID: **SR001A**
Matrix: **Soil**
Workgroup Number: **WG359706**
Collect Date: **03/16/2011 10:33**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3051A**
Analytical Method: **6010B**
Analyst: **PDM**
Dilution: **1**
Units: **mg/kg**

Instrument: **ICP-THERMO1**
Prep Date: **03/23/2011 06:22**
Cal Date: **03/23/2011 11:07**
Run Date: **03/23/2011 18:00**
File ID: **T1.032311.180048**
Percent Solid: **94.2**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Lead, Total	7439-92-1	10.4		0.808	0.404

Sample Number: **L11030665-01**
Client ID: **SR001A**
Matrix: **Soil**
Workgroup Number: **WG359523**
Collect Date: **03/16/2011 10:33**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/22/2011 08:52**
Cal Date:
Run Date: **03/22/2011 08:52**
File ID: **B1.359523-0101**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	94.2		1.00	1.00

Sample Number: **L11030665-02**
Client ID: **SR001AMS**
Matrix: **Soil**
Workgroup Number: **WG359706**
Collect Date: **03/16/2011 10:33**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3051A**
Analytical Method: **6010B**
Analyst: **PDM**
Dilution: **1**
Units: **mg/kg**

Instrument: **ICP-THERMO1**
Prep Date: **03/23/2011 06:22**
Cal Date: **03/23/2011 11:07**
Run Date: **03/23/2011 18:04**
File ID: **T1.032311.180420**
Percent Solid: **94.2**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Lead, Total	7439-92-1	19.9		0.808	0.404

Sample Number: **L11030665-02**
Client ID: **SR001AMS**
Matrix: **Soil**
Workgroup Number: **WG359523**
Collect Date: **03/16/2011 10:33**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/22/2011 08:52**
Cal Date:
Run Date: **03/22/2011 08:52**
File ID: **B1.359523-0102**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	94.2		1.00	1.00

Report Number: **L11030665**
Report Date : **March 25, 2011**

Sample Number: **L11030665-03**
Client ID: **SR001AMSD**
Matrix: **Soil**
Workgroup Number: **WG359706**
Collect Date: **03/16/2011 10:33**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3051A**
Analytical Method: **6010B**
Analyst: **PDM**
Dilution: **1**
Units: **mg/kg**

Instrument: **ICP-THERMO1**
Prep Date: **03/23/2011 06:22**
Cal Date: **03/23/2011 11:07**
Run Date: **03/23/2011 18:07**
File ID: **T1.032311.180749**
Percent Solid: **94.2**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Lead, Total	7439-92-1	19.1		0.808	0.404

Sample Number: **L11030665-03**
Client ID: **SR001AMSD**
Matrix: **Soil**
Workgroup Number: **WG359523**
Collect Date: **03/16/2011 10:33**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/22/2011 08:52**
Cal Date:
Run Date: **03/22/2011 08:52**
File ID: **B1.359523-0103**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	94.2		1.00	1.00

Sample Number: **L11030665-04**
Client ID: **SR003A**
Matrix: **Soil**
Workgroup Number: **WG359706**
Collect Date: **03/16/2011 10:44**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3051A**
Analytical Method: **6010B**
Analyst: **PDM**
Dilution: **1**
Units: **mg/kg**

Instrument: **ICP-THERMO1**
Prep Date: **03/23/2011 06:22**
Cal Date: **03/23/2011 11:07**
Run Date: **03/23/2011 18:18**
File ID: **T1.032311.181817**
Percent Solid: **96.4**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Lead, Total	7439-92-1	6.53		0.760	0.380

Sample Number: **L11030665-04**
Client ID: **SR003A**
Matrix: **Soil**
Workgroup Number: **WG359523**
Collect Date: **03/16/2011 10:44**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/22/2011 08:52**
Cal Date:
Run Date: **03/22/2011 08:52**
File ID: **B1.359523-0104**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	96.4		1.00	1.00

Report Number: **L11030665**
Report Date : **March 25, 2011**

Sample Number: **L11030665-05**
Client ID: **SR004A**
Matrix: **Soil**
Workgroup Number: **WG359706**
Collect Date: **03/16/2011 10:50**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3051A**
Analytical Method: **6010B**
Analyst: **PDM**
Dilution: **1**
Units: **mg/kg**

Instrument: **ICP-THERMO1**
Prep Date: **03/23/2011 06:22**
Cal Date: **03/23/2011 11:07**
Run Date: **03/23/2011 18:32**
File ID: **T1.032311.183215**
Percent Solid: **96.3**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Lead, Total	7439-92-1	8.02		0.775	0.387

Sample Number: **L11030665-05**
Client ID: **SR004A**
Matrix: **Soil**
Workgroup Number: **WG359523**
Collect Date: **03/16/2011 10:50**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/22/2011 08:52**
Cal Date:
Run Date: **03/22/2011 08:52**
File ID: **B1.359523-0105**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	96.3		1.00	1.00

Sample Number: **L11030665-06**
Client ID: **SR008A**
Matrix: **Soil**
Workgroup Number: **WG359706**
Collect Date: **03/16/2011 11:10**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3051A**
Analytical Method: **6010B**
Analyst: **PDM**
Dilution: **1**
Units: **mg/kg**

Instrument: **ICP-THERMO1**
Prep Date: **03/23/2011 06:22**
Cal Date: **03/23/2011 11:07**
Run Date: **03/23/2011 18:35**
File ID: **T1.032311.183548**
Percent Solid: **94.5**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Lead, Total	7439-92-1	22.1		0.778	0.389

Sample Number: **L11030665-06**
Client ID: **SR008A**
Matrix: **Soil**
Workgroup Number: **WG359523**
Collect Date: **03/16/2011 11:10**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/22/2011 08:52**
Cal Date:
Run Date: **03/22/2011 08:52**
File ID: **B1.359523-0106**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	94.5		1.00	1.00

Report Number: **L11030665**
Report Date : **March 25, 2011**

Sample Number: **L11030665-07**
Client ID: **SR010A**
Matrix: **Soil**
Workgroup Number: **WG359706**
Collect Date: **03/16/2011 11:20**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3051A**
Analytical Method: **6010B**
Analyst: **PDM**
Dilution: **1**
Units: **mg/kg**

Instrument: **ICP-THERMO1**
Prep Date: **03/23/2011 06:22**
Cal Date: **03/23/2011 11:07**
Run Date: **03/23/2011 18:39**
File ID: **T1.032311.183920**
Percent Solid: **96.1**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Lead, Total	7439-92-1	14.3		0.765	0.382

Sample Number: **L11030665-07**
Client ID: **SR010A**
Matrix: **Soil**
Workgroup Number: **WG359523**
Collect Date: **03/16/2011 11:20**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/22/2011 08:52**
Cal Date:
Run Date: **03/22/2011 08:52**
File ID: **B1.359523-0107**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	96.1		1.00	1.00

Sample Number: **L11030665-08**
Client ID: **SR016A**
Matrix: **Soil**
Workgroup Number: **WG359706**
Collect Date: **03/16/2011 13:20**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3051A**
Analytical Method: **6010B**
Analyst: **PDM**
Dilution: **1**
Units: **mg/kg**

Instrument: **ICP-THERMO1**
Prep Date: **03/23/2011 06:22**
Cal Date: **03/23/2011 11:07**
Run Date: **03/23/2011 18:42**
File ID: **T1.032311.184252**
Percent Solid: **94.9**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Lead, Total	7439-92-1	8.35		0.783	0.391

Sample Number: **L11030665-08**
Client ID: **SR016A**
Matrix: **Soil**
Workgroup Number: **WG359523**
Collect Date: **03/16/2011 13:20**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/22/2011 08:52**
Cal Date:
Run Date: **03/22/2011 08:52**
File ID: **B1.359523-0108**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	94.9		1.00	1.00

Report Number: **L11030665**
Report Date : **March 25, 2011**

Sample Number: **L11030665-09**
Client ID: **SR020A**
Matrix: **Soil**
Workgroup Number: **WG359706**
Collect Date: **03/16/2011 13:38**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3051A**
Analytical Method: **6010B**
Analyst: **PDM**
Dilution: **1**
Units: **mg/kg**

Instrument: **ICP-THERMO1**
Prep Date: **03/23/2011 06:22**
Cal Date: **03/23/2011 11:07**
Run Date: **03/23/2011 18:46**
File ID: **T1.032311.184624**
Percent Solid: **96.2**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Lead, Total	7439-92-1	17.9		0.779	0.390

Sample Number: **L11030665-09**
Client ID: **SR020A**
Matrix: **Soil**
Workgroup Number: **WG359523**
Collect Date: **03/16/2011 13:38**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/22/2011 08:52**
Cal Date:
Run Date: **03/22/2011 08:52**
File ID: **B1.359523-0109**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	96.2		1.00	1.00

Sample Number: **L11030665-10**
Client ID: **SR024A**
Matrix: **Soil**
Workgroup Number: **WG359706**
Collect Date: **03/16/2011 13:55**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3051A**
Analytical Method: **6010B**
Analyst: **PDM**
Dilution: **1**
Units: **mg/kg**

Instrument: **ICP-THERMO1**
Prep Date: **03/23/2011 06:22**
Cal Date: **03/23/2011 11:07**
Run Date: **03/23/2011 18:49**
File ID: **T1.032311.184958**
Percent Solid: **96.9**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Lead, Total	7439-92-1	20.6		0.770	0.385

Sample Number: **L11030665-10**
Client ID: **SR024A**
Matrix: **Soil**
Workgroup Number: **WG359523**
Collect Date: **03/16/2011 13:55**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/22/2011 08:52**
Cal Date:
Run Date: **03/22/2011 08:52**
File ID: **B1.359523-0110**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	96.9		1.00	1.00

Report Number: **L11030665**
Report Date : **March 25, 2011**

Sample Number: **L11030665-11**
Client ID: **SR027A**
Matrix: **Soil**
Workgroup Number: **WG359706**
Collect Date: **03/16/2011 14:15**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3051A**
Analytical Method: **6010B**
Analyst: **PDM**
Dilution: **1**
Units: **mg/kg**

Instrument: **ICP-THERMO1**
Prep Date: **03/23/2011 06:22**
Cal Date: **03/23/2011 11:07**
Run Date: **03/23/2011 19:00**
File ID: **T1.032311.190035**
Percent Solid: **98.0**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Lead, Total	7439-92-1	21.2		0.763	0.382

Sample Number: **L11030665-11**
Client ID: **SR027A**
Matrix: **Soil**
Workgroup Number: **WG359523**
Collect Date: **03/16/2011 14:15**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/22/2011 08:52**
Cal Date:
Run Date: **03/22/2011 08:52**
File ID: **B1.359523-0111**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	98.0		1.00	1.00

Sample Number: **L11030665-12**
Client ID: **SR027ADUP**
Matrix: **Soil**
Workgroup Number: **WG359706**
Collect Date: **03/16/2011 14:15**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3051A**
Analytical Method: **6010B**
Analyst: **PDM**
Dilution: **1**
Units: **mg/kg**

Instrument: **ICP-THERMO1**
Prep Date: **03/23/2011 06:22**
Cal Date: **03/23/2011 11:07**
Run Date: **03/23/2011 19:04**
File ID: **T1.032311.190417**
Percent Solid: **97.8**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Lead, Total	7439-92-1	21.4		0.739	0.370

Sample Number: **L11030665-12**
Client ID: **SR027ADUP**
Matrix: **Soil**
Workgroup Number: **WG359523**
Collect Date: **03/16/2011 14:15**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/22/2011 08:52**
Cal Date:
Run Date: **03/22/2011 08:52**
File ID: **B1.359523-0112**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	97.8		1.00	1.00

Report Number: **L11030665**
Report Date : **March 25, 2011**

Sample Number: **L11030665-13**
Client ID: **SR032A**
Matrix: **Soil**
Workgroup Number: **WG359706**
Collect Date: **03/16/2011 14:55**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3051A**
Analytical Method: **6010B**
Analyst: **PDM**
Dilution: **1**
Units: **mg/kg**

Instrument: **ICP-THERMO1**
Prep Date: **03/23/2011 06:22**
Cal Date: **03/23/2011 11:07**
Run Date: **03/23/2011 19:07**
File ID: **T1.032311.190757**
Percent Solid: **96.0**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Lead, Total	7439-92-1	10.6		0.773	0.386

Sample Number: **L11030665-13**
Client ID: **SR032A**
Matrix: **Soil**
Workgroup Number: **WG359523**
Collect Date: **03/16/2011 14:55**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/22/2011 08:52**
Cal Date:
Run Date: **03/22/2011 08:52**
File ID: **B1.359523-0113**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	96.0		1.00	1.00

Sample Number: **L11030665-14**
Client ID: **SR034A**
Matrix: **Soil**
Workgroup Number: **WG359706**
Collect Date: **03/16/2011 15:05**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3051A**
Analytical Method: **6010B**
Analyst: **PDM**
Dilution: **1**
Units: **mg/kg**

Instrument: **ICP-THERMO1**
Prep Date: **03/23/2011 06:22**
Cal Date: **03/23/2011 11:07**
Run Date: **03/23/2011 19:11**
File ID: **T1.032311.191130**
Percent Solid: **94.7**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Lead, Total	7439-92-1	22.7		0.804	0.402

Sample Number: **L11030665-14**
Client ID: **SR034A**
Matrix: **Soil**
Workgroup Number: **WG359523**
Collect Date: **03/16/2011 15:05**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/22/2011 08:52**
Cal Date:
Run Date: **03/22/2011 08:52**
File ID: **B1.359523-0114**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	94.7		1.00	1.00

Report Number: **L11030665**
Report Date : **March 25, 2011**

Sample Number: **L11030665-15**
Client ID: **SR034ADUP**
Matrix: **Soil**
Workgroup Number: **WG359706**
Collect Date: **03/16/2011 15:05**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3051A**
Analytical Method: **6010B**
Analyst: **PDM**
Dilution: **1**
Units: **mg/kg**

Instrument: **ICP-THERMO1**
Prep Date: **03/23/2011 06:22**
Cal Date: **03/23/2011 11:07**
Run Date: **03/23/2011 19:15**
File ID: **T1.032311.191503**
Percent Solid: **95.2**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Lead, Total	7439-92-1	23.7		0.785	0.392

Sample Number: **L11030665-15**
Client ID: **SR034ADUP**
Matrix: **Soil**
Workgroup Number: **WG359523**
Collect Date: **03/16/2011 15:05**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/22/2011 08:52**
Cal Date:
Run Date: **03/22/2011 08:52**
File ID: **B1.359523-0115**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	95.2		1.00	1.00

Sample Number: **L11030665-16**
Client ID: **SR037A**
Matrix: **Soil**
Workgroup Number: **WG359706**
Collect Date: **03/16/2011 15:25**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3051A**
Analytical Method: **6010B**
Analyst: **PDM**
Dilution: **1**
Units: **mg/kg**

Instrument: **ICP-THERMO1**
Prep Date: **03/23/2011 06:22**
Cal Date: **03/23/2011 11:07**
Run Date: **03/23/2011 19:18**
File ID: **T1.032311.191836**
Percent Solid: **93.3**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Lead, Total	7439-92-1	11.4		0.796	0.398

Sample Number: **L11030665-16**
Client ID: **SR037A**
Matrix: **Soil**
Workgroup Number: **WG359523**
Collect Date: **03/16/2011 15:25**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/22/2011 08:52**
Cal Date:
Run Date: **03/22/2011 08:52**
File ID: **B1.359523-0116**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	93.3		1.00	1.00

Login Number: L11030665

Department: Login

Chain of Custody:

Shipment Conditions

COC #	Cooler #	Temperature
	0013041	3.0
0154 0155	0014958	3.0

Sample Management: All samples were received intact.

Sample Identification

Lab ID	Client ID
L11030665-01	SR001A
L11030665-02	SR001AMS
L11030665-03	SR001AMSD
L11030665-04	SR003A
L11030665-05	SR004A
L11030665-06	SR008A
L11030665-07	SR010A
L11030665-08	SR016A
L11030665-09	SR020A
L11030665-10	SR024A
L11030665-11	SR027A
L11030665-12	SR027ADUP
L11030665-13	SR032A
L11030665-14	SR034A
L11030665-15	SR034ADUP
L11030665-16	SR037A

Narrative ID: 23797
Approved By: Stephanie Mossburg
Stephanie Mossburg

2.0 Full Sample Data Package

2.1 Metals Data

2.1.1 Metals I C P Data

2.1.1.1 Summary Data

Login Number: L11030665

Department: Metals

Analyst: Pierce Morris

METHOD

Preparation: SW-846 3051

Analysis: SW-846 6010

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Interference Check Standards: All acceptance criteria were met.

Continuing Calibration Verification: All acceptance criteria were met.

Continuing Calibration Blank: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Serial Dilution/Post Digestion Spikes: WG359706 - All acceptance criteria were met.

Matrix Spikes: WG359706 - Sample 01 was chosen by the client for MS/MSD analysis. Samples 02(MS) and 03(MSD) met all acceptance criteria.

SAMPLES

Samples: All acceptance criteria were met.

Narrative ID: 24206
Approved By: Sheri Pfalzgraf

LABORATORY REPORT

L11030665

03/25/11 15:26

Submitted By

Microbac Laboratories Inc.
158 Starlite Drive
Marietta , OH 45750
(740) 373 - 4071

For

Account Name: Versar Inc
12050 N. Pecos Street
Suite 300
Westminster, CO 80234
Attention: Gary Torf

Project Number: 2415.036
Project: Cannon AFB
Site: CANNON AFB

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
SR001A	L11030665-01	6010B	1	18-MAR-11
SR001AMS	L11030665-02	6010B	1	18-MAR-11
SR001AMSD	L11030665-03	6010B	1	18-MAR-11
SR003A	L11030665-04	6010B	1	18-MAR-11
SR004A	L11030665-05	6010B	1	18-MAR-11
SR008A	L11030665-06	6010B	1	18-MAR-11
SR010A	L11030665-07	6010B	1	18-MAR-11
SR016A	L11030665-08	6010B	1	18-MAR-11
SR020A	L11030665-09	6010B	1	18-MAR-11
SR024A	L11030665-10	6010B	1	18-MAR-11
SR027A	L11030665-11	6010B	1	18-MAR-11
SR027ADUP	L11030665-12	6010B	1	18-MAR-11
SR032A	L11030665-13	6010B	1	18-MAR-11
SR034A	L11030665-14	6010B	1	18-MAR-11
SR034ADUP	L11030665-15	6010B	1	18-MAR-11
SR037A	L11030665-16	6010B	1	18-MAR-11

Report Number: **L11030665**
Report Date : **March 25, 2011**

Sample Number: **L11030665-01**
Client ID: **SR001A**
Matrix: **Soil**
Workgroup Number: **WG359706**
Collect Date: **03/16/2011 10:33**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3051A**
Analytical Method: **6010B**
Analyst: **PDM**
Dilution: **1**
Units: **mg/kg**

Instrument: **ICP-THERMO1**
Prep Date: **03/23/2011 06:22**
Cal Date: **03/23/2011 11:07**
Run Date: **03/23/2011 18:00**
File ID: **T1.032311.180048**
Percent Solid: **94.2**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Lead, Total	7439-92-1	10.4		0.808	0.404

Report Number: **L11030665**
Report Date : **March 25, 2011**

Sample Number: **L11030665-02**
Client ID: **SR001AMS**
Matrix: **Soil**
Workgroup Number: **WG359706**
Collect Date: **03/16/2011 10:33**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3051A**
Analytical Method: **6010B**
Analyst: **PDM**
Dilution: **1**
Units: **mg/kg**

Instrument: **ICP-THERMO1**
Prep Date: **03/23/2011 06:22**
Cal Date: **03/23/2011 11:07**
Run Date: **03/23/2011 18:04**
File ID: **T1.032311.180420**
Percent Solid: **94.2**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Lead, Total	7439-92-1	19.9		0.808	0.404

Report Number: **L11030665**
Report Date : **March 25, 2011**

Sample Number:	L11030665-03	PrePrep Method:	NONE	Instrument:	ICP-THERMO1
Client ID:	SR001AMSD	Prep Method:	3051A	Prep Date:	03/23/2011 06:22
Matrix:	Soil	Analytical Method:	6010B	Cal Date:	03/23/2011 11:07
Workgroup Number:	WG359706	Analyst:	PDM	Run Date:	03/23/2011 18:07
Collect Date:	03/16/2011 10:33	Dilution:	1	File ID:	T1.032311.180749
Sample Tag:	01	Units:	mg/kg	Percent Solid:	94.2

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Lead, Total	7439-92-1	19.1		0.808	0.404

Report Number: **L11030665**
Report Date : **March 25, 2011**

Sample Number:	L11030665-04	PrePrep Method:	NONE	Instrument:	ICP-THERMO1
Client ID:	SR003A	Prep Method:	3051A	Prep Date:	03/23/2011 06:22
Matrix:	Soil	Analytical Method:	6010B	Cal Date:	03/23/2011 11:07
Workgroup Number:	WG359706	Analyst:	PDM	Run Date:	03/23/2011 18:18
Collect Date:	03/16/2011 10:44	Dilution:	1	File ID:	T1.032311.181817
Sample Tag:	01	Units:	mg/kg	Percent Solid:	96.4

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Lead, Total	7439-92-1	6.53		0.760	0.380

Report Number: **L11030665**
Report Date : **March 25, 2011**

Sample Number:	L11030665-05	PrePrep Method:	NONE	Instrument:	ICP-THERMO1
Client ID:	SR004A	Prep Method:	3051A	Prep Date:	03/23/2011 06:22
Matrix:	Soil	Analytical Method:	6010B	Cal Date:	03/23/2011 11:07
Workgroup Number:	WG359706	Analyst:	PDM	Run Date:	03/23/2011 18:32
Collect Date:	03/16/2011 10:50	Dilution:	1	File ID:	T1.032311.183215
Sample Tag:	01	Units:	mg/kg	Percent Solid:	96.3

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Lead, Total	7439-92-1	8.02		0.775	0.387

Report Number: **L11030665**
Report Date : **March 25, 2011**

Sample Number:	L11030665-06	PrePrep Method:	NONE	Instrument:	ICP-THERMO1
Client ID:	SR008A	Prep Method:	3051A	Prep Date:	03/23/2011 06:22
Matrix:	Soil	Analytical Method:	6010B	Cal Date:	03/23/2011 11:07
Workgroup Number:	WG359706	Analyst:	PDM	Run Date:	03/23/2011 18:35
Collect Date:	03/16/2011 11:10	Dilution:	1	File ID:	T1.032311.183548
Sample Tag:	01	Units:	mg/kg	Percent Solid:	94.5

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Lead, Total	7439-92-1	22.1		0.778	0.389

Report Number: **L11030665**
Report Date : **March 25, 2011**

Sample Number:	L11030665-07	PrePrep Method:	NONE	Instrument:	ICP-THERMO1
Client ID:	SR010A	Prep Method:	3051A	Prep Date:	03/23/2011 06:22
Matrix:	Soil	Analytical Method:	6010B	Cal Date:	03/23/2011 11:07
Workgroup Number:	WG359706	Analyst:	PDM	Run Date:	03/23/2011 18:39
Collect Date:	03/16/2011 11:20	Dilution:	1	File ID:	T1.032311.183920
Sample Tag:	01	Units:	mg/kg	Percent Solid:	96.1

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Lead, Total	7439-92-1	14.3		0.765	0.382

Report Number: **L11030665**
Report Date : **March 25, 2011**

Sample Number: **L11030665-08**
Client ID: **SR016A**
Matrix: **Soil**
Workgroup Number: **WG359706**
Collect Date: **03/16/2011 13:20**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3051A**
Analytical Method: **6010B**
Analyst: **PDM**
Dilution: **1**
Units: **mg/kg**

Instrument: **ICP-THERMO1**
Prep Date: **03/23/2011 06:22**
Cal Date: **03/23/2011 11:07**
Run Date: **03/23/2011 18:42**
File ID: **T1.032311.184252**
Percent Solid: **94.9**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Lead, Total	7439-92-1	8.35		0.783	0.391

Report Number: **L11030665**
Report Date : **March 25, 2011**

Sample Number:	L11030665-09	PrePrep Method:	NONE	Instrument:	ICP-THERMO1
Client ID:	SR020A	Prep Method:	3051A	Prep Date:	03/23/2011 06:22
Matrix:	Soil	Analytical Method:	6010B	Cal Date:	03/23/2011 11:07
Workgroup Number:	WG359706	Analyst:	PDM	Run Date:	03/23/2011 18:46
Collect Date:	03/16/2011 13:38	Dilution:	1	File ID:	T1.032311.184624
Sample Tag:	01	Units:	mg/kg	Percent Solid:	96.2

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Lead, Total	7439-92-1	17.9		0.779	0.390

Report Number: **L11030665**
Report Date : **March 25, 2011**

Sample Number:	**L11030665-10**	PrePrep Method:	**NONE**	Instrument:	**ICP-THERMO1**
Client ID:	**SR024A**	Prep Method:	**3051A**	Prep Date:	**03/23/2011 06:22**
Matrix:	**Soil**	Analytical Method:	**6010B**	Cal Date:	**03/23/2011 11:07**
Workgroup Number:	**WG359706**	Analyst:	**PDM**	Run Date:	**03/23/2011 18:49**
Collect Date:	**03/16/2011 13:55**	Dilution:	**1**	File ID:	**T1.032311.184958**
Sample Tag:	**01**	Units:	**mg/kg**	Percent Solid:	**96.9**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Lead, Total	**7439-92-1**	**20.6**		**0.770**	**0.385**

Report Number: **L11030665**
Report Date : **March 25, 2011**

Sample Number:	L11030665-11	PrePrep Method:	NONE	Instrument:	ICP-THERMO1
Client ID:	SR027A	Prep Method:	3051A	Prep Date:	03/23/2011 06:22
Matrix:	Soil	Analytical Method:	6010B	Cal Date:	03/23/2011 11:07
Workgroup Number:	WG359706	Analyst:	PDM	Run Date:	03/23/2011 19:00
Collect Date:	03/16/2011 14:15	Dilution:	1	File ID:	T1.032311.190035
Sample Tag:	01	Units:	mg/kg	Percent Solid:	98.0

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Lead, Total	7439-92-1	21.2		0.763	0.382

Report Number: **L11030665**
Report Date : **March 25, 2011**

Sample Number: **L11030665-12**
Client ID: **SR027ADUP**
Matrix: **Soil**
Workgroup Number: **WG359706**
Collect Date: **03/16/2011 14:15**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3051A**
Analytical Method: **6010B**
Analyst: **PDM**
Dilution: **1**
Units: **mg/kg**

Instrument: **ICP-THERMO1**
Prep Date: **03/23/2011 06:22**
Cal Date: **03/23/2011 11:07**
Run Date: **03/23/2011 19:04**
File ID: **T1.032311.190417**
Percent Solid: **97.8**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Lead, Total	7439-92-1	21.4		0.739	0.370

Report Number: **L11030665**
Report Date : **March 25, 2011**

Sample Number: **L11030665-13**
Client ID: **SR032A**
Matrix: **Soil**
Workgroup Number: **WG359706**
Collect Date: **03/16/2011 14:55**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3051A**
Analytical Method: **6010B**
Analyst: **PDM**
Dilution: **1**
Units: **mg/kg**

Instrument: **ICP-THERMO1**
Prep Date: **03/23/2011 06:22**
Cal Date: **03/23/2011 11:07**
Run Date: **03/23/2011 19:07**
File ID: **T1.032311.190757**
Percent Solid: **96.0**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Lead, Total	7439-92-1	10.6		0.773	0.386

Report Number: **L11030665**
Report Date : **March 25, 2011**

Sample Number:	L11030665-14	PrePrep Method:	NONE	Instrument:	ICP-THERMO1
Client ID:	SR034A	Prep Method:	3051A	Prep Date:	03/23/2011 06:22
Matrix:	Soil	Analytical Method:	6010B	Cal Date:	03/23/2011 11:07
Workgroup Number:	WG359706	Analyst:	PDM	Run Date:	03/23/2011 19:11
Collect Date:	03/16/2011 15:05	Dilution:	1	File ID:	T1.032311.191130
Sample Tag:	01	Units:	mg/kg	Percent Solid:	94.7

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Lead, Total	7439-92-1	22.7		0.804	0.402

Report Number: **L11030665**
Report Date : **March 25, 2011**

Sample Number: **L11030665-15**
Client ID: **SR034ADUP**
Matrix: **Soil**
Workgroup Number: **WG359706**
Collect Date: **03/16/2011 15:05**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3051A**
Analytical Method: **6010B**
Analyst: **PDM**
Dilution: **1**
Units: **mg/kg**

Instrument: **ICP-THERMO1**
Prep Date: **03/23/2011 06:22**
Cal Date: **03/23/2011 11:07**
Run Date: **03/23/2011 19:15**
File ID: **T1.032311.191503**
Percent Solid: **95.2**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Lead, Total	7439-92-1	23.7		0.785	0.392

Report Number: **L11030665**
Report Date : **March 25, 2011**

Sample Number: **L11030665-16**
Client ID: **SR037A**
Matrix: **Soil**
Workgroup Number: **WG359706**
Collect Date: **03/16/2011 15:25**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3051A**
Analytical Method: **6010B**
Analyst: **PDM**
Dilution: **1**
Units: **mg/kg**

Instrument: **ICP-THERMO1**
Prep Date: **03/23/2011 06:22**
Cal Date: **03/23/2011 11:07**
Run Date: **03/23/2011 19:18**
File ID: **T1.032311.191836**
Percent Solid: **93.3**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Lead, Total	7439-92-1	11.4		0.796	0.398

2.1.1.2 QC Summary Data

Example 6010 Calculations
Thermo Scientific iCAP 6500

1.0 Initial Calibration (ICAL) Parameters
For a multi-point calibration, the system performs linear regression from data consisting of a blank and four standards.

2.0 Calculating the concentration (C) of an element in water using data from prep log, run log, and quantitation report (note:the data system performs this calculation automatically when correction factors have been entered):

$$Cx = Cs \times \frac{Vf}{Vi} \times D$$

Where:	**Example:**
Cs = Concentration computed by the data system in ug/mL (ppm)	0.1
Vf = Final volume (mL)	50
Vi = Initial volume (mL)	50
D = Dilution factor as a multiplier (10X = 10)	1
Cx = Concentration of element in ug/mL (mg/L)	0.1

3.0 Calculating the concentration (C) of an element in soil using data from prep log, run log, and quantitation report (note: the data system performs this calculation automatically when correction factors have been entered):

$$Cx = Cs \times \frac{Vf}{Vi} \times D$$

Where:	**Example:**
Cs = Concentration computed by the data system (mg/L) (ppm)	0.1
Vf = Final volume (mL)	50
Vi = Initial weight (g)	1
D = Dilution factor as a multiplier (10X = 10)	1
Cx = Concentration of element in ug/g (mg/kg)	5

4.0 Adjusting the concentration to dry weight:

$$Cdry = \frac{Cx \times 100}{Px}$$

Where:	**Example:**
Cx = Concentration calculated as received (wet basis)	5
Px = Percent solids of sample (%wt)	80
$Cdry$ = Concentration calculated as dry weight (mg/kg)	6.25

Microbac Laboratories Inc.
Microwave Digestion Log

Workgroup: WG359654
Analyst: REK
Spike Analyst: ERP
Run Date: 03/23/2011 06:22
Method: 3051A
Balance: BAL014
Instrument: MW-1

SOP: ME406 Revison 12
Spike Solution: STD39933
Spike Witness: VC
HNO3 Lot #: COA15168
HCL Lot #: COA15185
Digestion Tubes Lot #: COA15251

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Initial Vessel Wt	Final Vessel Wt	Spike Amount	Due Date
1	WG359654-02	BLANK	10	1 g	50 mL	176.17 g	176.153 g		
2	WG359654-03	LCS	10	1 g	50 mL	181.812 g	181.784 g	5 mL	
3	L11030612-29	SAMP	7	1.407 g	50 mL	178.712 g	178.664 g		03/28/11
4	L11030612-30	SAMP	7	1.302 g	50 mL	176.323 g	176.299 g		03/28/11
5	L11030612-31	SAMP	7	1.318 g	50 mL	179.37 g	179.348 g		03/28/11
6	L11030612-32	SAMP	7	1.38 g	50 mL	176.858 g	176.765 g		03/28/11
7	WG359654-01	REF	7	1.314 g	50 mL	176.669 g	176.574 g		
8	L11030665-01	RS01	7	1.314 g	50 mL	176.669 g	176.574 g		03/29/11
9	WG359654-04	MS	7	1.314 g	50 mL	182.604 g	182.568 g	5 mL	
10	L11030665-02	MS01	7	1.314 g	50 mL	182.604 g	182.568 g	5 mL	03/29/11
11	WG359654-05	MSD	7	1.314 g	50 mL	183.671 g	183.509 g	5 mL	
12	L11030665-03	SD01	7	1.314 g	50 mL	183.671 g	183.509 g	5 mL	03/29/11
13	L11030665-04	SAMP	7	1.365 g	50 mL	176.049 g	175.989 g		03/29/11
14	L11030665-05	SAMP	7	1.34 g	50 mL	176.999 g	176.96 g		03/29/11
15	L11030665-06	SAMP	7	1.361 g	50 mL	177.066 g	177.046 g		03/29/11
16	L11030665-07	SAMP	7	1.361 g	50 mL	176.591 g	176.556 g		03/29/11
17	L11030665-08	SAMP	7	1.346 g	50 mL	176.881 g	176.863 g		03/29/11
18	L11030665-09	SAMP	7	1.334 g	50 mL	176.076 g	176.026 g		03/29/11
19	L11030665-10	SAMP	7	1.341 g	50 mL	177.318 g	177.289 g		03/29/11
20	L11030665-11	SAMP	7	1.337 g	50 mL	177.548 g	177.527 g		03/29/11
21	L11030665-12	SAMP	7	1.383 g	50 mL	176.122 g	176.097 g		03/29/11
22	L11030665-13	SAMP	7	1.348 g	50 mL	176.44 g	176.426 g		03/29/11
23	L11030665-14	SAMP	7	1.314 g	50 mL	178.68 g	178.652 g		03/29/11
24	L11030665-15	SAMP	7	1.339 g	50 mL	177.84 g	177.816 g		03/29/11
25	L11030665-16	SAMP	7	1.346 g	50 mL	177.724 g	177.672 g		03/29/11
26	L11030729-01	SAMP	10	1.063 g	50 mL	177.902 g	177.881 g		03/25/11
27	L11030738-01	SAMP	10	.254 g	50 mL	175.446 g	175.396 g		03/25/11

Analyst: [signature]

Reviewer: Brenda Gregory

MW_DIG - Modified 09/30/2009
PDF ID: 1951091
Report generated: 03/23/2011 07:39

Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-THERMO1 Dataset: 032311.1R
Analyst1: PDM Analyst2: N/A
Method: 6010 SOP: ME600G Rev: 2
Maintenance Log ID: 36818

Calibration Std: STD44471 ICV Std: STD44098 Post Spike: STD39932
ICSA: STD44413 ICSAB: STD44368 Int. Std: STD44297
CCV: STD44355 LLCCV:

Workgroups: 359637,359681,359684,359605,359706,359533,359396,359757

Comments: Additional workgroup 359759
Sequences 279 through 311 were not reproted due to CCV failure.

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	T1.032311.105355	WG359830-01	Calibration Point		1		03/23/11 10:53
2	T1.032311.105727	WG359830-02	Calibration Point		1		03/23/11 10:57
3	T1.032311.110057	WG359830-03	Calibration Point		1		03/23/11 11:00
4	T1.032311.110427	WG359830-04	Calibration Point		1		03/23/11 11:04
5	T1.032311.110748	WG359830-05	Calibration Point		1		03/23/11 11:07
6	T1.032311.111112	WG359830-06	Initial Calibration Verification		1		03/23/11 11:11
7	T1.032311.111434	WG359830-07	Initial Calib Blank		1		03/23/11 11:14
8	T1.032311.111805	WG359830-08	Interference Check		1		03/23/11 11:18
9	T1.032311.112139	WG359830-09	Interference Check		1		03/23/11 11:21
10	T1.032311.112516	WG359830-10	CCV		1		03/23/11 11:25
11	T1.032311.112837	WG359830-11	CCB		1		03/23/11 11:28
12	T1.032311.114218	WG359216-01	Reference Sample		1	L11030226-11	03/23/11 11:42
13	T1.032311.114550	WG359216-04	Matrix Spike	1.41/50	1	L11030226-11	03/23/11 11:45
14	T1.032311.114922	WG359216-05	Matrix Spike Duplica	1.41/50	1	L11030226-11	03/23/11 11:49
15	T1.032311.115254	WG359568-02	Method/Prep Blank	1/50	1		03/23/11 11:52
16	T1.032311.115623	WG359568-03	Laboratory Control S	1/50	1		03/23/11 11:56
17	T1.032311.115952	L11030568-19	14252-C0001	1.484/50	1		03/23/11 11:59
18	T1.032311.120318	WG359681-01	Post Digestion Spike		1	L11030568-19	03/23/11 12:03
19	T1.032311.120641	WG359681-02	Serial Dilution		5	L11030568-19	03/23/11 12:06
20	T1.032311.121008	WG359681-02	Serial Dilution		25	L11030568-19	03/23/11 12:10
21	T1.032311.121335	L11030568-20	14252-C0002	1.471/50	1		03/23/11 12:13
22	T1.032311.121704	WG359830-12	CCV		1		03/23/11 12:17
23	T1.032311.122025	WG359830-13	CCB		1		03/23/11 12:20
24	T1.032311.122402	L11030568-21	14252-C0003	1.422/50	1		03/23/11 12:24
25	T1.032311.122726	L11030568-22	14252-C0004	1.467/50	1		03/23/11 12:27
26	T1.032311.123051	L11030568-23	14252-C0005	1.364/50	1		03/23/11 12:30
27	T1.032311.123415	L11030568-24	14252-C0006	1.459/50	1		03/23/11 12:34
28	T1.032311.123741	L11030568-25	14252-C0007	1.434/50	1		03/23/11 12:37
29	T1.032311.124106	L11030568-26	14252-C0008	1.464/50	1		03/23/11 12:41
30	T1.032311.124430	L11030568-27	14252-C0009	1.338/50	1		03/23/11 12:44
31	T1.032311.124755	L11030568-28	14252-C0010	1.352/50	1		03/23/11 12:47
32	T1.032311.125119	L11030701-01	10572-C0012	1.041/50	5		03/23/11 12:51
33	T1.032311.125446	L11030701-02	11000-C0808	1.006/50	5		03/23/11 12:54
34	T1.032311.125816	WG359830-14	CCV		1		03/23/11 12:58

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-THERMO1 Dataset: 032311.1R
Analyst1: PDM Analyst2: N/A
Method: 6010 SOP: ME600G Rev: 2
Maintenance Log ID: 36818

Calibration Std: STD44471 ICV Std: STD44098 Post Spike: STD39932
ICSA: STD44413 ICSAB: STD44368 Int. Std: STD44297
CCV: STD44355 LLCCV:

Workgroups: 359637,359681,359684,359605,359706,359533,359396,359757

Comments: Additional workgroup 359759
Sequences 279 through 311 were not reproted due to CCV failure.

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
35	T1.032311.130137	WG359830-15	CCB		1		03/23/11 13:01
36	T1.032311.130513	L11030701-03	11000-C0809	1.007/50	5		03/23/11 13:05
37	T1.032311.130837	L11030701-04	12825-C0014	1.042/50	5		03/23/11 13:08
38	T1.032311.131203	L11030701-05	13784-C0005	1.011/50	5		03/23/11 13:12
39	T1.032311.131525	L11030701-06	13784-C0007	1.041/50	5		03/23/11 13:15
40	T1.032311.131850	L11030701-07	13976-C0010	1.024/50	5		03/23/11 13:18
41	T1.032311.132216	L11030701-08	14028-C0010	1.028/50	5		03/23/11 13:22
42	T1.032311.132540	L11030701-09	14028-C0012	1.027/50	5		03/23/11 13:25
43	T1.032311.132905	WG359568-01	Reference Sample		5	L11030701-10	03/23/11 13:29
44	T1.032311.133229	WG359568-04	Matrix Spike	1.034/50	5	L11030701-10	03/23/11 13:32
45	T1.032311.133553	WG359568-05	Matrix Spike Duplica	1.034/50	5	L11030701-10	03/23/11 13:35
46	T1.032311.133923	WG359830-16	CCV		1		03/23/11 13:39
47	T1.032311.134243	WG359830-17	CCB		1		03/23/11 13:42
48	T1.032311.134622	WG359594-02	Method/Prep Blank	1/50	1		03/23/11 13:46
49	T1.032311.134953	WG359594-03	Laboratory Control S	1/50	1		03/23/11 13:49
50	T1.032311.135324	L11030570-19	6506-C0050	1.3/50	1		03/23/11 13:53
51	T1.032311.135650	L11030570-20	6506-C0051	1.357/50	1		03/23/11 13:56
52	T1.032311.140030	L11030570-21	6506-C0052	1.405/50	1		03/23/11 14:00
53	T1.032311.140402	L11030570-22	6506-C0053	1.342/50	1		03/23/11 14:04
54	T1.032311.140743	L11030715-01	1556-TS0129	1.436/50	1		03/23/11 14:07
55	T1.032311.141115	WG359684-01	Post Digestion Spike		1	L11030715-01	03/23/11 14:11
56	T1.032311.141447	WG359684-02	Serial Dilution		5	L11030715-01	03/23/11 14:14
57	T1.032311.141814	WG359684-02	Serial Dilution		25	L11030715-01	03/23/11 14:18
58	T1.032311.142147	WG359830-18	CCV		1		03/23/11 14:21
59	T1.032311.142507	WG359830-19	CCB		1		03/23/11 14:25
60	T1.032311.142845	L11030715-02	1556-TS0130	1.3/50	1		03/23/11 14:28
61	T1.032311.143209	WG359594-01	Reference Sample		1	L11030715-03	03/23/11 14:32
62	T1.032311.143541	WG359594-04	Matrix Spike	1.373/50	1	L11030715-03	03/23/11 14:35
63	T1.032311.143912	WG359594-05	Matrix Spike Duplica	1.373/50	1	L11030715-03	03/23/11 14:39
64	T1.032311.144240	L11030715-06	1556-TS0132	1.418/50	1		03/23/11 14:42
65	T1.032311.144613	L11030715-07	1556-TS0133	1.36/50	1		03/23/11 14:46
66	T1.032311.144945	L11030715-08	1556-TS0134	1.495/50	1		03/23/11 14:49
67	T1.032311.145309	L11030715-09	1556-TS0135	1.406/50	1		03/23/11 14:53
68	T1.032311.145642	L11030715-10	1556-TS0136	1.369/50	1		03/23/11 14:56

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-THERMO1 Dataset: 032311.1R
Analyst1: PDM Analyst2: N/A
Method: 6010 SOP: ME600G Rev: 2
Maintenance Log ID: 36818

Calibration Std: STD44471 ICV Std: STD44098 Post Spike: STD39932
ICSA: STD44413 ICSAB: STD44368 Int. Std: STD44297
CCV: STD44355 LLCCV:

Workgroups: 359637,359681,359684,359605,359706,359533,359396,359757

Comments: Additional workgroup 359759
Sequences 279 through 311 were not reproted due to CCV failure.

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
69	T1.032311.150016	L11030715-11	1556-TS0137	1.344/50	1		03/23/11 15:00
70	T1.032311.150355	WG359830-20	CCV		1		03/23/11 15:03
71	T1.032311.150716	WG359830-21	CCB		1		03/23/11 15:07
72	T1.032311.151054	L11030715-12	1556-TS0138	1.482/50	1		03/23/11 15:10
73	T1.032311.151427	L11030715-13	1556-TS0139	1.36/50	1		03/23/11 15:14
74	T1.032311.151800	L11030715-14	1556-TS0140	1.321/50	1		03/23/11 15:18
75	T1.032311.152124	L11030715-15	1556-TS0141	1.432/50	1		03/23/11 15:21
76	T1.032311.152457	L11030715-16	1556-TS0142	1.326/50	1		03/23/11 15:24
77	T1.032311.152824	L11030715-17	1556-TS0229	1.341/50	1		03/23/11 15:28
78	T1.032311.153148	L11030715-18	1556-TS0230	1.377/50	1		03/23/11 15:31
79	T1.032311.153518	WG359830-22	CCV		1		03/23/11 15:35
80	T1.032311.153838	WG359830-23	CCB		1		03/23/11 15:38
81	T1.032311.154212	WG359605-02	Method/Prep Blank	1/50	1		03/23/11 15:42
82	T1.032311.154542	WG359605-03	Laboratory Control S	1/50	1		03/23/11 15:45
83	T1.032311.154903	L11030612-04	S-12-5.0-NS	1.37/50	1		03/23/11 15:49
84	T1.032311.155242	WG359705-01	Post Digestion Spike		1	L11030612-04	03/23/11 15:52
85	T1.032311.155619	WG359705-02	Serial Dilution		5	L11030612-04	03/23/11 15:56
86	T1.032311.155944	WG359705-02	Serial Dilution		25	L11030612-04	03/23/11 15:59
87	T1.032311.160309	L11030612-08	S-1-0.5-NS	1.325/50	1		03/23/11 16:03
88	T1.032311.160649	L11030612-09	S-10-0.5-NS	1.455/50	1		03/23/11 16:06
89	T1.032311.161029	L11030612-12	S-10-2.5-NS	1.312/50	1		03/23/11 16:10
90	T1.032311.161404	WG359830-24	CCV		1		03/23/11 16:14
91	T1.032311.161723	WG359830-25	CCB		1		03/23/11 16:17
92	T1.032311.162100	L11030612-13	S-11-0.5-NS	1.3/50	1		03/23/11 16:21
93	T1.032311.162438	L11030612-14	S-11-2.5-NS	1.416/50	1		03/23/11 16:24
94	T1.032311.162817	L11030612-15	S-2-0.5-NS	1.348/50	1		03/23/11 16:28
95	T1.032311.163141	L11030612-16	S-3-0.5-NS	1.344/50	1		03/23/11 16:31
96	T1.032311.163505	L11030612-17	S-4-0.5-FD	1.376/50	1		03/23/11 16:35
97	T1.032311.163837	L11030612-18	S-4-0.5-NS	1.327/50	1		03/23/11 16:38
98	T1.032311.164200	L11030612-19	S-4-2.5-NS	1.308/50	1		03/23/11 16:42
99	T1.032311.164532	L11030612-20	S-5-0.5-NS	1.317/50	1		03/23/11 16:45
100	T1.032311.164857	WG359605-01	Reference Sample		1	L11030612-21	03/23/11 16:48
101	T1.032311.165221	WG359605-04	Matrix Spike	1.35/50	1	L11030612-21	03/23/11 16:52
102	T1.032311.165605	WG359830-26	CCV		1		03/23/11 16:56

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Instrument Run Log

Instrument: ICP-THERMO1 Dataset: 032311.1R
Analyst1: PDM Analyst2: N/A
Method: 6010 SOP: ME600G Rev: 2
Maintenance Log ID: 36818

Calibration Std: STD44471 ICV Std: STD44098 Post Spike: STD39932
ICSA: STD44413 ICSAB: STD44368 Int. Std: STD44297
CCV: STD44355 LLCCV:

Workgroups: 359637,359681,359684,359605,359706,359533,359396,359757

Comments: Additional workgroup 359759
Sequences 279 through 311 were not reproted due to CCV failure.

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
103	T1.032311.165927	WG359830-27	CCB		1		03/23/11 16:59
104	T1.032311.170303	WG359605-05	Matrix Spike Duplica	1.35/50	1	L11030612-21	03/23/11 17:03
105	T1.032311.170642	L11030612-24	S-6-0.5-NS	1.353/50	1		03/23/11 17:06
106	T1.032311.171005	L11030612-25	S-6-2.5-NS	1.375/50	1		03/23/11 17:10
107	T1.032311.171346	L11030612-26	S-7-0.5-NS	1.307/50	1		03/23/11 17:13
108	T1.032311.171726	L11030612-27	S-7-2.5-FD	1.367/50	1		03/23/11 17:17
109	T1.032311.172106	L11030612-28	S-7-2.5-NS	1.4/50	1		03/23/11 17:21
110	T1.032311.172446	L11030721-01	LMF-20110201	1.061/50	1		03/23/11 17:24
111	T1.032311.172834	L11030721-02	LMF-20110225	1.072/50	1		03/23/11 17:28
112	T1.032311.173219	WG359830-28	CCV		1		03/23/11 17:32
113	T1.032311.173540	WG359830-29	CCB		1		03/23/11 17:35
114	T1.032311.173913	WG359654-02	Method/Prep Blank	1/50	1		03/23/11 17:39
115	T1.032311.174246	WG359654-03	Laboratory Control S	1/50	1		03/23/11 17:42
116	T1.032311.174608	L11030612-29	S-8-0.5-NS	1.407/50	1		03/23/11 17:46
117	T1.032311.174948	L11030612-30	S-8-2.5-NS	1.302/50	1		03/23/11 17:49
118	T1.032311.175328	L11030612-31	S-9-0.5-NS	1.318/50	1		03/23/11 17:53
119	T1.032311.175709	L11030612-32	S-9-2.5-NS	1.38/50	1		03/23/11 17:57
120	T1.032311.180048	WG359654-01	Reference Sample		1	L11030665-01	03/23/11 18:00
121	T1.032311.180420	WG359654-04	Matrix Spike	1.314/50	1	L11030665-01	03/23/11 18:04
122	T1.032311.180749	WG359654-05	Matrix Spike Duplica	1.314/50	1	L11030665-01	03/23/11 18:07
123	T1.032311.181121	WG359830-30	CCV		1		03/23/11 18:11
124	T1.032311.181442	WG359830-31	CCB		1		03/23/11 18:14
125	T1.032311.181817	L11030665-04	SR003A	1.365/50	1		03/23/11 18:18
126	T1.032311.182150	WG359706-01	Post Digestion Spike		1	L11030665-04	03/23/11 18:21
127	T1.032311.182521	WG359706-02	Serial Dilution		5	L11030665-04	03/23/11 18:25
128	T1.032311.182847	WG359706-02	Serial Dilution		25	L11030665-04	03/23/11 18:28
129	T1.032311.183215	L11030665-05	SR004A	1.34/50	1		03/23/11 18:32
130	T1.032311.183548	L11030665-06	SR008A	1.361/50	1		03/23/11 18:35
131	T1.032311.183920	L11030665-07	SR010A	1.361/50	1		03/23/11 18:39
132	T1.032311.184252	L11030665-08	SR016A	1.346/50	1		03/23/11 18:42
133	T1.032311.184624	L11030665-09	SR020A	1.334/50	1		03/23/11 18:46
134	T1.032311.184958	L11030665-10	SR024A	1.341/50	1		03/23/11 18:49
135	T1.032311.185337	WG359830-32	CCV		1		03/23/11 18:53
136	T1.032311.185658	WG359830-33	CCB		1		03/23/11 18:56

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Instrument Run Log

Instrument: ICP-THERMO1 Dataset: 032311.1R
Analyst1: PDM Analyst2: N/A
Method: 6010 SOP: ME600G Rev: 2
Maintenance Log ID: 36818

Calibration Std: STD44471 ICV Std: STD44098 Post Spike: STD39932
ICSA: STD44413 ICSAB: STD44368 Int. Std: STD44297
CCV: STD44355 LLCCV:

Workgroups: 359637,359681,359684,359605,359706,359533,359396,359757

Comments: Additional workgroup 359759
Sequences 279 through 311 were not reproted due to CCV failure.

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
137	T1.032311.190035	L11030665-11	SR027A	1.337/50	1		03/23/11 19:00
138	T1.032311.190417	L11030665-12	SR027ADUP	1.383/50	1		03/23/11 19:04
139	T1.032311.190757	L11030665-13	SR032A	1.348/50	1		03/23/11 19:07
140	T1.032311.191130	L11030665-14	SR034A	1.314/50	1		03/23/11 19:11
141	T1.032311.191503	L11030665-15	SR034ADUP	1.339/50	1		03/23/11 19:15
142	T1.032311.191836	L11030665-16	SR037A	1.346/50	1		03/23/11 19:18
143	T1.032311.192208	L11030729-01	32211-7TK	1.063/50	1		03/23/11 19:22
144	T1.032311.192551	L11030738-01	ROOF PAINT	.254/50	1		03/23/11 19:25
145	T1.032311.192930	WG359830-34	CCV		1		03/23/11 19:29
146	T1.032311.193247	WG359830-35	CCB		1		03/23/11 19:32
147	T1.032311.193622	WG359280-03	Method/Prep Blank	1/50	1		03/23/11 19:36
148	T1.032311.193954	WG359280-04	Laboratory Control S	1/50	1		03/23/11 19:39
149	T1.032311.194326	L11030416-37	8389-C0006	1.36/50	1		03/23/11 19:43
150	T1.032311.194651	L11030416-38	8389-C0007	1.34/50	1		03/23/11 19:46
151	T1.032311.195016	WG359533-01	Post Digestion Spike		1	L11030416-38	03/23/11 19:50
152	T1.032311.195339	WG359533-02	Serial Dilution		5	L11030416-38	03/23/11 19:53
153	T1.032311.195705	WG359533-02	Serial Dilution		25	L11030416-38	03/23/11 19:57
154	T1.032311.200034	L11030416-39	8389-C0008	1.458/50	1		03/23/11 20:00
155	T1.032311.200358	L11030416-40	8389-C0009	1.342/50	1		03/23/11 20:03
156	T1.032311.200724	L11030416-41	8389-C0010	1.428/50	1		03/23/11 20:07
157	T1.032311.201059	WG359830-36	CCV		1		03/23/11 20:10
158	T1.032311.201420	WG359830-37	CCB		1		03/23/11 20:14
159	T1.032311.201758	L11030416-42	8390-C0001	1.311/50	1		03/23/11 20:17
160	T1.032311.202122	L11030416-43	8390-C0002	1.311/50	1		03/23/11 20:21
161	T1.032311.202457	WG359280-01	Reference Sample		1	L11030416-44	03/23/11 20:24
162	T1.032311.202819	WG359280-05	Matrix Spike	1.36/50	1	L11030416-44	03/23/11 20:28
163	T1.032311.203143	WG359280-06	Matrix Spike Duplica	1.36/50	1	L11030416-44	03/23/11 20:31
164	T1.032311.203509	L11030416-47	8390-C0004	1.374/50	1		03/23/11 20:35
165	T1.032311.203834	L11030416-48	8438-C0001	1.352/50	1		03/23/11 20:38
166	T1.032311.204218	L11030417-01	8438-C0002	1.358/50	1		03/23/11 20:42
167	T1.032311.204543	L11030417-02	8438-C0003	1.366/50	1		03/23/11 20:45
168	T1.032311.204908	L11030417-03	8438-C0004	1.449/50	1		03/23/11 20:49
169	T1.032311.205242	WG359830-38	CCV		1		03/23/11 20:52
170	T1.032311.205603	WG359830-39	CCB		1		03/23/11 20:56

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Instrument Run Log

Instrument: ICP-THERMO1 Dataset: 032311.1R
Analyst1: PDM Analyst2: N/A
Method: 6010 SOP: ME600G Rev: 2
Maintenance Log ID: 36818

Calibration Std: STD44471 ICV Std: STD44098 Post Spike: STD39932
ICSA: STD44413 ICSAB: STD44368 Int. Std: STD44297
CCV: STD44355 LLCCV:

Workgroups: 359637,359681,359684,359605,359706,359533,359396,359757

Comments: Additional workgroup 359759
Sequences 279 through 311 were not reproted due to CCV failure.

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
171	T1.032311.205940	L11030417-04	8438-C0005	1.353/50	1		03/23/11 20:59
172	T1.032311.210305	L11030417-05	8438-C0006	1.396/50	1		03/23/11 21:03
173	T1.032311.210628	WG359280-02	Reference Sample		1	L11030417-06	03/23/11 21:06
174	T1.032311.210953	WG359280-07	Matrix Spike	1.358/50	1	L11030417-06	03/23/11 21:09
175	T1.032311.211319	WG359280-08	Matrix Spike Duplica	1.358/50	1	L11030417-06	03/23/11 21:13
176	T1.032311.211644	L11030417-09	8438-C0008	1.31/50	1		03/23/11 21:16
177	T1.032311.212010	L11030417-10	8438-C0009	1.322/50	1		03/23/11 21:20
178	T1.032311.212339	WG359830-40	CCV		1		03/23/11 21:23
179	T1.032311.212701	WG359830-41	CCB		1		03/23/11 21:27
180	T1.032311.213038	WG359268-02	Method/Prep Blank	1/50	1		03/23/11 21:30
181	T1.032311.213410	WG359268-03	Laboratory Control S	1/50	1		03/23/11 21:34
182	T1.032311.213742	L11030415-19	8281-C0011	1.343/50	1		03/23/11 21:37
183	T1.032311.214113	L11030415-20	8281-C0012	1.439/50	1		03/23/11 21:41
184	T1.032311.214446	WG359396-01	Post Digestion Spike		1	L11030415-20	03/23/11 21:44
185	T1.032311.214818	WG359396-02	Serial Dilution		5	L11030415-20	03/23/11 21:48
186	T1.032311.215144	WG359396-02	Serial Dilution		25	L11030415-20	03/23/11 21:51
187	T1.032311.215513	L11030415-21	8281-C0013	1.304/50	1		03/23/11 21:55
188	T1.032311.215844	L11030415-22	8281-C0014	1.409/50	1		03/23/11 21:58
189	T1.032311.220216	L11030415-23	8281-C0015	1.35/50	1		03/23/11 22:02
190	T1.032311.220601	WG359830-42	CCV		1		03/23/11 22:06
191	T1.032311.220923	WG359830-43	CCB		1		03/23/11 22:09
192	T1.032311.221258	L11030415-24	8281-C0016	1.352/50	1		03/23/11 22:12
193	T1.032311.221631	L11030415-25	8281-C0017	1.445/50	1		03/23/11 22:16
194	T1.032311.222002	L11030415-26	8281-C0018	1.34/50	1		03/23/11 22:20
195	T1.032311.222334	L11030415-27	8281-C0019	1.302/50	1		03/23/11 22:23
196	T1.032311.222711	L11030415-28	8354-C0001	1.467/50	1		03/23/11 22:27
197	T1.032311.223059	L11030415-29	8354-C0002	1.399/50	1		03/23/11 22:30
198	T1.032311.223432	L11030415-30	8354-C0003	1.31/50	1		03/23/11 22:34
199	T1.032311.223805	L11030415-31	8366-C0001	1.345/50	1		03/23/11 22:38
200	T1.032311.224139	L11030415-32	8366-C0002	1.345/50	1		03/23/11 22:41
201	T1.032311.224521	L11030415-33	8366-C0003	1.39/50	1		03/23/11 22:45
202	T1.032311.224903	WG359830-44	CCV		1		03/23/11 22:49
203	T1.032311.225225	WG359830-45	CCB		1		03/23/11 22:52
204	T1.032311.225603	L11030415-34	8366-C0004	1.42/50	1		03/23/11 22:56

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-THERMO1 Dataset: 032311.1R
Analyst1: PDM Analyst2: N/A
Method: 6010 SOP: ME600G Rev: 2
Maintenance Log ID: 36818

Calibration Std: STD44471 ICV Std: STD44098 Post Spike: STD39932
ICSA: STD44413 ICSAB: STD44368 Int. Std: STD44297
CCV: STD44355 LLCCV:

Workgroups: 359637,359681,359684,359605,359706,359533,359396,359757

Comments: Additional workgroup 359759
Sequences 279 through 311 were not reproted due to CCV failure.

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
205	T1.032311.225936	L11030415-35	8366-C0005	1.475/50	1		03/23/11 22:59
206	T1.032311.230311	WG359268-01	Reference Sample		1	L11030415-36	03/23/11 23:03
207	T1.032311.230653	WG359268-04	Matrix Spike	1.446/50	1	L11030415-36	03/23/11 23:06
208	T1.032311.231026	WG359268-05	Matrix Spike Duplica	1.446/50	1	L11030415-36	03/23/11 23:10
209	T1.032311.231359	L11030415-39	8366-C0007	1.315/50	1		03/23/11 23:13
210	T1.032311.231742	L11030415-40	8366-C0008	1.339/50	1		03/23/11 23:17
211	T1.032311.232131	WG359830-46	CCV		1		03/23/11 23:21
212	T1.032311.232452	WG359830-47	CCB		1		03/23/11 23:24
213	T1.032311.232831	WG359298-03	Method/Prep Blank	1/50	1		03/23/11 23:28
214	T1.032311.233204	WG359298-04	Laboratory Control S	1/50	1		03/23/11 23:32
215	T1.032311.233535	L11030417-33	8839-C0012	1.417/50	1		03/23/11 23:35
216	T1.032311.233901	WG359757-01	Post Digestion Spike		1	L11030417-33	03/23/11 23:39
217	T1.032311.234224	WG359757-02	Serial Dilution		5	L11030417-33	03/23/11 23:42
218	T1.032311.234553	WG359757-02	Serial Dilution		25	L11030417-33	03/23/11 23:45
219	T1.032311.234922	L11030417-34	8839-C0013	1.396/50	1		03/23/11 23:49
220	T1.032311.235249	L11030417-35	8839-C0014	1.458/50	1		03/23/11 23:52
221	T1.032311.235615	L11030417-36	8839-C0015	1.383/50	1		03/23/11 23:56
222	T1.032311.235941	WG359298-01	Reference Sample		1	L11030417-37	03/23/11 23:59
223	T1.032411.000310	WG359830-48	CCV		1		03/24/11 00:03
224	T1.032411.000631	WG359830-49	CCB		1		03/24/11 00:06
225	T1.032411.001010	WG359298-05	Matrix Spike	1.375/50	1	L11030417-37	03/24/11 00:10
226	T1.032411.001337	WG359298-06	Matrix Spike Duplica	1.375/50	1	L11030417-37	03/24/11 00:13
227	T1.032411.001703	L11030417-40	8839-C0017	1.47/50	1		03/24/11 00:17
228	T1.032411.002029	L11030417-41	8839-C0018	1.482/50	1		03/24/11 00:20
229	T1.032411.002355	L11030417-42	8839-C0019	1.394/50	1		03/24/11 00:23
230	T1.032411.002722	L11030417-43	8839-C0020	1.406/50	1		03/24/11 00:27
231	T1.032411.003047	L11030417-44	8839-C0021	1.33/50	1		03/24/11 00:30
232	T1.032411.003414	L11030417-45	8839-C0022	1.346/50	1		03/24/11 00:34
233	T1.032411.003739	L11030417-46	8839-C0023	1.303/50	1		03/24/11 00:37
234	T1.032411.004106	WG359298-02	Reference Sample		1	L11030417-47	03/24/11 00:41
235	T1.032411.004435	WG359830-50	CCV		1		03/24/11 00:44
236	T1.032411.004757	WG359830-51	CCB		1		03/24/11 00:47
237	T1.032411.005135	WG359298-07	Matrix Spike	1.369/50	1	L11030417-47	03/24/11 00:51
238	T1.032411.005501	WG359298-08	Matrix Spike Duplica	1.369/50	1	L11030417-47	03/24/11 00:55

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-THERMO1 Dataset: 032311.1R
Analyst1: PDM Analyst2: N/A
Method: 6010 SOP: ME600G Rev: 2
Maintenance Log ID: 36818

Calibration Std: STD44471 ICV Std: STD44098 Post Spike: STD39932
ICSA: STD44413 ICSAB: STD44368 Int. Std: STD44297
CCV: STD44355 LLCCV:

Workgroups: 359637,359681,359684,359605,359706,359533,359396,359757

Comments: Additional workgroup 359759
Sequences 279 through 311 were not reproted due to CCV failure.

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
239	T1.032411.005827	L11030418-02	8839-C0025	1.351/50	1		03/24/11 00:58
240	T1.032411.010208	L11030418-03	8839-C0026	1.385/50	1		03/24/11 01:02
241	T1.032411.010534	L11030418-04	8839-C0027	1.382/50	1		03/24/11 01:05
242	T1.032411.010859	L11030418-05	8839-C0028	1.358/50	1		03/24/11 01:08
243	T1.032411.011233	L11030418-06	8839-C0029	1.3/50	1		03/24/11 01:12
244	T1.032411.011605	WG359830-52	CCV		1		03/24/11 01:16
245	T1.032411.011927	WG359830-53	CCB		1		03/24/11 01:19
246	T1.032411.012304	WG359349-02	Method/Prep Blank	1/50	1		03/24/11 01:23
247	T1.032411.012637	WG359349-03	Laboratory Control S	1/50	1		03/24/11 01:26
248	T1.032411.013010	L11030423-02	14084-C0009		1	WG359349-01	03/24/11 01:30
249	T1.032411.013336	L11030423-03	14084-C0009-MS	1.358/50	1	WG359349-04	03/24/11 01:33
250	T1.032411.013703	L11030423-04	14084-C0009-MSD	1.358/50	1	WG359349-05	03/24/11 01:37
251	T1.032411.014029	L11030423-07	14084-C0012	1.442/50	1		03/24/11 01:40
252	T1.032411.014356	WG359759-01	Post Digestion Spike		1	L11030423-07	03/24/11 01:43
253	T1.032411.014719	WG359759-02	Serial Dilution		5	L11030423-07	03/24/11 01:47
254	T1.032411.015045	WG359759-02	Serial Dilution		25	L11030423-07	03/24/11 01:50
255	T1.032411.015415	L11030423-08	14084-C0013	1.335/50	1		03/24/11 01:54
256	T1.032411.015748	WG359830-54	CCV		1		03/24/11 01:57
257	T1.032411.020111	WG359830-55	CCB		1		03/24/11 02:01
258	T1.032411.020447	L11030423-09	14084-C0014	1.379/50	1		03/24/11 02:04
259	T1.032411.020813	L11030423-10	14084-C0015	1.372/50	1		03/24/11 02:08
260	T1.032411.021139	L11030423-11	14084-C0016	1.326/50	1		03/24/11 02:11
261	T1.032411.021504	L11030423-12	14084-C0017	1.312/50	1		03/24/11 02:15
262	T1.032411.021831	L11030423-13	14084-C0018	1.328/50	1		03/24/11 02:18
263	T1.032411.022157	L11030423-14	14084-C0019	1.386/50	1		03/24/11 02:21
264	T1.032411.022523	L11030423-15	14084-C0020	1.324/50	1		03/24/11 02:25
265	T1.032411.022850	L11030423-16	14084-C0021	1.411/50	1		03/24/11 02:28
266	T1.032411.023216	L11030423-17	14084-C0022	1.387/50	1		03/24/11 02:32
267	T1.032411.023543	L11030423-18	14084-C0023	1.407/50	1		03/24/11 02:35
268	T1.032411.023910	WG359830-56	CCV		1		03/24/11 02:39
269	T1.032411.024233	WG359830-57	CCB		1		03/24/11 02:42
270	T1.032411.024612	L11030423-19	14084-C0024	1.41/50	1		03/24/11 02:46
271	T1.032411.024938	L11030423-20	14084-C0025	1.394/50	1		03/24/11 02:49
272	T1.032411.025304	L11030423-21	14084-C0026	1.334/50	1		03/24/11 02:53

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-THERMO1 Dataset: 032311.1R
Analyst1: PDM Analyst2: N/A
Method: 6010 SOP: ME600G Rev: 2
Maintenance Log ID: 36818

Calibration Std: STD44471 ICV Std: STD44098 Post Spike: STD39932
ICSA: STD44413 ICSAB: STD44368 Int. Std: STD44297
CCV: STD44355 LLCCV:

Workgroups: 359637,359681,359684,359605,359706,359533,359396,359757

Comments: Additional workgroup 359759
Sequences 279 through 311 were not reproted due to CCV failure.

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
273	T1.032411.025631	L11030423-22	14084-C0027	1.308/50	1		03/24/11 02:56
274	T1.032411.025957	L11030423-23	14084-C0028	1.318/50	1		03/24/11 02:59
275	T1.032411.030324	L11030423-24	14084-C0029	1.324/50	1		03/24/11 03:03
276	T1.032411.030650	L11030423-25	14084-C0030	1.326/50	1		03/24/11 03:06
277	T1.032411.031021	WG359830-58	CCV		1		03/24/11 03:10
278	T1.032411.031344	WG359830-59	CCB		1		03/24/11 03:13
279	T1.032411.031726	WG359356-02	Method/Prep Blank		1		03/24/11 03:17
280	T1.032411.032102	WG359356-03	Laboratory Control S		1		03/24/11 03:21
281	T1.032411.032435	L11030423-26	14084-C0031		1		03/24/11 03:24
282	T1.032411.032808	WG359760-01	Post Digestion Spike		1	L11030423-26	03/24/11 03:28
283	T1.032411.033140	WG359760-02	Serial Dilution		5	L11030423-26	03/24/11 03:31
284	T1.032411.033508	WG359760-02	Serial Dilution		25	L11030423-26	03/24/11 03:35
285	T1.032411.033839	WG359356-01	Reference Sample		1	L11030423-27	03/24/11 03:38
286	T1.032411.034220	WG359356-04	Matrix Spike		1	L11030423-27	03/24/11 03:42
287	T1.032411.034601	WG359356-05	Matrix Spike Duplica		1	L11030423-27	03/24/11 03:46
288	T1.032411.034934	L11030423-30	14084-C0033		1		03/24/11 03:49
289	T1.032411.035319	WG359830-60	CCV		1		03/24/11 03:53
290	T1.032411.035652	WG359830-61	CCB		1		03/24/11 03:56
291	T1.032411.040035	L11030423-31	14084-C0034		1		03/24/11 04:00
292	T1.032411.040409	L11030423-32	14084-C0035		1		03/24/11 04:04
293	T1.032411.040744	L11030423-33	14084-C0036		1		03/24/11 04:07
294	T1.032411.041118	L11030423-34	14084-C0037		1		03/24/11 04:11
295	T1.032411.041452	L11030423-35	14084-C0038		1		03/24/11 04:14
296	T1.032411.041826	L11030423-36	14084-C0039		1		03/24/11 04:18
297	T1.032411.042202	L11030423-37	14084-C0040		1		03/24/11 04:22
298	T1.032411.042537	L11030423-38	14084-C0041		1		03/24/11 04:25
299	T1.032411.042912	L11030423-39	14084-C0042		1		03/24/11 04:29
300	T1.032411.043246	L11030423-40	14084-C0043		1		03/24/11 04:32
301	T1.032411.043631	WG359830-62	CCV		1		03/24/11 04:36
302	T1.032411.043954	WG359830-63	CCB		1		03/24/11 04:39
303	T1.032411.044334	L11030423-41	14084-C0044		1		03/24/11 04:43
304	T1.032411.044708	L11030423-42	14084-C0045		1		03/24/11 04:47
305	T1.032411.045042	L11030423-43	14084-C0046		1		03/24/11 04:50
306	T1.032411.045416	L11030423-44	14084-C0047		1		03/24/11 04:54

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-THERMO1 Dataset: 032311.1R
Analyst1: PDM Analyst2: N/A
Method: 6010 SOP: ME600G Rev: 2
Maintenance Log ID: 36818

Calibration Std: STD44471 ICV Std: STD44098 Post Spike: STD39932
ICSA: STD44413 ICSAB: STD44368 Int. Std: STD44297
CCV: STD44355 LLCCV:

Workgroups: 359637,359681,359684,359605,359706,359533,359396,359757

Comments: Additional workgroup 359759
Sequences 279 through 311 were not reproted due to CCV failure.

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
307	T1.032411.045749	L11030423-45	14084-C0048		1		03/24/11 04:57
308	T1.032411.050122	L11030423-46	14084-C0049		1		03/24/11 05:01
309	T1.032411.050456	L11030423-47	14084-C0050		1		03/24/11 05:04
310	T1.032411.050836	WG359830-64	CCV		1		03/24/11 05:08
311	T1.032411.051158	WG359830-65	CCB		1		03/24/11 05:11

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Microbac Laboratories Inc.

Data Checklist

Date: 23-MAR-2011
Analyst: PDM
Analyst: NA
Method: 6010
Instrument: ICP-THERMO1
Curve Workgroup: 359830
Runlog ID: 39644
Analytical Workgroups: 359637,359681,359684,359605,359706,359533,359396,359757

Additional Workgroup	359759
Calibration/Linearity	X
ICV/CCV	X
ICB/CCB	X
ICSA/ICSAB	X
CRI	
Blank/LCS	X
MS/MSD	X
Post Spike/Serial Dilution	X
Upload Results	X
Data Qualifiers	
Generate PDF Instrument Data	X
Sign/Annotate PDF Data	X
Upload Curve Data	X
Workgroup Forms	X
Case Narrative	0226,0225,0568,0701,0570,0715,0612
	0721,0665,0416,0417,0415,0418,0423
Client Forms	X
Level X	
Level 3	0612
Level 4	0226,0225,0568,0701,0570,0715
	0721,0665,0416,0417,0415,0418,0423
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	PDM
Secondary Reviewer	SLP
Comments	

Primary Reviewer:
24-MAR-2011
Pierce Morris

Secondary Reviewer:
24-MAR-2011
Sheri L. Pabgrat

CHECKLIST1 - Modified 03/05/2008
Generated: MAR-24-2011 16:21:53

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 6010B

AAB#: WG359706

Login Number: L11030665

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
SR001A	01	03/16/11					03/23/11	6.8	180		03/23/11	7.3	180	
SR001AMS	02	03/16/11					03/23/11	6.8	180		03/23/11	7.3	180	
SR001AMSD	03	03/16/11					03/23/11	6.8	180		03/23/11	7.3	180	
SR003A	04	03/16/11					03/23/11	6.8	180		03/23/11	7.3	180	
SR004A	05	03/16/11					03/23/11	6.8	180		03/23/11	7.3	180	
SR008A	06	03/16/11					03/23/11	6.8	180		03/23/11	7.3	180	
SR010A	07	03/16/11					03/23/11	6.8	180		03/23/11	7.3	180	
SR016A	08	03/16/11					03/23/11	6.7	180		03/23/11	7.2	180	
SR020A	09	03/16/11					03/23/11	6.7	180		03/23/11	7.2	180	
SR024A	10	03/16/11					03/23/11	6.7	180		03/23/11	7.2	180	
SR027A	11	03/16/11					03/23/11	6.7	180		03/23/11	7.2	180	
SR027ADUP	12	03/16/11					03/23/11	6.7	180		03/23/11	7.2	180	
SR032A	13	03/16/11					03/23/11	6.6	180		03/23/11	7.2	180	
SR034A	14	03/16/11					03/23/11	6.6	180		03/23/11	7.2	180	
SR034ADUP	15	03/16/11					03/23/11	6.6	180		03/23/11	7.2	180	
SR037A	16	03/16/11					03/23/11	6.6	180		03/23/11	7.2	180	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 1952716
Report generated 03/24/2011 12:37

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L11030665
Blank File ID: T1.032311.173913
Prep Date: 03/23/11 06:22
Analyzed Date: 03/23/11 17:39
Analyst: PDM

Work Group: WG359706
Blank Sample ID: WG359654-02
Instrument ID: ICP-THERMO1
Method: 6010B

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG359654-03	T1.032311.174246	03/23/11 17:42	01
SR001A	L11030665-01	T1.032311.180048	03/23/11 18:00	01
SR001AMS	L11030665-02	T1.032311.180420	03/23/11 18:04	01
SR001AMSD	L11030665-03	T1.032311.180749	03/23/11 18:07	01
SR003A	L11030665-04	T1.032311.181817	03/23/11 18:18	01
SR004A	L11030665-05	T1.032311.183215	03/23/11 18:32	01
SR008A	L11030665-06	T1.032311.183548	03/23/11 18:35	01
SR010A	L11030665-07	T1.032311.183920	03/23/11 18:39	01
SR016A	L11030665-08	T1.032311.184252	03/23/11 18:42	01
SR020A	L11030665-09	T1.032311.184624	03/23/11 18:46	01
SR024A	L11030665-10	T1.032311.184958	03/23/11 18:49	01
SR027A	L11030665-11	T1.032311.190035	03/23/11 19:00	01
SR027ADUP	L11030665-12	T1.032311.190417	03/23/11 19:04	01
SR032A	L11030665-13	T1.032311.190757	03/23/11 19:07	01
SR034A	L11030665-14	T1.032311.191130	03/23/11 19:11	01
SR034ADUP	L11030665-15	T1.032311.191503	03/23/11 19:15	01
SR037A	L11030665-16	T1.032311.191836	03/23/11 19:18	01

Report Name: BLANK_SUMMARY
PDF File ID: 1952717
Report generated 03/24/2011 12:37

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L11030665 Prep Date: 03/23/11 06:22 Sample ID: WG359654-02
Instrument ID: ICP-THERMO1 Run Date: 03/23/11 17:39 Prep Method: 3051A
File ID: T1.032311.173913 Analyst: PDM Method: 6010B
Workgroup (AAB#): WG359706 Matrix: Soil Units: mg/kg
Contract #: Cal ID: ICP-TH-23-MAR-11

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Lead, Total	0.500	1.00	0.500	1	U

LOD Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name: BLANK
PDF ID: 1952718
24-MAR-2011 12:37

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L11030665 Run Date: 03/23/2011 Sample ID: WG359654-03
Instrument ID: ICP-THERMO1 Run Time: 17:42 Prep Method: 3051A
File ID: T1.032311.174246 Analyst: PDM Method: 6010B
Workgroup (AAB#): WG359706 Matrix: Soil Units: mg/kg
QC Key: DOD4 Lot#: STD39933 Cal ID: ICP-TH-23-MAR-11

Analytes	Expected	Found	% Rec	LCS Limits	Q
Lead, Total	12.5	12.4	99.1	80 - 120	

LCS - Modified 03/06/2008
PDF File ID: 1952719
Report generated: 03/24/2011 12:37

Microbac Laboratories Inc.

MS/MSD REPORT

Loginnum: L11030665 Cal ID: ICP-THERMO1- 23-MAR-11 Worknum: WG359706

Instrument ID: ICP-THERMO1 Contract #: Prep Method: 3051A

Parent ID: L11030665-01 File ID: T1.032311.180048 Dil: 1 Method: 6010B

Sample ID: L11030665-02 MS File ID: T1.032311.180420 Dil: 1 Matrix: Soil

Sample ID: L11030665-03 MSD File ID: T1.032311.180749 Dil: 1 Units: mg/kg

Percent Solid: 94.2

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Lead, Total	10.4	10.1	19.9	94.6	10.1	19.1	87.1	3.90	80 - 120	20	

* FAILS %REC LIMIT

\# FAILS RPD LIMIT

MS_MSD - Modified 03/06/2008
PDF File ID: 1952720
Report generated 03/24/2011 12:37

Microbac Laboratories Inc.
Serial Dilution Report

Login: L11030665 **Worknum:** WG359706
Instrument: ICP-THERMO1 **Method:** 6010B
Serial Dil: WG359706-02 **File ID:** T1.032311.182521 **Dil:** 5 **Units:** mg/L
Sample: L11030665-04 **File ID:** T1.032311.181817 **Dil:** 1

Analyte	Sample	Qual	Serial Dil	Qual	% Diff	Q
Lead	.172	X	.171	X	0.58	

U = Result is below MDL.
F = Result is greater than or equal to MDL and less than the RL.
X = Result is greater than or equal to RL and less than 50 times the MDL.
E = %D exceeds control limit of 10% and initial sample result is greater than or equal to 50 times the MDL.

SERIAL_DIL - Modified 09/22/2008
PDF File ID: 1952714
03/24/2011 12:37

Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L11030665 **Worknum:** WG359706
Instrument ID: ICP-THERMO1 **Method:** 6010B
Post Spike ID: WG359706-01 **File ID:** T1.032311.182150 **Dil:** 1 **Units:** mg/L
Sample ID: L11030665-04 **File ID:** T1.032311.181817 **Dil:** 1 **Matrix:** Soil

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
LEAD	0.396		0.172		.25	96.7	75 - 125	

N = % Recovery exceeds control limits
F = Result is between MDL and RL
U = Sample result is below MDL. A value of zero is used in the calculation

POST_SPIKE - Modified 03/06/2008
PDF File ID: 1952715
Report generated: 03/24/2011 12:37

Microbac Laboratories Inc.
Initial Calibration Summary

Login:	**L11030665**	Workgroup (AAB#):	**WG359706**
Analytical Method:	**6010B**	Instrument ID:	**ICP-THERMO1**
ICAL Worknum:	**WG359830**	Initial Calibration Date:	**23-MAR-2011 11:07**

	WG359830-01		WG359830-02		WG359830-03		WG359830-04		WG359830-05			
	Conc	INT	Conc	INT	Conc	INT	Conc	INT	Conc	INT	R	Q
LEAD	0	-0.0000700	.005	-0.0000300	.01	0.0000300	.5	0.00934	1	0.0185	.998638	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
*** = Out of Compliance; R < 0.995**

INT_CAL_ICP - Modified 03/06/2008
PDF File ID: 1952724
Report generated: 24-MAR-2011 12:37

Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L11030665
Instrument ID: ICP-THERMO1
File ID: T1.032311.111434
Workgroup (AAB#): WG359706
Matrix: SOIL

Run Date: 03/23/2011
Run Time: 11:14
Analyst: PDM
Cal ID: ICP-THERI - 23-MAR-11

Sample ID: WG359830-07
Method: 6010B
Units: mg/L

Analytes	MDL	RDL	Concentration	Qualifier
LEAD	.01	.02	.01	U

U = Result is less than 2 x MDL

F = Result is between MDL and 2 x MDL

* = Result is above 2 x MDL

ICB - Modified 07/14/2009
PDF File ID: 1952726
Report generated 03/24/2011 12:37

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L11030665 Run Date: 03/23/2011 Sample ID: WG359830-11

Instrument ID: ICP-THERMO1 Run Time: 11:28 Method: 6010B

File ID: T1.032311.112837 Analyst: PDM Units: mg/L

Workgroup (AAB#): WG359706 Cal ID: ICP-TH - 23-MAR-11

Matrix: SOIL QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Lead	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 1952729
Report generated 03/24/2011 12:37

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L11030665
Run Date: 03/23/2011
Sample ID: WG359830-29
Instrument ID: ICP-THERMO1
Run Time: 17:35
Method: 6010B
File ID: T1.032311.173540
Analyst: PDM
Units: mg/L
Workgroup (AAB#): WG359706
Cal ID: ICP-TH - 23-MAR-11
Matrix: SOIL
QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Lead	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 1952729
Report generated 03/24/2011 12:37

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L11030665
Run Date: 03/23/2011
Sample ID: WG359830-31
Instrument ID: ICP-THERMO1
Run Time: 18:14
Method: 6010B
File ID: T1.032311.181442
Analyst: PDM
Units: mg/L
Workgroup (AAB#): WG359706
Cal ID: ICP-TH - 23-MAR-11
Matrix: SOIL
QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Lead	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 1952729
Report generated 03/24/2011 12:37

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L11030665
Run Date: 03/23/2011
Sample ID: WG359830-33
Instrument ID: ICP-THERMO1
Run Time: 18:56
Method: 6010B
File ID: T1.032311.185658
Analyst: PDM
Units: mg/L
Workgroup (AAB#): WG359706
Cal ID: ICP-TH - 23-MAR-11
Matrix: SOIL
QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Lead	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 1952729
Report generated 03/24/2011 12:37

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L11030665
Run Date: 03/23/2011
Sample ID: WG359830-35
Instrument ID: ICP-THERMO1
Run Time: 19:32
Method: 6010B
File ID: T1.032311.193247
Analyst: PDM
Units: mg/L
Workgroup (AAB#): WG359706
Cal ID: ICP-TH - 23-MAR-11
Matrix: SOIL
QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Lead	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 1952729
Report generated 03/24/2011 12:37

Microbac Laboratories Inc.

INITIAL CALIBRATION VERIFICATION (ICV)
(Alternate Source)

Login Number: L11030665 Run Date: 03/23/2011 Sample ID: WG359830-06
Instrument ID: ICP-THERMO1 Run Time: 11:11 Method: 6010B
File ID: T1.032311.111112 Analyst: PDM Units: mg/L
Workgroup (AAB#): WG359706 Cal ID: ICP-TH - 23-MAR-11
QC Key: DOD4

Analyte		Expected	Found	%REC	LIMITS	Q
Lead		.5	0.503	101	90 - 110	

* Exceeds LIMITS Limit

ICV - Modified 03/06/2008
PDF File ID: 1952725
Report generated 03/24/2011 12:37

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11030665
Run Date: 03/23/2011
Sample ID: WG359830-10
Instrument ID: ICP-THERMO1
Run Time: 11:25
Method: 6010B
File ID: T1.032311.112516
Analyst: PDM
QC Key: DOD4
Workgroup (AAB#): WG359706
Cal ID: ICP-TH - 23-MAR-11
Matrix: SOIL

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Lead		0.500	0.503	mg/L	101	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 1952728
Report generated 03/24/2011 12:37

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11030665
Run Date: 03/23/2011
Sample ID: WG359830-28
Instrument ID: ICP-THERMO1
Run Time: 17:32
Method: 6010B
File ID: T1.032311.173219
Analyst: PDM
QC Key: DOD4
Workgroup (AAB#): WG359706
Cal ID: ICP-TH - 23-MAR-11
Matrix: SOIL

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Lead		0.500	0.507	mg/L	101	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 1952728
Report generated 03/24/2011 12:37

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11030665
Run Date: 03/23/2011
Sample ID: WG359830-30
Instrument ID: ICP-THERMO1
Run Time: 18:11
Method: 6010B
File ID: T1.032311.181121
Analyst: PDM
QC Key: DOD4
Workgroup (AAB#): WG359706
Cal ID: ICP-TH - 23-MAR-11
Matrix: SOIL

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Lead		0.500	0.509	mg/L	102	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 1952728
Report generated 03/24/2011 12:37

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11030665
Run Date: 03/23/2011
Sample ID: WG359830-32
Instrument ID: ICP-THERMO1
Run Time: 18:53
Method: 6010B
File ID: T1.032311.185337
Analyst: PDM
QC Key: DOD4
Workgroup (AAB#): WG359706
Cal ID: ICP-TH - 23-MAR-11
Matrix: SOIL

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Lead		0.500	0.518	mg/L	104	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 1952728
Report generated 03/24/2011 12:37

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11030665
Run Date: 03/23/2011
Sample ID: WG359830-34
Instrument ID: ICP-THERMO1
Run Time: 19:29
Method: 6010B
File ID: T1.032311.192930
Analyst: PDM
QC Key: DOD4
Workgroup (AAB#): WG359706
Cal ID: ICP-TH - 23-MAR-11
Matrix: SOIL

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Lead		0.500	0.509	mg/L	102	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 1952728
Report generated 03/24/2011 12:37

Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L11030665
Instrument ID: ICP-THERMO1
Sol. A : WG359830-08 **File ID:** T1.032311.111805
Sol. AB : WG359830-09 **File ID:** T1.032311.112139

Workgroup (AAB#): WG359706
Method: 6010B
Units: mg/L
Matrix: Soil

	Sol. A			Sol. AB			
ANALYTE	True	Found	%Recovery	True	Found	%Recovery	Q
Lead	NS	0.000680	NS	0.500	0.494	98.8	

NS = Not spiked
*** = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.**
 # = Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).
+ = Result for unspiked element is outside the acceptance limits of (+/-) 2 times the project method detection limit (MDL). This criteria is only applicable to specific QAPPs.

ICS - Modified 03/06/2008
PDF File ID: 1952727
Report generated 03/24/2011 12:37

Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L11030665 **Date:** 01/21/2011
Insturment ID: ICP-THERMO1 **Method:** 6010B

Analyte	Wave Length	AL	AS	B	BA	BE
ALUMINUM	308.20	0	0	0	0	0
ANTIMONY	206.80	0.0000190	0	0	0	0
ARSENIC	189.00	0	0	0	0	0
BARIUM	455.40	0	0	0	0	0
BERYLLIUM	313.00	0	0	0	0	0
BORON	249.70	0	0	0	0	0
CADMIUM	228.80	0	0.00200	0	-0.0000800	0
CALCIUM	422.70	0	0	0	0	0
CHROMIUM	267.70	0	0	0	0	0
COBALT	228.60	0	0	0	0	0
COPPER	224.70	0	0	0	0	0
IRON	261.20	0	0	0	0	0
LEAD	220.30	0.000280	0	0	0	0
LITHIUM	670.80	0	0	0	0	0
MAGNESIUM	279.10	0	0	0	0	0
MANGANESE	257.60	0	0	0	0	0
MOLYBDENUM	202.03	0	0	0	0	0
NICKEL	231.60	0	0	0	0	0
POTASSIUM	766.40	0	0	0	0	0
SELENIUM	196.00	-0.00000200	0	0	0	0
SILICON	212.40	0	0	0	0	0
SILVER	328.00	0	0	0	0	0
SODIUM	589.50	0	0	0	0	0
STRONTIUM	407.80	0	0	0	0	0
THALLIUM	190.80	-0.0000120	0	0	0	0
TIN	189.90	0	0	0	0	0
TITANIUM	337.30	0	0	0	0	0
VANADIUM	292.40	0	0	0	0	0
ZINC	206.20	0.0000200	0	0	0	0

CORR_FACTORS - Modified 03/05/2008
PDF File ID: 1952723
Report generated: 03/24/2011 12:37

Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L11030665 **Date:** 01/21/2011
Insturment ID: ICP-THERMO1 **Method:** 6010B

Analyte	Wave Length	CA	CO	CR	CU	FE
ALUMINUM	308.20	0	-0.000820	0	0	0
ANTIMONY	206.80	0	0	0.00650	0	0.0000560
ARSENIC	189.00	0	0	0.000490	0	-0.0000300
BARIUM	455.40	0	0	0	0	0
BERYLLIUM	313.00	0	0	0	0	0
BORON	249.70	0	0.00343	0	0	-0.000619
CADMIUM	228.80	0	-0.00210	0	0	0.000000100
CALCIUM	422.70	0	0	0	0	0
CHROMIUM	267.70	0	0	0	0	0.0000550
COBALT	228.60	0	0	-0.000200	0	0
COPPER	224.70	0	0.0000770	0	0	0.000750
IRON	261.20	0	0	-0.00100	0	0
LEAD	220.30	0	-0.0000130	-0.000132	0.000609	0
LITHIUM	670.80	0	0	0	0	0
MAGNESIUM	279.10	0	0	0	0	0
MANGANESE	257.60	0	0	-0.0000920	0	0
MOLYBDENUM	202.03	0	0	0	0	0
NICKEL	231.60	0	-0.000500	0	0	0.0000320
POTASSIUM	766.40	0	0	0	0	0
SELENIUM	196.00	0	0	0	0	0
SILICON	212.40	0	0	0	0	0
SILVER	328.00	0	0	0	0	0
SODIUM	589.50	0	0	0	0	0
STRONTIUM	407.80	0.0000550	0	0	0	0
THALLIUM	190.80	0	0.00297	0.000276	0	0
TIN	189.90	0	0	0	0	0
TITANIUM	337.30	0	0	0	0	0
VANADIUM	292.40	0	0	-0.00138	0	-0.0000300
ZINC	206.20	0	0	-0.000800	0	0

CORR_FACTORS - Modified 03/05/2008
PDF File ID: 1952723
Report generated: 03/24/2011 12:37

Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L11030665 **Date:** 01/21/2011
Insturment ID: ICP-THERMO1 **Method:** 6010B

Analyte	Wave Length	LI	MG	MN	MO	NA
ALUMINUM	308.20	0	0	0	0.0163	0
ANTIMONY	206.80	0	0	0	0.000670	0
ARSENIC	189.00	0	0	0	0.00139	0
BARIUM	455.40	0	0	0	0	0
BERYLLIUM	313.00	0	0	0	0	0
BORON	249.70	0	0	0	-0.00190	0
CADMIUM	228.80	0	0	0	0.0000320	0
CALCIUM	422.70	0	0	0	0	0
CHROMIUM	267.70	0	0	0.00475	0	0
COBALT	228.60	0	0	0	-0.000983	0
COPPER	224.70	0	0	0	0.00200	0
IRON	261.20	0	0	0	0	0
LEAD	220.30	0	0	0	-0.00280	0
LITHIUM	670.80	0	0	0	0	0
MAGNESIUM	279.10	0	0	-0.00190	-0.0130	0
MANGANESE	257.60	0	0.0000190	0	0	0
MOLYBDENUM	202.03	0	0	0	0	0
NICKEL	231.60	0	0	0	0	0
POTASSIUM	766.40	0	0	0	0	0
SELENIUM	196.00	0	0	0.000800	0.000156	0
SILICON	212.40	0	0	0	0.0187	0
SILVER	328.00	0	0	0	-0.0000440	0
SODIUM	589.50	0	0	0	0	0
STRONTIUM	407.80	0	0	0	0	0
THALLIUM	190.80	0	0	0.00100	0	0
TIN	189.90	0	0	0	0	0
TITANIUM	337.30	0	0	0	-0.000153	0
VANADIUM	292.40	0	0	-0.000110	-0.00778	0
ZINC	206.20	0	0	0	0	0

CORR_FACTORS - Modified 03/05/2008
PDF File ID: 1952723
Report generated: 03/24/2011 12:37

Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L11030665 **Date:** 01/21/2011
Insturment ID: ICP-THERMO1 **Method:** 6010B

Analyte	Wave Length	NI	PB	SB	SN	SR
ALUMINUM	308.20	0	0	0	0	0
ANTIMONY	206.80	0	0	0	-0.00840	0
ARSENIC	189.00	0	0	0	0	0
BARIUM	455.40	0	0	0	0	0
BERYLLIUM	313.00	0	0	0	0	0
BORON	249.70	0	0	0	0	0
CADMIUM	228.80	-0.000128	0	0	0	0
CALCIUM	422.70	0	0	0	0	0
CHROMIUM	267.70	0	0	0	0	0
COBALT	228.60	0.000175	0	0	0	0
COPPER	224.70	-0.0120	0.00300	0	0	0
IRON	261.20	0	0	0	0	0
LEAD	220.30	0.000110	0	0	0	0
LITHIUM	670.80	0	0	0	0	0
MAGNESIUM	279.10	0	0	0	0	0
MANGANESE	257.60	0	0	0	0	0
MOLYBDENUM	202.03	0	0	0	0	0
NICKEL	231.60	0	0	0	0	0
POTASSIUM	766.40	0	0	0	0	0
SELENIUM	196.00	0	0	0	0	0
SILICON	212.40	0	0	0	0	0
SILVER	328.00	0	0	0	0	0
SODIUM	589.50	0	0	0	0	0
STRONTIUM	407.80	0	0	0	0	0
THALLIUM	190.80	0	0	0	0	0
TIN	189.90	0	0	0	0	0
TITANIUM	337.30	0	0	0	0	0
VANADIUM	292.40	0	0	0	0	0
ZINC	206.20	0	0	0	0	0

CORR_FACTORS - Modified 03/05/2008
PDF File ID: 1952723
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Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L11030665 **Date:** 01/21/2011
Insturment ID: ICP-THERMO1 **Method:** 6010B

Analyte	Wave Length	TI	V	ZN
ALUMINUM	308.20	0	0.00300	0
ANTIMONY	206.80	-0.00199	-0.00438	0
ARSENIC	189.00	0	0.000107	0
BARIUM	455.40	0	0	0
BERYLLIUM	313.00	-0.000770	0.00170	0
BORON	249.70	0	0	0
CADMIUM	228.80	0	0.000102	0
CALCIUM	422.70	0	0	0
CHROMIUM	267.70	0.0000550	0	0
COBALT	228.60	0.00158	0.0000200	0
COPPER	224.70	0.000269	0	0
IRON	261.20	0	0	0
LEAD	220.30	0	-0.000126	0
LITHIUM	670.80	0	0	0
MAGNESIUM	279.10	-0.00290	0	0
MANGANESE	257.60	0	0	0
MOLYBDENUM	202.03	0	-0.000110	0
NICKEL	231.60	0	0	0
POTASSIUM	766.40	0	0	0
SELENIUM	196.00	0	0	0
SILICON	212.40	0	0	0
SILVER	328.00	-0.00620	-0.00617	0
SODIUM	589.50	0	0	0
STRONTIUM	407.80	0	0	0
THALLIUM	190.80	-0.00170	-0.00116	0
TIN	189.90	-0.00190	0	0
TITANIUM	337.30	0	0	0
VANADIUM	292.40	0.000600	0	0
ZINC	206.20	0	0	0

CORR_FACTORS - Modified 03/05/2008
PDF File ID: 1952723
Report generated: 03/24/2011 12:37

Microbac Laboratories Inc.
LINEAR RANGE (QUARTERLY)

Login Number: L11030665 **Date:** 12/13/2010
Insturment ID: ICP-THERMO1 **Method:** 6010B

Analyte	Integration Time (Sec.)	Concentration (mg/L)
Aluminum	10.00	810.0
Antimony	10.00	90.0
Arsenic	10.00	72.0
Barium	10.00	81.0
Beryllium	15.00	9.0
Boron	10.00	90.0
Cadmium	10.00	4.5
Calcium	10.00	900.0
Chromium	10.00	90.0
Cobalt	10.00	90.0
Copper	10.00	180.0
Iron	5.00	900.0
Lead	10.00	225.0
Lithium	10.00	90.0
Magnesium	15.00	810.0
Manganese	15.00	180.0
Molybdenum	10.00	27.0
Nickel	10.00	90.0
Potassium	10.00	315.0
Selenium	10.00	90.0
Silver	5.00	9.0
Sodium	10.00	270.0
Strontium	10.00	4.5
Thallium	10.00	18.0
Tin	10.00	90.0
Titanium	15.00	90.0
Vanadium	10.00	18.0
Zinc	10.00	45.0

Comments:
All analytes passed acceptance criteria at the specified concentration.

LINEAR_RANGE - Modified 03/06/2008
PDF File ID: 1952722
Report generated: 03/24/2011 12:37

2.1.1.3 Raw Data

Sample Name: S0 Acquired: 3/23/2011 10:53:55 Type: Cal
Method: ICP-THERMO1_6010_200.7_FAST(v585) Mode: IR Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**-.00019**	**.00498**	**.00000**	**.00021**	**.00183**	**-.00076**	**-.00069**
Stddev	.00025	.00007	.0000	.00006	.00026	.00007	.00003
%RSD	128.31	1.3335	5004.3	31.494	13.942	8.8902	3.6755
#1	-.00021	.00495	.00000	.00014	.00176	-.00076	-.00067
#2	.00006	.00493	-.00002	.00027	.00211	-.00083	-.00072
#3	-.00043	.00505	.00001	.00020	.00162	-.00070	-.00068

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.00010**	**.00001**	**-.00002**	**.00012**	**.00008**	**.00569**	**.00072**
Stddev	.00002	.00003	.00008	.00004	.00003	.00034	.00031
%RSD	17.907	303.78	395.76	33.898	33.911	5.9801	43.781
#1	.00012	.00003	.00007	.00010	.00011	.00608	.00103
#2	.00011	.00003	-.00006	.00009	.00007	.00548	.00073
#3	.00008	-.00003	-.00007	.00016	.00006	.00550	.00040

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.00009**	**.00021**	**.00001**	**-.00578**	**.00001**	**-.00007**	**-.00003**
Stddev	.00008	.00002	.00002	.00035	.00004	.00004	.00002
%RSD	83.760	9.6447	216.07	5.9978	378.76	66.547	70.812
#1	.00018	.00021	.00001	-.00540	-.00003	-.00011	-.00004
#2	.00004	.00023	.00002	-.00587	.00005	-.00007	-.00001
#3	.00005	.00019	-.00001	-.00608	.00002	-.00002	-.00005

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**-.00003**	**.00102**	**.00001**	**.00074**	**-.00075**	**-.00006**	**.00008**
Stddev	.00001	.00002	.00001	.00018	.00003	.00002	.00001
%RSD	46.758	2.1007	119.18	24.887	3.6221	33.891	19.071
#1	-.00002	.00099	.00001	.00090	-.00075	-.00007	.00006
#2	-.00005	.00102	.00002	.00077	-.00077	-.00007	.00008
#3	-.00003	.00103	.00000	.00054	-.00072	-.00004	.00009

Approved: March 24, 2011
Pierce Morris

Sample Name: S0 Acquired: 3/23/2011 10:53:55 Type: Cal
Method: ICP-THERMO1_6010_200.7_FAST(v585) Mode: IR Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Zn2062
Units	Cts/S
Avg	.00181
Stddev	.00004
%RSD	2.1060
#1	.00185
#2	.00182
#3	.00177

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	52330.	57275.
Stddev	96.	199.
%RSD	.18303	.34775
#1	52352.	57064.
#2	52412.	57302.
#3	52225.	57459.

Approved: March 24, 2011
Pierce Morris

Sample Name: S1 Acquired: 3/23/2011 10:57:27 Type: Cal
Method: ICP-THERMO1_6010_200.7_FAST(v585) Mode: IR Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	Ba4554	Be3131	Ca4226	Cd2288	Co2286
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.00051**	**.00825**	**.00791**	**.00141**	**.00024**	**.00021**	**.00028**
Stddev	.00018	.00009	.00006	.00007	.00006	.00003	.00002
%RSD	35.170	1.1091	.71573	4.9989	24.580	14.716	6.3442
#1	.00033	.00835	.00792	.00145	.00019	.00022	.00026
#2	.00053	.00822	.00785	.00144	.00023	.00017	.00028
#3	.00069	.00817	.00797	.00133	.00031	.00022	.00030

Elem	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.00078**	**.00041**	**.00034**	**.00777**	**.00161**	**.00028**	**.00071**
Stddev	.00009	.00002	.00000	.00008	.00020	.00007	.00005
%RSD	12.045	4.6001	1.4449	1.0582	12.480	25.142	6.6332
#1	.00089	.00039	.00035	.00774	.00139	.00026	.00072
#2	.00072	.00043	.00034	.00771	.00179	.00022	.00066
#3	.00073	.00041	.00034	.00786	.00164	.00036	.00075

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Si2124	Sn1899
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.00074**	**.00240**	**.00033**	**-.00003**	**.00014**	**.00104**	**.00028**
Stddev	.00000	.00019	.00003	.00002	.00003	.00003	.00000
%RSD	.51398	7.9155	8.4412	77.500	21.761	2.9733	1.2204
#1	.00074	.00223	.00032	-.00001	.00017	.00108	.00027
#2	.00074	.00236	.00030	-.00005	.00014	.00103	.00028
#3	.00074	.00260	.00036	-.00002	.00011	.00102	.00028

Elem	Sr4077	Ti3372	V_2924	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.00776**	**-.00022**	**.00344**	**.00362**
Stddev	.00014	.00005	.00010	.00004
%RSD	1.8597	24.419	3.0197	1.1446
#1	.00762	-.00019	.00346	.00359
#2	.00775	-.00028	.00332	.00360
#3	.00791	-.00019	.00353	.00367

Approved: March 24, 2011
Pierce Morris

Sample Name: S1 Acquired: 3/23/2011 10:57:27 Type: Cal
Method: ICP-THERMO1_6010_200.7_FAST(v585) Mode: IR Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	51718.	57297.
Stddev	26.	395.
%RSD	.05040	.68948
#1	51742.	57025.
#2	51723.	57750.
#3	51690.	57116.

Approved: March 24, 2011
Pierce Morris

Sample Name: S2 Acquired: 3/23/2011 11:00:57 Type: Cal
Method: ICP-THERMO1_6010_200.7_FAST(v585) Mode: IR Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.00142**	**.01085**	**.00006**	**.00082**	**.01393**	**.00331**	**.00108**	**.00031**
Stddev	.00007	.00023	.00002	.00007	.00008	.00008	.00006	.00004
%RSD	4.7569	2.0889	41.094	9.0874	.59927	2.3632	5.5521	14.164
#1	.00134	.01085	.00008	.00084	.01401	.00333	.00108	.00035
#2	.00144	.01063	.00006	.00089	.01385	.00322	.00103	.00033
#3	.00147	.01108	.00003	.00074	.01394	.00337	.00115	.00026

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.00058**	**.00148**	**.00059**	**.00068**	**.00993**	**.00287**	**.00040**	**.00112**
Stddev	.00003	.00002	.00007	.00003	.00018	.00013	.00005	.00001
%RSD	5.8692	1.6536	11.720	4.6251	1.8453	4.6027	13.549	.72615
#1	.00062	.00149	.00052	.00064	.00983	.00295	.00041	.00111
#2	.00056	.00149	.00059	.00070	.00981	.00272	.00034	.00113
#3	.00056	.00145	.00066	.00069	.01014	.00296	.00044	.00111

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Si2124	Sn1899
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.00146**	**.01039**	**.00057**	**.00003**	**.00029**	**.00000**	**.00096**	**.00055**
Stddev	.00001	.00037	.00002	.00003	.00002	.00002	.00002	.00001
%RSD	.48779	3.5832	2.8686	119.73	6.4802	640.58	1.7256	1.9236
#1	.00147	.01063	.00055	.00005	.00031	-.00002	.00095	.00056
#2	.00145	.01057	.00058	.00004	.00027	.00002	.00096	.00054
#3	.00146	.00996	.00057	-.00001	.00030	.00001	.00098	.00055

Elem	Sr4077	Ti3372	Tl1908	V_2924	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.01494**	**.00051**	**.00006**	**.00654**	**.00527**
Stddev	.00005	.00002	.00001	.00011	.00003
%RSD	.32908	3.9486	16.959	1.6274	.54326
#1	.01490	.00050	.00005	.00653	.00530
#2	.01494	.00053	.00007	.00644	.00529
#3	.01499	.00049	.00006	.00665	.00524

Approved: March 24, 2011
Pierce Morris

Sample Name: S2 Acquired: 3/23/2011 11:00:57 Type: Cal
Method: ICP-THERMO1_6010_200.7_FAST(v585) Mode: IR Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	52062.	56120.
Stddev	100.	135.
%RSD	.19162	.24097
#1	51953.	56021.
#2	52082.	56274.
#3	52150.	56064.

Approved: March 24, 2011
Pierce Morris

Sample Name: S3 Acquired: 3/23/2011 11:04:27 Type: Cal
Method: ICP-THERMO1_6010_200.7_FAST(v585) Mode: IR Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.09463**	**.30592**	**.00275**	**.02814**	**.62016**	**.21323**	**.08432**	**.00890**
Stddev	.00046	.00218	.00001	.00009	.00155	.00048	.00024	.00005
%RSD	.48814	.71313	.26415	.31780	.24916	.22535	.28082	.53169
#1	.09499	.30790	.00276	.02824	.62169	.21369	.08444	.00894
#2	.09478	.30358	.00276	.02807	.61860	.21327	.08405	.00892
#3	.09411	.30628	.00275	.02811	.62019	.21274	.08447	.00885

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.02854**	**.08326**	**.02519**	**.03163**	**.21891**	**.10441**	**.02034**	**.04602**
Stddev	.00012	.00011	.00001	.00007	.00038	.00047	.00001	.00029
%RSD	.41453	.13486	.03342	.23680	.17301	.44612	.05351	.62152
#1	.02863	.08314	.02518	.03171	.21898	.10492	.02036	.04612
#2	.02857	.08337	.02519	.03156	.21850	.10402	.02033	.04570
#3	.02840	.08327	.02520	.03162	.21925	.10427	.02034	.04625

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Si2124	Sn1899
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.07470**	**.83288**	**.02934**	**.00934**	**.01480**	**.00252**	**.00170**	**.02727**
Stddev	.00009	.00214	.00007	.00003	.00005	.00002	.00001	.00005
%RSD	.12474	.25640	.22657	.27012	.35196	.77683	.46743	.19724
#1	.07481	.83447	.02942	.00931	.01480	.00252	.00170	.02733
#2	.07464	.83045	.02929	.00933	.01475	.00250	.00169	.02722
#3	.07466	.83372	.02931	.00936	.01485	.00254	.00170	.02728

Elem	Sr4077	Ti3372	Tl1908	V_2924	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.73372**	**.06576**	**.00538**	**.32851**	**.17479**
Stddev	.00226	.00011	.00001	.00062	.00019
%RSD	.30784	.17443	.14324	.18998	.11122
#1	.73388	.06579	.00539	.32893	.17476
#2	.73138	.06564	.00538	.32780	.17462
#3	.73589	.06586	.00538	.32882	.17500

Approved: March 24, 2011
Pierce Morris

Sample Name: S3 Acquired: 3/23/2011 11:04:27 Type: Cal
Method: ICP-THERMO1_6010_200.7_FAST(v585) Mode: IR Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	52099.	57464.
Stddev	210.	267.
%RSD	.40248	.46455
#1	52016.	57157.
#2	51943.	57638.
#3	52337.	57598.

Approved: March 24, 2011
Pierce Morris

Sample Name: S4 Acquired: 3/23/2011 11:07:48 Type: Cal
Method: ICP-THERMO1_6010_200.7_FAST(v585) Mode: IR Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.18685**	**.60671**	**.00549**	**.05602**	**1.2336**	**.42662**	**.16879**	**.01747**
Stddev	.00041	.00481	.00003	.00004	.0014	.00068	.00027	.00004
%RSD	.21920	.79333	.50235	.06300	.11338	.15979	.16003	.21076
#1	.18726	.61204	.00550	.05599	1.2324	.42687	.16862	.01745
#2	.18684	.60541	.00546	.05606	1.2332	.42715	.16910	.01745
#3	.18644	.60268	.00552	.05600	1.2351	.42585	.16865	.01751

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.05652**	**.16477**	**.04948**	**.06293**	**.43143**	**.20535**	**.04086**	**.09096**
Stddev	.00004	.00051	.00004	.00021	.00036	.00027	.00023	.00029
%RSD	.07503	.31150	.08851	.32913	.08280	.13188	.57360	.31607
#1	.05648	.16501	.04953	.06315	.43160	.20509	.04071	.09063
#2	.05656	.16513	.04944	.06274	.43102	.20533	.04074	.09109
#3	.05653	.16419	.04947	.06289	.43167	.20563	.04113	.09116

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Si2124	Sn1899
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.14772**	**1.6585**	**.05761**	**.01854**	**.02960**	**.00510**	**.00236**	**.05398**
Stddev	.00034	.0009	.00022	.00005	.00004	.00001	.00002	.00008
%RSD	.23345	.05542	.37368	.24424	.12597	.12500	.73291	.14755
#1	.14799	1.6589	.05785	.01853	.02960	.00509	.00238	.05404
#2	.14784	1.6591	.05744	.01859	.02956	.00510	.00234	.05402
#3	.14733	1.6574	.05753	.01850	.02964	.00511	.00237	.05389

Elem	Sr4077	Ti3372	Tl1908	V_2924	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**1.4555**	**.13142**	**.01054**	**.65043**	**.34802**
Stddev	.0046	.00029	.00005	.00238	.00037
%RSD	.31321	.21773	.45992	.36582	.10560
#1	1.4508	.13161	.01060	.65185	.34761
#2	1.4558	.13157	.01052	.65176	.34813
#3	1.4599	.13109	.01051	.64768	.34832

Approved: March 24, 2011
Pierce Morris

Sample Name: S4 Acquired: 3/23/2011 11:07:48 Type: Cal
Method: ICP-THERMO1_6010_200.7_FAST(v585) Mode: IR Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	**52531.**	**57843.**
Stddev	89.	446.
%RSD	.16935	.77129
#1	52429.	57328.
#2	52591.	58094.
#3	52573.	58107.

Approved: March 24, 2011
Pierce Morris

Sample Name: ICV Acquired: 3/23/2011 11:11:12 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v585) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.39966	9.9711	.39512	.49895	.99669	.05008	9.9897
Stddev	.00097	.0473	.00330	.00050	.00031	.00008	.0158
%RSD	.24188	.47474	.83607	.10001	.03081	.15084	.15784
#1	.40076	9.9536	.39862	.49952	.99689	.05008	10.003
#2	.39926	10.025	.39467	.49871	.99633	.05000	9.9944
#3	.39895	9.9351	.39206	.49861	.99683	.05015	9.9721
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.04986	.20184	.50193	.50149	4.0420	49.623	1.0094
Stddev	.00021	.00039	.00320	.00119	.0046	.094	.0023
%RSD	.42565	.19531	.63741	.23787	.11250	.18987	.22983
#1	.05011	.20223	.49871	.50203	4.0448	49.700	1.0119
#2	.04974	.20185	.50511	.50231	4.0368	49.518	1.0074
#3	.04974	.20144	.50197	.50012	4.0445	49.652	1.0089
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.049	.50445	.99659	50.023	.50180	.50305	1.1959
Stddev	.073	.00070	.00374	.024	.00225	.00304	.0036
%RSD	.72929	.13959	.37545	.04787	.44924	.60371	.30032
#1	9.9701	.50443	1.0009	50.005	.50409	.50570	1.1991
#2	10.063	.50517	.99440	50.050	.49958	.50372	1.1920
#3	10.115	.50376	.99446	50.014	.50172	.49973	1.1965
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: March 24, 2011
Pierce Morris

Sample Name: ICV Acquired: 3/23/2011 11:11:12 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v585) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.39426	F 5.4844	1.0057	1.0010	1.0095	.50172	.99788
Stddev	.00196	.2397	.0034	.0039	.0022	.00274	.00242
%RSD	.49745	4.3707	.33438	.39258	.22306	.54700	.24205
#1	.39648	5.5968	1.0095	.99742	1.0071	.50048	.99509
#2	.39278	5.6472	1.0046	1.0004	1.0096	.49981	.99926
#3	.39351	5.2091	1.0031	1.0052	1.0116	.50486	.99929
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value		5.0000					
Range		5.0000%					

Elem	Zn2062
Units	ppm
Avg	1.0064
Stddev	.0022
%RSD	.21980
#1	1.0085
#2	1.0067
#3	1.0041
Check ?	Chk Pass
Value	
Range	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	52859.	57776.
Stddev	180.	103.
%RSD	.34060	.17884
#1	52935.	57851.
#2	52989.	57658.
#3	52654.	57819.

Approved: March 24, 2011
Pierce Morris

Sample Name: ICB Acquired: 3/23/2011 11:14:34 Type: Blank
Method: ICP-THERMO1_6010_200.7_FAST(v585) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00003**	**.00212**	**.00072**	**.00378**	**.00039**	**.00003**	**.00256**	**.00026**
Stddev	.00049	.00482	.00326	.00136	.00017	.00002	.01423	.00018
%RSD	1418.1	227.90	452.40	36.031	43.948	67.676	555.99	67.313
#1	.00042	.00385	-.00101	.00297	.00055	.00005	.00929	.00006
#2	-.00056	.00583	-.00131	.00536	.00040	.00003	-.01378	.00035
#3	.00004	-.00333	.00448	.00303	.00021	.00001	.01217	.00037
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00003**	**-.00011**	**.00057**	**-.00124**	**.18332**	**-.00095**	**-.03241**	**-.00042**
Stddev	.00006	.00060	.00088	.00805	.02187	.00212	.01159	.00042
%RSD	182.38	545.27	154.26	649.75	11.932	224.01	35.748	101.10
#1	-.00005	-.00012	.00116	-.01051	.20732	.00092	-.01929	-.00040
#2	-.00008	-.00070	-.00044	.00395	.16451	-.00325	-.03672	-.00085
#3	.00003	.00050	.00098	.00285	.17811	-.00051	-.04123	.00000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Si2124	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00022**	**-.01448**	**.00001**	**-.00245**	**.00375**	**-.00092**	**-.54981**	**.00007**
Stddev	.00030	.01950	.00043	.00239	.00248	.00413	.07534	.00031
%RSD	139.22	134.71	7496.3	97.501	66.216	448.47	13.703	480.43
#1	.00042	.00392	-.00050	-.00278	.00400	-.00495	-.46765	-.00007
#2	.00037	-.03493	.00024	.00009	.00115	-.00112	-.56613	-.00015
#3	-.00013	-.01242	.00028	-.00465	.00609	.00331	-.61565	.00043
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 24, 2011
Pierce Morris

Sample Name: ICB Acquired: 3/23/2011 11:14:34 Type: Blank
Method: ICP-THERMO1_6010_200.7_FAST(v585) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sr4077	Ti3372	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm
Avg	**-.00006**	**.00154**	**.00310**	**.00020**	**.00122**
Stddev	.00002	.00067	.00301	.00044	.00031
%RSD	38.493	43.282	97.075	219.81	25.282
#1	-.00009	.00098	.00496	-.00031	.00148
#2	-.00006	.00137	-.00037	.00050	.00131
#3	-.00004	.00228	.00470	.00042	.00088
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	**53028.**	**57420.**
Stddev	85.	377.
%RSD	.15976	.65700
#1	52987.	57059.
#2	52971.	57389.
#3	53125.	57812.

Approved: March 24, 2011
Pierce Morris

Sample Name: ICSA Acquired: 3/23/2011 11:18:05 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v585) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00087**	**250.03**	**.00597**	**.01066**	**.00121**	**-.00006**	**252.26**	**.00000**
Stddev	.00074	2.12	.00264	.00145	.00019	.00001	.26	.00015
%RSD	85.165	.84810	44.183	13.583	15.921	15.747	.10188	72913.
#1	-.00097	252.00	.00405	.01070	.00132	-.00007	252.51	.00016
#2	-.00156	247.78	.00489	.00920	.00099	-.00006	252.27	-.00014
#3	-.00009	250.32	.00899	.01210	.00132	-.00005	252.00	-.00002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00038**	**-.00070**	**.00030**	**98.685**	**.10229**	**.00695**	**251.28**	**-.00392**
Stddev	.00034	.00042	.00167	.117	.07502	.00321	.29	.00083
%RSD	91.266	59.886	555.26	.11903	73.338	46.180	.11638	21.266
#1	-.00077	-.00066	.00180	98.690	.04889	.00982	251.59	-.00296
#2	-.00023	-.00030	.00060	98.800	.06993	.00349	251.25	-.00440
#3	-.00013	-.00113	-.00150	98.565	.18806	.00753	251.01	-.00441
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Si2124	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00028**	**.00653**	**.00043**	**.00068**	**-.00824**	**-.00953**	**-.25007**	**.00076**
Stddev	.00009	.01871	.00039	.00198	.00305	.00343	.15022	.00040
%RSD	31.553	286.78	90.537	292.51	36.970	36.055	60.072	52.469
#1	-.00037	.01924	.00031	.00023	-.01156	-.01232	-.34948	.00031
#2	-.00019	.01530	.00087	.00284	-.00558	-.01057	-.07726	.00087
#3	-.00029	-.01496	.00012	-.00104	-.00758	-.00569	-.32348	.00108
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 24, 2011
Pierce Morris

Sample Name: ICSA Acquired: 3/23/2011 11:18:05 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v585) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sr4077	Ti3372	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm
Avg	.00013	-.00957	.00541	.00437	-.00294
Stddev	.00011	.00193	.00046	.00021	.00028
%RSD	83.468	20.119	8.4554	4.7861	9.5743
#1	.00026	-.01007	.00592	.00414	-.00274
#2	.00007	-.01120	.00505	.00440	-.00326
#3	.00007	-.00744	.00525	.00456	-.00282
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	50579.	56984.
Stddev	123.	231.
%RSD	.24294	.40464
#1	50499.	56727.
#2	50517.	57173.
#3	50720.	57053.

Approved: March 24, 2011
Pierce Morris

Sample Name: ICSAB Acquired: 3/23/2011 11:21:39 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v585) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.49750	250.99	.24997	.00534	.24716	.26916	255.06	.48431
Stddev	.00112	3.80	.00156	.00227	.00007	.00007	.34	.00128
%RSD	.22563	1.5127	.62219	42.424	.02780	.02661	.13364	.26497
#1	.49876	253.68	.24842	.00590	.24724	.26922	254.68	.48443
#2	.49661	252.64	.24997	.00285	.24713	.26908	255.18	.48553
#3	.49713	246.65	.25153	.00728	.24712	.26919	255.33	.48297
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.24144	.24406	.23732	99.794	5.0996	.01009	253.83	.23927
Stddev	.00121	.00034	.00125	.080	.0913	.00278	.53	.00099
%RSD	.49973	.13781	.52534	.07976	1.7904	27.591	.20894	.41315
#1	.24193	.24379	.23805	99.702	5.1616	.01266	253.45	.24000
#2	.24233	.24394	.23802	99.830	4.9948	.00713	254.44	.23965
#3	.24007	.24443	.23588	99.848	5.1425	.01047	253.61	.23814
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Si2124	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00060	5.1080	.48029	.49383	.48989	.24560	.10491	.00082
Stddev	.00046	.0184	.00219	.00198	.00298	.00575	.24377	.00074
%RSD	76.094	.36009	.45647	.40066	.60896	2.3395	232.36	90.792
#1	-.00077	5.1293	.47777	.49328	.49190	.24407	-.17305	.00161
#2	-.00008	5.0976	.48179	.49217	.49131	.25195	.28237	.00013
#3	-.00096	5.0972	.48131	.49602	.48646	.24077	.20541	.00071
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 24, 2011
Pierce Morris

Sample Name: ICSAB Acquired: 3/23/2011 11:21:39 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v585) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sr4077	Ti3372	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm
Avg	.00003	-.00890	.48096	.25526	.47321
Stddev	.00018	.00061	.00360	.00091	.00106
%RSD	554.39	6.8056	.74904	.35824	.22316
#1	.00006	-.00953	.47973	.25624	.47347
#2	-.00016	-.00833	.47813	.25442	.47411
#3	.00020	-.00884	.48502	.25513	.47204
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	50604.	57158.
Stddev	19.	163.
%RSD	.03788	.28502
#1	50593.	57033.
#2	50627.	57098.
#3	50594.	57342.

Approved: March 24, 2011
Pierce Morris

Sample Name: CCV Acquired: 3/23/2011 11:25:16 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v585) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.40422	10.070	.39748	.50407	1.0051	.05078	10.069	.05047
Stddev	.00045	.064	.00210	.00101	.0008	.00004	.033	.00020
%RSD	.11191	.63657	.52838	.20024	.08022	.08272	.32460	.39879
#1	.40414	10.073	.39597	.50320	1.0054	.05080	10.060	.05067
#2	.40381	10.133	.39988	.50384	1.0058	.05080	10.105	.05048
#3	.40471	10.005	.39658	.50518	1.0042	.05073	10.041	.05027
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.20352	.50762	.50737	4.0626	49.983	1.0135	10.072	.50567
Stddev	.00010	.00264	.00218	.0083	.094	.0028	.008	.00209
%RSD	.05152	.51950	.43024	.20403	.18775	.27998	.07861	.41242
#1	.20357	.50905	.50843	4.0573	49.907	1.0167	10.071	.50641
#2	.20339	.50923	.50883	4.0584	49.956	1.0129	10.065	.50728
#3	.20359	.50457	.50486	4.0721	50.088	1.0111	10.081	.50331
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Si2124	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.99323	50.539	.50541	.50272	1.1933	.39901	4.7864	.99306
Stddev	.00437	.026	.00394	.00250	.0035	.00600	.0754	.00584
%RSD	.43974	.05178	.78015	.49633	.29137	1.5035	1.5755	.58841
#1	.99659	50.509	.50889	.50484	1.1904	.39219	4.7007	.99474
#2	.99480	50.550	.50620	.50335	1.1971	.40141	4.8425	.99787
#3	.98829	50.558	.50113	.49997	1.1922	.40344	4.8160	.98656
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Approved: March 24, 2011
Pierce Morris

Sample Name: CCV Acquired: 3/23/2011 11:25:16 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v585) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sr4077	Ti3372	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm
Avg	1.0103	1.0036	.50411	1.0086	1.0109
Stddev	.0028	.0023	.00379	.0026	.0010
%RSD	.28155	.22923	.75140	.26205	.10067
#1	1.0101	1.0015	.50774	1.0086	1.0119
#2	1.0131	1.0061	.50440	1.0112	1.0108
#3	1.0075	1.0033	.50019	1.0059	1.0099
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	52642.	57827.
Stddev	79.	289.
%RSD	.15070	.49964
#1	52644.	57811.
#2	52563.	57546.
#3	52721.	58124.

Approved: March 24, 2011
Pierce Morris

Sample Name: CCB Acquired: 3/23/2011 11:28:37 Type: Blank
Method: ICP-THERMO1_6010_200.7_FAST(v585) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00035**	**.00456**	**.00012**	**.00191**	**.00007**	**.00004**	**-.00548**	**.00013**
Stddev	.00026	.00369	.00290	.00142	.00018	.00001	.00927	.00006
%RSD	73.577	80.903	2488.8	74.175	265.88	12.998	169.18	46.833
#1	-.00065	.00065	.00260	.00115	.00017	.00004	.00107	.00017
#2	-.00026	.00506	-.00307	.00103	.00017	.00004	-.00143	.00006
#3	-.00015	.00799	.00081	.00354	-.00014	.00005	-.01609	.00017
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00004**	**-.00039**	**.00067**	**-.00271**	**-.00296**	**-.00076**	**-.04242**	**.00019**
Stddev	.00010	.00127	.00066	.00241	.01526	.00477	.03135	.00065
%RSD	251.46	326.65	98.769	88.979	515.27	627.53	73.893	345.01
#1	.00006	.00108	.00116	-.00390	-.01167	.00382	-.06796	.00061
#2	-.00005	-.00110	-.00008	.00007	.01466	-.00569	-.05187	.00052
#3	-.00013	-.00115	.00092	-.00429	-.01188	-.00041	-.00744	-.00056
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Si2124	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00025**	**-.00057**	**.00019**	**-.00196**	**.00210**	**-.00078**	**-.60995**	**-.00009**
Stddev	.00037	.02945	.00084	.00462	.00225	.00178	.13308	.00009
%RSD	149.92	5136.5	445.50	235.48	106.94	227.34	21.819	101.79
#1	.00020	-.01522	.00094	-.00701	.00469	-.00284	-.51077	.00002
#2	-.00010	-.01983	-.00072	.00207	.00075	.00021	-.55789	-.00015
#3	.00064	.03333	.00035	-.00095	.00086	.00028	-.76120	-.00015
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 24, 2011
Pierce Morris

Sample Name: CCB Acquired: 3/23/2011 11:28:37 Type: Blank
Method: ICP-THERMO1_6010_200.7_FAST(v585) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sr4077	Ti3372	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm
Avg	-.00014	.00026	.00128	.00061	.00055
Stddev	.00014	.00047	.00216	.00039	.00008
%RSD	99.300	178.25	168.25	64.001	14.211
#1	.00002	-.00008	.00032	.00105	.00063
#2	-.00019	.00080	.00375	.00048	.00047
#3	-.00024	.00007	-.00022	.00030	.00055
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	52962.	57448.
Stddev	17.	412.
%RSD	.03282	.71787
#1	52970.	57114.
#2	52973.	57322.
#3	52942.	57909.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103022611 Acquired: 3/23/2011 11:42:18 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359216-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00399	177.17	.13709	.03960	1.8643	.01062	65.539
Stddev	.00032	2.58	.00260	.00489	.0416	.00010	1.507
%RSD	7.9033	1.4544	1.8971	12.344	2.2336	.91298	2.2998
#1	.00379	174.29	.13648	.03396	1.8186	.01065	63.873
#2	.00435	179.27	.13485	.04272	1.8745	.01051	65.938
#3	.00382	177.93	.13994	.04211	1.9000	.01069	66.807
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00339	.12062	.25905	.12345	303.61	11.646	.11333
Stddev	.00010	.00026	.00394	.00956	6.89	.331	.00169
%RSD	2.8548	.21213	1.5206	7.7437	2.2701	2.8420	1.4927
#1	.00349	.12083	.26139	.13373	296.04	11.300	.11141
#2	.00339	.12071	.25450	.12177	305.30	11.679	.11396
#3	.00330	.12034	.26125	.11484	309.51	11.960	.11461
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	20.894	8.6276	.01362	1.8904	.10857	.51487	.00425
Stddev	.482	.1869	.00029	.0390	.00048	.00476	.00175
%RSD	2.3047	2.1663	2.1057	2.0638	.43753	.92433	41.113
#1	20.360	8.4185	.01330	1.8528	.10805	.50945	.00623
#2	21.027	8.6857	.01374	1.8878	.10897	.51679	.00360
#3	21.295	8.7785	.01383	1.9307	.10868	.51836	.00292
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103022611 Acquired: 3/23/2011 11:42:18 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359216-01

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00926	F 204.91	.01161	.40551	.44570	-.00140	.61418
Stddev	.00380	1.55	.00079	.00947	.00871	.00202	.00724
%RSD	40.986	.75432	6.8008	2.3360	1.9544	143.98	1.1782
#1	.01356	203.77	.01095	.39492	.43638	-.00075	.61593
#2	.00637	206.67	.01140	.40846	.44708	-.00366	.60623
#3	.00786	204.30	.01249	.41317	.45364	.00021	.62038
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	1.0583
Stddev	.0009
%RSD	.08591
#1	1.0573
#2	1.0588
#3	1.0589
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	52653.	58522.
Stddev	433.	741.
%RSD	.82144	1.2662
#1	52864.	59370.
#2	52940.	58000.
#3	52156.	58197.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103022611S Acquired: 3/23/2011 11:45:50 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359216-04

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.18639	174.79	.30796	.04321	1.8218	.01044	62.540
Stddev	.00160	1.62	.00268	.00589	.0519	.00012	1.791
%RSD	.86018	.92718	.87126	13.631	2.8466	1.1396	2.8645
#1	.18786	175.31	.30616	.03658	1.7623	.01055	60.485
#2	.18663	176.09	.31105	.04522	1.8456	.01046	63.361
#3	.18468	172.98	.30667	.04783	1.8574	.01031	63.774
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02623	.10834	.25437	.35454	299.40	11.769	.11351
Stddev	.00026	.00045	.00398	.01156	8.45	.285	.00148
%RSD	.99310	.41096	1.5657	3.2606	2.8231	2.4222	1.3054
#1	.02652	.10783	.25888	.36762	289.68	11.440	.11318
#2	.02601	.10856	.25286	.35032	303.47	11.925	.11513
#3	.02617	.10863	.25136	.34569	305.05	11.942	.11222
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	21.065	7.7365	.01353	1.9270	.10744	.70870	.00730
Stddev	.520	.2005	.00031	.0543	.00068	.00348	.00078
%RSD	2.4695	2.5921	2.3210	2.8162	.63298	.49141	10.711
#1	20.466	7.5057	.01374	1.8647	.10786	.70878	.00669
#2	21.327	7.8352	.01369	1.9643	.10780	.70518	.00818
#3	21.403	7.8685	.01317	1.9520	.10665	.71214	.00701
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103022611S Acquired: 3/23/2011 11:45:50 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359216-04

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00711	F 216.94	.01108	.39364	.48302	-.00033	.61241
Stddev	.00438	1.65	.00067	.00920	.01189	.00121	.00410
%RSD	61.652	.76260	6.0295	2.3373	2.4626	361.69	.66928
#1	.00783	217.73	.01039	.38304	.47039	.00028	.61654
#2	.00241	218.06	.01172	.39842	.48466	-.00173	.61236
#3	.01109	215.04	.01112	.39947	.49401	.00044	.60834
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	1.0507
Stddev	.0011
%RSD	.10522
#1	1.0504
#2	1.0519
#3	1.0497
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	54598.	61137.
Stddev	218.	709.
%RSD	.39941	1.1593
#1	54368.	61955.
#2	54626.	60757.
#3	54801.	60699.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103022611SD Acquired: 3/23/2011 11:49:22 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359216-05

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.19016	179.43	.30928	.03761	3.1448	.01102	61.388
Stddev	.00086	.49	.00483	.00244	.0551	.00006	1.036
%RSD	.45408	.27163	1.5601	6.4784	1.7516	.54051	1.6878
#1	.18992	178.90	.30419	.03591	3.0819	.01108	60.201
#2	.18944	179.87	.30985	.03651	3.1685	.01101	61.853
#3	.19111	179.52	.31379	.04040	3.1842	.01096	62.110
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.03012	.34118	.13846	.35903	313.20	11.941	.11998
Stddev	.00013	.00098	.00464	.01004	5.49	.183	.00461
%RSD	.44573	.28647	3.3546	2.7966	1.7518	1.5366	3.8420
#1	.03026	.34161	.14366	.36962	306.93	11.738	.11663
#2	.03012	.34186	.13702	.35781	315.56	11.990	.12524
#3	.02999	.34006	.13471	.34965	317.11	12.095	.11807
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	20.973	29.142	.01187	2.0249	.13028	.82432	.00689
Stddev	.460	.550	.00031	.0412	.00092	.00335	.00211
%RSD	2.1954	1.8868	2.5973	2.0368	.70767	.40645	30.593
#1	20.460	28.515	.01216	1.9774	.12949	.82691	.00914
#2	21.110	29.364	.01190	2.0449	.13129	.82550	.00496
#3	21.350	29.545	.01155	2.0523	.13005	.82053	.00658
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103022611SD Acquired: 3/23/2011 11:49:22 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359216-05

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00851	F 261.55	.01133	.38842	.50097	.00910	.60044
Stddev	.00424	3.76	.00046	.00707	.00912	.00231	.00415
%RSD	49.816	1.4386	4.0481	1.8204	1.8196	25.351	.69052
#1	.01263	262.33	.01186	.38032	.49045	.01175	.60523
#2	.00876	264.86	.01103	.39159	.50658	.00755	.59791
#3	.00416	257.46	.01110	.39335	.50588	.00799	.59819
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	1.2679
Stddev	.0048
%RSD	.37553
#1	1.2707
#2	1.2705
#3	1.2624
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	54549.	61575.
Stddev	61.	562.
%RSD	.11268	.91214
#1	54478.	62214.
#2	54586.	61350.
#3	54583.	61161.

Approved: March 24, 2011
Pierce Morris

Sample Name: PBS SD Acquired: 3/23/2011 11:52:54 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359568-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00059**	**.00118**	**.00072**	**-.00044**	**.00262**	**.00004**	**.06449**	**.00025**
Stddev	.00083	.00253	.00366	.00055	.00156	.00002	.00925	.00009
%RSD	140.24	213.60	505.16	124.00	59.607	50.185	14.347	37.665
#1	-.00042	.00091	.00165	-.00033	.00429	.00002	.07516	.00015
#2	-.00148	-.00119	-.00330	-.00104	.00236	.00006	.05968	.00034
#3	.00014	.00384	.00383	.00004	.00120	.00004	.05863	.00026
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00030**	**.00148**	**.00235**	**.16422**	**.31071**	**-.00091**	**-.01120**	**.01032**
Stddev	.00027	.00060	.00049	.14642	.07003	.00226	.02123	.01166
%RSD	89.085	40.313	20.905	89.158	22.538	249.95	189.59	113.04
#1	-.00011	.00080	.00209	.32935	.26869	-.00298	-.00226	.02348
#2	-.00019	.00172	.00205	.11310	.27189	.00151	.00410	.00620
#3	-.00061	.00191	.00292	.05022	.39155	-.00124	-.03543	.00127
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Si2124	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00018**	**.01442**	**.00015**	**-.00131**	**.00381**	**-.00068**	**1.5073**	**.00091**
Stddev	.00007	.01896	.00027	.00128	.00132	.00014	.1299	.00048
%RSD	38.428	131.51	183.71	97.491	34.736	20.311	8.6192	52.070
#1	.00021	-.00746	.00010	-.00005	.00294	-.00058	1.3573	.00146
#2	.00010	.02473	-.00010	-.00261	.00316	-.00062	1.5804	.00060
#3	.00023	.02598	.00045	-.00127	.00533	-.00083	1.5843	.00069
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 24, 2011
Pierce Morris

Sample Name: PBS SD Acquired: 3/23/2011 11:52:54 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359568-02

Elem	Sr4077	Ti3372	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm
Avg	-.00016	.00161	-.00028	.00038	.00293
Stddev	.00020	.00088	.00225	.00066	.00006
%RSD	124.58	54.741	791.21	173.67	2.0798
#1	.00005	.00062	.00035	.00056	.00291
#2	-.00019	.00230	-.00279	-.00035	.00288
#3	-.00033	.00192	.00159	.00093	.00300
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	53383.	60486.
Stddev	96.	1049.
%RSD	.17958	1.7343
#1	53392.	61691.
#2	53283.	59989.
#3	53474.	59778.

Approved: March 24, 2011
Pierce Morris

Sample Name: LCSS SD Acquired: 3/23/2011 11:56:23 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359568-03

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.18636	-.00311	.18649	.00062	.00160	.00004	.00417	.02413
Stddev	.00043	.00489	.00282	.00103	.00015	.00002	.00487	.00009
%RSD	.23240	156.91	1.5110	166.13	9.5512	37.708	116.70	.35323
#1	.18632	-.00857	.18324	.00148	.00178	.00002	-.00139	.02404
#2	.18682	-.00163	.18831	.00089	.00150	.00005	.00767	.02414
#3	.18595	.00086	.18791	-.00052	.00154	.00005	.00623	.02421
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00047	.00130	.24006	.03230	.04043	-.00099	-.02937	.24675
Stddev	.00027	.00048	.00128	.00134	.03420	.00276	.01485	.00503
%RSD	57.841	37.263	.53493	4.1444	84.581	278.36	50.543	2.0399
#1	-.00071	.00185	.23867	.03096	.05621	-.00395	-.02922	.24110
#2	-.00053	.00112	.24029	.03364	.00119	.00151	-.04429	.24836
#3	-.00017	.00094	.24121	.03229	.06389	-.00054	-.01460	.25077
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Si2124	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00004	-.01274	.00091	.24194	.00352	.00156	.85603	.00038
Stddev	.00024	.01083	.00040	.00394	.00209	.00328	.10923	.00082
%RSD	614.63	85.025	43.741	1.6301	59.287	210.14	12.761	217.82
#1	.00004	-.00393	.00087	.23861	.00120	-.00173	.95800	-.00007
#2	-.00021	-.02483	.00053	.24091	.00412	.00483	.74075	-.00012
#3	.00028	-.00945	.00133	.24629	.00524	.00159	.86933	.00133
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 24, 2011
Pierce Morris

Sample Name: LCSS SD Acquired: 3/23/2011 11:56:23 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359568-03

Elem	Sr4077	Ti3372	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm
Avg	.00005	.00105	-.00089	.00040	.00191
Stddev	.00008	.00096	.00183	.00008	.00010
%RSD	172.49	91.433	206.95	19.204	5.4187
#1	.00013	.00160	.00052	.00043	.00191
#2	-.00003	.00162	-.00296	.00045	.00180
#3	.00004	-.00006	-.00022	.00031	.00201
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	52941.	59289.
Stddev	24.	569.
%RSD	.04549	.95982
#1	52965.	59937.
#2	52941.	58869.
#3	52917.	59062.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103056819 Acquired: 3/23/2011 11:59:52 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00064	104.53	.10223	.02755	2.2206	.01062	59.931
Stddev	.00108	1.01	.00169	.00410	.0625	.00004	1.646
%RSD	170.20	.97088	1.6515	14.864	2.8140	.36861	2.7472
#1	.00010	103.40	.10040	.02447	2.1536	.01058	58.165
#2	-.00007	104.82	.10255	.03220	2.2311	.01066	60.205
#3	.00189	105.37	.10373	.02599	2.2772	.01063	61.423
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00178	.06024	.13506	.13151	152.77	10.685	.05889
Stddev	.00016	.00018	.00086	.00477	4.21	.271	.00108
%RSD	9.1479	.29899	.63359	3.6272	2.7554	2.5351	1.8254
#1	.00169	.06044	.13589	.13667	148.17	10.405	.05792
#2	.00169	.06014	.13510	.13061	153.68	10.704	.05871
#3	.00197	.06012	.13418	.12725	156.44	10.946	.06005
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.870	4.4302	.00835	.48345	.08866	.24711	.00712
Stddev	.446	.1246	.00032	.01069	.00070	.00189	.00529
%RSD	2.8081	2.8132	3.8718	2.2109	.78875	.76661	74.346
#1	15.401	4.2973	.00841	.49558	.08813	.24522	.00894
#2	15.921	4.4490	.00801	.47541	.08841	.24900	.00116
#3	16.288	4.5444	.00865	.47935	.08945	.24711	.01126
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103056819 Acquired: 3/23/2011 11:59:52 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00584	F 159.05	.00812	.39189	.20075	-.00279	.34320
Stddev	.00506	.46	.00059	.01096	.00466	.00218	.00013
%RSD	86.576	.28960	7.3020	2.7973	2.3231	78.168	.03676
#1	.01167	158.92	.00880	.38013	.19548	-.00505	.34306
#2	.00313	159.56	.00775	.39371	.20241	-.00262	.34326
#3	.00272	158.67	.00780	.40183	.20435	-.00070	.34329
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.62189
Stddev	.00062
%RSD	.09949
#1	.62126
#2	.62193
#3	.62249
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	54729.	61882.
Stddev	43.	740.
%RSD	.07932	1.1962
#1	54778.	62715.
#2	54693.	61632.
#3	54717.	61300.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103056819PS Acquired: 3/23/2011 12:03:18 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359681-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.18764	98.963	.27312	.95163	2.4762	.03400	59.011
Stddev	.00090	.638	.00525	.00202	.0254	.00015	.679
%RSD	.48100	.64509	1.9230	.21229	1.0267	.43096	1.1499
#1	.18867	98.296	.27499	.94932	2.4474	.03402	58.280
#2	.18726	99.568	.27718	.95251	2.4854	.03414	59.134
#3	.18698	99.027	.26719	.95307	2.4957	.03385	59.620
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02423	.14991	.36097	.34552	140.17	32.373	.52712
Stddev	.00014	.00037	.00133	.00277	1.60	.352	.00917
%RSD	.59302	.24863	.36833	.80218	1.1443	1.0870	1.7402
#1	.02439	.15027	.36166	.34864	138.40	31.995	.51679
#2	.02414	.14994	.36182	.34455	140.56	32.432	.53027
#3	.02415	.14953	.35944	.34335	141.54	32.691	.53431
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	18.856	4.2263	.49188	24.227	.31138	.45277	.53773
Stddev	.145	.0388	.00068	.252	.00134	.00326	.00219
%RSD	.76815	.91791	.13847	1.0413	.42881	.72016	.40670
#1	18.690	4.1836	.49266	23.954	.31267	.44931	.54023
#2	18.956	4.2358	.49157	24.276	.31146	.45579	.53682
#3	18.923	4.2594	.49141	24.452	.31000	.45322	.53615
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103056819PS Acquired: 3/23/2011 12:03:18 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359681-01

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.19222	F 298.63	.00841	.82177	.64852	.22062	.79752
Stddev	.00470	.08	.00052	.00794	.00620	.00163	.00173
%RSD	2.4452	.02541	6.2181	.96620	.95627	.74060	.21630
#1	.18761	298.70	.00784	.81260	.64138	.22051	.79831
#2	.19700	298.64	.00851	.82618	.65155	.22231	.79870
#3	.19205	298.54	.00887	.82653	.65261	.21904	.79554
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	1.0263
Stddev	.0018
%RSD	.17790
#1	1.0275
#2	1.0272
#3	1.0242
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	54318.	61768.
Stddev	60.	396.
%RSD	.10969	.64173
#1	54315.	62220.
#2	54379.	61604.
#3	54260.	61479.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103056819SDL Acquired: 3/23/2011 12:06:41 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 5 Custom ID2: Custom ID3:
Comment: WG359681-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00016	22.714	.02391	.00871	.46171	.00221	12.625	.00054
Stddev	.00118	.171	.00098	.00312	.00108	.00004	.005	.00017
%RSD	725.22	.75255	4.1174	35.786	.23495	1.6072	.04174	30.551
#1	.00144	22.556	.02289	.00783	.46059	.00225	12.619	.00035
#2	-.00008	22.690	.02486	.01218	.46276	.00221	12.627	.00062
#3	-.00087	22.895	.02398	.00613	.46178	.00218	12.630	.00065
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01270	.02730	.02843	32.301	2.0791	.01156	3.3923	.94579
Stddev	.00032	.00046	.00049	.038	.0423	.00236	.0431	.00415
%RSD	2.4967	1.6781	1.7085	.11738	2.0322	20.400	1.2706	.43844
#1	.01263	.02744	.02899	32.262	2.0944	.01368	3.3459	.94147
#2	.01241	.02678	.02812	32.338	2.0314	.00902	3.3997	.94974
#3	.01304	.02767	.02818	32.304	2.1116	.01197	3.4311	.94616
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Si2124	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00175	.07960	.01879	.05305	.00176	.00115	33.512	.00178
Stddev	.00014	.01415	.00026	.00239	.00140	.00305	.133	.00047
%RSD	7.8280	17.773	1.3583	4.5061	79.470	264.84	.39567	26.359
#1	.00162	.07657	.01869	.05103	.00283	.00436	33.603	.00191
#2	.00174	.06721	.01860	.05569	.00018	-.00171	33.574	.00126
#3	.00189	.09502	.01908	.05245	.00226	.00081	33.360	.00217
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103056819SDL Acquired: 3/23/2011 12:06:41 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 5 Custom ID2: Custom ID3:
Comment: WG359681-02

Elem	Sr4077	Ti3372	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm
Avg	.08164	.04302	.00157	.07062	.13587
Stddev	.00034	.00036	.00141	.00008	.00026
%RSD	.41553	.84312	89.880	.11309	.19341
#1	.08124	.04280	.00317	.07071	.13577
#2	.08183	.04344	.00050	.07055	.13568
#3	.08184	.04282	.00105	.07061	.13617
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	57059.	62251.
Stddev	42.	380.
%RSD	.07408	.61089
#1	57071.	62598.
#2	57012.	62311.
#3	57094.	61845.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103056819SDL Acquired: 3/23/2011 12:10:08 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 25 Custom ID2: Custom ID3:
Comment: WG359681-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00068	4.4704	.00777	-.00089	.08988	.00045	2.4837	.00030
Stddev	.00063	.0232	.00273	.00287	.00046	.00003	.0176	.00022
%RSD	92.323	.51900	35.174	324.05	.51256	6.9667	.71068	72.892
#1	-.00002	4.4459	.00463	-.00204	.08936	.00041	2.4648	.00053
#2	-.00127	4.4730	.00964	.00238	.09005	.00045	2.4865	.00027
#3	-.00075	4.4921	.00903	-.00299	.09023	.00047	2.4998	.00010
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00255	.00460	.00589	6.4112	.26854	.00288	.64018	.18574
Stddev	.00019	.00021	.00039	.0137	.05997	.00231	.00412	.00081
%RSD	7.4662	4.6524	6.6433	.21406	22.333	80.138	.64435	.43668
#1	.00275	.00468	.00546	6.4008	.29454	.00081	.63685	.18518
#2	.00254	.00475	.00622	6.4059	.19996	.00537	.64479	.18536
#3	.00237	.00435	.00600	6.4267	.31113	.00246	.63890	.18667
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Si2124	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00018	-.02108	.00395	.00805	.00019	-.00174	5.4080	.00059
Stddev	.00022	.00994	.00046	.00315	.00173	.00175	.1457	.00009
%RSD	123.43	47.144	11.579	39.059	888.39	100.62	2.6942	14.768
#1	.00019	-.01892	.00439	.01155	.00201	.00007	5.5702	.00061
#2	.00039	-.03192	.00399	.00545	.00002	-.00185	5.3654	.00066
#3	-.00005	-.01240	.00348	.00716	-.00144	-.00342	5.2883	.00049
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103056819SDL Acquired: 3/23/2011 12:10:08 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 25 Custom ID2: Custom ID3:
Comment: WG359681-02

Elem	Sr4077	Ti3372	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm
Avg	.01608	.00885	.00168	.01358	.02938
Stddev	.00010	.00046	.00069	.00010	.00026
%RSD	.60213	5.2465	41.120	.76622	.87140
#1	.01600	.00840	.00246	.01363	.02908
#2	.01619	.00884	.00113	.01346	.02950
#3	.01604	.00932	.00147	.01365	.02955
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	56905.	60875.
Stddev	99.	286.
%RSD	.17342	.47044
#1	56943.	61196.
#2	56793.	60783.
#3	56979.	60645.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103056820 Acquired: 3/23/2011 12:13:35 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.13800	100.22	.09756	.02082	2.5211	.01161	49.693
Stddev	.00121	1.87	.00184	.00627	.0808	.00005	1.569
%RSD	.88040	1.8692	1.8865	30.129	3.2059	.38900	3.1569
#1	.13915	98.083	.09901	.01583	2.4285	.01162	47.895
#2	.13813	101.56	.09818	.01878	2.5577	.01165	50.403
#3	.13673	101.03	.09549	.02786	2.5772	.01156	50.781
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00220	.06981	.13637	.12169	172.75	6.7446	.05657
Stddev	.00012	.00007	.00136	.00692	5.42	.2206	.00436
%RSD	5.6212	.10081	.99898	5.6846	3.1376	3.2705	7.7071
#1	.00207	.06987	.13759	.12967	166.54	6.4909	.05157
#2	.00221	.06973	.13661	.11745	175.17	6.8512	.05963
#3	.00232	.06984	.13490	.11795	176.53	6.8916	.05849
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.638	5.8908	.00810	.48366	.09340	.29748	.00406
Stddev	.519	.1935	.00023	.01195	.00070	.00410	.00425
%RSD	3.5434	3.2840	2.7912	2.4698	.74763	1.3766	104.77
#1	14.042	5.6698	.00804	.47342	.09339	.30192	.00652
#2	14.881	5.9729	.00792	.49678	.09410	.29668	-.00085
#3	14.990	6.0296	.00836	.48078	.09271	.29385	.00650
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103056820 Acquired: 3/23/2011 12:13:35 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00725	F 134.04	.00873	.36327	.18058	-.00060	.37917
Stddev	.00674	1.03	.00016	.01120	.00475	.00152	.00167
%RSD	93.037	.76925	1.8408	3.0818	2.6304	254.99	.44174
#1	.00779	133.47	.00876	.35038	.17513	-.00111	.38058
#2	.01370	135.23	.00855	.36893	.18278	.00112	.37960
#3	.00025	133.41	.00887	.37051	.18384	-.00180	.37732
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.58443
Stddev	.00062
%RSD	.10586
#1	.58388
#2	.58429
#3	.58510
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	54980.	61721.
Stddev	121.	1215.
%RSD	.21972	1.9691
#1	54858.	63121.
#2	54984.	61114.
#3	55099.	60929.

Approved: March 24, 2011
Pierce Morris

Sample Name: CCV Acquired: 3/23/2011 12:17:04 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.40394	10.036	.39923	.50669	1.0042	.05174	10.107
Stddev	.00291	.053	.00110	.00276	.0018	.00044	.027
%RSD	.72108	.52748	.27517	.54519	.17563	.85182	.26400
#1	.40635	10.097	.40015	.50956	1.0062	.05221	10.137
#2	.40476	10.013	.39952	.50644	1.0029	.05168	10.101
#3	.40070	9.9989	.39801	.50405	1.0035	.05133	10.084
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05023	.20585	.51344	.50771	4.1319	49.597	1.0166
Stddev	.00009	.00024	.00420	.00156	.0374	.110	.0040
%RSD	.18335	.11430	.81755	.30675	.90493	.22241	.39276
#1	.05013	.20558	.51803	.50598	4.1697	49.702	1.0170
#2	.05027	.20604	.51250	.50899	4.0949	49.482	1.0125
#3	.05030	.20592	.50979	.50817	4.1312	49.608	1.0204
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.086	.50722	.98610	50.691	.50161	.50438	1.1901
Stddev	.024	.00158	.00177	.047	.00110	.00174	.0049
%RSD	.23688	.31077	.17998	.09251	.22001	.34423	.41015
#1	10.058	.50802	.98620	50.738	.50147	.50527	1.1898
#2	10.097	.50823	.98782	50.644	.50277	.50238	1.1951
#3	10.101	.50540	.98428	50.689	.50058	.50549	1.1854
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: March 24, 2011
Pierce Morris

Sample Name: CCV Acquired: 3/23/2011 12:17:04 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.39841	F 4.4604	.99269	1.0099	1.0180	.50142	1.0126
Stddev	.00357	.2188	.00238	.0022	.0046	.00246	.0067
%RSD	.89502	4.9056	.24001	.22239	.45058	.48971	.66621
#1	.39970	4.6303	.99511	1.0095	1.0214	.50212	1.0193
#2	.40116	4.2135	.99261	1.0123	1.0199	.50345	1.0125
#3	.39439	4.5373	.99034	1.0079	1.0128	.49869	1.0059
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value		5.0000					
Range		-10.000%					

Elem	Zn2062
Units	ppm
Avg	1.0277
Stddev	.0007
%RSD	.06927
#1	1.0272
#2	1.0285
#3	1.0273
Check ?	Chk Pass
Value	
Range	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	54946.	60575.
Stddev	140.	45.
%RSD	.25423	.07432
#1	54872.	60528.
#2	54859.	60581.
#3	55107.	60617.

Approved: March 24, 2011
Pierce Morris

Sample Name: CCB Acquired: 3/23/2011 12:20:25 Type: Blank
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00023**	**.00100**	**.00285**	**.00466**	**-.00027**	**.00002**	**-.00543**	**.00040**
Stddev	.00073	.00404	.00239	.00097	.00024	.00002	.01944	.00013
%RSD	316.07	403.97	83.929	20.807	88.917	129.50	358.03	31.957
#1	-.00075	-.00096	.00010	.00487	-.00054	.00000	.01670	.00029
#2	.00060	.00565	.00402	.00550	-.00014	.00001	-.01977	.00053
#3	-.00054	-.00168	.00442	.00360	-.00012	.00004	-.01323	.00036
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00007**	**-.00023**	**.00058**	**-.00589**	**-.19149**	**-.00439**	**-.02008**	**.00037**
Stddev	.00013	.00045	.00138	.00489	.01853	.00138	.02991	.00019
%RSD	182.01	195.15	238.59	82.989	9.6779	31.383	148.93	50.133
#1	.00003	-.00036	.00199	-.00449	-.17171	-.00430	-.04772	.00021
#2	-.00021	-.00061	-.00077	-.01132	-.20845	-.00581	.01167	.00033
#3	-.00002	.00027	.00052	-.00185	-.19430	-.00306	-.02420	.00058
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Si2124	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00014**	**-.02037**	**-.00065**	**-.00318**	**.00368**	**-.00044**	**-.62617**	**.00035**
Stddev	.00036	.01354	.00006	.00085	.00086	.00083	.03615	.00058
%RSD	266.07	66.484	9.4325	26.598	23.300	190.47	5.7729	165.81
#1	.00023	-.01152	-.00071	-.00412	.00273	-.00130	-.66129	-.00031
#2	-.00027	-.01363	-.00066	-.00247	.00439	.00036	-.62815	.00077
#3	.00044	-.03596	-.00058	-.00296	.00392	-.00037	-.58907	.00060
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 24, 2011
Pierce Morris

Sample Name: CCB Acquired: 3/23/2011 12:20:25 Type: Blank
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sr4077	Ti3372	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm
Avg	-.00006	.00127	.00342	.00046	.00057
Stddev	.00006	.00061	.00074	.00015	.00008
%RSD	105.27	48.367	21.731	31.251	14.025
#1	-.00002	.00189	.00355	.00063	.00051
#2	-.00003	.00124	.00409	.00042	.00053
#3	-.00012	.00067	.00262	.00034	.00066
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	53257.	59093.
Stddev	117.	246.
%RSD	.21902	.41662
#1	53347.	58823.
#2	53297.	59306.
#3	53125.	59149.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103056821 Acquired: 3/23/2011 12:24:02 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00137	88.324	.12168	.02162	1.8182	.00988	58.635
Stddev	.00098	2.223	.00399	.00278	.0553	.00004	1.811
%RSD	71.274	2.5164	3.2798	12.842	3.0403	.39236	3.0883
#1	.00056	85.833	.11914	.02137	1.7555	.00985	56.597
#2	.00246	89.033	.11962	.01897	1.8393	.00992	59.248
#3	.00110	90.105	.12628	.02451	1.8598	.00986	60.059
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00108	.06987	.13348	.14644	170.06	9.4733	.05856
Stddev	.00002	.00009	.00105	.00634	5.08	.2799	.00423
%RSD	1.5430	.12384	.78493	4.3322	2.9866	2.9549	7.2158
#1	.00107	.06979	.13466	.15356	164.29	9.1592	.05462
#2	.00110	.06986	.13316	.14441	172.08	9.5645	.05804
#3	.00107	.06996	.13264	.14137	173.83	9.6963	.06303
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.154	4.5130	.00761	.49399	.11461	.21192	.00526
Stddev	.455	.1394	.00045	.00895	.00027	.00255	.00100
%RSD	3.2143	3.0895	5.8885	1.8112	.23161	1.2046	19.047
#1	13.631	4.3534	.00783	.48384	.11468	.21387	.00628
#2	14.373	4.5742	.00792	.50072	.11483	.21285	.00428
#3	14.459	4.6113	.00710	.49742	.11432	.20903	.00521
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103056821 Acquired: 3/23/2011 12:24:02 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00518	F 124.68	.00814	.36081	.16143	-.00111	.32156
Stddev	.00213	.57	.00039	.01169	.00458	.00167	.00070
%RSD	41.234	.46047	4.8118	3.2400	2.8376	150.58	.21770
#1	.00278	125.14	.00789	.34747	.15622	-.00281	.32106
#2	.00688	124.85	.00794	.36573	.16323	.00054	.32236
#3	.00586	124.04	.00859	.36925	.16483	-.00106	.32126
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.54156
Stddev	.00084
%RSD	.15492
#1	.54170
#2	.54233
#3	.54066
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	54648.	61561.
Stddev	238.	1248.
%RSD	.43484	2.0270
#1	54409.	62979.
#2	54650.	61075.
#3	54884.	60630.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103056822 Acquired: 3/23/2011 12:27:26 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00088	130.65	.10143	.02403	2.9414	.01264	41.066
Stddev	.00025	.65	.00313	.00154	.0233	.00004	.329
%RSD	28.409	.49585	3.0904	6.4114	.79400	.35070	.80004
#1	.00085	129.94	.10479	.02263	2.9174	.01259	40.712
#2	.00114	131.21	.10093	.02568	2.9428	.01265	41.124
#3	.00064	130.81	.09858	.02380	2.9641	.01267	41.362
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00285	.14643	.14093	.10229	219.33	6.8041	.07098
Stddev	.00008	.00026	.00074	.00209	1.40	.0727	.00019
%RSD	2.9767	.17493	.52250	2.0432	.63817	1.0691	.26383
#1	.00280	.14663	.14162	.10432	217.91	6.7204	.07091
#2	.00295	.14651	.14102	.10240	219.36	6.8394	.07084
#3	.00280	.14614	.14015	.10015	220.71	6.8525	.07120
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	16.212	14.740	.00901	.78761	.12452	.33790	.00554
Stddev	.188	.113	.00021	.02099	.00030	.00257	.00123
%RSD	1.1600	.76385	2.3541	2.6654	.24170	.76035	22.148
#1	16.025	14.624	.00883	.79709	.12424	.34038	.00670
#2	16.211	14.746	.00895	.76355	.12449	.33525	.00426
#3	16.401	14.849	.00924	.80220	.12484	.33806	.00566
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103056822 Acquired: 3/23/2011 12:27:26 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00541	F 135.22	.00967	.35076	.23092	.00174	.45717
Stddev	.00650	.86	.00054	.00349	.00055	.00137	.00100
%RSD	120.20	.63253	5.6096	.99564	.23770	78.851	.21944
#1	.01193	134.23	.00905	.34714	.23126	.00034	.45601
#2	.00537	135.71	.00999	.35104	.23122	.00308	.45776
#3	-.00107	135.71	.00998	.35411	.23029	.00180	.45773
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.53325
Stddev	.00018
%RSD	.03410
#1	.53346
#2	.53314
#3	.53315
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	55573.	61548.
Stddev	180.	253.
%RSD	.32344	.41093
#1	55619.	61831.
#2	55725.	61472.
#3	55375.	61342.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103056823 Acquired: 3/23/2011 12:30:51 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00130	92.326	.10055	.02227	1.6098	.00925	45.540
Stddev	.00099	1.496	.00162	.00338	.0491	.00003	1.391
%RSD	76.113	1.6199	1.6081	15.169	3.0502	.31573	3.0551
#1	.00242	90.669	.10190	.01843	1.5533	.00922	43.941
#2	.00059	92.735	.10099	.02478	1.6339	.00927	46.202
#3	.00087	93.575	.09876	.02360	1.6422	.00926	46.476
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00144	.07498	.13158	.13003	159.59	10.029	.06164
Stddev	.00004	.00008	.00080	.00627	4.91	.338	.00323
%RSD	3.0576	.11047	.61004	4.8209	3.0766	3.3705	5.2346
#1	.00142	.07491	.13246	.13695	153.94	9.6389	.05937
#2	.00140	.07496	.13090	.12841	161.97	10.224	.06533
#3	.00149	.07507	.13137	.12473	162.85	10.225	.06021
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	13.384	4.8929	.00809	.45733	.09874	.22297	.00605
Stddev	.405	.1463	.00032	.02065	.00024	.00322	.00175
%RSD	3.0253	2.9898	3.9360	4.5161	.24366	1.4437	29.000
#1	12.922	4.7250	.00817	.43531	.09847	.22240	.00666
#2	13.550	4.9611	.00774	.47627	.09880	.22644	.00742
#3	13.679	4.9926	.00837	.46041	.09894	.22008	.00407
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103056823 Acquired: 3/23/2011 12:30:51 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00944	F 123.38	.00795	.28921	.19145	-.00069	.31647
Stddev	.00354	.21	.00043	.00853	.00539	.00204	.00159
%RSD	37.466	.16736	5.4121	2.9479	2.8163	297.22	.50274
#1	.00536	123.33	.00774	.27938	.18596	-.00232	.31591
#2	.01146	123.20	.00845	.29363	.19167	.00161	.31524
#3	.01151	123.61	.00767	.29462	.19674	-.00135	.31827
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.58052
Stddev	.00080
%RSD	.13773
#1	.58110
#2	.58084
#3	.57960
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	54460.	61369.
Stddev	21.	991.
%RSD	.03921	1.6152
#1	54484.	62498.
#2	54449.	60967.
#3	54446.	60643.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103056824 Acquired: 3/23/2011 12:34:15 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00041	81.257	.07867	.01763	1.7359	.01005	34.613
Stddev	.00048	.552	.00282	.00144	.0491	.00006	.957
%RSD	117.75	.67971	3.5797	8.1422	2.8292	.64242	2.7661
#1	.00063	80.776	.07558	.01607	1.6807	.00999	33.543
#2	.00073	81.860	.07936	.01889	1.7522	.01012	34.908
#3	-.00014	81.135	.08109	.01795	1.7748	.01004	35.389
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00177	.06888	.13495	.10348	161.29	4.4594	.04531
Stddev	.00012	.00020	.00141	.00504	4.45	.2155	.00280
%RSD	6.9320	.29101	1.0415	4.8748	2.7595	4.8335	6.1868
#1	.00191	.06903	.13497	.10908	156.24	4.2309	.04207
#2	.00171	.06866	.13635	.10206	162.97	4.4881	.04696
#3	.00169	.06897	.13354	.09930	164.65	4.6591	.04688
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.991	4.6071	.00790	.67232	.07851	.27050	.00606
Stddev	.270	.1195	.00032	.00554	.00048	.00455	.00264
%RSD	2.4543	2.5943	4.0230	.82436	.60919	1.6831	43.501
#1	10.687	4.4717	.00768	.67447	.07867	.27564	.00365
#2	11.084	4.6513	.00827	.66603	.07889	.26889	.00565
#3	11.201	4.6982	.00776	.67647	.07797	.26698	.00888
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103056824 Acquired: 3/23/2011 12:34:15 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00506	F 109.80	.00705	.26403	.15221	-.00199	.35506
Stddev	.00121	.55	.00061	.00707	.00334	.00086	.00170
%RSD	23.932	.50010	8.6724	2.6759	2.1917	43.090	.47840
#1	.00493	110.31	.00652	.25611	.14863	-.00101	.35415
#2	.00632	109.88	.00691	.26631	.15277	-.00258	.35702
#3	.00391	109.22	.00772	.26968	.15524	-.00237	.35402
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.50217
Stddev	.00110
%RSD	.21907
#1	.50125
#2	.50339
#3	.50186
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	55816.	62118.
Stddev	142.	368.
%RSD	.25441	.59239
#1	55959.	62538.
#2	55675.	61855.
#3	55815.	61960.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103056825 Acquired: 3/23/2011 12:37:41 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00114	87.947	.18954	.01914	1.3487	.00889	59.291
Stddev	.00047	1.626	.00448	.00392	.0372	.00005	1.578
%RSD	41.191	1.8491	2.3612	20.480	2.7565	.55676	2.6621
#1	.00085	86.069	.18804	.01462	1.3065	.00884	57.499
#2	.00169	88.876	.18601	.02127	1.3630	.00889	59.901
#3	.00089	88.895	.19457	.02153	1.3766	.00894	60.474
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00036	.07697	.16264	.15968	179.44	10.457	.06295
Stddev	.00020	.00030	.00111	.00597	4.74	.356	.00290
%RSD	54.461	.39086	.68034	3.7373	2.6440	3.3999	4.6058
#1	.00044	.07687	.16326	.16631	174.06	10.048	.06436
#2	.00014	.07730	.16136	.15798	181.28	10.630	.06487
#3	.00051	.07672	.16329	.15474	183.00	10.693	.05961
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.906	4.0134	.00786	.62203	.11748	.18128	.00729
Stddev	.448	.1236	.00028	.00415	.00094	.00287	.00272
%RSD	3.0050	3.0806	3.5447	.66681	.79985	1.5837	37.361
#1	14.402	3.8721	.00788	.61824	.11662	.18450	.00995
#2	15.057	4.0660	.00813	.62646	.11849	.17897	.00451
#3	15.259	4.1019	.00757	.62139	.11734	.18039	.00742
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103056825 Acquired: 3/23/2011 12:37:41 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00769	F 117.36	.00866	.36586	.17875	-.00084	.31180
Stddev	.00053	.17	.00019	.01122	.00421	.00185	.00116
%RSD	6.9277	.14718	2.2453	3.0669	2.3563	220.65	.37223
#1	.00790	117.45	.00889	.35308	.17416	-.00175	.31046
#2	.00809	117.46	.00857	.37038	.17967	.00129	.31253
#3	.00709	117.16	.00853	.37411	.18243	-.00205	.31241
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.56946
Stddev	.00088
%RSD	.15454
#1	.56998
#2	.56996
#3	.56845
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	55035.	61348.
Stddev	97.	993.
%RSD	.17603	1.6179
#1	55128.	62494.
#2	55044.	60763.
#3	54935.	60788.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103056826 Acquired: 3/23/2011 12:41:06 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00210	114.91	.19056	.02329	1.8991	.01155	94.892
Stddev	.00056	1.96	.00136	.00499	.0541	.00002	2.691
%RSD	26.624	1.7047	.71581	21.419	2.8492	.16584	2.8361
#1	.00274	112.69	.18919	.01764	1.8366	.01157	91.784
#2	.00183	116.37	.19191	.02710	1.9292	.01156	96.456
#3	.00173	115.69	.19059	.02513	1.9314	.01153	96.435
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00017	.08999	.21466	.25448	228.63	7.1799	.06188
Stddev	.00017	.00025	.00060	.00611	6.30	.1414	.00194
%RSD	103.59	.28222	.27845	2.3995	2.7552	1.9689	3.1388
#1	.00003	.09025	.21521	.26152	221.36	7.0172	.06336
#2	.00010	.08998	.21475	.25134	231.95	7.2499	.06261
#3	.00037	.08974	.21403	.25059	232.57	7.2726	.05968
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	16.305	5.6887	.01134	.91672	.11282	.23967	.00718
Stddev	.448	.1602	.00051	.01555	.00050	.00110	.00138
%RSD	2.7450	2.8157	4.4942	1.6968	.44749	.45742	19.164
#1	15.788	5.5037	.01077	.90511	.11245	.23920	.00862
#2	16.581	5.7783	.01173	.91066	.11340	.23889	.00588
#3	16.545	5.7840	.01154	.93439	.11262	.24092	.00705
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103056826 Acquired: 3/23/2011 12:41:06 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00665	F 133.42	.00922	.55118	.19018	.00325	.42851
Stddev	.00431	.40	.00069	.01670	.00520	.00207	.00147
%RSD	64.707	.30197	7.4315	3.0304	2.7324	63.583	.34280
#1	.00298	133.69	.01000	.53190	.18468	.00558	.42715
#2	.01139	133.60	.00892	.56057	.19083	.00254	.42832
#3	.00559	132.95	.00873	.56108	.19501	.00163	.43007
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.56591
Stddev	.00025
%RSD	.04340
#1	.56619
#2	.56583
#3	.56572
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	55109.	61927.
Stddev	149.	1151.
%RSD	.27019	1.8583
#1	55252.	63167.
#2	54955.	60894.
#3	55122.	61721.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103056827 Acquired: 3/23/2011 12:44:30 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00014	76.048	.08261	.04103	1.8227	.00889	58.122
Stddev	.00016	1.344	.00376	.00047	.0563	.00005	1.777
%RSD	111.78	1.7674	4.5514	1.1507	3.0868	.52241	3.0564
#1	.00002	74.713	.08147	.04051	1.7586	.00893	56.116
#2	.00008	76.029	.08681	.04117	1.8454	.00890	58.757
#3	.00033	77.401	.07956	.04142	1.8640	.00884	59.495
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00179	.19899	.09171	.65134	142.69	11.030	.04461
Stddev	.00016	.00005	.00164	.00626	4.19	.324	.00072
%RSD	8.7606	.02498	1.7886	.96053	2.9381	2.9400	1.6187
#1	.00174	.19901	.09297	.65807	137.95	10.664	.04424
#2	.00196	.19894	.09230	.65026	144.22	11.142	.04544
#3	.00166	.19903	.08986	.64570	145.91	11.283	.04414
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.549	11.309	.00709	.99214	.09069	.29187	.00421
Stddev	.368	.337	.00033	.03431	.00132	.00389	.00182
%RSD	2.9288	2.9835	4.5845	3.4582	1.4575	1.3336	43.221
#1	12.133	10.926	.00682	.95313	.09219	.28739	.00228
#2	12.687	11.441	.00700	1.0176	.08970	.29439	.00589
#3	12.828	11.561	.00745	1.0056	.09017	.29384	.00444
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103056827 Acquired: 3/23/2011 12:44:30 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00502	F 132.31	.01108	.33080	.14572	.00219	.29829
Stddev	.00271	.39	.00049	.01045	.00496	.00099	.00049
%RSD	53.853	.29763	4.3806	3.1603	3.4017	45.250	.16370
#1	.00195	132.59	.01057	.31900	.14031	.00323	.29820
#2	.00705	132.47	.01114	.33450	.14680	.00206	.29785
#3	.00607	131.86	.01154	.33890	.15004	.00127	.29882
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.58606
Stddev	.00107
%RSD	.18183
#1	.58649
#2	.58684
#3	.58485
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	55066.	62012.
Stddev	104.	1119.
%RSD	.18975	1.8041
#1	55109.	63193.
#2	54947.	61876.
#3	55143.	60968.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103056828 Acquired: 3/23/2011 12:47:55 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00014	96.567	.07447	.03002	1.8595	.01177	42.030
Stddev	.00070	1.689	.00378	.00233	.0538	.00003	1.164
%RSD	514.58	1.7487	5.0800	7.7507	2.8909	.26030	2.7688
#1	.00027	94.642	.07604	.02747	1.7984	.01181	40.707
#2	-.00062	97.261	.07723	.03202	1.8804	.01175	42.485
#3	.00076	97.798	.07016	.03058	1.8997	.01176	42.897
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00221	.05782	.13835	.17173	131.08	8.6069	.05447
Stddev	.00012	.00024	.00082	.00413	3.71	.1925	.00329
%RSD	5.4040	.42313	.59406	2.4063	2.8284	2.2361	6.0463
#1	.00228	.05796	.13930	.17630	126.87	8.3847	.05290
#2	.00207	.05796	.13795	.17061	132.50	8.7226	.05826
#3	.00228	.05754	.13781	.16827	133.86	8.7134	.05226
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	13.962	2.9810	.00643	1.3093	.09282	.27747	.00512
Stddev	.362	.0846	.00027	.0478	.00042	.00655	.00289
%RSD	2.5950	2.8368	4.1222	3.6484	.45764	2.3593	56.475
#1	13.544	2.8857	.00669	1.2546	.09330	.28212	.00415
#2	14.156	3.0106	.00616	1.3304	.09247	.26999	.00284
#3	14.185	3.0469	.00644	1.3428	.09271	.28031	.00837
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103056828 Acquired: 3/23/2011 12:47:55 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00384	F 109.63	.00760	.32264	.12006	-.00335	.32799
Stddev	.00168	.80	.00014	.00927	.00350	.00021	.00063
%RSD	43.655	.72585	1.8149	2.8738	2.9129	6.1660	.19189
#1	.00410	110.54	.00776	.31212	.11652	-.00348	.32748
#2	.00205	109.29	.00751	.32618	.12352	-.00311	.32780
#3	.00538	109.06	.00753	.32962	.12013	-.00345	.32870
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.57966
Stddev	.00023
%RSD	.04031
#1	.57984
#2	.57940
#3	.57976
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	55612.	61714.
Stddev	12.	1098.
%RSD	.02209	1.7789
#1	55612.	62979.
#2	55600.	61159.
#3	55624.	61005.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103070101 Acquired: 3/23/2011 12:51:19 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 5 Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00297	23.732	.05538	.01461	.63517	.00317	39.491	.01146
Stddev	.00058	.161	.00165	.00108	.00136	.00001	.109	.00008
%RSD	19.551	.67681	2.9797	7.4115	.21353	.37002	.27586	.69499
#1	.00290	23.556	.05643	.01566	.63551	.00319	39.435	.01150
#2	.00359	23.871	.05623	.01467	.63632	.00317	39.616	.01152
#3	.00243	23.768	.05348	.01350	.63367	.00316	39.421	.01137
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.04220	.04025	1.9757	73.918	4.2554	.02099	4.1076	4.7923
Stddev	.00029	.00022	.0023	.047	.0400	.00173	.0256	.0090
%RSD	.67872	.53914	.11750	.06353	.93929	8.2573	.62317	.18694
#1	.04228	.04026	1.9737	73.905	4.2881	.01915	4.0901	4.7891
#2	.04188	.04003	1.9782	73.970	4.2108	.02260	4.1370	4.8024
#3	.04243	.04046	1.9752	73.879	4.2671	.02121	4.0956	4.7854
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Si2124	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00715	.17770	.03707	.88892	.01236	.00151	45.734	.04786
Stddev	.00030	.01729	.00028	.00578	.00359	.00122	.778	.00029
%RSD	4.1649	9.7270	.75241	.65060	29.018	80.928	1.7003	.60122
#1	.00694	.17435	.03730	.88224	.00824	.00247	46.219	.04809
#2	.00703	.19642	.03715	.89244	.01411	.00014	46.145	.04795
#3	.00749	.16234	.03676	.89207	.01474	.00191	44.837	.04753
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103070101 Acquired: 3/23/2011 12:51:19 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 5 Custom ID2: Custom ID3:
Comment:

Elem	Sr4077	Ti3372	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm
Avg	.14129	.12766	.00426	.09978	2.4466
Stddev	.00035	.00104	.00046	.00132	.0025
%RSD	.24807	.81572	10.898	1.3239	.10156
#1	.14148	.12751	.00380	.09825	2.4440
#2	.14150	.12670	.00473	.10043	2.4470
#3	.14088	.12877	.00425	.10064	2.4489
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	57556.	62804.
Stddev	284.	309.
%RSD	.49299	.49215
#1	57876.	63133.
#2	57455.	62519.
#3	57336.	62762.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103070102 Acquired: 3/23/2011 12:54:46 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 5 Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00197	23.223	.08182	.00603	.80694	.00307	83.305
Stddev	.00105	.153	.00127	.00163	.00105	.00001	.111
%RSD	53.439	.65920	1.5525	27.084	.12987	.24720	.13267
#1	.00244	23.274	.08302	.00744	.80605	.00308	83.238
#2	.00076	23.051	.08196	.00640	.80668	.00306	83.244
#3	.00269	23.344	.08049	.00424	.80810	.00307	83.433
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00917	.02205	F -.00568	.69725	47.986	5.4884	.02527
Stddev	.00015	.00020	.00091	.00242	.053	.0164	.00260
%RSD	1.5995	.90331	16.062	.34780	.11076	.29916	10.285
#1	.00920	.02220	-.00464	.69803	47.940	5.4935	.02367
#2	.00931	.02212	-.00610	.69918	47.973	5.5017	.02387
#3	.00902	.02182	-.00631	.69453	48.044	5.4700	.02827
Check ?	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit			90.000				
Low Limit			-.00300				

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.3698	11.839	.00234	.04501	.04320	.72678	.00912
Stddev	.0637	.025	.00013	.02166	.00099	.00246	.00227
%RSD	.86481	.21071	5.6711	48.135	2.2799	.33860	24.847
#1	7.3070	11.826	.00224	.03519	.04344	.72421	.00902
#2	7.3680	11.824	.00249	.06984	.04405	.72700	.00691
#3	7.4345	11.868	.00229	.02999	.04212	.72912	.01144
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103070102 Acquired: 3/23/2011 12:54:46 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 5 Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00061	33.988	.00672	.07601	.06546	.00809	.07241
Stddev	.00138	.059	.00026	.00010	.00198	.00050	.00060
%RSD	226.80	.17277	3.8479	.13810	3.0249	6.1652	.83181
#1	.00212	33.964	.00680	.07593	.06770	.00865	.07309
#2	-.00059	33.944	.00643	.07613	.06396	.00769	.07193
#3	.00030	34.054	.00693	.07597	.06471	.00794	.07221
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Zn2062
Units	ppm
Avg	.93169
Stddev	.00098
%RSD	.10512
#1	.93272
#2	.93077
#3	.93158
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	56338.	61435.
Stddev	249.	441.
%RSD	.44169	.71834
#1	56373.	61500.
#2	56567.	61840.
#3	56073.	60965.

Approved: March 24, 2011
Pierce Morris

Sample Name: CCV Acquired: 3/23/2011 12:58:16 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.39907	10.224	.39898	.50399	.99897	.05161	10.131
Stddev	.00205	.090	.00291	.00378	.00090	.00006	.016
%RSD	.51334	.88217	.72971	.75020	.09017	.11031	.15830
#1	.39671	10.259	.39599	.50241	.99923	.05157	10.149
#2	.40010	10.291	.39914	.50831	.99971	.05168	10.123
#3	.40040	10.121	.40180	.50126	.99796	.05160	10.121
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05007	.20717	.51049	.50618	4.1608	49.259	1.0207
Stddev	.00038	.00036	.00179	.00064	.0078	.101	.0013
%RSD	.75083	.17224	.34974	.12577	.18700	.20496	.12583
#1	.05009	.20698	.51252	.50585	4.1676	49.201	1.0213
#2	.04969	.20694	.50980	.50692	4.1523	49.375	1.0216
#3	.05044	.20758	.50915	.50579	4.1625	49.200	1.0192
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.227	.50830	.97698	50.816	.49648	.50455	1.1973
Stddev	.044	.00285	.00218	.036	.00121	.00304	.0017
%RSD	.43276	.55996	.22281	.07146	.24306	.60218	.13795
#1	10.278	.51156	.97899	50.839	.49755	.50723	1.1954
#2	10.204	.50699	.97728	50.835	.49517	.50125	1.1981
#3	10.199	.50633	.97467	50.774	.49672	.50517	1.1984
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: March 24, 2011
Pierce Morris

Sample Name: CCV Acquired: 3/23/2011 12:58:16 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.39563	F 4.0501	.99186	1.0128	1.0330	.49849	1.0024
Stddev	.00332	.2045	.00235	.0011	.0015	.00078	.0031
%RSD	.83890	5.0484	.23717	.10770	.14853	.15592	.31170
#1	.39790	4.2710	.99388	1.0134	1.0334	.49795	1.0010
#2	.39182	4.0116	.99242	1.0135	1.0343	.49938	1.0060
#3	.39717	3.8676	.98928	1.0115	1.0313	.49814	1.0003
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value		5.0000					
Range		-10.000%					

Elem	Zn2062
Units	ppm
Avg	1.0367
Stddev	.0006
%RSD	.05759
#1	1.0373
#2	1.0366
#3	1.0361
Check ?	Chk Pass
Value	
Range	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	56322.	60472.
Stddev	99.	322.
%RSD	.17574	.53292
#1	56436.	60246.
#2	56276.	60329.
#3	56255.	60841.

Approved: March 24, 2011
Pierce Morris

Sample Name: CCB Acquired: 3/23/2011 13:01:37 Type: Blank
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00056**	**.00202**	**.00031**	**.00057**	**-.00014**	**.00005**	**.01134**	**.00018**
Stddev	.00027	.00156	.00187	.00078	.00021	.00003	.00951	.00015
%RSD	48.141	77.317	608.31	136.91	146.40	67.142	83.833	82.473
#1	-.00086	.00119	-.00136	.00114	-.00038	.00006	.00275	.00033
#2	-.00035	.00382	-.00005	-.00032	-.00005	.00006	.00972	.00019
#3	-.00046	.00104	.00234	.00089	.00000	.00001	.02156	.00003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00031**	**-.00023**	**.00018**	**.00332**	**-.35716**	**-.00011**	**-.02059**	**-.00004**
Stddev	.00019	.00087	.00052	.00930	.03676	.00152	.01916	.00034
%RSD	60.409	383.22	291.90	279.78	10.292	1333.9	93.040	884.86
#1	-.00010	-.00115	.00024	.00058	-.33898	-.00070	-.03552	-.00009
#2	-.00038	.00058	-.00037	-.00430	-.39946	.00162	.00101	.00032
#3	-.00045	-.00012	.00066	.01369	-.33303	-.00125	-.02726	-.00035
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Si2124	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00013**	**-.04234**	**-.00138**	**-.00385**	**.00150**	**.00136**	**-.68202**	**.00037**
Stddev	.00009	.02410	.00074	.00175	.00203	.00445	.16623	.00031
%RSD	69.796	56.909	53.730	45.377	135.45	325.96	24.373	83.807
#1	.00020	-.06979	-.00211	-.00336	.00164	.00185	-.77945	.00003
#2	.00014	-.02467	-.00140	-.00240	.00345	.00555	-.49009	.00042
#3	.00003	-.03257	-.00063	-.00578	-.00060	-.00331	-.77653	.00064
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 24, 2011
Pierce Morris

Sample Name: CCB Acquired: 3/23/2011 13:01:37 Type: Blank
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sr4077	Ti3372	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm
Avg	-.00012	.00006	.00261	.00064	-.00263
Stddev	.00012	.00325	.00163	.00027	.00030
%RSD	103.01	5516.3	62.378	42.482	11.523
#1	-.00018	-.00204	.00076	.00091	-.00228
#2	-.00020	.00380	.00327	.00036	-.00279
#3	.00002	-.00158	.00380	.00065	-.00281
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	55646.	60364.
Stddev	549.	438.
%RSD	.98624	.72525
#1	56279.	59919.
#2	55291.	60379.
#3	55370.	60794.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103070103 Acquired: 3/23/2011 13:05:13 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 5 Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00313	27.087	.09241	.00700	.86054	.00351	124.13
Stddev	.00034	.115	.00062	.00140	.00168	.00001	.17
%RSD	10.949	.42420	.67232	20.023	.19551	.39765	.13915
#1	.00351	27.094	.09184	.00665	.85915	.00352	124.19
#2	.00302	27.198	.09307	.00581	.86007	.00352	123.93
#3	.00285	26.969	.09231	.00855	.86241	.00349	124.25
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01049	.02378	F -.00773	.40536	51.624	5.1076	.03368
Stddev	.00006	.00034	.00021	.00057	.053	.0632	.00085
%RSD	.53838	1.4361	2.7055	.14009	.10348	1.2373	2.5166
#1	.01054	.02379	-.00772	.40537	51.619	5.1617	.03452
#2	.01050	.02412	-.00752	.40593	51.573	5.0381	.03283
#3	.01043	.02344	-.00794	.40479	51.679	5.1230	.03369
Check ?	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit			90.000				
Low Limit			-.00300				

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.0438	15.279	.00154	.07956	.05200	.81429	.01172
Stddev	.0500	.042	.00026	.02373	.00035	.00471	.00160
%RSD	.62113	.27392	16.942	29.830	.67587	.57900	13.611
#1	8.0012	15.234	.00174	.09190	.05167	.81502	.01115
#2	8.0313	15.286	.00125	.09457	.05198	.81859	.01353
#3	8.0988	15.317	.00164	.05220	.05237	.80925	.01049
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103070103 Acquired: 3/23/2011 13:05:13 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 5 Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00216**	**41.018**	**.00335**	**.09322**	**.06788**	**.00934**	**.08847**
Stddev	.00236	.372	.00021	.00048	.00229	.00164	.00061
%RSD	109.28	.90741	6.2977	.51592	3.3715	17.527	.68996
#1	-.00038	40.592	.00311	.09275	.06729	.00894	.08816
#2	.00428	41.278	.00347	.09321	.07041	.00794	.08917
#3	.00257	41.185	.00348	.09371	.06595	.01113	.08807
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Zn2062
Units	ppm
Avg	**1.1012**
Stddev	.0012
%RSD	.11269
#1	1.1021
#2	1.0998
#3	1.1017
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	**57513.**	**63270.**
Stddev	237.	114.
%RSD	.41155	.18067
#1	57775.	63402.
#2	57452.	63198.
#3	57314.	63210.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103070104 Acquired: 3/23/2011 13:08:37 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 5 Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00406	18.048	.03403	.00839	.86073	.00645	45.621	.00357
Stddev	.00052	.062	.00513	.00271	.00191	.00002	.022	.00026
%RSD	12.810	.34583	15.089	32.332	.22174	.31050	.04932	7.3755
#1	.00419	17.978	.03986	.01010	.86027	.00646	45.609	.00348
#2	.00348	18.070	.03018	.00981	.85909	.00643	45.607	.00386
#3	.00450	18.097	.03206	.00526	.86283	.00646	45.647	.00335
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.03869	.00991	2.5409	89.047	4.6103	.02563	7.5126	6.8640
Stddev	.00021	.00085	.0021	.085	.0208	.00174	.0406	.0123
%RSD	.55095	8.5688	.08435	.09537	.45041	6.7737	.54005	.17912
#1	.03873	.00902	2.5384	89.102	4.5867	.02362	7.4980	6.8498
#2	.03888	.01072	2.5425	88.949	4.6257	.02661	7.5585	6.8710
#3	.03846	.01000	2.5417	89.090	4.6186	.02665	7.4814	6.8712
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Si2124	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00342	.13274	.03925	2.4674	.00600	.00252	42.289	.04147
Stddev	.00008	.02898	.00057	.0039	.00308	.00410	.729	.00043
%RSD	2.2164	21.834	1.4561	.15796	51.418	162.54	1.7243	1.0370
#1	.00348	.11720	.03867	2.4645	.00608	.00653	42.891	.04149
#2	.00346	.16618	.03981	2.4718	.00904	-.00167	42.497	.04188
#3	.00334	.11484	.03928	2.4660	.00287	.00271	41.478	.04102
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103070104 Acquired: 3/23/2011 13:08:37 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 5 Custom ID2: Custom ID3:
Comment:

Elem	Sr4077	Ti3372	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm
Avg	.10846	.10749	.00556	.04875	1.3684
Stddev	.00032	.00131	.00165	.00027	.0010
%RSD	.29235	1.2231	29.665	.54561	.07007
#1	.10824	.10825	.00377	.04862	1.3674
#2	.10882	.10824	.00702	.04856	1.3693
#3	.10832	.10597	.00589	.04905	1.3685
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	58041.	62815.
Stddev	74.	120.
%RSD	.12749	.19076
#1	58119.	62882.
#2	58034.	62676.
#3	57971.	62886.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103070105 Acquired: 3/23/2011 13:12:03 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 5 Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01211	34.068	.07719	.04186	2.5576	.00171	72.940
Stddev	.00072	.246	.00167	.00142	.0013	.00003	.032
%RSD	5.9564	.72196	2.1580	3.4004	.05228	1.8065	.04340
#1	.01289	34.339	.07895	.04133	2.5567	.00169	72.904
#2	.01198	34.007	.07563	.04347	2.5591	.00169	72.957
#3	.01147	33.858	.07700	.04077	2.5569	.00174	72.961
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.04047	.03879	.11157	8.4164	147.93	8.2497	.02777
Stddev	.00006	.00015	.00045	.0129	.02	.0297	.00218
%RSD	.14059	.39297	.40466	.15280	.01664	.36057	7.8464
#1	.04052	.03864	.11105	8.4117	147.92	8.2702	.02666
#2	.04041	.03895	.11185	8.4066	147.96	8.2156	.02637
#3	.04049	.03879	.11182	8.4310	147.91	8.2632	.03028
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.1336	3.3778	.01507	1.9503	.06199	10.762	.06134
Stddev	.0212	.0014	.00009	.0073	.00017	.028	.00226
%RSD	.26055	.04292	.58717	.37547	.27669	.26357	3.6844
#1	8.1544	3.3782	.01504	1.9445	.06219	10.752	.06096
#2	8.1342	3.3790	.01501	1.9478	.06188	10.740	.06377
#3	8.1121	3.3762	.01517	1.9586	.06190	10.794	.05930
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103070105 Acquired: 3/23/2011 13:12:03 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 5 Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00780	F 86.160	.26864	.33340	.29542	.00601	.07588
Stddev	.00416	.849	.00049	.00020	.00060	.00193	.00087
%RSD	53.371	.98591	.18349	.06061	.20325	32.067	1.1426
#1	.00336	86.828	.26808	.33344	.29553	.00379	.07684
#2	.00842	86.448	.26901	.33358	.29595	.00708	.07516
#3	.01162	85.204	.26883	.33318	.29476	.00717	.07564
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	8.5516
Stddev	.0111
%RSD	.12982
#1	8.5526
#2	8.5400
#3	8.5622
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	57891.	63141.
Stddev	132.	106.
%RSD	.22746	.16792
#1	57911.	63065.
#2	58011.	63095.
#3	57750.	63262.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103070106 Acquired: 3/23/2011 13:15:25 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 5 Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00773	20.431	.05969	.02052	.62367	.00131	41.771	.01301
Stddev	.00041	.130	.00245	.00208	.00119	.00001	.087	.00019
%RSD	5.2926	.63725	4.0998	10.151	.19140	.75069	.20783	1.4340
#1	.00776	20.482	.06185	.01865	.62466	.00132	41.834	.01322
#2	.00813	20.283	.05704	.02277	.62234	.00131	41.672	.01297
#3	.00731	20.527	.06020	.02015	.62399	.00131	41.808	.01285
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02632	.04904	7.4575	125.34	5.7026	.01607	4.4550	2.4968
Stddev	.00011	.00070	.0081	.26	.0570	.00247	.0110	.0044
%RSD	.42936	1.4349	.10925	.20416	.99927	15.377	.24667	.17782
#1	.02621	.04838	7.4614	125.39	5.6732	.01323	4.4443	2.4935
#2	.02633	.04896	7.4482	125.07	5.7683	.01732	4.4543	2.4951
#3	.02643	.04978	7.4630	125.57	5.6663	.01767	4.4663	2.5019
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Si2124	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01267	1.2196	.02909	2.2554	.02388	.00894	37.593	.11160
Stddev	.00009	.0215	.00058	.0022	.00170	.00356	.343	.00044
%RSD	.68613	1.7599	1.9769	.09573	7.1130	39.809	.91349	.39692
#1	.01277	1.2297	.02975	2.2548	.02509	.01044	37.961	.11207
#2	.01265	1.1950	.02872	2.2535	.02194	.01151	37.537	.11119
#3	.01260	1.2342	.02879	2.2577	.02461	.00488	37.281	.11154
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103070106 Acquired: 3/23/2011 13:15:25 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 5 Custom ID2: Custom ID3:
Comment:

Elem	Sr4077	Ti3372	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm
Avg	**.16262**	**.23145**	**.00300**	**.07234**	**2.4635**
Stddev	.00041	.00102	.00135	.00081	.0011
%RSD	.25268	.44278	44.841	1.1209	.04285
#1	.16308	.23108	.00364	.07262	2.4625
#2	.16232	.23261	.00392	.07142	2.4634
#3	.16245	.23066	.00146	.07297	2.4646
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	**58285.**	**63040.**
Stddev	161.	186.
%RSD	.27666	.29429
#1	58256.	63066.
#2	58460.	63211.
#3	58141.	62843.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103070107 Acquired: 3/23/2011 13:18:50 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 5 Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00031	15.607	.02010	.00378	.29327	.00157	3.3522	-.00038
Stddev	.00126	.072	.00200	.00054	.00033	.00001	.0310	.00008
%RSD	399.68	.46439	9.9658	14.220	.11181	.63881	.92587	22.391
#1	.00176	15.523	.01778	.00359	.29302	.00156	3.3319	-.00036
#2	-.00055	15.642	.02127	.00336	.29364	.00158	3.3880	-.00047
#3	-.00026	15.655	.02124	.00438	.29314	.00158	3.3369	-.00030
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00582	.02807	.95755	64.338	2.3982	.00791	2.2898	.22577
Stddev	.00031	.00043	.00124	.094	.0453	.00339	.0125	.00070
%RSD	5.2610	1.5360	.12970	.14678	1.8907	42.896	.54590	.31048
#1	.00601	.02760	.95613	64.276	2.4131	.00596	2.2860	.22638
#2	.00546	.02844	.95812	64.447	2.4342	.01183	2.3037	.22501
#3	.00597	.02816	.95841	64.292	2.3473	.00595	2.2796	.22592
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Si2124	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00317	.04910	.01620	.31297	.00178	.00385	26.947	.00796
Stddev	.00029	.01321	.00065	.00228	.00208	.00192	.034	.00039
%RSD	9.1282	26.901	4.0223	.72983	117.15	49.938	.12720	4.8654
#1	.00307	.04371	.01669	.31157	.00347	.00237	26.944	.00761
#2	.00294	.06415	.01546	.31561	-.00055	.00603	26.983	.00838
#3	.00349	.03943	.01644	.31175	.00241	.00317	26.914	.00787
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103070107 Acquired: 3/23/2011 13:18:50 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 5 Custom ID2: Custom ID3:
Comment:

Elem	Sr4077	Ti3372	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm
Avg	.03527	.08400	-.00021	.03634	.23578
Stddev	.00018	.00142	.00112	.00032	.00052
%RSD	.50617	1.6869	528.02	.88183	.21918
#1	.03529	.08244	.00031	.03658	.23637
#2	.03509	.08437	-.00150	.03646	.23540
#3	.03544	.08520	.00055	.03597	.23556
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	58809.	62465.
Stddev	203.	133.
%RSD	.34437	.21239
#1	58575.	62533.
#2	58926.	62550.
#3	58925.	62312.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103070108 Acquired: 3/23/2011 13:22:16 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 5 Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01815	36.455	.14780	.00961	.38057	.00533	170.79
Stddev	.00099	.130	.00100	.00075	.00059	.00004	.41
%RSD	5.4428	.35584	.67400	7.7838	.15529	.70003	.24173
#1	.01867	36.435	.14740	.00992	.38014	.00530	170.47
#2	.01701	36.336	.14893	.00875	.38033	.00537	170.63
#3	.01877	36.593	.14706	.01014	.38125	.00532	171.25
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02551	.12159	.02275	11.989	162.34	2.5226	.07187
Stddev	.00020	.00031	.00102	.030	.42	.0309	.00314
%RSD	.78005	.25515	4.4954	.25400	.25658	1.2265	4.3705
#1	.02536	.12162	.02183	11.959	161.93	2.5364	.07483
#2	.02543	.12189	.02385	11.988	162.33	2.5443	.06857
#3	.02573	.12127	.02256	12.020	162.76	2.4872	.07221
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	20.730	10.605	.01597	.23060	.12192	2.7691	.00551
Stddev	.103	.031	.00033	.00830	.00032	.0079	.00254
%RSD	.49720	.29025	2.0569	3.5977	.26591	.28382	46.007
#1	20.805	10.618	.01594	.23155	.12168	2.7615	.00260
#2	20.612	10.570	.01567	.22186	.12178	2.7687	.00676
#3	20.772	10.628	.01632	.23837	.12229	2.7772	.00719
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103070108 Acquired: 3/23/2011 13:22:16 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 5 Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02759	F 79.087	.01895	.24588	.09465	.01107	.11244
Stddev	.00103	.307	.00024	.00154	.00086	.00204	.00065
%RSD	3.7210	.38868	1.2628	.62812	.90453	18.449	.58004
#1	.02684	79.221	.01871	.24640	.09561	.01074	.11209
#2	.02876	79.306	.01897	.24414	.09439	.00922	.11319
#3	.02716	78.736	.01918	.24710	.09396	.01327	.11203
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	4.9239
Stddev	.0090
%RSD	.18311
#1	4.9138
#2	4.9269
#3	4.9311
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	57166.	62880.
Stddev	155.	291.
%RSD	.27033	.46330
#1	57269.	62621.
#2	56988.	63195.
#3	57240.	62825.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103070109 Acquired: 3/23/2011 13:25:40 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 5 Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.03190	43.753	.19344	.01268	.51472	.00709	191.29
Stddev	.00032	.120	.00458	.00256	.00048	.00001	.29
%RSD	1.0167	.27526	2.3661	20.171	.09391	.13833	.15218
#1	.03188	43.616	.18953	.01248	.51480	.00710	191.19
#2	.03158	43.842	.19232	.01534	.51517	.00708	191.62
#3	.03223	43.801	.19848	.01023	.51421	.00709	191.07
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.03448	.19237	.02396	22.904	246.88	2.0971	.09795
Stddev	.00012	.00058	.00074	.076	.23	.0660	.00370
%RSD	.35936	.30130	3.0851	.33013	.09203	3.1461	3.7750
#1	.03440	.19171	.02403	22.828	246.73	2.0373	.10133
#2	.03462	.19280	.02466	22.904	247.14	2.0861	.09400
#3	.03442	.19260	.02319	22.980	246.76	2.1678	.09853
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	29.987	16.486	.02366	.43173	.17772	3.7561	.00971
Stddev	.033	.022	.00021	.00267	.00112	.0228	.00125
%RSD	.11090	.13082	.88187	.61900	.62744	.60800	12.924
#1	29.953	16.462	.02376	.42871	.17734	3.7400	.00826
#2	30.020	16.493	.02380	.43378	.17685	3.7461	.01038
#3	29.986	16.504	.02342	.43270	.17898	3.7823	.01048
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103070109 Acquired: 3/23/2011 13:25:40 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 5 Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05461	F 111.88	.03173	.33887	.09262	.01582	.15930
Stddev	.00606	.83	.00031	.00094	.00186	.00356	.00028
%RSD	11.094	.73875	.98195	.27709	2.0114	22.495	.17549
#1	.05377	112.37	.03187	.33781	.09468	.01629	.15915
#2	.04901	112.34	.03195	.33924	.09104	.01204	.15962
#3	.06104	110.92	.03138	.33957	.09215	.01911	.15912
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	7.3555
Stddev	.0230
%RSD	.31258
#1	7.3295
#2	7.3638
#3	7.3732
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	56779.	62534.
Stddev	272.	251.
%RSD	.47885	.40126
#1	56791.	62686.
#2	56502.	62244.
#3	57045.	62671.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103070110 Acquired: 3/23/2011 13:29:05 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 5 Custom ID2: Custom ID3:
Comment: WG359568-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.04313	46.526	.27180	.01515	.60109	.00820	248.89
Stddev	.00044	.294	.00429	.00169	.00166	.00002	.14
%RSD	1.0311	.63197	1.5793	11.161	.27582	.20429	.05550
#1	.04276	46.193	.27667	.01345	.60008	.00822	248.75
#2	.04300	46.636	.26856	.01684	.60300	.00819	249.03
#3	.04362	46.750	.27017	.01516	.60019	.00819	248.87
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.04345	.21437	.00924	32.121	241.92	.92120	.11575
Stddev	.00020	.00038	.00086	.044	.34	.11949	.00091
%RSD	.45419	.17771	9.2733	.13597	.14067	12.971	.78756
#1	.04363	.21394	.00874	32.158	241.75	1.0587	.11675
#2	.04349	.21449	.00875	32.133	242.31	.86205	.11496
#3	.04324	.21467	.01023	32.073	241.71	.84281	.11553
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	37.958	24.686	.03124	.39858	.21929	4.6753	.00937
Stddev	.050	.058	.00041	.00858	.00140	.0108	.00287
%RSD	.13299	.23354	1.3067	2.1533	.63777	.23179	30.642
#1	37.966	24.711	.03166	.39103	.22062	4.6857	.00631
#2	38.004	24.727	.03121	.40791	.21941	4.6761	.00979
#3	37.904	24.620	.03084	.39679	.21783	4.6641	.01201
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103070110 Acquired: 3/23/2011 13:29:05 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 5 Custom ID2: Custom ID3:
Comment: WG359568-01

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05360	F 108.88	.01875	.50247	.10413	.02417	.17882
Stddev	.00276	1.53	.00056	.00181	.00225	.00253	.00009
%RSD	5.1487	1.4069	2.9928	.36074	2.1569	10.465	.04791
#1	.05079	110.46	.01936	.50450	.10581	.02584	.17884
#2	.05370	108.77	.01864	.50192	.10500	.02126	.17889
#3	.05631	107.40	.01825	.50100	.10157	.02541	.17872
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	9.8714
Stddev	.0043
%RSD	.04391
#1	9.8664
#2	9.8742
#3	9.8735
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	56336.	62279.
Stddev	54.	229.
%RSD	.09673	.36804
#1	56337.	62537.
#2	56390.	62199.
#3	56281.	62099.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103070110S Acquired: 3/23/2011 13:32:29 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 5 Custom ID2: Custom ID3:
Comment: WG359568-04

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.08040	48.263	.32371	.01415	.62832	.00831	254.18
Stddev	.00031	.456	.00182	.00179	.00122	.00002	.81
%RSD	.38391	.94435	.56095	12.640	.19465	.18071	.31994
#1	.08060	48.517	.32395	.01256	.62699	.00829	253.27
#2	.08005	48.535	.32539	.01380	.62857	.00831	254.81
#3	.08056	47.737	.32178	.01608	.62940	.00832	254.47
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.04849	.21820	.00649	33.181	249.69	.93141	.11897
Stddev	.00007	.00025	.00052	.044	.88	.05434	.00192
%RSD	.13776	.11388	8.0639	.13194	.35235	5.8343	1.6165
#1	.04851	.21820	.00671	33.137	248.68	.94111	.11764
#2	.04841	.21795	.00686	33.182	250.10	.98025	.12118
#3	.04854	.21844	.00589	33.225	250.29	.87287	.11811
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	37.897	25.024	.03086	.40425	.22116	4.7637	.01126
Stddev	.246	.106	.00042	.02367	.00054	.0040	.00254
%RSD	.64807	.42266	1.3706	5.8556	.24562	.08332	22.557
#1	37.626	24.906	.03125	.43129	.22178	4.7680	.00918
#2	37.957	25.053	.03041	.39420	.22081	4.7601	.01409
#3	38.107	25.111	.03091	.38726	.22088	4.7630	.01050
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103070110S Acquired: 3/23/2011 13:32:29 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 5 Custom ID2: Custom ID3:
Comment: WG359568-04

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05773	F 118.26	.01978	.51463	.11987	.02322	.18416
Stddev	.00387	1.23	.00021	.00291	.00141	.00090	.00055
%RSD	6.7089	1.0404	1.0703	.56546	1.1731	3.8868	.29975
#1	.06073	118.84	.02002	.51128	.12140	.02377	.18474
#2	.05909	119.09	.01966	.51607	.11958	.02218	.18412
#3	.05335	116.84	.01965	.51654	.11863	.02372	.18363
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	9.9780
Stddev	.0097
%RSD	.09729
#1	9.9731
#2	9.9717
#3	9.9892
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	57429.	62439.
Stddev	82.	523.
%RSD	.14228	.83782
#1	57520.	62240.
#2	57361.	62045.
#3	57405.	63033.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103070110SD Acquired: 3/23/2011 13:35:53 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 5 Custom ID2: Custom ID3:
Comment: WG359568-05

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.08013	40.735	.29650	.00970	.58296	.00791	253.90
Stddev	.00069	.164	.00386	.00124	.00069	.00003	.51
%RSD	.85687	.40372	1.3023	12.812	.11824	.37883	.20076
#1	.08092	40.749	.29204	.00857	.58222	.00788	253.34
#2	.07975	40.564	.29883	.00948	.58306	.00794	253.99
#3	.07972	40.892	.29862	.01103	.58359	.00790	254.35
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.04808	.21367	.00875	32.184	227.96	.75802	.09832
Stddev	.00019	.00043	.00110	.022	.53	.03129	.00164
%RSD	.40315	.20315	12.600	.06853	.23086	4.1272	1.6705
#1	.04786	.21329	.00881	32.189	227.41	.75425	.09827
#2	.04822	.21415	.00761	32.204	228.01	.79101	.09998
#3	.04816	.21358	.00981	32.160	228.46	.72879	.09670
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	31.309	24.880	.03068	.39263	.21688	4.6333	.01283
Stddev	.092	.024	.00018	.01538	.00128	.0080	.00140
%RSD	.29371	.09490	.59532	3.9161	.58958	.17341	10.892
#1	31.413	24.896	.03076	.37498	.21684	4.6398	.01150
#2	31.238	24.853	.03081	.39983	.21817	4.6243	.01429
#3	31.276	24.891	.03047	.40309	.21562	4.6357	.01272
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103070110SD Acquired: 3/23/2011 13:35:53 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 5 Custom ID2: Custom ID3:
Comment: WG359568-05

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.06125	F 124.25	.01822	.48802	.10631	.02391	.16260
Stddev	.00323	1.48	.00041	.00049	.00073	.00103	.00038
%RSD	5.2662	1.1889	2.2610	.09948	.68637	4.3222	.23415
#1	.06192	124.80	.01816	.48814	.10680	.02417	.16236
#2	.05774	125.38	.01784	.48749	.10547	.02480	.16239
#3	.06409	122.58	.01865	.48844	.10665	.02278	.16304
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	9.7313
Stddev	.0017
%RSD	.01705
#1	9.7313
#2	9.7296
#3	9.7329
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	57459.	63396.
Stddev	174.	68.
%RSD	.30234	.10725
#1	57258.	63346.
#2	57570.	63370.
#3	57547.	63474.

Approved: March 24, 2011
Pierce Morris

Sample Name: CCV Acquired: 3/23/2011 13:39:23 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.39817	10.032	.40352	.50520	.99893	.05177	10.066
Stddev	.00203	.013	.00177	.00368	.00143	.00015	.002
%RSD	.50959	.12962	.43757	.72772	.14335	.29598	.01954
#1	.40046	10.017	.40521	.50749	.99882	.05194	10.064
#2	.39745	10.040	.40365	.50096	.99756	.05174	10.067
#3	.39659	10.039	.40169	.50716	1.0004	.05164	10.066
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05011	.20767	.50970	.50720	4.1318	48.664	1.0178
Stddev	.00012	.00029	.00215	.00066	.0103	.032	.0027
%RSD	.24396	.14198	.42148	.13003	.24855	.06544	.26000
#1	.04998	.20750	.51214	.50787	4.1368	48.636	1.0209
#2	.05022	.20802	.50888	.50655	4.1386	48.657	1.0165
#3	.05012	.20751	.50809	.50717	4.1200	48.699	1.0161
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.150	.50795	.98046	50.547	.49796	.51030	1.2012
Stddev	.055	.00147	.00222	.062	.00121	.00384	.0033
%RSD	.54400	.28919	.22658	.12336	.24314	.75311	.27344
#1	10.116	.50626	.98156	50.545	.49865	.51389	1.1979
#2	10.120	.50887	.98191	50.486	.49867	.51077	1.2045
#3	10.214	.50872	.97790	50.611	.49656	.50625	1.2012
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: March 24, 2011
Pierce Morris

Sample Name: CCV Acquired: 3/23/2011 13:39:23 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.40224	F 4.1520	.99636	1.0181	1.0358	.49853	.99874
Stddev	.00152	.2702	.00211	.0016	.0027	.00133	.00330
%RSD	.37705	6.5091	.21194	.15666	.26148	.26739	.33057
#1	.40134	3.9175	.99836	1.0165	1.0384	.49979	1.0019
#2	.40140	4.0908	.99656	1.0181	1.0359	.49866	.99529
#3	.40399	4.4475	.99415	1.0196	1.0330	.49713	.99905
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value		5.0000					
Range		-10.000%					

Elem	Zn2062
Units	ppm
Avg	1.0380
Stddev	.0015
%RSD	.14081
#1	1.0388
#2	1.0389
#3	1.0363
Check ?	Chk Pass
Value	
Range	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	56716.	61797.
Stddev	106.	101.
%RSD	.18608	.16276
#1	56599.	61890.
#2	56748.	61690.
#3	56802.	61811.

Approved: March 24, 2011
Pierce Morris

Sample Name: CCB Acquired: 3/23/2011 13:42:43 Type: Blank
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00004	.00522	.00055	.00164	-.00073	.00002	.00622
Stddev	.00068	.00822	.00266	.00258	.00042	.00001	.01882
%RSD	1531.0	157.48	482.09	157.52	56.600	49.448	302.55
#1	.00057	.00608	.00098	.00372	-.00046	.00002	.02671
#2	.00006	-.00340	-.00230	.00244	-.00121	.00001	.00225
#3	-.00077	.01298	.00297	-.00125	-.00053	.00001	-.01030
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00015	-.00008	.00018	.00051	-.00393	-.60878	.00046
Stddev	.00015	.00031	.00077	.00128	.00513	.06150	.00327
%RSD	94.034	367.29	439.33	250.29	130.45	10.101	715.75
#1	-.00001	-.00042	-.00017	-.00078	-.00710	-.55103	.00019
#2	.00020	.00019	-.00036	.00179	-.00668	-.60186	.00386
#3	.00027	-.00003	.00106	.00052	.00199	-.67344	-.00267
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.01764	-.00094	.00026	-.03874	-.00092	-.00321	.00095
Stddev	.01958	.00081	.00032	.02850	.00026	.00053	.00171
%RSD	111.00	86.391	123.17	73.576	27.916	16.461	179.83
#1	-.00492	-.00044	.00048	-.03080	-.00071	-.00286	.00283
#2	-.04018	-.00050	.00041	-.01505	-.00121	-.00382	-.00051
#3	-.00781	-.00187	-.00011	-.07037	-.00085	-.00295	.00054
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: CCB Acquired: 3/23/2011 13:42:43 Type: Blank
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00141**	F **-1.0194**	**.00049**	**-.00032**	**.00106**	**.00027**	**.00017**
Stddev	.00338	.2263	.00034	.00015	.00070	.00220	.00008
%RSD	239.10	22.196	69.460	46.130	65.983	818.90	47.296
#1	-.00242	-.82480	.00033	-.00041	.00164	-.00079	.00023
#2	.00270	-1.2677	.00088	-.00040	.00028	.00280	.00022
#3	.00396	-.96582	.00026	-.00015	.00125	-.00120	.00008
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		1.0000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	**-.00263**
Stddev	.00001
%RSD	.34514
#1	-.00262
#2	-.00264
#3	-.00262
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	**57491.**	**62032.**
Stddev	129.	388.
%RSD	.22405	.62567
#1	57498.	61611.
#2	57359.	62376.
#3	57617.	62108.

Approved: March 24, 2011
Pierce Morris

Sample Name: PBS 1P Acquired: 3/23/2011 13:46:22 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359594-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00039	.00067	.00107	.00117	.00044	.00003	.01187	.00009
Stddev	.00037	.00608	.00193	.00049	.00005	.00003	.00832	.00004
%RSD	95.219	914.07	180.21	41.346	10.250	109.37	70.094	39.298
#1	.00071	-.00288	.00224	.00117	.00041	-.00001	.02029	.00012
#2	-.00002	-.00281	.00213	.00069	.00043	.00003	.01164	.00005
#3	.00049	.00769	-.00115	.00166	.00049	.00005	.00366	.00010
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00024	.00057	.00192	.00854	1.4454	-.00326	-.02945	-.00010
Stddev	.00022	.00051	.00099	.00331	.0729	.00190	.01322	.00037
%RSD	92.916	90.902	51.536	38.755	5.0437	58.234	44.869	355.56
#1	.00001	.00094	.00307	.00592	1.3751	-.00182	-.01432	-.00050
#2	-.00030	.00077	.00136	.00744	1.5206	-.00541	-.03874	.00024
#3	-.00043	-.00002	.00134	.01226	1.4406	-.00255	-.03530	-.00005
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Si2124	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00015	-.03936	-.00085	-.00084	.00165	.00196	-.02762	.00038
Stddev	.00002	.00622	.00020	.00196	.00112	.00083	.25981	.00040
%RSD	15.024	15.799	23.500	233.90	67.868	42.611	940.81	103.23
#1	.00017	-.03689	-.00068	-.00186	.00036	.00250	-.26856	.00038
#2	.00014	-.03475	-.00081	-.00207	.00220	.00238	.24764	.00078
#3	.00013	-.04643	-.00107	.00142	.00238	.00100	-.06192	-.00001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 24, 2011
Pierce Morris

Sample Name: PBS 1P Acquired: 3/23/2011 13:46:22 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359594-02

Elem	Sr4077	Ti3372	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm
Avg	**-.00014**	**.00120**	**-.00051**	**.00036**	**-.00098**
Stddev	.00019	.00100	.00180	.00024	.00016
%RSD	141.46	84.022	353.76	67.237	16.788
#1	-.00022	.00184	-.00240	.00046	-.00082
#2	-.00027	.00004	-.00032	.00055	-.00115
#3	.00008	.00171	.00119	.00009	-.00096
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	**56420.**	**62443.**
Stddev	112.	1438.
%RSD	.19832	2.3024
#1	56502.	64075.
#2	56292.	61890.
#3	56465.	61364.

Approved: March 24, 2011
Pierce Morris

Sample Name: LCSS 1P Acquired: 3/23/2011 13:49:53 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359594-03

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.18233	-.00448	.18354	-.00020	.00009	.00006	.01718
Stddev	.00097	.00142	.00305	.00100	.00014	.00000	.00989
%RSD	.53159	31.803	1.6627	507.15	162.41	7.6678	57.549
#1	.18265	-.00455	.18084	.00022	.00025	.00006	.00893
#2	.18311	-.00586	.18291	.00052	-.00001	.00005	.02815
#3	.18125	-.00302	.18685	-.00134	.00002	.00006	.01447
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02371	-.00042	-.00057	.23573	.02240	F -.64394	-.00094
Stddev	.00010	.00036	.00068	.00085	.00738	.10968	.00275
%RSD	.40611	86.760	121.08	.35863	32.946	17.032	290.75
#1	.02381	-.00039	-.00133	.23659	.03054	-.69990	.00216
#2	.02363	-.00007	-.00035	.23490	.02051	-.51757	-.00195
#3	.02368	-.00079	-.00002	.23569	.01615	-.71435	-.00305
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit						315.00	
Low Limit						-.50000	

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.03434	.24175	.00034	-.00268	-.00069	.23819	.00201
Stddev	.02910	.00404	.00016	.01455	.00025	.00218	.00093
%RSD	84.748	1.6717	47.216	542.02	36.627	.91362	46.053
#1	-.03615	.23710	.00028	.00466	-.00098	.23937	.00165
#2	-.06250	.24444	.00022	.00673	-.00057	.23568	.00307
#3	-.00438	.24371	.00052	-.01944	-.00051	.23952	.00132
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: LCSS 1P Acquired: 3/23/2011 13:49:53 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359594-03

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00106**	**.01622**	**.00062**	**.00007**	**.00107**	**-.00115**	**.00032**
Stddev	.00315	.17648	.00026	.00015	.00254	.00024	.00004
%RSD	296.82	1088.3	41.006	199.48	237.93	20.753	13.391
#1	.00053	-.10399	.00033	-.00001	-.00178	-.00092	.00028
#2	-.00179	-.06619	.00080	-.00001	.00187	-.00140	.00036
#3	.00444	.21883	.00074	.00024	.00311	-.00113	.00031
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Zn2062
Units	ppm
Avg	**-.00013**
Stddev	.00027
%RSD	201.74
#1	.00017
#2	-.00034
#3	-.00023
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	**56427.**	**61662.**
Stddev	51.	681.
%RSD	.09064	1.1040
#1	56417.	62448.
#2	56381.	61251.
#3	56482.	61288.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103057019 Acquired: 3/23/2011 13:53:24 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00281	119.25	.15054	.02515	1.5313	.01129	107.90
Stddev	.00094	1.11	.00328	.00472	.0381	.00003	2.75
%RSD	33.467	.93194	2.1791	18.762	2.4872	.30526	2.5470
#1	.00387	118.01	.14704	.01973	1.4874	.01125	104.74
#2	.00211	120.16	.15103	.02737	1.5499	.01130	109.23
#3	.00243	119.57	.15355	.02835	1.5564	.01131	109.73
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00301	.11631	.18063	.18143	340.79	6.6901	.11091
Stddev	.00031	.00057	.00119	.00779	8.54	.1172	.00308
%RSD	10.358	.49235	.65905	4.2921	2.5046	1.7523	2.7796
#1	.00333	.11568	.18200	.19041	331.00	6.5716	.10747
#2	.00297	.11680	.17986	.17654	344.71	6.6927	.11185
#3	.00271	.11646	.18003	.17735	346.66	6.8060	.11342
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	26.462	7.8775	.00633	.60738	.22776	.45955	.00556
Stddev	.646	.1964	.00029	.02054	.00129	.00199	.00118
%RSD	2.4426	2.4926	4.5430	3.3823	.56754	.43270	21.273
#1	25.722	7.6519	.00609	.58613	.22818	.45866	.00446
#2	26.753	7.9703	.00665	.60888	.22878	.46183	.00541
#3	26.913	8.0102	.00625	.62714	.22630	.45816	.00681
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103057019 Acquired: 3/23/2011 13:53:24 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00677	F 136.54	.00757	.52351	.17161	.00508	.27584
Stddev	.00064	1.28	.00062	.01392	.00687	.00141	.00092
%RSD	9.4111	.93959	8.1365	2.6594	4.0016	27.755	.33214
#1	.00716	137.84	.00827	.50747	.16374	.00360	.27483
#2	.00711	136.52	.00710	.53062	.17473	.00523	.27608
#3	.00603	135.27	.00734	.53245	.17637	.00641	.27661
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	1.1984
Stddev	.0018
%RSD	.15393
#1	1.1972
#2	1.2005
#3	1.1974
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	57181.	63674.
Stddev	155.	603.
%RSD	.27022	.94721
#1	57324.	64357.
#2	57203.	63216.
#3	57017.	63447.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103057020 Acquired: 3/23/2011 13:56:50 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00150	35.380	.08321	.02486	.81378	.00453	F 6403.8
Stddev	.00021	.143	.00223	.00304	.00114	.00002	44.6
%RSD	13.842	.40342	2.6827	12.234	.14018	.36834	.69601
#1	-.00132	35.513	.08216	.02153	.81290	.00452	6369.4
#2	-.00146	35.229	.08170	.02749	.81507	.00455	6387.9
#3	-.00173	35.398	.08577	.02557	.81338	.00452	6454.1
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail
High Limit							900.00
Low Limit							-.10000

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01415	.08994	.04235	.18463	169.57	7.0110	.28824
Stddev	.00008	.00054	.00094	.00112	.07	.0519	.00221
%RSD	.53745	.60287	2.2110	.60806	.04285	.74015	.76816
#1	.01411	.09041	.04328	.18410	169.49	6.9697	.28625
#2	.01424	.09008	.04237	.18592	169.60	6.9940	.29063
#3	.01410	.08935	.04140	.18386	169.63	7.0693	.28785
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	179.60	7.0624	.01276	4.1011	.30246	.22212	.00159
Stddev	.62	.0170	.00023	.0105	.00136	.00466	.00328
%RSD	.34445	.24119	1.8114	.25631	.44841	2.0961	206.34
#1	178.92	7.0429	.01256	4.0991	.30312	.22578	.00478
#2	179.78	7.0699	.01271	4.0917	.30336	.22369	.00175
#3	180.11	7.0744	.01301	4.1124	.30090	.21688	-.00177
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103057020 Acquired: 3/23/2011 13:56:50 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00777	F 201.31	.00223	F 29.360	.00668	.00401	.09666
Stddev	.00380	3.47	.00071	.271	.00201	.00329	.00080
%RSD	48.864	1.7245	31.664	.92330	30.062	82.108	.82900
#1	.00949	204.17	.00287	29.387	.00575	.00040	.09618
#2	.00342	202.31	.00235	29.077	.00898	.00480	.09759
#3	.01040	197.45	.00147	29.617	.00530	.00684	.09622
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000		4.5000			
Low Limit		-1.0000		-.01000			

Elem	Zn2062
Units	ppm
Avg	1.1105
Stddev	.0051
%RSD	.45538
#1	1.1124
#2	1.1144
#3	1.1048
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	46937.	58299.
Stddev	135.	213.
%RSD	.28811	.36608
#1	46916.	58306.
#2	46814.	58509.
#3	47082.	58082.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103057021 Acquired: 3/23/2011 14:00:30 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00043	157.89	.16182	.02047	1.1571	.01617	204.50
Stddev	.00075	1.46	.00190	.00246	.0157	.00009	12.27
%RSD	172.51	.92339	1.1745	12.008	1.3538	.53411	6.0008
#1	-.00025	158.24	.16062	.01850	1.1395	.01608	218.45
#2	.00032	159.13	.16083	.01968	1.1624	.01616	199.67
#3	.00123	156.28	.16402	.02323	1.1695	.01626	195.38
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -.00252	.20407	.20943	.23297	385.98	5.9629	.19514
Stddev	.00008	.00028	.00113	.00572	5.31	.1220	.00380
%RSD	3.2536	.13802	.53817	2.4571	1.3769	2.0456	1.9473
#1	-.00254	.20412	.21011	.23908	379.97	5.8249	.19084
#2	-.00243	.20432	.20813	.23211	387.94	6.0077	.19654
#3	-.00259	.20376	.21004	.22773	390.04	6.0562	.19805
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	4.5000						
Low Limit	-.00050						

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	61.920	7.6073	.00507	10.412	.35514	.30603	.00441
Stddev	.372	.1007	.00028	.165	.00135	.00131	.00109
%RSD	.59998	1.3232	5.5824	1.5804	.38118	.42727	24.629
#1	61.492	7.4952	.00479	10.223	.35539	.30636	.00463
#2	62.158	7.6370	.00504	10.491	.35636	.30459	.00537
#3	62.110	7.6898	.00536	10.523	.35368	.30715	.00323
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103057021 Acquired: 3/23/2011 14:00:30 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00377	F 138.77	.00711	.99327	.12153	.00435	.29240
Stddev	.00389	1.09	.00030	.05564	.00289	.00130	.00095
%RSD	103.35	.78746	4.1865	5.6022	2.3817	29.853	.32537
#1	.00819	139.11	.00693	1.0565	.11830	.00585	.29193
#2	.00225	139.65	.00745	.97171	.12388	.00359	.29178
#3	.00086	137.54	.00694	.95163	.12241	.00361	.29350
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.64493
Stddev	.00169
%RSD	.26215
#1	.64527
#2	.64642
#3	.64309
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	56012.	62744.
Stddev	129.	111.
%RSD	.23025	.17635
#1	55955.	62641.
#2	55921.	62729.
#3	56159.	62861.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103057022 Acquired: 3/23/2011 14:04:02 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00116	70.776	.09510	.01312	.86805	.00697	F 4762.7
Stddev	.00144	.079	.00371	.00122	.00155	.00002	47.5
%RSD	124.53	.11186	3.8978	9.2685	.17858	.32149	.99661
#1	.00050	70.764	.09919	.01446	.86651	.00695	4722.7
#2	-.00216	70.860	.09415	.01284	.86961	.00697	4815.2
#3	-.00181	70.703	.09196	.01207	.86803	.00699	4750.2
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail
High Limit							900.00
Low Limit							-.10000

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00292	.08845	.08635	.17320	193.69	5.6204	.27223
Stddev	.00021	.00055	.00107	.00176	.39	.0531	.00284
%RSD	7.3287	.61719	1.2417	1.0181	.20046	.94541	1.0427
#1	.00296	.08907	.08623	.17509	193.54	5.6647	.27537
#2	.00310	.08824	.08534	.17291	194.13	5.6351	.27147
#3	.00268	.08805	.08747	.17160	193.40	5.5615	.26985
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	108.26	6.8340	.01049	4.7676	.30510	.19779	.00435
Stddev	.23	.0146	.00043	.0337	.00116	.00016	.00196
%RSD	.21624	.21303	4.0964	.70635	.37951	.07897	45.062
#1	107.99	6.8173	.01002	4.7292	.30591	.19776	.00613
#2	108.35	6.8441	.01059	4.7816	.30561	.19766	.00225
#3	108.43	6.8405	.01086	4.7921	.30377	.19796	.00468
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103057022 Acquired: 3/23/2011 14:04:02 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00168	F 213.74	.00415	F 24.816	.05100	.00146	.12395
Stddev	.00504	3.90	.00037	.286	.00108	.00153	.00007
%RSD	300.77	1.8241	8.9053	1.1535	2.1239	104.60	.05829
#1	.00580	215.65	.00374	24.611	.04976	.00308	.12387
#2	.00318	216.31	.00429	25.143	.05150	.00004	.12401
#3	-.00395	209.25	.00444	24.694	.05174	.00126	.12399
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000		4.5000			
Low Limit		-1.0000		-.01000			

Elem	Zn2062
Units	ppm
Avg	.55004
Stddev	.00209
%RSD	.37911
#1	.55146
#2	.55101
#3	.54765
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	48679.	59415.
Stddev	91.	104.
%RSD	.18727	.17471
#1	48616.	59298.
#2	48783.	59494.
#3	48637.	59455.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103071501 Acquired: 3/23/2011 14:07:43 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00070	174.57	.10311	.02317	3.4356	.01735	74.009
Stddev	.00147	1.15	.00399	.00222	.0655	.00006	7.149
%RSD	210.85	.65815	3.8741	9.5968	1.9074	.32658	9.6597
#1	-.00172	173.39	.10739	.02077	3.3605	.01729	82.115
#2	.00099	174.61	.09949	.02516	3.4650	.01739	71.305
#3	-.00135	175.69	.10246	.02356	3.4813	.01737	68.606
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00022	.19264	.17483	.21650	225.65	22.307	.13712
Stddev	.00016	.00063	.00122	.00662	4.01	.530	.00304
%RSD	73.954	.32852	.69922	3.0599	1.7750	2.3765	2.2148
#1	.00036	.19289	.17620	.22317	221.09	21.697	.13583
#2	.00004	.19312	.17446	.21640	227.23	22.572	.14059
#3	.00026	.19192	.17384	.20992	228.62	22.653	.13493
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	37.554	12.926	.00559	.90177	.26756	.28036	.00434
Stddev	.570	.254	.00009	.02952	.00041	.00203	.00148
%RSD	1.5178	1.9617	1.5779	3.2733	.15306	.72342	34.082
#1	36.897	12.633	.00549	.89541	.26801	.27819	.00264
#2	37.912	13.055	.00564	.93395	.26721	.28221	.00529
#3	37.853	13.088	.00565	.87595	.26745	.28068	.00510
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103071501 Acquired: 3/23/2011 14:07:43 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00081	F 121.61	.00999	.75425	.18106	.00000	.45108
Stddev	.00242	.13	.00034	.02964	.00265	.00175	.00138
%RSD	299.45	.10880	3.4124	3.9302	1.4655	55905.	.30591
#1	-.00358	121.61	.01027	.78732	.17811	.00112	.44999
#2	.00025	121.48	.01009	.74537	.18185	-.00201	.45263
#3	.00090	121.74	.00961	.73006	.18324	.00090	.45061
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.46769
Stddev	.00146
%RSD	.31243
#1	.46871
#2	.46835
#3	.46602
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	57496.	64066.
Stddev	157.	875.
%RSD	.27241	1.3651
#1	57455.	65044.
#2	57364.	63359.
#3	57669.	63796.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103071501PS Acquired: 3/23/2011 14:11:15 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359684-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.18946	159.13	.27785	.96010	3.5578	.04074	64.728
Stddev	.00024	2.93	.00132	.00768	.0672	.00009	1.202
%RSD	.12741	1.8404	.47371	.79996	1.8889	.21659	1.8562
#1	.18970	158.27	.27637	.95573	3.4875	.04071	63.460
#2	.18945	156.73	.27890	.95561	3.5643	.04067	64.874
#3	.18922	162.39	.27829	.96897	3.6215	.04084	65.850
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02326	.27060	.40290	.42426	204.42	42.871	.60451
Stddev	.00024	.00053	.00165	.00595	3.79	.757	.01179
%RSD	1.0181	.19721	.40858	1.4036	1.8518	1.7658	1.9507
#1	.02313	.27045	.40459	.42972	200.52	42.094	.59174
#2	.02353	.27119	.40282	.42514	204.67	42.914	.60682
#3	.02311	.27016	.40130	.41791	208.08	43.606	.61498
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	38.215	11.823	.49009	24.931	.47476	.48149	.55587
Stddev	.722	.231	.00228	.463	.00177	.00201	.00294
%RSD	1.8892	1.9565	.46589	1.8552	.37321	.41700	.52882
#1	37.439	11.584	.49096	24.433	.47459	.48029	.55678
#2	38.337	11.838	.49180	25.013	.47661	.48381	.55824
#3	38.868	12.046	.48749	25.347	.47307	.48038	.55258
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103071501PS Acquired: 3/23/2011 14:11:15 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359684-01

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.18452	F 267.58	.00947	1.1178	.64424	.22303	.90036
Stddev	.00244	1.86	.00034	.0212	.01359	.00135	.00151
%RSD	1.3248	.69683	3.5849	1.8943	2.1093	.60579	.16763
#1	.18430	268.31	.00986	1.0955	.62888	.22454	.89975
#2	.18219	268.97	.00922	1.1204	.64916	.22193	.89925
#3	.18706	265.46	.00935	1.1376	.65468	.22262	.90208
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.89661
Stddev	.00180
%RSD	.20130
#1	.89792
#2	.89736
#3	.89455
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	57384.	65092.
Stddev	27.	622.
%RSD	.04729	.95553
#1	57416.	65644.
#2	57371.	65215.
#3	57366.	64418.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103071501SDL Acquired: 3/23/2011 14:14:47 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 5 Custom ID2: Custom ID3:
Comment: WG359684-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00014	36.918	.02218	.00780	.70405	.00358	13.800	.00017
Stddev	.00081	.275	.00078	.00153	.00097	.00002	.035	.00002
%RSD	563.79	.74611	3.5152	19.637	.13792	.63646	.25396	13.928
#1	-.00079	36.817	.02274	.00920	.70509	.00355	13.840	.00014
#2	.00071	36.707	.02129	.00803	.70317	.00359	13.775	.00018
#3	.00051	37.230	.02250	.00617	.70388	.00359	13.785	.00018
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.04012	.03562	.04720	46.959	4.1088	.02610	7.9756	2.6878
Stddev	.00010	.00038	.00068	.111	.0956	.00303	.0221	.0050
%RSD	.24315	1.0583	1.4336	.23657	2.3264	11.610	.27665	.18510
#1	.04015	.03530	.04740	47.078	4.0011	.02260	7.9999	2.6925
#2	.04001	.03604	.04645	46.859	4.1418	.02789	7.9568	2.6826
#3	.04020	.03553	.04775	46.940	4.1835	.02781	7.9700	2.6881
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Si2124	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00140	.18217	.05550	.05802	.00308	.00005	23.320	.00236
Stddev	.00015	.01086	.00031	.00199	.00311	.00212	.190	.00081
%RSD	10.943	5.9626	.55581	3.4277	100.98	4570.4	.81549	34.213
#1	.00154	.18951	.05519	.05652	.00263	.00149	23.479	.00319
#2	.00143	.16969	.05552	.06028	.00022	-.00239	23.372	.00158
#3	.00123	.18732	.05580	.05726	.00639	.00104	23.110	.00232
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103071501SDL Acquired: 3/23/2011 14:14:47 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 5 Custom ID2: Custom ID3:
Comment: WG359684-02

Elem	Sr4077	Ti3372	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm
Avg	**.14608**	**.03664**	**.00273**	**.09175**	**.09929**
Stddev	.00052	.00159	.00144	.00017	.00076
%RSD	.35750	4.3274	52.845	.18790	.76707
#1	.14663	.03494	.00439	.09180	.09864
#2	.14559	.03808	.00177	.09156	.10013
#3	.14602	.03690	.00203	.09189	.09910
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	**59187.**	**64448.**
Stddev	258.	398.
%RSD	.43628	.61713
#1	59444.	64799.
#2	59189.	64530.
#3	58927.	64016.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103071501SDL Acquired: 3/23/2011 14:18:14 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 25 Custom ID2: Custom ID3:
Comment: WG359684-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00065	7.6006	.00501	.00213	.13993	.00075	2.7827	.00017
Stddev	.00055	.0636	.00306	.00132	.00039	.00002	.0086	.00017
%RSD	83.908	.83723	61.088	61.975	.28067	2.6716	.31030	98.918
#1	.00022	7.5730	.00174	.00312	.14005	.00077	2.7775	.00036
#2	.00046	7.6734	.00550	.00263	.14025	.00073	2.7927	.00014
#3	.00127	7.5555	.00781	.00063	.13949	.00076	2.7780	.00002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00807	.00723	.00971	9.5009	.31852	.00226	1.5959	.54570
Stddev	.00002	.00057	.00055	.0283	.04963	.00263	.0276	.00192
%RSD	.20395	7.8321	5.6189	.29788	15.581	116.64	1.7311	.35252
#1	.00809	.00782	.01032	9.4683	.37495	.00528	1.6260	.54437
#2	.00805	.00718	.00955	9.5190	.29897	.00105	1.5900	.54790
#3	.00807	.00669	.00926	9.5153	.28165	.00045	1.5717	.54482
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Si2124	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00018	.01866	.01017	.00995	.00300	.00148	3.6278	.00031
Stddev	.00030	.01773	.00045	.00303	.00197	.00273	.1550	.00038
%RSD	168.87	95.032	4.4305	30.495	65.632	184.77	4.2717	122.04
#1	.00032	.03847	.00974	.00654	.00123	.00420	3.4907	.00044
#2	.00039	.00429	.01012	.01236	.00512	.00150	3.5968	.00060
#3	-.00017	.01321	.01064	.01095	.00265	-.00127	3.7959	-.00012
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103071501SDL Acquired: 3/23/2011 14:18:14 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 25 Custom ID2: Custom ID3:
Comment: WG359684-02

Elem	Sr4077	Ti3372	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm
Avg	.02976	.00995	.00352	.01874	.01965
Stddev	.00013	.00110	.00057	.00036	.00034
%RSD	.42162	11.104	16.260	1.9399	1.7478
#1	.02989	.01037	.00411	.01905	.01953
#2	.02964	.00869	.00348	.01884	.01938
#3	.02975	.01077	.00297	.01834	.02004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	58933.	62955.
Stddev	265.	442.
%RSD	.44896	.70215
#1	58628.	63264.
#2	59078.	62448.
#3	59094.	63152.

Approved: March 24, 2011
Pierce Morris

Sample Name: CCV Acquired: 3/23/2011 14:21:47 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.39906**	**10.323**	**.40402**	**.50842**	**1.0030**	**.05181**	**10.122**
Stddev	.00102	.225	.00369	.00364	.0021	.00019	.034
%RSD	.25532	2.1810	.91443	.71516	.20493	.36107	.33233
#1	.39821	10.559	.40822	.51047	1.0049	.05196	10.134
#2	.40019	10.297	.40129	.51057	1.0034	.05187	10.149
#3	.39877	10.111	.40255	.50422	1.0008	.05160	10.084
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.05044**	**.20764**	**.51139**	**.50928**	**4.1747**	**48.879**	**1.0220**
Stddev	.00023	.00033	.00264	.00078	.0039	.052	.0048
%RSD	.45851	.15733	.51533	.15413	.09436	.10617	.47066
#1	.05021	.20745	.51348	.51017	4.1791	48.869	1.0268
#2	.05045	.20802	.51225	.50897	4.1714	48.936	1.0220
#3	.05067	.20745	.50843	.50869	4.1737	48.833	1.0172
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**10.241**	**.51103**	**.98834**	**50.844**	**.50292**	**.51070**	**1.2037**
Stddev	.038	.00115	.00163	.076	.00161	.00480	.0016
%RSD	.37081	.22558	.16482	.14867	.32001	.94073	.13404
#1	10.202	.51041	.98779	50.922	.50329	.50894	1.2056
#2	10.243	.51033	.99017	50.841	.50430	.51614	1.2026
#3	10.278	.51237	.98705	50.770	.50115	.50703	1.2031
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: March 24, 2011
Pierce Morris

Sample Name: CCV Acquired: 3/23/2011 14:21:47 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.40244**	F **4.0909**	**1.0041**	**1.0222**	**1.0410**	**.50345**	**1.0059**
Stddev	.00201	.0919	.0024	.0004	.0018	.00320	.0019
%RSD	.49983	2.2454	.24290	.03882	.17192	.63584	.18848
#1	.40155	3.9959	1.0048	1.0217	1.0431	.50249	1.0059
#2	.40103	4.1792	1.0061	1.0223	1.0401	.50702	1.0077
#3	.40474	4.0976	1.0014	1.0224	1.0399	.50084	1.0039
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value		5.0000					
Range		-10.000%					

Elem	Zn2062
Units	ppm
Avg	**1.0422**
Stddev	.0008
%RSD	.07897
#1	1.0426
#2	1.0428
#3	1.0413
Check ?	Chk Pass
Value	
Range	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	**57845.**	**61645.**
Stddev	143.	1240.
%RSD	.24643	2.0121
#1	57992.	60358.
#2	57707.	61743.
#3	57834.	62833.

Approved: March 24, 2011
Pierce Morris

Sample Name: CCB Acquired: 3/23/2011 14:25:07 Type: Blank
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00045**	**-.00228**	**.00213**	**.00235**	**-.00015**	**.00001**	**.01300**
Stddev	.00058	.00238	.00279	.00191	.00026	.00005	.00859
%RSD	130.21	104.60	131.12	81.262	171.21	601.62	66.097
#1	-.00102	-.00392	.00523	.00267	-.00017	.00003	.01590
#2	-.00045	-.00337	-.00021	.00408	.00012	.00004	.00333
#3	.00014	.00045	.00137	.00030	-.00041	-.00005	.01976
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00023**	**-.00006**	**.00011**	**-.00014**	**-.00383**	**-.62410**	**-.00035**
Stddev	.00001	.00007	.00032	.00069	.00228	.02526	.00220
%RSD	6.1041	110.13	282.31	511.97	59.475	4.0472	632.25
#1	.00021	-.00014	.00046	-.00042	-.00607	-.59582	-.00282
#2	.00024	-.00003	-.00017	.00065	-.00391	-.64443	.00138
#3	.00024	-.00002	.00005	-.00063	-.00151	-.63206	.00039
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.02007**	**-.00013**	**.00031**	**.02070**	**-.00091**	**-.00271**	**-.00010**
Stddev	.00385	.00091	.00010	.02558	.00039	.00166	.00045
%RSD	19.171	722.94	32.828	123.59	42.760	61.312	444.57
#1	-.01623	-.00115	.00029	.04679	-.00046	-.00203	-.00051
#2	-.02004	.00057	.00022	.01964	-.00117	-.00149	-.00018
#3	-.02393	.00021	.00043	-.00434	-.00108	-.00460	.00038
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: CCB Acquired: 3/23/2011 14:25:07 Type: Blank
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00013**	F **-1.0676**	**.00022**	**-.00019**	**.00064**	**.00092**	**.00045**
Stddev	.00122	.0560	.00032	.00008	.00091	.00072	.00018
%RSD	937.06	5.2428	143.80	44.521	142.31	78.553	39.828
#1	-.00112	-1.0778	.00049	-.00023	-.00040	.00168	.00025
#2	-.00051	-1.0072	-.00014	-.00023	.00101	.00085	.00057
#3	.00124	-1.1177	.00032	-.00009	.00130	.00024	.00055
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		1.0000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	**-.00251**
Stddev	.00027
%RSD	10.809
#1	-.00220
#2	-.00264
#3	-.00270
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	**57402.**	**63112.**
Stddev	743.	196.
%RSD	1.2936	.31131
#1	58172.	63020.
#2	56690.	62979.
#3	57343.	63338.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103071502 Acquired: 3/23/2011 14:28:45 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00059	113.88	.09467	.01368	2.7406	.01243	52.099
Stddev	.00031	2.06	.00486	.00246	.0893	.00005	1.671
%RSD	53.125	1.8068	5.1314	17.994	3.2594	.43625	3.2079
#1	.00024	111.51	.10019	.01125	2.6382	.01238	50.190
#2	.00068	114.88	.09106	.01360	2.7816	.01242	52.807
#3	.00085	115.25	.09276	.01617	2.8021	.01249	53.299
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00094	.13501	.11833	.18231	156.55	14.941	.09211
Stddev	.00007	.00018	.00289	.00618	5.02	.518	.00538
%RSD	7.8948	.13339	2.4396	3.3877	3.2074	3.4698	5.8453
#1	.00095	.13522	.12164	.18941	150.79	14.344	.08624
#2	.00087	.13494	.11631	.17928	158.85	15.199	.09328
#3	.00101	.13488	.11705	.17822	160.01	15.279	.09681
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	27.770	8.2133	.00454	.56112	.20996	.21747	.00688
Stddev	.883	.2623	.00004	.02764	.00105	.00359	.00292
%RSD	3.1789	3.1933	.81448	4.9259	.50090	1.6509	42.364
#1	26.752	7.9120	.00458	.54299	.21037	.21604	.00352
#2	28.232	8.3375	.00450	.54743	.21074	.21482	.00847
#3	28.327	8.3904	.00454	.59293	.20876	.22156	.00866
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103071502 Acquired: 3/23/2011 14:28:45 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00457	F 110.34	.00693	.44461	.13715	.00024	.37448
Stddev	.00170	.21	.00036	.01379	.00427	.00094	.00181
%RSD	37.194	.19423	5.2504	3.1009	3.1152	395.60	.48418
#1	.00370	110.53	.00655	.42883	.13222	-.00063	.37327
#2	.00348	110.39	.00727	.45064	.13951	.00011	.37360
#3	.00652	110.11	.00696	.45434	.13972	.00123	.37657
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.33072
Stddev	.00023
%RSD	.06814
#1	.33087
#2	.33046
#3	.33082
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	58834.	66117.
Stddev	53.	1107.
%RSD	.09067	1.6743
#1	58846.	67394.
#2	58880.	65442.
#3	58775.	65513.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103071503 Acquired: 3/23/2011 14:32:09 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359594-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00015	145.69	.12589	.02655	3.3609	.01410	54.777
Stddev	.00021	2.26	.00426	.00351	.0869	.00008	1.415
%RSD	142.31	1.5541	3.3850	13.232	2.5862	.59041	2.5824
#1	.00004	143.14	.12117	.02266	3.2613	.01402	53.162
#2	.00001	147.45	.12946	.02751	3.4001	.01410	55.378
#3	.00038	146.48	.12702	.02949	3.4212	.01418	55.792
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00058	.15267	.14507	.19464	200.38	20.280	.13823
Stddev	.00006	.00039	.00022	.00494	5.22	.548	.00358
%RSD	10.449	.25691	.15216	2.5357	2.6059	2.7041	2.5889
#1	.00064	.15231	.14523	.20031	194.44	19.651	.13433
#2	.00056	.15261	.14515	.19228	202.43	20.537	.13899
#3	.00053	.15309	.14482	.19132	204.26	20.653	.14137
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	36.972	8.2678	.00516	.60508	.25034	.25690	.00832
Stddev	.949	.2103	.00037	.00815	.00127	.00075	.00105
%RSD	2.5656	2.5435	7.2262	1.3462	.50844	.29070	12.569
#1	35.898	8.0251	.00546	.59596	.25039	.25634	.00908
#2	37.694	8.3837	.00528	.61164	.24905	.25662	.00875
#3	37.324	8.3947	.00474	.60764	.25159	.25775	.00712
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103071503 Acquired: 3/23/2011 14:32:09 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359594-01

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00227	F 148.30	.00867	.47092	.13373	-.00003	.44194
Stddev	.00251	.49	.00089	.01205	.00252	.00063	.00247
%RSD	110.62	.33307	10.212	2.5590	1.8871	2141.2	.55942
#1	-.00182	147.78	.00780	.45702	.13086	.00069	.43948
#2	-.00497	148.36	.00863	.47841	.13472	-.00037	.44191
#3	-.00001	148.77	.00957	.47734	.13560	-.00041	.44443
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.41800
Stddev	.00079
%RSD	.18877
#1	.41764
#2	.41744
#3	.41890
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	58839.	66433.
Stddev	158.	994.
%RSD	.26928	1.4967
#1	58879.	67580.
#2	58973.	65893.
#3	58664.	65825.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103071504S Acquired: 3/23/2011 14:35:41 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359594-04

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.17981	138.60	.29201	.02356	3.3620	.01385	56.770
Stddev	.00132	1.30	.00483	.00163	.0292	.00002	.499
%RSD	.73564	.93883	1.6537	6.9337	.86909	.17563	.87840
#1	.18117	139.89	.29518	.02255	3.3284	.01384	56.196
#2	.17973	138.61	.29441	.02545	3.3765	.01384	57.015
#3	.17853	137.29	.28646	.02269	3.3812	.01388	57.099
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02345	.16268	.13684	.40627	196.44	19.180	.12601
Stddev	.00015	.00009	.00101	.00186	1.88	.149	.00154
%RSD	.65872	.05641	.73849	.45671	.95828	.77571	1.2189
#1	.02354	.16274	.13801	.40837	194.27	19.047	.12451
#2	.02327	.16257	.13623	.40558	197.39	19.153	.12594
#3	.02354	.16272	.13628	.40485	197.66	19.341	.12758
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	35.150	9.1201	.00524	.59808	.24527	.48367	.00875
Stddev	.103	.0693	.00044	.00472	.00013	.00188	.00186
%RSD	.29410	.76023	8.3659	.78971	.05416	.38940	21.248
#1	35.033	9.0404	.00556	.60340	.24512	.48527	.00795
#2	35.227	9.1534	.00474	.59440	.24535	.48159	.01087
#3	35.191	9.1665	.00542	.59642	.24535	.48414	.00742
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103071504S Acquired: 3/23/2011 14:35:41 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359594-04

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00104	F 119.48	.00806	.47805	.15528	.00059	.44639
Stddev	.00610	.78	.00043	.00307	.00277	.00135	.00149
%RSD	585.49	.65549	5.3412	.64179	1.7836	226.72	.33441
#1	.00294	119.64	.00834	.47457	.15241	-.00090	.44657
#2	.00597	120.17	.00829	.47917	.15794	.00098	.44779
#3	-.00578	118.63	.00757	.48040	.15549	.00171	.44482
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.41705
Stddev	.00057
%RSD	.13643
#1	.41645
#2	.41759
#3	.41711
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	58844.	66235.
Stddev	21.	39.
%RSD	.03590	.05824
#1	58824.	66280.
#2	58866.	66213.
#3	58843.	66212.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103071505SD Acquired: 3/23/2011 14:39:12 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359594-05

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.17739	132.44	.29055	.02045	3.2474	.01339	53.505
Stddev	.00166	.50	.00123	.00085	.0274	.00007	.473
%RSD	.93741	.37682	.42178	4.1420	.84523	.50411	.88398
#1	.17789	132.19	.29009	.02068	3.2157	.01338	52.962
#2	.17553	132.11	.29194	.02116	3.2624	.01333	53.722
#3	.17875	133.01	.28963	.01951	3.2640	.01347	53.830
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02369	.15514	.12656	.41104	188.78	17.543	.12191
Stddev	.00009	.00020	.00254	.00337	1.44	.166	.00200
%RSD	.36672	.13176	2.0081	.81987	.76506	.94746	1.6403
#1	.02368	.15507	.12832	.41487	187.12	17.384	.11995
#2	.02360	.15537	.12365	.40974	189.68	17.528	.12395
#3	.02378	.15497	.12773	.40852	189.55	17.716	.12185
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	34.823	8.7691	.00479	.56808	.23959	.47821	.00482
Stddev	.248	.0682	.00016	.01038	.00110	.00294	.00264
%RSD	.71171	.77722	3.4229	1.8264	.45706	.61497	54.909
#1	34.539	8.6913	.00461	.58006	.24085	.48104	.00417
#2	34.997	8.8178	.00494	.56199	.23910	.47841	.00255
#3	34.933	8.7984	.00480	.56219	.23883	.47517	.00772
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103071505SD Acquired: 3/23/2011 14:39:12 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359594-05

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00219	F 140.28	.00802	.44907	.13788	-.00055	.42523
Stddev	.00593	1.37	.00036	.00339	.00199	.00264	.00205
%RSD	270.35	.97336	4.5265	.75535	1.4460	478.16	.48178
#1	.00350	141.85	.00797	.44516	.13604	-.00283	.42655
#2	.00736	139.53	.00768	.45072	.14000	.00234	.42287
#3	-.00428	139.45	.00840	.45131	.13760	-.00116	.42628
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.38838
Stddev	.00042
%RSD	.10781
#1	.38887
#2	.38814
#3	.38814
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	59017.	66293.
Stddev	100.	263.
%RSD	.16946	.39709
#1	59008.	66584.
#2	59121.	66224.
#3	58921.	66072.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103071506 Acquired: 3/23/2011 14:42:40 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00015	146.02	.10466	.01569	2.9679	.01595	60.288
Stddev	.00081	1.49	.00117	.00250	.0369	.00010	.731
%RSD	526.13	1.0229	1.1154	15.916	1.2448	.64263	1.2131
#1	.00078	144.31	.10428	.01308	2.9254	.01600	59.447
#2	-.00073	146.65	.10373	.01593	2.9869	.01584	60.647
#3	-.00051	147.09	.10597	.01806	2.9915	.01602	60.770
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -.00052	.15524	.15778	.20049	197.25	17.847	.10507
Stddev	.00004	.00029	.00064	.00196	2.33	.290	.00233
%RSD	8.5388	.18805	.40642	.97841	1.1788	1.6242	2.2208
#1	-.00053	.15497	.15768	.20271	194.57	17.513	.10250
#2	-.00055	.15555	.15720	.19973	198.46	18.031	.10564
#3	-.00047	.15520	.15847	.19901	198.72	17.997	.10706
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	4.5000						
Low Limit	-.00050						

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	32.087	8.1532	.00620	.69103	.20632	.26802	.00624
Stddev	.532	.1053	.00009	.01415	.00147	.00119	.00383
%RSD	1.6574	1.2915	1.4723	2.0471	.71439	.44354	61.413
#1	31.476	8.0317	.00612	.69464	.20701	.26930	.00554
#2	32.439	8.2188	.00618	.70303	.20732	.26695	.00281
#3	32.348	8.2090	.00630	.67543	.20462	.26781	.01037
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103071506 Acquired: 3/23/2011 14:42:40 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00108**	F **97.805**	**.00917**	**.63010**	**.15030**	**-.00071**	**.44299**
Stddev	.00266	1.529	.00047	.00892	.00123	.00089	.00367
%RSD	246.96	1.5630	5.1431	1.4163	.81936	124.93	.82743
#1	-.00361	98.811	.00886	.61980	.14888	-.00154	.44071
#2	.00169	98.558	.00971	.63547	.15093	-.00083	.44104
#3	-.00131	96.046	.00895	.63504	.15108	.00023	.44721
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	**.37930**
Stddev	.00109
%RSD	.28630
#1	.37952
#2	.38026
#3	.37812
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	**59109.**	**66302.**
Stddev	71.	593.
%RSD	.12021	.89425
#1	59092.	66986.
#2	59188.	65934.
#3	59049.	65986.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103071507 Acquired: 3/23/2011 14:46:13 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00078	190.90	.10824	.02400	2.6008	.01535	42.465
Stddev	.00036	3.21	.00268	.00523	.0419	.00008	.683
%RSD	45.699	1.6817	2.4722	21.796	1.6100	.50680	1.6078
#1	.00038	187.21	.10733	.01977	2.5528	.01540	41.691
#2	.00108	193.06	.10613	.02238	2.6202	.01539	42.726
#3	.00087	192.44	.11125	.02985	2.6295	.01526	42.979
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00037	.13107	.24618	.18241	253.78	23.802	.14683
Stddev	.00020	.00020	.00187	.00487	3.91	.414	.00401
%RSD	53.582	.15193	.75970	2.6715	1.5416	1.7378	2.7278
#1	-.00020	.13129	.24819	.18804	249.28	23.327	.14234
#2	-.00032	.13093	.24586	.17945	255.75	23.995	.14811
#3	-.00058	.13098	.24449	.17975	256.32	24.084	.15004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	35.050	5.0146	.00703	.59904	.26850	.21860	.00188
Stddev	.737	.0842	.00013	.00294	.00163	.00127	.00065
%RSD	2.1041	1.6785	1.8530	.49148	.60889	.58243	34.674
#1	34.266	4.9190	.00701	.60077	.27025	.21718	.00144
#2	35.155	5.0473	.00717	.59564	.26826	.21965	.00263
#3	35.730	5.0775	.00691	.60071	.26700	.21896	.00157
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103071507 Acquired: 3/23/2011 14:46:13 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00223	F 162.77	.00969	.38967	.16781	.00108	.41537
Stddev	.00327	1.67	.00030	.00811	.00186	.00201	.00307
%RSD	146.62	1.0267	3.1351	2.0812	1.1089	185.13	.73895
#1	.00595	164.36	.00953	.38081	.16606	-.00089	.41811
#2	-.00020	162.91	.00950	.39146	.16760	.00313	.41594
#3	.00094	161.03	.01004	.39673	.16977	.00102	.41205
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.41328
Stddev	.00068
%RSD	.16351
#1	.41395
#2	.41328
#3	.41260
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	58634.	65839.
Stddev	102.	976.
%RSD	.17471	1.4825
#1	58595.	66937.
#2	58557.	65511.
#3	58750.	65070.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103071508 Acquired: 3/23/2011 14:49:45 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00073	126.86	.06530	.01426	2.3646	.01444	53.456
Stddev	.00039	2.26	.00157	.00303	.0545	.00006	1.225
%RSD	54.320	1.7805	2.4064	21.252	2.3064	.39376	2.2921
#1	-.00034	124.25	.06671	.01077	2.3016	.01443	52.042
#2	-.00071	128.29	.06559	.01581	2.3958	.01450	54.111
#3	-.00113	128.02	.06361	.01619	2.3963	.01439	54.215
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00047	.16269	.12408	.16578	168.39	15.306	.10516
Stddev	.00011	.00012	.00132	.00318	3.67	.334	.00244
%RSD	22.490	.07373	1.0667	1.9190	2.1797	2.1828	2.3240
#1	-.00045	.16277	.12517	.16944	164.15	14.922	.10539
#2	-.00038	.16275	.12447	.16366	170.44	15.470	.10261
#3	-.00059	.16256	.12261	.16425	170.57	15.528	.10748
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	30.860	8.7542	.00442	.69849	.20599	.22892	.00626
Stddev	.653	.2007	.00033	.02524	.00063	.00208	.00104
%RSD	2.1156	2.2930	7.4140	3.6136	.30742	.90780	16.658
#1	30.106	8.5224	.00434	.67010	.20671	.23115	.00676
#2	31.225	8.8712	.00478	.71839	.20578	.22859	.00506
#3	31.248	8.8691	.00414	.70698	.20549	.22703	.00695
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103071508 Acquired: 3/23/2011 14:49:45 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00043	F 84.267	.00715	.60955	.08701	.00154	.29023
Stddev	.00589	1.118	.00025	.01350	.00067	.00261	.00106
%RSD	1365.6	1.3271	3.4954	2.2141	.77532	169.41	.36352
#1	.00618	85.537	.00744	.59404	.08774	.00150	.28934
#2	-.00511	83.838	.00701	.61862	.08690	.00417	.29139
#3	-.00236	83.427	.00700	.61599	.08641	-.00105	.28997
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.32423
Stddev	.00087
%RSD	.26759
#1	.32387
#2	.32522
#3	.32359
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	59478.	66714.
Stddev	76.	1067.
%RSD	.12814	1.6000
#1	59390.	67940.
#2	59515.	66212.
#3	59528.	65990.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103071509 Acquired: 3/23/2011 14:53:09 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00025	162.56	.10678	.02056	2.9340	.01509	56.247
Stddev	.00058	2.35	.00305	.00311	.0306	.00008	.592
%RSD	229.58	1.4431	2.8561	15.146	1.0435	.50487	1.0524
#1	.00040	160.49	.10681	.01698	2.9016	.01516	55.607
#2	-.00046	165.11	.10981	.02204	2.9378	.01509	56.361
#3	-.00069	162.08	.10371	.02266	2.9625	.01501	56.774
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -.00073	.14812	.17314	.20502	210.29	23.576	.12812
Stddev	.00013	.00027	.00081	.00220	2.10	.300	.00362
%RSD	17.389	.18395	.46565	1.0729	.99955	1.2732	2.8264
#1	-.00067	.14809	.17407	.20703	208.01	23.240	.13216
#2	-.00064	.14840	.17270	.20536	210.72	23.667	.12704
#3	-.00087	.14786	.17264	.20267	212.14	23.819	.12517
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	4.5000						
Low Limit	-.00050						

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	33.798	7.4383	.00517	.68861	.22154	.24597	.00602
Stddev	.371	.0737	.00033	.03379	.00232	.00080	.00198
%RSD	1.0974	.99070	6.3329	4.9077	1.0458	.32603	32.888
#1	33.464	7.3674	.00512	.66449	.22321	.24681	.00664
#2	33.734	7.4330	.00488	.72724	.22251	.24587	.00762
#3	34.197	7.5145	.00552	.67411	.21889	.24522	.00380
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103071509 Acquired: 3/23/2011 14:53:09 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00045	F 88.958	.00950	.53074	.16592	-.00120	.44633
Stddev	.00391	1.261	.00047	.00571	.00168	.00156	.00038
%RSD	870.90	1.4176	4.9355	1.0751	1.0153	130.19	.08431
#1	.00440	89.904	.00977	.52547	.16401	-.00261	.44666
#2	.00036	89.443	.00976	.52995	.16658	-.00145	.44592
#3	-.00342	87.526	.00896	.53680	.16718	.00047	.44641
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.44192
Stddev	.00050
%RSD	.11372
#1	.44206
#2	.44233
#3	.44136
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	59293.	66935.
Stddev	129.	216.
%RSD	.21759	.32332
#1	59173.	67118.
#2	59429.	66992.
#3	59278.	66696.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103071510 Acquired: 3/23/2011 14:56:42 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00045	156.58	.10162	.01799	2.9437	.01483	56.867
Stddev	.00112	1.48	.00212	.00256	.0500	.00002	.933
%RSD	245.96	.94492	2.0860	14.221	1.6988	.14753	1.6408
#1	-.00174	156.48	.09952	.01611	2.8934	.01481	55.917
#2	.00005	155.15	.10159	.01696	2.9442	.01482	56.903
#3	.00032	158.10	.10376	.02091	2.9934	.01485	57.782
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00017	.15075	.16443	.20070	202.72	23.201	.12434
Stddev	.00009	.00056	.00117	.00477	3.11	.455	.00298
%RSD	53.102	.36818	.71280	2.3743	1.5336	1.9620	2.3952
#1	-.00028	.15112	.16570	.20482	199.51	22.727	.12369
#2	-.00012	.15101	.16339	.20180	202.93	23.240	.12173
#3	-.00012	.15011	.16420	.19549	205.72	23.635	.12758
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	33.269	8.1354	.00484	.63756	.22289	.23652	.00479
Stddev	.510	.1236	.00007	.03196	.00055	.00337	.00126
%RSD	1.5330	1.5188	1.3845	5.0130	.24717	1.4254	26.391
#1	32.782	8.0120	.00478	.60068	.22235	.23847	.00510
#2	33.225	8.1352	.00491	.65722	.22288	.23847	.00587
#3	33.800	8.2591	.00483	.65477	.22345	.23263	.00340
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103071510 Acquired: 3/23/2011 14:56:42 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00627	F 115.59	.00917	.54105	.17872	.00030	.43024
Stddev	.00094	.72	.00061	.00846	.00275	.00123	.00042
%RSD	14.933	.62376	6.6185	1.5640	1.5400	409.49	.09664
#1	.00666	114.79	.00979	.53294	.17574	-.00097	.43042
#2	.00696	115.76	.00858	.54038	.17926	.00149	.43053
#3	.00521	116.20	.00914	.54982	.18117	.00038	.42976
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.43689
Stddev	.00104
%RSD	.23792
#1	.43740
#2	.43757
#3	.43569
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	59037.	67290.
Stddev	49.	675.
%RSD	.08329	1.0035
#1	59011.	67945.
#2	59094.	67328.
#3	59006.	66596.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103071511 Acquired: 3/23/2011 15:00:16 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00076	159.86	.10250	.02251	2.8898	.01433	52.413
Stddev	.00055	1.39	.00366	.00291	.0478	.00005	.851
%RSD	71.773	.86866	3.5683	12.929	1.6533	.38311	1.6235
#1	.00045	158.29	.10513	.01927	2.8347	.01427	51.431
#2	.00044	160.35	.10405	.02339	2.9162	.01438	52.875
#3	.00139	160.93	.09832	.02489	2.9186	.01435	52.933
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -.00052	.13530	.16687	.18636	206.03	24.318	.12448
Stddev	.00006	.00014	.00078	.00413	3.37	.408	.00152
%RSD	12.053	.10128	.46790	2.2185	1.6350	1.6778	1.2251
#1	-.00059	.13526	.16771	.19111	202.15	23.849	.12606
#2	-.00050	.13545	.16617	.18435	207.80	24.592	.12302
#3	-.00047	.13518	.16674	.18361	208.16	24.513	.12435
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	4.5000						
Low Limit	-.00050						

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	33.147	7.6051	.00438	.62102	.21701	.22712	.00660
Stddev	.587	.1265	.00033	.03559	.00098	.00135	.00396
%RSD	1.7707	1.6637	7.4650	5.7303	.44937	.59647	59.930
#1	32.495	7.4593	.00466	.60152	.21689	.22854	.00827
#2	33.634	7.6858	.00402	.59945	.21803	.22584	.00208
#3	33.312	7.6703	.00447	.66210	.21610	.22699	.00944
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103071511 Acquired: 3/23/2011 15:00:16 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00040	F 144.03	.00859	.48314	.18343	.00007	.42296
Stddev	.00058	1.32	.00039	.00890	.00300	.00066	.00128
%RSD	147.92	.91981	4.5266	1.8418	1.6353	1013.1	.30318
#1	-.00021	145.43	.00835	.47302	.18003	-.00066	.42159
#2	.00096	143.86	.00904	.48974	.18572	.00024	.42318
#3	.00043	142.79	.00838	.48665	.18452	.00062	.42412
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.42960
Stddev	.00099
%RSD	.23060
#1	.43045
#2	.42984
#3	.42851
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	58860.	65889.
Stddev	75.	588.
%RSD	.12704	.89302
#1	58806.	66536.
#2	58829.	65386.
#3	58946.	65744.

Approved: March 24, 2011
Pierce Morris

Sample Name: CCV Acquired: 3/23/2011 15:03:55 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.39732	9.9416	.39658	.50390	.99440	.05202	10.057
Stddev	.00170	.0331	.00160	.00330	.00137	.00015	.019
%RSD	.42804	.33262	.40282	.65458	.13742	.28445	.18698
#1	.39591	9.9737	.39593	.50176	.99535	.05193	10.069
#2	.39685	9.9076	.39541	.50225	.99502	.05193	10.067
#3	.39921	9.9435	.39840	.50770	.99283	.05219	10.036
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.04985	.20802	.50932	.50472	4.1423	47.933	1.0196
Stddev	.00018	.00005	.00135	.00061	.0161	.050	.0008
%RSD	.36626	.02298	.26494	.12181	.38805	.10486	.07735
#1	.04989	.20799	.50831	.50412	4.1606	47.979	1.0205
#2	.04965	.20799	.50881	.50469	4.1361	47.940	1.0191
#3	.05000	.20808	.51085	.50535	4.1303	47.879	1.0192
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.059	.50684	.97042	50.451	.49304	.50260	1.2012
Stddev	.011	.00207	.00082	.071	.00040	.00264	.0015
%RSD	.10844	.40869	.08444	.13983	.08127	.52619	.12470
#1	10.056	.50790	.97102	50.495	.49292	.50361	1.2021
#2	10.071	.50445	.96948	50.490	.49272	.50458	1.1994
#3	10.049	.50817	.97074	50.370	.49349	.49959	1.2020
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: March 24, 2011
Pierce Morris

Sample Name: CCV Acquired: 3/23/2011 15:03:55 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.39636	F 3.5241	.98917	1.0215	1.0450	.49019	.99902
Stddev	.00279	.3753	.00082	.0021	.0017	.00271	.00407
%RSD	.70507	10.648	.08337	.20108	.16220	.55255	.40749
#1	.39658	3.0931	.98982	1.0210	1.0456	.49061	.99643
#2	.39346	3.7007	.98946	1.0198	1.0463	.49266	.99692
#3	.39903	3.7785	.98824	1.0238	1.0431	.48729	1.0037
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value		5.0000					
Range		-10.000%					

Elem	Zn2062
Units	ppm
Avg	1.0375
Stddev	.0008
%RSD	.07765
#1	1.0380
#2	1.0379
#3	1.0366
Check ?	Chk Pass
Value	
Range	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	58587.	64546.
Stddev	152.	119.
%RSD	.26007	.18363
#1	58758.	64428.
#2	58537.	64545.
#3	58466.	64665.

Approved: March 24, 2011
Pierce Morris

Sample Name: CCB Acquired: 3/23/2011 15:07:16 Type: Blank
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00022	.00516	.00280	.00053	-.00024	.00003	.02088
Stddev	.00059	.00410	.00217	.00044	.00013	.00003	.01543
%RSD	272.02	79.436	77.716	82.494	55.666	81.839	73.893
#1	-.00043	.00417	.00229	.00005	-.00035	.00001	.01399
#2	.00034	.00165	.00518	.00063	-.00027	.00003	.03855
#3	.00074	.00967	.00092	.00091	-.00009	.00006	.01009
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00018	.00013	-.00022	.00025	.00264	-.75843	-.00047
Stddev	.00018	.00009	.00084	.00043	.00712	.06316	.00302
%RSD	96.299	65.212	372.66	168.95	270.13	8.3280	637.95
#1	.00004	.00005	-.00010	-.00014	.00939	-.70129	.00249
#2	.00038	.00012	.00054	.00019	-.00480	-.74775	-.00036
#3	.00014	.00023	-.00112	.00071	.00332	-.82625	-.00355
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.03540	-.00009	.00029	-.02041	-.00065	-.00316	.00252
Stddev	.02580	.00041	.00010	.01342	.00069	.00056	.00130
%RSD	72.886	434.54	35.196	65.739	106.29	17.859	51.400
#1	-.03744	.00038	.00028	-.02543	.00012	-.00267	.00174
#2	-.06011	-.00029	.00019	-.00521	-.00084	-.00378	.00402
#3	-.00864	-.00037	.00039	-.03059	-.00121	-.00303	.00181
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: CCB Acquired: 3/23/2011 15:07:16 Type: Blank
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00290	F -1.2595	.00017	-.00006	.00014	.00211	.00071
Stddev	.00247	.1117	.00017	.00022	.00068	.00106	.00049
%RSD	85.167	8.8661	95.073	385.74	475.95	50.095	69.560
#1	.00225	-1.1800	.00008	-.00020	-.00063	.00327	.00082
#2	.00083	-1.3871	.00008	-.00018	.00062	.00182	.00017
#3	.00564	-1.2113	.00037	.00020	.00044	.00122	.00114
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		1.0000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	-.00226
Stddev	.00011
%RSD	4.8144
#1	-.00216
#2	-.00237
#3	-.00224
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	58145.	62746.
Stddev	28.	368.
%RSD	.04805	.58625
#1	58157.	62606.
#2	58113.	63163.
#3	58165.	62469.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103071512 Acquired: 3/23/2011 15:10:54 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00044	162.95	.10655	.01929	3.1959	.01564	59.206
Stddev	.00113	.40	.00167	.00367	.0543	.00001	.965
%RSD	255.25	.24397	1.5645	19.005	1.6973	.06161	1.6294
#1	-.00041	163.35	.10825	.01564	3.1333	.01563	58.093
#2	-.00159	162.94	.10649	.01925	3.2252	.01565	59.708
#3	.00067	162.56	.10492	.02297	3.2292	.01563	59.815
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00020	.17147	.16557	.23608	214.22	24.473	.12814
Stddev	.00010	.00033	.00181	.00537	3.39	.373	.00195
%RSD	52.239	.19081	1.0920	2.2740	1.5820	1.5259	1.5184
#1	-.00016	.17143	.16719	.24208	210.31	24.043	.13038
#2	-.00012	.17181	.16591	.23443	216.05	24.659	.12698
#3	-.00031	.17116	.16362	.23174	216.29	24.716	.12704
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	34.107	10.055	.00545	.63872	.25448	.26829	.00695
Stddev	.584	.168	.00023	.00405	.00035	.00210	.00206
%RSD	1.7113	1.6666	4.2396	.63394	.13683	.78162	29.646
#1	33.437	9.8617	.00523	.64229	.25416	.26999	.00911
#2	34.501	10.149	.00541	.63956	.25444	.26595	.00671
#3	34.384	10.155	.00569	.63432	.25485	.26892	.00502
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103071512 Acquired: 3/23/2011 15:10:54 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00284	F 125.73	.00972	.54746	.18290	.00120	.46039
Stddev	.00375	.49	.00035	.01023	.00310	.00024	.00179
%RSD	132.28	.39224	3.6145	1.8690	1.6930	19.904	.38796
#1	.00279	125.16	.00956	.53567	.17955	.00145	.45904
#2	-.00089	126.05	.01013	.55274	.18566	.00118	.46242
#3	.00661	125.98	.00948	.55398	.18348	.00097	.45973
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.45891
Stddev	.00047
%RSD	.10254
#1	.45911
#2	.45926
#3	.45838
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	58031.	64817.
Stddev	9.	295.
%RSD	.01510	.45443
#1	58038.	65104.
#2	58035.	64516.
#3	58021.	64832.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103071513 Acquired: 3/23/2011 15:14:27 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00094	161.52	.10308	.02611	2.7770	.01521	50.278
Stddev	.00052	3.46	.00051	.00485	.0700	.00010	1.308
%RSD	55.032	2.1451	.49313	18.580	2.5209	.63855	2.6012
#1	-.00130	157.53	.10343	.02072	2.6964	.01511	48.772
#2	-.00035	163.25	.10331	.03012	2.8121	.01521	50.931
#3	-.00116	163.77	.10250	.02749	2.8225	.01530	51.130
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00095	.12064	.16858	.20554	203.18	28.260	.12621
Stddev	.00010	.00037	.00052	.00548	5.10	.778	.00354
%RSD	10.179	.30401	.30600	2.6643	2.5122	2.7530	2.8053
#1	.00100	.12079	.16869	.21186	197.30	27.363	.12230
#2	.00084	.12091	.16801	.20243	205.73	28.670	.12920
#3	.00101	.12023	.16903	.20233	206.50	28.748	.12712
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	32.619	7.5727	.00631	.72148	.22032	.26128	.00474
Stddev	.853	.1876	.00025	.01346	.00088	.00476	.00057
%RSD	2.6137	2.4774	4.0281	1.8650	.39966	1.8224	12.066
#1	31.635	7.3562	.00656	.72580	.22112	.26500	.00408
#2	33.150	7.6770	.00632	.70640	.21938	.25591	.00504
#3	33.071	7.6851	.00606	.73225	.22048	.26291	.00511
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103071513 Acquired: 3/23/2011 15:14:27 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00364	F 138.53	.00973	.45876	.17326	-.00111	.41823
Stddev	.00733	2.50	.00051	.01113	.00397	.00254	.00204
%RSD	201.33	1.8046	5.2334	2.4264	2.2910	229.88	.48813
#1	-.00481	140.28	.01009	.44592	.16876	.00059	.41600
#2	.00828	139.65	.00915	.46561	.17475	.00013	.41870
#3	.00745	135.67	.00996	.46475	.17626	-.00403	.42000
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.52084
Stddev	.00063
%RSD	.12056
#1	.52124
#2	.52117
#3	.52012
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	58664.	65518.
Stddev	128.	1209.
%RSD	.21881	1.8454
#1	58722.	66909.
#2	58753.	64717.
#3	58517.	64929.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103071514 Acquired: 3/23/2011 15:18:00 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00007	133.28	.10234	.01469	2.6230	.01386	51.714
Stddev	.00030	.34	.00270	.00236	.0333	.00005	.667
%RSD	463.14	.25867	2.6397	16.093	1.2703	.34049	1.2890
#1	-.00005	132.89	.10254	.01466	2.5869	.01384	50.987
#2	-.00016	133.40	.10494	.01234	2.6295	.01382	51.860
#3	.00041	133.54	.09955	.01707	2.6526	.01391	52.295
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00115	.14016	.14571	.19179	180.03	20.764	.10656
Stddev	.00007	.00030	.00055	.00201	2.22	.231	.00160
%RSD	6.3117	.21469	.37422	1.0488	1.2310	1.1113	1.5050
#1	.00108	.14051	.14629	.19324	177.61	20.505	.10563
#2	.00122	.14001	.14521	.19264	180.54	20.838	.10563
#3	.00115	.13997	.14562	.18949	181.95	20.948	.10841
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	29.535	7.3428	.00610	.61886	.20404	.24471	.00637
Stddev	.250	.0874	.00019	.00374	.00063	.00269	.00397
%RSD	.84781	1.1900	3.0995	.60472	.30969	1.0996	62.238
#1	29.307	7.2505	.00592	.61483	.20471	.24163	.01018
#2	29.495	7.3535	.00608	.62223	.20345	.24593	.00667
#3	29.803	7.4243	.00630	.61952	.20396	.24659	.00227
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103071514 Acquired: 3/23/2011 15:18:00 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00316	F 131.91	.00801	.44653	.14874	-.00032	.39626
Stddev	.00287	.66	.00052	.00650	.00219	.00101	.00107
%RSD	90.628	.49908	6.4898	1.4556	1.4744	318.43	.27108
#1	.00645	132.66	.00744	.43968	.14740	.00084	.39748
#2	.00116	131.62	.00846	.44728	.14755	-.00081	.39546
#3	.00188	131.44	.00813	.45262	.15127	-.00099	.39583
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.42922
Stddev	.00034
%RSD	.07964
#1	.42883
#2	.42948
#3	.42934
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	58575.	65692.
Stddev	177.	288.
%RSD	.30223	.43827
#1	58445.	66008.
#2	58777.	65622.
#3	58504.	65445.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103071515 Acquired: 3/23/2011 15:21:24 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00014	157.72	.10463	.01619	2.7365	.01512	51.434
Stddev	.00071	1.71	.00332	.00253	.0445	.00003	.846
%RSD	519.23	1.0821	3.1707	15.615	1.6252	.18871	1.6439
#1	.00015	155.76	.10845	.01334	2.6852	.01515	50.465
#2	.00084	158.83	.10252	.01704	2.7596	.01510	51.812
#3	-.00058	158.59	.10291	.01818	2.7647	.01512	52.024
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00114	.13425	.17161	.20550	204.45	25.020	.12794
Stddev	.00014	.00046	.00132	.00510	3.24	.478	.00247
%RSD	12.459	.34035	.76993	2.4820	1.5836	1.9086	1.9282
#1	.00130	.13478	.17314	.21127	200.72	24.478	.12513
#2	.00101	.13396	.17086	.20365	206.11	25.380	.12891
#3	.00112	.13402	.17084	.20159	206.53	25.202	.12977
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	33.011	7.1327	.00606	.69083	.21396	.26274	.00504
Stddev	.557	.1135	.00003	.01459	.00088	.00370	.00306
%RSD	1.6886	1.5910	.49116	2.1126	.41081	1.4087	60.712
#1	32.368	7.0021	.00607	.67512	.21452	.26436	.00857
#2	33.311	7.1892	.00608	.70396	.21442	.26535	.00353
#3	33.355	7.2069	.00603	.69342	.21295	.25850	.00303
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103071515 Acquired: 3/23/2011 15:21:24 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00254	F 117.81	.00975	.45489	.15462	-.00191	.40302
Stddev	.00367	.86	.00027	.00741	.00405	.00176	.00131
%RSD	144.56	.72884	2.7876	1.6299	2.6203	92.166	.32533
#1	.00093	118.49	.00974	.44638	.15006	-.00291	.40410
#2	.00673	118.09	.00948	.45834	.15780	-.00296	.40156
#3	-.00005	116.84	.01002	.45995	.15599	.00012	.40341
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.50782
Stddev	.00153
%RSD	.30215
#1	.50888
#2	.50851
#3	.50606
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	58288.	64931.
Stddev	116.	474.
%RSD	.19898	.72983
#1	58155.	65470.
#2	58340.	64742.
#3	58369.	64580.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103071516 Acquired: 3/23/2011 15:24:57 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02964	144.93	.10982	.02150	3.5277	.01373	57.482
Stddev	.00020	.80	.00095	.00116	.0378	.00010	.612
%RSD	.67324	.55091	.86668	5.3847	1.0710	.75292	1.0652
#1	.02942	144.02	.10878	.02019	3.4851	.01378	56.778
#2	.02981	145.24	.11064	.02194	3.5411	.01361	57.771
#3	.02969	145.53	.11004	.02237	3.5569	.01380	57.896
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00009	.13345	.14143	.18594	190.51	19.267	.13730
Stddev	.00013	.00031	.00100	.00259	1.70	.232	.00338
%RSD	154.80	.23260	.70603	1.3928	.89330	1.2027	2.4583
#1	-.00024	.13359	.14249	.18871	188.54	19.016	.13548
#2	-.00001	.13368	.14051	.18358	191.48	19.312	.13523
#3	-.00001	.13310	.14128	.18552	191.50	19.473	.14120
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	35.312	7.5468	.00472	.58200	.22280	.23068	.00562
Stddev	.424	.0800	.00011	.02204	.00051	.00378	.00164
%RSD	1.2018	1.0603	2.3902	3.7869	.23107	1.6381	29.256
#1	34.834	7.4565	.00460	.55655	.22252	.22668	.00474
#2	35.644	7.5752	.00473	.59487	.22340	.23419	.00461
#3	35.458	7.6088	.00482	.59457	.22249	.23117	.00752
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103071516 Acquired: 3/23/2011 15:24:57 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00017	F 103.30	.00835	.51553	.13591	-.00026	.39538
Stddev	.00070	.93	.00025	.00679	.00273	.00249	.00203
%RSD	402.33	.89686	3.0427	1.3162	2.0088	969.58	.51442
#1	-.00098	102.62	.00824	.50775	.13318	-.00172	.39399
#2	.00024	104.36	.00864	.51865	.13592	-.00168	.39444
#3	.00022	102.93	.00816	.52020	.13864	.00262	.39772
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.39821
Stddev	.00032
%RSD	.08094
#1	.39847
#2	.39832
#3	.39785
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	58487.	64974.
Stddev	95.	53.
%RSD	.16316	.08088
#1	58540.	64986.
#2	58544.	64917.
#3	58377.	65020.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103071517 Acquired: 3/23/2011 15:28:24 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00062	141.45	.08578	.01780	2.3896	.01353	52.667
Stddev	.00087	2.14	.00303	.00332	.0427	.00007	.935
%RSD	140.27	1.5132	3.5284	18.648	1.7885	.54135	1.7756
#1	-.00161	139.04	.08242	.01403	2.3404	.01359	51.593
#2	-.00025	142.17	.08828	.01908	2.4111	.01355	53.112
#3	.00000	143.14	.08665	.02029	2.4174	.01345	53.297
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00030	.18720	.13730	.17210	185.62	20.741	.11221
Stddev	.00019	.00057	.00165	.00395	3.31	.398	.00397
%RSD	63.091	.30709	1.1998	2.2937	1.7822	1.9190	3.5413
#1	.00048	.18784	.13920	.17651	181.81	20.285	.10809
#2	.00032	.18703	.13644	.17086	187.27	20.924	.11251
#3	.00010	.18673	.13626	.16892	187.78	21.015	.11602
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	31.306	9.4973	.00473	.59607	.25459	.21791	.00418
Stddev	.640	.1882	.00006	.02474	.00132	.00186	.00212
%RSD	2.0446	1.9814	1.2026	4.1505	.51735	.85457	50.779
#1	30.569	9.2807	.00466	.56923	.25611	.21997	.00641
#2	31.630	9.5906	.00477	.60102	.25378	.21741	.00220
#3	31.720	9.6206	.00475	.61796	.25389	.21635	.00392
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103071517 Acquired: 3/23/2011 15:28:24 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00236	F 85.921	.00818	.53907	.13094	.00269	.35215
Stddev	.00169	.481	.00054	.01121	.00244	.00221	.00075
%RSD	71.428	.56009	6.5471	2.0803	1.8664	81.983	.21432
#1	.00430	86.475	.00758	.52641	.12812	.00452	.35238
#2	.00127	85.608	.00862	.54304	.13240	.00024	.35276
#3	.00151	85.680	.00833	.54776	.13231	.00331	.35131
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.37831
Stddev	.00078
%RSD	.20560
#1	.37913
#2	.37821
#3	.37758
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	58527.	65538.
Stddev	272.	904.
%RSD	.46528	1.3799
#1	58304.	66568.
#2	58446.	65173.
#3	58831.	64873.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103071518 Acquired: 3/23/2011 15:31:48 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00055	125.04	.09457	.01527	2.3820	.01373	49.586
Stddev	.00076	1.62	.00286	.00243	.0448	.00000	.946
%RSD	137.31	1.2954	3.0294	15.921	1.8822	.02878	1.9080
#1	.00013	123.19	.09134	.01380	2.3303	.01373	48.499
#2	.00010	126.19	.09557	.01808	2.4043	.01373	50.032
#3	.00143	125.74	.09680	.01394	2.4112	.01372	50.226
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00157	.11995	.14223	.18375	171.42	21.326	.09866
Stddev	.00009	.00019	.00045	.00416	3.18	.468	.00087
%RSD	5.6784	.15741	.31798	2.2655	1.8562	2.1930	.88649
#1	.00163	.11998	.14184	.18847	167.76	20.790	.09765
#2	.00161	.12012	.14272	.18219	172.99	21.535	.09912
#3	.00147	.11975	.14212	.18059	173.51	21.653	.09921
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	28.057	5.5908	.00620	.60915	.17583	.23811	.00515
Stddev	.398	.1003	.00033	.01777	.00083	.00229	.00230
%RSD	1.4192	1.7944	5.2774	2.9171	.47258	.96357	44.607
#1	27.607	5.4750	.00649	.58908	.17679	.23640	.00689
#2	28.365	5.6524	.00585	.61548	.17544	.23720	.00255
#3	28.198	5.6450	.00625	.62289	.17527	.24071	.00602
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103071518 Acquired: 3/23/2011 15:31:48 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00290	F 123.63	.00810	.41126	.12625	-.00192	.35577
Stddev	.00489	.48	.00010	.00679	.00313	.00198	.00080
%RSD	168.80	.38841	1.2440	1.6519	2.4823	103.43	.22362
#1	.00110	123.72	.00813	.40343	.12303	.00035	.35500
#2	-.00084	124.05	.00819	.41487	.12642	-.00274	.35659
#3	.00844	123.11	.00799	.41550	.12930	-.00335	.35572
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.45198
Stddev	.00028
%RSD	.06240
#1	.45227
#2	.45171
#3	.45197
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	58673.	65270.
Stddev	22.	732.
%RSD	.03667	1.1220
#1	58652.	66115.
#2	58673.	64816.
#3	58695.	64880.

Approved: March 24, 2011
Pierce Morris

Sample Name: CCV Acquired: 3/23/2011 15:35:18 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.39709	9.9636	.39772	.50068	1.0022	.05193	10.108
Stddev	.00271	.0228	.00155	.00332	.0022	.00015	.038
%RSD	.68245	.22921	.39077	.66343	.22354	.28887	.38078
#1	.39625	9.9520	.39620	.49686	1.0039	.05178	10.140
#2	.39489	9.9488	.39766	.50232	1.0032	.05195	10.120
#3	.40012	9.9899	.39930	.50287	.99969	.05208	10.066
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05002	.20796	.50969	.50516	4.1624	48.419	1.0235
Stddev	.00010	.00025	.00131	.00105	.0255	.101	.0010
%RSD	.19702	.11915	.25797	.20736	.61214	.20873	.09256
#1	.05013	.20800	.50861	.50586	4.1886	48.509	1.0241
#2	.04994	.20769	.50932	.50566	4.1610	48.439	1.0224
#3	.04999	.20818	.51116	.50395	4.1377	48.310	1.0241
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.162	.51045	.97088	50.689	.49531	.50148	1.2033
Stddev	.033	.00179	.00359	.116	.00126	.00166	.0030
%RSD	.32782	.35129	.36968	.22870	.25520	.33003	.25150
#1	10.164	.51201	.97471	50.802	.49676	.50161	1.2068
#2	10.195	.51086	.97032	50.694	.49468	.49977	1.2018
#3	10.128	.50849	.96760	50.570	.49447	.50307	1.2014
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: March 24, 2011
Pierce Morris

Sample Name: CCV Acquired: 3/23/2011 15:35:18 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.39969	F 3.5329	.99024	1.0312	1.0466	.49339	1.0000
Stddev	.00423	.1076	.00284	.0024	.0046	.00208	.0029
%RSD	1.0571	3.0441	.28644	.23176	.43830	.42067	.29181
#1	.39495	3.4269	.99307	1.0325	1.0442	.49568	.99782
#2	.40305	3.6419	.99023	1.0328	1.0519	.49285	.99897
#3	.40109	3.5299	.98740	1.0285	1.0437	.49164	1.0034
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value		5.0000					
Range		-10.000%					

Elem	Zn2062
Units	ppm
Avg	1.0380
Stddev	.0005
%RSD	.05085
#1	1.0380
#2	1.0375
#3	1.0385
Check ?	Chk Pass
Value	
Range	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	57622.	63362.
Stddev	143.	187.
%RSD	.24787	.29589
#1	57730.	63404.
#2	57677.	63525.
#3	57460.	63157.

Approved: March 24, 2011
Pierce Morris

Sample Name: CCB Acquired: 3/23/2011 15:38:38 Type: Blank
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00015	.00463	.00069	.00152	-.00034	.00003	-.00947
Stddev	.00036	.00592	.00122	.00144	.00035	.00003	.00392
%RSD	234.29	127.86	176.55	95.204	101.53	91.623	41.403
#1	-.00026	.00945	-.00068	-.00014	.00002	.00005	-.00910
#2	.00040	-.00198	.00108	.00221	-.00067	.00000	-.01357
#3	.00032	.00642	.00166	.00248	-.00038	.00004	-.00575
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00027	-.00011	.00034	-.00011	.00274	-.85080	-.00075
Stddev	.00019	.00021	.00089	.00078	.00274	.04476	.00120
%RSD	69.184	198.73	259.48	709.05	99.950	5.2608	161.09
#1	.00010	.00010	.00095	.00074	.00176	-.89968	.00049
#2	.00025	-.00009	.00077	-.00078	.00583	-.84088	-.00191
#3	.00048	-.00033	-.00068	-.00029	.00062	-.81183	-.00082
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.01595	.00018	.00021	-.03169	-.00099	-.00314	.00135
Stddev	.03520	.00087	.00025	.00513	.00048	.00081	.00061
%RSD	220.78	487.86	117.31	16.174	48.222	25.851	45.399
#1	.02192	.00006	-.00007	-.03266	-.00119	-.00386	.00065
#2	-.04769	-.00063	.00035	-.02615	-.00044	-.00226	.00160
#3	-.02206	.00110	.00036	-.03627	-.00133	-.00331	.00180
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: CCB Acquired: 3/23/2011 15:38:38 Type: Blank
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00202**	F **-1.3887**	**-.00039**	**-.00007**	**.00005**	**.00103**	**.00004**
Stddev	.00459	.2009	.00015	.00012	.00219	.00172	.00034
%RSD	227.14	14.465	38.275	174.40	4169.7	166.50	875.15
#1	-.00579	-1.2666	-.00033	-.00015	-.00138	-.00093	.00043
#2	.00309	-1.6206	-.00057	-.00011	-.00104	.00177	-.00018
#3	-.00336	-1.2791	-.00029	.00007	.00258	.00226	-.00014
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		1.0000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	**-.00184**
Stddev	.00009
%RSD	5.0254
#1	-.00194
#2	-.00184
#3	-.00175
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	**58033.**	**61839.**
Stddev	146.	163.
%RSD	.25221	.26355
#1	58202.	61652.
#2	57964.	61950.
#3	57935.	61915.

Approved: March 24, 2011
Pierce Morris

Sample Name: PBS 94 Acquired: 3/23/2011 15:42:12 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359605-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00006	.00212	.00199	.00004	.00087	.00004	.02234
Stddev	.00047	.00564	.00119	.00074	.00031	.00001	.00419
%RSD	782.95	265.78	59.748	2014.3	35.698	24.870	18.747
#1	.00038	.00086	.00252	.00053	.00073	.00004	.02613
#2	.00027	-.00278	.00063	-.00081	.00123	.00005	.01785
#3	-.00047	.00829	.00283	.00039	.00066	.00003	.02304
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00029	-.00065	.00148	.00077	.01822	F -.67722	.00167
Stddev	.00008	.00007	.00067	.00061	.00265	.09278	.00180
%RSD	27.514	10.119	45.558	79.920	14.564	13.699	108.10
#1	.00037	-.00072	.00213	.00107	.01789	-.70658	.00360
#2	.00021	-.00063	.00152	.00117	.01575	-.75176	.00004
#3	.00030	-.00059	.00079	.00006	.02102	-.57332	.00136
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit						315.00	
Low Limit						-.50000	

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01578	-.00007	.00050	.01284	-.00018	-.00343	.00168
Stddev	.01039	.00076	.00017	.02103	.00035	.00204	.00059
%RSD	65.832	1169.1	34.449	163.75	196.75	59.464	35.351
#1	.02012	-.00086	.00065	-.00074	-.00041	-.00141	.00100
#2	.02328	.00000	.00031	.03707	-.00036	-.00548	.00195
#3	.00392	.00066	.00055	.00220	.00023	-.00338	.00210
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: PBS 94 Acquired: 3/23/2011 15:42:12 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359605-02

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00208	-.43609	-.00002	.00010	.00192	-.00032	.00057
Stddev	.00243	.10142	.00038	.00016	.00188	.00040	.00015
%RSD	117.05	23.258	1710.9	152.09	97.613	127.48	25.746
#1	-.00055	-.51078	.00016	.00019	.00026	-.00072	.00043
#2	.00254	-.47687	-.00046	-.00008	.00395	.00009	.00072
#3	.00424	-.32062	.00023	.00020	.00156	-.00032	.00055
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Zn2062
Units	ppm
Avg	.00048
Stddev	.00022
%RSD	45.036
#1	.00052
#2	.00067
#3	.00025
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	57290.	61848.
Stddev	138.	126.
%RSD	.24124	.20363
#1	57362.	61946.
#2	57131.	61706.
#3	57377.	61894.

Approved: March 24, 2011
Pierce Morris

Sample Name: LCSS 94 Acquired: 3/23/2011 15:45:42 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359605-03

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.18741	4.6319	.18022	.93176	.47780	.02448	4.7977
Stddev	.00066	.0147	.00114	.00357	.00104	.00008	.0277
%RSD	.35055	.31710	.63367	.38309	.21849	.30956	.57718
#1	.18714	4.6489	.18154	.93447	.47660	.02448	4.7662
#2	.18816	4.6233	.17963	.93309	.47843	.02455	4.8183
#3	.18693	4.6235	.17949	.92771	.47838	.02440	4.8085
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02337	.09933	.24357	.23562	1.9535	22.630	.48922
Stddev	.00016	.00034	.00169	.00029	.0095	.051	.00184
%RSD	.66325	.33838	.69408	.12188	.48733	.22591	.37549
#1	.02334	.09951	.24459	.23579	1.9495	22.584	.48801
#2	.02354	.09954	.24450	.23579	1.9466	22.685	.48832
#3	.02324	.09894	.24161	.23529	1.9643	22.621	.49134
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.8212	.24146	.49162	24.643	.23660	.23556	.56062
Stddev	.0150	.00070	.00153	.066	.00068	.00120	.00457
%RSD	.31207	.29173	.31059	.26956	.28890	.50831	.81555
#1	4.8056	.24070	.49298	24.578	.23660	.23450	.56499
#2	4.8223	.24159	.49191	24.640	.23728	.23532	.56100
#3	4.8357	.24209	.48997	24.711	.23591	.23686	.55587
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: LCSS 94 Acquired: 3/23/2011 15:45:42 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359605-03

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.18425	F 152.27	.46937	.49021	.49974	.23104	.48802
Stddev	.00235	.57	.00059	.00167	.00230	.00122	.00377
%RSD	1.2781	.37415	.12602	.34031	.45980	.52994	.77179
#1	.18159	152.28	.47000	.48901	.49710	.23185	.49139
#2	.18608	152.83	.46928	.48950	.50092	.23165	.48873
#3	.18506	151.69	.46883	.49211	.50121	.22964	.48396
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.48543
Stddev	.00237
%RSD	.48868
#1	.48778
#2	.48547
#3	.48304
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	56520.	61423.
Stddev	171.	192.
%RSD	.30282	.31217
#1	56432.	61389.
#2	56411.	61629.
#3	56718.	61250.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103061204 Acquired: 3/23/2011 15:49:03 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.03908	226.22	.36308	.01952	2.6131	.00431	64.279
Stddev	.00061	1.01	.00268	.00953	.0259	.00007	.580
%RSD	1.5691	.44469	.73794	48.794	.99156	1.7098	.90290
#1	.03865	225.76	.36611	.01054	2.5832	.00423	63.609
#2	.03880	225.53	.36101	.02951	2.6278	.00438	64.598
#3	.03978	227.37	.36213	.01852	2.6283	.00431	64.630
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -.00543	.34300	.41217	.53099	546.71	22.383	.13161
Stddev	.00027	.00176	.00146	.02118	16.12	.217	.00269
%RSD	5.0033	.51415	.35389	3.9896	2.9489	.96901	2.0467
#1	-.00513	.34406	.41308	.55541	528.51	22.151	.12985
#2	-.00565	.34397	.41049	.52007	559.20	22.581	.13027
#3	-.00551	.34096	.41295	.51750	552.43	22.417	.13471
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	4.5000						
Low Limit	-.00050						

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	95.908	8.9028	.01370	3.5098	.35839	.16625	.01230
Stddev	1.191	.0969	.00013	.0221	.00299	.00283	.00211
%RSD	1.2422	1.0888	.96290	.62857	.83385	1.7016	17.124
#1	94.555	8.7912	.01355	3.4871	.36071	.16725	.00987
#2	96.366	8.9516	.01379	3.5311	.35944	.16844	.01339
#3	96.802	8.9656	.01377	3.5114	.35502	.16306	.01363
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103061204 Acquired: 3/23/2011 15:49:03 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00608	F 126.01	.01351	.96295	4.9900	.01091	1.6060
Stddev	.00222	.85	.00085	.01002	.0447	.00206	.0075
%RSD	36.412	.67523	6.2935	1.0405	.89674	18.858	.46447
#1	-.00421	126.91	.01391	.95160	4.9384	.00875	1.6100
#2	-.00853	125.90	.01408	.96668	5.0129	.01113	1.5974
#3	-.00552	125.21	.01253	.97058	5.0186	.01285	1.6106
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.85049
Stddev	.00357
%RSD	.41923
#1	.85317
#2	.85185
#3	.84644
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	57231.	64255.
Stddev	74.	250.
%RSD	.12895	.38949
#1	57172.	64496.
#2	57314.	63996.
#3	57207.	64273.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103061204PS Acquired: 3/23/2011 15:52:42 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359705-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.22390	208.25	.51082	.94822	2.8190	.02897	62.696
Stddev	.00151	3.37	.00304	.00695	.0564	.00015	1.198
%RSD	.67618	1.6165	.59496	.73273	2.0021	.52167	1.9105
#1	.22297	205.14	.51432	.94079	2.7553	.02880	61.350
#2	.22308	207.78	.50884	.94933	2.8391	.02905	63.093
#3	.22564	211.83	.50931	.95455	2.8627	.02907	63.644
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01787	.40748	.61417	.71663	498.05	42.804	.60581
Stddev	.00022	.00093	.00277	.01688	12.55	.863	.01505
%RSD	1.2247	.22756	.45071	2.3550	2.5192	2.0163	2.4848
#1	.01804	.40775	.61735	.73480	483.95	41.829	.58917
#2	.01794	.40824	.61294	.71363	502.19	43.109	.60976
#3	.01762	.40645	.61224	.70145	508.00	43.472	.61849
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	90.555	8.2353	.48598	27.307	.54294	.37569	.56652
Stddev	1.775	.1573	.00163	.535	.00300	.00425	.00441
%RSD	1.9595	1.9096	.33564	1.9594	.55166	1.1300	.77909
#1	88.562	8.0575	.48729	26.701	.54611	.37350	.56706
#2	91.140	8.2923	.48651	27.503	.54254	.38059	.57063
#3	91.963	8.3562	.48415	27.716	.54016	.37299	.56186
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103061204PS Acquired: 3/23/2011 15:52:42 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359705-01

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.18292**	F **260.02**	**.01223**	**1.3509**	**4.9995**	**.22357**	**1.9391**
Stddev	.00333	.62	.00042	.0265	.0918	.00107	.0012
%RSD	1.8202	.23750	3.4163	1.9610	1.8354	.48029	.05934
#1	.18130	260.32	.01240	1.3217	4.8959	.22297	1.9405
#2	.18675	260.42	.01176	1.3576	5.0320	.22481	1.9386
#3	.18072	259.31	.01254	1.3734	5.0706	.22293	1.9384
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	**1.2448**
Stddev	.0034
%RSD	.27278
#1	1.2464
#2	1.2472
#3	1.2410
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	**56825.**	**64499.**
Stddev	45.	1019.
%RSD	.07865	1.5802
#1	56820.	65660.
#2	56872.	64086.
#3	56783.	63751.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103061204SDL Acquired: 3/23/2011 15:56:19 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 5 Custom ID2: Custom ID3:
Comment: WG359705-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00795	48.175	.07664	.00709	.52702	.00097	13.075
Stddev	.00103	.188	.00327	.00098	.00074	.00001	.009
%RSD	12.968	.38993	4.2650	13.869	.14083	1.0759	.07043
#1	.00913	48.126	.07559	.00811	.52758	.00096	13.085
#2	.00751	48.382	.08030	.00703	.52731	.00098	13.071
#3	.00721	48.016	.07402	.00614	.52618	.00097	13.068
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -.00108	.07212	.08509	.11164	117.37	3.7741	.02381
Stddev	.00022	.00024	.00071	.00101	.21	.1071	.00160
%RSD	20.497	.33307	.83078	.90705	.17748	2.8385	6.7007
#1	-.00112	.07201	.08493	.11054	117.60	3.6645	.02563
#2	-.00127	.07196	.08447	.11253	117.32	3.7793	.02263
#3	-.00084	.07240	.08586	.11186	117.19	3.8786	.02317
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	4.5000						
Low Limit	-.00050						

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	20.125	1.8400	.00265	.68345	.07415	.03386	.00364
Stddev	.125	.0022	.00019	.02309	.00032	.00149	.00327
%RSD	.61906	.12171	7.3445	3.3790	.43250	4.3934	89.800
#1	20.025	1.8375	.00255	.70684	.07379	.03218	.00613
#2	20.265	1.8407	.00287	.66067	.07440	.03438	.00485
#3	20.085	1.8418	.00253	.68283	.07428	.03501	-.00006
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103061204SDL Acquired: 3/23/2011 15:56:19 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 5 Custom ID2: Custom ID3:
Comment: WG359705-02

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00108	23.355	.00278	.19575	1.0265	.00498	.32506
Stddev	.00061	.073	.00020	.00059	.0007	.00117	.00119
%RSD	56.237	.31360	7.0261	.29972	.06859	23.424	.36557
#1	.00086	23.409	.00256	.19529	1.0264	.00550	.32570
#2	.00062	23.272	.00285	.19641	1.0272	.00364	.32579
#3	.00177	23.384	.00294	.19555	1.0258	.00579	.32369
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Zn2062
Units	ppm
Avg	.18154
Stddev	.00020
%RSD	.10883
#1	.18142
#2	.18177
#3	.18143
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	59659.	65112.
Stddev	253.	386.
%RSD	.42459	.59333
#1	59940.	65557.
#2	59590.	64912.
#3	59448.	64867.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103061204SDL Acquired: 3/23/2011 15:59:44 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 25 Custom ID2: Custom ID3:
Comment: WG359705-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00190	9.6298	.01443	.00195	.10575	.00024	2.6195	-.00023
Stddev	.00061	.0799	.00055	.00076	.00011	.00003	.0026	.00011
%RSD	32.053	.82947	3.8126	38.868	.10155	10.931	.10082	49.307
#1	.00146	9.5744	.01430	.00108	.10581	.00026	2.6222	-.00036
#2	.00259	9.5936	.01396	.00246	.10562	.00021	2.6191	-.00021
#3	.00163	9.7214	.01504	.00232	.10581	.00025	2.6170	-.00013
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01483	.01683	.02386	23.623	-.04545	.00699	3.9974	.37372
Stddev	.00006	.00024	.00074	.035	.12069	.00289	.0202	.00108
%RSD	.43191	1.4208	3.1070	.14754	265.53	41.384	.50416	.28807
#1	.01476	.01710	.02462	23.609	-.18080	.00520	4.0154	.37380
#2	.01489	.01665	.02383	23.598	-.00656	.01032	4.0012	.37260
#3	.01484	.01674	.02313	23.663	.05100	.00544	3.9756	.37475
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Si2124	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00048	.11516	.01465	.00560	.00273	-.00132	2.8106	.00024
Stddev	.00013	.01499	.00023	.00056	.00259	.00036	.1113	.00063
%RSD	27.537	13.015	1.6034	9.9592	94.902	27.419	3.9588	261.07
#1	.00046	.13246	.01486	.00528	-.00021	-.00173	2.8985	-.00045
#2	.00036	.10633	.01439	.00528	.00370	-.00109	2.8477	.00039
#3	.00062	.10668	.01468	.00625	.00469	-.00113	2.6855	.00078
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103061204SDL Acquired: 3/23/2011 15:59:44 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 25 Custom ID2: Custom ID3:
Comment: WG359705-02

Elem	Sr4077	Ti3372	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm
Avg	.03922	.20829	.00278	.06606	.03655
Stddev	.00028	.00085	.00129	.00073	.00022
%RSD	.70283	.40974	46.425	1.1014	.59617
#1	.03919	.20756	.00240	.06571	.03635
#2	.03896	.20923	.00422	.06557	.03652
#3	.03951	.20807	.00173	.06689	.03678
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	59475.	64779.
Stddev	240.	336.
%RSD	.40271	.51869
#1	59751.	65040.
#2	59324.	64896.
#3	59349.	64400.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103061208 Acquired: 3/23/2011 16:03:09 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.04804**	**188.98**	**.22153**	**.04269**	**5.2885**	^ *****	**74.692**
Stddev	.00074	1.02	.00217	.00114	.0644	-----	.979
%RSD	1.5312	.53836	.97774	2.6635	1.2170	-----	1.3107
#1	.04750	188.89	.22220	.04246	5.2229	^ -----	73.721
#2	.04775	188.01	.22328	.04392	5.2911	^ -----	74.675
#3	.04888	190.04	.21911	.04168	5.3516	^ -----	75.679
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00044**	**.24274**	**.40086**	**.56725**	**457.04**	**37.239**	**.14183**
Stddev	.00006	.00136	.00061	.00744	4.69	.349	.00436
%RSD	14.208	.56172	.15212	1.3119	1.0253	.93718	3.0760
#1	-.00037	.24260	.40028	.57059	452.31	36.890	.13699
#2	-.00048	.24416	.40080	.57244	457.13	37.239	.14304
#3	-.00046	.24145	.40150	.55873	461.68	37.588	.14545
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**68.141**	**8.4380**	**.01256**	**2.9090**	**.29673**	**1.5552**	**.01524**
Stddev	.738	.0988	.00025	.0429	.00224	.0070	.00166
%RSD	1.0831	1.1710	2.0077	1.4735	.75385	.45046	10.905
#1	67.337	8.3353	.01267	2.8683	.29750	1.5512	.01436
#2	68.299	8.4464	.01274	2.9050	.29848	1.5633	.01716
#3	68.787	8.5324	.01227	2.9538	.29421	1.5511	.01421
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103061208 Acquired: 3/23/2011 16:03:09 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00255	F 136.29	.04623	.79668	6.6179	.01122	1.3322
Stddev	.00576	.92	.00006	.00981	.0761	.00341	.0023
%RSD	225.69	.67228	.13774	1.2319	1.1498	30.369	.16966
#1	-.00084	136.80	.04621	.78639	6.5404	.01331	1.3306
#2	.00920	136.84	.04630	.79771	6.6210	.00729	1.3312
#3	-.00071	135.23	.04617	.80594	6.6925	.01306	1.3348
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	2.4443
Stddev	.0086
%RSD	.34989
#1	2.4415
#2	2.4539
#3	2.4375
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	56200.	64562.
Stddev	179.	241.
%RSD	.31770	.37258
#1	56406.	64565.
#2	56094.	64801.
#3	56101.	64320.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103061209 Acquired: 3/23/2011 16:06:49 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.03795	224.51	.34443	.01225	3.2344	.00522	83.883
Stddev	.00051	.76	.00300	.00396	.0422	.00004	.942
%RSD	1.3489	.33664	.86955	32.349	1.3045	.69386	1.1227
#1	.03736	224.79	.34224	.00841	3.1884	.00519	82.863
#2	.03831	223.66	.34784	.01201	3.2432	.00521	84.067
#3	.03818	225.09	.34321	.01633	3.2714	.00526	84.719
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -.00400	.32607	.41874	.61212	537.15	40.469	.11695
Stddev	.00019	.00083	.00195	.01333	6.81	.434	.00269
%RSD	4.8580	.25384	.46537	2.1771	1.2674	1.0729	2.2962
#1	-.00390	.32669	.42099	.61958	533.61	40.020	.11632
#2	-.00388	.32639	.41753	.62005	532.84	40.499	.11464
#3	-.00423	.32513	.41770	.59674	545.00	40.887	.11990
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	4.5000						
Low Limit	-.00050						

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	82.235	12.723	.01587	5.4358	.30536	.23748	.01355
Stddev	1.061	.167	.00042	.0610	.00165	.00084	.00220
%RSD	1.2907	1.3149	2.6745	1.1226	.54088	.35346	16.198
#1	81.060	12.542	.01622	5.3658	.30627	.23658	.01344
#2	82.519	12.754	.01540	5.4640	.30634	.23764	.01142
#3	83.125	12.872	.01599	5.4776	.30345	.23824	.01580
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103061209 Acquired: 3/23/2011 16:06:49 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00016	F 137.23	.01628	.98675	4.8755	.01238	1.5954
Stddev	.00153	1.50	.00053	.01191	.0596	.00129	.0047
%RSD	966.34	1.0962	3.2544	1.2067	1.2231	10.456	.29415
#1	-.00187	138.06	.01619	.97451	4.8097	.01380	1.5903
#2	.00108	138.15	.01684	.98744	4.8910	.01207	1.5963
#3	.00032	135.50	.01580	.99830	4.9259	.01127	1.5995
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	1.1350
Stddev	.0028
%RSD	.25036
#1	1.1366
#2	1.1366
#3	1.1317
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	56167.	64765.
Stddev	118.	161.
%RSD	.21006	.24794
#1	56298.	64637.
#2	56132.	64713.
#3	56070.	64945.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103061212 Acquired: 3/23/2011 16:10:29 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02614	149.91	.22650	.01212	2.0717	.00284	47.049
Stddev	.00045	2.04	.00142	.00677	.0524	.00004	1.297
%RSD	1.7292	1.3639	.62633	55.845	2.5285	1.3815	2.7556
#1	.02573	148.42	.22487	.00432	2.0115	.00279	45.559
#2	.02662	149.08	.22723	.01650	2.0968	.00286	47.675
#3	.02606	152.24	.22741	.01554	2.1068	.00286	47.914
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -.00381	.24197	.29225	.39455	396.49	31.439	.05581
Stddev	.00012	.00030	.00171	.00972	10.69	.784	.00240
%RSD	3.1041	.12422	.58461	2.4625	2.6952	2.4934	4.3006
#1	-.00386	.24229	.29410	.40577	384.20	30.543	.05320
#2	-.00389	.24170	.29073	.38901	401.67	31.774	.05629
#3	-.00367	.24190	.29192	.38888	403.60	32.000	.05793
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	4.5000						
Low Limit	-.00050						

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	60.209	9.4484	.01365	2.8465	.20587	.11617	.00977
Stddev	1.332	.2302	.00010	.0439	.00088	.00093	.00222
%RSD	2.2121	2.4365	.69854	1.5432	.42794	.80369	22.684
#1	58.697	9.1838	.01360	2.7961	.20590	.11539	.00772
#2	60.725	9.5588	.01376	2.8670	.20498	.11591	.00949
#3	61.206	9.6027	.01359	2.8765	.20674	.11721	.01212
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103061212 Acquired: 3/23/2011 16:10:29 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00123	F 115.64	.00854	.69711	3.4898	.00827	1.1112
Stddev	.00278	.99	.00049	.01809	.0965	.00213	.0019
%RSD	226.46	.85873	5.7920	2.5944	2.7645	25.740	.17076
#1	-.00035	116.76	.00850	.67642	3.3789	.00606	1.1109
#2	.00444	115.26	.00906	.70497	3.5361	.00844	1.1094
#3	-.00040	114.89	.00807	.70993	3.5545	.01030	1.1132
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.66528
Stddev	.00124
%RSD	.18705
#1	.66428
#2	.66488
#3	.66667
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	55819.	63137.
Stddev	97.	792.
%RSD	.17428	1.2551
#1	55715.	64052.
#2	55837.	62667.
#3	55907.	62692.

Approved: March 24, 2011
Pierce Morris

Sample Name: CCV Acquired: 3/23/2011 16:14:04 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.39270	9.8672	.39046	.50096	.98922	.05144	10.043
Stddev	.00317	.0256	.00320	.00177	.00061	.00031	.020
%RSD	.80602	.25909	.81913	.35341	.06180	.59816	.20137
#1	.39468	9.8960	.39330	.50170	.98858	.05173	10.056
#2	.39436	9.8583	.38700	.50223	.98930	.05148	10.020
#3	.38905	9.8473	.39109	.49893	.98980	.05111	10.054
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.04958	.20630	.50158	.49706	4.0981	47.425	1.0214
Stddev	.00015	.00012	.00303	.00144	.0089	.088	.0026
%RSD	.30643	.05781	.60462	.29032	.21690	.18511	.25209
#1	.04948	.20623	.50398	.49857	4.1061	47.512	1.0233
#2	.04950	.20623	.50257	.49569	4.0886	47.336	1.0185
#3	.04975	.20644	.49817	.49692	4.0996	47.429	1.0225
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.7684	.49885	.95288	50.231	.48250	.49023	1.1986
Stddev	.0491	.00028	.00081	.072	.00229	.00187	.0023
%RSD	.50253	.05625	.08534	.14318	.47474	.38085	.19019
#1	9.7475	.49917	.95379	50.254	.48510	.48814	1.1989
#2	9.7333	.49864	.95261	50.151	.48160	.49173	1.2007
#3	9.8245	.49874	.95223	50.289	.48079	.49082	1.1962
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: March 24, 2011
Pierce Morris

Sample Name: CCV Acquired: 3/23/2011 16:14:04 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.38983	F 2.8519	.96745	1.0234	1.0402	.48019	.98847
Stddev	.00195	.0466	.00251	.0015	.0020	.00289	.00490
%RSD	.49913	1.6333	.25924	.14630	.19240	.60211	.49581
#1	.38841	2.9024	.97033	1.0236	1.0380	.48114	.99261
#2	.39205	2.8106	.96626	1.0248	1.0405	.48249	.98973
#3	.38904	2.8428	.96576	1.0218	1.0420	.47694	.98306
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value		5.0000					
Range		-10.000%					

Elem	Zn2062
Units	ppm
Avg	1.0182
Stddev	.0016
%RSD	.15741
#1	1.0201
#2	1.0172
#3	1.0174
Check ?	Chk Pass
Value	
Range	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	57585.	63549.
Stddev	268.	116.
%RSD	.46522	.18222
#1	57378.	63424.
#2	57489.	63652.
#3	57887.	63573.

Approved: March 24, 2011
Pierce Morris

Sample Name: CCB Acquired: 3/23/2011 16:17:23 Type: Blank
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00011	-.00108	.00195	.00221	-.00060	.00004	-.00373
Stddev	.00082	.00321	.00103	.00181	.00016	.00003	.01063
%RSD	774.19	295.87	52.713	81.580	27.096	83.560	284.67
#1	.00001	.00201	.00077	.00372	-.00046	.00008	.00824
#2	-.00098	-.00086	.00267	.00271	-.00057	.00002	-.01206
#3	.00065	-.00439	.00240	.00021	-.00078	.00002	-.00738
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00009	-.00016	-.00056	-.00001	-.00263	-.88844	-.00214
Stddev	.00014	.00007	.00016	.00057	.00378	.01745	.00133
%RSD	149.83	47.691	27.826	4059.3	143.83	1.9645	62.387
#1	.00005	-.00017	-.00057	-.00056	-.00648	-.89182	-.00221
#2	-.00011	-.00008	-.00071	.00057	-.00250	-.90395	-.00343
#3	-.00022	-.00023	-.00040	-.00005	.00108	-.86954	-.00077
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.02796	-.00031	.00012	-.03017	-.00045	-.00406	.00256
Stddev	.03290	.00009	.00010	.02733	.00053	.00128	.00135
%RSD	117.66	28.752	80.616	90.598	117.26	31.442	52.788
#1	-.05226	-.00022	.00015	-.01497	.00016	-.00533	.00268
#2	-.04111	-.00040	.00020	-.06173	-.00082	-.00278	.00385
#3	.00948	-.00031	.00001	-.01382	-.00069	-.00408	.00115
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: CCB Acquired: 3/23/2011 16:17:23 Type: Blank
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00106**	F **-1.8892**	**-.00032**	**-.00015**	**.00152**	**.00194**	**.00059**
Stddev	.00339	.2373	.00037	.00013	.00050	.00134	.00031
%RSD	321.14	12.561	118.29	87.866	33.041	69.165	52.579
#1	-.00285	-1.8726	.00011	-.00030	.00095	.00342	.00094
#2	.00272	-1.6606	-.00057	-.00005	.00190	.00081	.00037
#3	.00330	-2.1343	-.00049	-.00010	.00172	.00158	.00046
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		1.0000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	**-.00215**
Stddev	.00023
%RSD	10.887
#1	-.00189
#2	-.00235
#3	-.00221
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	**57864.**	**63155.**
Stddev	76.	165.
%RSD	.13118	.26184
#1	57942.	62966.
#2	57790.	63272.
#3	57861.	63228.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103061213 Acquired: 3/23/2011 16:21:00 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.03289	169.23	.20538	.02145	2.8577	.00322	65.669
Stddev	.00055	1.17	.00187	.00305	.0348	.00005	.926
%RSD	1.6659	.68955	.90934	14.218	1.2173	1.4820	1.4105
#1	.03226	170.35	.20511	.01809	2.8181	.00318	64.618
#2	.03316	168.02	.20366	.02404	2.8713	.00327	66.021
#3	.03325	169.32	.20737	.02221	2.8836	.00320	66.367
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -.00241	.24924	.34402	.49793	423.99	40.578	.09670
Stddev	.00012	.00106	.00162	.00537	1.79	.530	.00285
%RSD	4.9222	.42609	.47222	1.0776	.42327	1.3054	2.9498
#1	-.00251	.24986	.34266	.49850	425.60	39.975	.09969
#2	-.00244	.24984	.34357	.50299	422.05	40.793	.09639
#3	-.00228	.24801	.34582	.49230	424.31	40.967	.09401
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	4.5000						
Low Limit	-.00050						

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	63.297	10.306	.01456	2.8813	.22687	.32547	.01486
Stddev	.706	.123	.00024	.0267	.00079	.00337	.00093
%RSD	1.1154	1.1982	1.6636	.92837	.34628	1.0357	6.2447
#1	62.491	10.168	.01451	2.8507	.22753	.32863	.01549
#2	63.596	10.344	.01482	2.9003	.22709	.32587	.01530
#3	63.805	10.405	.01434	2.8930	.22600	.32192	.01380
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103061213 Acquired: 3/23/2011 16:21:00 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00068	F 130.85	.01750	.76429	4.3427	.00744	1.2090
Stddev	.00236	.77	.00054	.01119	.0607	.00161	.0067
%RSD	347.28	.58811	3.1118	1.4643	1.3987	21.707	.55566
#1	-.00332	131.41	.01706	.75237	4.2748	.00908	1.2043
#2	.00004	131.18	.01734	.76593	4.3614	.00585	1.2060
#3	.00124	129.98	.01811	.77458	4.3919	.00739	1.2167
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	1.0770
Stddev	.0040
%RSD	.36749
#1	1.0800
#2	1.0785
#3	1.0725
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	55788.	63097.
Stddev	165.	255.
%RSD	.29609	.40477
#1	55611.	62803.
#2	55938.	63229.
#3	55814.	63259.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103061214 Acquired: 3/23/2011 16:24:38 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.06073	285.38	.20673	.00960	2.9149	^ *****	65.675
Stddev	.00051	.63	.00221	.00678	.0216	-----	.477
%RSD	.84220	.22154	1.0704	70.616	.74178	-----	.72663
#1	.06094	284.78	.20555	.00309	2.8903	^ -----	65.135
#2	.06110	286.04	.20928	.01662	2.9310	^ -----	66.039
#3	.06015	285.32	.20535	.00909	2.9233	^ -----	65.852
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -.00588	.30041	.43470	.59806	609.33	42.359	.13507
Stddev	.00014	.00263	.00155	.01878	8.95	.291	.00381
%RSD	2.3262	.87561	.35628	3.1403	1.4681	.68625	2.8198
#1	-.00572	.30310	.43616	.61956	600.16	42.071	.13511
#2	-.00596	.30030	.43307	.58981	618.04	42.652	.13125
#3	-.00595	.29784	.43486	.58482	609.79	42.355	.13887
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	4.5000						
Low Limit	-.00050						

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	78.970	13.229	.01760	4.5578	.27891	.14632	.00733
Stddev	.572	.104	.00033	.0474	.00183	.00322	.00436
%RSD	.72376	.78742	1.8999	1.0399	.65466	2.1980	59.445
#1	78.374	13.110	.01768	4.5057	.28102	.14425	.01065
#2	79.514	13.306	.01788	4.5984	.27793	.14469	.00894
#3	79.023	13.271	.01723	4.5693	.27778	.15003	.00240
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103061214 Acquired: 3/23/2011 16:24:38 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00109	F 128.77	.01600	.82916	8.3355	.01505	1.7583
Stddev	.00292	1.49	.00080	.00812	.0768	.00553	.0092
%RSD	266.82	1.1552	4.9920	.97874	.92163	36.738	.52156
#1	.00158	130.32	.01692	.81986	8.2468	.01810	1.7627
#2	-.00420	128.64	.01552	.83480	8.3826	.01839	1.7478
#3	-.00065	127.35	.01555	.83282	8.3770	.00867	1.7645
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	1.0911
Stddev	.0085
%RSD	.77790
#1	1.1001
#2	1.0899
#3	1.0832
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	55583.	62949.
Stddev	232.	297.
%RSD	.41721	.47246
#1	55327.	63232.
#2	55644.	62639.
#3	55779.	62977.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103061215 Acquired: 3/23/2011 16:28:17 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02875	108.28	.12960	.03380	3.1444	.00034	62.557
Stddev	.00033	1.02	.00240	.00262	.0454	.00009	.934
%RSD	1.1535	.94578	1.8526	7.7643	1.4432	26.341	1.4931
#1	.02897	107.86	.12737	.03147	3.0926	.00028	61.489
#2	.02892	109.44	.12928	.03664	3.1639	.00029	62.966
#3	.02837	107.53	.13214	.03329	3.1768	.00044	63.217
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00195	.16858	.29628	.45125	323.19	27.765	.06744
Stddev	.00013	.00019	.00287	.00395	4.36	.445	.00112
%RSD	6.5302	.11047	.96746	.87433	1.3476	1.6018	1.6593
#1	.00203	.16875	.29939	.45543	318.18	27.271	.06615
#2	.00180	.16838	.29572	.44760	325.35	27.890	.06806
#3	.00201	.16861	.29374	.45072	326.05	28.134	.06811
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	54.700	6.2510	.01119	2.0345	.23305	2.0847	.01425
Stddev	.868	.0912	.00003	.0333	.00165	.0083	.00101
%RSD	1.5872	1.4592	.24800	1.6387	.70875	.39617	7.0863
#1	53.699	6.1466	.01116	1.9960	.23493	2.0805	.01542
#2	55.149	6.2909	.01121	2.0552	.23239	2.0943	.01365
#3	55.252	6.3155	.01121	2.0522	.23183	2.0795	.01369
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103061215 Acquired: 3/23/2011 16:28:17 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00303	F 132.08	.04230	.51153	3.8492	.00742	.90574
Stddev	.00248	.35	.00029	.00835	.0570	.00030	.00508
%RSD	81.753	.26716	.68504	1.6330	1.4801	4.1037	.56095
#1	.00582	132.03	.04232	.50200	3.7839	.00718	.90953
#2	.00111	132.46	.04259	.51502	3.8747	.00777	.90771
#3	.00215	131.76	.04201	.51757	3.8890	.00733	.89996
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	2.3002
Stddev	.0025
%RSD	.10951
#1	2.3030
#2	2.2980
#3	2.2996
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	56020.	64715.
Stddev	129.	655.
%RSD	.22984	1.0114
#1	55990.	65275.
#2	55910.	63995.
#3	56162.	64873.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103061216 Acquired: 3/23/2011 16:31:41 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01587	62.765	.07217	.03556	1.5176	.00006	77.586
Stddev	.00041	.270	.00092	.00278	.0188	.00002	1.017
%RSD	2.5628	.43019	1.2712	7.8242	1.2419	39.439	1.3103
#1	.01631	62.474	.07199	.03239	1.4960	.00003	76.422
#2	.01551	62.816	.07316	.03760	1.5262	.00006	78.030
#3	.01580	63.006	.07135	.03669	1.5307	.00008	78.304
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00237	.11099	.17385	.46087	230.99	20.406	.04157
Stddev	.00004	.00024	.00060	.00358	3.08	.305	.00414
%RSD	1.7980	.21719	.34539	.77634	1.3337	1.4959	9.9661
#1	.00236	.11127	.17321	.46483	227.46	20.056	.04149
#2	.00234	.11087	.17439	.45991	232.40	20.546	.03747
#3	.00242	.11085	.17396	.45786	233.12	20.616	.04575
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	43.537	4.3114	.00790	1.9303	.18058	1.3384	.01226
Stddev	.380	.0441	.00010	.0281	.00047	.0057	.00145
%RSD	.87316	1.0229	1.2993	1.4566	.26288	.42822	11.847
#1	43.124	4.2610	.00780	1.8978	.18008	1.3318	.01394
#2	43.615	4.3304	.00800	1.9464	.18063	1.3426	.01142
#3	43.873	4.3428	.00790	1.9467	.18102	1.3406	.01143
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103061216 Acquired: 3/23/2011 16:31:41 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00113	F 118.67	.04440	.47777	2.0425	.00466	.65030
Stddev	.00093	.33	.00043	.00507	.0275	.00135	.00096
%RSD	82.650	.27825	.97399	1.0618	1.3454	28.945	.14772
#1	-.00030	118.57	.04390	.47197	2.0110	.00520	.65141
#2	-.00094	119.03	.04462	.47994	2.0552	.00566	.64972
#3	-.00214	118.39	.04467	.48139	2.0614	.00313	.64976
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	2.6468
Stddev	.0019
%RSD	.07104
#1	2.6449
#2	2.6487
#3	2.6468
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	55521.	63590.
Stddev	67.	314.
%RSD	.12115	.49308
#1	55529.	63948.
#2	55450.	63462.
#3	55584.	63362.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103061217 Acquired: 3/23/2011 16:35:05 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02627	151.35	.22341	.01484	2.4787	.00381	66.198
Stddev	.00060	1.37	.00298	.00159	.0197	.00003	.536
%RSD	2.2956	.90373	1.3360	10.726	.79643	.65837	.81015
#1	.02557	150.44	.22174	.01308	2.4564	.00380	65.583
#2	.02663	152.92	.22164	.01618	2.4860	.00384	66.444
#3	.02660	150.69	.22686	.01525	2.4938	.00379	66.568
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -.00205	.22472	.21178	.39906	377.35	24.060	.06764
Stddev	.00008	.00050	.00280	.00457	2.71	.193	.00133
%RSD	3.6576	.22320	1.3218	1.1441	.71807	.80266	1.9733
#1	-.00214	.22456	.21374	.40327	374.25	23.841	.06915
#2	-.00201	.22528	.21302	.39969	378.48	24.129	.06661
#3	-.00202	.22431	.20857	.39421	379.30	24.208	.06717
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	4.5000						
Low Limit	-.00050						

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	52.195	8.6515	.00979	11.749	.19493	.17669	.01018
Stddev	.594	.0747	.00044	.079	.00047	.00362	.00167
%RSD	1.1384	.86333	4.5197	.67122	.24144	2.0512	16.370
#1	51.561	8.5674	.01014	11.661	.19442	.17251	.00990
#2	52.288	8.6772	.00993	11.774	.19534	.17880	.01197
#3	52.738	8.7100	.00929	11.812	.19505	.17877	.00867
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103061217 Acquired: 3/23/2011 16:35:05 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00259	F 121.93	.01173	.74925	3.4204	.00650	1.0885
Stddev	.00331	.42	.00061	.00810	.0258	.00173	.0064
%RSD	127.46	.34661	5.2280	1.0809	.75328	26.578	.58577
#1	-.00278	122.08	.01238	.74018	3.3908	.00457	1.0921
#2	.00080	122.25	.01116	.75179	3.4331	.00791	1.0923
#3	-.00580	121.45	.01166	.75576	3.4374	.00702	1.0812
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.75294
Stddev	.00106
%RSD	.14068
#1	.75387
#2	.75318
#3	.75179
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	56515.	63659.
Stddev	599.	236.
%RSD	1.0608	.37096
#1	56188.	63852.
#2	56150.	63395.
#3	57207.	63728.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103061218 Acquired: 3/23/2011 16:38:37 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02617	139.88	.16050	.01835	2.1955	.00275	57.732
Stddev	.00062	1.77	.00254	.00523	.0328	.00004	.887
%RSD	2.3670	1.2644	1.5815	28.479	1.4917	1.4786	1.5370
#1	.02685	137.83	.15938	.01237	2.1579	.00272	56.715
#2	.02563	140.93	.15871	.02070	2.2109	.00280	58.138
#3	.02604	140.87	.16341	.02200	2.2178	.00275	58.344
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00044	.19703	.19620	.34280	320.93	22.558	.06068
Stddev	.00007	.00031	.00057	.00688	4.81	.467	.00254
%RSD	14.937	.15866	.29111	2.0078	1.5002	2.0684	4.1803
#1	.00050	.19739	.19684	.35067	315.38	22.020	.05795
#2	.00037	.19683	.19574	.33984	323.35	22.801	.06113
#3	.00046	.19688	.19602	.33790	324.05	22.852	.06297
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	42.240	7.7220	.00965	9.6304	.19484	.16980	.01096
Stddev	.769	.1268	.00012	.1444	.00072	.00363	.00123
%RSD	1.8212	1.6424	1.2321	1.4995	.36753	2.1362	11.220
#1	41.364	7.5761	.00974	9.4665	.19536	.16872	.00956
#2	42.555	7.7839	.00968	9.6856	.19512	.16683	.01188
#3	42.803	7.8060	.00951	9.7390	.19402	.17384	.01144
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103061218 Acquired: 3/23/2011 16:38:37 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00356	F 119.27	.01152	.59829	3.4146	.00643	.98479
Stddev	.00182	.45	.00032	.00907	.0450	.00226	.00350
%RSD	51.078	.37677	2.7592	1.5162	1.3180	35.107	.35511
#1	-.00516	118.76	.01157	.58784	3.3627	.00693	.98550
#2	-.00158	119.46	.01119	.60284	3.4380	.00396	.98099
#3	-.00394	119.59	.01182	.60418	3.4430	.00839	.98787
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.78537
Stddev	.00019
%RSD	.02445
#1	.78556
#2	.78518
#3	.78537
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	57119.	64893.
Stddev	202.	884.
%RSD	.35392	1.3626
#1	57131.	65911.
#2	57316.	64452.
#3	56912.	64316.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103061219 Acquired: 3/23/2011 16:42:00 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02115	181.36	.17039	.02076	1.8075	.00340	60.525
Stddev	.00061	1.97	.00068	.00520	.0239	.00002	.789
%RSD	2.9076	1.0837	.39623	25.057	1.3196	.69406	1.3036
#1	.02087	179.39	.17009	.01520	1.7801	.00337	59.620
#2	.02186	181.37	.17116	.02157	1.8194	.00342	60.881
#3	.02073	183.32	.16991	.02550	1.8231	.00339	61.073
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -.00378	.24633	.26830	.40994	390.12	16.778	.07945
Stddev	.00016	.00043	.00186	.00650	5.28	.280	.00186
%RSD	4.2724	.17587	.69480	1.5868	1.3538	1.6698	2.3419
#1	-.00361	.24630	.26774	.41652	384.05	16.458	.07813
#2	-.00393	.24677	.27037	.40978	392.64	16.898	.07865
#3	-.00379	.24591	.26677	.40351	393.67	16.978	.08158
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	4.5000						
Low Limit	-.00050						

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	82.029	8.1531	.01088	6.3523	.36778	.09692	.00904
Stddev	1.002	.1082	.00025	.0854	.00021	.00021	.00072
%RSD	1.2222	1.3273	2.2558	1.3441	.05675	.21386	7.9428
#1	80.880	8.0282	.01059	6.2539	.36756	.09694	.00882
#2	82.727	8.2141	.01104	6.3963	.36781	.09711	.00845
#3	82.479	8.2171	.01100	6.4068	.36798	.09670	.00984
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103061219 Acquired: 3/23/2011 16:42:00 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00002	F 129.60	.00907	.56910	2.6641	.00746	.88004
Stddev	.00580	.75	.00051	.00674	.0353	.00126	.00475
%RSD	24408.	.57813	5.6267	1.1852	1.3271	16.922	.54012
#1	.00144	130.19	.00899	.56131	2.6234	.00636	.87507
#2	-.00635	129.84	.00962	.57308	2.6817	.00717	.88454
#3	.00499	128.75	.00861	.57290	2.6871	.00883	.88050
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.59710
Stddev	.00079
%RSD	.13252
#1	.59738
#2	.59772
#3	.59621
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	55620.	64122.
Stddev	113.	391.
%RSD	.20250	.61017
#1	55701.	64565.
#2	55492.	63981.
#3	55669.	63821.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103061220 Acquired: 3/23/2011 16:45:32 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01374	85.515	.04411	.01619	1.7535	.00262	49.055
Stddev	.00092	.953	.00043	.00237	.0340	.00002	.887
%RSD	6.7198	1.1140	.98280	14.646	1.9421	.75028	1.8083
#1	.01478	84.449	.04403	.01380	1.7143	.00260	48.037
#2	.01339	86.283	.04373	.01624	1.7696	.00262	49.465
#3	.01304	85.813	.04458	.01854	1.7764	.00264	49.663
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -.00184	.10077	.04383	.20847	171.62	16.650	.03117
Stddev	.00008	.00025	.00068	.00387	3.00	.277	.00061
%RSD	4.1525	.24431	1.5584	1.8578	1.7503	1.6651	1.9641
#1	-.00181	.10105	.04462	.21250	168.17	16.340	.03124
#2	-.00193	.10066	.04339	.20812	173.01	16.736	.03175
#3	-.00178	.10059	.04348	.20477	173.68	16.875	.03053
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	4.5000						
Low Limit	-.00050						

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.598	5.2297	.00540	3.1366	.06450	.06376	.00604
Stddev	.501	.1094	.00046	.0516	.00072	.00216	.00174
%RSD	2.0382	2.0913	8.5229	1.6465	1.1158	3.3892	28.734
#1	24.019	5.1045	.00592	3.0770	.06475	.06626	.00714
#2	24.888	5.2774	.00506	3.1633	.06506	.06243	.00695
#3	24.888	5.3071	.00521	3.1694	.06368	.06260	.00404
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103061220 Acquired: 3/23/2011 16:45:32 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00068	F 99.396	.00580	.41103	1.9756	.00504	.47441
Stddev	.00079	.835	.00061	.00854	.0334	.00147	.00341
%RSD	116.78	.83998	10.560	2.0783	1.6892	29.164	.71912
#1	-.00099	99.949	.00559	.40123	1.9372	.00492	.47835
#2	.00022	99.803	.00648	.41498	1.9925	.00657	.47242
#3	-.00127	98.435	.00531	.41688	1.9972	.00363	.47246
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.26570
Stddev	.00037
%RSD	.13836
#1	.26585
#2	.26597
#3	.26528
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	56136.	63854.
Stddev	116.	987.
%RSD	.20681	1.5457
#1	56014.	64971.
#2	56148.	63098.
#3	56246.	63493.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103061221 Acquired: 3/23/2011 16:48:57 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359605-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02047	140.74	.15110	.01744	1.6563	.00229	55.372
Stddev	.00044	1.73	.00277	.00253	.0294	.00007	1.054
%RSD	2.1683	1.2326	1.8314	14.523	1.7727	3.0404	1.9028
#1	.01996	138.76	.15298	.01466	1.6227	.00221	54.179
#2	.02075	141.48	.15240	.01803	1.6693	.00234	55.762
#3	.02070	141.99	.14792	.01963	1.6770	.00231	56.175
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -.00300	.18726	.24475	.32999	337.36	17.558	.07280
Stddev	.00016	.00027	.00156	.00541	6.09	.384	.00392
%RSD	5.4421	.14526	.63621	1.6390	1.8039	2.1880	5.3845
#1	-.00299	.18697	.24510	.33618	330.40	17.117	.07658
#2	-.00284	.18750	.24304	.32618	340.01	17.741	.06875
#3	-.00317	.18732	.24610	.32760	341.67	17.817	.07306
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	4.5000						
Low Limit	-.00050						

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	72.308	6.3460	.01042	3.4827	.22488	.08054	.00564
Stddev	1.311	.1208	.00033	.0559	.00057	.00554	.00201
%RSD	1.8128	1.9041	3.1842	1.6053	.25432	6.8811	35.705
#1	70.824	6.2082	.01011	3.4183	.22553	.08438	.00746
#2	72.793	6.3961	.01038	3.5109	.22467	.08305	.00597
#3	73.307	6.4338	.01077	3.5189	.22445	.07418	.00348
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103061221 Acquired: 3/23/2011 16:48:57 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359605-01

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00085	F 135.69	.00708	.47711	2.7350	.00869	.82918
Stddev	.00394	.84	.00025	.00948	.0496	.00224	.00207
%RSD	464.45	.61632	3.5823	1.9859	1.8149	25.779	.24910
#1	-.00101	136.47	.00681	.46653	2.6792	.00992	.82701
#2	-.00182	135.81	.00731	.47996	2.7517	.01004	.82941
#3	.00537	134.80	.00713	.48483	2.7742	.00611	.83112
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.50718
Stddev	.00033
%RSD	.06448
#1	.50736
#2	.50680
#3	.50737
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	55070.	63574.
Stddev	67.	726.
%RSD	.12183	1.1416
#1	55147.	64407.
#2	55038.	63239.
#3	55025.	63077.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103061222S Acquired: 3/23/2011 16:52:21 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359605-04

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.23399	197.37	.34140	.84497	2.4742	.02138	65.691
Stddev	.00106	1.33	.00447	.00650	.0037	.00007	.132
%RSD	.45454	.67288	1.3086	.76881	.15105	.34390	.20028
#1	.23495	197.81	.34636	.84736	2.4699	.02138	65.547
#2	.23418	195.88	.33769	.83761	2.4767	.02145	65.721
#3	.23285	198.43	.34015	.84992	2.4759	.02131	65.804
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01754	.30909	.58846	.60412	431.48	41.418	.55339
Stddev	.00008	.00087	.00183	.00751	3.13	.115	.00357
%RSD	.42796	.28278	.31102	1.2424	.72557	.27649	.64573
#1	.01758	.30894	.59003	.60292	433.51	41.286	.55014
#2	.01745	.31003	.58890	.61216	427.87	41.492	.55282
#3	.01758	.30831	.58645	.59729	433.06	41.477	.55722
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	87.094	6.9560	.45797	27.687	.49166	.30475	.52521
Stddev	.257	.0108	.00159	.043	.00182	.00226	.00202
%RSD	.29542	.15498	.34665	.15398	.37015	.74101	.38445
#1	87.347	6.9535	.45908	27.638	.49152	.30483	.52725
#2	86.833	6.9467	.45869	27.704	.49354	.30697	.52518
#3	87.100	6.9678	.45615	27.718	.48991	.30246	.52321
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103061222S Acquired: 3/23/2011 16:52:21 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359605-04

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.15962	F 295.22	.43630	1.0326	7.9042	.21841	1.6788
Stddev	.00528	1.63	.00284	.0014	.0242	.00304	.0053
%RSD	3.3077	.55057	.64984	.13949	.30638	1.3899	.31619
#1	.16424	296.44	.43542	1.0330	7.8765	.21647	1.6847
#2	.15387	295.85	.43947	1.0309	7.9143	.22191	1.6745
#3	.16075	293.38	.43402	1.0337	7.9217	.21685	1.6770
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	1.0859
Stddev	.0030
%RSD	.27446
#1	1.0861
#2	1.0889
#3	1.0829
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	53834.	62515.
Stddev	58.	237.
%RSD	.10819	.37910
#1	53816.	62261.
#2	53786.	62731.
#3	53899.	62553.

Approved: March 24, 2011
Pierce Morris

Sample Name: CCV Acquired: 3/23/2011 16:56:05 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.41060	10.035	.39609	.51858	1.0074	.05199	10.159
Stddev	.00176	.032	.00136	.00150	.0011	.00015	.017
%RSD	.42864	.32287	.34449	.29000	.10858	.29145	.16483
#1	.41039	10.071	.39654	.51703	1.0085	.05197	10.173
#2	.41245	10.009	.39718	.52003	1.0063	.05215	10.165
#3	.40895	10.023	.39456	.51870	1.0075	.05185	10.141
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05059	.20653	.51460	.50641	4.0702	48.470	1.0246
Stddev	.00007	.00063	.00120	.00166	.0133	.090	.0025
%RSD	.14600	.30653	.23258	.32787	.32780	.18639	.24341
#1	.05064	.20725	.51408	.50793	4.0851	48.389	1.0246
#2	.05051	.20606	.51597	.50667	4.0593	48.568	1.0222
#3	.05062	.20627	.51375	.50464	4.0662	48.455	1.0271
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.7673	.49940	.98525	50.801	.49503	.50110	1.2168
Stddev	.0243	.00108	.00322	.019	.00119	.00282	.0044
%RSD	.24905	.21592	.32714	.03649	.23947	.56180	.36204
#1	9.7926	.50023	.98795	50.809	.49624	.50433	1.2202
#2	9.7442	.49818	.98612	50.780	.49499	.49915	1.2183
#3	9.7650	.49979	.98168	50.815	.49387	.49982	1.2118
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: March 24, 2011
Pierce Morris

Sample Name: CCV Acquired: 3/23/2011 16:56:05 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.39600	F 3.0208	.98386	1.0289	1.0294	.49962	1.0258
Stddev	.00525	.1828	.00281	.0043	.0019	.00103	.0043
%RSD	1.3267	6.0517	.28534	.41753	.18214	.20582	.42332
#1	.39020	2.9919	.98703	1.0324	1.0312	.50071	1.0294
#2	.39735	3.2163	.98284	1.0241	1.0295	.49866	1.0271
#3	.40044	2.8541	.98171	1.0303	1.0275	.49948	1.0210
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value		5.0000					
Range		-10.000%					

Elem	Zn2062
Units	ppm
Avg	1.0042
Stddev	.0039
%RSD	.39210
#1	1.0081
#2	1.0042
#3	1.0003
Check ?	Chk Pass
Value	
Range	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	55877.	63270.
Stddev	45.	167.
%RSD	.08115	.26452
#1	55924.	63309.
#2	55833.	63415.
#3	55873.	63087.

Approved: March 24, 2011
Pierce Morris

Sample Name: CCB Acquired: 3/23/2011 16:59:27 Type: Blank
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00002	-.00588	.00269	.00254	-.00061	.00000	.01231
Stddev	.00033	.00426	.00096	.00104	.00032	.00004	.00322
%RSD	1992.5	72.404	35.522	40.939	52.150	1194.7	26.193
#1	-.00003	-.00205	.00379	.00369	-.00074	-.00004	.01585
#2	-.00034	-.01047	.00205	.00229	-.00085	.00001	.01153
#3	.00032	-.00513	.00224	.00165	-.00025	.00004	.00955
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00012	.00001	-.00061	-.00001	.00440	F -1.1417	-.00179
Stddev	.00001	.00014	.00062	.00092	.00780	.0752	.00198
%RSD	8.9742	1934.8	101.46	6522.6	177.41	6.5859	110.34
#1	.00013	-.00007	-.00131	-.00108	-.00096	-1.0926	-.00183
#2	.00011	-.00008	-.00016	.00046	.01334	-1.2283	.00021
#3	.00011	.00017	-.00035	.00057	.00081	-1.1042	-.00375
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit						1.0000	
Low Limit						-1.0000	

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.03242	-.00035	.00031	.01340	-.00023	.00022	.00226
Stddev	.02962	.00041	.00013	.01640	.00033	.00362	.00194
%RSD	91.390	118.07	41.919	122.36	143.46	1679.9	85.795
#1	-.05841	-.00008	.00046	.02460	.00014	-.00049	.00440
#2	-.00016	-.00014	.00020	-.00542	-.00032	.00414	.00177
#3	-.03867	-.00082	.00028	.02103	-.00051	-.00301	.00061
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: CCB Acquired: 3/23/2011 16:59:27 Type: Blank
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00087	F -1.9488	.00010	-.00026	.00035	.00285	.00021
Stddev	.00089	.2056	.00028	.00009	.00107	.00116	.00067
%RSD	101.99	10.550	291.04	33.085	302.32	40.708	318.57
#1	.00172	-1.7332	.00014	-.00025	-.00037	.00228	-.00018
#2	.00095	-2.1427	.00036	-.00018	.00158	.00418	-.00018
#3	-.00006	-1.9704	-.00020	-.00035	-.00015	.00208	.00098
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		1.0000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	-.00271
Stddev	.00007
%RSD	2.5356
#1	-.00265
#2	-.00278
#3	-.00269
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	56157.	62624.
Stddev	153.	67.
%RSD	.27200	.10755
#1	56185.	62547.
#2	55993.	62675.
#3	56294.	62649.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103061223SD Acquired: 3/23/2011 17:03:03 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359605-05

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.22625	182.32	.33524	.83464	2.3162	.02217	72.381
Stddev	.00038	1.50	.00438	.00487	.0127	.00006	.323
%RSD	.16688	.82332	1.3075	.58341	.54799	.24874	.44664
#1	.22640	180.65	.33615	.82902	2.3021	.02211	72.016
#2	.22582	183.56	.33047	.83773	2.3197	.02216	72.496
#3	.22653	182.75	.33909	.83716	2.3267	.02222	72.631
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01783	.30583	.51939	.60077	417.06	41.717	.53333
Stddev	.00013	.00143	.00049	.01316	9.59	.332	.00139
%RSD	.71509	.46815	.09472	2.1910	2.2985	.79586	.26073
#1	.01772	.30716	.51943	.61592	406.23	41.335	.53219
#2	.01781	.30602	.51986	.59421	424.44	41.888	.53292
#3	.01797	.30432	.51888	.59217	420.52	41.929	.53488
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	88.630	7.3314	.45727	27.931	.47670	.30329	.52200
Stddev	.511	.0366	.00147	.164	.00182	.00164	.00521
%RSD	.57627	.49892	.32221	.58837	.38153	.53968	.99832
#1	88.047	7.2907	.45824	27.759	.47814	.30156	.52187
#2	88.850	7.3423	.45800	27.949	.47730	.30481	.52728
#3	88.995	7.3614	.45558	28.086	.47466	.30350	.51686
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103061223SD Acquired: 3/23/2011 17:03:03 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359605-05

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.15791	F 327.28	.43101	1.0362	6.6848	.21367	1.6085
Stddev	.00333	.59	.00047	.0049	.0266	.00076	.0016
%RSD	2.1088	.18163	.10934	.47398	.39778	.35792	.10073
#1	.15658	327.09	.43064	1.0306	6.6545	.21314	1.6078
#2	.16171	327.95	.43154	1.0393	6.6962	.21332	1.6104
#3	.15546	326.81	.43084	1.0388	6.7039	.21454	1.6074
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	1.0537
Stddev	.0032
%RSD	.30639
#1	1.0565
#2	1.0545
#3	1.0502
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	52871.	62403.
Stddev	44.	412.
%RSD	.08364	.65993
#1	52821.	62877.
#2	52906.	62133.
#3	52886.	62199.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103061224 Acquired: 3/23/2011 17:06:42 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02599	131.12	.10211	.02998	2.2647	.00233	63.558
Stddev	.00065	1.09	.00309	.00143	.0341	.00005	.975
%RSD	2.5086	.82975	3.0226	4.7647	1.5071	2.1129	1.5337
#1	.02537	130.31	.10298	.02871	2.2255	.00227	62.447
#2	.02594	130.69	.09868	.02969	2.2808	.00236	63.957
#3	.02667	132.36	.10467	.03152	2.2878	.00236	64.271
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -.00265	.15447	.13403	.33201	290.77	26.288	.06423
Stddev	.00028	.00023	.00061	.00458	4.29	.404	.00226
%RSD	10.741	.14660	.45358	1.3797	1.4759	1.5377	3.5243
#1	-.00239	.15473	.13473	.33730	285.83	25.837	.06163
#2	-.00296	.15430	.13367	.32941	292.96	26.406	.06573
#3	-.00260	.15439	.13369	.32932	293.52	26.619	.06533
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	4.5000						
Low Limit	-.00050						

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	37.883	7.2754	.00886	4.0267	.12295	.17096	.00775
Stddev	.577	.1058	.00025	.0601	.00064	.00211	.00160
%RSD	1.5219	1.4542	2.8211	1.4928	.52048	1.2317	20.612
#1	37.243	7.1546	.00874	3.9573	.12333	.17229	.00794
#2	38.045	7.3197	.00870	4.0613	.12331	.17206	.00607
#3	38.362	7.3518	.00915	4.0615	.12221	.16853	.00925
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103061224 Acquired: 3/23/2011 17:06:42 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00080	F 119.95	.01185	.56511	3.6137	.00852	.82222
Stddev	.00337	.18	.00018	.00714	.0511	.00126	.00374
%RSD	420.78	.15034	1.5223	1.2637	1.4138	14.792	.45540
#1	.00455	120.00	.01197	.55730	3.5550	.00952	.82426
#2	-.00198	120.11	.01193	.56672	3.6377	.00895	.81790
#3	-.00017	119.75	.01164	.57131	3.6484	.00710	.82450
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.60365
Stddev	.00025
%RSD	.04184
#1	.60358
#2	.60393
#3	.60344
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	54222.	63437.
Stddev	109.	459.
%RSD	.20128	.72414
#1	54241.	63891.
#2	54320.	63448.
#3	54104.	62972.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103061225 Acquired: 3/23/2011 17:10:05 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02442	192.59	.27150	.01088	2.4587	.00454	62.629
Stddev	.00053	2.07	.00302	.00691	.0260	.00005	.647
%RSD	2.1589	1.0772	1.1127	63.516	1.0561	1.1141	1.0324
#1	.02388	190.25	.27290	.00293	2.4288	.00460	61.884
#2	.02494	194.20	.27358	.01547	2.4738	.00452	62.962
#3	.02444	193.33	.26804	.01423	2.4737	.00451	63.042
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -.00414	.27754	.34584	.46035	440.49	35.455	.07256
Stddev	.00022	.00129	.00155	.01371	7.73	.281	.00062
%RSD	5.3037	.46477	.44681	2.9787	1.7554	.79164	.85372
#1	-.00401	.27837	.34708	.47476	431.66	35.135	.07186
#2	-.00439	.27818	.34411	.45883	443.77	35.569	.07302
#3	-.00402	.27605	.34633	.44746	446.04	35.660	.07281
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	4.5000						
Low Limit	-.00050						

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	71.655	10.796	.01706	3.7179	.27350	.13182	.00943
Stddev	.740	.100	.00035	.0230	.00106	.00277	.00226
%RSD	1.0324	.93050	2.0543	.61868	.38902	2.1026	23.972
#1	70.815	10.681	.01709	3.6915	.27449	.13465	.00896
#2	71.939	10.843	.01670	3.7287	.27364	.13169	.01189
#3	72.210	10.865	.01740	3.7336	.27238	.12911	.00744
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103061225 Acquired: 3/23/2011 17:10:05 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00119	F 115.71	.01051	.75539	3.0453	.00962	1.2892
Stddev	.00379	.41	.00051	.00868	.0348	.00095	.0019
%RSD	317.06	.35399	4.8674	1.1497	1.1440	9.9277	.15074
#1	.00535	115.70	.00993	.74598	3.0053	.00958	1.2870
#2	-.00207	116.13	.01087	.75707	3.0614	.01059	1.2907
#3	.00030	115.31	.01074	.76310	3.0691	.00868	1.2898
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.73660
Stddev	.00287
%RSD	.38980
#1	.73821
#2	.73831
#3	.73329
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	54111.	63378.
Stddev	177.	334.
%RSD	.32633	.52639
#1	54034.	63762.
#2	53986.	63158.
#3	54313.	63214.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103061226 Acquired: 3/23/2011 17:13:46 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.03824	204.38	.21282	.03218	3.1066	.00234	72.765
Stddev	.00044	2.47	.00218	.00147	.0306	.00002	.856
%RSD	1.1546	1.2064	1.0240	4.5800	.98423	.70545	1.1769
#1	.03810	202.51	.21441	.03059	3.0714	.00232	71.777
#2	.03873	207.18	.21034	.03351	3.1267	.00234	73.291
#3	.03788	203.47	.21372	.03243	3.1216	.00236	73.228
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -.00313	.30097	.35357	.53479	463.89	43.714	.12535
Stddev	.00010	.00102	.00229	.01151	5.15	.480	.00072
%RSD	3.2399	.33860	.64799	2.1524	1.1103	1.0981	.57382
#1	-.00325	.30132	.35231	.54725	458.00	43.164	.12618
#2	-.00308	.30177	.35218	.53255	467.56	44.047	.12487
#3	-.00307	.29983	.35621	.52456	466.11	43.931	.12501
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	4.5000						
Low Limit	-.00050						

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	68.196	11.813	.01344	3.4971	.26184	.37074	.00875
Stddev	.590	.126	.00016	.0413	.00128	.00249	.00089
%RSD	.86511	1.0680	1.1839	1.1796	.48943	.67268	10.213
#1	67.538	11.667	.01361	3.4524	.26139	.37076	.00778
#2	68.677	11.891	.01330	3.5337	.26329	.36824	.00953
#3	68.373	11.881	.01342	3.5051	.26084	.37322	.00893
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103061226 Acquired: 3/23/2011 17:13:46 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00041	F 135.70	.02373	.87694	5.2267	.01028	1.3406
Stddev	.00078	1.24	.00034	.00896	.0610	.00161	.0057
%RSD	192.35	.91489	1.4295	1.0212	1.1676	15.661	.42811
#1	.00036	135.42	.02384	.86689	5.1562	.00943	1.3350
#2	-.00035	137.06	.02400	.88408	5.2640	.01213	1.3404
#3	.00121	134.62	.02335	.87986	5.2598	.00927	1.3465
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	1.1674
Stddev	.0021
%RSD	.17812
#1	1.1682
#2	1.1690
#3	1.1651
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	55601.	64969.
Stddev	90.	424.
%RSD	.16184	.65329
#1	55675.	65127.
#2	55627.	64489.
#3	55501.	65292.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103061227 Acquired: 3/23/2011 17:17:26 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.04340	196.35	.22399	.05188	3.0859	^ *****	79.482
Stddev	.00141	1.46	.00208	.00802	.0296	-----	.804
%RSD	3.2410	.74429	.92846	15.454	.95850	-----	1.0121
#1	.04178	195.15	.22338	.04283	3.0522	^ -----	78.587
#2	.04411	195.93	.22630	.05470	3.0976	^ -----	79.714
#3	.04432	197.98	.22228	.05811	3.1078	^ -----	80.146
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -.00301	.29680	.35282	.52102	474.76	43.792	.12684
Stddev	.00018	.00071	.00087	.01038	8.42	.509	.00442
%RSD	5.8820	.23850	.24549	1.9922	1.7734	1.1625	3.4849
#1	-.00281	.29691	.35272	.53250	465.18	43.210	.12562
#2	-.00308	.29745	.35200	.51828	478.12	44.010	.12316
#3	-.00315	.29605	.35373	.51229	480.99	44.156	.13174
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	4.5000						
Low Limit	-.00050						

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	68.329	11.108	.01601	3.9596	.25558	.38187	.01259
Stddev	.685	.109	.00039	.0243	.00218	.00129	.00215
%RSD	1.0018	.97774	2.4366	.61319	.85291	.33771	17.060
#1	67.540	10.982	.01643	3.9349	.25702	.38053	.01497
#2	68.686	11.169	.01566	3.9834	.25664	.38310	.01202
#3	68.761	11.172	.01593	3.9605	.25307	.38198	.01079
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103061227 Acquired: 3/23/2011 17:17:26 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00230**	F **164.46**	**.03006**	**.89059**	**5.7379**	**.01301**	**1.4284**
Stddev	.00409	3.38	.00053	.00638	.0493	.00301	.0033
%RSD	177.44	2.0571	1.7746	.71591	.85999	23.105	.23234
#1	-.00628	166.76	.03066	.88337	5.6823	.01618	1.4260
#2	-.00251	166.04	.02966	.89297	5.7550	.01266	1.4270
#3	.00188	160.57	.02985	.89543	5.7764	.01020	1.4322
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	**1.2118**
Stddev	.0021
%RSD	.17315
#1	1.2122
#2	1.2137
#3	1.2095
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	**55772.**	**65363.**
Stddev	78.	254.
%RSD	.14003	.38924
#1	55729.	65589.
#2	55862.	65414.
#3	55726.	65088.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103061228 Acquired: 3/23/2011 17:21:06 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02872	219.06	.24337	.02710	3.1078	.00520	71.089
Stddev	.00087	1.94	.00382	.00244	.0176	.00004	.548
%RSD	3.0155	.88472	1.5686	9.0013	.56684	.78932	.77049
#1	.02869	216.84	.24380	.02429	3.0879	.00515	70.472
#2	.02786	220.44	.24695	.02869	3.1212	.00523	71.516
#3	.02960	219.89	.23935	.02832	3.1145	.00522	71.280
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -.00384	.30259	.37789	.52987	490.60	44.260	.09415
Stddev	.00006	.00101	.00202	.01535	10.43	.159	.00158
%RSD	1.6765	.33384	.53533	2.8972	2.1266	.36005	1.6833
#1	-.00381	.30339	.37871	.54457	479.43	44.076	.09291
#2	-.00380	.30292	.37938	.53110	492.29	44.339	.09593
#3	-.00391	.30145	.37559	.51394	500.09	44.364	.09360
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	4.5000						
Low Limit	-.00050						

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	72.694	13.316	.01138	3.3835	.27696	.16258	.01101
Stddev	.539	.098	.00027	.0191	.00141	.00152	.00150
%RSD	.74209	.73880	2.3806	.56316	.50767	.93436	13.629
#1	72.072	13.202	.01150	3.3620	.27823	.16327	.01251
#2	73.002	13.375	.01157	3.3982	.27720	.16363	.00951
#3	73.010	13.370	.01107	3.3904	.27545	.16084	.01102
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103061228 Acquired: 3/23/2011 17:21:06 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00013	F 141.36	.01292	.85465	3.6487	.00925	1.3576
Stddev	.00389	.90	.00018	.00859	.0269	.00212	.0055
%RSD	3042.2	.63549	1.3772	1.0049	.73624	22.955	.40775
#1	-.00258	142.07	.01311	.84474	3.6185	.00791	1.3513
#2	.00436	141.66	.01288	.85992	3.6699	.00814	1.3617
#3	-.00217	140.35	.01276	.85929	3.6578	.01170	1.3597
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.93249
Stddev	.00334
%RSD	.35836
#1	.93469
#2	.93412
#3	.92864
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	55475.	63785.
Stddev	114.	186.
%RSD	.20620	.29162
#1	55516.	63995.
#2	55564.	63641.
#3	55346.	63719.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103072101 Acquired: 3/23/2011 17:24:46 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02602	24.647	.09641	.14368	.53507	.00064	F 7162.2
Stddev	.00083	.048	.00475	.00346	.00107	.00003	41.1
%RSD	3.1810	.19435	4.9292	2.4069	.20004	4.4904	.57316
#1	.02527	24.598	.09128	.14055	.53434	.00061	7127.5
#2	.02691	24.648	.10067	.14739	.53458	.00067	7151.6
#3	.02588	24.694	.09727	.14310	.53630	.00063	7207.5
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail
High Limit							900.00
Low Limit							-.10000

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00758	.01274	.01549	.54346	105.80	23.682	.29844
Stddev	.00019	.00011	.00258	.00631	.20	.204	.00073
%RSD	2.5062	.85077	16.624	1.1608	.18780	.86126	.24587
#1	.00776	.01269	.01393	.54852	106.03	23.890	.29784
#2	.00738	.01266	.01847	.54546	105.67	23.674	.29926
#3	.00760	.01286	.01408	.53639	105.70	23.483	.29821
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 2967.4	55.488	.02220	11.865	.08347	.62031	.02499
Stddev	10.3	.287	.00028	.039	.00067	.00282	.00474
%RSD	.34596	.51680	1.2571	.33202	.80579	.45497	18.963
#1	2957.2	55.778	.02219	11.822	.08313	.62170	.02075
#2	2977.7	55.204	.02248	11.899	.08304	.62216	.03011
#3	2967.5	55.482	.02192	11.875	.08425	.61706	.02412
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	810.00						
Low Limit	-.10000						

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103072101 Acquired: 3/23/2011 17:24:46 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.03097	F 737.23	.04991	3.1932	.97422	.02419	.22983
Stddev	.00565	5.01	.00047	.0180	.00371	.00060	.00088
%RSD	18.246	.68014	.94089	.56243	.38101	2.4919	.38464
#1	.03675	738.53	.05037	3.1741	.97624	.02359	.22884
#2	.02546	741.47	.04943	3.1958	.96994	.02480	.23010
#3	.03068	731.69	.04992	3.2097	.97649	.02418	.23055
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	7.5772
Stddev	.0569
%RSD	.75124
#1	7.6224
#2	7.5960
#3	7.5133
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	40779.	55024.
Stddev	150.	96.
%RSD	.36768	.17486
#1	40780.	55104.
#2	40628.	54918.
#3	40928.	55051.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103072102 Acquired: 3/23/2011 17:28:34 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02184	25.770	.09230	.15074	.52856	.00073	F 7756.5
Stddev	.00053	.187	.00371	.00124	.00063	.00005	31.7
%RSD	2.4291	.72742	4.0198	.82400	.12009	6.5168	.40913
#1	.02136	25.573	.09630	.15190	.52814	.00068	7779.0
#2	.02173	25.947	.08897	.15089	.52929	.00074	7770.2
#3	.02241	25.790	.09162	.14943	.52825	.00077	7720.2
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail
High Limit							900.00
Low Limit							-.10000

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00674	.01266	.03545	.45575	86.600	17.543	.31445
Stddev	.00008	.00029	.00258	.00287	.103	.060	.00091
%RSD	1.1556	2.2878	7.2644	.62889	.11885	.34210	.29000
#1	.00680	.01258	.03252	.45793	86.521	17.477	.31453
#2	.00678	.01298	.03734	.45680	86.564	17.558	.31350
#3	.00665	.01241	.03649	.45250	86.717	17.594	.31532
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 3246.8	41.932	.02271	8.5092	.08547	.54681	.01644
Stddev	32.1	.026	.00051	.0080	.00102	.00181	.00299
%RSD	.98847	.06103	2.2236	.09458	1.1957	.33088	18.196
#1	3279.2	41.932	.02327	8.5019	.08628	.54645	.01427
#2	3246.2	41.958	.02228	8.5079	.08432	.54520	.01986
#3	3215.0	41.907	.02259	8.5178	.08580	.54877	.01520
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	810.00						
Low Limit	-.10000						

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103072102 Acquired: 3/23/2011 17:28:34 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.03711	F 665.41	.04214	3.4127	.87547	.01782	.23759
Stddev	.01006	3.96	.00079	.0036	.00299	.00637	.00298
%RSD	27.107	.59540	1.8788	.10634	.34100	35.727	1.2540
#1	.02801	669.72	.04297	3.4169	.87203	.02273	.23420
#2	.03541	664.58	.04139	3.4102	.87725	.02009	.23980
#3	.04791	661.93	.04205	3.4110	.87714	.01063	.23876
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	10.710
Stddev	.030
%RSD	.27720
#1	10.732
#2	10.722
#3	10.677
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	41314.	54840.
Stddev	95.	360.
%RSD	.22896	.65629
#1	41379.	54435.
#2	41206.	54961.
#3	41358.	55124.

Approved: March 24, 2011
Pierce Morris

Sample Name: CCV Acquired: 3/23/2011 17:32:19 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.41234	10.012	.40211	.51425	1.0252	.05197	F 42.564
Stddev	.00068	.151	.00243	.00110	.0144	.00012	45.507
%RSD	.16514	1.5086	.60473	.21460	1.4051	.22336	106.91
#1	.41221	10.186	.40313	.51480	1.0417	.05199	94.635
#2	.41307	9.9269	.39933	.51298	1.0186	.05207	22.642
#3	.41173	9.9223	.40386	.51497	1.0152	.05184	10.416
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail
Value							10.000
Range							10.000%

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05098	.20703	.51628	.50961	F 4.5137	49.682	1.0331
Stddev	.00009	.00017	.00314	.00063	.6178	.901	.0158
%RSD	.17994	.08428	.60866	.12455	13.688	1.8143	1.5318
#1	.05103	.20722	.51301	.50918	5.2171	50.712	1.0514
#2	.05087	.20689	.51928	.50931	4.2647	49.292	1.0244
#3	.05103	.20696	.51653	.51034	4.0592	49.040	1.0236
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass
Value					4.0000		
Range					10.000%		

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 23.685	F .68706	.99702	51.708	.50623	.50746	1.2176
Stddev	19.136	.25428	.00210	.872	.00171	.00418	.0039
%RSD	80.792	37.010	.21053	1.6859	.33869	.82375	.31671
#1	45.563	.97765	.99484	52.685	.50433	.50265	1.2188
#2	15.427	.57811	.99719	51.425	.50670	.50945	1.2208
#3	10.065	.50540	.99903	51.012	.50766	.51027	1.2133
Check ?	Chk Fail	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value	10.000	.50000					
Range	10.000%	10.000%					

Approved: March 24, 2011
Pierce Morris

Sample Name: CCV Acquired: 3/23/2011 17:32:19 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.40739	F 3.5616	1.0024	1.0515	1.0387	.50921	1.0272
Stddev	.00178	.2276	.0016	.0294	.0187	.00175	.0022
%RSD	.43593	6.3900	.16341	2.7987	1.7985	.34438	.21542
#1	.40813	3.5074	1.0020	1.0854	1.0600	.50726	1.0290
#2	.40868	3.3660	1.0042	1.0361	1.0309	.50968	1.0280
#3	.40537	3.8114	1.0010	1.0328	1.0252	.51067	1.0248
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value		5.0000					
Range		-10.000%					

Elem	Zn2062
Units	ppm
Avg	1.0167
Stddev	.0011
%RSD	.10766
#1	1.0155
#2	1.0171
#3	1.0175
Check ?	Chk Pass
Value	
Range	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	56795.	64333.
Stddev	101.	810.
%RSD	.17786	1.2587
#1	56899.	63399.
#2	56697.	64841.
#3	56789.	64759.

Approved: March 24, 2011
Pierce Morris

Sample Name: CCB Acquired: 3/23/2011 17:35:40 Type: Blank
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00080	-.00955	.00010	.00211	-.00106	.00002	.06004
Stddev	.00033	.00153	.00191	.00064	.00008	.00001	.00935
%RSD	40.726	16.003	1847.5	30.062	7.2004	82.238	15.568
#1	-.00098	-.00792	.00071	.00147	-.00107	.00000	.05428
#2	-.00100	-.01095	-.00204	.00274	-.00097	.00003	.07083
#3	-.00042	-.00978	.00164	.00213	-.00113	.00003	.05502
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00006	-.00007	-.00003	.00029	.00352	F -1.1448	-.00258
Stddev	.00004	.00018	.00095	.00037	.00842	.0180	.00361
%RSD	70.578	251.16	3353.6	127.73	239.15	1.5718	139.65
#1	.00011	.00008	.00086	.00065	.00320	-1.1584	.00127
#2	.00006	-.00003	.00009	-.00010	.01210	-1.1515	-.00315
#3	.00002	-.00026	-.00103	.00032	-.00473	-1.1244	-.00587
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit						1.0000	
Low Limit						-1.0000	

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00784	.00015	.00022	.01383	.00006	.00042	.00112
Stddev	.02423	.00022	.00008	.01223	.00017	.00080	.00185
%RSD	308.96	151.78	36.984	88.436	257.33	187.61	165.09
#1	.00437	.00028	.00018	.02583	.00015	.00134	.00321
#2	.00785	.00027	.00032	.01427	.00017	.00004	.00049
#3	-.03575	-.00011	.00017	.00138	-.00013	-.00010	-.00033
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: CCB Acquired: 3/23/2011 17:35:40 Type: Blank
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00138	F -1.4994	-.00025	-.00025	.00103	.00132	.00046
Stddev	.00144	.1807	.00009	.00016	.00079	.00053	.00018
%RSD	105.00	12.050	37.272	65.340	76.500	40.214	39.245
#1	.00255	-1.3144	-.00034	-.00036	.00047	.00127	.00041
#2	.00181	-1.6755	-.00015	-.00032	.00193	.00187	.00067
#3	-.00024	-1.5083	-.00025	-.00006	.00069	.00081	.00031
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		1.0000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	-.00194
Stddev	.00014
%RSD	7.0108
#1	-.00189
#2	-.00183
#3	-.00209
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	56962.	64218.
Stddev	165.	74.
%RSD	.28947	.11587
#1	57138.	64236.
#2	56811.	64136.
#3	56937.	64281.

Approved: March 24, 2011
Pierce Morris

Sample Name: PBS 9P Acquired: 3/23/2011 17:39:13 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359706-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00036**	**-.01291**	**.00061**	**.00168**	**-.00103**	**.00001**	**.05291**	**.00020**
Stddev	.00082	.00345	.00286	.00116	.00014	.00003	.01602	.00003
%RSD	224.79	26.697	469.95	69.030	13.969	223.80	30.279	16.068
#1	-.00091	-.01283	-.00267	.00150	-.00119	-.00002	.04959	.00020
#2	.00057	-.01639	.00186	.00292	-.00091	.00005	.07033	.00023
#3	-.00076	-.00950	.00263	.00062	-.00099	.00001	.03881	.00016
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00030**	**.00012**	**.00060**	**-.00139**	**.33022**	**-.00467**	**-.04078**	**-.00066**
Stddev	.00016	.00035	.00065	.00578	.04163	.00405	.01310	.00015
%RSD	53.278	295.73	107.02	415.86	12.607	86.896	32.113	22.536
#1	-.00019	.00009	-.00011	.00175	.37034	-.00080	-.03517	-.00076
#2	-.00023	.00048	.00116	.00214	.33308	-.00432	-.05575	-.00049
#3	-.00048	-.00022	.00076	-.00806	.28723	-.00888	-.03143	-.00074
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Si2124	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00017**	**.04238**	**-.00012**	**-.00192**	**.00082**	**.00375**	**-.97317**	**.00004**
Stddev	.00024	.01127	.00035	.00167	.00312	.00216	.17619	.00026
%RSD	136.52	26.592	282.57	87.196	378.78	57.667	18.105	740.53
#1	.00035	.04195	-.00047	-.00007	.00008	.00371	-1.1732	.00031
#2	-.00010	.03132	-.00014	-.00332	-.00186	.00593	-.90518	.00001
#3	.00027	.05385	.00023	-.00236	.00424	.00160	-.84110	-.00021
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 24, 2011
Pierce Morris

Sample Name: PBS 9P Acquired: 3/23/2011 17:39:13 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359706-02

Elem	Sr4077	Ti3372	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm
Avg	**-.00032**	**.00111**	**.00027**	**-.00016**	**-.00045**
Stddev	.00021	.00024	.00045	.00009	.00031
%RSD	64.523	21.778	166.14	53.665	68.894
#1	-.00056	.00100	.00048	-.00025	-.00034
#2	-.00019	.00094	.00059	-.00007	-.00022
#3	-.00021	.00138	-.00025	-.00017	-.00081
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	**55307.**	**62766.**
Stddev	202.	76.
%RSD	.36490	.12082
#1	55468.	62729.
#2	55081.	62853.
#3	55372.	62716.

Approved: March 24, 2011
Pierce Morris

Sample Name: LCSS 9P Acquired: 3/23/2011 17:42:46 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359706-03

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.20262	4.7100	.19032	.98750	.50291	.02540	5.0162
Stddev	.00086	.0186	.00166	.00300	.00101	.00007	.0293
%RSD	.42326	.39381	.87132	.30368	.20112	.25789	.58340
#1	.20348	4.6943	.19159	.99096	.50178	.02547	4.9841
#2	.20263	4.7305	.19092	.98554	.50319	.02535	5.0414
#3	.20176	4.7053	.18844	.98602	.50375	.02537	5.0230
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02512	.10246	.25656	.24820	1.9559	24.202	.50931
Stddev	.00014	.00024	.00030	.00080	.0052	.075	.00180
%RSD	.57051	.22986	.11526	.32069	.26624	.31022	.35265
#1	.02528	.10268	.25635	.24902	1.9619	24.131	.50779
#2	.02509	.10249	.25643	.24743	1.9529	24.281	.50884
#3	.02499	.10221	.25690	.24814	1.9529	24.193	.51129
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.7912	.24629	.52888	25.786	.25157	.24784	.58760
Stddev	.0073	.00160	.00042	.109	.00045	.00215	.00299
%RSD	.15314	.65036	.08010	.42445	.17950	.86735	.50826
#1	4.7851	.24477	.52893	25.659	.25170	.24596	.58629
#2	4.7891	.24614	.52843	25.845	.25195	.25019	.59102
#3	4.7994	.24796	.52927	25.852	.25107	.24737	.58549
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: LCSS 9P Acquired: 3/23/2011 17:42:46 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359706-03

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.19336	F 169.21	.48679	.51112	.50898	.24921	.52504
Stddev	.00162	.39	.00184	.00094	.00228	.00131	.00194
%RSD	.83771	.22994	.37699	.18428	.44769	.52695	.37026
#1	.19257	168.89	.48703	.51004	.50638	.25022	.52728
#2	.19229	169.09	.48484	.51168	.51063	.24772	.52384
#3	.19523	169.64	.48849	.51166	.50992	.24968	.52399
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.48678
Stddev	.00006
%RSD	.01263
#1	.48682
#2	.48671
#3	.48681
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	54169.	62108.
Stddev	97.	260.
%RSD	.17867	.41815
#1	54066.	62358.
#2	54257.	61840.
#3	54186.	62127.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103061229 Acquired: 3/23/2011 17:46:08 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.07262	298.21	.25376	.07148	3.0987	^ *****	78.381
Stddev	.00060	1.77	.00342	.00170	.0378	-----	.942
%RSD	.82714	.59497	1.3475	2.3754	1.2210	-----	1.2018
#1	.07200	300.26	.25511	.06956	3.0588	^ -----	77.406
#2	.07266	297.24	.25629	.07279	3.1032	^ -----	78.449
#3	.07320	297.14	.24987	.07209	3.1340	^ -----	79.286
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -.00360	.28862	.43866	.59618	565.44	44.865	.21038
Stddev	.00013	.00096	.00303	.00699	6.22	.527	.00222
%RSD	3.5160	.33385	.69118	1.1721	1.0993	1.1749	1.0546
#1	-.00345	.28876	.43567	.60069	558.26	44.317	.20854
#2	-.00369	.28950	.43858	.59972	569.01	44.909	.20977
#3	-.00365	.28759	.44174	.58813	569.05	45.368	.21284
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	4.5000						
Low Limit	-.00050						

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	74.839	10.814	.01565	9.7644	.31900	.49140	.01361
Stddev	.969	.131	.00041	.0806	.00148	.00479	.00195
%RSD	1.2954	1.2099	2.6202	.82583	.46492	.97457	14.312
#1	73.745	10.671	.01558	9.6858	.31933	.49210	.01227
#2	75.181	10.846	.01528	9.7605	.32030	.49580	.01584
#3	75.591	10.926	.01609	9.8469	.31738	.48630	.01271
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103061229 Acquired: 3/23/2011 17:46:08 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00015	F 74.190	.03244	.85368	10.140	.01554	1.7565
Stddev	.00276	.512	.00040	.00915	.114	.00333	.0099
%RSD	1858.6	.69033	1.2275	1.0716	1.1220	21.452	.56185
#1	.00020	74.671	.03222	.84340	10.021	.01884	1.7451
#2	-.00307	74.246	.03290	.85674	10.151	.01561	1.7619
#3	.00243	73.652	.03220	.86091	10.248	.01217	1.7624
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	1.5778
Stddev	.0045
%RSD	.28181
#1	1.5760
#2	1.5829
#3	1.5746
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	54642.	65474.
Stddev	92.	136.
%RSD	.16826	.20808
#1	54747.	65531.
#2	54600.	65573.
#3	54578.	65319.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103061230 Acquired: 3/23/2011 17:49:48 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05739	264.18	.20254	.06056	2.2277	^ *****	68.078
Stddev	.00051	1.28	.00210	.00220	.0207	-----	.686
%RSD	.88602	.48362	1.0365	3.6320	.92763	-----	1.0072
#1	.05692	262.90	.20360	.05867	2.2040	^ -----	67.292
#2	.05793	264.18	.20012	.06004	2.2413	^ -----	68.556
#3	.05733	265.45	.20390	.06297	2.2379	^ -----	68.386
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -.00478	.26444	.35146	.47458	523.36	28.117	.16671
Stddev	.00038	.00141	.00114	.01234	7.07	.188	.00281
%RSD	7.9584	.53176	.32393	2.6002	1.3513	.66946	1.6869
#1	-.00434	.26567	.35144	.48782	515.38	27.903	.16572
#2	-.00498	.26473	.35262	.47249	525.80	28.254	.16452
#3	-.00503	.26291	.35034	.46341	528.88	28.195	.16988
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	4.5000						
Low Limit	-.00050						

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	74.320	9.1458	.01185	4.4465	.28505	.35784	.01145
Stddev	.825	.0832	.00006	.0391	.00252	.00768	.00205
%RSD	1.1100	.91009	.48520	.88035	.88509	2.1462	17.924
#1	73.406	9.0510	.01192	4.4016	.28701	.36524	.01271
#2	74.542	9.1797	.01183	4.4646	.28594	.35837	.00908
#3	75.011	9.2068	.01181	4.4733	.28221	.34991	.01255
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103061230 Acquired: 3/23/2011 17:49:48 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00265**	F **80.557**	**.02154**	**.78041**	**8.1116**	**.01234**	**1.5475**
Stddev	.00341	1.643	.00066	.00694	.0752	.00253	.0075
%RSD	128.57	2.0390	3.0807	.88871	.92717	20.488	.48421
#1	-.00055	81.816	.02178	.77255	8.0256	.00999	1.5488
#2	-.00081	81.155	.02205	.78304	8.1650	.01501	1.5542
#3	-.00658	78.699	.02079	.78565	8.1442	.01202	1.5394
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	**1.0570**
Stddev	.0043
%RSD	.40777
#1	1.0595
#2	1.0595
#3	1.0520
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	**54726.**	**64019.**
Stddev	116.	435.
%RSD	.21245	.67899
#1	54641.	64520.
#2	54678.	63739.
#3	54858.	63799.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103061231 Acquired: 3/23/2011 17:53:28 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05980	236.74	.10418	.04795	2.4759	^ *****	70.015
Stddev	.00016	1.68	.00196	.00377	.0154	-----	.331
%RSD	.26746	.71150	1.8769	7.8626	.62058	-----	.47298
#1	.05984	235.10	.10212	.04360	2.4583	^ -----	69.634
#2	.05994	238.47	.10602	.04997	2.4829	^ -----	70.182
#3	.05963	236.67	.10439	.05027	2.4865	^ -----	70.230
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -.00433	.17459	.18469	.41431	398.91	28.261	.13624
Stddev	.00011	.00085	.00141	.01014	5.74	.180	.00259
%RSD	2.5913	.48505	.76279	2.4470	1.4379	.63626	1.9042
#1	-.00428	.17515	.18504	.42577	392.29	28.054	.13445
#2	-.00446	.17502	.18589	.41062	402.29	28.354	.13505
#3	-.00425	.17362	.18314	.40652	402.16	28.375	.13921
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	4.5000						
Low Limit	-.00050						

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	46.032	7.3713	.00981	6.4659	.19091	.17896	.01093
Stddev	.307	.0501	.00009	.0337	.00147	.00284	.00561
%RSD	.66716	.67991	.87605	.52187	.76836	1.5889	51.345
#1	45.679	7.3135	.00976	6.4275	.19235	.17852	.01180
#2	46.237	7.3973	.00976	6.4793	.19096	.18199	.00494
#3	46.180	7.4031	.00991	6.4909	.18942	.17636	.01606
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103061231 Acquired: 3/23/2011 17:53:28 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00120**	F **88.872**	**.01741**	**.67737**	**8.7597**	**.01230**	**1.1481**
Stddev	.00499	.721	.00030	.00507	.0426	.00130	.0046
%RSD	416.31	.81158	1.7313	.74901	.48683	10.561	.39843
#1	-.00105	89.471	.01715	.67158	8.7105	.01081	1.1447
#2	.00372	89.073	.01735	.68104	8.7865	.01294	1.1533
#3	-.00626	88.071	.01774	.67949	8.7820	.01317	1.1464
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	**.85873**
Stddev	.00391
%RSD	.45531
#1	.86186
#2	.85998
#3	.85435
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	**54835.**	**64412.**
Stddev	298.	283.
%RSD	.54362	.43989
#1	54719.	64669.
#2	54613.	64108.
#3	55174.	64459.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103061232 Acquired: 3/23/2011 17:57:09 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05426	277.27	.21569	.05022	2.8539	^ *****	76.184
Stddev	.00194	1.57	.00289	.00433	.0229	-----	.556
%RSD	3.5830	.56589	1.3388	8.6265	.80122	-----	.72961
#1	.05274	278.48	.21312	.04540	2.8281	^ -----	75.560
#2	.05645	277.83	.21514	.05379	2.8717	^ -----	76.627
#3	.05359	275.50	.21882	.05146	2.8620	^ -----	76.364
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -.00407	.27867	.39911	.54915	530.63	35.684	.17157
Stddev	.00014	.00202	.00160	.01669	7.89	.340	.00159
%RSD	3.4570	.72416	.39975	3.0386	1.4871	.95201	.92948
#1	-.00404	.28003	.39846	.56598	521.72	35.309	.16998
#2	-.00422	.27963	.39794	.54885	533.43	35.970	.17317
#3	-.00394	.27636	.40093	.53261	536.74	35.773	.17155
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	4.5000						
Low Limit	-.00050						

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	71.551	10.721	.01320	4.0975	.28089	.38666	.01271
Stddev	.780	.094	.00029	.0313	.00069	.00251	.00192
%RSD	1.0895	.87265	2.2133	.76441	.24502	.64826	15.143
#1	70.651	10.614	.01300	4.0659	.28147	.38377	.01049
#2	71.990	10.784	.01306	4.0982	.28108	.38818	.01376
#3	72.013	10.767	.01353	4.1285	.28013	.38803	.01388
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103061232 Acquired: 3/23/2011 17:57:09 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00064	F 108.04	.04221	.82501	7.4531	.01488	1.5479
Stddev	.00596	.59	.00144	.00835	.0550	.00248	.0089
%RSD	925.62	.54643	3.4088	1.0118	.73780	16.679	.57386
#1	-.00652	107.84	.04074	.81537	7.3917	.01241	1.5407
#2	.00539	108.71	.04361	.82967	7.4977	.01485	1.5452
#3	-.00079	107.58	.04227	.82999	7.4699	.01738	1.5578
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	1.3698
Stddev	.0058
%RSD	.42387
#1	1.3735
#2	1.3729
#3	1.3631
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	54548.	65211.
Stddev	50.	363.
%RSD	.09206	.55699
#1	54600.	65606.
#2	54499.	64891.
#3	54545.	65137.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103066501 Acquired: 3/23/2011 18:00:48 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359654-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00257	249.62	.09887	.05536	1.7475	.01364	53.672
Stddev	.00039	2.30	.00172	.00286	.0262	.00011	.827
%RSD	15.232	.92295	1.7354	5.1615	1.5010	.79749	1.5409
#1	.00251	247.98	.09820	.05301	1.7174	.01374	52.720
#2	.00221	252.25	.10082	.05454	1.7599	.01352	54.080
#3	.00299	248.63	.09759	.05854	1.7652	.01366	54.214
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00092	.09490	.26170	.19768	256.12	57.420	.23637
Stddev	.00015	.00024	.00237	.00439	3.88	.934	.00388
%RSD	16.570	.25792	.90685	2.2231	1.5156	1.6274	1.6403
#1	.00109	.09500	.26443	.20263	251.66	56.359	.23190
#2	.00086	.09508	.26016	.19621	257.97	57.781	.23886
#3	.00080	.09462	.26051	.19422	258.73	58.120	.23834
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	37.265	4.5197	.00654	.61362	.21060	.25626	.00697
Stddev	.636	.0730	.00011	.01185	.00114	.00276	.00162
%RSD	1.7064	1.6145	1.6797	1.9305	.54143	1.0787	23.219
#1	36.532	4.4355	.00666	.60621	.21133	.25621	.00826
#2	37.597	4.5644	.00654	.62728	.20928	.25353	.00516
#3	37.667	4.5592	.00644	.60737	.21118	.25906	.00749
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103066501 Acquired: 3/23/2011 18:00:48 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359654-01

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00033	F 125.87	.01438	.33690	.51325	.00090	.48406
Stddev	.00229	.70	.00089	.00560	.00567	.00243	.00224
%RSD	685.54	.55889	6.1944	1.6615	1.1043	270.43	.46213
#1	-.00220	126.67	.01341	.33046	.50673	.00152	.48647
#2	.00222	125.34	.01516	.34061	.51699	.00296	.48205
#3	-.00102	125.61	.01457	.33962	.51604	-.00178	.48366
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.65351
Stddev	.00092
%RSD	.14044
#1	.65356
#2	.65439
#3	.65256
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	55563.	66041.
Stddev	149.	608.
%RSD	.26751	.92136
#1	55423.	66732.
#2	55719.	65584.
#3	55545.	65809.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103066502S Acquired: 3/23/2011 18:04:20 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359654-04

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.22041	428.84	.28745	1.0569	2.5290	.03726	61.704
Stddev	.00138	3.75	.00279	.0018	.0064	.00015	.370
%RSD	.62436	.87501	.97113	.17277	.25172	.39795	.60035
#1	.22046	432.24	.28842	1.0554	2.5217	.03736	61.276
#2	.22176	424.81	.28963	1.0589	2.5334	.03733	61.919
#3	.21901	429.48	.28430	1.0563	2.5319	.03709	61.917
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02335	.19899	.60702	.44243	335.35	104.55	.81483
Stddev	.00005	.00006	.00336	.00320	1.06	.35	.00575
%RSD	.19346	.03231	.55360	.72319	.31739	.33308	.70510
#1	.02333	.19899	.60825	.44612	334.16	104.15	.80845
#2	.02340	.19905	.60958	.44082	335.67	104.81	.81961
#3	.02332	.19893	.60321	.44036	336.22	104.67	.81641
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	56.223	5.3005	.47197	24.880	.47999	.49284	.53271
Stddev	.293	.0209	.00148	.087	.00077	.00501	.00295
%RSD	.52100	.39330	.31446	.35013	.16109	1.0174	.55312
#1	55.896	5.2769	.47315	24.786	.47946	.49770	.53603
#2	56.460	5.3163	.47247	24.896	.48088	.49313	.53166
#3	56.315	5.3084	.47031	24.958	.47963	.48769	.53042
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103066502S Acquired: 3/23/2011 18:04:20 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359654-04

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.17738	F 363.68	.46247	.88034	4.7291	.22428	1.2127
Stddev	.00623	2.31	.00200	.00473	.0210	.00136	.0012
%RSD	3.5109	.63396	.43209	.53785	.44327	.60455	.10177
#1	.17356	365.48	.46473	.87496	4.7069	.22584	1.2132
#2	.18457	364.49	.46095	.88386	4.7319	.22337	1.2136
#3	.17401	361.08	.46173	.88221	4.7485	.22363	1.2113
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	1.2857
Stddev	.0006
%RSD	.04869
#1	1.2864
#2	1.2852
#3	1.2854
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	54290.	65610.
Stddev	103.	75.
%RSD	.18953	.11421
#1	54199.	65621.
#2	54269.	65679.
#3	54402.	65531.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103066503SD Acquired: 3/23/2011 18:07:49 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359654-05

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.20553	390.37	.27345	.96932	2.3694	.03516	57.464
Stddev	.00210	.68	.00492	.00549	.0072	.00023	.231
%RSD	1.0242	.17309	1.8007	.56652	.30285	.64609	.40232
#1	.20311	390.86	.27351	.97030	2.3611	.03496	57.197
#2	.20665	390.64	.27835	.96341	2.3737	.03511	57.598
#3	.20684	389.60	.26850	.97426	2.3733	.03540	57.598
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02161	.18759	.57020	.41582	316.73	96.169	.76253
Stddev	.00002	.00029	.00326	.00144	1.17	.404	.00413
%RSD	.08743	.15465	.57121	.34533	.37019	.41973	.54216
#1	.02162	.18735	.56662	.41649	315.39	95.707	.75933
#2	.02158	.18791	.57097	.41679	317.54	96.344	.76105
#3	.02161	.18750	.57299	.41417	317.26	96.456	.76720
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	52.570	4.9884	.44241	23.338	.45499	.47400	.49950
Stddev	.361	.0223	.00021	.106	.00099	.00411	.00295
%RSD	.68672	.44652	.04847	.45546	.21767	.86631	.59117
#1	52.241	4.9663	.44221	23.220	.45387	.47315	.49660
#2	52.512	4.9879	.44264	23.426	.45533	.47038	.50250
#3	52.956	5.0109	.44239	23.368	.45576	.47846	.49941
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103066503SD Acquired: 3/23/2011 18:07:49 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359654-05

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.16223	F 243.94	.44343	.82055	4.2643	.21007	1.1220
Stddev	.00221	2.29	.00104	.00473	.0148	.00259	.0050
%RSD	1.3641	.94064	.23534	.57670	.34742	1.2325	.45034
#1	.16273	245.35	.44456	.81636	4.2481	.20709	1.1168
#2	.15982	245.19	.44321	.81961	4.2677	.21163	1.1223
#3	.16416	241.30	.44251	.82568	4.2771	.21151	1.1269
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	1.2530
Stddev	.0015
%RSD	.11812
#1	1.2544
#2	1.2532
#3	1.2515
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	54370.	65349.
Stddev	229.	156.
%RSD	.42111	.23834
#1	54629.	65525.
#2	54284.	65294.
#3	54196.	65228.

Approved: March 24, 2011
Pierce Morris

Sample Name: CCV Acquired: 3/23/2011 18:11:21 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.41474	9.8397	.40327	.51914	1.0168	.05112	10.239
Stddev	.00218	.0475	.00087	.00145	.0015	.00018	.017
%RSD	.52546	.48301	.21589	.27917	.15226	.34949	.16615
#1	.41691	9.8241	.40388	.51882	1.0169	.05132	10.258
#2	.41474	9.8019	.40365	.52072	1.0152	.05099	10.235
#3	.41256	9.8930	.40227	.51787	1.0183	.05104	10.225
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05123	.20487	.51304	.50963	4.1216	49.242	1.0178
Stddev	.00020	.00028	.00240	.00098	.1480	.142	.0012
%RSD	.38414	.13622	.46845	.19283	3.5897	.28914	.11588
#1	.05102	.20508	.51581	.51047	4.2925	49.140	1.0175
#2	.05126	.20497	.51144	.50986	4.0377	49.181	1.0168
#3	.05141	.20455	.51189	.50855	4.0347	49.404	1.0191
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.8174	.49915	1.0043	51.016	.50850	.50889	1.2147
Stddev	.0468	.00113	.0003	.066	.00042	.00170	.0018
%RSD	.47696	.22680	.03416	.13011	.08348	.33428	.14882
#1	9.8324	.50039	1.0044	51.067	.50843	.50786	1.2133
#2	9.7649	.49817	1.0039	50.941	.50812	.50796	1.2141
#3	9.8549	.49889	1.0046	51.040	.50896	.51086	1.2168
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: March 24, 2011
Pierce Morris

Sample Name: CCV Acquired: 3/23/2011 18:11:21 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.40480	F 3.3741	.99922	1.0213	1.0105	.51019	1.0314
Stddev	.00572	.0938	.00070	.0031	.0025	.00371	.0016
%RSD	1.4124	2.7793	.06960	.30692	.25065	.72795	.15204
#1	.40580	3.4599	.99968	1.0207	1.0134	.50594	1.0315
#2	.39865	3.2740	.99842	1.0186	1.0092	.51187	1.0330
#3	.40995	3.3885	.99956	1.0247	1.0089	.51277	1.0298
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value		5.0000					
Range		-10.000%					

Elem	Zn2062
Units	ppm
Avg	.99814
Stddev	.00103
%RSD	.10332
#1	.99861
#2	.99885
#3	.99695
Check ?	Chk Pass
Value	
Range	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	56072.	65072.
Stddev	71.	494.
%RSD	.12685	.75930
#1	56154.	65360.
#2	56038.	65354.
#3	56024.	64501.

Approved: March 24, 2011
Pierce Morris

Sample Name: CCB Acquired: 3/23/2011 18:14:42 Type: Blank
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00013	.00029	.00238	.00405	-.00064	.00002	.06099
Stddev	.00059	.00349	.00153	.00068	.00008	.00002	.01047
%RSD	452.60	1190.2	64.331	16.882	12.310	84.429	17.168
#1	.00000	.00427	.00252	.00467	-.00058	.00003	.05037
#2	.00039	-.00115	.00383	.00415	-.00073	.00003	.07131
#3	-.00078	-.00224	.00078	.00332	-.00062	.00000	.06128
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00016	-.00007	-.00015	-.00041	.02523	F -1.1546	-.00145
Stddev	.00013	.00018	.00064	.00096	.00437	.0329	.00428
%RSD	82.630	255.19	415.24	233.98	17.337	2.8467	294.39
#1	.00019	-.00001	.00055	.00005	.02757	-1.1537	.00024
#2	.00027	.00007	-.00033	.00023	.02794	-1.1879	.00172
#3	.00001	-.00027	-.00069	-.00152	.02019	-1.1222	-.00632
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit						1.0000	
Low Limit						-1.0000	

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00299	.00009	.00019	.05619	-.00070	-.00143	-.00007
Stddev	.00464	.00070	.00005	.00310	.00074	.00207	.00163
%RSD	155.09	746.21	28.016	5.5111	105.78	144.42	2306.6
#1	.00298	-.00069	.00024	.05475	-.00038	-.00233	.00040
#2	.00764	.00063	.00013	.05974	-.00154	.00094	.00127
#3	-.00164	.00035	.00021	.05407	-.00017	-.00290	-.00188
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: CCB Acquired: 3/23/2011 18:14:42 Type: Blank
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00235**	F **-1.7660**	**.00002**	**-.00030**	**.00296**	**.00206**	**.00058**
Stddev	.00536	.1428	.00031	.00018	.00126	.00134	.00018
%RSD	228.26	8.0844	1854.7	61.514	42.734	64.923	30.122
#1	-.00273	-1.6510	.00007	-.00010	.00418	.00063	.00059
#2	.00319	-1.7212	.00030	-.00047	.00165	.00327	.00075
#3	-.00751	-1.9258	-.00032	-.00033	.00305	.00227	.00040
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		1.0000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	**-.00246**
Stddev	.00009
%RSD	3.5149
#1	-.00245
#2	-.00238
#3	-.00255
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	**56049.**	**64308.**
Stddev	42.	167.
%RSD	.07421	.25945
#1	56075.	64127.
#2	56001.	64340.
#3	56072.	64456.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103066504 Acquired: 3/23/2011 18:18:17 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00353	187.62	.06708	.06464	1.3128	.00881	113.41
Stddev	.00129	1.83	.00337	.00183	.0227	.00000	1.89
%RSD	36.484	.97651	5.0222	2.8241	1.7305	.03530	1.6700
#1	.00206	185.52	.06587	.06274	1.2872	.00881	111.28
#2	.00447	188.91	.06448	.06637	1.3208	.00881	114.02
#3	.00405	188.43	.07088	.06481	1.3305	.00881	114.92
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00050	.06191	.19517	.12122	183.42	36.958	.16813
Stddev	.00022	.00024	.00155	.00447	3.18	.666	.00335
%RSD	44.009	.38597	.79265	3.6908	1.7343	1.8023	1.9896
#1	.00027	.06217	.19626	.12609	179.82	36.213	.16433
#2	.00052	.06171	.19340	.12030	184.56	37.163	.17062
#3	.00070	.06186	.19585	.11729	185.87	37.498	.16944
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	26.958	3.0535	.00388	.47037	.14170	.17167	.00562
Stddev	.442	.0516	.00013	.00554	.00053	.00302	.00115
%RSD	1.6381	1.6891	3.2625	1.1774	.37182	1.7572	20.436
#1	26.454	2.9964	.00393	.46564	.14133	.17208	.00443
#2	27.141	3.0676	.00398	.46902	.14230	.16847	.00572
#3	27.279	3.0966	.00374	.47646	.14146	.17446	.00672
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103066504 Acquired: 3/23/2011 18:18:17 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00065	F 89.448	.01036	.31375	.59675	.00203	.35109
Stddev	.00247	.556	.00018	.00452	.00921	.00235	.00093
%RSD	377.45	.62178	1.7682	1.4403	1.5426	115.79	.26539
#1	-.00335	89.284	.01015	.30880	.58615	-.00068	.35003
#2	.00151	90.068	.01040	.31480	.60137	.00345	.35176
#3	-.00012	88.992	.01051	.31766	.60273	.00333	.35148
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.52625
Stddev	.00023
%RSD	.04368
#1	.52635
#2	.52642
#3	.52599
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	54154.	64053.
Stddev	99.	334.
%RSD	.18367	.52123
#1	54054.	64377.
#2	54155.	64072.
#3	54252.	63710.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103066504PS Acquired: 3/23/2011 18:21:50 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359706-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.20778	171.14	.25294	1.0488	1.6746	.03322	106.90
Stddev	.00141	1.82	.00355	.0049	.0256	.00014	1.62
%RSD	.67908	1.0646	1.4040	.46820	1.5295	.42093	1.5133
#1	.20901	169.09	.24904	1.0494	1.6456	.03338	105.13
#2	.20624	172.57	.25379	1.0534	1.6842	.03318	107.28
#3	.20811	171.75	.25599	1.0436	1.6941	.03311	108.30
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02493	.15403	.42415	.34894	166.91	57.581	.64801
Stddev	.00006	.00005	.00196	.00338	2.43	.915	.01124
%RSD	.22985	.03270	.46272	.96848	1.4569	1.5891	1.7352
#1	.02495	.15409	.42610	.35237	164.22	56.538	.63559
#2	.02497	.15399	.42417	.34884	167.56	57.955	.65092
#3	.02486	.15401	.42217	.34562	168.95	58.249	.65750
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	28.818	2.9703	.51718	25.740	.36875	.39630	.58715
Stddev	.458	.0431	.00126	.379	.00186	.00300	.00175
%RSD	1.5908	1.4512	.24294	1.4718	.50427	.75592	.29852
#1	28.289	2.9206	.51754	25.321	.37021	.39310	.58697
#2	29.109	2.9919	.51821	25.843	.36939	.39903	.58899
#3	29.055	2.9983	.51578	26.057	.36666	.39677	.58550
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103066504PS Acquired: 3/23/2011 18:21:50 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359706-01

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.19213	F 252.33	.01033	.77643	1.0248	.23672	.82503
Stddev	.00648	2.17	.00080	.01410	.0156	.00112	.00189
%RSD	3.3717	.85971	7.7888	1.8155	1.5218	.47470	.22867
#1	.18918	253.81	.00943	.76017	1.0074	.23796	.82708
#2	.18765	253.34	.01098	.78381	1.0295	.23644	.82463
#3	.19956	249.84	.01058	.78529	1.0375	.23577	.82337
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.95152
Stddev	.00039
%RSD	.04103
#1	.95113
#2	.95191
#3	.95152
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	54872.	65495.
Stddev	80.	532.
%RSD	.14554	.81279
#1	54782.	66103.
#2	54902.	65267.
#3	54933.	65115.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103066504SDL Acquired: 3/23/2011 18:25:21 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 5 Custom ID2: Custom ID3:
Comment: WG359706-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00128	38.322	.01463	.01620	.25684	.00178	22.553	.00019
Stddev	.00067	.061	.00267	.00123	.00039	.00003	.008	.00009
%RSD	52.401	.15956	18.259	7.5949	.15072	1.6275	.03375	48.745
#1	.00051	38.325	.01295	.01737	.25717	.00181	22.544	.00009
#2	.00165	38.259	.01323	.01492	.25642	.00176	22.558	.00028
#3	.00169	38.381	.01770	.01632	.25695	.00177	22.555	.00020
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01277	.03858	.02571	37.078	6.4761	.03190	5.5657	.62048
Stddev	.00011	.00021	.00035	.029	.0561	.00024	.0271	.00145
%RSD	.82786	.55615	1.3784	.07897	.86598	.74742	.48603	.23312
#1	.01265	.03876	.02612	37.054	6.4944	.03167	5.5344	.62026
#2	.01286	.03835	.02549	37.069	6.5208	.03187	5.5818	.61916
#3	.01279	.03865	.02552	37.111	6.4132	.03215	5.5808	.62202
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Si2124	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00081	.12316	.02821	.03417	.00260	-.00046	15.520	.00191
Stddev	.00024	.00999	.00007	.00125	.00201	.00120	.158	.00042
%RSD	29.529	8.1123	.23674	3.6533	77.576	262.96	1.0185	22.242
#1	.00063	.13466	.02816	.03291	.00190	.00069	15.618	.00216
#2	.00108	.11813	.02819	.03541	.00103	-.00036	15.604	.00214
#3	.00072	.11668	.02829	.03420	.00487	-.00171	15.338	.00142
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103066504SDL Acquired: 3/23/2011 18:25:21 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 5 Custom ID2: Custom ID3:
Comment: WG359706-02

Elem	Sr4077	Ti3372	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm
Avg	.06167	.12127	.00218	.06926	.10862
Stddev	.00005	.00234	.00146	.00013	.00008
%RSD	.08045	1.9255	66.717	.19158	.07486
#1	.06167	.12118	.00148	.06932	.10869
#2	.06161	.11898	.00386	.06911	.10853
#3	.06171	.12364	.00121	.06936	.10865
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	58017.	67156.
Stddev	223.	308.
%RSD	.38477	.45892
#1	58145.	67439.
#2	58147.	67200.
#3	57759.	66827.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103066504SDL Acquired: 3/23/2011 18:28:47 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 25 Custom ID2: Custom ID3:
Comment: WG359706-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00015**	**7.8063**	**.00249**	**.00262**	**.05082**	**.00038**	**4.5892**	**.00005**
Stddev	.00072	.0309	.00177	.00085	.00005	.00002	.0144	.00005
%RSD	473.83	.39608	71.071	32.552	.09759	5.6310	.31350	104.95
#1	-.00058	7.7837	.00092	.00323	.05077	.00039	4.5727	.00011
#2	.00068	7.8416	.00441	.00165	.05083	.00035	4.5965	.00001
#3	-.00056	7.7937	.00214	.00298	.05086	.00039	4.5986	.00003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00269**	**.00739**	**.00475**	**7.5205**	**.35276**	**.00630**	**1.1042**	**.12429**
Stddev	.00013	.00034	.00020	.0173	.06202	.00073	.0072	.00050
%RSD	4.8303	4.5658	4.2449	.22970	17.582	11.518	.65212	.40099
#1	.00283	.00774	.00470	7.5067	.33025	.00548	1.0962	.12472
#2	.00258	.00707	.00497	7.5150	.30514	.00653	1.1101	.12375
#3	.00266	.00735	.00458	7.5399	.42289	.00688	1.1064	.12440
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Si2124	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00005**	**.05101**	**.00597**	**.00404**	**.00122**	**.00091**	**1.1124**	**.00014**
Stddev	.00010	.01579	.00039	.00169	.00219	.00353	.0853	.00035
%RSD	203.39	30.943	6.5650	41.880	178.65	389.39	7.6681	260.94
#1	-.00006	.06844	.00577	.00553	.00195	.00498	1.2014	.00054
#2	.00006	.04693	.00642	.00220	-.00123	-.00101	1.1047	-.00011
#3	.00014	.03767	.00572	.00438	.00295	-.00125	1.0313	-.00002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103066504SDL Acquired: 3/23/2011 18:28:47 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 25 Custom ID2: Custom ID3:
Comment: WG359706-02

Elem	Sr4077	Ti3372	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm
Avg	.01239	.02567	.00139	.01456	.02161
Stddev	.00009	.00109	.00109	.00014	.00017
%RSD	.73120	4.2513	78.564	.98199	.77116
#1	.01234	.02550	.00228	.01461	.02180
#2	.01232	.02683	.00017	.01439	.02150
#3	.01249	.02467	.00170	.01467	.02154
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	58128.	66504.
Stddev	286.	233.
%RSD	.49158	.34993
#1	58373.	66574.
#2	58198.	66245.
#3	57814.	66694.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103066505 Acquired: 3/23/2011 18:32:15 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00199	176.28	.08123	.04847	1.4746	.01046	45.566
Stddev	.00065	2.69	.00127	.00278	.0291	.00007	.957
%RSD	32.454	1.5285	1.5665	5.7380	1.9709	.64676	2.0998
#1	.00138	173.46	.08092	.04575	1.4411	.01048	44.464
#2	.00267	176.56	.08262	.04835	1.4890	.01038	46.052
#3	.00193	178.82	.08014	.05131	1.4937	.01051	46.183
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00101	.07984	.20404	.16381	203.19	49.090	.17737
Stddev	.00013	.00022	.00237	.00638	4.20	1.110	.00440
%RSD	12.502	.27991	1.1634	3.8970	2.0693	2.2603	2.4827
#1	.00101	.08005	.20651	.17092	198.35	47.809	.17255
#2	.00113	.07986	.20177	.16194	205.26	49.728	.18119
#3	.00088	.07961	.20383	.15858	205.96	49.734	.17836
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	29.652	4.2383	.00579	.45162	.16398	.20705	.00603
Stddev	.547	.0789	.00033	.01038	.00071	.00131	.00203
%RSD	1.8454	1.8623	5.6511	2.2978	.43575	.63253	33.604
#1	29.034	4.1480	.00608	.44188	.16478	.20755	.00578
#2	29.847	4.2725	.00544	.45043	.16376	.20556	.00817
#3	30.076	4.2943	.00585	.46254	.16341	.20803	.00414
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103066505 Acquired: 3/23/2011 18:32:15 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00107	F 120.26	.01154	.25600	.50068	.00221	.39862
Stddev	.00132	.40	.00061	.00524	.01008	.00376	.00171
%RSD	123.36	.32895	5.2594	2.0474	2.0132	170.02	.42852
#1	-.00041	120.42	.01184	.25000	.48930	.00650	.39948
#2	.00212	120.56	.01084	.25833	.50424	.00064	.39665
#3	.00151	119.81	.01193	.25967	.50850	-.00051	.39971
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.51090
Stddev	.00071
%RSD	.13916
#1	.51165
#2	.51080
#3	.51024
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	54977.	65797.
Stddev	341.	965.
%RSD	.61946	1.4673
#1	54586.	66912.
#2	55139.	65264.
#3	55206.	65216.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103066506 Acquired: 3/23/2011 18:35:48 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00298	215.82	.08786	.06788	1.2906	.01073	68.372
Stddev	.00072	4.29	.00077	.00270	.0204	.00002	1.191
%RSD	24.232	1.9901	.88026	3.9790	1.5785	.17633	1.7416
#1	.00248	211.42	.08777	.06493	1.2671	.01073	66.999
#2	.00265	216.01	.08713	.07023	1.3008	.01071	68.997
#3	.00381	220.01	.08867	.06849	1.3038	.01075	69.120
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00038	.06843	.21951	.15211	210.89	62.724	.20613
Stddev	.00004	.00018	.00051	.00557	3.62	.956	.00171
%RSD	9.5922	.25811	.23237	3.6627	1.7146	1.5249	.82758
#1	.00041	.06861	.21919	.15851	206.74	61.620	.20416
#2	.00034	.06825	.21923	.14947	212.62	63.301	.20719
#3	.00040	.06842	.22009	.14835	213.32	63.251	.20704
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	32.709	3.0065	.00575	.47780	.16657	.56869	.01173
Stddev	.507	.0461	.00045	.01182	.00056	.00038	.00285
%RSD	1.5500	1.5334	7.7939	2.4743	.33643	.06718	24.325
#1	32.124	2.9533	.00528	.46428	.16595	.56825	.01460
#2	32.974	3.0312	.00617	.48621	.16673	.56898	.00890
#3	33.028	3.0349	.00580	.48290	.16703	.56882	.01170
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103066506 Acquired: 3/23/2011 18:35:48 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00152	F 149.75	.01213	.29592	.51659	.00299	.41281
Stddev	.00037	1.07	.00018	.00469	.00782	.00093	.00020
%RSD	24.641	.71222	1.5001	1.5843	1.5140	30.977	.04741
#1	.00181	148.82	.01229	.29051	.50756	.00193	.41302
#2	.00110	150.91	.01217	.29844	.52099	.00338	.41264
#3	.00165	149.51	.01193	.29881	.52122	.00366	.41276
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.53801
Stddev	.00034
%RSD	.06258
#1	.53823
#2	.53817
#3	.53762
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	55384.	66548.
Stddev	94.	805.
%RSD	.16970	1.2099
#1	55317.	67467.
#2	55491.	65968.
#3	55343.	66209.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103066507 Acquired: 3/23/2011 18:39:20 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00288	176.27	.07981	.04141	1.4050	.01001	38.877
Stddev	.00060	1.37	.00380	.00294	.0194	.00008	.533
%RSD	20.748	.77897	4.7659	7.0925	1.3807	.79540	1.3703
#1	.00353	174.73	.08034	.03910	1.3828	.01006	38.276
#2	.00236	176.74	.07577	.04040	1.4138	.01006	39.065
#3	.00274	177.35	.08332	.04471	1.4185	.00992	39.291
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00011	.07496	.20015	.14613	203.71	38.205	.17426
Stddev	.00010	.00013	.00241	.00278	2.79	.535	.00655
%RSD	94.478	.17111	1.2052	1.9008	1.3705	1.4011	3.7571
#1	.00020	.07498	.20116	.14918	200.55	37.589	.16677
#2	.00011	.07508	.20188	.14549	204.73	38.474	.17709
#3	.00000	.07483	.19739	.14373	205.85	38.552	.17891
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	27.490	3.8004	.00582	.54325	.15972	.37514	.00596
Stddev	.274	.0474	.00023	.02016	.00043	.00439	.00156
%RSD	.99716	1.2486	4.0344	3.7114	.26848	1.1698	26.180
#1	27.180	3.7466	.00573	.55487	.16018	.38016	.00758
#2	27.590	3.8182	.00608	.55491	.15965	.37201	.00583
#3	27.700	3.8364	.00564	.51997	.15934	.37325	.00447
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103066507 Acquired: 3/23/2011 18:39:20 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00195	F 144.67	.01111	.22734	.49178	.00121	.39252
Stddev	.00220	.48	.00057	.00245	.00661	.00019	.00181
%RSD	112.97	.33004	5.1319	1.0783	1.3438	15.452	.46212
#1	-.00132	144.91	.01146	.22452	.48415	.00118	.39345
#2	-.00439	144.99	.01045	.22850	.49555	.00141	.39368
#3	-.00013	144.12	.01142	.22899	.49565	.00104	.39043
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.44605
Stddev	.00025
%RSD	.05533
#1	.44631
#2	.44582
#3	.44603
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	55803.	66502.
Stddev	107.	702.
%RSD	.19153	1.0550
#1	55719.	67125.
#2	55767.	66639.
#3	55923.	65742.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103066508 Acquired: 3/23/2011 18:42:52 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00324	232.07	.10046	.04592	1.8878	.01384	52.051
Stddev	.00030	1.88	.00234	.00100	.0238	.00005	.638
%RSD	9.2181	.80991	2.3321	2.1713	1.2618	.36006	1.2263
#1	.00358	229.97	.09943	.04561	1.8604	.01389	51.314
#2	.00311	233.59	.09881	.04704	1.9001	.01384	52.419
#3	.00302	232.66	.10315	.04512	1.9031	.01379	52.419
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -.00065	.09286	.25061	.17080	253.23	47.780	.22144
Stddev	.00009	.00015	.00146	.00192	3.22	.568	.00226
%RSD	13.914	.16482	.58196	1.1256	1.2733	1.1881	1.0213
#1	-.00061	.09290	.25214	.17301	249.51	47.129	.21928
#2	-.00076	.09268	.24923	.16950	254.97	48.171	.22379
#3	-.00059	.09298	.25045	.16988	255.21	48.040	.22126
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	4.5000						
Low Limit	-.00050						

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	35.436	4.0246	.00667	.58097	.21107	.21330	.00551
Stddev	.476	.0579	.00017	.01111	.00085	.00364	.00348
%RSD	1.3419	1.4377	2.5465	1.9126	.40250	1.7074	63.251
#1	34.900	3.9579	.00687	.58235	.21155	.21269	.00775
#2	35.600	4.0549	.00661	.56923	.21156	.21721	.00728
#3	35.807	4.0611	.00655	.59132	.21009	.21001	.00149
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103066508 Acquired: 3/23/2011 18:42:52 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00146**	F **118.25**	**.01293**	**.37344**	**.41083**	**.00343**	**.48767**
Stddev	.00262	.55	.00066	.00571	.00719	.00108	.00105
%RSD	179.27	.46117	5.1069	1.5293	1.7492	31.378	.21551
#1	.00099	118.26	.01294	.36700	.40260	.00252	.48888
#2	-.00089	118.79	.01359	.37547	.41399	.00315	.48710
#3	.00428	117.70	.01227	.37787	.41589	.00462	.48702
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	**.51286**
Stddev	.00074
%RSD	.14498
#1	.51239
#2	.51371
#3	.51247
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	**54916.**	**65747.**
Stddev	94.	598.
%RSD	.17198	.91016
#1	54887.	66420.
#2	54840.	65545.
#3	55022.	65275.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103066509 Acquired: 3/23/2011 18:46:24 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00461	244.60	.09028	.05476	1.7721	.01259	47.538
Stddev	.00045	3.35	.00081	.00409	.0286	.00002	.777
%RSD	9.7649	1.3714	.89256	7.4613	1.6129	.16516	1.6348
#1	.00413	242.05	.08986	.05014	1.7401	.01259	46.681
#2	.00502	243.36	.09121	.05624	1.7809	.01257	47.738
#3	.00469	248.40	.08978	.05790	1.7952	.01262	48.197
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00091	.08856	.24904	.18270	249.25	46.661	.22646
Stddev	.00012	.00056	.00149	.00557	3.90	.868	.00457
%RSD	13.245	.62820	.59846	3.0502	1.5655	1.8607	2.0173
#1	.00104	.08920	.24774	.18914	244.94	45.691	.22242
#2	.00089	.08824	.24871	.17935	250.29	46.928	.22554
#3	.00081	.08824	.25067	.17963	252.53	47.365	.23142
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	34.654	4.4826	.00651	.64419	.19710	.45908	.00741
Stddev	.519	.0728	.00021	.01135	.00111	.00365	.00152
%RSD	1.4967	1.6238	3.2200	1.7612	.56272	.79560	20.521
#1	34.068	4.4008	.00628	.63113	.19781	.45594	.00849
#2	34.839	4.5065	.00656	.64975	.19766	.46309	.00808
#3	35.054	4.5404	.00670	.65168	.19582	.45821	.00567
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103066509 Acquired: 3/23/2011 18:46:24 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00245	F 129.28	.01474	.31357	.63056	.00203	.48613
Stddev	.00316	1.72	.00069	.00536	.01130	.00119	.00181
%RSD	129.25	1.3343	4.6899	1.7091	1.7916	58.542	.37309
#1	-.00187	130.23	.01546	.30768	.61764	.00068	.48425
#2	.00039	130.31	.01408	.31488	.63546	.00290	.48625
#3	-.00586	127.29	.01469	.31815	.63858	.00252	.48788
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.60845
Stddev	.00172
%RSD	.28289
#1	.61015
#2	.60849
#3	.60671
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	55069.	65887.
Stddev	24.	777.
%RSD	.04306	1.1795
#1	55042.	66763.
#2	55085.	65621.
#3	55080.	65278.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103066510 Acquired: 3/23/2011 18:49:58 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00268	146.75	.06723	.03291	1.1437	.00859	33.240
Stddev	.00080	2.25	.00278	.00179	.0208	.00005	.596
%RSD	29.792	1.5344	4.1369	5.4524	1.8203	.55513	1.7932
#1	.00243	145.32	.06604	.03087	1.1198	.00855	32.554
#2	.00204	145.58	.07040	.03424	1.1538	.00857	33.538
#3	.00358	149.35	.06523	.03362	1.1576	.00864	33.629
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00103	.06526	.18822	.13797	173.68	38.195	.14014
Stddev	.00024	.00012	.00076	.00414	2.92	.721	.00511
%RSD	23.791	.18141	.40600	3.0033	1.6816	1.8878	3.6478
#1	.00100	.06533	.18894	.14273	170.33	37.373	.13451
#2	.00128	.06533	.18742	.13601	175.06	38.497	.14143
#3	.00080	.06513	.18832	.13517	175.66	38.717	.14448
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	22.667	3.3562	.00568	.37995	.13788	.53656	.00779
Stddev	.420	.0616	.00019	.01338	.00002	.00256	.00268
%RSD	1.8510	1.8342	3.3219	3.5214	.01559	.47729	34.332
#1	22.189	3.2861	.00589	.37883	.13787	.53945	.01077
#2	22.842	3.3812	.00562	.39385	.13790	.53567	.00558
#3	22.972	3.4013	.00553	.36716	.13786	.53456	.00704
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103066510 Acquired: 3/23/2011 18:49:58 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00114	F 115.81	.01058	.18988	.49139	.00136	.34458
Stddev	.00368	.15	.00078	.00358	.00754	.00134	.00139
%RSD	322.89	.13154	7.3801	1.8843	1.5347	98.461	.40317
#1	.00121	115.76	.01057	.18576	.48302	.00177	.34339
#2	-.00258	115.98	.01136	.19166	.49349	-.00014	.34424
#3	.00479	115.69	.00980	.19222	.49766	.00244	.34611
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.44772
Stddev	.00025
%RSD	.05573
#1	.44797
#2	.44772
#3	.44747
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	55678.	66335.
Stddev	80.	893.
%RSD	.14399	1.3467
#1	55633.	67269.
#2	55770.	66246.
#3	55630.	65489.

Approved: March 24, 2011
Pierce Morris

Sample Name: CCV Acquired: 3/23/2011 18:53:37 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.42116	9.8141	.40738	.52074	1.0289	.05140	10.276
Stddev	.00212	.0473	.00277	.00193	.0015	.00007	.009
%RSD	.50438	.48163	.67987	.36994	.14332	.14495	.09225
#1	.41895	9.7727	.40608	.51860	1.0272	.05137	10.287
#2	.42319	9.8656	.41056	.52131	1.0297	.05149	10.272
#3	.42133	9.8041	.40549	.52232	1.0298	.05135	10.269
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05180	.20589	.51812	.51539	4.0291	49.929	1.0202
Stddev	.00026	.00016	.00102	.00109	.0008	.053	.0014
%RSD	.50681	.07689	.19592	.21150	.02081	.10530	.13388
#1	.05210	.20574	.51715	.51564	4.0283	49.902	1.0191
#2	.05161	.20586	.51918	.51633	4.0300	49.990	1.0197
#3	.05168	.20605	.51802	.51419	4.0291	49.896	1.0217
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.8617	.50192	1.0203	51.246	.51607	.51846	1.2346
Stddev	.0264	.00106	.0031	.028	.00204	.00471	.0014
%RSD	.26758	.21059	.30732	.05520	.39495	.90757	.11378
#1	9.8392	.50103	1.0208	51.216	.51803	.51490	1.2331
#2	9.8907	.50309	1.0232	51.250	.51622	.52379	1.2359
#3	9.8551	.50163	1.0170	51.273	.51396	.51669	1.2350
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: March 24, 2011
Pierce Morris

Sample Name: CCV Acquired: 3/23/2011 18:53:37 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.41096	F 3.4482	1.0107	1.0329	1.0119	.52050	1.0438
Stddev	.00214	.0717	.0019	.0019	.0026	.00477	.0012
%RSD	.52020	2.0791	.19288	.17906	.25736	.91660	.11038
#1	.41059	3.3673	1.0121	1.0338	1.0149	.52540	1.0433
#2	.41326	3.4733	1.0116	1.0341	1.0106	.52023	1.0451
#3	.40903	3.5039	1.0085	1.0308	1.0102	.51587	1.0429
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value		5.0000					
Range		-10.000%					

Elem	Zn2062
Units	ppm
Avg	.99961
Stddev	.00050
%RSD	.05035
#1	.99928
#2	.99936
#3	1.0002
Check ?	Chk Pass
Value	
Range	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	55905.	65947.
Stddev	269.	201.
%RSD	.48093	.30407
#1	55844.	66141.
#2	56199.	65959.
#3	55672.	65741.

Approved: March 24, 2011
Pierce Morris

Sample Name: CCB Acquired: 3/23/2011 18:56:58 Type: Blank
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00017	.00203	.00165	.00195	-.00124	.00002	.03366
Stddev	.00075	.00399	.00204	.00146	.00016	.00001	.00286
%RSD	440.58	196.71	123.55	75.085	13.173	78.429	8.5080
#1	.00013	-.00195	.00374	.00352	-.00118	.00003	.03667
#2	.00093	.00201	-.00035	.00169	-.00142	.00002	.03096
#3	-.00056	.00603	.00157	.00063	-.00111	.00000	.03336
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00016	-.00014	-.00005	-.00014	.01850	F -1.1499	-.00228
Stddev	.00019	.00016	.00075	.00047	.00243	.0130	.00084
%RSD	118.81	113.45	1528.3	344.78	13.123	1.1324	36.723
#1	-.00006	-.00001	.00071	.00031	.01571	-1.1387	-.00132
#2	.00024	-.00009	-.00008	-.00063	.02014	-1.1642	-.00262
#3	.00031	-.00032	-.00078	-.00009	.01966	-1.1466	-.00288
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit						1.0000	
Low Limit						-1.0000	

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.01569	.00014	.00035	.04366	.00027	-.00113	.00093
Stddev	.01737	.00036	.00012	.02610	.00029	.00047	.00389
%RSD	110.70	256.85	34.437	59.769	107.98	41.278	419.82
#1	-.02267	-.00010	.00044	.07282	.00025	-.00135	-.00333
#2	.00408	-.00004	.00021	.03567	-.00001	-.00059	.00429
#3	-.02848	.00055	.00040	.02250	.00057	-.00144	.00182
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: CCB Acquired: 3/23/2011 18:56:58 Type: Blank
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00157	F -1.7516	.00000	-.00027	.00159	.00165	.00040
Stddev	.00147	.0767	.0003	.00017	.00098	.00195	.00008
%RSD	93.577	4.3769	9025.4	62.673	61.786	117.88	20.438
#1	.00001	-1.7261	-.00037	-.00029	.00047	.00264	.00032
#2	.00294	-1.6909	.00027	-.00042	.00232	-.00059	.00048
#3	.00177	-1.8378	.00008	-.00009	.00198	.00292	.00041
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		1.0000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	-.00173
Stddev	.00015
%RSD	8.7038
#1	-.00161
#2	-.00190
#3	-.00169
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	56276.	64411.
Stddev	177.	87.
%RSD	.31448	.13474
#1	56453.	64487.
#2	56277.	64430.
#3	56099.	64316.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103066511 Acquired: 3/23/2011 19:00:35 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00542	198.09	.07723	.07492	3.5929	.00866	F 1018.6
Stddev	.00055	2.80	.00221	.00058	.0144	.00002	5.0
%RSD	10.241	1.4137	2.8605	.77100	.39978	.19517	.49342
#1	.00498	194.92	.07870	.07497	3.5794	.00865	1022.0
#2	.00604	199.10	.07829	.07548	3.5913	.00867	1012.8
#3	.00523	200.24	.07469	.07433	3.6080	.00864	1021.0
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail
High Limit							900.00
Low Limit							-.10000

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00603	.06512	.26264	.15574	196.21	45.672	.21957
Stddev	.00010	.00021	.00095	.00300	.71	.253	.00106
%RSD	1.6333	.31878	.36361	1.9280	.36227	.55462	.48234
#1	.00592	.06532	.26156	.15730	195.48	45.473	.22076
#2	.00607	.06513	.26338	.15763	196.24	45.586	.21922
#3	.00611	.06491	.26298	.15227	196.90	45.957	.21872
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	43.255	3.5486	.00765	.90974	.18739	.55503	.00334
Stddev	.255	.0147	.00009	.01870	.00189	.00194	.00271
%RSD	.59027	.41312	1.1606	2.0552	1.0066	.34966	81.291
#1	43.059	3.5349	.00770	.90356	.18876	.55488	.00325
#2	43.163	3.5469	.00754	.93075	.18816	.55704	.00067
#3	43.544	3.5641	.00770	.89492	.18524	.55317	.00609
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103066511 Acquired: 3/23/2011 19:00:35 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00018	F 144.50	.01495	1.4194	.75549	.00121	.48341
Stddev	.00145	2.39	.00080	.0083	.00419	.00017	.00163
%RSD	795.08	1.6507	5.3660	.58390	.55413	13.935	.33635
#1	.00016	145.80	.01579	1.4110	.75109	.00125	.48229
#2	-.00178	145.96	.01420	1.4196	.75596	.00135	.48268
#3	.00107	141.75	.01484	1.4276	.75942	.00102	.48528
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.65644
Stddev	.00247
%RSD	.37586
#1	.65840
#2	.65726
#3	.65367
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	51293.	63671.
Stddev	53.	251.
%RSD	.10398	.39408
#1	51352.	63811.
#2	51247.	63821.
#3	51280.	63381.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103066512 Acquired: 3/23/2011 19:04:17 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00718	208.37	.07947	.09183	3.9090	.00824	F 1539.0
Stddev	.00045	2.34	.00039	.00263	.0097	.00003	5.3
%RSD	6.3276	1.1245	.48917	2.8619	.24780	.30814	.34153
#1	.00672	209.91	.07992	.09360	3.8984	.00827	1543.2
#2	.00763	209.52	.07924	.09308	3.9175	.00824	1533.1
#3	.00718	205.67	.07926	.08881	3.9112	.00822	1540.7
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail
High Limit							900.00
Low Limit							-.10000

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00546	.06391	.26714	.15820	191.48	46.221	.24267
Stddev	.00021	.00020	.00050	.00267	.42	.158	.00168
%RSD	3.7842	.30894	.18751	1.6860	.21982	.34229	.69082
#1	.00527	.06408	.26725	.16090	191.12	46.059	.24098
#2	.00568	.06396	.26659	.15813	191.94	46.375	.24269
#3	.00542	.06370	.26758	.15556	191.39	46.230	.24434
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	47.095	3.3536	.01192	1.1658	.18337	.58015	.00743
Stddev	.069	.0051	.00039	.0158	.00139	.00392	.00399
%RSD	.14634	.15218	3.3048	1.3515	.75766	.67522	53.637
#1	47.061	3.3486	.01236	1.1484	.18260	.57778	.01110
#2	47.175	3.3588	.01179	1.1696	.18497	.57799	.00319
#3	47.050	3.3535	.01160	1.1792	.18253	.58467	.00800
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103066512 Acquired: 3/23/2011 19:04:17 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00173	F 359.04	.01326	2.0364	1.0846	.00293	.42873
Stddev	.00238	10.18	.00039	.0029	.0028	.00148	.00106
%RSD	138.05	2.8354	2.9754	.14013	.25485	50.504	.24772
#1	.00089	363.58	.01309	2.0333	1.0818	.00445	.42833
#2	.00442	366.15	.01371	2.0390	1.0873	.00286	.42793
#3	-.00012	347.38	.01297	2.0370	1.0846	.00149	.42994
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.89838
Stddev	.00301
%RSD	.33535
#1	.89962
#2	.90058
#3	.89495
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	50116.	63206.
Stddev	57.	448.
%RSD	.11409	.70816
#1	50151.	62765.
#2	50050.	63194.
#3	50146.	63660.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103066513 Acquired: 3/23/2011 19:07:57 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00377	171.11	.07209	.04235	1.2467	.00923	32.653
Stddev	.00092	1.61	.00209	.00083	.0041	.00004	.409
%RSD	24.401	.94364	2.9038	1.9661	.32877	.40582	1.2526
#1	.00400	169.97	.07406	.04321	1.2422	.00920	33.123
#2	.00276	170.42	.06989	.04155	1.2476	.00927	32.457
#3	.00455	172.96	.07231	.04229	1.2503	.00924	32.379
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00118	.07011	.18778	.13939	189.58	43.898	.16654
Stddev	.00020	.00028	.00117	.00133	.83	.196	.00106
%RSD	17.050	.40289	.62185	.95390	.43809	.44647	.63475
#1	.00123	.07042	.18684	.13861	188.65	43.675	.16721
#2	.00134	.07004	.18742	.14092	189.85	43.976	.16709
#3	.00095	.06987	.18909	.13863	190.25	44.043	.16532
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	26.836	3.7133	.00503	.42027	.14705	.27517	.00519
Stddev	.084	.0116	.00021	.01643	.00138	.00339	.00303
%RSD	.31437	.31346	4.1120	3.9106	.93714	1.2309	58.489
#1	26.756	3.6999	.00489	.40575	.14858	.27896	.00598
#2	26.924	3.7210	.00527	.43811	.14667	.27244	.00183
#3	26.829	3.7189	.00493	.41695	.14591	.27412	.00774
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103066513 Acquired: 3/23/2011 19:07:57 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00538	F 143.83	.01208	.19940	.56599	.00190	.37852
Stddev	.00029	.67	.00020	.00028	.00429	.00196	.00089
%RSD	5.4443	.46650	1.6675	.13793	.75841	103.22	.23498
#1	.00527	143.92	.01232	.19921	.56387	-.00036	.37765
#2	.00571	144.45	.01199	.19928	.56318	.00301	.37848
#3	.00515	143.11	.01195	.19972	.57094	.00306	.37943
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.46774
Stddev	.00023
%RSD	.04951
#1	.46798
#2	.46771
#3	.46752
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	55000.	66134.
Stddev	63.	205.
%RSD	.11538	.31042
#1	55030.	66268.
#2	55042.	66236.
#3	54927.	65898.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103066514 Acquired: 3/23/2011 19:11:30 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00367	196.37	.08339	.04663	1.6720	.01033	89.332
Stddev	.00092	.39	.00069	.00023	.0087	.00003	.479
%RSD	25.023	.19950	.83189	.49740	.51793	.33198	.53630
#1	.00326	196.07	.08265	.04637	1.6622	.01035	88.779
#2	.00472	196.81	.08348	.04678	1.6754	.01029	89.601
#3	.00303	196.23	.08403	.04676	1.6785	.01035	89.617
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00012	.07058	.21796	.14720	212.20	40.998	.19248
Stddev	.00011	.00025	.00072	.00170	1.09	.327	.00246
%RSD	97.471	.35408	.33172	1.1522	.51531	.79778	1.2805
#1	.00007	.07070	.21722	.14834	210.94	40.639	.19089
#2	.00025	.07075	.21798	.14802	212.68	41.074	.19123
#3	.00004	.07029	.21867	.14525	212.96	41.280	.19532
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	28.512	3.3424	.00558	.49524	.16424	.56578	.01310
Stddev	.081	.0116	.00015	.02307	.00041	.00111	.00280
%RSD	.28424	.34747	2.6503	4.6589	.25221	.19630	21.330
#1	28.433	3.3298	.00551	.47381	.16463	.56584	.01023
#2	28.595	3.3445	.00575	.51967	.16380	.56464	.01582
#3	28.507	3.3528	.00548	.49226	.16430	.56685	.01326
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103066514 Acquired: 3/23/2011 19:11:30 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00229	F 151.14	.01170	.28497	.51174	.00321	.40819
Stddev	.00558	.98	.00066	.00053	.00198	.00154	.00085
%RSD	243.45	.65073	5.6774	.18519	.38731	47.946	.20930
#1	-.00195	151.46	.01110	.28437	.50945	.00498	.40863
#2	.00862	151.93	.01242	.28535	.51302	.00227	.40720
#3	.00021	150.04	.01159	.28521	.51273	.00237	.40872
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.56370
Stddev	.00014
%RSD	.02476
#1	.56378
#2	.56378
#3	.56354
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	54825.	66318.
Stddev	21.	257.
%RSD	.03762	.38759
#1	54803.	66458.
#2	54827.	66021.
#3	54844.	66475.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103066515 Acquired: 3/23/2011 19:15:03 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00422	219.53	.08167	.05228	1.6683	.01073	53.298
Stddev	.00113	.29	.00089	.00266	.0069	.00005	.270
%RSD	26.792	.13228	1.0897	5.0858	.41388	.46320	.50659
#1	.00304	219.67	.08199	.05026	1.6604	.01070	52.999
#2	.00433	219.73	.08236	.05529	1.6715	.01070	53.374
#3	.00530	219.20	.08067	.05129	1.6730	.01078	53.523
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00038	.07304	.23745	.15289	222.37	44.538	.20626
Stddev	.00005	.00010	.00192	.00157	1.09	.176	.00329
%RSD	14.047	.14224	.80905	1.0257	.48956	.39487	1.5952
#1	.00037	.07305	.23767	.15414	221.13	44.335	.20625
#2	.00044	.07314	.23542	.15341	222.81	44.652	.20297
#3	.00033	.07293	.23924	.15113	223.18	44.627	.20956
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	30.108	3.4808	.00554	.53538	.17236	.60419	.01631
Stddev	.033	.0150	.00019	.00834	.00160	.00174	.00345
%RSD	.11007	.43136	3.4709	1.5578	.93017	.28753	21.149
#1	30.071	3.4635	.00570	.53076	.17109	.60296	.02003
#2	30.135	3.4902	.00560	.54501	.17416	.60343	.01569
#3	30.119	3.4888	.00533	.53037	.17182	.60617	.01321
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103066515 Acquired: 3/23/2011 19:15:03 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00069	F 108.01	.01217	.26048	.65131	.00066	.43166
Stddev	.00539	.57	.00034	.00085	.00337	.00245	.00116
%RSD	777.35	.52677	2.7613	.32493	.51773	368.89	.26781
#1	-.00122	108.49	.01183	.25953	.64811	.00346	.43247
#2	-.00348	108.15	.01250	.26077	.65100	-.00038	.43217
#3	.00678	107.38	.01217	.26115	.65483	-.00109	.43034
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.63176
Stddev	.00122
%RSD	.19344
#1	.63232
#2	.63261
#3	.63036
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	54566.	65660.
Stddev	41.	207.
%RSD	.07514	.31549
#1	54600.	65861.
#2	54520.	65671.
#3	54576.	65447.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103066516 Acquired: 3/23/2011 19:18:36 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00466	309.32	.10502	.07583	2.0885	.01462	66.329
Stddev	.00009	2.15	.00342	.00143	.0097	.00010	.342
%RSD	2.0009	.69367	3.2539	1.8834	.46370	.71026	.51578
#1	.00477	307.20	.10530	.07426	2.0774	.01471	65.937
#2	.00461	311.49	.10829	.07705	2.0951	.01451	66.484
#3	.00461	309.26	.10147	.07618	2.0930	.01465	66.566
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00065	.09799	.29005	.19294	276.12	63.104	.26802
Stddev	.00009	.00028	.00184	.00224	1.44	.297	.00111
%RSD	13.206	.28191	.63564	1.1600	.52073	.47096	.41475
#1	.00057	.09828	.29150	.19552	274.46	62.764	.26680
#2	.00062	.09773	.28798	.19143	276.92	63.317	.26829
#3	.00074	.09796	.29067	.19189	276.98	63.230	.26898
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	42.882	4.5205	.00664	.64669	.22616	.28568	.00680
Stddev	.329	.0237	.00044	.01581	.00049	.00215	.00246
%RSD	.76657	.52492	6.6804	2.4455	.21832	.75207	36.148
#1	42.644	4.4954	.00667	.62992	.22609	.28581	.00959
#2	43.257	4.5426	.00708	.64881	.22669	.28776	.00495
#3	42.746	4.5235	.00619	.66134	.22571	.28347	.00587
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103066516 Acquired: 3/23/2011 19:18:36 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00124	F 134.86	.01609	.31374	.74689	.00117	.55449
Stddev	.00335	.55	.00097	.00192	.00497	.00561	.00161
%RSD	269.63	.40822	6.0380	.61354	.66603	477.75	.28997
#1	-.00197	135.30	.01721	.31173	.74119	-.00459	.55378
#2	.00098	135.03	.01556	.31556	.74917	.00149	.55336
#3	.00471	134.24	.01549	.31394	.75032	.00662	.55633
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.67723
Stddev	.00107
%RSD	.15832
#1	.67799
#2	.67770
#3	.67601
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	54136.	65552.
Stddev	111.	315.
%RSD	.20447	.48120
#1	54080.	65898.
#2	54263.	65282.
#3	54064.	65475.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103072901 Acquired: 3/23/2011 19:22:08 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00207	1.2056	.00545	.01070	.24029	-.00004	476.51
Stddev	.00079	.0081	.00359	.00129	.00031	.00003	3.91
%RSD	37.947	.67087	65.802	12.031	.12995	69.288	.82015
#1	.00272	1.1964	.00918	.01085	.23994	-.00005	472.01
#2	.00120	1.2116	.00515	.01191	.24055	-.00006	479.04
#3	.00228	1.2087	.00203	.00934	.24036	-.00001	478.48
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00188	.02280	-.00178	.31090	30.769	.04933	.01609
Stddev	.00008	.00012	.00029	.00238	.086	.12764	.00188
%RSD	4.2031	.53610	16.206	.76623	.28026	258.76	11.661
#1	.00179	.02278	-.00153	.31252	30.672	-.09017	.01625
#2	.00191	.02294	-.00209	.31202	30.838	.07789	.01414
#3	.00194	.02269	-.00172	.30817	30.796	.16026	.01788
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	143.22	18.678	.00518	F 1585.8	3.8959	.01642	.00336
Stddev	.77	.071	.00019	11.5	.0207	.00191	.00229
%RSD	.53455	.37884	3.6271	.72393	.52999	11.610	67.943
#1	142.37	18.597	.00526	1581.0	3.9133	.01814	.00600
#2	143.43	18.728	.00497	1577.4	3.9013	.01437	.00187
#3	143.86	18.709	.00531	1598.9	3.8731	.01676	.00222
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103072901 Acquired: 3/23/2011 19:22:08 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00265	F 1272.4	.00389	.83310	.15926	.00868	.00606
Stddev	.00087	53.7	.00067	.00445	.00102	.00152	.00005
%RSD	32.835	4.2191	17.154	.53466	.63735	17.571	.75456
#1	.00174	1309.9	.00449	.82798	.15837	.00943	.00611
#2	.00275	1296.5	.00317	.83609	.16036	.00692	.00607
#3	.00347	1210.9	.00402	.83522	.15904	.00968	.00602
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.04391
Stddev	.00059
%RSD	1.3467
#1	.04351
#2	.04459
#3	.04364
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	48418.	62228.
Stddev	34.	225.
%RSD	.06928	.36158
#1	48444.	62482.
#2	48431.	62052.
#3	48380.	62151.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103073801 Acquired: 3/23/2011 19:25:51 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00989	2.4807	.00540	.00683	26.476	.00014	2.7184	.00577
Stddev	.00028	.0164	.00144	.00093	.590	.00003	.1210	.00008
%RSD	2.8598	.65906	26.711	13.642	2.2270	23.849	4.4510	1.3821
#1	.00988	2.4673	.00577	.00702	25.846	.00010	2.8565	.00585
#2	.00961	2.4989	.00663	.00582	27.015	.00016	2.6677	.00577
#3	.01018	2.4759	.00381	.00765	26.565	.00017	2.6311	.00569
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.52476	.61268	.63237	169.94	-.25582	.02781	4.0265	.47835
Stddev	.00013	.00234	.00078	.94	.01428	.00299	.0299	.00302
%RSD	.02384	.38194	.12303	.55022	5.5808	10.766	.74269	.63106
#1	.52463	.61214	.63277	168.91	-.24134	.02894	4.0357	.48168
#2	.52477	.61065	.63287	170.19	-.26988	.03008	4.0507	.47759
#3	.52488	.61524	.63147	170.73	-.25625	.02442	3.9930	.47579
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Si2124	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00719	6.3666	.01722	.26802	.01406	.00668	52.033	.26097
Stddev	.00025	.2966	.00018	.00043	.00286	.00447	1.353	.00048
%RSD	3.4107	4.6580	1.0438	.16073	20.326	66.890	2.5999	.18583
#1	.00719	6.7039	.01707	.26761	.01628	.00442	50.964	.26070
#2	.00694	6.2489	.01742	.26799	.01084	.00379	51.581	.26153
#3	.00743	6.1469	.01716	.26847	.01506	.01182	53.554	.26069
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103073801 Acquired: 3/23/2011 19:25:51 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sr4077	Ti3372	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm
Avg	.25735	.20432	.00237	.01332	4.4312
Stddev	.00108	.00098	.00111	.00021	.0059
%RSD	.42088	.47963	46.667	1.5833	.13219
#1	.25620	.20325	.00356	.01311	4.4257
#2	.25836	.20452	.00218	.01353	4.4374
#3	.25748	.20518	.00137	.01332	4.4305
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	53880.	63973.
Stddev	109.	488.
%RSD	.20248	.76265
#1	53992.	64422.
#2	53875.	63454.
#3	53774.	64042.

Approved: March 24, 2011
Pierce Morris

Sample Name: CCV Acquired: 3/23/2011 19:29:30 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.42781	9.6661	F .44088	.52621	1.0283	.05270	10.300
Stddev	.00142	.0784	.04383	.00113	.0017	.00006	.023
%RSD	.33240	.81097	9.9408	.21467	.16406	.12019	.22364
#1	.42931	9.7413	.41435	.52639	1.0301	.05273	10.301
#2	.42648	9.6722	.41682	.52500	1.0267	.05263	10.276
#3	.42763	9.5848	.49147	.52724	1.0280	.05275	10.322
Check ?	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value			.40000				
Range			10.000%				

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.04769	.20430	.52626	.52258	4.0232	49.974	1.0190
Stddev	.00136	.00116	.00217	.01048	.0089	.156	.0032
%RSD	2.8459	.56625	.41192	2.0056	.22083	.31278	.31152
#1	.04924	.20298	.52875	.51196	4.0302	50.039	1.0161
#2	.04713	.20476	.52480	.52287	4.0132	49.795	1.0183
#3	.04670	.20515	.52524	.53291	4.0261	50.087	1.0224
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.7572	.50002	.99933	51.608	.49131	.50888	1.2321
Stddev	.0249	.00127	.00304	.054	.00706	.00676	.0080
%RSD	.25505	.25391	.30457	.10416	1.4368	1.3280	.64872
#1	9.7320	.49957	1.0019	51.647	.49784	.50539	1.2231
#2	9.7818	.50145	1.0001	51.547	.49226	.50458	1.2384
#3	9.7578	.49903	.99599	51.630	.48382	.51667	1.2347
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: March 24, 2011
Pierce Morris

Sample Name: CCV Acquired: 3/23/2011 19:29:30 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F .25029	F 6.1639	.97315	1.0308	1.0108	.51250	1.0597
Stddev	.08617	1.5984	.00376	.0025	.0022	.00254	.0012
%RSD	34.429	25.932	.38638	.24615	.22278	.49496	.11383
#1	.34260	4.9892	.97453	1.0309	1.0089	.50993	1.0593
#2	.23631	5.5184	.97603	1.0333	1.0103	.51257	1.0588
#3	.17196	7.9841	.96890	1.0282	1.0133	.51500	1.0611
Check ?	Chk Fail	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value	.40000	5.0000					
Range	-10.000%	10.000%					

Elem	Zn2062
Units	ppm
Avg	1.0017
Stddev	.0036
%RSD	.36245
#1	.99845
#2	1.0011
#3	1.0056
Check ?	Chk Pass
Value	
Range	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	53248.	65300.
Stddev	502.	125.
%RSD	.94311	.19175
#1	53746.	65230.
#2	53257.	65225.
#3	52742.	65444.

Approved: March 24, 2011
Pierce Morris

Sample Name: CCB Acquired: 3/23/2011 19:32:47 Type: Blank
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00077	-.00721	.00077	.00159	-.00082	.00002	.03486
Stddev	.00048	.00158	.00264	.00133	.00011	.00001	.00765
%RSD	62.083	21.947	342.41	83.922	13.429	52.782	21.947
#1	-.00110	-.00570	.00363	.00290	-.00092	.00003	.02617
#2	-.00100	-.00886	-.00158	.00162	-.00070	.00001	.04058
#3	-.00022	-.00706	.00026	.00024	-.00083	.00002	.03784
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00006	.00003	.00038	.00060	.00910	F -1.0924	-.00070
Stddev	.00021	.00025	.00093	.00038	.00278	.0618	.00160
%RSD	365.95	730.98	246.22	62.172	30.546	5.6572	228.83
#1	.00010	-.00021	.00002	.00017	.00628	-1.1299	-.00253
#2	-.00017	.00028	.00143	.00084	.00919	-1.0211	.00037
#3	.00024	.00003	-.00032	.00080	.01184	-1.1263	.00007
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit						1.0000	
Low Limit						-1.0000	

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.02047	-.00028	.00001	.20416	.00057	-.00059	.00215
Stddev	.01572	.00024	.00003	.01477	.00049	.00250	.00143
%RSD	76.805	84.920	174.50	7.2357	85.422	420.56	66.364
#1	-.00365	-.00045	.00000	.20593	.00114	.00089	.00243
#2	-.02296	-.00038	.00004	.18858	.00023	.00081	.00060
#3	-.03480	-.00001	.00000	.21796	.00036	-.00348	.00342
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: CCB Acquired: 3/23/2011 19:32:47 Type: Blank
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00137**	F **-2.0128**	**.00035**	**-.00042**	**.00000**	**.00085**	**.00055**
Stddev	.00200	.1516	.00046	.00012	.0003	.00067	.00018
%RSD	145.49	7.5341	131.91	28.087	10435.	78.869	32.182
#1	-.00088	-2.1256	.00081	-.00051	-.00001	.00008	.00055
#2	.00206	-2.0723	.00037	-.00045	.00032	.00117	.00073
#3	.00294	-1.8404	-.00012	-.00029	-.00032	.00130	.00038
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		1.0000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	**-.00127**
Stddev	.00008
%RSD	6.1579
#1	-.00118
#2	-.00130
#3	-.00132
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	**55593.**	**64310.**
Stddev	141.	87.
%RSD	.25371	.13562
#1	55753.	64209.
#2	55542.	64360.
#3	55485.	64360.

Approved: March 24, 2011
Pierce Morris

Sample Name: PBS 31 Acquired: 3/23/2011 19:36:22 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: ~~WG359280-02~~ WG359280-03

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00121**	**.00190**	**-.00161**	**.00062**	**-.00042**	**.00002**	**.08434**
Stddev	.00087	.00276	.00203	.00124	.00018	.00003	.00394
%RSD	71.639	144.76	125.78	199.06	43.170	145.99	4.6748
#1	-.00185	.00327	-.00035	.00069	-.00059	.00004	.08152
#2	-.00022	.00371	-.00395	-.00065	-.00023	-.00001	.08265
#3	-.00156	-.00127	-.00053	.00182	-.00045	.00003	.08884
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00034**	**-.00025**	**.00014**	**-.00001**	**.02614**	F **-.83414**	**-.00312**
Stddev	.00011	.00020	.00053	.00062	.00306	.06044	.00067
%RSD	31.375	81.848	370.49	7001.3	11.720	7.2463	21.629
#1	.00023	-.00025	-.00019	.00028	.02959	-.80747	-.00254
#2	.00036	-.00004	-.00014	.00042	.02373	-.79161	-.00296
#3	.00044	-.00045	.00075	-.00072	.02509	-.90333	-.00386
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit						315.00	
Low Limit						-.50000	

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00397**	**.00051**	**.00020**	**.18806**	**.00065**	**-.00150**	**.00441**
Stddev	.00474	.00052	.00013	.02165	.00053	.00188	.00189
%RSD	119.49	100.80	61.913	11.510	81.557	125.07	42.785
#1	-.00256	.00081	.00030	.17615	.00004	-.00366	.00638
#2	-.00009	.00081	.00006	.17500	.00096	-.00060	.00423
#3	-.00926	-.00008	.00025	.21305	.00095	-.00025	.00262
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: PBS 31 Acquired: 3/23/2011 19:36:22 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: ~~WG359280-02~~ WG359280-03

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00288**	**-.87453**	**.00037**	**.00004**	**.00218**	**.00023**	**.00052**
Stddev	.00073	.13740	.00051	.00008	.00150	.00148	.00017
%RSD	25.303	15.711	138.26	190.50	68.942	653.71	32.689
#1	.00283	-.96041	.00059	-.00005	.00045	.00092	.00033
#2	.00364	-.94712	.00074	.00007	.00313	-.00147	.00067
#3	.00218	-.71606	-.00022	.00011	.00295	.00124	.00056
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Zn2062
Units	ppm
Avg	**.00082**
Stddev	.00063
%RSD	76.508
#1	.00059
#2	.00034
#3	.00153
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	**54044.**	**62963.**
Stddev	147.	145.
%RSD	.27107	.22966
#1	53884.	63122.
#2	54076.	62928.
#3	54172.	62840.

Approved: March 24, 2011
Pierce Morris

Sample Name: LCSS 31 Acquired: 3/23/2011 19:39:54 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: ~~WG359280-03~~ WG359280-04

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.20095	-.00136	.19229	.00026	-.00018	.00002	.07350
Stddev	.00156	.00219	.00061	.00084	.00016	.00002	.00578
%RSD	.77794	160.93	.31945	328.83	87.556	136.40	7.8599
#1	.20028	-.00010	.19159	-.00067	-.00009	.00004	.06709
#2	.19983	-.00389	.19260	.00097	-.00009	.00000	.07829
#3	.20273	-.00010	.19270	.00046	-.00037	.00001	.07514
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02540	-.00021	-.00099	.24858	.02952	F -.91885	-.00112
Stddev	.00005	.00020	.00038	.00134	.00725	.03066	.00134
%RSD	.21315	97.317	38.861	.53934	24.554	3.3370	119.95
#1	.02536	-.00015	-.00128	.24878	.02339	-.91203	-.00066
#2	.02546	-.00004	-.00055	.24981	.02765	-.89218	-.00007
#3	.02538	-.00043	-.00113	.24716	.03752	-.95235	-.00263
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit						315.00	
Low Limit						-.50000	

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.01897	.24756	.00010	.16090	.00017	.25182	.00146
Stddev	.00549	.00100	.00017	.01993	.00076	.00349	.00240
%RSD	28.916	.40364	174.67	12.387	446.37	1.3847	165.09
#1	-.02292	.24646	.00013	.15244	.00103	.25407	-.00131
#2	-.02129	.24782	.00025	.14660	-.00036	.25360	.00259
#3	-.01271	.24841	-.00009	.18366	-.00016	.24781	.00308
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: LCSS 31 Acquired: 3/23/2011 19:39:54 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: ~~WG359280-03~~ WG359280-04

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00300**	**-.73871**	**.00030**	**-.00025**	**.00221**	**.00123**	**.00028**
Stddev	.00234	.18718	.00038	.00025	.00074	.00121	.00018
%RSD	78.019	25.339	129.40	103.54	33.723	97.695	65.956
#1	.00244	-.95372	-.00004	-.00044	.00306	-.00015	.00026
#2	.00099	-.65034	.00022	-.00034	.00173	.00183	.00010
#3	.00557	-.61208	.00071	.00004	.00182	.00203	.00047
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Zn2062
Units	ppm
Avg	**-.00045**
Stddev	.00006
%RSD	13.315
#1	-.00039
#2	-.00044
#3	-.00051
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	**54397.**	**63883.**
Stddev	72.	118.
%RSD	.13327	.18462
#1	54428.	63976.
#2	54448.	63750.
#3	54314.	63922.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041637 Acquired: 3/23/2011 19:43:26 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01206	96.454	.20495	.03001	2.5338	.01284	60.269
Stddev	.00096	.569	.00251	.00176	.0047	.00003	.159
%RSD	7.9944	.59000	1.2246	5.8621	.18706	.25516	.26337
#1	.01102	96.922	.20754	.03149	2.5286	.01287	60.118
#2	.01292	95.821	.20253	.03047	2.5349	.01281	60.252
#3	.01224	96.618	.20479	.02806	2.5379	.01284	60.435
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02532	.06343	.14191	.42679	203.66	13.277	.06951
Stddev	.00014	.00016	.00084	.00116	.58	.094	.00130
%RSD	.53838	.25512	.59117	.27135	.28384	.70610	1.8695
#1	.02534	.06329	.14273	.42812	203.12	13.185	.07095
#2	.02544	.06340	.14105	.42625	203.58	13.274	.06917
#3	.02517	.06361	.14196	.42599	204.27	13.372	.06842
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	16.264	8.6220	.01011	1.1248	.18106	1.6970	.01817
Stddev	.062	.0200	.00010	.0032	.00075	.0025	.00306
%RSD	.37842	.23194	.99304	.28153	.41412	.14995	16.853
#1	16.193	8.5989	.01000	1.1222	.18191	1.6999	.01927
#2	16.298	8.6332	.01019	1.1239	.18076	1.6954	.02053
#3	16.301	8.6340	.01014	1.1283	.18050	1.6956	.01471
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041637 Acquired: 3/23/2011 19:43:26 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00715	F 113.89	.04030	.44154	.17318	.00249	.33162
Stddev	.00166	.51	.00062	.00049	.00193	.00045	.00177
%RSD	23.221	.44717	1.5338	.11162	1.1151	18.034	.53496
#1	.00676	114.14	.03981	.44098	.17096	.00298	.33321
#2	.00896	114.22	.04009	.44177	.17423	.00211	.32970
#3	.00571	113.30	.04099	.44189	.17436	.00237	.33195
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	6.5246
Stddev	.0008
%RSD	.01170
#1	6.5248
#2	6.5253
#3	6.5238
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	54647.	65079.
Stddev	178.	287.
%RSD	.32575	.44063
#1	54453.	64755.
#2	54685.	65301.
#3	54803.	65180.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041638 Acquired: 3/23/2011 19:46:51 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01456	79.561	.20305	.04437	2.3375	.01202	67.949
Stddev	.00078	.848	.00413	.00114	.0119	.00004	.412
%RSD	5.3667	1.0656	2.0335	2.5782	.51024	.35108	.60585
#1	.01510	78.598	.20708	.04512	2.3238	.01202	67.473
#2	.01366	80.196	.20325	.04305	2.3441	.01198	68.186
#3	.01491	79.890	.19883	.04494	2.3447	.01207	68.187
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.06230	.06730	.13287	.48644	203.06	19.261	.05916
Stddev	.00004	.00006	.00131	.00223	1.05	.117	.00098
%RSD	.05779	.09207	.98444	.45759	.51886	.60608	1.6515
#1	.06229	.06736	.13321	.48868	201.86	19.131	.05955
#2	.06226	.06723	.13142	.48640	203.49	19.294	.05989
#3	.06234	.06729	.13397	.48423	203.84	19.358	.05805
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.032	8.2526	.01629	1.3866	.15907	2.6961	.01321
Stddev	.020	.0424	.00020	.0161	.00075	.0023	.00506
%RSD	.14538	.51373	1.2497	1.1590	.47241	.08412	38.268
#1	14.009	8.2051	.01651	1.3698	.15959	2.6972	.01146
#2	14.040	8.2866	.01625	1.3881	.15821	2.6935	.00926
#3	14.047	8.2660	.01610	1.4019	.15940	2.6976	.01891
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041638 Acquired: 3/23/2011 19:46:51 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00651	F 116.83	.06422	.47554	.20647	.00440	.28915
Stddev	.00078	.22	.00066	.00301	.00172	.00160	.00183
%RSD	12.024	.19128	1.0262	.63242	.83489	36.481	.63252
#1	.00676	116.57	.06392	.47213	.20450	.00307	.28758
#2	.00714	116.97	.06377	.47782	.20772	.00618	.28871
#3	.00563	116.94	.06498	.47667	.20718	.00394	.29116
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	17.947
Stddev	.020
%RSD	.11142
#1	17.969
#2	17.932
#3	17.939
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	54429.	65460.
Stddev	228.	509.
%RSD	.41796	.77744
#1	54490.	66007.
#2	54620.	65001.
#3	54178.	65372.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041638PS Acquired: 3/23/2011 19:50:16 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359533-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.21770**	**77.212**	**.37482**	**1.0285**	**2.6004**	**.03587**	**66.001**
Stddev	.00066	.748	.00181	.0030	.0331	.00006	.880
%RSD	.30512	.96941	.48201	.28888	1.2717	.17989	1.3337
#1	.21790	76.413	.37688	1.0282	2.5622	.03592	64.987
#2	.21696	77.898	.37351	1.0316	2.6200	.03580	66.564
#3	.21825	77.324	.37407	1.0257	2.6189	.03590	66.453
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.08098**	**.15984**	**.37093**	**.67762**	**183.25**	**41.820**	**.55336**
Stddev	.00023	.00052	.00219	.00257	2.46	.564	.01179
%RSD	.28936	.32348	.59029	.37890	1.3441	1.3475	2.1315
#1	.08085	.16009	.37342	.68024	180.40	41.171	.53989
#2	.08084	.15924	.36930	.67510	184.74	42.108	.55833
#3	.08125	.16018	.37007	.67752	184.60	42.182	.56185
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**17.274**	**7.6373**	**.53536**	**26.686**	**.38981**	**2.6540**	**.59472**
Stddev	.207	.0983	.00118	.403	.00106	.0065	.00544
%RSD	1.1959	1.2864	.21969	1.5100	.27115	.24458	.91404
#1	17.052	7.5243	.53412	26.220	.38860	2.6467	.59376
#2	17.460	7.7023	.53645	26.914	.39054	2.6561	.60057
#3	17.311	7.6854	.53553	26.923	.39028	2.6591	.58983
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041638PS Acquired: 3/23/2011 19:50:16 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359533-01

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.20525	F 285.17	.05809	.92645	.67069	.24541	.77572
Stddev	.00051	.57	.00046	.01279	.00934	.00184	.00105
%RSD	.24732	.19859	.78571	1.3808	1.3926	.74780	.13526
#1	.20499	284.56	.05860	.91199	.65998	.24673	.77678
#2	.20584	285.28	.05797	.93628	.67715	.24331	.77572
#3	.20492	285.68	.05771	.93109	.67493	.24618	.77468
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	16.529
Stddev	.017
%RSD	.10201
#1	16.546
#2	16.529
#3	16.512
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	54275.	64968.
Stddev	153.	557.
%RSD	.28097	.85779
#1	54103.	65539.
#2	54393.	64426.
#3	54330.	64940.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041638DL Acquired: 3/23/2011 19:53:39 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 5 Custom ID2: Custom ID3:
Comment: WG359533-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00330	16.587	.04131	.01090	.46231	.00243	13.678	.01291
Stddev	.00027	.073	.00478	.00105	.00014	.00002	.014	.00013
%RSD	8.2820	.44112	11.576	9.6698	.03085	.85238	.10144	.98769
#1	.00307	16.537	.03834	.01195	.46247	.00241	13.688	.01296
#2	.00360	16.671	.04683	.00984	.46219	.00245	13.662	.01277
#3	.00323	16.553	.03877	.01091	.46228	.00244	13.685	.01301
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01370	.02642	.10040	40.812	2.9579	.01015	2.9084	1.6745
Stddev	.00004	.00072	.00044	.091	.0253	.00175	.0220	.0014
%RSD	.32214	2.7302	.43557	.22292	.85473	17.199	.75508	.08527
#1	.01370	.02574	.09998	40.885	2.9490	.00822	2.9157	1.6756
#2	.01365	.02717	.10036	40.710	2.9864	.01163	2.9257	1.6729
#3	.01374	.02635	.10086	40.840	2.9383	.01058	2.8837	1.6750
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Si2124	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00330	.35475	.03242	.55885	.00457	.00218	22.065	.01319
Stddev	.00012	.01487	.00048	.00313	.00269	.00393	.194	.00029
%RSD	3.5573	4.1917	1.4782	.55925	58.886	180.52	.87745	2.2172
#1	.00344	.35980	.03195	.55545	.00619	.00630	22.020	.01327
#2	.00325	.36644	.03291	.55949	.00606	.00178	21.898	.01287
#3	.00321	.33801	.03239	.56160	.00146	-.00154	22.277	.01343
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041638DL Acquired: 3/23/2011 19:53:39 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 5 Custom ID2: Custom ID3:
Comment: WG359533-02

Elem	Sr4077	Ti3372	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm
Avg	.09557	.04195	.00326	.05837	3.7747
Stddev	.00054	.00244	.00147	.00014	.0048
%RSD	.56462	5.8218	45.008	.23561	.12696
#1	.09518	.04448	.00478	.05851	3.7792
#2	.09619	.03960	.00313	.05824	3.7754
#3	.09535	.04178	.00186	.05835	3.7696
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	57481.	67495.
Stddev	187.	309.
%RSD	.32498	.45778
#1	57658.	67834.
#2	57499.	67228.
#3	57286.	67424.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041638DL Acquired: 3/23/2011 19:57:05 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 25 Custom ID2: Custom ID3:
Comment: WG359533-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00035	3.2681	.00984	.00220	.09051	.00051	2.7448	.00262
Stddev	.00045	.0111	.00222	.00133	.00027	.00001	.0159	.00002
%RSD	127.00	.34018	22.554	60.680	.30073	1.2375	.57835	.74921
#1	.00007	3.2564	.00995	.00069	.09020	.00051	2.7390	.00262
#2	.00087	3.2695	.00756	.00267	.09072	.00051	2.7326	.00261
#3	.00012	3.2785	.01199	.00323	.09061	.00050	2.7627	.00264
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00252	.00507	.02093	8.0753	-.32524	.00048	.56133	.33340
Stddev	.00013	.00026	.00038	.0275	.02250	.00411	.01067	.00186
%RSD	5.0364	5.2101	1.8297	.34005	6.9177	852.14	1.9008	.55918
#1	.00254	.00483	.02123	8.0505	-.33305	-.00261	.55703	.33216
#2	.00264	.00535	.02105	8.0705	-.29987	.00514	.55348	.33250
#3	.00239	.00502	.02050	8.1048	-.34279	-.00108	.57348	.33555
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Si2124	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00069	.14364	.00565	.11256	.00032	.00275	2.5023	.00188
Stddev	.00008	.02130	.00027	.00193	.00194	.00257	.0474	.00032
%RSD	10.930	14.828	4.7283	1.7174	613.76	93.568	1.8937	16.872
#1	.00074	.16084	.00565	.11127	.00134	.00528	2.4628	.00166
#2	.00073	.11981	.00539	.11162	.00153	.00281	2.5549	.00174
#3	.00060	.15026	.00592	.11478	-.00192	.00015	2.4893	.00225
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041638DL Acquired: 3/23/2011 19:57:05 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 25 Custom ID2: Custom ID3:
Comment: WG359533-02

Elem	Sr4077	Ti3372	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm
Avg	.01885	.00960	.00328	.01194	.76406
Stddev	.00012	.00109	.00229	.00023	.00270
%RSD	.66115	11.353	69.777	1.9000	.35389
#1	.01879	.01085	.00552	.01211	.76128
#2	.01877	.00892	.00336	.01168	.76423
#3	.01900	.00902	.00095	.01201	.76668
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	57205.	67179.
Stddev	105.	284.
%RSD	.18418	.42233
#1	57266.	67488.
#2	57266.	67119.
#3	57084.	66930.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041639 Acquired: 3/23/2011 20:00:34 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01376	96.258	.19825	.04258	2.5709	.01297	73.329
Stddev	.00019	.290	.00260	.00133	.0130	.00002	.389
%RSD	1.3471	.30133	1.3105	3.1321	.50573	.17610	.52999
#1	.01364	95.925	.19579	.04225	2.5560	.01296	72.895
#2	.01367	96.396	.20097	.04143	2.5773	.01296	73.446
#3	.01397	96.454	.19799	.04404	2.5796	.01300	73.646
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05796	.07261	.13758	.42990	209.13	17.552	.07400
Stddev	.00005	.00030	.00122	.00333	1.14	.145	.00251
%RSD	.07895	.40801	.88618	.77505	.54292	.82698	3.3878
#1	.05801	.07293	.13748	.43336	207.88	17.384	.07161
#2	.05792	.07256	.13642	.42963	209.40	17.625	.07377
#3	.05795	.07235	.13885	.42672	210.10	17.645	.07661
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	17.076	9.1690	.01574	.76660	.18000	2.3234	.01490
Stddev	.170	.0593	.00015	.00432	.00022	.0066	.00238
%RSD	.99522	.64721	.97864	.56316	.12480	.28285	15.994
#1	16.883	9.1012	.01591	.76338	.17989	2.3307	.01681
#2	17.203	9.2117	.01569	.77151	.17986	2.3179	.01223
#3	17.141	9.1941	.01561	.76491	.18026	2.3215	.01565
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041639 Acquired: 3/23/2011 20:00:34 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01132	F 116.92	.04877	.51662	.19740	.00334	.32368
Stddev	.00242	.09	.00014	.00439	.00155	.00100	.00118
%RSD	21.410	.08117	.29354	.85014	.78527	29.884	.36563
#1	.00866	116.98	.04864	.51185	.19821	.00434	.32281
#2	.01189	116.97	.04892	.52050	.19838	.00333	.32320
#3	.01341	116.81	.04877	.51751	.19561	.00235	.32503
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	14.857
Stddev	.002
%RSD	.01176
#1	14.859
#2	14.858
#3	14.855
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	54577.	65224.
Stddev	97.	11.
%RSD	.17758	.01739
#1	54544.	65215.
#2	54687.	65220.
#3	54502.	65237.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041640 Acquired: 3/23/2011 20:03:58 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01284**	**83.297**	**.19019**	**.03006**	**2.3182**	**.01205**	**59.330**
Stddev	.00085	.601	.00235	.00007	.0083	.00004	.220
%RSD	6.6450	.72094	1.2346	.24260	.35978	.33470	.37041
#1	.01346	82.607	.18976	.03014	2.3094	.01201	59.084
#2	.01319	83.700	.19272	.03004	2.3192	.01209	59.397
#3	.01187	83.585	.18808	.03000	2.3260	.01205	59.508
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.05386**	**.06859**	**.12093**	**.37578**	**188.70**	**15.343**	**.06186**
Stddev	.00025	.00036	.00090	.00133	.88	.117	.00265
%RSD	.46533	.52221	.74563	.35281	.46442	.76285	4.2841
#1	.05363	.06824	.11997	.37718	187.73	15.224	.05892
#2	.05412	.06856	.12108	.37559	188.96	15.458	.06407
#3	.05381	.06896	.12176	.37455	189.42	15.348	.06259
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**14.908**	**9.9732**	**.01311**	**.65216**	**.15361**	**1.8120**	**.01273**
Stddev	.073	.0316	.00024	.01074	.00052	.0057	.00110
%RSD	.49179	.31697	1.8041	1.6475	.34114	.31226	8.6292
#1	14.823	9.9406	.01334	.64219	.15344	1.8173	.01147
#2	14.948	9.9752	.01286	.65075	.15319	1.8128	.01346
#3	14.953	10.004	.01313	.66354	.15419	1.8060	.01327
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041640 Acquired: 3/23/2011 20:03:58 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01038	F 107.33	.03032	.41981	.17281	.00519	.32998
Stddev	.00249	.34	.00066	.00169	.00123	.00175	.00079
%RSD	23.953	.31652	2.1849	.40367	.71182	33.747	.23797
#1	.01282	107.26	.03079	.41792	.17140	.00393	.32937
#2	.01047	107.70	.03061	.42033	.17338	.00720	.32970
#3	.00785	107.03	.02956	.42118	.17365	.00445	.33087
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	14.491
Stddev	.026
%RSD	.18241
#1	14.513
#2	14.498
#3	14.462
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	54402.	65591.
Stddev	112.	389.
%RSD	.20633	.59266
#1	54531.	66037.
#2	54348.	65323.
#3	54326.	65412.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041641 Acquired: 3/23/2011 20:07:24 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01459	96.304	.18872	.03101	2.4821	.01352	73.402
Stddev	.00111	.841	.00139	.00242	.0219	.00007	.553
%RSD	7.6310	.87356	.73509	7.8108	.88072	.50424	.75310
#1	.01567	95.449	.19032	.02875	2.4568	.01349	72.764
#2	.01344	96.333	.18802	.03357	2.4939	.01360	73.746
#3	.01466	97.130	.18782	.03071	2.4954	.01348	73.695
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02595	.12999	.14116	.39931	216.86	15.026	.06441
Stddev	.00016	.00030	.00015	.00318	1.82	.142	.00100
%RSD	.62102	.23335	.10278	.79536	.84110	.94464	1.5499
#1	.02611	.13005	.14100	.40297	214.75	14.865	.06355
#2	.02579	.13026	.14119	.39772	217.87	15.077	.06551
#3	.02593	.12966	.14129	.39726	217.94	15.135	.06418
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	17.721	10.769	.01227	1.0843	.17890	2.2864	.02167
Stddev	.151	.081	.00038	.0187	.00013	.0046	.00323
%RSD	.85413	.75672	3.0687	1.7290	.07439	.20141	14.896
#1	17.558	10.675	.01271	1.0691	.17877	2.2915	.02498
#2	17.749	10.812	.01207	1.1052	.17903	2.2853	.01853
#3	17.857	10.821	.01204	1.0786	.17890	2.2825	.02150
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041641 Acquired: 3/23/2011 20:07:24 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00969	F 117.63	.03900	.49580	.17582	.00493	.39032
Stddev	.00805	.21	.00061	.00246	.00123	.00190	.00089
%RSD	82.988	.18190	1.5583	.49697	.69878	38.491	.22882
#1	.01819	117.60	.03964	.49296	.17477	.00447	.38932
#2	.00218	117.86	.03844	.49724	.17717	.00330	.39060
#3	.00872	117.43	.03891	.49721	.17551	.00701	.39104
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	5.5965
Stddev	.0106
%RSD	.18847
#1	5.6048
#2	5.6001
#3	5.5846
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	53993.	65399.
Stddev	176.	442.
%RSD	.32589	.67615
#1	54031.	65873.
#2	53802.	65327.
#3	54148.	64997.

Approved: March 24, 2011
Pierce Morris

Sample Name: CCV Acquired: 3/23/2011 20:10:59 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.42288	9.8404	.40467	.52302	1.0286	.05136	10.284
Stddev	.00183	.0104	.00267	.00452	.0006	.00023	.025
%RSD	.43344	.10523	.66001	.86361	.05655	.43959	.24448
#1	.42076	9.8511	.40464	.51793	1.0288	.05110	10.267
#2	.42396	9.8304	.40201	.52656	1.0279	.05149	10.271
#3	.42391	9.8398	.40735	.52455	1.0290	.05150	10.313
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05186	.20488	.51661	.51291	3.9852	49.737	1.0209
Stddev	.00012	.00030	.00259	.00129	.0059	.069	.0020
%RSD	.23668	.14545	.50042	.25233	.14897	.13814	.19463
#1	.05174	.20509	.51394	.51200	3.9919	49.755	1.0199
#2	.05184	.20501	.51679	.51439	3.9832	49.662	1.0195
#3	.05199	.20454	.51910	.51235	3.9806	49.796	1.0231
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.5922	.49673	1.0361	51.299	.51407	.51134	1.2510
Stddev	.0431	.00248	.0041	.049	.00298	.00227	.0016
%RSD	.44953	.49983	.39172	.09642	.58022	.44400	.12549
#1	9.5616	.49715	1.0315	51.299	.51066	.50876	1.2510
#2	9.5734	.49406	1.0373	51.250	.51618	.51303	1.2494
#3	9.6415	.49898	1.0394	51.349	.51537	.51223	1.2526
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: March 24, 2011
Pierce Morris

Sample Name: CCV Acquired: 3/23/2011 20:10:59 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.40839	F 3.1767	1.0220	1.0329	1.0201	.51816	1.0463
Stddev	.00285	.1369	.0017	.0013	.0010	.00127	.0042
%RSD	.69872	4.3091	.16386	.12286	.09405	.24468	.39849
#1	.40791	3.0249	1.0202	1.0329	1.0190	.51689	1.0420
#2	.41145	3.2908	1.0223	1.0317	1.0207	.51817	1.0503
#3	.40580	3.2142	1.0235	1.0342	1.0206	.51942	1.0466
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value		5.0000					
Range		-10.000%					

Elem	Zn2062
Units	ppm
Avg	.98138
Stddev	.00096
%RSD	.09750
#1	.98028
#2	.98196
#3	.98191
Check ?	Chk Pass
Value	
Range	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	55098.	65370.
Stddev	180.	134.
%RSD	.32607	.20516
#1	55306.	65405.
#2	54994.	65483.
#3	54995.	65222.

Approved: March 24, 2011
Pierce Morris

Sample Name: CCB Acquired: 3/23/2011 20:14:20 Type: Blank
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00094	-.00408	.00150	.00157	-.00095	-.00001	.06214
Stddev	.00028	.00596	.00009	.00182	.00032	.00002	.02151
%RSD	30.381	146.01	6.0518	116.39	33.806	339.53	34.623
#1	-.00085	.00012	.00144	.00020	-.00080	.00002	.04508
#2	-.00071	-.01090	.00160	.00087	-.00132	-.00001	.08631
#3	-.00126	-.00146	.00145	.00364	-.00073	-.00003	.05503
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00015	.00018	.00012	-.00049	.01838	F -1.1782	-.00315
Stddev	.00016	.00013	.00006	.00024	.00371	.0264	.00238
%RSD	108.55	70.710	48.279	47.726	20.198	2.2373	75.711
#1	.00020	.00020	.00006	-.00023	.01786	-1.1529	-.00301
#2	-.00003	.00030	.00017	-.00069	.01496	-1.1760	-.00083
#3	.00028	.00005	.00012	-.00056	.02233	-1.2055	-.00559
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit						1.0000	
Low Limit						-1.0000	

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.01508	.00069	.00043	.08213	-.00006	-.00307	.00251
Stddev	.01970	.00011	.00014	.01798	.00050	.00064	.00110
%RSD	130.67	16.001	32.505	21.898	817.80	20.749	43.740
#1	-.03763	.00057	.00045	.10195	-.00002	-.00379	.00125
#2	-.00633	.00073	.00028	.07757	-.00059	-.00285	.00308
#3	-.00127	.00078	.00056	.06686	.00042	-.00258	.00322
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: CCB Acquired: 3/23/2011 20:14:20 Type: Blank
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00189	F -1.6988	.00149	-.00029	.00239	.00295	.00041
Stddev	.00306	.0379	.00032	.00016	.00037	.00281	.00019
%RSD	161.89	2.2332	21.746	55.181	15.423	95.174	48.108
#1	.00518	-1.7386	.00186	-.00045	.00197	.00439	.00018
#2	.00133	-1.6948	.00127	-.00031	.00256	.00474	.00051
#3	-.00085	-1.6630	.00134	-.00012	.00264	-.00029	.00053
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		1.0000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	-.00092
Stddev	.00089
%RSD	97.149
#1	-.00141
#2	-.00145
#3	.00011
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	55104.	65060.
Stddev	117.	136.
%RSD	.21189	.20875
#1	54969.	65134.
#2	55172.	65143.
#3	55171.	64903.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041642 Acquired: 3/23/2011 20:17:58 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01580	68.815	.17456	.03045	1.8273	.01106	75.090
Stddev	.00070	.386	.00009	.00264	.0171	.00003	.597
%RSD	4.4497	.56022	.04974	8.6728	.93707	.27042	.79501
#1	.01520	69.225	.17466	.02775	1.8076	.01107	74.401
#2	.01562	68.760	.17452	.03302	1.8363	.01103	75.408
#3	.01658	68.460	.17450	.03058	1.8381	.01108	75.460
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02363	.10008	.12150	.43671	181.23	6.8462	.05146
Stddev	.00008	.00030	.00139	.00295	1.50	.1113	.00329
%RSD	.34375	.30316	1.1455	.67496	.82570	1.6249	6.3890
#1	.02354	.10034	.12310	.44000	179.50	6.7190	.05127
#2	.02369	.09975	.12058	.43433	181.98	6.9253	.04828
#3	.02367	.10016	.12081	.43579	182.20	6.8943	.05485
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.971	10.357	.00942	.95639	.16640	2.4021	.04445
Stddev	.107	.097	.00015	.01014	.00165	.0028	.00254
%RSD	.82638	.93190	1.6036	1.0600	.99263	.11649	5.7107
#1	12.847	10.246	.00936	.94835	.16830	2.4053	.04670
#2	13.032	10.406	.00931	.96778	.16528	2.4008	.04170
#3	13.034	10.419	.00960	.95304	.16562	2.4003	.04494
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041642 Acquired: 3/23/2011 20:17:58 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01105	F 133.62	.33724	.45671	.16320	.00222	.34668
Stddev	.00136	1.15	.00132	.00356	.00251	.00135	.00185
%RSD	12.277	.85804	.39260	.78044	1.5404	60.804	.53386
#1	.00999	134.90	.33857	.45259	.16061	.00343	.34876
#2	.01258	133.27	.33723	.45884	.16338	.00248	.34521
#3	.01059	132.69	.33592	.45869	.16563	.00076	.34607
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	4.9876
Stddev	.0022
%RSD	.04362
#1	4.9883
#2	4.9852
#3	4.9894
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	54368.	65249.
Stddev	93.	232.
%RSD	.17129	.35495
#1	54272.	65075.
#2	54458.	65160.
#3	54375.	65512.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041643 Acquired: 3/23/2011 20:21:22 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01101	76.277	.15076	.02513	2.1113	.01161	394.86
Stddev	.00060	.158	.00382	.00184	.0122	.00004	2.08
%RSD	5.4651	.20705	2.5364	7.3248	.57662	.32651	.52634
#1	.01160	76.314	.14706	.02434	2.0973	.01165	396.78
#2	.01039	76.412	.15051	.02382	2.1191	.01159	392.65
#3	.01103	76.103	.15470	.02724	2.1176	.01158	395.16
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01703	.09225	.09710	.30200	170.38	7.7636	.06837
Stddev	.00007	.00042	.00129	.00224	.81	.0733	.00307
%RSD	.39783	.45404	1.3254	.74035	.47317	.94383	4.4960
#1	.01709	.09266	.09742	.30410	169.47	7.6982	.06558
#2	.01705	.09228	.09568	.30226	170.99	7.7499	.07166
#3	.01695	.09182	.09820	.29965	170.69	7.8428	.06787
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.994	12.862	.00925	1.3060	.15994	1.4290	.01860
Stddev	.122	.080	.00032	.0182	.00060	.0013	.00152
%RSD	.76448	.61825	3.4589	1.3940	.37218	.09358	8.1899
#1	15.855	12.770	.00934	1.2850	.16002	1.4304	.01995
#2	16.084	12.910	.00951	1.3179	.16050	1.4277	.01695
#3	16.044	12.905	.00889	1.3150	.15931	1.4290	.01890
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041643 Acquired: 3/23/2011 20:21:22 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00475	F 117.10	.02322	1.9993	.15595	.00332	.32865
Stddev	.00238	.47	.00034	.0133	.00138	.00187	.00154
%RSD	50.050	.39889	1.4498	.66467	.88457	56.197	.46769
#1	.00371	116.86	.02353	1.9840	.15466	.00308	.33040
#2	.00307	116.80	.02286	2.0056	.15741	.00529	.32801
#3	.00747	117.64	.02327	2.0082	.15578	.00158	.32754
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	3.3812
Stddev	.0068
%RSD	.20158
#1	3.3876
#2	3.3818
#3	3.3741
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	52490.	64839.
Stddev	69.	303.
%RSD	.13124	.46719
#1	52461.	65185.
#2	52568.	64713.
#3	52440.	64619.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041644 Acquired: 3/23/2011 20:24:57 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359280-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01448	90.473	.26535	.04781	3.5511	.01421	80.850
Stddev	.00013	.848	.00149	.00135	.0155	.00011	.339
%RSD	.92291	.93746	.56028	2.8176	.43656	.80749	.41941
#1	.01434	89.604	.26706	.04876	3.5332	.01414	80.488
#2	.01450	91.298	.26457	.04627	3.5610	.01434	81.161
#3	.01460	90.516	.26441	.04840	3.5590	.01414	80.900
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.04513	.09674	.15919	.99294	260.21	19.096	.06092
Stddev	.00015	.00017	.00008	.00419	1.41	.108	.00256
%RSD	.34172	.17873	.05323	.42202	.54301	.56532	4.1978
#1	.04519	.09685	.15914	.99673	258.61	18.972	.05807
#2	.04524	.09683	.15914	.99364	261.27	19.164	.06165
#3	.04495	.09654	.15928	.98844	260.76	19.153	.06303
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.773	10.173	.04136	1.3178	.22351	4.4392	.14995
Stddev	.036	.047	.00024	.0283	.00072	.0059	.00217
%RSD	.24370	.45831	.58341	2.1482	.32368	.13303	1.4459
#1	14.731	10.119	.04111	1.2851	.22279	4.4326	.15055
#2	14.794	10.204	.04159	1.3335	.22423	4.4412	.14754
#3	14.794	10.195	.04139	1.3348	.22351	4.4439	.15175
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041644 Acquired: 3/23/2011 20:24:57 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359280-01

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01118	F 144.42	.18115	.53508	.22917	.00383	.34429
Stddev	.00512	.76	.00107	.00299	.00212	.00008	.00144
%RSD	45.779	.52518	.58855	.55824	.92457	2.0156	.41870
#1	.01708	143.62	.18044	.53172	.22734	.00387	.34275
#2	.00839	144.50	.18238	.53744	.22867	.00388	.34561
#3	.00806	145.13	.18064	.53609	.23149	.00374	.34452
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	7.9251
Stddev	.0207
%RSD	.26117
#1	7.9409
#2	7.9326
#3	7.9017
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	53644.	64935.
Stddev	118.	472.
%RSD	.21932	.72673
#1	53738.	65421.
#2	53512.	64478.
#3	53681.	64906.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041645 Acquired: 3/23/2011 20:28:19 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359280-05

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.20194	83.886	.41665	.04524	3.0559	.01288	77.611
Stddev	.00161	.645	.00409	.00095	.0141	.00001	.411
%RSD	.79523	.76871	.98230	2.0897	.46278	.04508	.52973
#1	.20010	83.158	.41876	.04425	3.0405	.01288	77.189
#2	.20262	84.114	.41925	.04613	3.0592	.01289	77.634
#3	.20309	84.386	.41193	.04535	3.0682	.01288	78.010
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.06809	.07680	.16818	1.2507	222.75	17.972	.06026
Stddev	.00014	.00024	.00028	.0030	1.24	.020	.00231
%RSD	.20301	.31171	.16873	.24169	.55541	.11227	3.8266
#1	.06813	.07663	.16789	1.2528	221.50	17.995	.06251
#2	.06793	.07707	.16846	1.2521	222.77	17.965	.06037
#3	.06820	.07670	.16818	1.2472	223.97	17.956	.05790
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.811	7.8004	.02613	1.0491	.21769	3.9932	.04988
Stddev	.136	.0410	.00004	.0108	.00049	.0051	.00085
%RSD	.91760	.52531	.13842	1.0273	.22654	.12831	1.7085
#1	14.654	7.7576	.02613	1.0470	.21754	3.9876	.05083
#2	14.883	7.8043	.02617	1.0395	.21729	3.9946	.04918
#3	14.895	7.8392	.02610	1.0608	.21824	3.9975	.04963
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041645 Acquired: 3/23/2011 20:28:19 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359280-05

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00891	F 141.32	.16189	.48056	.23601	.00431	.32869
Stddev	.00463	.97	.00095	.00389	.00120	.00365	.00192
%RSD	51.983	.68707	.58986	.80977	.51040	84.667	.58486
#1	.01195	140.33	.16092	.47633	.23520	.00455	.32653
#2	.00358	141.38	.16191	.48134	.23545	.00055	.33022
#3	.01121	142.27	.16283	.48400	.23740	.00783	.32932
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	7.8157
Stddev	.0132
%RSD	.16885
#1	7.8141
#2	7.8296
#3	7.8034
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	53815.	64977.
Stddev	114.	243.
%RSD	.21113	.37358
#1	53802.	65245.
#2	53709.	64916.
#3	53935.	64771.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041646 Acquired: 3/23/2011 20:31:43 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359280-06

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.20285	81.682	.37391	.04090	2.8882	.01231	75.827
Stddev	.00102	.435	.00281	.00280	.0211	.00005	.568
%RSD	.50497	.53280	.75034	6.8523	.73136	.38296	.74951
#1	.20273	81.187	.37671	.03920	2.8650	.01227	75.172
#2	.20189	81.854	.37110	.03937	2.8936	.01237	76.130
#3	.20393	82.006	.37393	.04414	2.9062	.01230	76.181
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.06620	.07741	.15796	1.1834	216.69	17.546	.05911
Stddev	.00007	.00011	.00019	.0035	1.70	.168	.00252
%RSD	.10402	.13907	.12256	.29527	.78637	.95520	4.2560
#1	.06617	.07746	.15809	1.1869	214.75	17.360	.05851
#2	.06628	.07748	.15806	1.1834	217.38	17.686	.06187
#3	.06616	.07728	.15774	1.1799	217.94	17.592	.05694
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.710	8.1554	.01995	.91678	.21180	3.4683	.04112
Stddev	.107	.0629	.00021	.00923	.00050	.0069	.00086
%RSD	.72962	.77103	1.0504	1.0066	.23519	.20011	2.0903
#1	14.591	8.0834	.01971	.90903	.21123	3.4693	.04029
#2	14.740	8.1832	.02009	.92699	.21216	3.4609	.04106
#3	14.799	8.1995	.02005	.91431	.21200	3.4746	.04201
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041646 Acquired: 3/23/2011 20:31:43 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359280-06

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01063	F 139.69	.10993	.46044	.21691	.00385	.31842
Stddev	.00110	.52	.00075	.00296	.00202	.00350	.00193
%RSD	10.368	.37253	.68157	.64382	.92908	90.948	.60640
#1	.00944	139.14	.11010	.45702	.21647	.00490	.31625
#2	.01084	139.76	.11058	.46207	.21515	.00670	.31994
#3	.01162	140.17	.10911	.46223	.21911	-.00006	.31907
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	8.2810
Stddev	.0167
%RSD	.20211
#1	8.2960
#2	8.2840
#3	8.2629
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	53919.	65589.
Stddev	89.	175.
%RSD	.16524	.26663
#1	53983.	65736.
#2	53817.	65637.
#3	53958.	65396.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041647 Acquired: 3/23/2011 20:35:09 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01582	88.162	.20795	.02856	2.9647	.01294	61.014
Stddev	.00080	.271	.00285	.00069	.0244	.00001	.512
%RSD	5.0356	.30710	1.3689	2.4029	.82212	.08943	.83981
#1	.01511	88.165	.21097	.02808	2.9366	.01293	60.422
#2	.01566	88.432	.20756	.02826	2.9776	.01295	61.299
#3	.01668	87.890	.20532	.02935	2.9799	.01295	61.320
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.03685	.07832	.12145	.62694	187.17	13.846	.06288
Stddev	.00019	.00044	.00045	.00372	1.55	.133	.00227
%RSD	.52192	.56288	.36655	.59407	.82657	.96154	3.6124
#1	.03704	.07883	.12097	.63071	185.39	13.697	.06064
#2	.03665	.07814	.12186	.62684	187.97	13.889	.06518
#3	.03687	.07800	.12151	.62327	188.16	13.952	.06282
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.117	14.419	.01276	1.0026	.20069	2.2288	.03090
Stddev	.157	.120	.00025	.0065	.00044	.0020	.00333
%RSD	1.0394	.83019	1.9443	.65248	.21949	.08901	10.775
#1	14.940	14.281	.01297	.99758	.20091	2.2310	.02874
#2	15.168	14.492	.01248	1.0002	.20098	2.2272	.02922
#3	15.241	14.485	.01281	1.0100	.20018	2.2283	.03474
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041647 Acquired: 3/23/2011 20:35:09 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00782	F 98.649	.08845	.43648	.16845	.00377	.32170
Stddev	.00301	.179	.00068	.00308	.00216	.00172	.00142
%RSD	38.570	.18121	.76961	.70496	1.2847	45.731	.44191
#1	.00762	98.726	.08834	.43309	.16602	.00566	.32051
#2	.00491	98.445	.08782	.43910	.17016	.00228	.32328
#3	.01092	98.777	.08917	.43724	.16917	.00336	.32132
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	6.6664
Stddev	.0077
%RSD	.11564
#1	6.6708
#2	6.6709
#3	6.6575
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	54254.	65802.
Stddev	151.	241.
%RSD	.27756	.36653
#1	54382.	65780.
#2	54088.	65573.
#3	54294.	66054.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041648 Acquired: 3/23/2011 20:38:34 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01029**	**70.842**	**.13146**	**.02598**	**1.4976**	**.00854**	F **1202.4**
Stddev	.00073	.133	.00356	.00221	.0029	.00003	7.6
%RSD	7.1031	.18734	2.7110	8.5059	.19549	.31770	.63499
#1	.01056	70.863	.13299	.02419	1.4945	.00857	1199.1
#2	.00946	70.964	.13400	.02845	1.4979	.00854	1211.1
#3	.01085	70.701	.12739	.02531	1.5004	.00852	1197.0
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail
High Limit							900.00
Low Limit							-.10000

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.02333**	**.05910**	**.12142**	**.33139**	**159.88**	**12.389**	**.08913**
Stddev	.00004	.00012	.00068	.00281	.24	.130	.00156
%RSD	.18754	.20579	.55634	.84941	.15012	1.0523	1.7507
#1	.02329	.05924	.12206	.33309	159.60	12.243	.08736
#2	.02338	.05901	.12147	.33294	160.06	12.434	.08974
#3	.02331	.05905	.12072	.32814	159.96	12.491	.09030
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**27.254**	**5.1164**	**.01015**	**1.0064**	**.15386**	**1.4948**	**.01589**
Stddev	.099	.0112	.00060	.0068	.00050	.0100	.00268
%RSD	.36420	.21822	5.8710	.67637	.32409	.67061	16.850
#1	27.193	5.1042	.00986	1.0033	.15370	1.5009	.01813
#2	27.200	5.1261	.01083	1.0018	.15442	1.5003	.01292
#3	27.368	5.1188	.00975	1.0142	.15347	1.4833	.01661
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041648 Acquired: 3/23/2011 20:38:34 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00891	F 133.43	.03658	F 5.5195	.15398	.00424	.23270
Stddev	.00222	1.23	.00070	.0197	.00123	.00159	.00088
%RSD	24.901	.92079	1.9235	.35699	.79702	37.479	.37637
#1	.01087	134.68	.03602	5.5052	.15256	.00272	.23357
#2	.00935	133.40	.03636	5.5420	.15461	.00589	.23271
#3	.00650	132.22	.03737	5.5113	.15476	.00412	.23182
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000		4.5000			
Low Limit		-1.0000		-.01000			

Elem	Zn2062
Units	ppm
Avg	4.2313
Stddev	.0194
%RSD	.45943
#1	4.2422
#2	4.2429
#3	4.2088
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	50357.	63423.
Stddev	71.	171.
%RSD	.14039	.27008
#1	50276.	63569.
#2	50405.	63234.
#3	50391.	63465.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041701 Acquired: 3/23/2011 20:42:18 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01039	93.241	.13589	.02301	1.8963	.01061	286.33
Stddev	.00077	.516	.00230	.00034	.0123	.00005	1.19
%RSD	7.3939	.55292	1.6904	1.4950	.64987	.42774	.41521
#1	.00968	93.835	.13478	.02262	1.8823	.01063	285.01
#2	.01120	92.964	.13436	.02318	1.9014	.01056	286.66
#3	.01029	92.922	.13853	.02324	1.9053	.01064	287.32
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02065	.06576	.14847	.33171	181.84	9.2800	.06961
Stddev	.00002	.00030	.00060	.00217	1.07	.0388	.00293
%RSD	.11543	.45784	.40703	.65543	.58828	.41773	4.2143
#1	.02068	.06543	.14873	.33419	180.60	9.2631	.06671
#2	.02063	.06602	.14778	.33010	182.42	9.2525	.06954
#3	.02064	.06582	.14890	.33086	182.49	9.3243	.07258
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	18.702	5.3949	.00802	.76279	.16444	1.3427	.01544
Stddev	.113	.0388	.00031	.01152	.00038	.0020	.00099
%RSD	.60664	.71836	3.9041	1.5108	.22931	.14734	6.3993
#1	18.599	5.3515	.00772	.75358	.16488	1.3421	.01445
#2	18.682	5.4069	.00799	.77571	.16421	1.3410	.01545
#3	18.823	5.4262	.00835	.75908	.16424	1.3449	.01643
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041701 Acquired: 3/23/2011 20:42:18 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00931	F 133.59	.12508	1.3809	.16652	.00301	.28412
Stddev	.00442	.45	.00072	.0075	.00103	.00046	.00082
%RSD	47.430	.34003	.57251	.54472	.61981	15.185	.28691
#1	.01424	133.18	.12482	1.3752	.16535	.00352	.28335
#2	.00572	134.08	.12589	1.3781	.16690	.00288	.28404
#3	.00797	133.50	.12454	1.3894	.16731	.00263	.28497
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	3.5660
Stddev	.0052
%RSD	.14629
#1	3.5712
#2	3.5608
#3	3.5660
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	52820.	64732.
Stddev	129.	320.
%RSD	.24432	.49501
#1	52967.	64419.
#2	52770.	64718.
#3	52724.	65059.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041702 Acquired: 3/23/2011 20:45:43 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00630	94.824	.12314	.02363	1.6824	.01018	58.944
Stddev	.00042	.587	.00093	.00121	.0126	.00002	.386
%RSD	6.6796	.61933	.75768	5.1018	.74634	.17933	.65535
#1	.00677	94.243	.12221	.02234	1.6679	.01020	58.498
#2	.00594	94.812	.12407	.02381	1.6892	.01017	59.162
#3	.00620	95.417	.12313	.02473	1.6900	.01017	59.173
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01107	.06529	.15970	.28032	191.84	12.699	.06790
Stddev	.00008	.00040	.00060	.00244	1.60	.122	.00228
%RSD	.70153	.61717	.37680	.86914	.83643	.95758	3.3507
#1	.01099	.06547	.15978	.28309	189.99	12.567	.06692
#2	.01115	.06558	.15907	.27934	192.62	12.806	.06628
#3	.01106	.06483	.16027	.27853	192.91	12.724	.07050
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	16.043	4.3766	.00728	1.1130	.16267	1.1223	.01359
Stddev	.136	.0340	.00006	.0086	.00073	.0018	.00229
%RSD	.84848	.77739	.80375	.76850	.44784	.16125	16.865
#1	15.895	4.3379	.00731	1.1168	.16299	1.1230	.01099
#2	16.072	4.3902	.00732	1.1032	.16319	1.1203	.01446
#3	16.162	4.4017	.00721	1.1189	.16184	1.1237	.01532
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041702 Acquired: 3/23/2011 20:45:43 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00875**	F **123.10**	**.02033**	**.32550**	**.21146**	**.00102**	**.28676**
Stddev	.00391	.12	.00011	.00239	.00175	.00143	.00056
%RSD	44.659	.09922	.54133	.73419	.82734	140.07	.19684
#1	.00427	123.23	.02022	.32275	.20946	.00059	.28646
#2	.01057	122.98	.02035	.32682	.21272	-.00015	.28642
#3	.01143	123.10	.02043	.32695	.21220	.00261	.28742
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	**2.7027**
Stddev	.0019
%RSD	.07213
#1	2.7043
#2	2.7033
#3	2.7005
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	**54159.**	**65543.**
Stddev	53.	346.
%RSD	.09869	.52796
#1	54122.	65895.
#2	54220.	65530.
#3	54135.	65203.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041703 Acquired: 3/23/2011 20:49:08 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00473	130.76	.13095	.02134	1.9779	.01274	41.543
Stddev	.00048	.29	.00078	.00269	.0183	.00005	.380
%RSD	10.200	.22268	.59842	12.590	.92710	.41706	.91553
#1	.00472	130.97	.13009	.01836	1.9570	.01278	41.110
#2	.00425	130.88	.13117	.02207	1.9850	.01268	41.699
#3	.00521	130.42	.13161	.02359	1.9915	.01277	41.821
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00877	.22404	.15981	.26448	245.33	12.416	.09094
Stddev	.00013	.00045	.00097	.00217	2.13	.170	.00177
%RSD	1.4550	.20282	.60882	.82036	.86807	1.3709	1.9495
#1	.00868	.22429	.16090	.26694	242.88	12.219	.08917
#2	.00892	.22351	.15902	.26368	246.30	12.513	.09272
#3	.00873	.22431	.15950	.26283	246.79	12.515	.09093
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	18.794	9.8340	.00727	.61574	.20345	.77120	.00947
Stddev	.204	.0977	.00018	.01184	.00029	.00039	.00078
%RSD	1.0852	.99302	2.4311	1.9232	.14307	.05024	8.2536
#1	18.571	9.7226	.00738	.60798	.20365	.77141	.00904
#2	18.841	9.8749	.00707	.60988	.20359	.77075	.01037
#3	18.970	9.9046	.00737	.62937	.20312	.77144	.00899
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041703 Acquired: 3/23/2011 20:49:08 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00699	F 110.18	.01752	.28782	.19434	.00453	.35604
Stddev	.00155	.34	.00048	.00282	.00043	.00122	.00141
%RSD	22.128	.30589	2.7498	.98130	.22322	26.924	.39574
#1	.00815	110.57	.01706	.28460	.19387	.00447	.35644
#2	.00759	110.00	.01750	.28898	.19442	.00334	.35447
#3	.00524	109.97	.01802	.28987	.19473	.00578	.35720
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	2.5368
Stddev	.0008
%RSD	.03058
#1	2.5363
#2	2.5377
#3	2.5364
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	54381.	65915.
Stddev	11.	324.
%RSD	.01944	.49120
#1	54369.	66015.
#2	54384.	65553.
#3	54389.	66177.

Approved: March 24, 2011
Pierce Morris

Sample Name: CCV Acquired: 3/23/2011 20:52:42 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.42018	9.6952	.40362	.50938	1.0271	.05073	10.266
Stddev	.00172	.0532	.00399	.00210	.0010	.00019	.025
%RSD	.40871	.54910	.98740	.41297	.09543	.36678	.24609
#1	.42188	9.6340	.40105	.50705	1.0260	.05091	10.237
#2	.42021	9.7308	.40821	.50993	1.0279	.05075	10.284
#3	.41845	9.7208	.40161	.51115	1.0273	.05054	10.277
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05170	.20357	.51291	.51223	3.9846	49.912	1.0133
Stddev	.00019	.00059	.00157	.00063	.0059	.075	.0019
%RSD	.35863	.29173	.30658	.12302	.14847	.14965	.19212
#1	.05189	.20392	.51471	.51151	3.9914	49.948	1.0154
#2	.05152	.20391	.51218	.51263	3.9819	49.962	1.0129
#3	.05169	.20288	.51183	.51256	3.9805	49.826	1.0116
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.5768	.49525	1.0363	51.188	.51404	.51516	1.2465
Stddev	.0134	.00220	.0042	.037	.00217	.00052	.0009
%RSD	.13973	.44410	.40844	.07219	.42230	.10051	.07127
#1	9.5687	.49282	1.0314	51.212	.51156	.51488	1.2461
#2	9.5923	.49581	1.0384	51.207	.51563	.51485	1.2459
#3	9.5694	.49711	1.0390	51.146	.51491	.51576	1.2475
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: March 24, 2011
Pierce Morris

Sample Name: CCV Acquired: 3/23/2011 20:52:42 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.41160	F 3.3537	1.0175	1.0220	1.0102	.51956	1.0313
Stddev	.00376	.0802	.0025	.0029	.0012	.00469	.0010
%RSD	.91453	2.3902	.24551	.28701	.11985	.90228	.09726
#1	.40735	3.3529	1.0146	1.0187	1.0098	.51439	1.0322
#2	.41449	3.2739	1.0192	1.0230	1.0092	.52352	1.0316
#3	.41297	3.4343	1.0186	1.0243	1.0115	.52078	1.0302
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value		5.0000					
Range		-10.000%					

Elem	Zn2062
Units	ppm
Avg	.97924
Stddev	.00034
%RSD	.03476
#1	.97933
#2	.97887
#3	.97953
Check ?	Chk Pass
Value	
Range	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	55593.	65824.
Stddev	87.	336.
%RSD	.15620	.51051
#1	55494.	66211.
#2	55655.	65653.
#3	55631.	65607.

Approved: March 24, 2011
Pierce Morris

Sample Name: CCB Acquired: 3/23/2011 20:56:03 Type: Blank
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00035	-.00679	.00121	.00136	-.00091	.00000	.06800
Stddev	.00035	.00188	.00234	.00153	.00033	.0000	.01050
%RSD	99.305	27.609	193.14	113.17	36.205	2471.0	15.448
#1	-.00051	-.00465	.00392	.00310	-.00054	.00002	.07670
#2	.00005	-.00815	-.00004	.00075	-.00103	-.00004	.07096
#3	-.00059	-.00758	-.00023	.00022	-.00116	.00001	.05633
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00005	-.00011	-.00048	-.00016	.02617	F -1.1266	-.00206
Stddev	.00014	.00014	.00089	.00049	.00577	.0434	.00099
%RSD	263.48	126.61	186.06	308.01	22.047	3.8510	47.821
#1	.00018	-.00026	.00050	.00038	.03019	-1.0821	-.00318
#2	-.00009	-.00001	-.00124	-.00059	.01956	-1.1688	-.00132
#3	.00007	-.00005	-.00069	-.00027	.02877	-1.1290	-.00169
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit						1.0000	
Low Limit						-1.0000	

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.01417	.00109	.00017	.09851	.00035	-.00170	-.00013
Stddev	.01578	.00042	.00022	.01877	.00004	.00113	.00155
%RSD	111.37	38.713	125.64	19.056	10.213	66.425	1200.8
#1	-.03238	.00063	.00039	.08068	.00038	-.00209	-.00140
#2	-.00526	.00146	.00017	.11810	.00036	-.00258	-.00057
#3	-.00486	.00118	-.00004	.09675	.00031	-.00043	.00159
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: CCB Acquired: 3/23/2011 20:56:03 Type: Blank
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00219	F -1.9163	.00118	-.00019	.00278	.00210	.00031
Stddev	.00300	.0954	.00032	.00010	.00114	.00175	.00010
%RSD	136.90	4.9805	27.030	54.331	41.061	83.138	32.375
#1	.00556	-1.9188	.00104	-.00018	.00399	.00260	.00028
#2	.00118	-2.0105	.00155	-.00029	.00265	.00355	.00023
#3	-.00017	-1.8196	.00096	-.00009	.00172	.00016	.00042
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		1.0000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	-.00045
Stddev	.00029
%RSD	64.861
#1	-.00030
#2	-.00026
#3	-.00078
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	55913.	66413.
Stddev	117.	385.
%RSD	.20895	.57999
#1	55780.	66700.
#2	55996.	66563.
#3	55964.	65975.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041704 Acquired: 3/23/2011 20:59:40 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02548	99.545	.25994	.05314	2.0132	.01208	77.530
Stddev	.00038	1.193	.00498	.00442	.0195	.00010	.883
%RSD	1.4845	1.1988	1.9151	8.3268	.96751	.81255	1.1384
#1	.02571	98.891	.26022	.04803	1.9908	.01213	76.529
#2	.02504	98.822	.25482	.05576	2.0227	.01197	77.863
#3	.02568	100.92	.26477	.05563	2.0261	.01214	78.197
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.08445	.07791	.16070	.69652	268.09	20.996	.08155
Stddev	.00023	.00013	.00168	.00344	2.81	.270	.00416
%RSD	.27230	.17046	1.0440	.49369	1.0471	1.2861	5.1016
#1	.08470	.07786	.16111	.70048	264.87	20.691	.07788
#2	.08439	.07781	.15885	.69469	269.38	21.093	.08607
#3	.08426	.07806	.16213	.69438	270.02	21.204	.08070
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	16.705	7.2343	.02280	1.3004	.21401	4.1024	.02892
Stddev	.020	.0509	.00029	.0048	.00051	.0036	.00124
%RSD	.12186	.70404	1.2898	.36905	.24060	.08712	4.2987
#1	16.686	7.1763	.02251	1.2991	.21460	4.1065	.02937
#2	16.703	7.2543	.02280	1.3057	.21383	4.1002	.02752
#3	16.726	7.2721	.02310	1.2963	.21362	4.1004	.02988
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041704 Acquired: 3/23/2011 20:59:40 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01058	F 129.72	.06789	.47639	.24550	.00444	.33166
Stddev	.00352	.48	.00040	.00357	.00228	.00122	.00297
%RSD	33.244	.37212	.59153	.74924	.92789	27.471	.89624
#1	.00652	129.65	.06791	.47252	.24287	.00359	.33231
#2	.01277	129.27	.06828	.47710	.24690	.00390	.32842
#3	.01245	130.23	.06748	.47955	.24673	.00584	.33426
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	13.853
Stddev	.028
%RSD	.20111
#1	13.877
#2	13.859
#3	13.822
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	53219.	65246.
Stddev	207.	288.
%RSD	.38859	.44214
#1	53018.	65486.
#2	53431.	65327.
#3	53209.	64926.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041705 Acquired: 3/23/2011 21:03:05 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.04007	103.35	.38352	.05922	2.2384	.01356	68.384
Stddev	.00022	.27	.00281	.00170	.0144	.00004	.453
%RSD	.54777	.26406	.73159	2.8761	.64172	.29832	.66266
#1	.03991	103.04	.38031	.05950	2.2218	.01357	67.865
#2	.03997	103.46	.38549	.06077	2.2456	.01351	68.586
#3	.04032	103.55	.38476	.05740	2.2476	.01359	68.701
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.18550	.09151	.17112	.96284	327.93	18.214	.08207
Stddev	.00053	.00053	.00201	.00464	2.32	.160	.00222
%RSD	.28787	.57970	1.1762	.48229	.70897	.87894	2.7063
#1	.18522	.09211	.17303	.96778	325.25	18.041	.08020
#2	.18612	.09134	.16902	.96219	329.25	18.245	.08149
#3	.18517	.09109	.17130	.95856	329.30	18.356	.08453
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	16.304	9.4422	.02849	1.2114	.21860	6.2702	.03863
Stddev	.087	.0739	.00020	.0043	.00112	.0153	.00241
%RSD	.53591	.78269	.69211	.35716	.51227	.24325	6.2297
#1	16.204	9.3568	.02872	1.2109	.21844	6.2760	.04133
#2	16.344	9.4848	.02840	1.2073	.21757	6.2529	.03786
#3	16.365	9.4849	.02835	1.2159	.21980	6.2818	.03671
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041705 Acquired: 3/23/2011 21:03:05 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00884	F 136.51	.13159	.48699	.28136	.00724	.34247
Stddev	.00166	.89	.00022	.00333	.00445	.00177	.00101
%RSD	18.781	.65502	.16528	.68471	1.5802	24.400	.29583
#1	.00874	135.72	.13151	.48315	.27650	.00790	.34347
#2	.01055	136.34	.13184	.48911	.28236	.00858	.34144
#3	.00723	137.48	.13143	.48872	.28523	.00524	.34250
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	22.422
Stddev	.040
%RSD	.17862
#1	22.467
#2	22.408
#3	22.391
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	53923.	65710.
Stddev	118.	270.
%RSD	.21890	.41034
#1	53843.	66020.
#2	54059.	65531.
#3	53867.	65578.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041706 Acquired: 3/23/2011 21:06:28 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359280-~~01~~02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01386**	**102.96**	**.17041**	**.03075**	**2.0197**	**.01168**	**54.441**
Stddev	.00049	.80	.00192	.00211	.0183	.00007	.519
%RSD	3.5246	.77890	1.1266	6.8629	.90696	.57215	.95400
#1	.01365	102.34	.17121	.02846	1.9988	.01160	53.852
#2	.01441	102.68	.16822	.03261	2.0276	.01170	54.638
#3	.01351	103.87	.17180	.03118	2.0328	.01173	54.834
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.04170**	**.07730**	**.16218**	**.40146**	**227.24**	**18.953**	**.08290**
Stddev	.00024	.00022	.00034	.00530	2.25	.168	.00067
%RSD	.58198	.28988	.21147	1.3209	.99011	.88740	.80390
#1	.04165	.07737	.16183	.40756	224.66	18.762	.08345
#2	.04196	.07705	.16252	.39880	228.23	19.080	.08216
#3	.04148	.07748	.16219	.39801	228.82	19.016	.08309
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**18.144**	**6.9406**	**.01359**	**.51222**	**.19199**	**2.1261**	**.02213**
Stddev	.119	.0609	.00018	.01284	.00064	.0054	.00213
%RSD	.65853	.87754	1.3227	2.5059	.33093	.25592	9.6271
#1	18.007	6.8703	.01379	.49817	.19177	2.1240	.01968
#2	18.222	6.9731	.01353	.51518	.19149	2.1220	.02318
#3	18.205	6.9783	.01345	.52333	.19271	2.1322	.02353
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041706 Acquired: 3/23/2011 21:06:28 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359280-~~01~~02

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01117	F 128.16	.03418	.36558	.21428	.00292	.33471
Stddev	.00351	1.29	.00054	.00349	.00339	.00082	.00142
%RSD	31.399	1.0093	1.5920	.95359	1.5813	28.106	.42391
#1	.00713	126.94	.03357	.36156	.21037	.00213	.33585
#2	.01297	128.02	.03434	.36743	.21634	.00377	.33312
#3	.01340	129.51	.03462	.36776	.21612	.00286	.33515
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	6.7685
Stddev	.0067
%RSD	.09885
#1	6.7757
#2	6.7674
#3	6.7624
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	53751.	66107.
Stddev	34.	341.
%RSD	.06314	.51657
#1	53713.	66434.
#2	53761.	66136.
#3	53778.	65753.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041707S Acquired: 3/23/2011 21:09:53 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359280-~~04~~ 07

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.20298**	**96.907**	**.35574**	**.03315**	**2.2181**	**.01164**	**57.317**
Stddev	.00023	.624	.00446	.00193	.0168	.00003	.520
%RSD	.11213	.64369	1.2547	5.8094	.75700	.23293	.90681
#1	.20310	96.299	.35558	.03246	2.1987	.01166	56.722
#2	.20312	96.877	.35136	.03533	2.2264	.01161	57.548
#3	.20272	97.545	.36028	.03167	2.2290	.01166	57.682
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.07949**	**.13632**	**.12259**	**.65856**	**227.68**	**18.792**	**.07872**
Stddev	.00012	.00036	.00093	.00452	2.28	.164	.00057
%RSD	.15720	.26300	.75811	.68656	.99992	.87388	.72160
#1	.07938	.13667	.12297	.66352	225.11	18.604	.07936
#2	.07946	.13634	.12153	.65751	228.46	18.908	.07851
#3	.07963	.13596	.12327	.65466	229.46	18.865	.07828
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**18.012**	**12.536**	**.01214**	**.48462**	**.20819**	**2.5181**	**.01976**
Stddev	.048	.077	.00035	.01236	.00637	.0053	.00129
%RSD	.26510	.61576	2.8853	2.5504	3.0590	.20831	6.5393
#1	17.957	12.449	.01184	.47115	.20516	2.5239	.01845
#2	18.042	12.566	.01252	.48727	.21551	2.5137	.01981
#3	18.037	12.594	.01206	.49544	.20390	2.5168	.02103
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041707S Acquired: 3/23/2011 21:09:53 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359280-~~04~~07

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01249	F 132.77	.03804	.37149	.24447	.00532	.32788
Stddev	.00504	.13	.00084	.00149	.00154	.00086	.00082
%RSD	40.334	.09736	2.2000	.40234	.62993	16.102	.24969
#1	.01824	132.75	.03741	.36980	.24406	.00576	.32766
#2	.01039	132.65	.03899	.37207	.24318	.00588	.32878
#3	.00884	132.91	.03773	.37262	.24618	.00434	.32719
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	7.2557
Stddev	.0128
%RSD	.17675
#1	7.2568
#2	7.2679
#3	7.2424
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	53821.	65450.
Stddev	129.	326.
%RSD	.23951	.49763
#1	53802.	65815.
#2	53703.	65344.
#3	53959.	65190.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041708SD Acquired: 3/23/2011 21:13:19 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359280-~~05~~ 08

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.20591	96.728	.34830	.03954	1.9706	.01122	55.157
Stddev	.00056	.615	.00549	.00054	.0190	.00001	.504
%RSD	.27388	.63624	1.5763	1.3537	.96432	.11180	.91297
#1	.20540	96.148	.34258	.03902	1.9489	.01122	54.577
#2	.20583	96.663	.35352	.04009	1.9786	.01120	55.405
#3	.20652	97.373	.34882	.03951	1.9843	.01123	55.488
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.06506	.08280	.14519	.64326	225.06	18.904	.07624
Stddev	.00034	.00026	.00024	.00240	1.94	.230	.00230
%RSD	.51884	.31637	.16699	.37282	.86056	1.2141	3.0151
#1	.06538	.08296	.14540	.64592	222.83	18.643	.07473
#2	.06471	.08295	.14492	.64259	226.08	19.070	.07888
#3	.06510	.08250	.14524	.64127	226.28	19.001	.07510
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	17.683	7.4085	.01343	1.4313	.18236	2.4908	.01976
Stddev	.200	.0677	.00007	.0016	.00080	.0043	.00134
%RSD	1.1302	.91401	.53540	.11300	.44074	.17180	6.7680
#1	17.453	7.3305	.01349	1.4322	.18325	2.4957	.01852
#2	17.786	7.4524	.01345	1.4294	.18168	2.4886	.02118
#3	17.810	7.4426	.01335	1.4322	.18215	2.4880	.01960
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041708SD Acquired: 3/23/2011 21:13:19 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359280-~~05~~ 08

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00692	F 130.14	.03840	.36121	.25897	.00380	.30799
Stddev	.00055	.61	.00092	.00289	.00363	.00051	.00077
%RSD	7.9656	.47018	2.3865	.80034	1.4002	13.502	.25023
#1	.00710	130.64	.03741	.35790	.25482	.00321	.30722
#2	.00735	130.32	.03921	.36324	.26154	.00406	.30800
#3	.00630	129.46	.03858	.36249	.26054	.00413	.30876
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	6.6434
Stddev	.0065
%RSD	.09705
#1	6.6484
#2	6.6458
#3	6.6362
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	53344.	65056.
Stddev	86.	283.
%RSD	.16064	.43456
#1	53330.	65381.
#2	53266.	64916.
#3	53435.	64870.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041709 Acquired: 3/23/2011 21:16:44 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01573	111.96	.18556	.03001	2.2940	.01246	48.848
Stddev	.00017	.92	.00350	.00213	.0168	.00004	.403
%RSD	1.1012	.82109	1.8874	7.1063	.73017	.34383	.82565
#1	.01566	111.11	.18166	.02761	2.2747	.01241	48.386
#2	.01560	112.93	.18844	.03168	2.3046	.01246	49.130
#3	.01592	111.84	.18657	.03074	2.3028	.01250	49.028
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.04513	.10626	.14931	.49509	238.22	15.763	.08455
Stddev	.00022	.00026	.00054	.00332	1.96	.137	.00350
%RSD	.48337	.24571	.36131	.67143	.82337	.86789	4.1373
#1	.04492	.10641	.14868	.49850	235.97	15.608	.08194
#2	.04510	.10640	.14958	.49490	239.59	15.869	.08852
#3	.04536	.10596	.14965	.49186	239.10	15.811	.08319
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	17.800	10.227	.01180	.63297	.20064	2.2069	.02289
Stddev	.100	.065	.00031	.01226	.00124	.0058	.00325
%RSD	.56420	.63840	2.6687	1.9366	.61594	.26375	14.209
#1	17.716	10.152	.01167	.63891	.20162	2.2134	.02558
#2	17.911	10.272	.01157	.61888	.20104	2.2049	.01928
#3	17.773	10.257	.01216	.64113	.19925	2.2023	.02381
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041709 Acquired: 3/23/2011 21:16:44 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00699	F 107.87	.04406	.36176	.20928	.00266	.32923
Stddev	.00192	.51	.00047	.00294	.00123	.00054	.00160
%RSD	27.487	.47189	1.0616	.81168	.58865	20.220	.48719
#1	.00728	107.29	.04395	.35837	.20787	.00308	.32770
#2	.00876	108.12	.04365	.36330	.21013	.00206	.33090
#3	.00495	108.21	.04457	.36361	.20984	.00285	.32910
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	6.2744
Stddev	.0118
%RSD	.18803
#1	6.2865
#2	6.2738
#3	6.2630
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	53286.	64451.
Stddev	105.	420.
%RSD	.19736	.65103
#1	53381.	64811.
#2	53173.	63990.
#3	53304.	64551.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041710 Acquired: 3/23/2011 21:20:10 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02527	94.390	.35077	.05760	2.3230	.01064	92.375
Stddev	.00029	.439	.00312	.00327	.0240	.00003	.987
%RSD	1.1662	.46559	.88872	5.6717	1.0320	.23646	1.0687
#1	.02534	93.909	.34795	.05413	2.2956	.01066	91.257
#2	.02495	94.770	.35025	.05804	2.3337	.01065	92.744
#3	.02552	94.492	.35412	.06062	2.3399	.01061	93.125
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.07653	.11741	.13216	.71810	288.89	23.193	.07530
Stddev	.00040	.00020	.00098	.00422	2.98	.291	.00394
%RSD	.52100	.16630	.74521	.58812	1.0313	1.2542	5.2348
#1	.07699	.11736	.13223	.72277	285.48	22.869	.07772
#2	.07639	.11763	.13311	.71698	290.19	23.431	.07075
#3	.07623	.11725	.13114	.71455	291.00	23.278	.07742
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	18.226	11.279	.01810	1.0051	.24055	3.7217	.02605
Stddev	.157	.115	.00022	.0158	.00019	.0064	.00283
%RSD	.85995	1.0216	1.2155	1.5679	.07707	.17137	10.858
#1	18.047	11.146	.01830	.98705	.24075	3.7288	.02928
#2	18.290	11.334	.01786	1.0159	.24049	3.7198	.02403
#3	18.340	11.356	.01813	1.0124	.24040	3.7164	.02483
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041710 Acquired: 3/23/2011 21:20:10 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00995	F 129.91	.06909	.52928	.23826	.00586	.30952
Stddev	.00762	.29	.00065	.00591	.00137	.00178	.00026
%RSD	76.521	.22639	.93683	1.1173	.57656	30.437	.08259
#1	.00842	130.02	.06904	.52270	.23671	.00626	.30968
#2	.01822	130.14	.06848	.53099	.23932	.00741	.30922
#3	.00322	129.58	.06977	.53415	.23875	.00391	.30964
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	11.226
Stddev	.021
%RSD	.18354
#1	11.244
#2	11.230
#3	11.203
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	52550.	64628.
Stddev	168.	179.
%RSD	.32054	.27638
#1	52360.	64762.
#2	52610.	64425.
#3	52680.	64697.

Approved: March 24, 2011
Pierce Morris

Sample Name: CCV Acquired: 3/23/2011 21:23:39 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.42682	9.7201	.40263	.51982	1.0324	.05086	10.275
Stddev	.00056	.0345	.00101	.00200	.0003	.00002	.014
%RSD	.13176	.35543	.25155	.38533	.02782	.03209	.13561
#1	.42743	9.6833	.40159	.52183	1.0323	.05085	10.291
#2	.42633	9.7518	.40270	.51782	1.0327	.05084	10.268
#3	.42669	9.7253	.40361	.51981	1.0321	.05087	10.266
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05201	.20331	.51801	.51163	3.9670	50.151	1.0128
Stddev	.00021	.00071	.00089	.00169	.0217	.211	.0017
%RSD	.39986	.35081	.17214	.32965	.54716	.42131	.16963
#1	.05206	.20311	.51903	.50987	3.9917	49.925	1.0130
#2	.05178	.20410	.51761	.51177	3.9583	50.343	1.0144
#3	.05218	.20272	.51739	.51324	3.9511	50.186	1.0110
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.6038	.49598	1.0400	51.122	.51359	.50937	1.2485
Stddev	.0459	.00165	.0027	.014	.00158	.00246	.0030
%RSD	.47784	.33169	.25508	.02679	.30735	.48287	.24362
#1	9.5658	.49701	1.0383	51.106	.51212	.50654	1.2516
#2	9.6548	.49684	1.0387	51.131	.51340	.51059	1.2485
#3	9.5909	.49408	1.0431	51.129	.51526	.51098	1.2455
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: March 24, 2011
Pierce Morris

Sample Name: CCV Acquired: 3/23/2011 21:23:39 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.40573	F 3.2704	1.0171	1.0319	1.0040	.51877	1.0489
Stddev	.00328	.0764	.0047	.0031	.0039	.00501	.0036
%RSD	.80822	2.3346	.46623	.30231	.38779	.96589	.33919
#1	.40565	3.2148	1.0145	1.0294	1.0043	.51532	1.0519
#2	.40249	3.3575	1.0142	1.0354	.99987	.51648	1.0449
#3	.40905	3.2390	1.0226	1.0308	1.0076	.52452	1.0497
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value		5.0000					
Range		-10.000%					

Elem	Zn2062
Units	ppm
Avg	.96895
Stddev	.00021
%RSD	.02142
#1	.96917
#2	.96890
#3	.96877
Check ?	Chk Pass
Value	
Range	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	54978.	66225.
Stddev	20.	360.
%RSD	.03570	.54395
#1	54975.	66592.
#2	54999.	65872.
#3	54961.	66212.

Approved: March 24, 2011
Pierce Morris

Sample Name: CCB Acquired: 3/23/2011 21:27:01 Type: Blank
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00151	-.00381	.00012	.00046	-.00089	-.00001	.05243
Stddev	.00054	.00121	.00355	.00115	.00028	.00003	.00301
%RSD	36.112	31.652	2919.3	251.70	31.886	319.69	5.7480
#1	-.00092	-.00346	-.00039	.00013	-.00114	-.00004	.05079
#2	-.00161	-.00516	.00390	.00173	-.00058	.00000	.05058
#3	-.00200	-.00283	-.00315	-.00049	-.00096	.00002	.05590
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00011	-.00006	.00011	-.00043	.03986	F -1.1248	-.00234
Stddev	.00012	.00007	.00019	.00015	.00300	.0510	.00376
%RSD	105.70	120.70	169.89	35.779	7.5273	4.5305	160.51
#1	.00022	.00002	.00015	-.00060	.03783	-1.1361	-.00148
#2	-.00001	-.00012	-.00009	-.00030	.03845	-1.0691	.00091
#3	.00013	-.00007	.00027	-.00039	.04331	-1.1691	-.00645
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit						1.0000	
Low Limit						-1.0000	

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.03879	.00136	.00040	.09406	.00062	.00007	.00198
Stddev	.03075	.00047	.00031	.00473	.00095	.00201	.00007
%RSD	79.266	34.448	76.746	5.0282	153.26	2743.9	3.7191
#1	-.00729	.00100	.00075	.09743	.00171	.00038	.00205
#2	-.06873	.00119	.00030	.09609	.00023	.00192	.00200
#3	-.04035	.00189	.00016	.08865	-.00007	-.00207	.00190
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: CCB Acquired: 3/23/2011 21:27:01 Type: Blank
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00173	F -1.9688	.00164	-.00024	.00188	.00184	.00058
Stddev	.00306	.0336	.00005	.00005	.00141	.00182	.00030
%RSD	176.95	1.7084	3.1856	19.573	74.872	98.651	51.575
#1	.00462	-1.9693	.00160	-.00027	.00309	.00365	.00034
#2	.00204	-2.0021	.00162	-.00026	.00222	.00002	.00091
#3	-.00147	-1.9349	.00170	-.00018	.00034	.00186	.00049
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		1.0000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	-.00022
Stddev	.00003
%RSD	13.975
#1	-.00019
#2	-.00024
#3	-.00024
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	55462.	66625.
Stddev	158.	181.
%RSD	.28507	.27136
#1	55635.	66832.
#2	55426.	66541.
#3	55326.	66501.

Approved: March 24, 2011
Pierce Morris

Sample Name: PBS 6P Acquired: 3/23/2011 21:30:38 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359268-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00042**	**.00174**	**-.00072**	**.00091**	**-.00027**	**.00002**	**.12229**
Stddev	.00003	.00414	.00115	.00164	.00011	.00003	.01876
%RSD	6.2047	237.39	160.35	180.56	38.946	191.59	15.341
#1	-.00040	.00328	-.00016	-.00097	-.00022	-.00002	.14125
#2	-.00045	.00490	.00005	.00165	-.00039	.00002	.10373
#3	-.00041	-.00295	-.00204	.00204	-.00020	.00005	.12189
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00005**	**-.00018**	**.00212**	**.00614**	**.05836**	F **-.96820**	**-.00325**
Stddev	.00006	.00017	.00022	.00072	.00256	.04644	.00341
%RSD	122.64	97.392	10.391	11.709	4.3929	4.7964	105.01
#1	.00002	-.00035	.00238	.00693	.05677	-1.0210	-.00569
#2	.00011	.00000	.00202	.00594	.05700	-.95007	.00065
#3	.00001	-.00019	.00197	.00554	.06132	-.93356	-.00469
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit						315.00	
Low Limit						-.50000	

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00496**	**.00116**	**.00026**	**.11048**	**.00050**	**-.00056**	**.00323**
Stddev	.01323	.00046	.00023	.00746	.00020	.00066	.00139
%RSD	266.65	39.435	88.062	6.7530	40.626	117.20	42.943
#1	.01938	.00147	.00002	.11890	.00070	-.00037	.00209
#2	.00213	.00136	.00029	.10468	.00030	-.00130	.00282
#3	-.00663	.00063	.00047	.10786	.00049	-.00002	.00478
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: PBS 6P Acquired: 3/23/2011 21:30:38 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359268-02

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00198**	**-.20747**	**.00044**	**.00002**	**.00394**	**.00062**	**.00037**
Stddev	.00389	.10490	.00016	.00013	.00126	.00032	.00044
%RSD	196.90	50.563	36.574	678.12	31.889	52.154	120.23
#1	.00571	-.11539	.00062	-.00013	.00257	.00026	.00063
#2	-.00205	-.32167	.00038	.00011	.00421	.00089	.00062
#3	.00227	-.18536	.00032	.00008	.00503	.00071	-.00014
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Zn2062
Units	ppm
Avg	**.00339**
Stddev	.00018
%RSD	5.2282
#1	.00338
#2	.00357
#3	.00321
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	**53960.**	**64142.**
Stddev	200.	676.
%RSD	.37023	1.0537
#1	53785.	64502.
#2	53917.	63362.
#3	54177.	64561.

Approved: March 24, 2011
Pierce Morris

Sample Name: LCSS 6P Acquired: 3/23/2011 21:34:10 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359268-03

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.19930	-.00627	.18868	.00088	-.00070	.00002	.05557
Stddev	.00163	.00134	.00140	.00060	.00026	.00002	.00769
%RSD	.81636	21.384	.74152	68.807	37.449	119.68	13.836
#1	.19745	-.00757	.18910	.00132	-.00058	.00002	.04807
#2	.19999	-.00490	.18982	.00019	-.00053	.00004	.06343
#3	.20047	-.00633	.18712	.00112	-.00101	.00000	.05520
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02481	-.00023	-.00040	.24274	.03707	F -1.0537	-.00357
Stddev	.00013	.00008	.00028	.00088	.00179	.0349	.00201
%RSD	.52915	34.613	70.031	.36148	4.8364	3.3116	56.276
#1	.02480	-.00032	-.00010	.24353	.03664	-1.0556	-.00130
#2	.02495	-.00020	-.00066	.24289	.03554	-1.0875	-.00429
#3	.02469	-.00017	-.00045	.24179	.03904	-1.0178	-.00512
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit						315.00	
Low Limit						-.50000	

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00562	.23889	.00008	.10321	.00036	.24789	.00296
Stddev	.02470	.00162	.00011	.01952	.00034	.00133	.00153
%RSD	439.60	.67788	147.20	18.911	95.096	.53835	51.597
#1	-.02218	.23704	-.00005	.12555	.00026	.24902	.00177
#2	.01400	.23957	.00015	.09460	.00074	.24822	.00243
#3	.02504	.24005	.00014	.08947	.00008	.24642	.00469
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: LCSS 6P Acquired: 3/23/2011 21:34:10 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359268-03

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00318	-.82193	-.00044	-.00026	.00170	.00065	.00052
Stddev	.00318	.02620	.00016	.00005	.00085	.00220	.00006
%RSD	100.19	3.1881	37.510	17.590	50.037	339.08	12.106
#1	.00082	-.81206	-.00061	-.00027	.00249	-.00102	.00048
#2	.00191	-.85163	-.00029	-.00021	.00080	-.00017	.00049
#3	.00680	-.80209	-.00041	-.00030	.00183	.00313	.00059
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Zn2062
Units	ppm
Avg	.00286
Stddev	.00005
%RSD	1.7182
#1	.00291
#2	.00281
#3	.00285
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	53655.	63987.
Stddev	109.	376.
%RSD	.20308	.58795
#1	53781.	64215.
#2	53599.	63553.
#3	53585.	64193.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041519 Acquired: 3/23/2011 21:37:42 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02787	175.47	.34480	.07810	2.5194	.01323	98.907
Stddev	.00076	1.55	.00058	.00518	.0277	.00003	1.104
%RSD	2.7236	.88155	.16896	6.6354	1.0989	.21926	1.1163
#1	.02757	174.00	.34454	.07213	2.4877	.01320	97.652
#2	.02873	175.33	.34546	.08071	2.5311	.01324	99.340
#3	.02730	177.08	.34439	.08146	2.5392	.01326	99.728
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.11211	.09343	.24326	1.3173	310.49	22.724	.13165
Stddev	.00015	.00010	.00059	.0081	3.44	.209	.00271
%RSD	.13224	.10284	.24101	.61343	1.1079	.92091	2.0615
#1	.11228	.09348	.24394	1.3261	306.54	22.489	.13104
#2	.11200	.09349	.24299	1.3155	312.13	22.793	.12929
#3	.11205	.09332	.24286	1.3102	312.80	22.890	.13461
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	19.966	6.6262	.01930	1.3358	.22317	8.6533	.06960
Stddev	.139	.0739	.00001	.0143	.00037	.0133	.00206
%RSD	.69727	1.1153	.07681	1.0666	.16583	.15373	2.9617
#1	19.807	6.5417	.01932	1.3194	.22308	8.6569	.06994
#2	20.067	6.6579	.01929	1.3444	.22357	8.6644	.07147
#3	20.023	6.6789	.01930	1.3436	.22285	8.6386	.06739
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041519 Acquired: 3/23/2011 21:37:42 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01105	F 158.76	.19091	.56374	.26702	.00449	.47589
Stddev	.00223	.37	.00110	.00581	.00198	.00234	.00077
%RSD	20.217	.23506	.57761	1.0303	.74063	52.044	.16205
#1	.01073	158.37	.19016	.55717	.26518	.00593	.47595
#2	.01343	159.12	.19218	.56583	.26677	.00575	.47510
#3	.00900	158.79	.19040	.56821	.26911	.00179	.47663
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	23.787
Stddev	.068
%RSD	.28663
#1	23.852
#2	23.793
#3	23.716
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	52618.	64721.
Stddev	38.	203.
%RSD	.07251	.31367
#1	52608.	64946.
#2	52585.	64666.
#3	52659.	64551.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041520 Acquired: 3/23/2011 21:41:13 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00327	154.10	.13277	.03840	2.1205	.01248	41.388
Stddev	.00069	1.09	.00359	.00296	.0315	.00004	.604
%RSD	21.075	.70847	2.7009	7.7129	1.4869	.31355	1.4594
#1	.00361	152.89	.12993	.03565	2.0841	.01244	40.690
#2	.00248	155.01	.13680	.04153	2.1381	.01248	41.726
#3	.00372	154.40	.13158	.03802	2.1392	.01252	41.747
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00825	.06428	.23788	.20424	247.03	9.9487	.10149
Stddev	.00023	.00014	.00133	.00372	3.74	.1850	.00202
%RSD	2.8464	.21946	.55992	1.8211	1.5139	1.8592	1.9927
#1	.00825	.06436	.23680	.20830	242.71	9.7362	.10042
#2	.00849	.06412	.23748	.20345	249.13	10.036	.10023
#3	.00802	.06437	.23937	.20099	249.25	10.074	.10383
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	16.026	2.1849	.01304	2.2332	.10918	.73494	.01255
Stddev	.247	.0302	.00006	.0273	.00121	.00192	.00137
%RSD	1.5398	1.3846	.43671	1.2223	1.1089	.26093	10.923
#1	15.742	2.1500	.01299	2.2030	.10860	.73282	.01322
#2	16.183	2.2040	.01301	2.2562	.11057	.73655	.01346
#3	16.154	2.2007	.01310	2.2403	.10837	.73546	.01097
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041520 Acquired: 3/23/2011 21:41:13 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00970	F 195.30	.02640	.31758	.25205	.00016	.52263
Stddev	.00792	.67	.00032	.00373	.00420	.00183	.00169
%RSD	81.646	.34155	1.2286	1.1733	1.6650	1137.1	.32294
#1	.00648	195.52	.02674	.31328	.24731	.00034	.52189
#2	.00390	195.83	.02609	.31990	.25353	.00190	.52143
#3	.01872	194.55	.02636	.31956	.25530	-.00175	.52456
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	2.0223
Stddev	.0045
%RSD	.22284
#1	2.0185
#2	2.0212
#3	2.0273
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	53781.	66607.
Stddev	153.	422.
%RSD	.28455	.63314
#1	53919.	67011.
#2	53616.	66170.
#3	53807.	66639.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041520PS Acquired: 3/23/2011 21:44:46 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359396-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.21205	142.53	.30996	1.0223	2.4071	.03615	42.273
Stddev	.00100	3.13	.00219	.0036	.0422	.00018	.803
%RSD	.46958	2.1992	.70634	.35652	1.7520	.49345	1.8985
#1	.21263	138.92	.31150	1.0185	2.3590	.03609	41.376
#2	.21263	144.16	.31093	1.0258	2.4249	.03635	42.521
#3	.21090	144.51	.30745	1.0225	2.4375	.03600	42.923
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.03192	.15516	.46339	.42138	224.78	33.476	.57695
Stddev	.00010	.00023	.00250	.00381	3.95	.641	.01556
%RSD	.32103	.14867	.53874	.90511	1.7585	1.9136	2.6971
#1	.03194	.15510	.46391	.42571	220.31	32.749	.55919
#2	.03201	.15541	.46559	.41991	226.18	33.718	.58342
#3	.03181	.15496	.46068	.41852	227.83	33.960	.58822
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	18.887	2.1910	.53046	27.045	.34173	.89916	.59384
Stddev	.367	.0384	.00104	.472	.00140	.00147	.00234
%RSD	1.9419	1.7532	.19643	1.7458	.40925	.16347	.39329
#1	18.466	2.1470	.53165	26.514	.34334	.89879	.59371
#2	19.066	2.2080	.52970	27.205	.34093	.89791	.59624
#3	19.131	2.2179	.53004	27.416	.34091	.90078	.59157
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041520PS Acquired: 3/23/2011 21:44:46 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359396-01

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.19847	F 354.71	.02358	.77470	.69684	.23889	.98582
Stddev	.00335	1.80	.00048	.01305	.00938	.00271	.00526
%RSD	1.6877	.50685	2.0399	1.6843	1.3466	1.1333	.53354
#1	.20040	356.76	.02406	.75965	.68635	.24085	.98770
#2	.20042	353.98	.02357	.78167	.69974	.24003	.98988
#3	.19461	353.39	.02310	.78279	.70443	.23580	.97988
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	2.2813
Stddev	.0024
%RSD	.10476
#1	2.2786
#2	2.2833
#3	2.2819
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	53567.	66533.
Stddev	60.	1133.
%RSD	.11157	1.7029
#1	53603.	67841.
#2	53498.	65847.
#3	53601.	65912.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041520DL Acquired: 3/23/2011 21:48:18 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 5 Custom ID2: Custom ID3:
Comment: WG359396-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00067	32.183	.03024	.01017	.42262	.00254	8.4846	.00181
Stddev	.00038	.153	.00236	.00088	.00096	.00001	.0311	.00017
%RSD	56.474	.47561	7.8163	8.6056	.22746	.56624	.36639	9.1865
#1	.00078	32.141	.02751	.00950	.42274	.00253	8.4749	.00180
#2	.00025	32.353	.03173	.01116	.42351	.00255	8.5194	.00165
#3	.00098	32.056	.03148	.00986	.42160	.00255	8.4595	.00199
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01320	.04800	.04317	51.008	1.1103	.01992	3.2437	.44774
Stddev	.00047	.00073	.00058	.078	.0052	.00123	.0152	.00094
%RSD	3.5322	1.5112	1.3450	.15226	.46490	6.1960	.46752	.20998
#1	.01302	.04718	.04381	51.000	1.1105	.01948	3.2602	.44763
#2	.01373	.04854	.04301	51.089	1.1154	.01897	3.2407	.44873
#3	.01285	.04829	.04268	50.935	1.1051	.02132	3.2303	.44686
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Si2124	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00265	.51947	.02274	.15200	.00511	.00081	37.111	.00506
Stddev	.00017	.01391	.00048	.00184	.00077	.00499	.278	.00043
%RSD	6.3112	2.6776	2.1122	1.2097	15.121	614.13	.75027	8.5170
#1	.00282	.50344	.02226	.15412	.00561	.00509	37.422	.00513
#2	.00249	.52675	.02274	.15077	.00422	.00202	37.028	.00545
#3	.00264	.52823	.02322	.15112	.00549	-.00467	36.884	.00460
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041520DL Acquired: 3/23/2011 21:48:18 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 5 Custom ID2: Custom ID3:
Comment: WG359396-02

Elem	Sr4077	Ti3372	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm
Avg	**.06335**	**.05308**	**.00300**	**.10345**	**.42834**
Stddev	.00008	.00163	.00204	.00022	.00066
%RSD	.12995	3.0688	67.770	.21013	.15338
#1	.06343	.05341	.00407	.10325	.42796
#2	.06335	.05131	.00066	.10368	.42795
#3	.06326	.05451	.00428	.10341	.42910
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	**56821.**	**68038.**
Stddev	108.	444.
%RSD	.18942	.65280
#1	56945.	68419.
#2	56762.	67550.
#3	56756.	68145.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041520DL Acquired: 3/23/2011 21:51:44 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 25 Custom ID2: Custom ID3:
Comment: WG359396-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00021	6.2259	.00598	.00128	.08012	.00046	1.6440
Stddev	.00094	.0587	.00232	.00227	.00041	.00001	.0186
%RSD	459.90	.94370	38.838	177.97	.51286	1.5169	1.1303
#1	.00087	6.1822	.00853	.00167	.08017	.00047	1.6257
#2	-.00058	6.2029	.00544	-.00117	.07969	.00045	1.6629
#3	-.00090	6.2927	.00398	.00332	.08051	.00046	1.6435
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00035	.00261	.00903	.00846	9.7772	F -.76356	.00032
Stddev	.00016	.00014	.00050	.00076	.0125	.00892	.00069
%RSD	44.929	5.5101	5.5270	9.0157	.12819	1.1677	214.42
#1	.00019	.00275	.00920	.00896	9.7724	-.75654	-.00015
#2	.00050	.00261	.00846	.00883	9.7914	-.76055	.00000
#3	.00036	.00247	.00942	.00758	9.7678	-.77359	.00111
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit						315.00	
Low Limit						-.50000	

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.60764	.08654	.00047	.16747	.00486	.02831	.00162
Stddev	.00281	.00051	.00013	.01708	.00029	.00174	.00081
%RSD	.46223	.58696	27.034	10.201	5.9646	6.1387	50.118
#1	.60468	.08713	.00050	.15996	.00489	.02882	.00108
#2	.61027	.08621	.00032	.15543	.00456	.02637	.00255
#3	.60797	.08629	.00057	.18702	.00514	.02973	.00122
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041520DL Acquired: 3/23/2011 21:51:44 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 25 Custom ID2: Custom ID3:
Comment: WG359396-02

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00138**	**5.4339**	**.00079**	**.01191**	**.01097**	**.00290**	**.02025**
Stddev	.00387	.3632	.00033	.00012	.00138	.00121	.00042
%RSD	280.81	6.6843	41.913	.99186	12.607	41.649	2.0642
#1	-.00488	5.0205	.00041	.01185	.00952	.00415	.01982
#2	.00277	5.7020	.00099	.01183	.01113	.00174	.02065
#3	-.00203	5.5791	.00097	.01204	.01228	.00280	.02029
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Zn2062
Units	ppm
Avg	**.08654**
Stddev	.00060
%RSD	.69200
#1	.08591
#2	.08660
#3	.08710
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	**56908.**	**67356.**
Stddev	162.	453.
%RSD	.28533	.67268
#1	57093.	67869.
#2	56838.	67191.
#3	56792.	67009.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041521 Acquired: 3/23/2011 21:55:13 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.03330	175.56	.28312	.07422	2.7447	.01343	98.966
Stddev	.00070	1.66	.00403	.00503	.0341	.00006	1.278
%RSD	2.1031	.94804	1.4222	6.7781	1.2408	.45669	1.2916
#1	.03408	173.64	.28383	.06918	2.7054	.01342	97.505
#2	.03274	176.45	.28675	.07924	2.7620	.01337	99.516
#3	.03307	176.59	.27879	.07423	2.7665	.01349	99.877
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.15484	.09233	.24297	1.4616	312.75	24.214	.13305
Stddev	.00006	.00014	.00129	.0065	3.88	.326	.00261
%RSD	.04182	.14670	.52922	.44688	1.2394	1.3484	1.9622
#1	.15491	.09248	.24313	1.4687	308.29	23.841	.13027
#2	.15482	.09228	.24162	1.4605	314.64	24.352	.13545
#3	.15479	.09222	.24417	1.4558	315.31	24.448	.13344
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	19.735	7.5090	.02073	1.3250	.21194	11.034	.07999
Stddev	.251	.0909	.00028	.0147	.00097	.007	.00247
%RSD	1.2701	1.2106	1.3645	1.1078	.45589	.06167	3.0820
#1	19.468	7.4043	.02040	1.3083	.21299	11.041	.07763
#2	19.771	7.5547	.02087	1.3356	.21108	11.032	.07981
#3	19.965	7.5680	.02090	1.3312	.21174	11.028	.08255
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041521 Acquired: 3/23/2011 21:55:13 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01267	F 167.66	.20558	.60783	.27647	.00284	.43297
Stddev	.00399	.54	.00051	.00708	.00345	.00110	.00297
%RSD	31.484	.32168	.24913	1.1655	1.2483	38.712	.68697
#1	.00872	168.17	.20563	.59974	.27254	.00233	.43033
#2	.01258	167.09	.20505	.61076	.27904	.00410	.43239
#3	.01670	167.72	.20607	.61297	.27782	.00208	.43619
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	30.021
Stddev	.069
%RSD	.22904
#1	30.063
#2	30.059
#3	29.942
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	51783.	64257.
Stddev	18.	293.
%RSD	.03498	.45550
#1	51795.	64469.
#2	51762.	64379.
#3	51792.	63923.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041522 Acquired: 3/23/2011 21:58:44 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00808	223.13	.15670	.04662	3.0062	.01676	84.963
Stddev	.00078	2.15	.00134	.00224	.0291	.00007	.823
%RSD	9.6723	.96197	.85242	4.7980	.96926	.40104	.96917
#1	.00816	224.33	.15613	.04556	2.9732	.01683	84.046
#2	.00883	224.41	.15575	.04511	3.0173	.01675	85.205
#3	.00727	220.65	.15823	.04919	3.0282	.01669	85.639
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.04693	.08242	.26039	.55531	300.93	24.127	.15083
Stddev	.00006	.00030	.00143	.00546	2.86	.262	.00282
%RSD	.12686	.36932	.54993	.98331	.94926	1.0843	1.8680
#1	.04696	.08241	.26168	.56063	297.76	23.831	.14948
#2	.04697	.08212	.26064	.55559	301.73	24.220	.14895
#3	.04686	.08273	.25885	.54972	303.31	24.329	.15407
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.253	3.4669	.01785	1.1539	.17220	3.4466	.02897
Stddev	.154	.0280	.00013	.0362	.00077	.0033	.00085
%RSD	.61145	.80727	.73606	3.1378	.44619	.09553	2.9343
#1	25.087	3.4346	.01773	1.1291	.17263	3.4504	.02946
#2	25.392	3.4821	.01799	1.1373	.17265	3.4455	.02947
#3	25.280	3.4839	.01783	1.1955	.17131	3.4441	.02799
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041522 Acquired: 3/23/2011 21:58:44 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00424	F 167.32	.21341	.57802	.16741	.00208	.46445
Stddev	.00301	.09	.00126	.00412	.00218	.00293	.00076
%RSD	71.069	.05214	.58823	.71230	1.3003	141.22	.16467
#1	.00732	167.23	.21370	.57335	.16533	.00025	.46532
#2	.00409	167.40	.21203	.57958	.16721	.00546	.46412
#3	.00130	167.33	.21449	.58112	.16967	.00052	.46391
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	7.5381
Stddev	.0069
%RSD	.09115
#1	7.5451
#2	7.5314
#3	7.5379
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	52676.	65077.
Stddev	36.	170.
%RSD	.06811	.26144
#1	52664.	64890.
#2	52716.	65223.
#3	52648.	65117.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041523 Acquired: 3/23/2011 22:02:16 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.04013**	**100.59**	**.24832**	**.09932**	**2.0354**	**.00798**	F **3538.5**
Stddev	.00063	.21	.00187	.00289	.0054	.00008	69.2
%RSD	1.5698	.20982	.75213	2.9110	.26479	.97521	1.9569
#1	.03955	100.36	.25021	.10158	2.0292	.00794	3459.3
#2	.04004	100.78	.24647	.10031	2.0379	.00807	3587.6
#3	.04080	100.61	.24827	.09606	2.0391	.00793	3568.5
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail
High Limit							900.00
Low Limit							-.10000

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.07623**	**.07871**	**.19787**	**.66487**	**237.35**	**14.893**	**.20753**
Stddev	.00029	.00059	.00018	.00326	.61	.129	.00126
%RSD	.38245	.74804	.09048	.48981	.25900	.86676	.60474
#1	.07639	.07915	.19797	.66779	236.64	14.917	.20809
#2	.07641	.07895	.19766	.66547	237.63	15.009	.20609
#3	.07590	.07805	.19797	.66136	237.77	14.754	.20841
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**62.004**	**7.8846**	**.01850**	**24.775**	**.20544**	**7.9326**	**.03719**
Stddev	.141	.0138	.00058	.091	.00114	.0250	.00156
%RSD	.22760	.17506	3.1149	.36865	.55678	.31538	4.1910
#1	61.844	7.8714	.01915	24.674	.20624	7.9534	.03542
#2	62.056	7.8834	.01831	24.851	.20594	7.9396	.03836
#3	62.112	7.8989	.01805	24.799	.20413	7.9049	.03779
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041523 Acquired: 3/23/2011 22:02:16 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00569	F 207.78	.11257	F 17.665	.20553	.00574	.29806
Stddev	.00422	1.37	.00124	.061	.00025	.00124	.00134
%RSD	74.240	.65986	1.0978	.34752	.12083	21.556	.44881
#1	.00308	209.06	.11383	17.596	.20579	.00604	.29777
#2	.01056	207.95	.11250	17.713	.20548	.00438	.29951
#3	.00343	206.34	.11136	17.686	.20530	.00681	.29688
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000		4.5000			
Low Limit		-1.0000		-.01000			

Elem	Zn2062
Units	ppm
Avg	11.941
Stddev	.038
%RSD	.32019
#1	11.962
#2	11.965
#3	11.897
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	45678.	62170.
Stddev	148.	49.
%RSD	.32324	.07905
#1	45621.	62127.
#2	45568.	62223.
#3	45846.	62158.

Approved: March 24, 2011
Pierce Morris

Sample Name: CCV Acquired: 3/23/2011 22:06:01 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.42915**	**9.6146**	**.40077**	**.52110**	**1.0315**	**.05066**	F **11.192**
Stddev	.00284	.0531	.00074	.00296	.0013	.00012	1.321
%RSD	.66202	.55234	.18466	.56884	.12718	.23770	11.807
#1	.43224	9.5585	.40154	.52440	1.0323	.05080	12.718
#2	.42666	9.6214	.40006	.51867	1.0300	.05058	10.448
#3	.42854	9.6641	.40071	.52024	1.0323	.05060	10.410
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail
Value							10.000
Range							10.000%

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.05183**	**.20286**	**.51650**	**.51149**	**4.0171**	**50.125**	**1.0129**
Stddev	.00002	.00033	.00172	.00079	.1144	.155	.0003
%RSD	.04750	.16160	.33395	.15526	2.8484	.31010	.02669
#1	.05183	.20324	.51838	.51159	4.1491	50.045	1.0128
#2	.05186	.20267	.51613	.51064	3.9558	50.026	1.0132
#3	.05181	.20268	.51499	.51222	3.9463	50.305	1.0127
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**9.4295**	**.49075**	**1.0384**	**51.244**	**.51306**	**.50915**	**1.2512**
Stddev	.0184	.00383	.0016	.014	.00083	.00333	.0003
%RSD	.19557	.78042	.15153	.02749	.16154	.65341	.02493
#1	9.4379	.49517	1.0400	51.258	.51334	.51078	1.2516
#2	9.4084	.48832	1.0369	51.245	.51212	.50532	1.2511
#3	9.4423	.48877	1.0383	51.230	.51371	.51135	1.2510
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: March 24, 2011
Pierce Morris

Sample Name: CCV Acquired: 3/23/2011 22:06:01 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.40732	F 3.3485	1.0138	1.0288	1.0010	.52036	1.0502
Stddev	.00203	.1467	.0013	.0089	.0039	.00166	.0036
%RSD	.49829	4.3802	.13153	.86681	.38415	.31956	.34041
#1	.40885	3.4664	1.0123	1.0391	1.0041	.51845	1.0543
#2	.40809	3.1843	1.0150	1.0235	1.0022	.52118	1.0484
#3	.40502	3.3948	1.0141	1.0238	.99667	.52145	1.0478
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value		5.0000					
Range		-10.000%					

Elem	Zn2062
Units	ppm
Avg	.96678
Stddev	.00009
%RSD	.00930
#1	.96674
#2	.96688
#3	.96672
Check ?	Chk Pass
Value	
Range	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	54055.	65993.
Stddev	81.	549.
%RSD	.15001	.83116
#1	54032.	66557.
#2	54145.	65960.
#3	53988.	65461.

Approved: March 24, 2011
Pierce Morris

Sample Name: CCB Acquired: 3/23/2011 22:09:23 Type: Blank
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00055	.00357	.00181	.00101	-.00074	.00000	.15291
Stddev	.00020	.00256	.00321	.00114	.00036	.0000	.01399
%RSD	36.324	71.682	177.82	113.10	48.624	1838.7	9.1507
#1	-.00047	.00370	-.00146	-.00010	-.00116	-.00002	.15149
#2	-.00041	.00095	.00192	.00218	-.00058	.00000	.16756
#3	-.00078	.00606	.00496	.00096	-.00049	.00002	.13968
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00035	-.00008	.00035	-.00021	.04055	F -1.1534	-.00309
Stddev	.00011	.00023	.00019	.00069	.00123	.0502	.00162
%RSD	30.592	289.22	55.066	327.31	3.0293	4.3517	52.439
#1	.00039	-.00034	.00029	-.00049	.03944	-1.1079	-.00450
#2	.00023	.00003	.00019	.00058	.04035	-1.1450	-.00346
#3	.00043	.00008	.00056	-.00072	.04187	-1.2072	-.00132
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit						1.0000	
Low Limit						-1.0000	

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.03380	.00128	.00037	.10692	.00053	-.00149	.00163
Stddev	.01292	.00051	.00012	.00471	.00009	.00122	.00173
%RSD	38.227	40.182	31.443	4.4063	16.965	81.918	105.72
#1	-.01997	.00082	.00026	.10233	.00057	-.00009	.00334
#2	-.04557	.00183	.00035	.10669	.00043	-.00208	.00166
#3	-.03586	.00118	.00049	.11175	.00059	-.00231	-.00011
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: CCB Acquired: 3/23/2011 22:09:23 Type: Blank
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00429**	F **-1.7148**	**.00153**	**.00017**	**.00281**	**.00307**	**.00080**
Stddev	.00068	.2017	.00054	.00010	.00042	.00073	.00042
%RSD	15.783	11.760	35.059	55.143	14.857	23.610	52.687
#1	.00464	-1.8138	.00139	.00028	.00304	.00248	.00123
#2	.00351	-1.8479	.00212	.00014	.00307	.00285	.00038
#3	.00471	-1.4828	.00108	.00010	.00233	.00388	.00079
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		1.0000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	**.00103**
Stddev	.00017
%RSD	16.109
#1	.00102
#2	.00087
#3	.00120
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	**54593.**	**65294.**
Stddev	39.	350.
%RSD	.07068	.53575
#1	54608.	65617.
#2	54622.	65344.
#3	54550.	64922.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041524 Acquired: 3/23/2011 22:12:58 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01879	149.03	.20203	.06710	2.1549	.01187	251.33
Stddev	.00034	2.09	.00113	.00233	.0263	.00004	3.11
%RSD	1.8079	1.4018	.56056	3.4782	1.2187	.35050	1.2371
#1	.01850	147.02	.20271	.06474	2.1252	.01190	247.76
#2	.01917	151.19	.20265	.06717	2.1646	.01182	252.85
#3	.01870	148.90	.20072	.06941	2.1750	.01188	253.39
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05915	.16022	.24973	.66790	275.15	13.133	.13075
Stddev	.00011	.00026	.00104	.00480	3.19	.180	.00378
%RSD	.19091	.16277	.41771	.71856	1.1601	1.3690	2.8912
#1	.05902	.16052	.25046	.67295	271.47	12.928	.12665
#2	.05917	.16009	.25019	.66735	276.73	13.207	.13409
#3	.05925	.16006	.24853	.66340	277.23	13.264	.13151
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.186	6.9426	.01955	23.997	.19029	2.9244	.02812
Stddev	.280	.0794	.00004	.311	.00193	.0117	.00151
%RSD	1.1132	1.1431	.20028	1.2971	1.0142	.40089	5.3615
#1	24.914	6.8558	.01950	23.638	.19236	2.9292	.02683
#2	25.170	6.9606	.01957	24.161	.18999	2.9330	.02776
#3	25.474	7.0114	.01957	24.193	.18853	2.9111	.02978
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041524 Acquired: 3/23/2011 22:12:58 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00695	F 156.78	.17520	1.1644	.29919	.00447	.43020
Stddev	.00466	1.31	.00110	.0119	.00411	.00088	.00042
%RSD	67.010	.83474	.62882	1.0217	1.3730	19.599	.09773
#1	.00158	157.57	.17452	1.1512	.29452	.00346	.43041
#2	.00989	157.50	.17647	1.1678	.30076	.00492	.42971
#3	.00939	155.27	.17461	1.1742	.30227	.00504	.43047
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	12.812
Stddev	.020
%RSD	.15414
#1	12.827
#2	12.820
#3	12.790
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	51144.	64319.
Stddev	94.	718.
%RSD	.18340	1.1163
#1	51036.	65094.
#2	51204.	63676.
#3	51193.	64186.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041525 Acquired: 3/23/2011 22:16:31 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02784	192.16	.24288	.03989	3.3294	.01330	75.401
Stddev	.00035	2.17	.00425	.00487	.0445	.00005	.932
%RSD	1.2441	1.1305	1.7514	12.218	1.3361	.40152	1.2366
#1	.02824	189.76	.23911	.03442	3.2784	.01329	74.335
#2	.02765	192.73	.24203	.04146	3.3491	.01325	75.804
#3	.02764	193.99	.24749	.04378	3.3606	.01336	76.065
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.06305	.09501	.21870	.62522	280.41	13.467	.13313
Stddev	.00030	.00024	.00080	.00619	3.27	.219	.00594
%RSD	.47549	.25159	.36766	.98935	1.1664	1.6296	4.4595
#1	.06337	.09527	.21962	.63194	276.64	13.219	.12741
#2	.06301	.09496	.21818	.62397	282.04	13.543	.13271
#3	.06277	.09479	.21829	.61976	282.53	13.638	.13926
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	19.985	6.2061	.01439	2.0959	.16229	6.6539	.06548
Stddev	.408	.0957	.00034	.0238	.00035	.0078	.00185
%RSD	2.0391	1.5421	2.3409	1.1362	.21829	.11705	2.8259
#1	19.515	6.0964	.01442	2.0717	.16267	6.6619	.06664
#2	20.208	6.2495	.01470	2.0965	.16223	6.6463	.06645
#3	20.232	6.2724	.01403	2.1193	.16197	6.6534	.06335
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041525 Acquired: 3/23/2011 22:16:31 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01286	F 170.65	.17827	.49110	.21951	.00120	.44726
Stddev	.00131	.93	.00063	.00865	.00154	.00119	.00174
%RSD	10.160	.54512	.35247	1.7623	.70326	99.357	.38819
#1	.01229	171.49	.17756	.48120	.21804	.00004	.44562
#2	.01193	169.65	.17873	.49486	.22112	.00242	.44907
#3	.01435	170.80	.17854	.49723	.21938	.00114	.44708
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	16.100
Stddev	.030
%RSD	.18632
#1	16.124
#2	16.110
#3	16.067
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	51794.	64348.
Stddev	56.	637.
%RSD	.10814	.98942
#1	51855.	65082.
#2	51746.	64016.
#3	51780.	63946.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041526 Acquired: 3/23/2011 22:20:02 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02858	185.28	.31413	.04007	4.6697	.01635	76.012
Stddev	.00032	.56	.00188	.00342	.0600	.00008	.945
%RSD	1.1219	.30078	.59998	8.5297	1.2841	.50942	1.2426
#1	.02823	184.65	.31623	.03654	4.6016	.01631	74.933
#2	.02865	185.49	.31357	.04030	4.6931	.01645	76.410
#3	.02886	185.70	.31258	.04336	4.7144	.01630	76.691
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.12629	.13196	.23066	1.4815	340.07	21.921	.13467
Stddev	.00060	.00022	.00132	.0067	3.96	.305	.00101
%RSD	.47233	.16797	.57191	.45538	1.1658	1.3904	.74964
#1	.12682	.13190	.22925	1.4893	335.58	21.572	.13581
#2	.12640	.13221	.23187	1.4778	341.50	22.053	.13391
#3	.12565	.13178	.23086	1.4774	343.11	22.137	.13428
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	19.829	8.0880	.02278	1.1912	.21135	8.5616	.10445
Stddev	.301	.1100	.00024	.0110	.00096	.0348	.00337
%RSD	1.5204	1.3596	1.0514	.92340	.45565	.40663	3.2283
#1	19.522	7.9665	.02252	1.1822	.21228	8.5981	.10186
#2	19.840	8.1167	.02300	1.1879	.21142	8.5581	.10827
#3	20.124	8.1807	.02282	1.2034	.21036	8.5287	.10323
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041526 Acquired: 3/23/2011 22:20:02 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00809	F 160.02	.13613	.50107	.16906	.00522	.48360
Stddev	.00628	.99	.00018	.00676	.00139	.00104	.00089
%RSD	77.642	.61800	.13542	1.3498	.82227	19.998	.18419
#1	.01532	160.86	.13634	.49357	.16820	.00403	.48326
#2	.00390	160.26	.13602	.50293	.16832	.00597	.48461
#3	.00506	158.93	.13602	.50671	.17067	.00566	.48292
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	28.198
Stddev	.028
%RSD	.09790
#1	28.221
#2	28.205
#3	28.167
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	52271.	65402.
Stddev	30.	466.
%RSD	.05771	.71263
#1	52250.	65903.
#2	52256.	65320.
#3	52305.	64982.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041527 Acquired: 3/23/2011 22:23:34 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01134	229.84	.23590	.06600	4.2298	.01798	103.27
Stddev	.00021	2.94	.00207	.00390	.0488	.00013	1.12
%RSD	1.8803	1.2801	.87897	5.9153	1.1528	.72625	1.0849
#1	.01109	226.56	.23436	.06236	4.1754	.01809	102.04
#2	.01147	232.25	.23826	.06550	4.2445	.01801	103.55
#3	.01145	230.70	.23508	.07012	4.2695	.01784	104.23
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.09364	.11201	.30067	1.3343	388.45	36.253	.15051
Stddev	.00045	.00021	.00170	.0051	1.31	.423	.00048
%RSD	.47886	.19012	.56584	.38516	.33649	1.1668	.31777
#1	.09367	.11225	.30255	1.3387	386.98	35.781	.15047
#2	.09407	.11187	.30023	1.3355	389.48	36.379	.15101
#3	.09318	.11191	.29924	1.3286	388.89	36.599	.15006
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	27.905	7.4901	.02245	2.1231	.27510	10.993	.09126
Stddev	.396	.0964	.00003	.0365	.00196	.019	.00177
%RSD	1.4204	1.2870	.12708	1.7207	.71276	.17515	1.9353
#1	27.539	7.3853	.02247	2.1039	.27319	10.977	.09307
#2	27.850	7.5099	.02242	2.1002	.27711	11.014	.09116
#3	28.326	7.5751	.02247	2.1652	.27499	10.989	.08954
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041527 Acquired: 3/23/2011 22:23:34 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01234	F 178.77	.38333	.84425	.25866	.00304	.58296
Stddev	.00449	.48	.00059	.01153	.00410	.00138	.00344
%RSD	36.414	.27115	.15403	1.3658	1.5857	45.364	.59017
#1	.01431	178.29	.38401	.83174	.25424	.00241	.58635
#2	.01550	179.26	.38304	.84653	.25939	.00209	.58306
#3	.00720	178.75	.38294	.85446	.26235	.00462	.57947
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	13.962
Stddev	.017
%RSD	.11845
#1	13.975
#2	13.968
#3	13.943
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	51584.	65174.
Stddev	18.	123.
%RSD	.03491	.18864
#1	51563.	65258.
#2	51596.	65232.
#3	51591.	65033.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041528 Acquired: 3/23/2011 22:27:11 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.03617	228.99	.37141	.09709	2.8853	.01330	F 995.55
Stddev	.00043	1.76	.00428	.00282	.0312	.00002	13.69
%RSD	1.1846	.77066	1.1529	2.9059	1.0799	.17480	1.3755
#1	.03569	227.12	.36790	.09603	2.8496	.01329	979.76
#2	.03650	229.24	.37618	.09494	2.9069	.01333	1004.0
#3	.03633	230.62	.37015	.10028	2.8994	.01328	1002.9
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail
High Limit							900.00
Low Limit							-.10000

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.06885	.14998	.43141	.78428	398.85	30.807	.22669
Stddev	.00049	.00118	.00284	.01453	5.89	.470	.00251
%RSD	.71521	.78368	.65946	1.8530	1.4758	1.5259	1.1060
#1	.06936	.15041	.43468	.78829	397.92	30.278	.22496
#2	.06881	.15088	.42995	.79639	393.49	31.176	.22956
#3	.06838	.14865	.42958	.76817	405.15	30.967	.22554
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	37.849	11.631	.02095	1.9814	.33098	6.2827	.04085
Stddev	.624	.155	.00044	.0107	.00174	.0291	.00102
%RSD	1.6496	1.3335	2.1032	.53740	.52578	.46328	2.4928
#1	37.128	11.452	.02146	1.9693	.33261	6.3074	.03984
#2	38.206	11.728	.02063	1.9859	.33116	6.2902	.04188
#3	38.214	11.712	.02078	1.9891	.32915	6.2506	.04082
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041528 Acquired: 3/23/2011 22:27:11 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01074	F 140.47	.10190	4.2717	.59412	.00479	.55317
Stddev	.00397	1.64	.00141	.0261	.00830	.00481	.00178
%RSD	36.986	1.1650	1.3875	.61145	1.3965	100.36	.32224
#1	.01496	141.90	.10352	4.2590	.58457	.00760	.55242
#2	.01018	140.81	.10128	4.2544	.59957	-.00076	.55189
#3	.00708	138.68	.10091	4.3018	.59822	.00754	.55520
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	15.945
Stddev	.095
%RSD	.59421
#1	15.989
#2	16.010
#3	15.836
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	48979.	63693.
Stddev	90.	434.
%RSD	.18407	.68166
#1	48880.	64168.
#2	49003.	63316.
#3	49056.	63594.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041529 Acquired: 3/23/2011 22:30:59 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01394	184.86	.21972	.05903	1.7118	.01131	144.97
Stddev	.00057	1.95	.00110	.00122	.0186	.00004	1.53
%RSD	4.0739	1.0546	.50003	2.0723	1.0871	.34558	1.0568
#1	.01347	183.83	.22094	.05762	1.6905	.01134	143.21
#2	.01377	183.64	.21881	.05973	1.7198	.01127	145.72
#3	.01457	187.11	.21941	.05975	1.7250	.01132	145.99
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.03243	.16726	2.4766	.36941	334.26	16.077	.14929
Stddev	.00018	.00014	.0099	.00630	4.07	.311	.00139
%RSD	.56062	.08292	.39848	1.7048	1.2176	1.9346	.93331
#1	.03229	.16741	2.4717	.37661	329.58	15.771	.14776
#2	.03263	.16714	2.4701	.36675	336.22	16.065	.14962
#3	.03236	.16723	2.4879	.36489	336.98	16.393	.15049
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	18.100	12.377	.01682	1.2933	.22824	2.4974	.03881
Stddev	.200	.152	.00030	.0253	.00053	.0028	.00156
%RSD	1.1075	1.2271	1.7976	1.9535	.23253	.11224	4.0086
#1	17.882	12.206	.01649	1.2670	.22798	2.4942	.03849
#2	18.143	12.427	.01688	1.2955	.22885	2.4995	.04050
#3	18.276	12.497	.01709	1.3174	.22789	2.4984	.03744
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041529 Acquired: 3/23/2011 22:30:59 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00879	F 169.29	.08125	.75864	.40799	.00567	.43672
Stddev	.00233	1.02	.00048	.00829	.00649	.00144	.00223
%RSD	26.534	.60486	.58900	1.0932	1.5900	25.379	.50956
#1	.00788	168.15	.08072	.74977	.40050	.00652	.43467
#2	.00704	169.59	.08165	.75992	.41176	.00401	.43642
#3	.01143	170.13	.08139	.76621	.41170	.00649	.43909
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	8.3765
Stddev	.0123
%RSD	.14718
#1	8.3898
#2	8.3740
#3	8.3655
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	52194.	65123.
Stddev	27.	441.
%RSD	.05161	.67748
#1	52193.	65629.
#2	52221.	64916.
#3	52167.	64823.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041530 Acquired: 3/23/2011 22:34:32 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01656	152.62	.22153	.04549	1.6143	.01005	209.85
Stddev	.00044	1.56	.00311	.00200	.0189	.00004	2.87
%RSD	2.6381	1.0219	1.4058	4.3935	1.1686	.37300	1.3699
#1	.01624	150.88	.21856	.04413	1.5927	.01008	206.59
#2	.01638	153.89	.22477	.04456	1.6229	.01001	210.95
#3	.01706	153.09	.22124	.04779	1.6273	.01006	212.02
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.03947	.11445	4.8840	.39459	283.42	13.774	.12238
Stddev	.00008	.00017	.0128	.00442	3.55	.156	.00311
%RSD	.20298	.15103	.26137	1.1192	1.2529	1.1338	2.5391
#1	.03956	.11449	4.8930	.39969	279.38	13.627	.11991
#2	.03941	.11426	4.8896	.39195	284.82	13.759	.12136
#3	.03944	.11460	4.8694	.39213	286.05	13.938	.12587
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	18.254	7.7797	.01706	1.2896	.18880	3.0953	.06425
Stddev	.109	.0715	.00015	.0134	.00067	.0086	.00157
%RSD	.59522	.91842	.87569	1.0398	.35632	.27828	2.4481
#1	18.128	7.6979	.01702	1.2772	.18842	3.1001	.06605
#2	18.319	7.8107	.01693	1.2877	.18840	3.1005	.06354
#3	18.314	7.8303	.01722	1.3038	.18957	3.0854	.06315
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041530 Acquired: 3/23/2011 22:34:32 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00903	F 158.86	.11184	1.0227	.36331	.00380	.37239
Stddev	.00342	.59	.00049	.0120	.00384	.00144	.00045
%RSD	37.842	.36996	.43759	1.1702	1.0567	38.000	.12114
#1	.00510	159.41	.11157	1.0092	.35935	.00459	.37189
#2	.01131	158.94	.11240	1.0267	.36358	.00213	.37249
#3	.01067	158.24	.11154	1.0321	.36701	.00468	.37277
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	10.070
Stddev	.021
%RSD	.21273
#1	10.085
#2	10.080
#3	10.045
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	51386.	64869.
Stddev	55.	463.
%RSD	.10679	.71345
#1	51366.	65402.
#2	51344.	64635.
#3	51448.	64569.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041531 Acquired: 3/23/2011 22:38:05 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00838	145.25	.17756	.03899	1.6387	.00943	118.41
Stddev	.00124	1.71	.00351	.00519	.0271	.00003	1.80
%RSD	14.847	1.1741	1.9740	13.311	1.6514	.27367	1.5170
#1	.00772	144.99	.17355	.03305	1.6077	.00940	116.35
#2	.00982	147.07	.17911	.04263	1.6503	.00944	119.27
#3	.00761	143.68	.18003	.04129	1.6580	.00944	119.62
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02425	.09825	.18574	.33582	321.44	18.808	.11662
Stddev	.00020	.00034	.00197	.00768	4.95	.305	.00487
%RSD	.80551	.34614	1.0609	2.2860	1.5396	1.6228	4.1732
#1	.02438	.09852	.18793	.34348	315.74	18.456	.11103
#2	.02402	.09836	.18411	.33586	323.89	18.966	.11895
#3	.02433	.09787	.18518	.32812	324.68	19.002	.11989
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	18.907	8.8783	.01042	.83578	.20626	1.9290	.02414
Stddev	.350	.1602	.00058	.01285	.00056	.0031	.00070
%RSD	1.8516	1.8041	5.5682	1.5378	.27205	.16253	2.9145
#1	18.510	8.6943	.01092	.82169	.20580	1.9315	.02369
#2	19.041	8.9544	.01054	.84686	.20608	1.9301	.02378
#3	19.170	8.9863	.00978	.83879	.20688	1.9255	.02495
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041531 Acquired: 3/23/2011 22:38:05 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00312	F 158.68	.03921	.53324	.23112	.00552	.30443
Stddev	.00365	.72	.00094	.00946	.00412	.00154	.00076
%RSD	117.21	.45657	2.4064	1.7738	1.7839	27.872	.25059
#1	.00698	158.42	.03813	.52242	.22636	.00699	.30390
#2	.00265	158.12	.03973	.53732	.23325	.00392	.30409
#3	-.00028	159.49	.03979	.53997	.23373	.00565	.30531
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	5.9342
Stddev	.0079
%RSD	.13366
#1	5.9408
#2	5.9363
#3	5.9254
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	51842.	65057.
Stddev	109.	479.
%RSD	.20967	.73701
#1	51719.	65461.
#2	51882.	64527.
#3	51925.	65182.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041532 Acquired: 3/23/2011 22:41:39 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00983	165.16	.21796	.03582	1.8145	.01087	432.23
Stddev	.00046	1.97	.00066	.00173	.0171	.00005	7.15
%RSD	4.6871	1.1936	.30402	4.8375	.94501	.43628	1.6535
#1	.00929	163.06	.21726	.03412	1.7949	.01085	423.99
#2	.01008	166.98	.21858	.03759	1.8220	.01092	436.71
#3	.01011	165.44	.21803	.03576	1.8267	.01083	436.01
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02860	.09169	.22408	.31212	313.01	17.138	.13581
Stddev	.00035	.00072	.00102	.00412	2.92	.147	.00331
%RSD	1.2314	.78336	.45702	1.3193	.93344	.85801	2.4392
#1	.02896	.09208	.22322	.31565	309.65	16.992	.13199
#2	.02826	.09213	.22521	.31311	314.45	17.135	.13753
#3	.02857	.09086	.22380	.30760	314.93	17.286	.13791
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	21.054	8.5004	.00843	1.6298	.20769	1.9224	.02198
Stddev	.160	.0827	.00007	.0154	.00156	.0090	.00773
%RSD	.76228	.97331	.86237	.94349	.75340	.46904	35.145
#1	20.874	8.4065	.00835	1.6171	.20895	1.9309	.03056
#2	21.107	8.5321	.00842	1.6255	.20818	1.9234	.01556
#3	21.181	8.5626	.00850	1.6469	.20594	1.9129	.01983
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041532 Acquired: 3/23/2011 22:41:39 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00686	F 163.77	.05146	3.1838	.24255	.00442	.35417
Stddev	.00601	1.69	.00048	.0313	.00339	.00184	.00172
%RSD	87.677	1.0331	.92579	.98168	1.3969	41.637	.48566
#1	.00084	165.17	.05128	3.1477	.24008	.00643	.35538
#2	.01286	164.25	.05200	3.2020	.24642	.00402	.35493
#3	.00688	161.89	.05109	3.2016	.24116	.00281	.35220
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	4.7666
Stddev	.0157
%RSD	.32850
#1	4.7717
#2	4.7791
#3	4.7491
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	50621.	64865.
Stddev	153.	337.
%RSD	.30179	.52014
#1	50692.	65238.
#2	50446.	64775.
#3	50726.	64582.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041533 Acquired: 3/23/2011 22:45:21 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00787	133.25	.19364	.04343	1.6931	.00982	78.871
Stddev	.00050	.45	.00561	.00301	.0233	.00003	.897
%RSD	6.4057	.33801	2.8976	6.9383	1.3739	.26166	1.1379
#1	.00732	132.87	.18916	.04129	1.6667	.00985	77.849
#2	.00799	133.14	.19994	.04211	1.7022	.00980	79.238
#3	.00830	133.75	.19183	.04687	1.7105	.00982	79.527
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02199	.09831	.21446	.31671	289.84	20.511	.10487
Stddev	.00010	.00010	.00160	.00475	3.64	.318	.00108
%RSD	.44199	.10205	.74701	1.4994	1.2559	1.5495	1.0306
#1	.02204	.09838	.21607	.32214	285.69	20.144	.10530
#2	.02206	.09836	.21444	.31467	291.29	20.684	.10364
#3	.02188	.09820	.21286	.31332	292.52	20.704	.10567
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	17.582	8.1156	.01016	.75892	.20380	1.8649	.02005
Stddev	.280	.1163	.00032	.00913	.00027	.0026	.00112
%RSD	1.5904	1.4328	3.1443	1.2033	.13419	.13931	5.6014
#1	17.278	7.9840	.01051	.75584	.20360	1.8677	.02028
#2	17.639	8.1585	.00987	.76920	.20370	1.8625	.02103
#3	17.828	8.2043	.01011	.75174	.20411	1.8645	.01882
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041533 Acquired: 3/23/2011 22:45:21 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00776	F 151.17	.07005	.43531	.23628	.00334	.32537
Stddev	.00386	.48	.00092	.00447	.00273	.00204	.00128
%RSD	49.732	.31701	1.3138	1.0265	1.1570	61.089	.39355
#1	.00726	151.44	.07076	.43042	.23344	.00247	.32684
#2	.01184	151.46	.07038	.43632	.23890	.00188	.32466
#3	.00417	150.62	.06901	.43919	.23649	.00567	.32459
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	4.8329
Stddev	.0013
%RSD	.02758
#1	4.8324
#2	4.8319
#3	4.8344
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	52144.	65955.
Stddev	224.	820.
%RSD	.42903	1.2436
#1	51909.	66894.
#2	52169.	65594.
#3	52355.	65378.

Approved: March 24, 2011
Pierce Morris

Sample Name: CCV Acquired: 3/23/2011 22:49:03 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.43155	9.6187	.40520	.51876	1.0353	.05085	10.433
Stddev	.00211	.0743	.00226	.00249	.0007	.00023	.010
%RSD	.48963	.77261	.55717	.48039	.06585	.44349	.09506
#1	.43228	9.6309	.40583	.51658	1.0357	.05089	10.444
#2	.43321	9.6861	.40270	.52147	1.0345	.05105	10.429
#3	.42917	9.5390	.40709	.51822	1.0357	.05061	10.425
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05199	.20360	.51740	.51182	3.9877	50.376	1.0110
Stddev	.00002	.00012	.00153	.00103	.0062	.040	.0017
%RSD	.03140	.05783	.29616	.20144	.15524	.07922	.16652
#1	.05198	.20356	.51715	.51225	3.9926	50.408	1.0123
#2	.05201	.20351	.51905	.51257	3.9897	50.331	1.0091
#3	.05198	.20373	.51601	.51065	3.9807	50.389	1.0117
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.3245	.48960	1.0368	51.462	.51099	.51223	1.2603
Stddev	.0156	.00087	.0024	.050	.00054	.00113	.0032
%RSD	.16735	.17683	.23159	.09780	.10583	.22093	.25288
#1	9.3198	.49027	1.0393	51.520	.51157	.51094	1.2579
#2	9.3117	.48863	1.0365	51.431	.51050	.51305	1.2592
#3	9.3419	.48992	1.0345	51.436	.51089	.51271	1.2639
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: March 24, 2011
Pierce Morris

Sample Name: CCV Acquired: 3/23/2011 22:49:03 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.41056	F 3.0158	1.0108	1.0239	1.0037	.51645	1.0494
Stddev	.00189	.1138	.0046	.0012	.0006	.00143	.0035
%RSD	.45975	3.7728	.45139	.11755	.06282	.27600	.33721
#1	.40938	3.1396	1.0161	1.0246	1.0044	.51669	1.0497
#2	.40956	2.9159	1.0081	1.0246	1.0037	.51492	1.0527
#3	.41274	2.9920	1.0083	1.0225	1.0031	.51774	1.0457
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value		5.0000					
Range		-10.000%					

Elem	Zn2062
Units	ppm
Avg	.96724
Stddev	.00050
%RSD	.05155
#1	.96762
#2	.96742
#3	.96668
Check ?	Chk Pass
Value	
Range	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	53772.	66022.
Stddev	126.	418.
%RSD	.23347	.63246
#1	53716.	65903.
#2	53684.	65677.
#3	53916.	66486.

Approved: March 24, 2011
Pierce Morris

Sample Name: CCB Acquired: 3/23/2011 22:52:25 Type: Blank
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00016	.02837	.00035	.00191	-.00048	-.00001	.14777
Stddev	.00188	.00376	.00395	.00088	.00009	.00002	.00625
%RSD	1205.7	13.247	1132.5	46.220	19.067	328.39	4.2264
#1	-.00199	.03155	.00491	.00290	-.00039	.00001	.15477
#2	.00151	.02422	-.00196	.00160	-.00057	-.00003	.14278
#3	.00096	.02935	-.00190	.00122	-.00048	.00000	.14574
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00004	-.00008	.00033	.00002	F .09256	F -1.1847	-.00168
Stddev	.00016	.00029	.00041	.00108	.00931	.0190	.00139
%RSD	425.92	351.88	124.96	6467.7	10.058	1.6011	82.268
#1	.00010	.00020	.00078	.00042	.08631	-1.1666	-.00293
#2	.00016	-.00037	.00023	.00083	.10326	-1.1833	-.00019
#3	-.00014	-.00007	-.00003	-.00121	.08810	-1.2044	-.00193
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Fail	Chk Pass
High Limit					.06000	1.0000	
Low Limit					-.06000	-1.0000	

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.04333	.00191	.00040	.10817	.00062	.00119	.00253
Stddev	.01110	.00033	.00024	.00575	.00083	.00163	.00194
%RSD	25.606	17.159	60.979	5.3159	133.71	137.05	76.415
#1	-.04845	.00153	.00066	.11105	.00106	.00292	.00305
#2	-.03060	.00214	.00037	.10155	-.00034	-.00031	.00039
#3	-.05095	.00206	.00018	.11191	.00114	.00095	.00416
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: CCB Acquired: 3/23/2011 22:52:25 Type: Blank
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00088**	F **-2.0257**	**.00184**	**.00005**	**.00269**	**.00293**	**.00073**
Stddev	.00096	.1066	.00033	.00006	.00081	.00221	.00008
%RSD	109.07	5.2630	17.993	127.38	30.047	75.439	10.787
#1	.00173	-2.1251	.00185	.00010	.00352	.00460	.00081
#2	.00106	-1.9131	.00150	.00007	.00191	.00042	.00066
#3	-.00016	-2.0389	.00217	-.00002	.00264	.00378	.00071
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		1.0000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	**.00240**
Stddev	.00031
%RSD	12.777
#1	.00271
#2	.00210
#3	.00240
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	**53904.**	**65352.**
Stddev	42.	206.
%RSD	.07769	.31534
#1	53918.	65182.
#2	53856.	65581.
#3	53936.	65293.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041534 Acquired: 3/23/2011 22:56:03 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00838	151.77	.20820	.03240	1.9282	.01078	62.850
Stddev	.00038	2.36	.00275	.00282	.0308	.00004	1.006
%RSD	4.5905	1.5577	1.3215	8.7084	1.5962	.34762	1.6001
#1	.00808	149.38	.20999	.02927	1.8934	.01080	61.713
#2	.00882	151.80	.20503	.03473	1.9398	.01080	63.218
#3	.00826	154.11	.20958	.03321	1.9516	.01074	63.620
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02294	.14937	.17916	.31949	316.62	14.840	.11661
Stddev	.00011	.00038	.00191	.00727	4.65	.263	.00247
%RSD	.46652	.25718	1.0660	2.2769	1.4693	1.7719	2.1170
#1	.02301	.14977	.18089	.32774	311.37	14.537	.11722
#2	.02299	.14934	.17948	.31673	318.28	14.990	.11390
#3	.02282	.14900	.17711	.31399	320.22	14.994	.11872
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	18.200	11.197	.00867	.79018	.22250	1.8353	.02024
Stddev	.343	.180	.00027	.02216	.00114	.0053	.00161
%RSD	1.8851	1.6047	3.1196	2.8047	.51342	.28896	7.9641
#1	17.804	10.991	.00849	.78067	.22227	1.8407	.02208
#2	18.404	11.281	.00854	.77435	.22374	1.8349	.01958
#3	18.391	11.320	.00898	.81551	.22150	1.8302	.01907
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041534 Acquired: 3/23/2011 22:56:03 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00868	F 169.91	.05684	.34107	.21587	.00505	.32323
Stddev	.00269	.53	.00006	.00565	.00331	.00160	.00124
%RSD	30.966	.31424	.10872	1.6554	1.5350	31.740	.38482
#1	.00872	170.18	.05682	.33458	.21204	.00351	.32466
#2	.00598	170.25	.05690	.34373	.21781	.00493	.32257
#3	.01135	169.30	.05678	.34488	.21774	.00671	.32245
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	4.8495
Stddev	.0104
%RSD	.21498
#1	4.8597
#2	4.8500
#3	4.8388
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	51396.	64204.
Stddev	113.	689.
%RSD	.21992	1.0724
#1	51307.	64994.
#2	51357.	63884.
#3	51523.	63734.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041535 Acquired: 3/23/2011 22:59:36 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00613	136.75	.17449	.04952	1.5180	.00957	100.23
Stddev	.00030	2.23	.00398	.00654	.0271	.00004	1.88
%RSD	4.8465	1.6316	2.2822	13.205	1.7829	.38617	1.8732
#1	.00588	134.25	.16999	.04210	1.4869	.00961	98.082
#2	.00605	138.56	.17754	.05202	1.5307	.00955	101.01
#3	.00645	137.42	.17595	.05445	1.5364	.00954	101.58
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01581	.09141	.21871	.32278	273.97	19.363	.11606
Stddev	.00018	.00024	.00099	.00505	4.88	.342	.00253
%RSD	1.1576	.26799	.45452	1.5643	1.7805	1.7687	2.1790
#1	.01597	.09167	.21984	.32861	268.42	18.983	.11329
#2	.01561	.09137	.21797	.32007	275.91	19.461	.11666
#3	.01584	.09119	.21832	.31967	277.58	19.646	.11824
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	20.021	6.9176	.00866	1.3251	.21359	1.5253	.01190
Stddev	.401	.1157	.00030	.0169	.00042	.0037	.00163
%RSD	2.0026	1.6729	3.4187	1.2735	.19580	.23931	13.719
#1	19.558	6.7840	.00850	1.3084	.21403	1.5245	.01170
#2	20.275	6.9826	.00848	1.3247	.21354	1.5222	.01038
#3	20.228	6.9863	.00900	1.3421	.21320	1.5293	.01363
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041535 Acquired: 3/23/2011 22:59:36 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00703	F 143.81	.07617	.47151	.21722	.00354	.29603
Stddev	.00463	.39	.00026	.00824	.00360	.00084	.00080
%RSD	65.784	.26987	.34038	1.7475	1.6585	23.714	.27032
#1	.00785	143.37	.07644	.46200	.21343	.00263	.29513
#2	.00205	144.08	.07592	.47630	.21765	.00370	.29665
#3	.01120	143.99	.07616	.47625	.22060	.00429	.29631
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	4.2235
Stddev	.0056
%RSD	.13259
#1	4.2274
#2	4.2260
#3	4.2171
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	51343.	64544.
Stddev	67.	832.
%RSD	.13104	1.2897
#1	51401.	65487.
#2	51269.	64232.
#3	51358.	63912.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041536 Acquired: 3/23/2011 23:03:11 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359268-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00757	171.04	.20936	.04853	1.8490	.01154	506.05
Stddev	.00039	.91	.00228	.00239	.0191	.00002	6.48
%RSD	5.1744	.53149	1.0894	4.9274	1.0323	.21560	1.2804
#1	.00798	170.81	.20876	.04588	1.8281	.01154	498.69
#2	.00720	170.27	.21188	.04921	1.8536	.01151	508.56
#3	.00753	172.05	.20744	.05051	1.8654	.01156	510.89
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01993	.13335	.23158	.28960	319.17	17.319	.15341
Stddev	.00022	.00055	.00139	.00626	3.57	.127	.00160
%RSD	1.1250	.41393	.59928	2.1601	1.1190	.73470	1.0413
#1	.01969	.13362	.23316	.29473	315.28	17.207	.15257
#2	.02013	.13372	.23055	.29145	319.95	17.293	.15241
#3	.01997	.13272	.23102	.28263	322.29	17.457	.15525
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.864	10.895	.00808	1.5455	.25043	1.7112	.01771
Stddev	.142	.082	.00022	.0252	.00133	.0045	.00215
%RSD	.54794	.75144	2.7795	1.6284	.53021	.26068	12.120
#1	25.704	10.803	.00813	1.5170	.25100	1.7132	.01995
#2	25.916	10.926	.00828	1.5548	.25138	1.7142	.01568
#3	25.972	10.957	.00784	1.5648	.24891	1.7060	.01750
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041536 Acquired: 3/23/2011 23:03:11 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359268-01

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00499	F 154.40	.07775	1.3963	.23644	.00644	.35394
Stddev	.00214	.40	.00088	.0086	.00229	.00302	.00067
%RSD	42.828	.25980	1.1268	.61519	.96755	46.806	.18919
#1	.00385	153.95	.07871	1.3865	.23396	.00764	.35467
#2	.00746	154.72	.07757	1.4000	.23690	.00301	.35380
#3	.00367	154.53	.07699	1.4024	.23847	.00867	.35336
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	4.3228
Stddev	.0137
%RSD	.31647
#1	4.3307
#2	4.3307
#3	4.3070
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	50050.	65326.
Stddev	67.	198.
%RSD	.13463	.30257
#1	50077.	65325.
#2	49973.	65524.
#3	50100.	65129.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041537S Acquired: 3/23/2011 23:06:53 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359268-04

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.20110	162.60	.37916	.05191	1.6553	.01058	154.97
Stddev	.00158	2.80	.00418	.00334	.0262	.00008	2.57
%RSD	.78641	1.7195	1.1020	6.4360	1.5797	.79819	1.6601
#1	.20058	159.49	.38050	.05103	1.6255	.01062	152.04
#2	.20287	163.40	.38251	.04910	1.6665	.01064	156.01
#3	.19984	164.91	.37448	.05561	1.6740	.01049	156.86
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.04296	.09271	.22824	.50748	291.25	15.726	.13767
Stddev	.00011	.00013	.00241	.00508	5.31	.294	.00335
%RSD	.25440	.14236	1.0555	1.0010	1.8230	1.8716	2.4335
#1	.04299	.09257	.22933	.51335	285.17	15.388	.13380
#2	.04305	.09283	.22991	.50450	293.59	15.862	.13944
#3	.04284	.09274	.22548	.50460	294.99	15.928	.13976
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	21.597	7.0817	.00754	1.3371	.23850	1.9771	.01310
Stddev	.238	.1004	.00017	.0240	.00080	.0080	.00265
%RSD	1.1001	1.4175	2.3103	1.7917	.33736	.40690	20.197
#1	21.327	6.9673	.00760	1.3099	.23923	1.9861	.01615
#2	21.692	7.1223	.00734	1.3462	.23863	1.9747	.01150
#3	21.773	7.1554	.00767	1.3552	.23763	1.9706	.01164
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041537S Acquired: 3/23/2011 23:06:53 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359268-04

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00189	F 160.49	.05401	.58427	.24650	.00404	.32520
Stddev	.00258	.91	.00073	.00609	.00444	.00147	.00199
%RSD	136.89	.56517	1.3429	1.0429	1.7999	36.460	.61335
#1	.00479	160.98	.05390	.57773	.24140	.00534	.32363
#2	-.00015	161.05	.05335	.58528	.24944	.00433	.32745
#3	.00102	159.45	.05479	.58979	.24868	.00244	.32453
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	4.3778
Stddev	.0035
%RSD	.08068
#1	4.3737
#2	4.3795
#3	4.3801
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	51099.	64865.
Stddev	176.	406.
%RSD	.34502	.62603
#1	50926.	65245.
#2	51093.	64912.
#3	51279.	64437.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041538SD Acquired: 3/23/2011 23:10:26 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359268-05

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.20323	165.83	.40328	.05446	2.1102	.01194	73.863
Stddev	.00200	3.47	.00152	.00215	.0271	.00008	1.003
%RSD	.98292	2.0905	.37738	3.9489	1.2862	.63187	1.3580
#1	.20094	161.95	.40438	.05229	2.0789	.01187	72.705
#2	.20408	166.93	.40391	.05449	2.1262	.01193	74.448
#3	.20465	168.61	.40154	.05659	2.1257	.01202	74.438
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.04281	.24986	.20866	.49017	341.50	14.584	.13569
Stddev	.00031	.00053	.00159	.00666	4.69	.165	.00438
%RSD	.73363	.21249	.76251	1.3587	1.3721	1.1323	3.2279
#1	.04317	.24991	.20738	.49771	336.10	14.398	.13064
#2	.04264	.25036	.20817	.48775	343.92	14.714	.13802
#3	.04261	.24930	.21044	.48506	344.48	14.641	.13842
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	20.522	14.835	.00800	1.2908	.26412	2.1253	.01360
Stddev	.262	.219	.00026	.0087	.00058	.0025	.00209
%RSD	1.2751	1.4745	3.2388	.67360	.21828	.11563	15.368
#1	20.219	14.583	.00773	1.2830	.26450	2.1224	.01358
#2	20.670	14.952	.00825	1.3001	.26441	2.1267	.01570
#3	20.675	14.970	.00802	1.2891	.26346	2.1266	.01152
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041538SD Acquired: 3/23/2011 23:10:26 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359268-05

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00408	F 200.20	.03552	.38875	.23869	.00651	.36822
Stddev	.00469	.37	.00007	.00703	.00565	.00056	.00219
%RSD	114.79	.18266	.18529	1.8084	2.3687	8.6446	.59525
#1	.00466	199.94	.03544	.38066	.23225	.00716	.36704
#2	-.00087	200.62	.03554	.39342	.24099	.00616	.36687
#3	.00846	200.04	.03557	.39217	.24284	.00621	.37075
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	5.0004
Stddev	.0073
%RSD	.14512
#1	5.0054
#2	5.0037
#3	4.9921
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	51752.	64870.
Stddev	22.	1154.
%RSD	.04284	1.7789
#1	51732.	66202.
#2	51749.	64170.
#3	51776.	64240.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041539 Acquired: 3/23/2011 23:13:59 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00714	116.10	.19915	.06402	1.4122	.00797	F 1362.0
Stddev	.00022	.42	.00211	.00130	.0043	.00002	15.3
%RSD	3.1071	.36455	1.0583	2.0383	.30083	.29576	1.1244
#1	.00739	115.65	.19768	.06265	1.4075	.00796	1353.2
#2	.00697	116.50	.20157	.06525	1.4132	.00795	1379.7
#3	.00706	116.14	.19821	.06417	1.4159	.00800	1353.2
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail
High Limit							900.00
Low Limit							-.10000

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02080	.08206	.18251	.26055	241.92	16.663	.14146
Stddev	.00012	.00049	.00077	.00315	.83	.067	.00390
%RSD	.57979	.59760	.42311	1.2073	.34148	.40229	2.7594
#1	.02094	.08190	.18246	.26367	240.97	16.626	.13940
#2	.02071	.08261	.18177	.26060	242.44	16.623	.14596
#3	.02075	.08167	.18331	.25738	242.36	16.741	.13901
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	33.617	7.2561	.00894	1.5373	.18927	2.0808	.01507
Stddev	.111	.0272	.00006	.0032	.00069	.0036	.00298
%RSD	.33130	.37475	.72429	.20672	.36628	.17166	19.784
#1	33.505	7.2249	.00900	1.5410	.19001	2.0821	.01295
#2	33.728	7.2688	.00894	1.5354	.18864	2.0836	.01378
#3	33.618	7.2747	.00887	1.5356	.18915	2.0768	.01848
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041539 Acquired: 3/23/2011 23:13:59 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00538	F 148.04	.03396	F 5.7706	.19001	.00259	.28309
Stddev	.00174	.37	.00019	.0391	.00107	.00211	.00052
%RSD	32.418	.25043	.56135	.67673	.56223	81.509	.18511
#1	.00415	148.36	.03376	5.7373	.19035	.00199	.28312
#2	.00738	148.12	.03414	5.8136	.19087	.00085	.28255
#3	.00461	147.63	.03398	5.7608	.18882	.00494	.28360
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000		4.5000			
Low Limit		-1.0000		-.01000			

Elem	Zn2062
Units	ppm
Avg	4.7034
Stddev	.0178
%RSD	.37888
#1	4.7144
#2	4.7130
#3	4.6829
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	47579.	62641.
Stddev	97.	358.
%RSD	.20337	.57119
#1	47660.	63013.
#2	47472.	62299.
#3	47605.	62610.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041540 Acquired: 3/23/2011 23:17:42 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00763	160.23	.35879	.06804	1.6140	.01081	409.75
Stddev	.00056	.11	.00239	.00242	.0188	.00005	4.98
%RSD	7.3486	.06790	.66478	3.5542	1.1626	.50422	1.2164
#1	.00794	160.23	.35735	.06561	1.5924	.01075	403.99
#2	.00796	160.34	.35747	.07044	1.6255	.01081	412.70
#3	.00698	160.12	.36154	.06806	1.6242	.01086	412.55
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02239	.16564	.28383	.33988	333.09	15.625	.15345
Stddev	.00012	.00058	.00090	.00689	3.47	.152	.00348
%RSD	.55458	.34880	.31561	2.0264	1.0412	.97455	2.2682
#1	.02252	.16616	.28293	.34674	329.09	15.456	.15210
#2	.02240	.16573	.28384	.33994	335.22	15.669	.15741
#3	.02227	.16502	.28472	.33297	334.96	15.751	.15085
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	27.803	9.2403	.01272	1.2778	.28400	2.3545	.01725
Stddev	.282	.0996	.00005	.0101	.00103	.0012	.00302
%RSD	1.0157	1.0774	.39312	.79139	.36165	.05132	17.532
#1	27.477	9.1276	.01278	1.2661	.28497	2.3543	.01518
#2	27.961	9.3162	.01271	1.2840	.28412	2.3557	.02072
#3	27.971	9.2771	.01268	1.2832	.28292	2.3533	.01584
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041540 Acquired: 3/23/2011 23:17:42 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00857	F 168.90	.06512	1.9113	.21985	.00541	.36432
Stddev	.00212	.36	.00084	.0200	.00105	.00178	.00100
%RSD	24.717	.21383	1.2942	1.0488	.47777	32.919	.27329
#1	.01007	169.16	.06541	1.8890	.21873	.00713	.36323
#2	.00615	169.04	.06579	1.9278	.22081	.00357	.36455
#3	.00949	168.49	.06417	1.9171	.22000	.00552	.36518
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	4.9979
Stddev	.0158
%RSD	.31681
#1	5.0107
#2	5.0027
#3	4.9802
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	50063.	63559.
Stddev	134.	200.
%RSD	.26799	.31450
#1	50071.	63786.
#2	49925.	63410.
#3	50193.	63480.

Approved: March 24, 2011
Pierce Morris

Sample Name: CCV Acquired: 3/23/2011 23:21:31 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.43501	9.6744	.40289	.52260	1.0365	.05041	10.415
Stddev	.00074	.0431	.00235	.00226	.0013	.00003	.017
%RSD	.17032	.44532	.58389	.43243	.12779	.05311	.16203
#1	.43437	9.7118	.40528	.52004	1.0350	.05041	10.398
#2	.43484	9.6841	.40057	.52348	1.0371	.05038	10.416
#3	.43582	9.6273	.40282	.52429	1.0375	.05044	10.431
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05199	.20187	.51877	.51158	3.9410	50.578	1.0058
Stddev	.00038	.00073	.00090	.00165	.0159	.019	.0009
%RSD	.73706	.36270	.17284	.32171	.40307	.03706	.09225
#1	.05230	.20103	.51892	.51265	3.9588	50.593	1.0058
#2	.05209	.20226	.51958	.51241	3.9361	50.557	1.0068
#3	.05156	.20233	.51781	.50969	3.9282	50.583	1.0049
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.3129	.48792	1.0470	51.227	.51368	.51190	1.2582
Stddev	.0256	.00120	.0026	.064	.00231	.00112	.0050
%RSD	.27507	.24577	.24419	.12479	.44935	.21813	.39826
#1	9.3143	.48721	1.0486	51.192	.51402	.51117	1.2624
#2	9.2865	.48931	1.0483	51.189	.51581	.51318	1.2597
#3	9.3377	.48725	1.0441	51.301	.51123	.51134	1.2527
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: March 24, 2011
Pierce Morris

Sample Name: CCV Acquired: 3/23/2011 23:21:31 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.40880	F 2.8575	1.0127	1.0256	.98350	.51882	1.0571
Stddev	.00458	.1866	.0022	.0025	.00591	.00307	.0021
%RSD	1.1193	6.5307	.21450	.24119	.60096	.59216	.19679
#1	.41112	2.6496	1.0138	1.0240	.98373	.52101	1.0562
#2	.41175	2.9123	1.0141	1.0244	.97747	.52014	1.0556
#3	.40353	3.0106	1.0102	1.0285	.98929	.51530	1.0595
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value		5.0000					
Range		-10.000%					

Elem	Zn2062
Units	ppm
Avg	.94825
Stddev	.00097
%RSD	.10181
#1	.94728
#2	.94826
#3	.94921
Check ?	Chk Pass
Value	
Range	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	53695.	66158.
Stddev	92.	231.
%RSD	.17073	.34989
#1	53768.	65988.
#2	53726.	66064.
#3	53592.	66421.

Approved: March 24, 2011
Pierce Morris

Sample Name: CCB Acquired: 3/23/2011 23:24:52 Type: Blank
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00057	.01683	.00112	.00146	-.00067	.00001	.14477
Stddev	.00050	.00320	.00247	.00075	.00007	.00003	.01475
%RSD	86.523	19.026	220.24	51.652	9.8276	267.69	10.186
#1	-.00056	.01605	.00348	.00183	-.00071	.00005	.14985
#2	-.00107	.02035	-.00145	.00059	-.00070	.00001	.15631
#3	-.00008	.01409	.00134	.00196	-.00059	-.00002	.12816
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00001	.00005	.00066	.00018	F .08395	F -1.2106	-.00408
Stddev	.00008	.00004	.00035	.00076	.00204	.0148	.00032
%RSD	722.66	80.986	53.369	431.70	2.4262	1.2195	7.8418
#1	.00001	.00008	.00025	.00105	.08235	-1.2057	-.00379
#2	-.00010	.00000	.00088	-.00028	.08326	-1.1989	-.00443
#3	.00006	.00007	.00083	-.00025	.08624	-1.2271	-.00402
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Fail	Chk Pass
High Limit					.06000	1.0000	
Low Limit					-.06000	-1.0000	

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.02063	.00176	.00016	.12473	.00059	.00026	.00200
Stddev	.00550	.00049	.00010	.01131	.00015	.00130	.00188
%RSD	26.647	27.735	60.383	9.0682	25.361	499.07	93.997
#1	-.02371	.00164	.00007	.12952	.00046	-.00080	.00374
#2	-.01428	.00230	.00026	.13286	.00076	.00171	.00001
#3	-.02391	.00134	.00015	.11181	.00057	-.00013	.00224
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: CCB Acquired: 3/23/2011 23:24:52 Type: Blank
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00132	F -2.0883	.00119	.00012	.00250	.00172	.00045
Stddev	.00129	.1407	.00060	.00008	.00015	.00257	.00032
%RSD	97.977	6.7353	50.431	68.569	5.8923	149.47	70.489
#1	.00132	-2.2506	.00053	.00007	.00236	.00466	.00066
#2	.00003	-2.0003	.00170	.00022	.00249	.00061	.00060
#3	.00261	-2.0141	.00134	.00007	.00265	-.00011	.00008
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		1.0000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	-.00008
Stddev	.00011
%RSD	146.57
#1	-.00012
#2	-.00017
#3	.00005
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	53902.	66217.
Stddev	133.	296.
%RSD	.24641	.44658
#1	54042.	66529.
#2	53778.	66183.
#3	53887.	65940.

Approved: March 24, 2011
Pierce Morris

Sample Name: PBS 13 Acquired: 3/23/2011 23:28:31 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359298-~~02~~ 03

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00097	.00758	.00020	.00141	-.00075	-.00001	.09784
Stddev	.00070	.00350	.00247	.00075	.00012	.00000	.00588
%RSD	72.205	46.138	1233.7	53.238	16.169	21.469	6.0105
#1	-.00133	.00684	-.00231	.00061	-.00065	-.00001	.10452
#2	-.00016	.00451	.00027	.00210	-.00072	-.00001	.09555
#3	-.00142	.01139	.00264	.00150	-.00089	-.00001	.09345
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00021	-.00017	.00132	.00057	.06872	F -.96875	-.00446
Stddev	.00024	.00011	.00043	.00015	.00429	.03823	.00417
%RSD	116.96	62.870	32.860	25.985	6.2405	3.9459	93.527
#1	.00036	-.00005	.00100	.00041	.06958	-.95769	-.00909
#2	-.00007	-.00020	.00115	.00058	.07252	-1.0113	-.00332
#3	.00033	-.00025	.00181	.00071	.06407	-.93728	-.00098
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit						315.00	
Low Limit						-.50000	

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00378	.00162	.00044	.12634	.00143	-.00043	.00499
Stddev	.01474	.00054	.00026	.01176	.00041	.00248	.00153
%RSD	390.01	33.507	59.535	9.3119	28.678	571.17	30.617
#1	-.00270	.00125	.00016	.13141	.00109	-.00039	.00658
#2	-.00661	.00136	.00047	.13471	.00188	.00202	.00353
#3	.02064	.00224	.00068	.11289	.00130	-.00293	.00486
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: PBS 13 Acquired: 3/23/2011 23:28:31 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359298-~~02~~ 03

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00009**	**-.88774**	**.00095**	**-.00011**	**.00298**	**-.00037**	**.00035**
Stddev	.00164	.22383	.00013	.00012	.00144	.00064	.00008
%RSD	1896.8	25.213	13.243	115.69	48.376	171.71	21.912
#1	.00192	-.66289	.00094	-.00025	.00463	-.00081	.00029
#2	-.00122	-1.1105	.00083	-.00004	.00195	-.00067	.00032
#3	-.00045	-.88981	.00108	-.00003	.00236	.00036	.00043
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Zn2062
Units	ppm
Avg	**.00224**
Stddev	.00102
%RSD	45.637
#1	.00177
#2	.00342
#3	.00154
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	**52059.**	**63704.**
Stddev	60.	105.
%RSD	.11507	.16447
#1	52123.	63637.
#2	52004.	63651.
#3	52049.	63825.

Approved: March 24, 2011
Pierce Morris

Sample Name: LCSS 13 Acquired: 3/23/2011 23:32:04 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359298-~~03~~ 04

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.20749	.00654	.19500	.00019	-.00053	-.00001	.20511
Stddev	.00111	.00301	.00189	.00179	.00008	.00001	.00330
%RSD	.53655	46.006	.97118	933.37	15.360	54.231	1.6072
#1	.20630	.00534	.19440	.00027	-.00046	-.00002	.20276
#2	.20767	.00996	.19348	-.00163	-.00062	-.00001	.20888
#3	.20851	.00431	.19712	.00193	-.00052	-.00001	.20370
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02565	-.00039	.01265	.25151	.12167	F -1.0917	-.00335
Stddev	.00012	.00003	.00021	.00091	.00540	.0150	.00252
%RSD	.47135	6.8443	1.6971	.36223	4.4362	1.3764	75.218
#1	.02555	-.00042	.01241	.25048	.11872	-1.0782	-.00321
#2	.02561	-.00037	.01270	.25186	.11838	-1.1079	-.00090
#3	.02578	-.00039	.01283	.25220	.12789	-1.0891	-.00593
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit						315.00	
Low Limit						-.50000	

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.03964	.24299	.00066	.16938	.00077	.25376	.00209
Stddev	.01412	.00136	.00009	.01388	.00043	.00068	.00152
%RSD	35.615	.55855	14.074	8.1927	55.631	.26834	72.472
#1	.05552	.24143	.00056	.15337	.00041	.25445	.00382
#2	.03489	.24364	.00067	.17684	.00125	.25309	.00147
#3	.02851	.24390	.00074	.17793	.00066	.25373	.00099
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: LCSS 13 Acquired: 3/23/2011 23:32:04 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359298-~~03~~04

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00229**	**-.23769**	**-.00026**	**.00033**	**.00344**	**.00050**	**.00040**
Stddev	.00299	.05167	.00051	.00012	.00136	.00148	.00036
%RSD	130.66	21.737	199.81	38.127	39.477	297.10	88.670
#1	-.00113	-.21087	.00023	.00045	.00401	.00141	.00072
#2	.00356	-.29725	-.00080	.00020	.00441	.00130	.00047
#3	.00444	-.20495	-.00020	.00033	.00189	-.00121	.00002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Zn2062
Units	ppm
Avg	**.00245**
Stddev	.00017
%RSD	6.8867
#1	.00255
#2	.00254
#3	.00226
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	**52451.**	**63793.**
Stddev	134.	438.
%RSD	.25470	.68731
#1	52566.	63495.
#2	52482.	63588.
#3	52305.	64297.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041733 Acquired: 3/23/2011 23:35:35 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00534	118.28	.13056	.01738	2.0246	.01354	43.303
Stddev	.00058	.25	.00560	.00140	.0195	.00002	.461
%RSD	10.908	.21120	4.2902	8.0770	.96333	.15402	1.0657
#1	.00599	118.34	.12582	.01576	2.0022	.01356	42.772
#2	.00488	118.50	.12912	.01810	2.0331	.01352	43.533
#3	.00514	118.01	.13674	.01828	2.0383	.01355	43.604
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00445	.14668	.21904	.17364	307.36	6.3284	.08692
Stddev	.00011	.00020	.00110	.00166	2.87	.0698	.00491
%RSD	2.4018	.13782	.50065	.95709	.93393	1.1035	5.6447
#1	.00434	.14645	.21810	.17556	304.05	6.2907	.08312
#2	.00445	.14675	.21878	.17272	308.84	6.2855	.08517
#3	.00456	.14683	.22024	.17263	309.18	6.4090	.09246
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	21.631	7.5498	.00955	2.4228	.20138	.51005	.00867
Stddev	.168	.0720	.00001	.0063	.00038	.00137	.00193
%RSD	.77822	.95318	.14546	.25913	.18833	.26850	22.266
#1	21.443	7.4679	.00954	2.4299	.20155	.50985	.01086
#2	21.681	7.5786	.00956	2.4180	.20095	.50880	.00794
#3	21.768	7.6029	.00954	2.4204	.20165	.51151	.00721
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041733 Acquired: 3/23/2011 23:35:35 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00662	F 153.38	.01704	.29753	.24070	.00237	.42282
Stddev	.00484	.50	.00028	.00310	.00202	.00114	.00014
%RSD	73.071	.32401	1.6370	1.0413	.84113	47.919	.03236
#1	.00112	153.88	.01676	.29402	.23846	.00351	.42298
#2	.01020	153.36	.01706	.29864	.24239	.00237	.42275
#3	.00854	152.88	.01731	.29991	.24125	.00124	.42274
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	1.1838
Stddev	.0001
%RSD	.00640
#1	1.1838
#2	1.1839
#3	1.1838
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	51063.	64573.
Stddev	232.	200.
%RSD	.45445	.30959
#1	51282.	64803.
#2	51088.	64449.
#3	50819.	64465.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041733PS Acquired: 3/23/2011 23:39:01 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359757-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.21385	112.64	.30822	1.0164	2.3137	.03692	43.755
Stddev	.00096	.97	.00299	.0053	.0372	.00019	.641
%RSD	.45067	.86499	.97135	.52164	1.6086	.52149	1.4657
#1	.21457	111.64	.30687	1.0104	2.2718	.03703	43.023
#2	.21422	112.68	.31165	1.0186	2.3263	.03703	44.025
#3	.21276	113.59	.30615	1.0203	2.3429	.03670	44.217
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02908	.23032	.44196	.39843	275.70	30.441	.57736
Stddev	.00018	.00052	.00269	.00637	3.88	.470	.00779
%RSD	.63550	.22609	.60965	1.5997	1.4087	1.5451	1.3486
#1	.02917	.23067	.44473	.40551	271.29	29.907	.56893
#2	.02887	.23056	.44178	.39667	277.17	30.623	.57887
#3	.02920	.22972	.43935	.39313	278.63	30.794	.58429
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.757	6.9743	.53677	27.782	.42801	.69779	.60163
Stddev	.462	.1074	.00017	.403	.00063	.00207	.00519
%RSD	1.9467	1.5397	.03129	1.4504	.14722	.29710	.86222
#1	23.285	6.8542	.53693	27.331	.42861	.69555	.60589
#2	23.775	7.0078	.53660	27.907	.42735	.69964	.60314
#3	24.209	7.0610	.53679	28.108	.42807	.69818	.59585
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041733PS Acquired: 3/23/2011 23:39:01 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359757-01

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.20159	F 316.44	.01455	.77280	.69897	.24412	.89566
Stddev	.00137	.51	.00040	.01179	.01001	.00201	.00230
%RSD	.67873	.16034	2.7235	1.5260	1.4316	.82322	.25706
#1	.20031	317.02	.01471	.75991	.68743	.24491	.89692
#2	.20303	316.25	.01410	.77543	.70443	.24184	.89706
#3	.20141	316.06	.01485	.78305	.70507	.24562	.89300
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	1.5169
Stddev	.0041
%RSD	.27186
#1	1.5211
#2	1.5168
#3	1.5129
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	51028.	63259.
Stddev	301.	286.
%RSD	.59012	.45193
#1	50739.	63548.
#2	51005.	63254.
#3	51340.	62976.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041733DL Acquired: 3/23/2011 23:42:24 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 5 Custom ID2: Custom ID3:
Comment: WG359757-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00065	24.011	.02576	.00513	.39037	.00263	8.5754	.00077
Stddev	.00036	.095	.00213	.00045	.00060	.00003	.0050	.00014
%RSD	54.636	.39629	8.2504	8.7684	.15390	1.0170	.05856	18.779
#1	.00070	23.958	.02670	.00483	.39087	.00265	8.5797	.00062
#2	.00098	23.955	.02333	.00564	.38970	.00260	8.5699	.00091
#3	.00027	24.121	.02725	.00491	.39053	.00264	8.5766	.00077
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02874	.04216	.03454	60.542	.28118	.01300	4.3946	1.5011
Stddev	.00008	.00075	.00121	.111	.05518	.00161	.0439	.0008
%RSD	.27968	1.7796	3.4998	.18301	19.624	12.420	.99902	.05173
#1	.02880	.04279	.03493	60.669	.21914	.01342	4.3456	1.5010
#2	.02876	.04133	.03550	60.472	.29961	.01436	4.4081	1.5003
#3	.02865	.04236	.03318	60.483	.32478	.01121	4.4302	1.5019
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Si2124	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00192	.54672	.04026	.10402	.00277	.00376	28.635	.00288
Stddev	.00027	.00836	.00135	.00079	.00126	.00284	.236	.00046
%RSD	14.169	1.5299	3.3614	.75613	45.357	75.641	.82456	15.811
#1	.00211	.54721	.04069	.10398	.00223	.00541	28.397	.00256
#2	.00161	.55483	.03874	.10483	.00187	.00538	28.637	.00269
#3	.00204	.53812	.04134	.10326	.00420	.00048	28.870	.00340
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041733DL Acquired: 3/23/2011 23:42:24 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 5 Custom ID2: Custom ID3:
Comment: WG359757-02

Elem	Sr4077	Ti3372	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm
Avg	.05910	.04977	.00341	.08220	.24036
Stddev	.00009	.00079	.00190	.00031	.00030
%RSD	.15955	1.5784	55.651	.37478	.12644
#1	.05909	.04965	.00456	.08205	.24061
#2	.05920	.04905	.00122	.08201	.24002
#3	.05902	.05061	.00445	.08256	.24044
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	55296.	67672.
Stddev	244.	477.
%RSD	.44073	.70424
#1	55565.	68011.
#2	55236.	67878.
#3	55089.	67127.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041733DL Acquired: 3/23/2011 23:45:53 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 25 Custom ID2: Custom ID3:
Comment: WG359757-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00059	4.6570	.00652	.00076	.07604	.00053	1.7441
Stddev	.00100	.0302	.00199	.00201	.00030	.00001	.0047
%RSD	170.01	.64826	30.489	265.51	.40107	2.6063	.26857
#1	.00056	4.6630	.00813	-.00148	.07591	.00051	1.7495
#2	-.00112	4.6837	.00430	.00135	.07639	.00054	1.7413
#3	-.00121	4.6242	.00712	.00240	.07582	.00052	1.7415
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00027	.00579	.00762	.00673	11.929	F -.91620	.00135
Stddev	.00006	.00018	.00030	.00076	.020	.00171	.00074
%RSD	21.595	3.1308	3.9621	11.278	.16805	.18617	54.963
#1	.00021	.00592	.00773	.00760	11.928	-.91505	.00115
#2	.00033	.00587	.00728	.00630	11.909	-.91540	.00072
#3	.00028	.00558	.00785	.00628	11.949	-.91816	.00217
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit						315.00	
Low Limit						-.50000	

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.83537	.29724	.00035	.18833	.00858	.02074	.00146
Stddev	.02292	.00170	.00028	.00423	.00050	.00226	.00211
%RSD	2.7438	.57220	80.391	2.2447	5.8737	10.907	145.20
#1	.83212	.29742	.00005	.18480	.00831	.01906	.00144
#2	.85974	.29546	.00060	.18716	.00917	.02331	.00358
#3	.81424	.29885	.00039	.19301	.00828	.01986	-.00065
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041733DL Acquired: 3/23/2011 23:45:53 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 25 Custom ID2: Custom ID3:
Comment: WG359757-02

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00191	3.6602	-.00007	.01145	.01200	.00288	.01641
Stddev	.00136	.1308	.00050	.00002	.00147	.00054	.00023
%RSD	71.267	3.5741	716.13	.19322	12.286	18.839	1.3734
#1	.00343	3.5330	-.00033	.01146	.01370	.00274	.01664
#2	.00084	3.6534	.00051	.01146	.01123	.00242	.01619
#3	.00145	3.7944	-.00038	.01142	.01108	.00347	.01638
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Zn2062
Units	ppm
Avg	.04848
Stddev	.00010
%RSD	.20566
#1	.04859
#2	.04843
#3	.04841
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	55558.	67945.
Stddev	115.	239.
%RSD	.20650	.35187
#1	55681.	68092.
#2	55538.	67669.
#3	55454.	68073.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041734 Acquired: 3/23/2011 23:49:22 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00700	107.70	.10358	.03498	2.1633	.01105	73.610
Stddev	.00098	.34	.00257	.00087	.0199	.00011	.704
%RSD	14.021	.31604	2.4801	2.4954	.91785	.98561	.95646
#1	.00720	107.44	.10502	.03408	2.1404	.01093	72.798
#2	.00593	108.09	.10062	.03502	2.1745	.01115	74.043
#3	.00786	107.58	.10511	.03582	2.1749	.01107	73.989
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00828	.11971	.18162	.17505	220.18	9.5712	.07310
Stddev	.00003	.00017	.00127	.00212	2.14	.1028	.00172
%RSD	.32635	.14010	.69925	1.2128	.96979	1.0738	2.3510
#1	.00826	.11964	.18024	.17725	217.72	9.4558	.07118
#2	.00827	.11958	.18274	.17302	221.31	9.6048	.07363
#3	.00831	.11990	.18189	.17488	221.52	9.6529	.07449
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	18.161	7.2546	.00873	.94303	.16243	.56603	.00928
Stddev	.100	.0705	.00026	.01160	.00053	.00240	.00239
%RSD	.54923	.97228	2.9286	1.2296	.32620	.42423	25.792
#1	18.046	7.1741	.00846	.92974	.16304	.56874	.00820
#2	18.217	7.2838	.00897	.95109	.16215	.56517	.01203
#3	18.220	7.3058	.00876	.94826	.16209	.56417	.00763
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041734 Acquired: 3/23/2011 23:49:22 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01032	F 162.32	.02280	.42545	.26451	.00245	.34679
Stddev	.00593	.66	.00060	.00376	.00337	.00085	.00166
%RSD	57.500	.40814	2.6364	.88428	1.2727	34.599	.47832
#1	.00966	162.87	.02211	.42122	.26063	.00152	.34499
#2	.00475	162.51	.02303	.42675	.26627	.00267	.34713
#3	.01656	161.59	.02325	.42840	.26663	.00318	.34826
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	1.4943
Stddev	.0050
%RSD	.33547
#1	1.4895
#2	1.4938
#3	1.4995
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	51223.	63891.
Stddev	124.	309.
%RSD	.24163	.48302
#1	51242.	63798.
#2	51091.	63640.
#3	51336.	64235.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041735 Acquired: 3/23/2011 23:52:49 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00902	115.10	.11399	.02585	2.3725	.01230	64.796
Stddev	.00064	.39	.00274	.00579	.0285	.00002	.737
%RSD	7.0571	.33654	2.4015	22.389	1.2034	.20081	1.1368
#1	.00938	114.69	.11226	.02065	2.3397	.01228	63.958
#2	.00829	115.46	.11257	.03208	2.3863	.01228	65.088
#3	.00940	115.17	.11715	.02481	2.3916	.01233	65.342
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00960	.08346	.22572	.19127	240.33	6.9712	.06952
Stddev	.00010	.00040	.00166	.00300	2.86	.0710	.00167
%RSD	1.0369	.47921	.73698	1.5686	1.1914	1.0185	2.4049
#1	.00952	.08356	.22502	.19474	237.05	6.8905	.06902
#2	.00971	.08302	.22453	.18947	241.59	6.9991	.07138
#3	.00957	.08380	.22762	.18962	242.35	7.0241	.06815
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	16.843	5.3932	.00848	1.5613	.15913	.53149	.01049
Stddev	.199	.0695	.00018	.0141	.00045	.00422	.00284
%RSD	1.1840	1.2889	2.1503	.90599	.28351	.79331	27.047
#1	16.618	5.3133	.00854	1.5520	.15918	.52898	.00736
#2	16.995	5.4401	.00863	1.5544	.15956	.52914	.01120
#3	16.918	5.4262	.00828	1.5776	.15866	.53636	.01290
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041735 Acquired: 3/23/2011 23:52:49 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00538	F 151.40	.02694	.40432	.26146	.00216	.40029
Stddev	.00569	.46	.00029	.00503	.00271	.00053	.00251
%RSD	105.61	.30686	1.0590	1.2448	1.0352	24.651	.62783
#1	.00323	151.85	.02701	.39868	.25847	.00173	.39743
#2	.00109	150.92	.02718	.40834	.26373	.00276	.40127
#3	.01184	151.42	.02662	.40595	.26219	.00200	.40217
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	1.4917
Stddev	.0017
%RSD	.11143
#1	1.4912
#2	1.4903
#3	1.4935
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	52169.	65792.
Stddev	217.	232.
%RSD	.41520	.35312
#1	52372.	66035.
#2	52194.	65572.
#3	51941.	65768.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041736 Acquired: 3/23/2011 23:56:15 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01035	104.11	.09679	.02882	2.1754	.01000	59.061
Stddev	.00011	1.66	.00185	.00185	.0336	.00009	.919
%RSD	1.0156	1.5949	1.9095	6.4095	1.5428	.86825	1.5564
#1	.01046	102.20	.09772	.02676	2.1375	.00990	58.014
#2	.01033	105.18	.09799	.03032	2.1873	.01007	59.433
#3	.01026	104.96	.09466	.02938	2.2014	.01001	59.736
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00890	.07422	.18649	.18426	195.51	8.8956	.06279
Stddev	.00003	.00011	.00057	.00248	2.68	.1378	.00356
%RSD	.36809	.14540	.30416	1.3469	1.3695	1.5489	5.6619
#1	.00893	.07430	.18585	.18712	192.44	8.7790	.05966
#2	.00887	.07425	.18669	.18280	196.70	8.8601	.06666
#3	.00890	.07409	.18694	.18285	197.38	9.0476	.06207
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.671	5.1223	.00986	.89629	.12703	.57005	.00866
Stddev	.296	.0847	.00010	.01220	.00102	.00226	.00138
%RSD	1.8893	1.6536	1.0619	1.3609	.79939	.39670	15.970
#1	15.344	5.0277	.00974	.88533	.12792	.57251	.00894
#2	15.752	5.1481	.00993	.90944	.12724	.56806	.00716
#3	15.919	5.1911	.00992	.89411	.12592	.56960	.00988
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041736 Acquired: 3/23/2011 23:56:15 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00940	F 152.26	.03299	.42945	.27856	.00036	.35728
Stddev	.00278	.50	.00037	.00918	.00488	.00108	.00413
%RSD	29.553	.32742	1.1130	2.1377	1.7514	303.18	1.1568
#1	.00867	152.55	.03258	.41936	.27294	-.00077	.35264
#2	.01248	152.54	.03307	.43167	.28105	.00139	.35862
#3	.00706	151.68	.03330	.43731	.28168	.00045	.36058
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	1.4185
Stddev	.0006
%RSD	.04572
#1	1.4189
#2	1.4189
#3	1.4178
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	51348.	64230.
Stddev	227.	776.
%RSD	.44215	1.2074
#1	51607.	65122.
#2	51257.	63713.
#3	51182.	63856.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041737 Acquired: 3/23/2011 23:59:41 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359289-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00457	109.47	.10627	.02365	2.4376	.01147	46.797
Stddev	.00099	.75	.00349	.00542	.0428	.00006	.807
%RSD	21.612	.68181	3.2795	22.897	1.7548	.51869	1.7246
#1	.00569	108.67	.10484	.01758	2.3887	.01145	45.868
#2	.00381	110.15	.10373	.02798	2.4564	.01142	47.197
#3	.00422	109.59	.11024	.02540	2.4678	.01154	47.327
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00583	.12390	.17959	.14344	245.89	6.1304	.06341
Stddev	.00028	.00047	.00151	.00576	4.21	.1829	.00253
%RSD	4.7761	.38240	.84123	4.0139	1.7125	2.9839	3.9835
#1	.00553	.12428	.18090	.15002	241.05	5.9192	.06099
#2	.00607	.12337	.17794	.14093	247.93	6.2412	.06603
#3	.00591	.12406	.17993	.13936	248.69	6.2307	.06320
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.396	8.6467	.00915	1.2623	.13791	.48185	.00786
Stddev	.291	.1484	.00019	.0174	.00106	.00125	.00136
%RSD	1.8915	1.7161	2.1175	1.3764	.76530	.25988	17.239
#1	15.066	8.4776	.00934	1.2423	.13795	.48266	.00802
#2	15.502	8.7073	.00917	1.2742	.13894	.48041	.00644
#3	15.618	8.7551	.00895	1.2703	.13683	.48249	.00913
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041737 Acquired: 3/23/2011 23:59:41 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359289-01

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00815	F 142.10	.01220	.35348	.26196	.00374	.42381
Stddev	.00216	.17	.00014	.00566	.00432	.00054	.00034
%RSD	26.541	.11762	1.1495	1.6002	1.6482	14.585	.07921
#1	.00570	142.25	.01216	.34697	.25703	.00415	.42419
#2	.00897	142.14	.01208	.35622	.26380	.00393	.42362
#3	.00979	141.92	.01235	.35723	.26505	.00312	.42361
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	1.0353
Stddev	.0028
%RSD	.26902
#1	1.0381
#2	1.0352
#3	1.0326
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	51873.	64347.
Stddev	81.	362.
%RSD	.15647	.56299
#1	51806.	64765.
#2	51963.	64121.
#3	51849.	64156.

Approved: March 24, 2011
Pierce Morris

Sample Name: CCV Acquired: 3/24/2011 0:03:10 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F .44499	9.7396	.41188	.53624	1.0558	.05152	10.520
Stddev	.00128	.0204	.00053	.00213	.0015	.00016	.018
%RSD	.28777	.20936	.12749	.39713	.14069	.30668	.16995
#1	.44491	9.7631	.41131	.53425	1.0543	.05136	10.524
#2	.44630	9.7267	.41235	.53599	1.0573	.05152	10.536
#3	.44375	9.7289	.41197	.53849	1.0557	.05168	10.501
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value	.40000						
Range	10.000%						

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05325	.20580	.52864	.52207	4.0122	51.507	1.0238
Stddev	.00024	.00040	.00198	.00009	.0736	.120	.0025
%RSD	.45502	.19363	.37540	.01667	1.8344	.23239	.24522
#1	.05318	.20559	.52740	.52213	4.0968	51.444	1.0215
#2	.05304	.20556	.53092	.52197	3.9767	51.645	1.0234
#3	.05351	.20626	.52758	.52211	3.9631	51.432	1.0265
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.4475	.49667	1.0666	52.143	.52388	.52036	1.2836
Stddev	.0466	.00124	.0012	.052	.00075	.00151	.0029
%RSD	.49301	.24974	.11114	.09907	.14271	.28992	.22460
#1	9.4080	.49735	1.0663	52.131	.52407	.52131	1.2806
#2	9.4989	.49741	1.0679	52.199	.52452	.51862	1.2837
#3	9.4357	.49523	1.0656	52.098	.52306	.52115	1.2863
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: March 24, 2011
Pierce Morris

Sample Name: CCV Acquired: 3/24/2011 0:03:10 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.41713	F 3.2076	1.0319	1.0437	1.0050	.53069	1.0814
Stddev	.00376	.0179	.0018	.0044	.0013	.00228	.0029
%RSD	.90097	.55665	.17725	.42311	.12743	.42933	.27035
#1	.41778	3.1954	1.0308	1.0401	1.0063	.53321	1.0781
#2	.41308	3.1992	1.0309	1.0486	1.0051	.52876	1.0822
#3	.42051	3.2281	1.0340	1.0424	1.0037	.53011	1.0838
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value		5.0000					
Range		-10.000%					

Elem	Zn2062
Units	ppm
Avg	.96482
Stddev	.00045
%RSD	.04690
#1	.96432
#2	.96520
#3	.96493
Check ?	Chk Pass
Value	
Range	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	52758.	65980.
Stddev	128.	111.
%RSD	.24297	.16888
#1	52903.	65859.
#2	52707.	66005.
#3	52662.	66077.

Approved: March 24, 2011
Pierce Morris

Sample Name: CCB Acquired: 3/24/2011 0:06:31 Type: Blank
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00042	.00556	-.00070	.00072	-.00094	.00001	.08262
Stddev	.00053	.00115	.00338	.00126	.00022	.00002	.01133
%RSD	124.40	20.693	486.60	174.34	23.107	260.91	13.718
#1	.00001	.00542	.00084	-.00073	-.00108	.00003	.08110
#2	-.00027	.00677	-.00457	.00155	-.00105	-.00001	.09464
#3	-.00101	.00448	.00165	.00135	-.00069	.00001	.07213
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00003	-.00001	-.00011	-.00002	.05209	F -1.1651	-.00458
Stddev	.00025	.00032	.00041	.00053	.00115	.0481	.00232
%RSD	727.45	3830.5	355.37	3360.3	2.2028	4.1241	50.669
#1	-.00025	.00035	-.00041	-.00015	.05086	-1.2181	-.00727
#2	.00012	-.00027	.00035	.00057	.05313	-1.1526	-.00326
#3	.00023	-.00011	-.00029	-.00047	.05228	-1.1245	-.00322
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit						1.0000	
Low Limit						-1.0000	

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.02632	.00113	.00059	.11001	.00033	-.00110	.00186
Stddev	.01257	.00020	.00015	.00834	.00008	.00300	.00177
%RSD	47.752	17.812	25.996	7.5766	25.532	273.19	95.279
#1	-.01203	.00123	.00069	.11277	.00025	.00212	.00386
#2	-.03564	.00090	.00042	.11662	.00033	-.00161	.00118
#3	-.03131	.00126	.00068	.10065	.00042	-.00381	.00052
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: CCB Acquired: 3/24/2011 0:06:31 Type: Blank
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00037	F -2.0960	.00013	-.00022	.00247	.00102	.00069
Stddev	.00352	.0542	.00029	.00010	.00055	.00037	.00052
%RSD	956.99	2.5858	227.13	42.736	22.296	36.779	75.842
#1	-.00409	-2.0523	.00027	-.00013	.00296	.00101	.00020
#2	.00290	-2.1567	.00032	-.00022	.00187	.00139	.00124
#3	.00008	-2.0791	-.00021	-.00032	.00259	.00065	.00062
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		1.0000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	-.00077
Stddev	.00005
%RSD	6.1119
#1	-.00080
#2	-.00071
#3	-.00079
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	53055.	64927.
Stddev	67.	114.
%RSD	.12605	.17490
#1	53081.	65040.
#2	52980.	64813.
#3	53106.	64927.

Approved: March 24, 2011
Pierce Morris

L1103041738

Sample Name: ~~L113041738~~ Acquired: 3/24/2011 0:10:10 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359289-05

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.20303**	**115.69**	**.27862**	**.02295**	**2.4357**	**.01149**	**46.535**
Stddev	.00186	.61	.00322	.00561	.0309	.00011	.605
%RSD	.91785	.52515	1.1568	24.459	1.2687	.95903	1.2999
#1	.20500	115.01	.27548	.01671	2.4002	.01159	45.837
#2	.20278	115.90	.27844	.02456	2.4504	.01151	46.857
#3	.20130	116.17	.28192	.02758	2.4565	.01138	46.910
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.02893**	**.11171**	**.19019**	**.37756**	**215.71**	**6.6592**	**.06835**
Stddev	.00016	.00036	.00207	.00594	2.77	.0458	.00111
%RSD	.53856	.32152	1.0899	1.5726	1.2830	.68790	1.6242
#1	.02905	.11188	.19214	.38402	212.52	6.6123	.06841
#2	.02898	.11196	.18801	.37631	217.09	6.7038	.06942
#3	.02875	.11130	.19042	.37234	217.51	6.6614	.06721
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**16.322**	**7.1957**	**.00927**	**1.3680**	**.14349**	**.65855**	**.00902**
Stddev	.172	.0907	.00043	.0072	.00011	.00284	.00234
%RSD	1.0520	1.2604	4.6608	.52543	.07989	.43060	25.982
#1	16.123	7.0920	.00936	1.3598	.14347	.66171	.00632
#2	16.425	7.2350	.00965	1.3726	.14338	.65772	.01044
#3	16.417	7.2601	.00880	1.3718	.14360	.65622	.01031
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

L1103041738

Sample Name: ~~L113041738~~ Acquired: 3/24/2011 0:10:10 Type: Unk

Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000

User: PDM Custom ID1: Custom ID2: Custom ID3:

Comment: WG359289-05

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00869	F 168.46	.01261	.35645	.31225	.00423	.38587
Stddev	.00520	.79	.00043	.00416	.00296	.00055	.00057
%RSD	59.797	.46778	3.3891	1.1668	.94877	12.987	.14702
#1	.01000	167.89	.01212	.35167	.30892	.00473	.38538
#2	.01311	168.13	.01283	.35847	.31321	.00431	.38649
#3	.00296	169.36	.01288	.35923	.31461	.00364	.38575
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.94606
Stddev	.00096
%RSD	.10101
#1	.94663
#2	.94659
#3	.94496
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	51579.	65104.
Stddev	118.	270.
%RSD	.22969	.41503
#1	51449.	65410.
#2	51606.	65005.
#3	51682.	64898.

Approved: March 24, 2011

Pierce Morris

L1103041739

Sample Name: ~~L113041739~~ Acquired: 3/24/2011 0:13:37 Type: Unk

Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000

User: PDM Custom ID1: Custom ID2: Custom ID3:

Comment: WG359289-06

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.20130	109.29	.28700	.02473	2.5241	.01159	46.275
Stddev	.00057	.68	.00243	.00247	.0202	.00003	.429
%RSD	.28471	.61886	.84574	10.003	.79855	.23024	.92798
#1	.20064	108.61	.28957	.02194	2.5008	.01158	45.779
#2	.20163	109.30	.28668	.02668	2.5360	.01162	46.526
#3	.20164	109.96	.28475	.02556	2.5355	.01157	46.521
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.03006	.18954	.17291	.37808	231.14	6.2038	.06202
Stddev	.00004	.00023	.00070	.00146	1.87	.0562	.00046
%RSD	.12523	.11995	.40515	.38490	.80992	.90550	.74547
#1	.03009	.18931	.17363	.37947	228.98	6.1704	.06160
#2	.03007	.18977	.17223	.37657	232.22	6.1723	.06193
#3	.03002	.18955	.17286	.37818	232.22	6.2686	.06252
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.615	11.214	.00975	1.3466	.14501	.76198	.00877
Stddev	.148	.092	.00018	.0021	.00077	.00219	.00091
%RSD	.95096	.81930	1.8376	.15436	.52958	.28745	10.347
#1	15.457	11.109	.00955	1.3451	.14417	.76393	.00806
#2	15.636	11.253	.00990	1.3457	.14519	.75961	.00979
#3	15.752	11.280	.00979	1.3489	.14567	.76240	.00845
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011

Pierce Morris

L1103041739

Sample Name: ~~L113041739~~ Acquired: 3/24/2011 0:13:37 Type: Unk

Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000

User: PDM Custom ID1: Custom ID2: Custom ID3:

Comment: WG359289-06

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01164	F 163.98	.01207	.34743	.29977	.00192	.41104
Stddev	.00147	.28	.00080	.00377	.00253	.00189	.00118
%RSD	12.664	.16846	6.5868	1.0843	.84539	98.418	.28819
#1	.01041	163.85	.01141	.34314	.29736	.00010	.41091
#2	.01123	163.79	.01186	.34896	.29955	.00387	.40992
#3	.01328	164.30	.01295	.35019	.30241	.00178	.41228
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	1.0259
Stddev	.0005
%RSD	.04871
#1	1.0255
#2	1.0265
#3	1.0258
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	51613.	64713.
Stddev	75.	397.
%RSD	.14525	.61380
#1	51683.	65142.
#2	51623.	64637.
#3	51534.	64359.

Approved: March 24, 2011

Pierce Morris

L1103041740

Sample Name: ~~L113041740~~ Acquired: 3/24/2011 0:17:03 Type: Unk

Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000

User: PDM Custom ID1: Custom ID2: Custom ID3:

Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00560	103.22	.12858	.02114	1.7530	.01140	40.239
Stddev	.00014	1.80	.00143	.00049	.0293	.00007	.716
%RSD	2.5396	1.7454	1.1153	2.3309	1.6689	.58648	1.7786
#1	.00575	101.18	.13007	.02080	1.7193	.01133	39.413
#2	.00547	103.88	.12847	.02091	1.7684	.01142	40.620
#3	.00557	104.60	.12721	.02170	1.7714	.01146	40.683
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00831	.21593	.19334	.17521	274.58	10.463	.06930
Stddev	.00002	.00033	.00084	.00574	4.65	.229	.00361
%RSD	.26059	.15427	.43442	3.2777	1.6920	2.1839	5.2053
#1	.00828	.21554	.19307	.18183	269.22	10.211	.07070
#2	.00832	.21613	.19267	.17216	277.19	10.520	.07199
#3	.00832	.21611	.19428	.17163	277.34	10.658	.06520
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	16.153	9.3397	.01276	1.0276	.15415	.75114	.00899
Stddev	.335	.1566	.00023	.0125	.00087	.00226	.00151
%RSD	2.0744	1.6763	1.7991	1.2145	.56554	.30056	16.809
#1	15.769	9.1594	.01299	1.0184	.15334	.75343	.00758
#2	16.306	9.4186	.01277	1.0418	.15404	.74892	.01059
#3	16.385	9.4411	.01253	1.0226	.15507	.75108	.00880
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011

Pierce Morris

L1103041740

Sample Name: ~~L113041740~~ Acquired: 3/24/2011 0:17:03 Type: Unk

Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000

User: PDM Custom ID1: Custom ID2: Custom ID3:

Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00851	F 143.56	.01544	.25751	.24815	.00408	.43148
Stddev	.00357	.10	.00033	.00440	.00444	.00148	.00217
%RSD	41.882	.06716	2.1366	1.7077	1.7905	36.370	.50264
#1	.01262	143.47	.01560	.25249	.24304	.00290	.42995
#2	.00671	143.66	.01565	.25937	.25028	.00575	.43052
#3	.00621	143.56	.01506	.26067	.25112	.00359	.43396
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	1.4424
Stddev	.0009
%RSD	.06022
#1	1.4428
#2	1.4414
#3	1.4430
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	51039.	64837.
Stddev	203.	1022.
%RSD	.39842	1.5767
#1	51128.	65971.
#2	51183.	64556.
#3	50806.	63985.

Approved: March 24, 2011

Pierce Morris

L1103041741

Sample Name: ~~L113041741~~ Acquired: 3/24/2011 0:20:29 Type: Unk

Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000

User: PDM Custom ID1: Custom ID2: Custom ID3:

Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00514	109.94	.13313	.01887	1.8107	.01175	43.441
Stddev	.00089	1.08	.00331	.00278	.0396	.00007	.914
%RSD	17.221	.97921	2.4861	14.751	2.1890	.61485	2.1045
#1	.00424	108.70	.13461	.01622	1.7657	.01175	42.398
#2	.00601	110.64	.13544	.01863	1.8263	.01183	43.822
#3	.00516	110.49	.12933	.02177	1.8402	.01168	44.103
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00863	.09751	.21890	.17428	280.03	7.6783	.06764
Stddev	.00015	.00042	.00104	.00765	5.91	.1921	.00078
%RSD	1.7347	.43219	.47414	4.3867	2.1115	2.5018	1.1569
#1	.00864	.09785	.21971	.18234	273.25	7.4566	.06802
#2	.00878	.09763	.21925	.17336	282.73	7.7941	.06674
#3	.00848	.09704	.21773	.16713	284.11	7.7843	.06816
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	16.410	5.8861	.01202	3.4198	.15590	.67905	.01098
Stddev	.393	.1356	.00021	.0642	.00159	.00230	.00388
%RSD	2.3925	2.3034	1.7196	1.8767	1.0185	.33836	35.334
#1	15.958	5.7313	.01179	3.3502	.15773	.68086	.01101
#2	16.604	5.9436	.01211	3.4325	.15503	.67983	.00708
#3	16.668	5.9835	.01217	3.4767	.15494	.67647	.01484
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011

Pierce Morris

L1103041741

Sample Name: ~~L113041741~~ Acquired: 3/24/2011 0:20:29 Type: Unk

Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000

User: PDM Custom ID1: Custom ID2: Custom ID3:

Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00994	F 170.20	.01348	.28981	.28293	.00038	.43778
Stddev	.00450	.31	.00044	.00733	.00647	.00107	.00130
%RSD	45.274	.18239	3.2855	2.5284	2.2879	283.04	.29587
#1	.01479	170.36	.01338	.28139	.27547	-.00023	.43689
#2	.00913	170.40	.01309	.29328	.28700	.00161	.43927
#3	.00590	169.84	.01396	.29475	.28632	-.00024	.43719
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	1.4638
Stddev	.0024
%RSD	.16697
#1	1.4653
#2	1.4652
#3	1.4610
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	51257.	64008.
Stddev	217.	577.
%RSD	.42333	.90194
#1	51200.	64659.
#2	51074.	63558.
#3	51497.	63806.

Approved: March 24, 2011

Pierce Morris

L1103041742

Sample Name: ~~L113041742~~ Acquired: 3/24/2011 0:23:55 Type: Unk

Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000

User: PDM Custom ID1: Custom ID2: Custom ID3:

Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01047**	**113.29**	**.13412**	**.02316**	**1.8674**	**.01192**	**53.695**
Stddev	.00052	.66	.00133	.00236	.0194	.00003	.551
%RSD	5.0086	.57846	.99304	10.169	1.0386	.22893	1.0255
#1	.00989	112.54	.13339	.02161	1.8450	.01195	53.059
#2	.01091	113.78	.13331	.02200	1.8776	.01190	54.008
#3	.01062	113.53	.13565	.02587	1.8796	.01192	54.018
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00881**	**.10190**	**.21022**	**.22176**	**276.88**	**10.528**	**.07255**
Stddev	.00020	.00025	.00114	.00428	2.65	.109	.00370
%RSD	2.3003	.24859	.54137	1.9304	.95823	1.0332	5.0979
#1	.00887	.10217	.21071	.22645	273.82	10.433	.06882
#2	.00858	.10185	.20892	.22076	278.25	10.505	.07261
#3	.00897	.10167	.21103	.21806	278.56	10.646	.07622
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**16.400**	**5.4107**	**.01228**	**.67125**	**.17481**	**.63086**	**.01017**
Stddev	.143	.0560	.00017	.01333	.00116	.00654	.00227
%RSD	.87178	1.0355	1.3436	1.9862	.66583	1.0362	22.305
#1	16.235	5.3462	.01246	.68513	.17452	.63557	.01236
#2	16.479	5.4388	.01225	.67008	.17383	.62340	.01031
#3	16.486	5.4471	.01214	.65854	.17610	.63362	.00783
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011

Pierce Morris

L1103041742

Sample Name: ~~L113041742~~ Acquired: 3/24/2011 0:23:55 Type: Unk

Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000

User: PDM Custom ID1: Custom ID2: Custom ID3:

Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00807	F 156.12	.03089	.32884	.29673	.00425	.41004
Stddev	.00239	.59	.00073	.00332	.00353	.00154	.00127
%RSD	29.628	.37902	2.3634	1.0081	1.1891	36.344	.31028
#1	.00702	155.88	.03157	.32501	.29276	.00381	.41079
#2	.01080	155.70	.03012	.33090	.29951	.00297	.40857
#3	.00638	156.80	.03099	.33059	.29792	.00596	.41076
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	1.4354
Stddev	.0023
%RSD	.15847
#1	1.4370
#2	1.4364
#3	1.4328
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	51233.	64763.
Stddev	58.	442.
%RSD	.11284	.68214
#1	51174.	65266.
#2	51289.	64437.
#3	51237.	64585.

Approved: March 24, 2011

Pierce Morris

L1103041743

Sample Name: ~~L113041743~~ Acquired: 3/24/2011 0:27:22 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01229	115.70	.14079	.02686	1.9261	.01221	47.675
Stddev	.00024	.79	.00178	.00471	.0254	.00002	.602
%RSD	1.9212	.68651	1.2617	17.543	1.3169	.20087	1.2631
#1	.01233	115.43	.13982	.02189	1.8968	.01223	46.981
#2	.01204	116.59	.13971	.03126	1.9416	.01218	48.057
#3	.01250	115.08	.14284	.02742	1.9398	.01221	47.987
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00959	.13349	.21096	.27603	291.24	10.233	.07275
Stddev	.00009	.00024	.00085	.00574	4.04	.211	.00239
%RSD	.89668	.17770	.40456	2.0808	1.3871	2.0619	3.2839
#1	.00950	.13340	.21165	.28264	286.58	10.003	.07375
#2	.00962	.13376	.21001	.27317	293.47	10.278	.07002
#3	.00967	.13331	.21124	.27228	293.68	10.417	.07448
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	17.153	6.9092	.01181	.62817	.18453	.74156	.01337
Stddev	.190	.0881	.00035	.01353	.00084	.00141	.00369
%RSD	1.1076	1.2755	2.9342	2.1546	.45442	.19044	27.591
#1	16.935	6.8079	.01160	.62244	.18549	.74015	.01329
#2	17.241	6.9688	.01161	.61844	.18419	.74155	.01710
#3	17.283	6.9507	.01221	.64363	.18391	.74298	.00972
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

L1103041743

Sample Name: ~~L113041743~~ Acquired: 3/24/2011 0:27:22 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00925	F 143.00	.03602	.31947	.26638	.00350	.42404
Stddev	.00168	.84	.00023	.00356	.00364	.00244	.00231
%RSD	18.103	.58757	.63129	1.1142	1.3678	69.737	.54540
#1	.01117	143.04	.03624	.31539	.26325	.00445	.42669
#2	.00849	143.83	.03603	.32197	.26551	.00073	.42238
#3	.00810	142.15	.03579	.32104	.27038	.00534	.42307
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	1.5645
Stddev	.0016
%RSD	.10158
#1	1.5664
#2	1.5634
#3	1.5639
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	50938.	64844.
Stddev	90.	515.
%RSD	.17586	.79412
#1	50835.	65162.
#2	50989.	64250.
#3	50991.	65121.

Approved: March 24, 2011
Pierce Morris

L1103041744

Sample Name: ~~L113041744~~ Acquired: 3/24/2011 0:30:47 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00491	101.26	.10513	.02156	1.9202	.01013	47.261
Stddev	.00047	.51	.00502	.00309	.0180	.00001	.450
%RSD	9.4857	.50182	4.7732	14.328	.93546	.14351	.95317
#1	.00493	100.73	.10047	.01800	1.8996	.01013	46.751
#2	.00443	101.30	.10447	.02326	1.9287	.01015	47.429
#3	.00536	101.74	.11045	.02344	1.9324	.01012	47.604
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00956	.07138	.17685	.16281	201.68	8.5106	.07061
Stddev	.00010	.00022	.00106	.00219	1.78	.0856	.00220
%RSD	1.0253	.31121	.60131	1.3428	.88056	1.0061	3.1119
#1	.00960	.07137	.17598	.16514	199.64	8.4147	.06809
#2	.00944	.07160	.17804	.16250	202.48	8.5377	.07213
#3	.00962	.07116	.17653	.16080	202.91	8.5794	.07162
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	17.281	3.9403	.00852	.94111	.14696	.54395	.00900
Stddev	.127	.0331	.00003	.00712	.00099	.00217	.00182
%RSD	.73621	.84072	.32763	.75678	.67563	.39898	20.171
#1	17.136	3.9021	.00850	.93959	.14723	.54544	.00861
#2	17.338	3.9578	.00852	.94887	.14586	.54146	.00741
#3	17.370	3.9609	.00855	.93487	.14779	.54494	.01098
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

L1103041744

Sample Name: ~~L113041744~~ Acquired: 3/24/2011 0:30:47 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00644	F 146.69	.01265	.30556	.24459	.00183	.31017
Stddev	.00362	.76	.00011	.00303	.00122	.00024	.00036
%RSD	56.265	.51874	.83512	.99293	.49765	13.232	.11621
#1	.00652	146.89	.01257	.30213	.24332	.00211	.30990
#2	.00278	145.85	.01277	.30667	.24575	.00166	.31058
#3	.01003	147.34	.01261	.30789	.24471	.00173	.31002
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	1.4739
Stddev	.0017
%RSD	.11806
#1	1.4753
#2	1.4744
#3	1.4719
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	51112.	64871.
Stddev	121.	364.
%RSD	.23624	.56165
#1	51250.	65275.
#2	51054.	64773.
#3	51030.	64566.

Approved: March 24, 2011
Pierce Morris

L1103041745

Sample Name: ~~L113041745~~ Acquired: 3/24/2011 0:34:14 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00353**	**118.01**	**.10871**	**.02202**	**2.1648**	**.01202**	**41.903**
Stddev	.00038	1.10	.00212	.00255	.0255	.00004	.510
%RSD	10.762	.92925	1.9515	11.582	1.1774	.31116	1.2177
#1	.00375	116.96	.10942	.01928	2.1355	.01205	41.314
#2	.00374	119.15	.11039	.02245	2.1773	.01204	42.206
#3	.00309	117.92	.10633	.02433	2.1817	.01198	42.190
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00452**	**.09579**	**.19077**	**.15153**	**260.71**	**6.8380**	**.09014**
Stddev	.00025	.00013	.00078	.00326	2.98	.0428	.00185
%RSD	5.4289	.13530	.40781	2.1538	1.1441	.62638	2.0492
#1	.00424	.09585	.19160	.15528	257.28	6.7929	.09126
#2	.00464	.09588	.19064	.14998	262.15	6.8431	.09115
#3	.00469	.09564	.19006	.14933	262.70	6.8781	.08801
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**20.996**	**6.1104**	**.00802**	**1.1106**	**.18911**	**.43106**	**.00924**
Stddev	.261	.0707	.00035	.0134	.00021	.00405	.00180
%RSD	1.2425	1.1575	4.4071	1.2026	.10983	.93993	19.517
#1	20.695	6.0290	.00834	1.1073	.18891	.42702	.00869
#2	21.153	6.1450	.00810	1.1253	.18909	.43512	.01126
#3	21.140	6.1571	.00764	1.0991	.18932	.43103	.00778
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

L1103041745

Sample Name: ~~L113041745~~ Acquired: 3/24/2011 0:34:14 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00852	F 152.10	.00967	.28728	.26312	.00184	.36714
Stddev	.00143	.48	.00029	.00343	.00191	.00238	.00098
%RSD	16.775	.31801	2.9928	1.1941	.72530	129.26	.26649
#1	.00687	151.54	.00951	.28332	.26100	-.00064	.36694
#2	.00925	152.42	.00950	.28906	.26471	.00207	.36820
#3	.00944	152.33	.01001	.28945	.26363	.00409	.36627
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	1.0278
Stddev	.0017
%RSD	.16813
#1	1.0298
#2	1.0269
#3	1.0267
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	50857.	64026.
Stddev	76.	449.
%RSD	.15032	.70095
#1	50769.	64471.
#2	50888.	63573.
#3	50912.	64033.

Approved: March 24, 2011
Pierce Morris

L1103041746

Sample Name: ~~L113041746~~ Acquired: 3/24/2011 0:37:39 Type: Unk

Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000

User: PDM Custom ID1: Custom ID2: Custom ID3:

Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00373	86.792	.09076	.02634	2.2045	.00912	52.000
Stddev	.00051	1.739	.00215	.00084	.0389	.00004	.984
%RSD	13.629	2.0031	2.3731	3.1779	1.7632	.45156	1.8917
#1	.00425	84.797	.09123	.02589	2.1597	.00908	50.868
#2	.00369	87.983	.09264	.02582	2.2248	.00913	52.488
#3	.00323	87.596	.08841	.02730	2.2291	.00916	52.645
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00777	.18564	.12044	.14152	183.75	7.8943	.05547
Stddev	.00004	.00047	.00068	.00496	3.36	.1341	.00247
%RSD	.54415	.25286	.56432	3.5015	1.8272	1.6983	4.4456
#1	.00773	.18562	.12079	.14723	179.88	7.7641	.05486
#2	.00778	.18518	.11966	.13903	185.45	7.8868	.05336
#3	.00781	.18612	.12088	.13830	185.92	8.0320	.05818
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.134	11.219	.00994	1.1152	.12827	.53382	.00880
Stddev	.199	.184	.00026	.0104	.00052	.00028	.00344
%RSD	1.3142	1.6384	2.6460	.92850	.40863	.05188	39.133
#1	14.906	11.007	.01025	1.1061	.12859	.53389	.00580
#2	15.270	11.324	.00981	1.1132	.12856	.53406	.01256
#3	15.227	11.326	.00977	1.1265	.12767	.53352	.00803
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011

Pierce Morris

L1103041746

Sample Name: ~~L113041746~~ Acquired: 3/24/2011 0:37:39 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00983	F 147.20	.01176	.43198	.28981	.00449	.33090
Stddev	.00261	.95	.00055	.00722	.00407	.00207	.00145
%RSD	26.565	.64803	4.7076	1.6712	1.4043	46.219	.43909
#1	.01212	148.29	.01166	.42366	.28514	.00405	.32922
#2	.00699	146.78	.01235	.43666	.29170	.00267	.33170
#3	.01039	146.53	.01126	.43561	.29260	.00675	.33178
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	1.2633
Stddev	.0015
%RSD	.11973
#1	1.2650
#2	1.2627
#3	1.2621
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	51057.	64339.
Stddev	91.	1108.
%RSD	.17729	1.7223
#1	50958.	65613.
#2	51136.	63605.
#3	51078.	63798.

Approved: March 24, 2011
Pierce Morris

L1103041747

Sample Name: ~~L113041747~~ Acquired: 3/24/2011 0:41:06 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359298-~~01~~02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00344	99.047	.09432	.01640	1.8978	.01003	37.660
Stddev	.00019	1.003	.00086	.00146	.0292	.00006	.514
%RSD	5.6382	1.0126	.91269	8.9228	1.5369	.64515	1.3647
#1	.00356	97.896	.09505	.01471	1.8644	.01001	37.067
#2	.00322	99.737	.09454	.01717	1.9107	.01011	37.949
#3	.00354	99.507	.09337	.01731	1.9183	.00998	37.965
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00467	.07010	.18224	.12772	197.02	6.8253	.06105
Stddev	.00016	.00005	.00109	.00369	2.83	.1342	.00073
%RSD	3.4293	.07158	.59699	2.8899	1.4366	1.9655	1.1927
#1	.00477	.07016	.18236	.13197	193.76	6.6733	.06188
#2	.00449	.07009	.18326	.12582	198.58	6.8755	.06076
#3	.00476	.07006	.18110	.12536	198.74	6.9272	.06051
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.608	4.2336	.00908	1.4968	.12614	.40393	.00846
Stddev	.279	.0617	.00028	.0184	.00030	.00221	.00209
%RSD	1.9116	1.4573	3.0621	1.2264	.23780	.54604	24.656
#1	14.290	4.1624	.00877	1.4763	.12582	.40152	.01016
#2	14.718	4.2708	.00920	1.5023	.12641	.40443	.00613
#3	14.815	4.2676	.00929	1.5118	.12621	.40584	.00910
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

L1103041747

Sample Name: ~~L113041747~~ Acquired: 3/24/2011 0:41:06 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359298-~~01~~02

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00434	F 148.12	.01079	.27682	.28526	.00142	.34311
Stddev	.00294	.43	.00072	.00415	.00457	.00143	.00154
%RSD	67.802	.28811	6.6970	1.5003	1.6023	100.55	.44817
#1	.00728	147.96	.01097	.27205	.28011	-.00012	.34183
#2	.00139	148.60	.01000	.27965	.28683	.00169	.34481
#3	.00436	147.79	.01141	.27875	.28883	.00269	.34267
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.97455
Stddev	.00031
%RSD	.03198
#1	.97428
#2	.97489
#3	.97448
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	51213.	64656.
Stddev	132.	603.
%RSD	.25853	.93306
#1	51327.	65348.
#2	51068.	64241.
#3	51245.	64379.

Approved: March 24, 2011
Pierce Morris

Sample Name: CCV Acquired: 3/24/2011 0:44:35 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F .44256	9.7092	.41268	.53059	1.0586	.05151	10.562
Stddev	.00246	.0440	.00238	.00195	.0010	.00009	.017
%RSD	.55562	.45322	.57591	.36720	.09539	.17151	.16245
#1	.44036	9.6595	.41024	.52890	1.0598	.05144	10.577
#2	.44522	9.7430	.41498	.53272	1.0580	.05161	10.564
#3	.44211	9.7253	.41284	.53014	1.0581	.05148	10.543
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value	.40000						
Range	10.000%						

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05320	.20600	.52578	.52197	4.0083	51.739	1.0297
Stddev	.00009	.00025	.00073	.00079	.0841	.076	.0010
%RSD	.16197	.11983	.13909	.15152	2.0973	.14736	.09635
#1	.05329	.20620	.52537	.52283	4.1053	51.652	1.0300
#2	.05312	.20608	.52662	.52179	3.9625	51.793	1.0306
#3	.05321	.20572	.52534	.52128	3.9571	51.772	1.0286
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.3712	.49542	1.0601	52.500	.52250	.51806	1.2837
Stddev	.0308	.00260	.0013	.043	.00084	.00158	.0027
%RSD	.32842	.52443	.12509	.08262	.16065	.30443	.21343
#1	9.4040	.49801	1.0596	52.459	.52300	.51816	1.2867
#2	9.3429	.49282	1.0616	52.545	.52297	.51959	1.2814
#3	9.3667	.49544	1.0591	52.495	.52153	.51644	1.2830
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: March 24, 2011
Pierce Morris

Sample Name: CCV Acquired: 3/24/2011 0:44:35 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.41936	F 3.0279	1.0292	1.0391	1.0073	.52753	1.0715
Stddev	.00224	.2680	.0026	.0015	.0010	.00077	.0024
%RSD	.53314	8.8517	.25225	.14763	.09561	.14653	.22219
#1	.41765	3.0442	1.0318	1.0395	1.0063	.52664	1.0715
#2	.42189	3.2874	1.0290	1.0374	1.0073	.52796	1.0738
#3	.41853	2.7521	1.0266	1.0403	1.0083	.52800	1.0690
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value		5.0000					
Range		-10.000%					

Elem	Zn2062
Units	ppm
Avg	.96763
Stddev	.00044
%RSD	.04513
#1	.96751
#2	.96812
#3	.96727
Check ?	Chk Pass
Value	
Range	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	52141.	64985.
Stddev	37.	217.
%RSD	.07161	.33457
#1	52101.	65232.
#2	52149.	64902.
#3	52174.	64822.

Approved: March 24, 2011
Pierce Morris

Sample Name: CCB Acquired: 3/24/2011 0:47:57 Type: Blank
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00078	.00705	.00199	-.00002	-.00052	-.00001	.04448
Stddev	.00083	.00171	.00039	.00131	.00010	.00002	.01509
%RSD	106.79	24.240	19.734	6406.3	19.203	128.46	33.926
#1	-.00004	.00803	.00242	-.00150	-.00045	-.00001	.04449
#2	-.00062	.00804	.00165	.00098	-.00063	.00000	.05957
#3	-.00168	.00508	.00191	.00046	-.00048	-.00003	.02939
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00009	-.00001	.00000	-.00016	.05252	F -1.1971	-.00320
Stddev	.00013	.00029	.0001	.00031	.00050	.0380	.00289
%RSD	145.18	5103.1	5100.8	195.05	.94870	3.1734	90.235
#1	.00017	.00028	.00012	-.00047	.05240	-1.1633	.00013
#2	.00015	.00000	.00002	-.00016	.05210	-1.1897	-.00471
#3	-.00006	-.00030	-.00015	.00015	.05307	-1.2382	-.00502
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit						1.0000	
Low Limit						-1.0000	

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.01836	.00047	.00046	.12457	.00115	.00134	.00209
Stddev	.02632	.00023	.00002	.00460	.00040	.00263	.00135
%RSD	143.33	49.053	4.5560	3.6887	34.639	195.85	64.811
#1	-.03097	.00051	.00045	.12253	.00109	.00429	.00344
#2	-.03601	.00022	.00048	.12984	.00157	.00050	.00208
#3	.01189	.00068	.00044	.12135	.00078	-.00076	.00074
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: CCB Acquired: 3/24/2011 0:47:57 Type: Blank
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00061**	F **-2.0250**	**-.00019**	**-.00034**	**.00279**	**.00241**	**.00065**
Stddev	.00306	.1760	.00012	.00006	.00062	.00083	.00038
%RSD	505.44	8.6904	62.404	16.907	22.164	34.481	58.843
#1	.00414	-2.0063	-.00031	-.00040	.00257	.00238	.00036
#2	-.00128	-2.2096	-.00016	-.00028	.00231	.00159	.00108
#3	-.00104	-1.8591	-.00009	-.00033	.00349	.00325	.00051
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		1.0000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	**.00015**
Stddev	.00014
%RSD	94.445
#1	-.00001
#2	.00026
#3	.00020
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	**52306.**	**64729.**
Stddev	101.	197.
%RSD	.19221	.30440
#1	52420.	64908.
#2	52231.	64518.
#3	52267.	64762.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041748S Acquired: 3/24/2011 0:51:35 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359298-~~04~~08

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.19937	106.39	.28427	.02059	2.0800	.01169	34.761
Stddev	.00042	1.90	.00113	.00300	.0485	.00010	.816
%RSD	.20893	1.7837	.39598	14.587	2.3299	.85384	2.3479
#1	.19973	104.29	.28431	.01749	2.0246	.01164	33.824
#2	.19947	106.91	.28538	.02349	2.1008	.01163	35.139
#3	.19891	107.98	.28313	.02078	2.1145	.01181	35.319
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.03153	.14423	.18388	.36951	283.04	6.5552	.07370
Stddev	.00011	.00054	.00106	.00780	6.40	.1724	.00175
%RSD	.34781	.37670	.57586	2.1098	2.2626	2.6295	2.3746
#1	.03148	.14464	.18491	.37841	275.69	6.3580	.07415
#2	.03145	.14443	.18279	.36628	286.02	6.6304	.07177
#3	.03165	.14361	.18392	.36386	287.41	6.6771	.07519
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.400	11.683	.00943	1.7094	.16549	.64416	.00433
Stddev	.363	.264	.00008	.0360	.00098	.00149	.00326
%RSD	2.3595	2.2579	.82658	2.1088	.59286	.23145	75.285
#1	14.991	11.383	.00938	1.6678	.16563	.64416	.00805
#2	15.524	11.792	.00952	1.7290	.16640	.64566	.00295
#3	15.685	11.876	.00939	1.7314	.16445	.64268	.00199
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041748S Acquired: 3/24/2011 0:51:35 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359298-~~04~~08

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00639	F 159.61	.01077	.26373	.30493	.00504	.43701
Stddev	.00648	.29	.00051	.00659	.00635	.00014	.00110
%RSD	101.43	.18416	4.7814	2.4969	2.0816	2.7949	.25183
#1	.00174	159.91	.01074	.25627	.29763	.00520	.43726
#2	.00363	159.58	.01027	.26619	.30801	.00495	.43580
#3	.01378	159.33	.01130	.26873	.30915	.00497	.43796
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	1.1067
Stddev	.0017
%RSD	.15640
#1	1.1083
#2	1.1071
#3	1.1049
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	49991.	63674.
Stddev	49.	1078.
%RSD	.09749	1.6931
#1	49962.	64910.
#2	50047.	63187.
#3	49964.	62925.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041749SD Acquired: 3/24/2011 0:55:01 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359298-~~05~~ 08

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.20266	104.62	.26917	.01669	1.9715	.01015	38.071
Stddev	.00181	.94	.00160	.00426	.0346	.00006	.653
%RSD	.89079	.89390	.59272	25.524	1.7529	.59675	1.7154
#1	.20211	104.00	.26739	.01186	1.9322	.01015	37.327
#2	.20119	104.17	.26965	.01829	1.9855	.01009	38.334
#3	.20467	105.70	.27047	.01992	1.9969	.01021	38.551
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.03049	.08795	.18724	.35637	203.02	6.9356	.06868
Stddev	.00021	.00027	.00095	.00537	3.47	.1356	.00229
%RSD	.68844	.30866	.50948	1.5082	1.7072	1.9556	3.3337
#1	.03045	.08818	.18790	.36204	199.12	6.7790	.06801
#2	.03030	.08802	.18615	.35573	204.20	7.0121	.07123
#3	.03071	.08765	.18768	.35135	205.74	7.0157	.06680
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.452	5.5637	.00865	1.5705	.13178	.65783	.00789
Stddev	.300	.0934	.00037	.0452	.00153	.00355	.00060
%RSD	1.9432	1.6795	4.2985	2.8749	1.1616	.53890	7.6101
#1	15.105	5.4571	.00903	1.5185	.13113	.65427	.00854
#2	15.611	5.6025	.00829	1.5933	.13068	.65785	.00736
#3	15.639	5.6316	.00865	1.5998	.13353	.66136	.00778
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041749SD Acquired: 3/24/2011 0:55:01 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359298-~~05~~ 08

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01209	F 146.51	.01159	.28864	.31465	.00203	.36538
Stddev	.00399	2.19	.00058	.00510	.00500	.00230	.00281
%RSD	33.006	1.4975	5.0381	1.7673	1.5896	113.02	.76794
#1	.00889	144.62	.01198	.28275	.30890	-.00022	.36381
#2	.01656	145.99	.01188	.29145	.31702	.00438	.36370
#3	.01082	148.91	.01092	.29171	.31803	.00194	.36861
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	1.0486
Stddev	.0012
%RSD	.11427
#1	1.0494
#2	1.0492
#3	1.0472
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	50649.	64387.
Stddev	100.	287.
%RSD	.19798	.44614
#1	50754.	64716.
#2	50639.	64256.
#3	50554.	64188.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041802 Acquired: 3/24/2011 0:58:27 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01680	215.91	.15147	.30296	8.6662	.01469	265.03
Stddev	.00007	2.71	.00137	.00106	.1755	.00004	2.02
%RSD	.42276	1.2534	.90513	.34875	2.0251	.26279	.76111
#1	.01674	212.78	.14990	.30362	8.4851	.01473	262.70
#2	.01688	217.55	.15205	.30174	8.6780	.01468	266.14
#3	.01680	217.38	.15246	.30352	8.8355	.01465	266.25
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00729	.15342	.27458	.34300	358.88	12.095	.13268
Stddev	.00024	.00013	.00121	.00281	2.59	.204	.00280
%RSD	3.2501	.08149	.44140	.81851	.72128	1.6873	2.1084
#1	.00740	.15352	.27439	.34610	355.89	11.861	.12982
#2	.00702	.15328	.27588	.34226	360.37	12.189	.13541
#3	.00747	.15346	.27348	.34063	360.38	12.236	.13282
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	38.862	7.5271	.02244	11.680	.24174	.53908	.01018
Stddev	.226	.0543	.00037	.085	.00194	.00174	.00057
%RSD	.58052	.72147	1.6615	.72549	.80392	.32188	5.6433
#1	38.654	7.4645	.02249	11.583	.24328	.54081	.00979
#2	38.831	7.5553	.02278	11.737	.24239	.53734	.01084
#3	39.102	7.5616	.02204	11.721	.23956	.53910	.00992
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041802 Acquired: 3/24/2011 0:58:27 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00934	F 865.71	.02331	4.1183	1.7328	.00506	.72091
Stddev	.00327	7.04	.00043	.0285	.0153	.00210	.00176
%RSD	34.997	.81294	1.8465	.69328	.88066	41.435	.24443
#1	.00955	871.16	.02365	4.0858	1.7151	.00393	.72246
#2	.00598	868.20	.02283	4.1293	1.7411	.00376	.72128
#3	.01251	857.76	.02346	4.1397	1.7420	.00747	.71899
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	1.3884
Stddev	.0039
%RSD	.28076
#1	1.3905
#2	1.3907
#3	1.3839
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	48894.	63544.
Stddev	117.	358.
%RSD	.23967	.56284
#1	48795.	63908.
#2	48863.	63530.
#3	49023.	63193.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041803 Acquired: 3/24/2011 1:02:08 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00639	128.65	.14609	.05274	1.7767	.01374	53.884
Stddev	.00107	.56	.00322	.00347	.0138	.00004	.448
%RSD	16.787	.43521	2.2045	6.5741	.77434	.27127	.83148
#1	.00591	128.15	.14302	.04884	1.7608	.01378	53.367
#2	.00762	128.54	.14945	.05549	1.7852	.01372	54.137
#3	.00564	129.26	.14581	.05388	1.7840	.01372	54.148
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00474	.14820	.21496	.17814	384.50	6.9673	.09078
Stddev	.00022	.00010	.00109	.00628	4.17	.1034	.00085
%RSD	4.5706	.07046	.50788	3.5280	1.0855	1.4835	.93302
#1	.00486	.14826	.21622	.18497	379.68	6.8640	.08982
#2	.00449	.14827	.21427	.17686	386.74	6.9671	.09113
#3	.00488	.14808	.21440	.17260	387.07	7.0708	.09140
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	17.617	11.039	.01258	1.4878	.20703	.61577	.01023
Stddev	.252	.141	.00021	.0092	.00048	.00196	.00248
%RSD	1.4328	1.2791	1.6439	.62042	.23181	.31755	24.209
#1	17.327	10.876	.01255	1.4813	.20725	.61683	.01248
#2	17.781	11.111	.01239	1.4836	.20648	.61351	.01063
#3	17.745	11.130	.01280	1.4983	.20736	.61696	.00757
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041803 Acquired: 3/24/2011 1:02:08 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00854	F 133.37	.01885	.36905	.22034	.00306	.44983
Stddev	.00375	.33	.00104	.00248	.00218	.00223	.00176
%RSD	43.918	.24770	5.5179	.67208	.98812	73.140	.39157
#1	.01264	133.05	.01828	.36625	.21793	.00280	.44983
#2	.00529	133.36	.02005	.36996	.22217	.00541	.44806
#3	.00769	133.71	.01822	.37095	.22091	.00096	.45158
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	1.3419
Stddev	.0007
%RSD	.05513
#1	1.3428
#2	1.3414
#3	1.3416
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	50383.	64005.
Stddev	103.	227.
%RSD	.20483	.35513
#1	50295.	64266.
#2	50497.	63902.
#3	50359.	63848.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041804 Acquired: 3/24/2011 1:05:34 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00414	130.42	.12868	.07126	2.9576	.01301	84.278
Stddev	.00057	2.10	.00321	.00301	.0493	.00003	1.416
%RSD	13.690	1.6123	2.4981	4.2272	1.6656	.25665	1.6803
#1	.00473	128.07	.13148	.06873	2.9019	.01299	82.697
#2	.00411	131.05	.12940	.07045	2.9753	.01299	84.707
#3	.00360	132.14	.12517	.07459	2.9955	.01305	85.430
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00969	.12957	.19797	.22027	295.43	12.163	.07904
Stddev	.00008	.00015	.00017	.00787	4.99	.215	.00236
%RSD	.83692	.11662	.08716	3.5729	1.6875	1.7672	2.9846
#1	.00974	.12957	.19782	.22917	289.80	11.921	.07738
#2	.00960	.12973	.19816	.21743	297.19	12.237	.08174
#3	.00973	.12942	.19794	.21422	299.29	12.331	.07800
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	20.778	7.9587	.01659	2.0083	.18205	.58914	.00941
Stddev	.408	.1359	.00041	.0412	.00146	.00023	.00466
%RSD	1.9656	1.7080	2.4758	2.0520	.80226	.03929	49.578
#1	20.313	7.8039	.01706	1.9611	.18050	.58888	.01279
#2	20.940	8.0141	.01628	2.0372	.18225	.58929	.00409
#3	21.080	8.0583	.01644	2.0266	.18340	.58926	.01135
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041804 Acquired: 3/24/2011 1:05:34 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01212	F 217.34	.01148	.93678	.33564	.00317	.42526
Stddev	.00597	1.29	.00034	.01438	.00653	.00188	.00092
%RSD	49.308	.59307	2.9886	1.5348	1.9467	59.468	.21685
#1	.00953	216.02	.01139	.92030	.32810	.00223	.42435
#2	.01895	217.41	.01119	.94325	.33957	.00534	.42619
#3	.00787	218.59	.01186	.94678	.33925	.00194	.42525
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	1.4853
Stddev	.0013
%RSD	.08948
#1	1.4869
#2	1.4847
#3	1.4844
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	50132.	64154.
Stddev	117.	859.
%RSD	.23423	1.3388
#1	50047.	65071.
#2	50266.	64022.
#3	50084.	63368.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041805 Acquired: 3/24/2011 1:08:59 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00427	139.74	.12080	.08331	3.0339	.01276	79.805
Stddev	.00047	2.86	.00250	.00124	.0461	.00006	1.319
%RSD	10.909	2.0490	2.0680	1.4890	1.5180	.47985	1.6531
#1	.00374	136.45	.12368	.08190	2.9810	.01277	78.294
#2	.00459	141.62	.11957	.08375	3.0561	.01281	80.393
#3	.00449	141.17	.11916	.08426	3.0647	.01269	80.727
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00753	.11039	.22771	.20024	297.68	9.7468	.09036
Stddev	.00011	.00031	.00065	.00649	4.76	.2121	.00186
%RSD	1.4366	.28099	.28508	3.2432	1.6005	2.1763	2.0623
#1	.00752	.11004	.22846	.20698	292.20	9.5172	.08827
#2	.00743	.11059	.22731	.19972	299.96	9.7878	.09185
#3	.00764	.11055	.22736	.19403	300.87	9.9354	.09097
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	22.355	7.5355	.01590	2.8311	.18856	.48678	.01124
Stddev	.364	.1171	.00022	.0493	.00092	.00435	.00116
%RSD	1.6300	1.5534	1.3753	1.7394	.48785	.89461	10.346
#1	21.936	7.4010	.01577	2.7743	.18786	.48762	.01032
#2	22.591	7.5916	.01615	2.8572	.18821	.49066	.01255
#3	22.540	7.6140	.01577	2.8618	.18960	.48207	.01085
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041805 Acquired: 3/24/2011 1:08:59 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01125	F 254.94	.01145	.93637	.35311	.00402	.42786
Stddev	.00493	.60	.00045	.01525	.00577	.00101	.00089
%RSD	43.859	.23613	3.9303	1.6285	1.6353	25.146	.20824
#1	.01056	254.74	.01139	.91895	.34654	.00516	.42811
#2	.00669	254.46	.01193	.94284	.35740	.00370	.42860
#3	.01648	255.62	.01103	.94732	.35538	.00321	.42687
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	1.1963
Stddev	.0028
%RSD	.23095
#1	1.1981
#2	1.1977
#3	1.1931
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	50461.	63914.
Stddev	58.	768.
%RSD	.11535	1.2020
#1	50415.	64794.
#2	50526.	63377.
#3	50441.	63571.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041806 Acquired: 3/24/2011 1:12:33 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00535	108.89	.11497	.03566	1.5398	.00992	43.578
Stddev	.00037	1.40	.00266	.00376	.0295	.00001	.846
%RSD	6.9110	1.2880	2.3139	10.556	1.9169	.10980	1.9404
#1	.00545	107.27	.11659	.03174	1.5058	.00993	42.610
#2	.00566	109.63	.11642	.03599	1.5547	.00993	43.952
#3	.00494	109.77	.11190	.03925	1.5589	.00991	44.172
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00794	.08411	.21020	.17058	257.47	10.228	.06763
Stddev	.00012	.00015	.00161	.00704	4.83	.236	.00095
%RSD	1.5689	.17495	.76704	4.1274	1.8774	2.3034	1.4069
#1	.00803	.08426	.21200	.17867	251.90	9.9577	.06830
#2	.00798	.08396	.20970	.16723	260.03	10.337	.06654
#3	.00780	.08412	.20889	.16584	260.48	10.389	.06806
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	16.358	5.3224	.01118	.82236	.14843	.56971	.00874
Stddev	.374	.1114	.00023	.00656	.00004	.00355	.00281
%RSD	2.2858	2.0937	2.0644	.79752	.02996	.62286	32.139
#1	15.937	5.1950	.01114	.82632	.14838	.56958	.01074
#2	16.486	5.3704	.01142	.82597	.14845	.56623	.00994
#3	16.651	5.4017	.01097	.81479	.14846	.57333	.00553
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103041806 Acquired: 3/24/2011 1:12:33 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00980	F 176.25	.01550	.28031	.28479	.00264	.37773
Stddev	.00574	1.18	.00052	.00576	.00608	.00357	.00047
%RSD	58.615	.66867	3.3269	2.0537	2.1353	135.23	.12384
#1	.00440	174.89	.01524	.27373	.27777	.00410	.37827
#2	.00917	176.88	.01609	.28279	.28846	-.00143	.37747
#3	.01583	176.97	.01516	.28441	.28813	.00525	.37746
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	1.4989
Stddev	.0028
%RSD	.18917
#1	1.5005
#2	1.5005
#3	1.4956
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	49888.	63225.
Stddev	103.	809.
%RSD	.20711	1.2802
#1	49877.	64153.
#2	49791.	62666.
#3	49997.	62855.

Approved: March 24, 2011
Pierce Morris

Sample Name: CCV Acquired: 3/24/2011 1:16:05 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F .44406	9.8066	.41212	.53112	1.0601	.05092	10.539
Stddev	.00230	.0270	.00313	.00722	.0003	.00019	.005
%RSD	.51821	.27536	.75923	1.3591	.02840	.37188	.05008
#1	.44657	9.8370	.40920	.53282	1.0600	.05093	10.533
#2	.44205	9.7972	.41542	.52320	1.0604	.05072	10.543
#3	.44355	9.7855	.41174	.53733	1.0599	.05110	10.541
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value	.40000						
Range	10.000%						

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05352	.20439	.52389	.52340	3.9876	51.964	1.0234
Stddev	.00007	.00093	.00187	.00155	.0426	.012	.0009
%RSD	.13961	.45274	.35743	.29704	1.0685	.02369	.08505
#1	.05345	.20363	.52439	.52324	4.0368	51.970	1.0225
#2	.05351	.20412	.52182	.52194	3.9632	51.972	1.0243
#3	.05360	.20542	.52546	.52503	3.9628	51.950	1.0234
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.3587	.49300	1.0741	52.379	.52714	.52284	1.2846
Stddev	.0231	.00098	.0010	.018	.00168	.00262	.0056
%RSD	.24730	.19910	.09726	.03468	.31948	.50199	.43600
#1	9.3689	.49406	1.0730	52.400	.52551	.52515	1.2801
#2	9.3750	.49212	1.0745	52.367	.52705	.51999	1.2829
#3	9.3322	.49282	1.0750	52.371	.52887	.52337	1.2909
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: March 24, 2011
Pierce Morris

Sample Name: CCV Acquired: 3/24/2011 1:16:05 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.41637	F 3.1934	1.0336	1.0378	.99388	.53321	1.0723
Stddev	.00060	.1710	.0027	.0006	.00265	.00383	.0064
%RSD	.14299	5.3555	.25788	.06084	.26630	.71889	.59458
#1	.41706	3.3207	1.0322	1.0381	.99085	.52883	1.0733
#2	.41604	3.2606	1.0319	1.0382	.99573	.53592	1.0655
#3	.41601	2.9990	1.0367	1.0371	.99505	.53488	1.0781
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value		5.0000					
Range		-10.000%					

Elem	Zn2062
Units	ppm
Avg	.95644
Stddev	.00092
%RSD	.09644
#1	.95667
#2	.95542
#3	.95722
Check ?	Chk Pass
Value	
Range	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	52002.	64390.
Stddev	163.	275.
%RSD	.31274	.42689
#1	52087.	64399.
#2	52104.	64111.
#3	51814.	64661.

Approved: March 24, 2011
Pierce Morris

Sample Name: CCB Acquired: 3/24/2011 1:19:27 Type: Blank
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00099	-.00046	-.00105	.00217	-.00087	-.00001	.06950
Stddev	.00084	.00037	.00122	.00063	.00013	.00003	.00818
%RSD	85.487	81.013	116.64	29.009	14.530	487.38	11.771
#1	-.00008	-.00034	-.00117	.00253	-.00101	.00001	.06849
#2	-.00114	-.00016	.00023	.00144	-.00079	.00001	.06187
#3	-.00174	-.00088	-.00220	.00254	-.00080	-.00004	.07814
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00016	-.00015	.00024	-.00018	F .06489	F -1.1992	-.00319
Stddev	.00003	.00011	.00035	.00028	.00587	.0558	.00241
%RSD	18.775	74.303	149.05	156.92	9.0482	4.6494	75.369
#1	.00014	-.00026	.00009	-.00049	.07135	-1.1825	-.00095
#2	.00020	-.00017	.00064	.00008	.06344	-1.1536	-.00290
#3	.00014	-.00003	-.00002	-.00013	.05988	-1.2614	-.00574
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Fail	Chk Pass
High Limit					.06000	1.0000	
Low Limit					-.06000	-1.0000	

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.02916	.00152	.00050	.12298	.00118	-.00274	.00103
Stddev	.00281	.00060	.00009	.01214	.00050	.00074	.00396
%RSD	9.6425	39.513	18.679	9.8693	42.498	26.889	383.54
#1	-.03049	.00199	.00043	.13641	.00062	-.00275	.00511
#2	-.02593	.00175	.00060	.11280	.00130	-.00347	.00078
#3	-.03107	.00084	.00045	.11972	.00160	-.00200	-.00279
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: CCB Acquired: 3/24/2011 1:19:27 Type: Blank
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00237	F -1.9292	.00014	-.00015	.00250	.00150	.00056
Stddev	.00393	.0752	.00030	.00011	.00134	.00110	.00045
%RSD	166.07	3.8974	211.73	71.666	53.445	73.436	80.556
#1	-.00569	-1.8494	.00016	-.00019	.00395	.00202	.00004
#2	.00198	-1.9394	.00043	-.00003	.00130	.00023	.00082
#3	-.00340	-1.9988	-.00017	-.00024	.00226	.00225	.00082
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		1.0000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	-.00082
Stddev	.00017
%RSD	21.324
#1	-.00081
#2	-.00100
#3	-.00065
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	51984.	64951.
Stddev	141.	193.
%RSD	.27094	.29778
#1	52077.	64773.
#2	51822.	65157.
#3	52053.	64923.

Approved: March 24, 2011
Pierce Morris

Sample Name: PBS 03 Acquired: 3/24/2011 1:23:04 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359349-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00068	.00100	-.00278	.00130	-.00090	-.00002	.06053
Stddev	.00041	.00344	.00164	.00092	.00025	.00002	.01409
%RSD	60.285	343.82	58.940	70.602	27.836	89.624	23.276
#1	-.00027	.00456	-.00377	.00233	-.00098	-.00003	.05653
#2	-.00109	-.00229	-.00089	.00058	-.00111	.00000	.07619
#3	-.00068	.00073	-.00368	.00099	-.00062	-.00004	.04888
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00020	-.00016	.00104	.00062	.05566	F -1.1610	-.00503
Stddev	.00018	.00005	.00013	.00058	.00324	.0455	.00188
%RSD	89.219	31.406	12.483	94.173	5.8263	3.9227	37.284
#1	.00009	-.00012	.00113	.00021	.05357	-1.1479	-.00341
#2	.00040	-.00014	.00089	.00129	.05400	-1.2117	-.00460
#3	.00010	-.00022	.00110	.00036	.05939	-1.1235	-.00709
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit						315.00	
Low Limit						-.50000	

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.02942	.00014	.00016	.13423	.00069	.00119	.00388
Stddev	.02265	.00041	.00012	.02345	.00028	.00361	.00167
%RSD	77.000	289.15	74.932	17.473	40.189	304.22	43.023
#1	-.02645	-.00033	.00027	.13103	.00069	.00364	.00399
#2	-.05340	.00043	.00020	.15912	.00097	.00288	.00549
#3	-.00839	.00033	.00003	.11254	.00041	-.00296	.00216
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: PBS 03 Acquired: 3/24/2011 1:23:04 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359349-02

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00368	-.72731	.00039	-.00021	.00394	.00121	.00042
Stddev	.00225	.21678	.00032	.00006	.00129	.00164	.00026
%RSD	61.117	29.806	82.507	27.505	32.829	135.50	60.939
#1	.00551	-.97510	.00076	-.00023	.00245	-.00057	.00061
#2	.00436	-.57270	.00024	-.00015	.00478	.00266	.00053
#3	.00117	-.63412	.00017	-.00026	.00459	.00154	.00013
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Zn2062
Units	ppm
Avg	.00090
Stddev	.00002
%RSD	2.2965
#1	.00092
#2	.00090
#3	.00088
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	50457.	63029.
Stddev	138.	284.
%RSD	.27297	.45040
#1	50342.	63357.
#2	50609.	62863.
#3	50419.	62868.

Approved: March 24, 2011
Pierce Morris

Sample Name: LCSS 03 Acquired: 3/24/2011 1:26:37 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359349-03

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.21165	-.00437	.19437	.00013	-.00043	-.00002	.06434
Stddev	.00057	.00207	.00179	.00168	.00019	.00005	.01751
%RSD	.26915	47.419	.92108	1266.5	43.423	259.00	27.214
#1	.21117	-.00304	.19415	.00125	-.00064	.00004	.04562
#2	.21151	-.00675	.19626	-.00180	-.00030	-.00005	.08032
#3	.21228	-.00331	.19270	.00094	-.00035	-.00004	.06708
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02588	-.00033	.00019	.25199	.06221	F -1.1536	-.00115
Stddev	.00017	.00018	.00044	.00067	.00144	.0898	.00250
%RSD	.65242	55.593	227.95	.26437	2.3130	7.7871	217.67
#1	.02571	-.00036	.00063	.25246	.06233	-1.2507	-.00386
#2	.02605	-.00013	-.00026	.25229	.06359	-1.0734	.00106
#3	.02589	-.00049	.00021	.25123	.06072	-1.1367	-.00064
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit						315.00	
Low Limit						-.50000	

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.03351	.24032	.00041	.14633	.00127	.25300	.00504
Stddev	.01328	.00153	.00020	.01015	.00061	.00265	.00109
%RSD	39.627	.63818	49.422	6.9339	48.327	1.0466	21.701
#1	-.04497	.23858	.00046	.15249	.00059	.25443	.00449
#2	-.03661	.24147	.00019	.15187	.00143	.24994	.00630
#3	-.01896	.24091	.00058	.13462	.00179	.25461	.00433
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: LCSS 03 Acquired: 3/24/2011 1:26:37 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359349-03

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00344	-.33459	-.00028	-.00035	.00087	-.00126	.00087
Stddev	.00250	.14913	.00021	.00007	.00119	.00078	.00042
%RSD	72.606	44.572	74.365	20.831	135.96	61.799	47.932
#1	.00626	-.26141	-.00005	-.00037	.00191	-.00065	.00100
#2	.00253	-.23618	-.00046	-.00041	.00113	-.00098	.00120
#3	.00152	-.50617	-.00035	-.00027	-.00042	-.00213	.00040
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Zn2062
Units	ppm
Avg	.00136
Stddev	.00010
%RSD	7.6268
#1	.00133
#2	.00127
#3	.00147
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	50683.	62919.
Stddev	78.	277.
%RSD	.15399	.43955
#1	50597.	63237.
#2	50750.	62735.
#3	50701.	62784.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042302 Acquired: 3/24/2011 1:30:10 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359349-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00079	96.814	.09742	.02701	1.8525	.01037	45.820
Stddev	.00010	1.083	.00113	.00403	.0435	.00007	1.101
%RSD	12.697	1.1187	1.1592	14.934	2.3458	.71008	2.4035
#1	.00091	95.592	.09832	.02244	1.8025	.01045	44.559
#2	.00075	97.194	.09780	.03008	1.8736	.01030	46.311
#3	.00072	97.656	.09616	.02850	1.8814	.01036	46.591
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00174	.07890	.14251	.10556	180.57	9.0430	.05138
Stddev	.00008	.00027	.00246	.00455	4.27	.2633	.00269
%RSD	4.8556	.33638	1.7286	4.3075	2.3641	2.9114	5.2290
#1	.00165	.07921	.14499	.11067	175.68	8.7391	.04828
#2	.00181	.07872	.14007	.10196	182.43	9.2017	.05293
#3	.00176	.07878	.14248	.10404	183.59	9.1882	.05294
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.325	6.1099	.01082	1.3392	.09247	.29044	.00723
Stddev	.280	.1333	.00014	.0356	.00062	.00229	.00136
%RSD	2.2719	2.1809	1.3304	2.6557	.66928	.78782	18.742
#1	12.002	5.9564	.01066	1.2991	.09318	.29237	.00878
#2	12.478	6.1776	.01095	1.3669	.09223	.29103	.00624
#3	12.495	6.1956	.01084	1.3515	.09201	.28791	.00668
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042302 Acquired: 3/24/2011 1:30:10 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359349-01

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00834	F 190.56	.00847	.29082	.16885	.00139	.40593
Stddev	.00296	1.17	.00030	.00643	.00396	.00152	.00112
%RSD	35.467	.61506	3.5000	2.2112	2.3479	109.45	.27585
#1	.00810	191.42	.00824	.28339	.16447	.00305	.40722
#2	.00552	191.05	.00838	.29440	.16992	.00007	.40532
#3	.01142	189.23	.00881	.29466	.17218	.00104	.40525
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.68641
Stddev	.00064
%RSD	.09344
#1	.68673
#2	.68683
#3	.68567
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	50760.	64970.
Stddev	76.	972.
%RSD	.15005	1.4959
#1	50706.	66055.
#2	50848.	64675.
#3	50727.	64180.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042303S Acquired: 3/24/2011 1:33:36 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359349-04

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.20378	107.58	.26986	.02943	1.8014	.01062	48.038
Stddev	.00118	.31	.00158	.00118	.0280	.00001	.745
%RSD	.58102	.28856	.58436	3.9966	1.5544	.13093	1.5509
#1	.20262	107.46	.26999	.02939	1.7691	.01061	47.178
#2	.20372	107.93	.27137	.02827	1.8161	.01063	48.458
#3	.20499	107.35	.26823	.03062	1.8190	.01063	48.478
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02587	.05702	.16212	.34649	176.15	9.8641	.05954
Stddev	.00007	.00006	.00061	.00062	2.53	.1845	.00169
%RSD	.26264	.11054	.37765	.17826	1.4369	1.8707	2.8437
#1	.02580	.05695	.16272	.34719	173.23	9.6542	.05781
#2	.02591	.05708	.16150	.34604	177.49	10.001	.05962
#3	.02592	.05704	.16213	.34623	177.74	9.9376	.06119
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	13.249	3.8423	.01048	1.4194	.09020	.50539	.00642
Stddev	.201	.0535	.00027	.0283	.00087	.00222	.00177
%RSD	1.5205	1.3934	2.6151	1.9948	.96456	.43860	27.645
#1	13.017	3.7807	.01039	1.3955	.09102	.50795	.00441
#2	13.352	3.8677	.01026	1.4507	.09029	.50408	.00706
#3	13.379	3.8783	.01079	1.4120	.08928	.50414	.00778
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042303S Acquired: 3/24/2011 1:33:36 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359349-04

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01098	F 217.93	.00883	.30676	.21152	-.00108	.41288
Stddev	.00122	1.46	.00030	.00528	.00301	.00047	.00068
%RSD	11.076	.67185	3.3676	1.7210	1.4210	43.655	.16470
#1	.00988	218.98	.00876	.30070	.20815	-.00157	.41243
#2	.01078	218.54	.00915	.30918	.21248	-.00062	.41255
#3	.01229	216.25	.00857	.31039	.21392	-.00106	.41366
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.79594
Stddev	.00187
%RSD	.23456
#1	.79379
#2	.79706
#3	.79698
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	49695.	63786.
Stddev	86.	236.
%RSD	.17271	.37005
#1	49787.	63995.
#2	49680.	63530.
#3	49617.	63833.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042304SD Acquired: 3/24/2011 1:37:03 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359349-05

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.20154	92.406	.27878	.02629	1.8549	.01083	49.276
Stddev	.00042	1.217	.00244	.00524	.0382	.00005	1.017
%RSD	.20757	1.3171	.87484	19.918	2.0572	.46692	2.0630
#1	.20109	91.001	.27783	.02050	1.8110	.01085	48.109
#2	.20192	93.099	.28155	.02767	1.8734	.01077	49.745
#3	.20162	93.119	.27696	.03069	1.8802	.01087	49.973
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02625	.06749	.15426	.35066	184.83	8.3214	.04670
Stddev	.00021	.00041	.00135	.00447	3.70	.2365	.00075
%RSD	.78107	.60836	.87769	1.2744	2.0045	2.8417	1.5984
#1	.02642	.06796	.15560	.35578	180.56	8.0590	.04747
#2	.02629	.06733	.15289	.34865	186.76	8.3872	.04665
#3	.02602	.06718	.15429	.34754	187.18	8.5180	.04598
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.222	4.6122	.01151	1.3339	.08758	.52897	.00905
Stddev	.297	.1032	.00015	.0374	.00089	.00240	.00196
%RSD	2.4310	2.2381	1.2746	2.8022	1.0132	.45409	21.630
#1	11.896	4.4945	.01141	1.2920	.08860	.52835	.00710
#2	12.292	4.6551	.01145	1.3459	.08695	.53162	.01101
#3	12.478	4.6871	.01168	1.3639	.08720	.52694	.00905
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042304SD Acquired: 3/24/2011 1:37:03 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359349-05

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01037	F 246.64	.00964	.31737	.21146	.00094	.43157
Stddev	.00390	1.15	.00029	.00694	.00402	.00151	.00105
%RSD	37.658	.46758	2.9614	2.1863	1.9004	161.60	.24333
#1	.00699	247.22	.00958	.30946	.20688	.00033	.43038
#2	.01464	247.40	.00996	.32019	.21311	-.00018	.43195
#3	.00947	245.31	.00940	.32245	.21440	.00266	.43237
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.66706
Stddev	.00054
%RSD	.08146
#1	.66763
#2	.66699
#3	.66655
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	49914.	63401.
Stddev	60.	689.
%RSD	.12052	1.0862
#1	49878.	64195.
#2	49881.	62962.
#3	49984.	63047.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042307 Acquired: 3/24/2011 1:40:29 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00161	101.71	.11672	.02842	1.8684	.01213	43.320
Stddev	.00035	.70	.00109	.00241	.0459	.00009	1.079
%RSD	22.014	.68765	.93414	8.4958	2.4548	.70970	2.4909
#1	.00165	100.93	.11738	.02564	1.8165	.01206	42.086
#2	.00124	101.96	.11733	.02970	1.8851	.01211	43.784
#3	.00194	102.26	.11547	.02993	1.9035	.01223	44.088
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -.00070	.15514	.22218	.08984	254.16	3.9120	.04548
Stddev	.00002	.00091	.00053	.00575	6.13	.1584	.00148
%RSD	3.3151	.58727	.23917	6.3996	2.4106	4.0494	3.2472
#1	-.00068	.15458	.22188	.09637	247.19	3.7325	.04524
#2	-.00072	.15464	.22186	.08556	256.58	3.9714	.04706
#3	-.00071	.15619	.22279	.08757	258.70	4.0322	.04413
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	4.5000						
Low Limit	-.00050						

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.263	7.5088	.01274	1.2547	.09559	.37737	.00803
Stddev	.277	.1765	.00054	.0185	.00081	.00033	.00155
%RSD	2.4591	2.3510	4.2523	1.4719	.84876	.08803	19.241
#1	10.947	7.3089	.01211	1.2337	.09629	.37730	.00959
#2	11.381	7.5741	.01302	1.2681	.09470	.37707	.00800
#3	11.462	7.6432	.01307	1.2625	.09577	.37772	.00650
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042307 Acquired: 3/24/2011 1:40:29 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01038	F 163.34	.00949	.31961	.16110	.00425	.58426
Stddev	.00407	1.39	.00012	.00750	.00492	.00134	.00315
%RSD	39.196	.85309	1.2688	2.3453	3.0517	31.419	.53904
#1	.01429	162.75	.00936	.31102	.15558	.00319	.58168
#2	.00617	162.33	.00960	.32302	.16273	.00575	.58333
#3	.01066	164.93	.00950	.32480	.16501	.00382	.58777
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.34426
Stddev	.00222
%RSD	.64391
#1	.34306
#2	.34290
#3	.34681
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	50045.	64744.
Stddev	317.	481.
%RSD	.63377	.74257
#1	50314.	65281.
#2	50124.	64597.
#3	49695.	64354.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042307PS Acquired: 3/24/2011 1:43:56 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359759-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.21876	95.910	.29902	1.0343	2.1977	.03562	44.304
Stddev	.00121	1.303	.00067	.0033	.0384	.00005	.819
%RSD	.55467	1.3589	.22300	.31509	1.7490	.14415	1.8496
#1	.21999	94.629	.29867	1.0312	2.1564	.03563	43.411
#2	.21756	95.866	.29979	1.0377	2.2042	.03557	44.480
#3	.21872	97.235	.29861	1.0341	2.2325	.03567	45.021
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02461	.23753	.44894	.32745	231.80	28.755	.53423
Stddev	.00012	.00040	.00202	.00501	4.01	.522	.01138
%RSD	.47537	.16631	.45058	1.5287	1.7288	1.8138	2.1310
#1	.02472	.23769	.45126	.33229	227.51	28.202	.52142
#2	.02464	.23783	.44756	.32778	232.46	28.825	.53809
#3	.02449	.23708	.44799	.32229	235.44	29.238	.54318
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.418	6.9567	.54827	26.746	.33633	.57840	.60288
Stddev	.275	.1182	.00167	.491	.00163	.00084	.00175
%RSD	1.9074	1.6992	.30486	1.8354	.48422	.14548	.28986
#1	14.164	6.8305	.54899	26.202	.33542	.57775	.60402
#2	14.380	6.9746	.54946	26.879	.33821	.57935	.60374
#3	14.710	7.0649	.54635	27.157	.33535	.57810	.60087
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042307PS Acquired: 3/24/2011 1:43:56 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359759-01

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.20370	F 333.91	.00850	.77947	.60866	.25089	1.0453
Stddev	.00384	.78	.00070	.01422	.01063	.00185	.0024
%RSD	1.8859	.23219	8.2155	1.8248	1.7461	.73631	.22650
#1	.20061	333.99	.00929	.76419	.59680	.25246	1.0426
#2	.20250	334.65	.00828	.78189	.61188	.24885	1.0470
#3	.20800	333.10	.00795	.79233	.61731	.25137	1.0464
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.76049
Stddev	.00047
%RSD	.06144
#1	.76098
#2	.76005
#3	.76045
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	49981.	64038.
Stddev	42.	807.
%RSD	.08355	1.2604
#1	50014.	64790.
#2	49994.	64140.
#3	49934.	63185.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042307DL Acquired: 3/24/2011 1:47:19 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 5 Custom ID2: Custom ID3:
Comment: WG359759-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00034	20.634	.02539	.00688	.36921	.00244	8.8128	-.00032
Stddev	.00048	.033	.00141	.00093	.00024	.00004	.0319	.00011
%RSD	141.09	.15880	5.5380	13.454	.06416	1.6822	.36193	34.789
#1	-.00083	20.656	.02456	.00710	.36903	.00239	8.8003	-.00020
#2	-.00032	20.649	.02701	.00767	.36911	.00246	8.8490	-.00043
#3	.00013	20.596	.02459	.00586	.36948	.00247	8.7890	-.00033
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.03159	.04324	.02019	51.937	-.16367	.00654	2.2653	1.5168
Stddev	.00022	.00029	.00074	.039	.03128	.00036	.0273	.0012
%RSD	.70023	.67452	3.6679	.07530	19.115	5.5303	1.2072	.07662
#1	.03182	.04294	.01995	51.928	-.15820	.00624	2.2969	1.5175
#2	.03157	.04352	.01960	51.980	-.19733	.00694	2.2514	1.5154
#3	.03138	.04325	.02102	51.903	-.13548	.00643	2.2478	1.5174
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Si2124	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00238	.35631	.01949	.07442	.00354	.00291	29.054	.00139
Stddev	.00016	.00830	.00037	.00300	.00092	.00441	.170	.00007
%RSD	6.9208	2.3297	1.9161	4.0312	26.138	151.47	.58385	4.7169
#1	.00231	.36486	.01984	.07423	.00333	.00389	28.919	.00143
#2	.00227	.34828	.01910	.07752	.00274	.00675	29.244	.00131
#3	.00257	.35578	.01952	.07153	.00455	-.00191	29.000	.00142
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042307DL Acquired: 3/24/2011 1:47:19 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 5 Custom ID2: Custom ID3:
Comment: WG359759-02

Elem	Sr4077	Ti3372	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm
Avg	.06364	.03554	.00098	.11302	.07226
Stddev	.00011	.00198	.00144	.00090	.00040
%RSD	.17470	5.5770	147.00	.79284	.55253
#1	.06375	.03459	.00177	.11396	.07258
#2	.06353	.03421	-.00068	.11218	.07181
#3	.06362	.03782	.00186	.11292	.07238
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	53541.	66614.
Stddev	92.	105.
%RSD	.17262	.15780
#1	53518.	66495.
#2	53643.	66656.
#3	53463.	66692.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042307DL Acquired: 3/24/2011 1:50:45 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 25 Custom ID2: Custom ID3:
Comment: WG359759-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00062	4.1909	.00573	.00078	.07385	.00050	1.8022
Stddev	.00030	.0256	.00269	.00075	.00048	.00002	.0091
%RSD	48.480	.61011	46.987	95.868	.65028	3.0969	.50324
#1	-.00033	4.1614	.00290	.00164	.07331	.00051	1.8115
#2	-.00061	4.2049	.00604	.00042	.07404	.00048	1.7934
#3	-.00093	4.2065	.00826	.00028	.07421	.00050	1.8019
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00003	.00629	.00855	.00315	10.520	F -.98941	.00099
Stddev	.00009	.00006	.00077	.00040	.015	.06573	.00293
%RSD	337.96	.90885	9.0602	12.659	.14334	6.6437	297.75
#1	-.00011	.00635	.00802	.00278	10.537	-.91542	.00039
#2	-.00001	.00628	.00944	.00309	10.514	-1.0411	-.00161
#3	.00005	.00624	.00819	.00357	10.509	-1.0117	.00417
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit						315.00	
Low Limit						-.50000	

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.44932	.30871	.00069	.17255	.00471	.01640	.00112
Stddev	.02792	.00069	.00003	.02195	.00017	.00220	.00179
%RSD	6.2142	.22485	4.1632	12.722	3.5921	13.400	159.57
#1	.48101	.30875	.00066	.16627	.00476	.01621	-.00094
#2	.43862	.30938	.00070	.19696	.00452	.01430	.00227
#3	.42834	.30799	.00071	.15442	.00485	.01868	.00204
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042307DL Acquired: 3/24/2011 1:50:45 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 25 Custom ID2: Custom ID3:
Comment: WG359759-02

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00182**	**3.8392**	**.00062**	**.01268**	**.00875**	**.00393**	**.02319**
Stddev	.00146	.0840	.00014	.00014	.00044	.00158	.00051
%RSD	80.423	2.1886	22.284	1.1002	5.0743	40.266	2.1919
#1	.00064	3.8714	.00066	.01256	.00879	.00569	.02273
#2	.00345	3.9024	.00046	.01265	.00829	.00264	.02310
#3	.00135	3.7438	.00073	.01283	.00918	.00345	.02373
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Zn2062
Units	ppm
Avg	**.01551**
Stddev	.00007
%RSD	.45690
#1	.01559
#2	.01545
#3	.01550
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	**53805.**	**66086.**
Stddev	21.	302.
%RSD	.03947	.45679
#1	53802.	66406.
#2	53828.	66047.
#3	53786.	65806.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042308 Acquired: 3/24/2011 1:54:15 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00015	112.00	.10376	.02780	2.1385	.01255	68.287
Stddev	.00065	1.76	.00045	.00458	.0511	.00005	1.721
%RSD	432.99	1.5709	.43348	16.462	2.3889	.43426	2.5204
#1	.00003	109.99	.10330	.02260	2.0797	.01252	66.309
#2	.00085	113.24	.10420	.02960	2.1645	.01261	69.110
#3	-.00043	112.77	.10378	.03121	2.1714	.01251	69.443
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00067	.09491	.17031	.11710	218.19	5.9976	.05711
Stddev	.00021	.00031	.00141	.00657	5.35	.1616	.00352
%RSD	30.993	.32327	.82958	5.6072	2.4501	2.6944	6.1712
#1	.00074	.09457	.17125	.12442	212.03	5.8129	.05374
#2	.00044	.09516	.16868	.11516	220.95	6.1127	.06077
#3	.00084	.09500	.17099	.11173	221.60	6.0673	.05683
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.674	4.7647	.01166	.96599	.10891	.32157	.00836
Stddev	.320	.1141	.00033	.01562	.00106	.00294	.00059
%RSD	2.5278	2.3946	2.8661	1.6173	.97438	.91276	7.0834
#1	12.311	4.6332	.01202	.94808	.11011	.32195	.00821
#2	12.794	4.8241	.01136	.97678	.10853	.31846	.00787
#3	12.917	4.8369	.01159	.97313	.10810	.32430	.00902
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042308 Acquired: 3/24/2011 1:54:15 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00657	F 191.62	.00957	.38648	.14630	-.00290	.46356
Stddev	.00116	1.05	.00047	.00904	.00400	.00162	.00110
%RSD	17.722	.54580	4.9289	2.3393	2.7324	55.784	.23676
#1	.00604	191.03	.00974	.37604	.14169	-.00476	.46263
#2	.00791	191.01	.00904	.39154	.14886	-.00189	.46329
#3	.00576	192.83	.00993	.39186	.14835	-.00204	.46477
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.51022
Stddev	.00115
%RSD	.22613
#1	.51154
#2	.50968
#3	.50944
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	49692.	64377.
Stddev	117.	740.
%RSD	.23539	1.1496
#1	49571.	65231.
#2	49804.	63922.
#3	49701.	63978.

Approved: March 24, 2011
Pierce Morris

Sample Name: CCV Acquired: 3/24/2011 1:57:48 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F .45373	9.6812	.41327	.53769	1.0673	.05156	10.580
Stddev	.00097	.0446	.00159	.00152	.0002	.00007	.014
%RSD	.21299	.46114	.38380	.28190	.01485	.13131	.13688
#1	.45423	9.7104	.41497	.53834	1.0673	.05159	10.570
#2	.45262	9.6298	.41302	.53596	1.0675	.05148	10.572
#3	.45434	9.7034	.41183	.53878	1.0672	.05160	10.596
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value	.40000						
Range	10.000%						

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05376	.20525	.53136	.52578	3.9265	52.195	1.0277
Stddev	.00015	.00025	.00097	.00077	.0192	.051	.0016
%RSD	.28568	.12281	.18284	.14643	.48959	.09809	.15566
#1	.05369	.20546	.53216	.52493	3.9484	52.254	1.0285
#2	.05393	.20497	.53028	.52642	3.9126	52.169	1.0288
#3	.05365	.20531	.53164	.52601	3.9185	52.162	1.0259
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.2487	.49072	1.0785	52.742	.52920	.52340	1.2957
Stddev	.0534	.00240	.0013	.051	.00071	.00092	.0022
%RSD	.57781	.48886	.12249	.09687	.13371	.17594	.16649
#1	9.3094	.49347	1.0795	52.699	.52977	.52359	1.2969
#2	9.2086	.48963	1.0770	52.799	.52841	.52239	1.2932
#3	9.2282	.48906	1.0789	52.729	.52942	.52421	1.2969
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: March 24, 2011
Pierce Morris

Sample Name: CCV Acquired: 3/24/2011 1:57:48 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.42232	F 3.1280	1.0379	1.0399	.99741	.53761	1.0861
Stddev	.00336	.1211	.0026	.0015	.00100	.00056	.0046
%RSD	.79597	3.8709	.25325	.14047	.10018	.10432	.42541
#1	.42600	3.2129	1.0396	1.0410	.99712	.53701	1.0887
#2	.42154	3.1818	1.0349	1.0382	.99658	.53812	1.0807
#3	.41941	2.9894	1.0393	1.0404	.99852	.53768	1.0887
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value		5.0000					
Range		-10.000%					

Elem	Zn2062
Units	ppm
Avg	.95765
Stddev	.00060
%RSD	.06282
#1	.95834
#2	.95723
#3	.95738
Check ?	Chk Pass
Value	
Range	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	51241.	65079.
Stddev	132.	188.
%RSD	.25772	.28860
#1	51255.	64998.
#2	51365.	65293.
#3	51102.	64944.

Approved: March 24, 2011
Pierce Morris

Sample Name: CCB Acquired: 3/24/2011 2:01:11 Type: Blank
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00110	-.00711	-.00179	.00265	-.00089	-.00003	.04708
Stddev	.00042	.00356	.00262	.00064	.00017	.00004	.00921
%RSD	38.077	50.002	146.22	24.216	19.646	112.27	19.554
#1	-.00065	-.00988	.00035	.00196	-.00075	-.00005	.04765
#2	-.00148	-.00310	-.00472	.00322	-.00108	.00001	.05599
#3	-.00118	-.00836	-.00101	.00279	-.00082	-.00006	.03760
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00010	-.00006	.00021	-.00055	.02854	F -1.2530	-.00212
Stddev	.00004	.00029	.00015	.00061	.00144	.0255	.00486
%RSD	44.658	502.54	71.034	110.23	5.0523	2.0385	228.91
#1	.00010	-.00006	.00037	.00012	.03007	-1.2276	-.00335
#2	.00014	.00023	.00006	-.00071	.02832	-1.2787	.00323
#3	.00005	-.00035	.00021	-.00106	.02722	-1.2528	-.00625
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit						1.0000	
Low Limit						-1.0000	

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.03381	-.00001	.00027	.13041	.00118	-.00342	.00394
Stddev	.02350	.00065	.00015	.00193	.00032	.00159	.00111
%RSD	69.509	10328.	55.140	1.4771	26.711	46.325	28.152
#1	-.01630	-.00070	.00017	.12959	.00096	-.00479	.00322
#2	-.06052	.00010	.00044	.13261	.00154	-.00169	.00522
#3	-.02462	.00058	.00019	.12903	.00104	-.00380	.00338
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: CCB Acquired: 3/24/2011 2:01:11 Type: Blank
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00021**	F **-2.0193**	**.00015**	**-.00034**	**.00190**	**.00142**	**-.00004**
Stddev	.00322	.1575	.00016	.00015	.00030	.00236	.00034
%RSD	1499.2	7.7983	105.59	43.516	15.588	166.66	908.34
#1	.00381	-1.9148	-.00003	-.00018	.00189	.00314	.00009
#2	-.00074	-2.2004	.00021	-.00039	.00161	.00239	-.00043
#3	-.00242	-1.9428	.00027	-.00046	.00220	-.00128	.00023
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		1.0000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	**-.00011**
Stddev	.00023
%RSD	209.12
#1	.00007
#2	-.00036
#3	-.00003
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	**51543.**	**64059.**
Stddev	108.	198.
%RSD	.20907	.30986
#1	51571.	63867.
#2	51634.	64263.
#3	51424.	64046.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042309 Acquired: 3/24/2011 2:04:47 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00175	110.01	.11300	.02373	2.5190	.01415	59.010
Stddev	.00025	.79	.00272	.00292	.0325	.00005	.770
%RSD	14.312	.71964	2.4113	12.304	1.2898	.35837	1.3040
#1	.00204	109.13	.11395	.02042	2.4818	.01413	58.129
#2	.00162	110.66	.10992	.02596	2.5334	.01412	59.353
#3	.00159	110.24	.11512	.02480	2.5418	.01421	59.549
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00007	.08465	.20141	.11742	239.26	4.5662	.05388
Stddev	.00008	.00032	.00150	.00309	2.99	.0888	.00335
%RSD	117.27	.37794	.74471	2.6275	1.2517	1.9458	6.2108
#1	.00014	.08431	.20165	.12089	235.83	4.4645	.05011
#2	-.00002	.08469	.19981	.11635	240.58	4.6052	.05648
#3	.00010	.08495	.20278	.11501	241.36	4.6288	.05505
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.078	5.9289	.01120	1.1510	.10824	.35410	.00876
Stddev	.165	.0828	.00033	.0103	.00007	.00281	.00420
%RSD	1.3685	1.3972	2.9742	.89818	.06653	.79327	47.955
#1	11.887	5.8333	.01131	1.1393	.10830	.35674	.01216
#2	12.176	5.9729	.01083	1.1589	.10826	.35115	.01005
#3	12.171	5.9804	.01147	1.1548	.10816	.35440	.00406
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042309 Acquired: 3/24/2011 2:04:47 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00877	F 162.86	.00929	.38020	.14215	.00057	.54865
Stddev	.00400	.35	.00032	.00610	.00107	.00050	.00205
%RSD	45.555	.21381	3.4218	1.6047	.74986	87.587	.37447
#1	.00451	162.57	.00964	.37315	.14122	.00027	.54699
#2	.01244	163.25	.00921	.38391	.14332	.00115	.54800
#3	.00938	162.77	.00902	.38353	.14192	.00030	.55095
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.41167
Stddev	.00007
%RSD	.01692
#1	.41164
#2	.41162
#3	.41175
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	49691.	64420.
Stddev	113.	492.
%RSD	.22671	.76450
#1	49803.	64804.
#2	49692.	63865.
#3	49577.	64592.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042310 Acquired: 3/24/2011 2:08:13 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00106	110.39	.10588	.02956	1.9066	.01165	100.80
Stddev	.00107	1.66	.00096	.00084	.0255	.00005	1.45
%RSD	100.40	1.5056	.90794	2.8455	1.3385	.41703	1.4397
#1	.00191	108.47	.10507	.02936	1.8772	.01160	99.125
#2	.00142	111.40	.10563	.03048	1.9207	.01166	101.58
#3	-.00014	111.30	.10694	.02883	1.9220	.01170	101.69
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00129	.09779	.19549	.10492	211.96	7.7146	.06211
Stddev	.00030	.00045	.00076	.00386	3.01	.1257	.00259
%RSD	23.302	.45718	.38660	3.6830	1.4213	1.6297	4.1711
#1	.00158	.09740	.19534	.10932	208.48	7.5725	.05922
#2	.00132	.09769	.19483	.10337	213.55	7.7599	.06421
#3	.00098	.09828	.19631	.10208	213.84	7.8113	.06291
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.489	5.1985	.01121	.77805	.10281	.35571	.00824
Stddev	.223	.0749	.00009	.01008	.00019	.00398	.00309
%RSD	1.5414	1.4412	.80658	1.2960	.18248	1.1203	37.573
#1	14.232	5.1120	.01119	.78969	.10283	.35993	.01180
#2	14.637	5.2451	.01131	.77193	.10298	.35201	.00622
#3	14.599	5.2382	.01114	.77254	.10261	.35518	.00669
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042310 Acquired: 3/24/2011 2:08:13 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00944	F 172.55	.00955	.54120	.15916	.00129	.45697
Stddev	.00315	.85	.00085	.00724	.00192	.00276	.00221
%RSD	33.348	.49091	8.8537	1.3372	1.2069	213.62	.48435
#1	.01095	173.11	.00893	.53284	.15730	.00090	.45524
#2	.00582	172.95	.00920	.54555	.15904	.00422	.45622
#3	.01155	171.57	.01051	.54520	.16113	-.00125	.45947
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.61145
Stddev	.00091
%RSD	.14933
#1	.61233
#2	.61153
#3	.61051
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	49045.	63304.
Stddev	114.	836.
%RSD	.23205	1.3212
#1	49102.	64266.
#2	49119.	62755.
#3	48914.	62890.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042311 Acquired: 3/24/2011 2:11:39 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00101	107.84	.08993	.01553	1.8270	.01209	59.680
Stddev	.00018	1.40	.00321	.00306	.0344	.00002	1.088
%RSD	18.258	1.2997	3.5702	19.713	1.8819	.17186	1.8224
#1	.00085	106.38	.08745	.01279	1.7874	.01211	58.425
#2	.00121	109.18	.09356	.01497	1.8436	.01207	60.263
#3	.00097	107.96	.08878	.01883	1.8499	.01210	60.352
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00064	.07140	.20858	.09261	214.26	4.7557	.05349
Stddev	.00021	.00024	.00096	.00552	3.99	.1342	.00214
%RSD	33.248	.33544	.45851	5.9642	1.8599	2.8216	3.9919
#1	.00072	.07127	.20898	.09881	209.67	4.6029	.05141
#2	.00040	.07167	.20927	.09078	216.30	4.8544	.05568
#3	.00081	.07125	.20749	.08823	216.81	4.8099	.05338
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.638	3.6707	.00967	1.2188	.09023	.29458	.00696
Stddev	.337	.0805	.00009	.0128	.00126	.00332	.00378
%RSD	2.6654	2.1941	.91648	1.0519	1.4002	1.1256	54.349
#1	12.255	3.5780	.00963	1.2172	.09164	.29768	.01092
#2	12.775	3.7105	.00977	1.2069	.08921	.29109	.00658
#3	12.885	3.7236	.00961	1.2324	.08984	.29497	.00338
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042311 Acquired: 3/24/2011 2:11:39 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00759	F 180.17	.00877	.36191	.16695	.00144	.46064
Stddev	.00421	.32	.00016	.00753	.00410	.00151	.00263
%RSD	55.421	.17844	1.8232	2.0813	2.4583	104.70	.57192
#1	.00767	180.52	.00894	.35322	.16222	.00036	.46100
#2	.00334	179.89	.00874	.36596	.16925	.00080	.46307
#3	.01176	180.09	.00862	.36655	.16939	.00317	.45784
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.43689
Stddev	.00109
%RSD	.24949
#1	.43810
#2	.43656
#3	.43600
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	49771.	63594.
Stddev	172.	657.
%RSD	.34533	1.0327
#1	49584.	64336.
#2	49807.	63090.
#3	49922.	63354.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042312 Acquired: 3/24/2011 2:15:04 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00109	86.138	.09042	.01908	1.7459	.01125	41.005
Stddev	.00052	.936	.00227	.00096	.0295	.00002	.701
%RSD	48.136	1.0862	2.5062	5.0484	1.6917	.21175	1.7088
#1	.00117	85.420	.09081	.01797	1.7119	.01123	40.196
#2	.00157	85.797	.09246	.01965	1.7597	.01125	41.396
#3	.00053	87.196	.08798	.01962	1.7659	.01128	41.424
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00229	.08706	.17737	.10003	199.92	4.2347	.04380
Stddev	.00011	.00061	.00156	.00175	3.13	.0482	.00094
%RSD	4.7389	.70209	.87820	1.7466	1.5658	1.1376	2.1385
#1	.00218	.08686	.17725	.10183	196.32	4.1845	.04322
#2	.00229	.08657	.17588	.09834	201.50	4.2805	.04488
#3	.00240	.08775	.17899	.09990	201.96	4.2391	.04330
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.942	4.5114	.00974	.76073	.08546	.34287	.00965
Stddev	.225	.0816	.00018	.01457	.00029	.00157	.00142
%RSD	2.0566	1.8084	1.8172	1.9151	.34297	.45785	14.717
#1	10.692	4.4174	.00994	.74436	.08574	.34416	.01004
#2	11.005	4.5520	.00964	.77227	.08548	.34112	.01084
#3	11.129	4.5646	.00963	.76557	.08516	.34333	.00808
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042312 Acquired: 3/24/2011 2:15:04 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01028	F 203.68	.00835	.27565	.16947	-.00101	.42310
Stddev	.00268	.99	.00068	.00480	.00235	.00088	.00151
%RSD	26.099	.48660	8.1422	1.7428	1.3838	86.958	.35686
#1	.01200	203.21	.00910	.27017	.16676	-.00012	.42261
#2	.00719	203.01	.00816	.27765	.17072	-.00189	.42189
#3	.01164	204.81	.00778	.27913	.17092	-.00103	.42479
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.55028
Stddev	.00162
%RSD	.29359
#1	.54915
#2	.54955
#3	.55213
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	49860.	64149.
Stddev	96.	515.
%RSD	.19156	.80308
#1	49966.	64639.
#2	49835.	64196.
#3	49780.	63612.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042313 Acquired: 3/24/2011 2:18:31 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00166	85.154	.10019	.01826	1.9601	.01151	43.400
Stddev	.00036	1.356	.00222	.00254	.0272	.00003	.584
%RSD	21.784	1.5923	2.2143	13.933	1.3856	.29702	1.3453
#1	.00124	83.690	.09909	.01553	1.9288	.01148	42.726
#2	.00189	85.405	.09874	.01867	1.9733	.01154	43.705
#3	.00184	86.367	.10275	.02057	1.9780	.01151	43.767
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00206	.07494	.19186	.10196	203.02	4.6094	.03896
Stddev	.00012	.00013	.00106	.00264	2.80	.0710	.00135
%RSD	5.6862	.17112	.55176	2.5862	1.3777	1.5412	3.4667
#1	.00195	.07499	.19305	.10500	199.81	4.5340	.03773
#2	.00205	.07479	.19153	.10031	204.30	4.6189	.03876
#3	.00218	.07503	.19101	.10056	204.95	4.6752	.04040
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.590	3.8783	.01091	.88232	.08676	.31608	.00881
Stddev	.226	.0544	.00020	.00717	.00056	.00194	.00225
%RSD	1.9475	1.4018	1.7904	.81312	.65023	.61386	25.544
#1	11.330	3.8155	.01086	.87896	.08702	.31744	.00974
#2	11.706	3.9101	.01112	.89056	.08715	.31694	.01045
#3	11.734	3.9093	.01074	.87745	.08611	.31386	.00625
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042313 Acquired: 3/24/2011 2:18:31 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00982	F 178.87	.00820	.29179	.15640	-.00122	.45742
Stddev	.00079	1.08	.00049	.00354	.00313	.00161	.00147
%RSD	8.0436	.60127	5.9938	1.2137	2.0017	132.64	.32241
#1	.01039	179.82	.00764	.28774	.15318	.00020	.45741
#2	.00892	179.09	.00844	.29335	.15658	-.00088	.45594
#3	.01015	177.70	.00853	.29429	.15944	-.00297	.45889
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.55201
Stddev	.00031
%RSD	.05706
#1	.55230
#2	.55167
#3	.55206
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	49765.	64089.
Stddev	149.	871.
%RSD	.29879	1.3598
#1	49613.	65053.
#2	49772.	63855.
#3	49910.	63358.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042314 Acquired: 3/24/2011 2:21:57 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00237	93.179	.12509	.02407	1.4431	.00988	47.111
Stddev	.00080	.759	.00224	.00148	.0170	.00004	.578
%RSD	33.772	.81485	1.7945	6.1518	1.1796	.39405	1.2276
#1	.00147	92.398	.12612	.02275	1.4234	.00988	46.443
#2	.00300	93.914	.12251	.02378	1.4529	.00984	47.437
#3	.00263	93.224	.12663	.02567	1.4530	.00992	47.453
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00209	.06927	.19850	.11362	209.96	13.125	.05224
Stddev	.00021	.00037	.00102	.00239	2.50	.225	.00132
%RSD	9.8838	.53666	.51234	2.1063	1.1900	1.7139	2.5246
#1	.00188	.06904	.19960	.11624	207.09	12.866	.05082
#2	.00210	.06907	.19830	.11307	211.14	13.272	.05343
#3	.00229	.06970	.19759	.11155	211.65	13.237	.05246
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.574	4.4474	.01299	.57905	.08589	.32172	.01014
Stddev	.108	.0469	.00034	.01264	.00069	.00156	.00233
%RSD	.93444	1.0536	2.6056	2.1829	.80753	.48564	22.964
#1	11.449	4.3933	.01294	.59278	.08659	.32293	.00918
#2	11.630	4.4756	.01336	.56790	.08588	.31996	.00845
#3	11.642	4.4733	.01269	.57646	.08520	.32229	.01279
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042314 Acquired: 3/24/2011 2:21:57 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01012	F 138.16	.00867	.28509	.21347	.00211	.46884
Stddev	.00144	.50	.00047	.00326	.00105	.00160	.00176
%RSD	14.261	.35965	5.4460	1.1437	.49334	75.876	.37446
#1	.00846	138.71	.00836	.28135	.21226	.00344	.46932
#2	.01104	137.74	.00922	.28734	.21419	.00033	.46689
#3	.01086	138.04	.00844	.28657	.21396	.00257	.47030
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.82711
Stddev	.00087
%RSD	.10557
#1	.82803
#2	.82700
#3	.82629
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	49121.	63580.
Stddev	122.	578.
%RSD	.24742	.90921
#1	49026.	64158.
#2	49258.	63002.
#3	49081.	63580.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042315 Acquired: 3/24/2011 2:25:23 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00147	107.15	.11166	.01933	1.5788	.01054	40.989
Stddev	.00046	.85	.00097	.00328	.0123	.00008	.334
%RSD	31.557	.79008	.86858	16.989	.77616	.74130	.81375
#1	.00143	106.25	.11131	.01662	1.5659	.01050	40.651
#2	.00102	107.93	.11275	.01839	1.5800	.01063	40.999
#3	.00195	107.28	.11091	.02298	1.5903	.01049	41.318
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00106	.06942	.20766	.09298	224.83	8.9858	.05821
Stddev	.00018	.00029	.00073	.00395	1.90	.1435	.00270
%RSD	16.943	.41806	.35334	4.2475	.84426	1.5969	4.6439
#1	.00109	.06951	.20718	.09729	222.80	8.8375	.05527
#2	.00123	.06966	.20850	.09211	225.13	8.9960	.05878
#3	.00087	.06910	.20728	.08954	226.56	9.1239	.06058
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.170	3.9393	.01193	.71858	.09254	.30023	.00960
Stddev	.071	.0317	.00010	.00160	.00038	.00327	.00272
%RSD	.58670	.80400	.86065	.22204	.41597	1.0901	28.374
#1	12.103	3.9072	.01191	.71797	.09210	.30060	.00762
#2	12.161	3.9401	.01205	.72039	.09280	.30330	.01270
#3	12.245	3.9705	.01185	.71737	.09273	.29678	.00846
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042315 Acquired: 3/24/2011 2:25:23 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00767	F 141.20	.00932	.28764	.21603	.00044	.48755
Stddev	.00071	.79	.00054	.00282	.00172	.00137	.00176
%RSD	9.1905	.55753	5.7843	.98200	.79773	312.26	.36117
#1	.00686	140.29	.00962	.28474	.21426	-.00096	.48700
#2	.00814	141.59	.00870	.28779	.21612	.00050	.48953
#3	.00801	141.72	.00964	.29039	.21770	.00178	.48614
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.52920
Stddev	.00063
%RSD	.11913
#1	.52982
#2	.52923
#3	.52856
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	49918.	64176.
Stddev	115.	416.
%RSD	.22958	.64879
#1	49844.	64656.
#2	49860.	63907.
#3	50050.	63966.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042316 Acquired: 3/24/2011 2:28:50 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00169	76.672	.09774	.01884	1.5183	.00854	95.931
Stddev	.00073	1.285	.00089	.00468	.0361	.00009	2.315
%RSD	43.335	1.6753	.91348	24.828	2.3793	1.0674	2.4131
#1	.00201	75.193	.09837	.01377	1.4766	.00853	93.268
#2	.00085	77.508	.09672	.01977	1.5371	.00864	97.063
#3	.00222	77.314	.09813	.02299	1.5410	.00846	97.462
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00314	.06087	.16912	.10772	169.61	10.078	.04140
Stddev	.00012	.00028	.00143	.00574	4.12	.272	.00119
%RSD	3.7354	.45517	.84390	5.3251	2.4277	2.6981	2.8655
#1	.00324	.06108	.16951	.11421	164.87	9.7655	.04011
#2	.00301	.06097	.17031	.10563	171.62	10.258	.04164
#3	.00318	.06055	.16754	.10332	172.33	10.211	.04245
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.691	3.8990	.01114	.68296	.08498	.30107	.00849
Stddev	.218	.0914	.00003	.01806	.00012	.00329	.00127
%RSD	2.0427	2.3428	.27359	2.6441	.14514	1.0934	15.002
#1	10.440	3.7940	.01113	.67970	.08510	.30396	.00985
#2	10.800	3.9429	.01112	.66675	.08485	.29749	.00831
#3	10.834	3.9601	.01118	.70242	.08500	.30176	.00732
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042316 Acquired: 3/24/2011 2:28:50 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00711	F 177.53	.00791	.41059	.23358	.00095	.38957
Stddev	.00362	.49	.00033	.00994	.00684	.00075	.00259
%RSD	50.939	.27558	4.1808	2.4214	2.9275	79.724	.66431
#1	.00394	176.97	.00807	.39921	.22592	.00136	.38827
#2	.01106	177.85	.00812	.41501	.23907	.00140	.39255
#3	.00635	177.78	.00753	.41756	.23574	.00008	.38789
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	1.0116
Stddev	.0011
%RSD	.10438
#1	1.0128
#2	1.0115
#3	1.0107
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	49052.	63638.
Stddev	134.	765.
%RSD	.27234	1.2019
#1	48945.	64506.
#2	49009.	63342.
#3	49202.	63065.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042317 Acquired: 3/24/2011 2:32:16 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00153	104.59	.10381	.02015	1.3650	.00977	38.602
Stddev	.00024	1.47	.00246	.00467	.0204	.00001	.552
%RSD	16.007	1.4075	2.3655	23.193	1.4977	.08002	1.4296
#1	.00124	102.93	.10325	.01491	1.3414	.00977	37.967
#2	.00167	105.09	.10649	.02162	1.3766	.00978	38.867
#3	.00166	105.74	.10167	.02390	1.3770	.00976	38.971
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00062	.06260	.22625	.08937	213.38	6.7140	.05871
Stddev	.00014	.00036	.00162	.00479	3.35	.1370	.00106
%RSD	23.225	.58105	.71574	5.3618	1.5696	2.0401	1.8084
#1	.00076	.06219	.22732	.09463	209.52	6.5611	.05775
#2	.00048	.06287	.22704	.08823	215.02	6.7555	.05852
#3	.00061	.06275	.22438	.08526	215.59	6.8254	.05985
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.007	3.4711	.01173	1.3986	.08930	.27125	.00981
Stddev	.182	.0539	.00001	.0292	.00132	.00402	.00345
%RSD	1.6494	1.5523	.12359	2.0863	1.4766	1.4803	35.111
#1	10.798	3.4097	.01173	1.3652	.09002	.27586	.01351
#2	11.116	3.4926	.01171	1.4112	.09010	.26930	.00669
#3	11.109	3.5108	.01174	1.4194	.08778	.26857	.00924
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042317 Acquired: 3/24/2011 2:32:16 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00485	F 145.71	.00882	.26794	.21356	.00082	.49161
Stddev	.00524	.64	.00030	.00394	.00337	.00167	.00136
%RSD	108.04	.44146	3.3490	1.4722	1.5765	202.40	.27718
#1	-.00078	146.45	.00873	.26341	.20967	.00075	.49245
#2	.00960	145.39	.00858	.26985	.21547	.00253	.49235
#3	.00574	145.29	.00915	.27057	.21554	-.00080	.49004
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.66593
Stddev	.00093
%RSD	.13948
#1	.66585
#2	.66690
#3	.66505
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	49435.	64197.
Stddev	271.	715.
%RSD	.54867	1.1132
#1	49253.	64998.
#2	49305.	63970.
#3	49746.	63624.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042318 Acquired: 3/24/2011 2:35:43 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00182	83.186	.08985	.02412	1.0079	.00774	28.057
Stddev	.00033	.656	.00100	.00148	.0166	.00009	.486
%RSD	18.272	.78866	1.1091	6.1289	1.6480	1.1040	1.7312
#1	.00174	82.429	.09097	.02498	.98884	.00783	27.499
#2	.00153	83.531	.08905	.02242	1.0156	.00774	28.280
#3	.00218	83.597	.08954	.02497	1.0193	.00766	28.390
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00124	.06396	.20918	.08116	186.31	21.730	.04913
Stddev	.00020	.00034	.00055	.00392	2.98	.425	.00081
%RSD	15.848	.53234	.26139	4.8323	1.6005	1.9574	1.6439
#1	.00140	.06387	.20980	.08560	182.89	21.252	.04874
#2	.00102	.06367	.20895	.07819	187.69	21.873	.04859
#3	.00130	.06433	.20878	.07968	188.35	22.066	.05005
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.667	3.7972	.01230	.67517	.07341	.29184	.00865
Stddev	.167	.0588	.00014	.01587	.00071	.00229	.00267
%RSD	1.5670	1.5473	1.1132	2.3510	.96421	.78637	30.889
#1	10.475	3.7294	.01245	.65874	.07411	.29249	.01072
#2	10.750	3.8313	.01220	.69042	.07342	.28930	.00958
#3	10.776	3.8310	.01223	.67635	.07269	.29375	.00563
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042318 Acquired: 3/24/2011 2:35:43 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01060	F 177.50	.00774	.17962	.29276	-.00178	.45046
Stddev	.00369	.56	.00008	.00255	.00450	.00003	.00137
%RSD	34.772	.31638	1.0700	1.4203	1.5368	1.5574	.30444
#1	.01155	176.87	.00765	.17668	.28764	-.00175	.45094
#2	.00654	177.72	.00778	.18119	.29452	-.00179	.44891
#3	.01373	177.92	.00781	.18099	.29611	-.00180	.45152
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.48450
Stddev	.00013
%RSD	.02770
#1	.48438
#2	.48448
#3	.48465
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	49253.	63710.
Stddev	30.	628.
%RSD	.06106	.98588
#1	49248.	64432.
#2	49226.	63288.
#3	49285.	63410.

Approved: March 24, 2011
Pierce Morris

Sample Name: CCV Acquired: 3/24/2011 2:39:10 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F .45459	9.7118	.41227	.53593	1.0716	.05160	10.661
Stddev	.00084	.0365	.00195	.00327	.0018	.00004	.038
%RSD	.18543	.37538	.47187	.61011	.16494	.06830	.36060
#1	.45379	9.7211	.41008	.53455	1.0736	.05157	10.703
#2	.45547	9.6716	.41296	.53357	1.0705	.05164	10.628
#3	.45451	9.7427	.41378	.53966	1.0706	.05161	10.652
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value	.40000						
Range	10.000%						

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05372	.20528	.53247	.52306	3.9973	52.494	1.0289
Stddev	.00027	.00013	.00155	.00196	.1698	.064	.0020
%RSD	.50350	.06139	.29118	.37500	4.2470	.12108	.19394
#1	.05391	.20514	.53397	.52433	4.1933	52.559	1.0312
#2	.05341	.20532	.53255	.52080	3.9046	52.492	1.0283
#3	.05384	.20538	.53087	.52405	3.8941	52.432	1.0274
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.1864	.49110	1.0718	52.946	.52537	.51856	1.2973
Stddev	.0084	.00266	.0025	.079	.00112	.00261	.0058
%RSD	.09168	.54082	.23292	.14993	.21266	.50408	.44781
#1	9.1841	.49409	1.0745	53.029	.52666	.52157	1.3015
#2	9.1795	.48901	1.0696	52.871	.52477	.51692	1.2906
#3	9.1958	.49019	1.0713	52.937	.52469	.51719	1.2997
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: March 24, 2011
Pierce Morris

Sample Name: CCV Acquired: 3/24/2011 2:39:10 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.41837	F 3.0540	1.0287	1.0417	.99763	.53308	1.0865
Stddev	.00143	.0701	.0009	.0016	.00199	.00408	.0007
%RSD	.34129	2.2950	.09116	.15683	.19983	.76490	.06451
#1	.41887	3.1279	1.0295	1.0403	.99803	.53719	1.0871
#2	.41676	3.0459	1.0291	1.0413	.99546	.53302	1.0867
#3	.41949	2.9884	1.0277	1.0435	.99939	.52904	1.0857
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value		5.0000					
Range		-10.000%					

Elem	Zn2062
Units	ppm
Avg	.95275
Stddev	.00140
%RSD	.14698
#1	.95165
#2	.95433
#3	.95228
Check ?	Chk Pass
Value	
Range	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	50419.	64163.
Stddev	90.	151.
%RSD	.17907	.23578
#1	50489.	64118.
#2	50317.	64332.
#3	50450.	64040.

Approved: March 24, 2011
Pierce Morris

Sample Name: CCB Acquired: 3/24/2011 2:42:33 Type: Blank
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00105	.00218	.00026	.00149	-.00116	.00000	.04618
Stddev	.00092	.00115	.00214	.00043	.00041	.00001	.00692
%RSD	87.636	52.662	826.73	28.586	35.774	173.14	14.982
#1	-.00055	.00155	.00030	.00172	-.00113	.00001	.04808
#2	-.00048	.00149	.00238	.00176	-.00076	.00001	.03851
#3	-.00211	.00351	-.00190	.00100	-.00159	.00000	.05195
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00004	-.00005	.00066	.00021	.04412	F -1.2267	-.00431
Stddev	.00016	.00018	.00015	.00100	.00312	.0564	.00056
%RSD	351.56	389.62	23.033	485.12	7.0761	4.5951	12.978
#1	-.00014	-.00002	.00083	.00037	.04052	-1.2009	-.00370
#2	.00011	-.00024	.00056	-.00086	.04567	-1.2913	-.00479
#3	.00016	.00012	.00058	.00111	.04616	-1.1878	-.00443
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit						1.0000	
Low Limit						-1.0000	

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.03339	.00027	.00025	.13024	.00108	-.00022	.00482
Stddev	.00568	.00057	.00015	.00288	.00072	.00103	.00166
%RSD	17.024	211.61	60.538	2.2132	66.826	480.79	34.493
#1	-.03079	-.00033	.00040	.12694	.00192	.00021	.00293
#2	-.02947	.00081	.00025	.13155	.00068	.00054	.00548
#3	-.03991	.00034	.00010	.13225	.00065	-.00139	.00604
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: CCB Acquired: 3/24/2011 2:42:33 Type: Blank
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00306	F -2.1984	.00004	-.00028	.00378	.00157	.00026
Stddev	.00111	.1716	.00058	.00022	.00090	.00022	.00022
%RSD	36.411	7.8064	1494.5	77.920	23.936	14.235	84.901
#1	.00241	-2.1993	.00029	-.00026	.00345	.00179	.00022
#2	.00434	-2.3695	.00044	-.00007	.00480	.00157	.00006
#3	.00242	-2.0263	-.00062	-.00051	.00308	.00134	.00050
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		1.0000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	-.00016
Stddev	.00015
%RSD	96.265
#1	-.00001
#2	-.00031
#3	-.00015
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	50793.	63310.
Stddev	187.	244.
%RSD	.36761	.38545
#1	50889.	63288.
#2	50577.	63078.
#3	50911.	63564.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042319 Acquired: 3/24/2011 2:46:12 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00298	99.237	.11374	.01956	1.2176	.01031	29.356
Stddev	.00023	1.766	.00018	.00388	.0281	.00003	.658
%RSD	7.6714	1.7792	.15523	19.837	2.3113	.24910	2.2430
#1	.00308	97.265	.11373	.01522	1.1851	.01031	28.601
#2	.00314	99.777	.11356	.02077	1.2318	.01028	29.659
#3	.00272	100.67	.11392	.02269	1.2357	.01033	29.809
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00044	.07581	.26741	.07618	260.43	16.631	.04841
Stddev	.00031	.00015	.00146	.00845	6.07	.373	.00352
%RSD	69.409	.19626	.54699	11.093	2.3317	2.2423	7.2614
#1	-.00018	.07595	.26889	.08594	253.45	16.204	.04465
#2	-.00038	.07565	.26597	.07141	263.33	16.795	.05161
#3	-.00078	.07582	.26738	.07120	264.50	16.893	.04897
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.325	4.9981	.01270	1.2721	.08407	.30665	.00670
Stddev	.305	.1233	.00034	.0376	.00039	.00260	.00151
%RSD	2.6904	2.4676	2.7020	2.9569	.46561	.84871	22.582
#1	10.977	4.8562	.01254	1.2337	.08364	.30909	.00608
#2	11.453	5.0588	.01310	1.2737	.08441	.30696	.00843
#3	11.544	5.0794	.01248	1.3089	.08415	.30391	.00560
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042319 Acquired: 3/24/2011 2:46:12 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01317	F 164.30	.00904	.20831	.24786	.00089	.58053
Stddev	.00244	.43	.00058	.00539	.00709	.00135	.00030
%RSD	18.494	.26126	6.4043	2.5883	2.8590	152.03	.05127
#1	.01442	164.10	.00851	.20210	.23972	-.00033	.58064
#2	.01473	164.79	.00894	.21102	.25122	.00065	.58019
#3	.01037	164.00	.00966	.21180	.25264	.00234	.58075
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.34308
Stddev	.00112
%RSD	.32732
#1	.34437
#2	.34229
#3	.34259
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	48977.	63474.
Stddev	94.	1030.
%RSD	.19287	1.6225
#1	48879.	64642.
#2	48985.	63085.
#3	49067.	62696.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042320 Acquired: 3/24/2011 2:49:38 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00222	87.438	.11537	.01705	1.4472	.00900	29.943
Stddev	.00029	1.354	.00305	.00420	.0325	.00004	.634
%RSD	13.276	1.5482	2.6466	24.658	2.2467	.40384	2.1186
#1	.00251	85.899	.11389	.01231	1.4100	.00903	29.220
#2	.00192	87.970	.11889	.01849	1.4615	.00896	30.203
#3	.00223	88.444	.11334	.02034	1.4701	.00900	30.406
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00049	.18282	.20613	.08956	252.25	6.3189	.04996
Stddev	.00022	.00042	.00151	.00546	5.18	.2324	.00174
%RSD	44.632	.22865	.73491	6.1001	2.0552	3.6784	3.4887
#1	.00074	.18330	.20783	.09577	246.33	6.0566	.04798
#2	.00033	.18263	.20495	.08738	254.48	6.4993	.05123
#3	.00039	.18253	.20560	.08552	255.95	6.4008	.05069
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.2156	14.109	.01381	.91791	.08472	.42006	.00910
Stddev	.1928	.311	.00017	.01762	.00053	.00388	.00146
%RSD	2.0921	2.2011	1.2352	1.9191	.62483	.92389	15.995
#1	8.9932	13.754	.01399	.89782	.08527	.42175	.01066
#2	9.3169	14.244	.01381	.92521	.08467	.41562	.00885
#3	9.3366	14.329	.01364	.93071	.08421	.42281	.00778
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042320 Acquired: 3/24/2011 2:49:38 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01458	F 167.94	.00880	.19667	.28460	.00353	.56553
Stddev	.00544	.25	.00069	.00455	.00601	.00293	.00216
%RSD	37.330	.14902	7.7896	2.3119	2.1134	83.025	.38282
#1	.01997	168.17	.00903	.19147	.27767	.00297	.56305
#2	.00909	168.00	.00935	.19866	.28773	.00670	.56647
#3	.01466	167.67	.00803	.19989	.28840	.00092	.56706
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.53948
Stddev	.00103
%RSD	.19068
#1	.53982
#2	.54030
#3	.53832
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	49079.	63879.
Stddev	60.	749.
%RSD	.12219	1.1719
#1	49072.	64743.
#2	49023.	63448.
#3	49143.	63445.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042321 Acquired: 3/24/2011 2:53:04 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00191	79.761	.10061	.01155	1.1531	.00929	28.180
Stddev	.00080	1.095	.00331	.00250	.0210	.00011	.534
%RSD	41.992	1.3731	3.2887	21.653	1.8167	1.1497	1.8957
#1	.00163	78.587	.10357	.00969	1.1290	.00928	27.564
#2	.00129	79.940	.09704	.01439	1.1638	.00919	28.453
#3	.00282	80.755	.10122	.01057	1.1666	.00940	28.522
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -.00061	.12430	.23684	.07370	232.60	3.2652	.03765
Stddev	.00021	.00013	.00212	.00531	4.13	.0937	.00321
%RSD	34.033	.10333	.89670	7.2044	1.7751	2.8703	8.5359
#1	-.00060	.12423	.23671	.07982	227.84	3.1790	.03510
#2	-.00041	.12423	.23479	.07093	234.73	3.3649	.04126
#3	-.00082	.12445	.23903	.07034	235.24	3.2516	.03660
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	4.5000						
Low Limit	-.00050						

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.4429	7.2074	.01235	1.4941	.07308	.32682	.00938
Stddev	.1833	.1347	.00005	.0169	.00122	.00266	.00180
%RSD	2.1711	1.8690	.38800	1.1307	1.6693	.81411	19.222
#1	8.2330	7.0519	.01235	1.4754	.07298	.32546	.00755
#2	8.5710	7.2800	.01240	1.5082	.07192	.32988	.00944
#3	8.5249	7.2902	.01231	1.4988	.07435	.32510	.01115
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042321 Acquired: 3/24/2011 2:53:04 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00789	F 142.56	.00783	.19711	.22803	.00233	.52184
Stddev	.00282	1.38	.00073	.00387	.00354	.00104	.00355
%RSD	35.781	.96586	9.2890	1.9635	1.5542	44.485	.68076
#1	.00556	141.77	.00831	.19266	.22406	.00327	.52097
#2	.00708	141.77	.00699	.19901	.23088	.00251	.51880
#3	.01103	144.15	.00818	.19967	.22915	.00122	.52574
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.34182
Stddev	.00081
%RSD	.23681
#1	.34137
#2	.34133
#3	.34276
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	49197.	63912.
Stddev	280.	903.
%RSD	.56983	1.4132
#1	49357.	64952.
#2	49362.	63464.
#3	48874.	63320.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042322 Acquired: 3/24/2011 2:56:31 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00158	75.525	.08918	.02214	1.1642	.00748	36.316
Stddev	.00079	1.239	.00388	.00246	.0316	.00005	.954
%RSD	50.150	1.6403	4.3464	11.123	2.7127	.70392	2.6273
#1	.00066	74.101	.09336	.01957	1.1281	.00743	35.221
#2	.00205	76.354	.08570	.02448	1.1777	.00753	36.760
#3	.00201	76.120	.08849	.02235	1.1868	.00748	36.968
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00208	.05887	.20500	.11472	180.75	12.806	.04170
Stddev	.00013	.00015	.00016	.00507	4.52	.381	.00388
%RSD	6.1793	.25850	.07593	4.4223	2.4992	2.9745	9.2955
#1	.00222	.05891	.20518	.12055	175.55	12.372	.03744
#2	.00196	.05900	.20492	.11229	182.98	12.959	.04265
#3	.00207	.05870	.20489	.11132	183.72	13.087	.04502
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.616	4.1750	.01203	.56668	.09693	.27542	.00908
Stddev	.301	.0999	.00009	.00899	.00016	.00181	.00261
%RSD	2.8316	2.3937	.71574	1.5868	.16023	.65826	28.736
#1	10.277	4.0613	.01193	.55629	.09683	.27551	.00655
#2	10.721	4.2149	.01207	.57186	.09684	.27356	.00892
#3	10.850	4.2488	.01208	.57188	.09711	.27718	.01176
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042322 Acquired: 3/24/2011 2:56:31 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00922	F 169.27	.00754	.22131	.26448	.00058	.42297
Stddev	.00387	.61	.00067	.00552	.00702	.00085	.00225
%RSD	41.995	.36186	8.9052	2.4957	2.6544	146.90	.53089
#1	.01009	169.17	.00682	.21504	.25659	.00019	.42133
#2	.01257	169.92	.00816	.22343	.26680	-.00001	.42553
#3	.00498	168.71	.00763	.22546	.27004	.00155	.42205
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.68134
Stddev	.00036
%RSD	.05312
#1	.68146
#2	.68163
#3	.68094
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	48636.	63291.
Stddev	186.	944.
%RSD	.38315	1.4913
#1	48769.	64379.
#2	48423.	62691.
#3	48716.	62804.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042323 Acquired: 3/24/2011 2:59:57 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00093	90.963	.10478	.01648	1.4974	.01001	30.140
Stddev	.00007	.679	.00508	.00296	.0295	.00004	.618
%RSD	7.5970	.74673	4.8504	17.931	1.9680	.35202	2.0494
#1	.00088	90.496	.09969	.01312	1.4634	.00997	29.431
#2	.00101	90.650	.10986	.01765	1.5145	.01004	30.427
#3	.00090	91.742	.10478	.01867	1.5143	.01003	30.561
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00039	.12947	.18662	.07983	225.20	10.448	.04530
Stddev	.00019	.00036	.00049	.00536	4.72	.168	.00290
%RSD	48.717	.27857	.26520	6.7109	2.0966	1.6113	6.4083
#1	-.00027	.12911	.18717	.08600	219.76	10.255	.04253
#2	-.00060	.12983	.18620	.07707	227.66	10.531	.04832
#3	-.00029	.12948	.18651	.07641	228.19	10.559	.04504
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.485	9.3792	.01195	.72688	.08875	.31965	.00707
Stddev	.236	.2075	.00011	.02183	.00035	.00288	.00118
%RSD	2.2489	2.2122	.95942	3.0039	.38967	.89996	16.640
#1	10.215	9.1396	.01200	.71163	.08873	.31837	.00822
#2	10.653	9.4987	.01182	.71712	.08911	.32294	.00587
#3	10.586	9.4992	.01204	.75189	.08842	.31764	.00710
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042323 Acquired: 3/24/2011 2:59:57 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00776	F 149.46	.00793	.21295	.22215	.00245	.51792
Stddev	.00358	.32	.00083	.00477	.00560	.00195	.00381
%RSD	46.111	.21704	10.525	2.2385	2.5227	79.457	.73546
#1	.00849	149.10	.00697	.20745	.21576	.00293	.51724
#2	.00387	149.72	.00849	.21564	.22450	.00031	.51450
#3	.01091	149.57	.00834	.21577	.22621	.00412	.52202
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.30457
Stddev	.00117
%RSD	.38434
#1	.30329
#2	.30558
#3	.30483
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	48962.	63411.
Stddev	112.	394.
%RSD	.22874	.62140
#1	49075.	63857.
#2	48960.	63262.
#3	48851.	63113.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042324 Acquired: 3/24/2011 3:03:24 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00249	56.235	.07556	.02554	1.0871	.00609	41.372
Stddev	.00063	.827	.00084	.00153	.0262	.00000	1.000
%RSD	25.169	1.4698	1.1137	5.9860	2.4069	.04729	2.4172
#1	.00290	55.295	.07651	.02378	1.0569	.00609	40.217
#2	.00177	56.567	.07528	.02650	1.1009	.00609	41.947
#3	.00279	56.845	.07490	.02635	1.1035	.00609	41.952
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00161	.05804	.15536	.09815	152.79	14.939	.02998
Stddev	.00010	.00032	.00175	.00249	3.65	.425	.00185
%RSD	6.0504	.54610	1.1272	2.5381	2.3917	2.8448	6.1725
#1	.00172	.05801	.15734	.10102	148.58	14.451	.02807
#2	.00155	.05775	.15469	.09652	154.66	15.227	.03010
#3	.00155	.05838	.15404	.09691	155.13	15.139	.03177
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.794	4.7289	.01066	.55498	.06561	.24088	.00817
Stddev	.273	.1155	.00023	.01931	.00065	.00144	.00166
%RSD	2.5297	2.4420	2.1191	3.4800	.99251	.59977	20.328
#1	10.479	4.5957	.01084	.53699	.06576	.24055	.00972
#2	10.938	4.7896	.01041	.55256	.06618	.23964	.00837
#3	10.964	4.8013	.01075	.57539	.06490	.24247	.00641
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042324 Acquired: 3/24/2011 3:03:24 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00407	F 159.72	.00632	.24114	.26697	.00200	.36111
Stddev	.00408	1.65	.00033	.00587	.00748	.00231	.00137
%RSD	100.25	1.0354	5.1611	2.4322	2.8033	115.78	.37957
#1	.00196	161.47	.00631	.23437	.25844	-.00012	.36238
#2	.00877	159.49	.00666	.24470	.27244	.00165	.35966
#3	.00148	158.19	.00600	.24436	.27002	.00447	.36130
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.58588
Stddev	.00020
%RSD	.03493
#1	.58599
#2	.58601
#3	.58565
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	48665.	63349.
Stddev	49.	1118.
%RSD	.10097	1.7652
#1	48649.	64640.
#2	48626.	62740.
#3	48721.	62668.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042325 Acquired: 3/24/2011 3:06:50 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00199	90.284	.09908	.01336	1.7579	.00990	26.763
Stddev	.00052	1.183	.00034	.00254	.0325	.00004	.485
%RSD	26.288	1.3100	.34339	19.000	1.8493	.44905	1.8137
#1	.00191	88.963	.09894	.01059	1.7205	.00985	26.211
#2	.00256	91.244	.09882	.01556	1.7739	.00992	26.957
#3	.00152	90.645	.09946	.01394	1.7793	.00993	27.121
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00095	.24053	.14484	.07544	241.42	13.092	.04567
Stddev	.00003	.00012	.00134	.00570	4.54	.278	.00173
%RSD	3.5635	.04999	.92566	7.5561	1.8793	2.1248	3.7815
#1	.00098	.24039	.14621	.08202	236.20	12.771	.04621
#2	.00096	.24060	.14479	.07236	243.65	13.241	.04374
#3	.00092	.24059	.14353	.07194	244.41	13.264	.04707
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.9797	19.904	.01067	1.1424	.09628	.37659	.00864
Stddev	.1934	.371	.00032	.0272	.00103	.00287	.00215
%RSD	1.9376	1.8620	2.9981	2.3846	1.0663	.76325	24.888
#1	9.7575	19.477	.01030	1.1136	.09639	.37982	.01013
#2	10.110	20.093	.01089	1.1457	.09520	.37432	.00617
#3	10.072	20.142	.01082	1.1678	.09725	.37561	.00962
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042325 Acquired: 3/24/2011 3:06:50 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01098	F 141.30	.00781	.19684	.23430	.00644	.50672
Stddev	.00045	.32	.00038	.00354	.00501	.00225	.00424
%RSD	4.0894	.22909	4.8227	1.7961	2.1392	34.903	.83580
#1	.01047	141.47	.00821	.19277	.22851	.00899	.50188
#2	.01134	140.93	.00773	.19858	.23701	.00472	.50849
#3	.01111	141.50	.00747	.19916	.23736	.00562	.50978
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.36650
Stddev	.00161
%RSD	.43994
#1	.36802
#2	.36666
#3	.36481
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	49215.	63452.
Stddev	27.	461.
%RSD	.05396	.72700
#1	49236.	63905.
#2	49224.	62983.
#3	49185.	63469.

Approved: March 24, 2011
Pierce Morris

Sample Name: CCV Acquired: 3/24/2011 3:10:21 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F .45277	9.6660	.41264	.53577	1.0674	.05136	10.627
Stddev	.00063	.0573	.00242	.00381	.0053	.00026	.080
%RSD	.13927	.59301	.58698	.71022	.49701	.51463	.75676
#1	.45206	9.6899	.40998	.53211	1.0720	.05108	10.700
#2	.45327	9.7075	.41473	.53970	1.0687	.05159	10.639
#3	.45299	9.6006	.41322	.53548	1.0616	.05143	10.541
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value	.40000						
Range	10.000%						

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05356	.20492	.52799	.52197	3.9622	51.991	1.0359
Stddev	.00014	.00009	.00218	.00102	.1327	.209	.0056
%RSD	.26383	.04599	.41364	.19559	3.3494	.40244	.53991
#1	.05341	.20482	.52547	.52249	4.1137	52.194	1.0399
#2	.05369	.20501	.52916	.52262	3.9063	52.002	1.0383
#3	.05358	.20492	.52934	.52079	3.8666	51.776	1.0295
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.0810	.49321	1.0690	52.917	.52262	.51511	1.2983
Stddev	.0781	.01010	.0014	.276	.00082	.00307	.0093
%RSD	.85971	2.0485	.13001	.52129	.15701	.59540	.71583
#1	9.1481	.50466	1.0706	53.139	.52277	.51325	1.3065
#2	9.0996	.48942	1.0687	53.003	.52336	.51342	1.3001
#3	8.9953	.48554	1.0678	52.608	.52173	.51865	1.2882
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: March 24, 2011
Pierce Morris

Sample Name: CCV Acquired: 3/24/2011 3:10:21 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.41870	F 3.1316	1.0255	1.0488	1.0038	.52925	1.0803
Stddev	.00342	.2555	.0012	.0069	.0085	.00337	.0032
%RSD	.81641	8.1586	.11874	.65886	.84236	.63710	.29929
#1	.42051	2.8391	1.0246	1.0551	1.0099	.53192	1.0776
#2	.42082	3.3109	1.0269	1.0498	1.0073	.53038	1.0839
#3	.41475	3.2449	1.0250	1.0414	.99411	.52546	1.0795
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value		5.0000					
Range		-10.000%					

Elem	Zn2062
Units	ppm
Avg	.94666
Stddev	.00144
%RSD	.15174
#1	.94820
#2	.94644
#3	.94535
Check ?	Chk Pass
Value	
Range	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	50238.	64054.
Stddev	61.	319.
%RSD	.12114	.49775
#1	50299.	63839.
#2	50239.	63903.
#3	50177.	64420.

Approved: March 24, 2011
Pierce Morris

Sample Name: CCB Acquired: 3/24/2011 3:13:44 Type: Blank
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00106**	**.00230**	**-.00079**	**.00056**	**-.00125**	**.00000**	**.03050**
Stddev	.00113	.00310	.00146	.00040	.00007	.0000	.00302
%RSD	107.04	134.51	183.52	71.268	5.3772	2068.3	9.9105
#1	-.00011	.00499	-.00140	.00037	-.00131	-.00001	.02778
#2	-.00231	.00302	-.00185	.00102	-.00127	.00002	.03375
#3	-.00075	-.00109	.00087	.00030	-.00118	-.00001	.02996
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00003**	**.00005**	**.00060**	**.00027**	**.05495**	F **-1.2343**	**-.00310**
Stddev	.00013	.00020	.00041	.00036	.00218	.0485	.00177
%RSD	385.16	385.24	69.160	134.51	3.9742	3.9255	57.059
#1	-.00012	-.00018	.00100	-.00014	.05269	-1.1808	-.00477
#2	.00010	.00014	.00061	.00055	.05705	-1.2472	-.00330
#3	.00012	.00020	.00018	.00038	.05512	-1.2751	-.00124
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit						1.0000	
Low Limit						-1.0000	

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.03048**	**.00093**	**.00030**	**.14720**	**.00149**	**.00057**	**.00193**
Stddev	.01408	.00035	.00028	.00924	.00009	.00179	.00209
%RSD	46.174	38.034	93.109	6.2756	6.3278	315.12	108.38
#1	-.04611	.00075	.00024	.15591	.00138	.00147	-.00031
#2	-.02655	.00070	.00006	.13751	.00154	-.00150	.00383
#3	-.01879	.00134	.00061	.14819	.00155	.00173	.00228
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: CCB Acquired: 3/24/2011 3:13:44 Type: Blank
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00165	F -2.4318	.00039	-.00042	.00465	.00370	.00048
Stddev	.00177	.0505	.00009	.00012	.00050	.00193	.00018
%RSD	107.65	2.0777	24.018	28.420	10.743	52.104	37.917
#1	.00338	-2.3739	.00047	-.00052	.00519	.00148	.00032
#2	.00173	-2.4671	.00029	-.00029	.00420	.00485	.00068
#3	-.00016	-2.4544	.00042	-.00044	.00456	.00479	.00045
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		1.0000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	-.00016
Stddev	.00020
%RSD	124.91
#1	-.00001
#2	-.00009
#3	-.00039
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	50669.	63791.
Stddev	118.	63.
%RSD	.23240	.09806
#1	50589.	63788.
#2	50614.	63730.
#3	50804.	63855.

Approved: March 24, 2011
Pierce Morris

Not reported due to CCV failure.

Sample Name: PBS 54 Acquired: 3/24/2011 3:17:26 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359356-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00079	-.00816	-.00046	-.00069	-.00121	.00000	.04729
Stddev	.00026	.00227	.00027	.00112	.00018	.0000	.00964
%RSD	32.700	27.844	58.795	161.17	14.700	605.56	20.384
#1	-.00104	-.01066	-.00055	.00042	-.00141	.00000	.04150
#2	-.00080	-.00758	-.00016	-.00182	-.00116	-.00001	.04195
#3	-.00052	-.00623	-.00067	-.00068	-.00107	.00000	.05842
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00019	-.00014	.00040	.00137	.04708	F -1.2090	-.00323
Stddev	.00016	.00021	.00040	.00053	.00149	.0578	.00340
%RSD	87.196	147.79	99.447	38.485	3.1674	4.7839	105.14
#1	.00034	-.00033	-.00005	.00188	.04723	-1.1458	-.00242
#2	.00020	.00008	.00056	.00141	.04848	-1.2219	-.00031
#3	.00002	-.00016	.00069	.00082	.04551	-1.2592	-.00696
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit						315.00	
Low Limit						-.50000	

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.02143	.00060	.00024	.14979	.00087	.00104	.00361
Stddev	.00969	.00022	.00021	.00248	.00058	.00126	.00110
%RSD	45.224	37.120	87.028	1.6541	67.478	120.73	30.586
#1	-.01598	.00070	.00008	.14697	.00152	.00126	.00340
#2	-.01568	.00034	.00048	.15075	.00038	-.00031	.00262
#3	-.03262	.00076	.00017	.15164	.00070	.00217	.00480
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: PBS 54 Acquired: 3/24/2011 3:17:26 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359356-02

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00696	-.97114	.00017	-.00047	.00284	.00107	.00033
Stddev	.00426	.08142	.00035	.00005	.00078	.00144	.00021
%RSD	61.223	8.3837	207.01	10.683	27.454	135.01	64.350
#1	.01135	-.95558	.00030	-.00053	.00349	.00206	.00035
#2	.00669	-.89862	.00044	-.00044	.00304	.00173	.00054
#3	.00284	-1.0592	-.00023	-.00045	.00198	-.00059	.00011
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Zn2062
Units	ppm
Avg	.00091
Stddev	.00014
%RSD	15.679
#1	.00103
#2	.00095
#3	.00075
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	48656.	62027.
Stddev	141.	1156.
%RSD	.28917	1.8640
#1	48497.	63355.
#2	48707.	61485.
#3	48765.	61242.

Approved: March 24, 2011
Pierce Morris

Sample Name: LCSS 54 Acquired: 3/24/2011 3:21:02 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359356-03

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.22457	-.01473	.20117	-.00132	-.00108	-.00003	.05275
Stddev	.00158	.00114	.00082	.00080	.00009	.00002	.00246
%RSD	.70401	7.7283	.40706	60.931	8.2466	52.977	4.6718
#1	.22293	-.01487	.20030	-.00053	-.00118	-.00002	.05385
#2	.22608	-.01579	.20130	-.00214	-.00100	-.00005	.04993
#3	.22470	-.01353	.20192	-.00128	-.00107	-.00002	.05447
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02744	-.00031	.00005	.26323	.04405	F -1.2018	-.00063
Stddev	.00011	.00010	.00043	.00085	.00117	.0340	.00180
%RSD	.40274	32.476	829.36	.32322	2.6586	2.8307	286.87
#1	.02757	-.00042	.00054	.26402	.04369	-1.2008	-.00270
#2	.02741	-.00024	-.00029	.26335	.04309	-1.1682	.00054
#3	.02735	-.00026	-.00009	.26233	.04535	-1.2363	.00027
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit						315.00	
Low Limit						-.50000	

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.01623	.24691	.00023	.15967	.00140	.26320	.00262
Stddev	.03337	.00289	.00017	.01010	.00055	.00364	.00162
%RSD	205.68	1.1709	74.193	6.3239	38.811	1.3816	61.777
#1	.02220	.24359	.00011	.14810	.00155	.26700	.00413
#2	-.03792	.24880	.00014	.16672	.00080	.26283	.00282
#3	-.03296	.24835	.00042	.16418	.00186	.25976	.00091
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: LCSS 54 Acquired: 3/24/2011 3:21:02 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359356-03

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00247**	**-.75052**	**-.00030**	**-.00034**	**.00295**	**.00001**	**.00062**
Stddev	.00072	.06749	.00040	.00008	.00125	.00098	.00022
%RSD	29.360	8.9924	135.33	22.576	42.274	13494.	35.339
#1	-.00281	-.77026	-.00069	-.00043	.00267	.00100	.00037
#2	-.00295	-.80593	-.00032	-.00030	.00187	-.00096	.00078
#3	-.00164	-.67536	.00012	-.00029	.00431	-.00002	.00070
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Zn2062
Units	ppm
Avg	**.00136**
Stddev	.00040
%RSD	29.159
#1	.00115
#2	.00111
#3	.00181
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	**49052.**	**63069.**
Stddev	55.	152.
%RSD	.11218	.24149
#1	49112.	63015.
#2	49041.	63241.
#3	49004.	62951.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042326 Acquired: 3/24/2011 3:24:35 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00818	252.39	.13539	.06332	1.4273	.00986	31.970
Stddev	.00030	3.02	.00060	.00551	.0306	.00004	.678
%RSD	3.6112	1.1957	.44560	8.7080	2.1418	.38800	2.1220
#1	.00795	248.92	.13604	.06165	1.3946	.00982	31.250
#2	.00808	253.94	.13529	.05883	1.4323	.00989	32.064
#3	.00852	254.32	.13484	.06948	1.4551	.00987	32.597
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -.00081	.15957	.44104	.18136	289.98	19.382	.21122
Stddev	.00003	.00046	.00322	.01000	6.09	.494	.00475
%RSD	4.3070	.28948	.73064	5.5129	2.1009	2.5500	2.2476
#1	-.00082	.16001	.43887	.19201	283.44	18.888	.20618
#2	-.00078	.15959	.44474	.17990	291.01	19.380	.21189
#3	-.00085	.15909	.43951	.17217	295.50	19.877	.21561
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	4.5000						
Low Limit	-.00050						

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	18.174	6.6927	.01326	1.7868	.15102	.41808	.01016
Stddev	.384	.1328	.00019	.0280	.00061	.00468	.00165
%RSD	2.1152	1.9842	1.4602	1.5674	.40579	1.1197	16.241
#1	17.751	6.5519	.01324	1.7576	.15046	.41754	.01106
#2	18.270	6.7103	.01308	1.7892	.15093	.42300	.00826
#3	18.502	6.8158	.01346	1.8134	.15168	.41369	.01117
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042326 Acquired: 3/24/2011 3:24:35 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00249	F 153.28	.01527	.27930	1.5413	.00086	.78148
Stddev	.00255	.98	.00052	.00611	.0307	.00134	.00261
%RSD	102.30	.63989	3.4189	2.1889	1.9914	156.80	.33359
#1	.00148	152.17	.01473	.27284	1.5086	.00238	.77848
#2	.00538	154.03	.01577	.28007	1.5457	-.00015	.78316
#3	.00060	153.64	.01531	.28499	1.5696	.00034	.78280
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.67521
Stddev	.00154
%RSD	.22748
#1	.67691
#2	.67481
#3	.67392
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	48492.	65328.
Stddev	47.	889.
%RSD	.09639	1.3615
#1	48482.	66351.
#2	48542.	64891.
#3	48450.	64742.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042326PS Acquired: 3/24/2011 3:28:08 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359760-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.23094	234.08	.31107	1.0885	1.8325	.03431	34.683
Stddev	.00085	1.87	.00230	.0011	.0160	.00012	.290
%RSD	.36938	.79738	.73947	.10422	.87229	.34623	.83742
#1	.23061	235.41	.31368	1.0897	1.8160	.03433	34.373
#2	.23191	231.95	.31023	1.0885	1.8335	.03442	34.728
#3	.23030	234.89	.30932	1.0874	1.8479	.03419	34.949
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02499	.24136	.65452	.39839	270.15	42.976	.69859
Stddev	.00023	.00058	.00179	.00387	2.32	.448	.00608
%RSD	.90690	.24127	.27362	.97037	.85892	1.0430	.86990
#1	.02507	.24199	.65344	.40253	267.65	42.530	.69359
#2	.02516	.24126	.65659	.39778	270.57	42.971	.69683
#3	.02473	.24084	.65353	.39487	272.23	43.427	.70536
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	20.769	6.3742	.54997	27.462	.38477	.61407	.60448
Stddev	.152	.0476	.00206	.227	.00346	.00037	.00141
%RSD	.73382	.74736	.37471	.82622	.89992	.05984	.23298
#1	20.622	6.3253	.55204	27.215	.38643	.61381	.60310
#2	20.758	6.3770	.54996	27.510	.38708	.61390	.60440
#3	20.926	6.4204	.54792	27.661	.38079	.61449	.60592
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042326PS Acquired: 3/24/2011 3:28:08 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359760-01

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.20166	F 328.02	.01442	.75879	1.9039	.24388	1.2383
Stddev	.00911	2.15	.00036	.00564	.0105	.00329	.0040
%RSD	4.5152	.65525	2.4751	.74329	.55169	1.3505	.32085
#1	.19148	329.58	.01446	.75277	1.8921	.24111	1.2343
#2	.20903	328.91	.01476	.75965	1.9074	.24752	1.2422
#3	.20447	325.57	.01405	.76396	1.9123	.24302	1.2385
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	1.0520
Stddev	.0019
%RSD	.18070
#1	1.0534
#2	1.0528
#3	1.0498
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	48371.	64263.
Stddev	90.	285.
%RSD	.18702	.44275
#1	48276.	64358.
#2	48382.	64489.
#3	48456.	63944.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042326DL Acquired: 3/24/2011 3:31:40 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 5 Custom ID2: Custom ID3:
Comment: WG359760-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00049	52.313	.02716	.01351	.28397	.00196	6.5294	-.00015
Stddev	.00073	.313	.00138	.00179	.00018	.00001	.0259	.00014
%RSD	149.65	.59749	5.0776	13.263	.06250	.45873	.39602	90.209
#1	-.00026	52.188	.02574	.01548	.28406	.00196	6.5520	-.00001
#2	.00053	52.669	.02849	.01306	.28409	.00197	6.5351	-.00028
#3	.00120	52.083	.02725	.01199	.28377	.00195	6.5012	-.00017
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.03176	.08629	.03441	59.413	2.9164	.04064	3.6864	1.3626
Stddev	.00015	.00075	.00047	.041	.0722	.00222	.0130	.0015
%RSD	.48274	.86504	1.3625	.06903	2.4768	5.4638	.35265	.10963
#1	.03161	.08579	.03494	59.441	2.8992	.03921	3.7014	1.3644
#2	.03192	.08715	.03405	59.433	2.9957	.04320	3.6797	1.3618
#3	.03175	.08592	.03425	59.366	2.8544	.03952	3.6781	1.3618
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Si2124	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00232	.48571	.02956	.08347	.00137	.00082	26.542	.00268
Stddev	.00017	.00881	.00048	.00088	.00127	.00320	.265	.00042
%RSD	7.3678	1.8129	1.6199	1.0599	92.839	391.70	.99671	15.635
#1	.00212	.47584	.02936	.08390	.00043	.00041	26.698	.00284
#2	.00245	.48853	.02922	.08245	.00281	-.00216	26.692	.00299
#3	.00237	.49276	.03011	.08405	.00087	.00420	26.237	.00220
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042326DL Acquired: 3/24/2011 3:31:40 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 5 Custom ID2: Custom ID3:
Comment: WG359760-02

Elem	Sr4077	Ti3372	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm
Avg	.05585	.31592	.00307	.14989	.13650
Stddev	.00021	.00100	.00114	.00064	.00007
%RSD	.37083	.31658	37.164	.42690	.05174
#1	.05577	.31693	.00394	.15063	.13650
#2	.05570	.31493	.00348	.14960	.13642
#3	.05609	.31589	.00178	.14945	.13656
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	53184.	67227.
Stddev	180.	401.
%RSD	.33806	.59631
#1	53254.	67649.
#2	53319.	66852.
#3	52980.	67179.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042326DL Acquired: 3/24/2011 3:35:08 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 25 Custom ID2: Custom ID3:
Comment: WG359760-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00059**	**10.402**	**.00776**	**.00180**	**.05582**	**.00041**	**1.3244**	**-.00003**
Stddev	.00046	.078	.00237	.00039	.00031	.00000	.0057	.00002
%RSD	78.516	.75357	30.514	21.617	.55168	1.1916	.43032	61.865
#1	-.00022	10.424	.00521	.00165	.05584	.00040	1.3189	-.00005
#2	-.00044	10.467	.00988	.00151	.05551	.00041	1.3303	-.00003
#3	-.00111	10.315	.00818	.00225	.05612	.00041	1.3240	-.00001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00612**	**.01755**	**.00662**	**11.933**	**-.39626**	**.00591**	**.71478**	**.27444**
Stddev	.00031	.00049	.00082	.011	.06426	.00089	.00421	.00078
%RSD	5.1483	2.7987	12.348	.09548	16.218	14.997	.58842	.28573
#1	.00576	.01767	.00699	11.942	-.34154	.00504	.71338	.27429
#2	.00627	.01797	.00719	11.920	-.38022	.00588	.71950	.27374
#3	.00633	.01701	.00568	11.937	-.46703	.00681	.71144	.27529
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Si2124	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00068**	**.20502**	**.00582**	**.01830**	**.00186**	**.00089**	**2.7726**	**.00045**
Stddev	.00014	.00463	.00024	.00153	.00192	.00498	.0507	.00038
%RSD	20.958	2.2607	4.1339	8.3786	102.79	557.90	1.8299	83.976
#1	.00053	.19968	.00560	.01978	.00320	.00365	2.7223	.00052
#2	.00069	.20800	.00579	.01840	.00272	.00388	2.7716	.00004
#3	.00081	.20738	.00608	.01672	-.00033	-.00485	2.8238	.00079
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042326DL Acquired: 3/24/2011 3:35:08 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: 25 Custom ID2: Custom ID3:
Comment: WG359760-02

Elem	Sr4077	Ti3372	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm
Avg	.01097	.06556	.00371	.03035	.02735
Stddev	.00015	.00111	.00107	.00051	.00009
%RSD	1.4034	1.6896	28.749	1.6713	.31244
#1	.01087	.06505	.00285	.03051	.02726
#2	.01115	.06683	.00490	.03077	.02743
#3	.01090	.06480	.00336	.02979	.02735
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	53575.	67748.
Stddev	167.	234.
%RSD	.31079	.34572
#1	53605.	67982.
#2	53396.	67513.
#3	53725.	67750.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042327 Acquired: 3/24/2011 3:38:39 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359356-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00678	284.16	.20922	.04420	1.5933	.01646	26.666
Stddev	.00071	4.41	.00148	.00442	.0397	.00012	.634
%RSD	10.433	1.5519	.70519	9.9920	2.4891	.75063	2.3785
#1	.00624	279.59	.21082	.03914	1.5484	.01632	25.949
#2	.00653	284.50	.20892	.04726	1.6082	.01652	26.892
#3	.00758	288.40	.20792	.04621	1.6234	.01655	27.156
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -.00487	.17626	.64110	.15013	497.29	18.206	.23412
Stddev	.00004	.00081	.00139	.02103	12.63	.470	.00803
%RSD	.77508	.45726	.21683	14.010	2.5397	2.5818	3.4280
#1	-.00484	.17680	.63967	.16947	484.26	17.680	.22486
#2	-.00491	.17666	.64245	.15318	498.13	18.354	.23843
#3	-.00487	.17534	.64117	.12773	509.48	18.585	.23906
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	4.5000						
Low Limit	-.00050						

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	18.561	9.1393	.01994	3.4924	.17577	.41151	.01043
Stddev	.459	.2213	.00032	.0967	.00050	.00123	.00104
%RSD	2.4754	2.4220	1.6095	2.7685	.28235	.29899	9.9366
#1	18.047	8.8907	.01987	3.3864	.17596	.41197	.00958
#2	18.705	9.2121	.01966	3.5149	.17615	.41244	.01159
#3	18.931	9.3151	.02029	3.5758	.17521	.41011	.01014
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042327 Acquired: 3/24/2011 3:38:39 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359356-01

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00877	F 162.01	.01525	.26453	1.1964	.00466	1.1199
Stddev	.00506	1.09	.00010	.00625	.0291	.00168	.0063
%RSD	57.746	.67213	.67534	2.3630	2.4339	36.030	.55952
#1	.00637	161.25	.01514	.25750	1.1637	.00367	1.1154
#2	.00534	161.53	.01526	.26662	1.2060	.00371	1.1172
#3	.01458	163.26	.01534	.26946	1.2195	.00660	1.1270
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.46396
Stddev	.00212
%RSD	.45618
#1	.46549
#2	.46484
#3	.46155
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	48040.	63928.
Stddev	64.	749.
%RSD	.13229	1.1713
#1	48113.	64776.
#2	47996.	63649.
#3	48010.	63359.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042328S Acquired: 3/24/2011 3:42:20 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359356-04

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.22138	292.74	.35980	.04421	2.1314	.01455	29.137
Stddev	.00128	4.49	.00206	.00510	.0570	.00010	.759
%RSD	.57818	1.5325	.57347	11.544	2.6727	.71388	2.6053
#1	.22118	287.70	.35755	.03867	2.0659	.01443	28.264
#2	.22275	296.29	.36024	.04526	2.1589	.01462	29.502
#3	.22021	294.24	.36161	.04871	2.1693	.01459	29.644
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01997	.29013	.45386	.36733	454.43	19.826	.25011
Stddev	.00021	.00089	.00273	.01908	12.73	.581	.00773
%RSD	1.0489	.30724	.60200	5.1930	2.8019	2.9301	3.0899
#1	.02019	.29070	.45265	.38731	440.02	19.161	.24131
#2	.01977	.29057	.45699	.36536	459.11	20.084	.25326
#3	.01995	.28910	.45195	.34931	464.16	20.234	.25577
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	19.661	17.917	.01933	3.3818	.17264	.72331	.01267
Stddev	.473	.461	.00068	.0795	.00065	.00385	.00180
%RSD	2.4072	2.5704	3.5328	2.3508	.37852	.53276	14.221
#1	19.114	17.388	.01891	3.2902	.17334	.72679	.01209
#2	19.920	18.135	.02012	3.4336	.17256	.71917	.01469
#3	19.947	18.227	.01897	3.4214	.17204	.72396	.01122
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042328S Acquired: 3/24/2011 3:42:20 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359356-04

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01321	F 180.89	.01498	.28875	1.4953	.00568	1.0685
Stddev	.00386	.42	.00044	.00692	.0378	.00039	.0066
%RSD	29.223	.23326	2.9378	2.3979	2.5274	6.9130	.61291
#1	.00905	180.46	.01466	.28078	1.4519	.00560	1.0622
#2	.01668	181.30	.01548	.29228	1.5124	.00533	1.0752
#3	.01391	180.92	.01478	.29321	1.5214	.00611	1.0682
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.43753
Stddev	.00173
%RSD	.39646
#1	.43917
#2	.43769
#3	.43572
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	48234.	64102.
Stddev	91.	912.
%RSD	.18904	1.4223
#1	48304.	65141.
#2	48266.	63732.
#3	48131.	63434.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042329SD Acquired: 3/24/2011 3:46:01 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359356-05

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.21111	266.98	.33322	.04440	2.0422	.01373	27.762
Stddev	.00145	1.09	.00231	.00294	.0434	.00007	.560
%RSD	.68509	.40645	.69279	6.6162	2.1227	.51362	2.0189
#1	.20959	266.57	.33119	.04250	1.9978	.01365	27.194
#2	.21247	266.17	.33573	.04293	2.0444	.01377	27.777
#3	.21126	268.21	.33274	.04779	2.0844	.01377	28.315
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02157	.31240	.37551	.34154	371.92	17.272	.22434
Stddev	.00024	.00110	.00179	.01262	7.83	.382	.00243
%RSD	1.1165	.35212	.47721	3.6939	2.1059	2.2102	1.0815
#1	.02144	.31346	.37509	.35441	363.95	16.898	.22164
#2	.02142	.31249	.37748	.34103	372.20	17.258	.22503
#3	.02185	.31126	.37397	.32919	379.60	17.661	.22635
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	18.715	15.507	.01790	3.4607	.15600	.76266	.00958
Stddev	.350	.318	.00006	.0795	.00054	.00445	.00254
%RSD	1.8676	2.0495	.32219	2.2966	.34932	.58338	26.509
#1	18.327	15.168	.01783	3.3816	.15661	.76762	.00889
#2	18.816	15.555	.01794	3.4599	.15581	.75902	.00746
#3	19.004	15.798	.01791	3.5406	.15557	.76134	.01240
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042329SD Acquired: 3/24/2011 3:46:01 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment: WG359356-05

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00831	F 173.66	.01351	.27356	1.0061	.00323	.90338
Stddev	.00313	.58	.00051	.00530	.0228	.00024	.00401
%RSD	37.705	.33426	3.7672	1.9366	2.2669	7.3383	.44417
#1	.01193	173.63	.01335	.26780	.98337	.00342	.89975
#2	.00672	173.09	.01309	.27465	1.0059	.00296	.90769
#3	.00630	174.25	.01407	.27822	1.0290	.00330	.90270
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.47538
Stddev	.00091
%RSD	.19178
#1	.47609
#2	.47571
#3	.47435
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	48275.	64510.
Stddev	71.	277.
%RSD	.14710	.42990
#1	48356.	64775.
#2	48224.	64533.
#3	48245.	64221.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042330 Acquired: 3/24/2011 3:49:34 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00315	223.20	.11100	.05388	2.0864	.01047	41.411
Stddev	.00051	2.92	.00181	.00224	.0318	.00004	.694
%RSD	16.058	1.3086	1.6264	4.1563	1.5260	.37078	1.6761
#1	.00299	221.91	.10904	.05138	2.0526	.01044	40.698
#2	.00274	221.14	.11259	.05572	2.0908	.01045	41.451
#3	.00371	226.54	.11137	.05452	2.1158	.01051	42.085
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00170	.07645	.29531	.14849	214.17	21.037	.18517
Stddev	.00010	.00044	.00144	.00262	3.42	.345	.00287
%RSD	5.7299	.57830	.48708	1.7641	1.5949	1.6417	1.5513
#1	.00177	.07607	.29605	.15138	210.56	20.659	.18213
#2	.00175	.07635	.29623	.14781	214.61	21.114	.18553
#3	.00159	.07694	.29365	.14627	217.35	21.337	.18784
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	19.451	4.7952	.00964	1.3871	.12766	.30652	.00718
Stddev	.237	.0618	.00007	.0316	.00054	.00544	.00223
%RSD	1.2174	1.2879	.72356	2.2772	.42684	1.7762	31.059
#1	19.222	4.7358	.00964	1.3760	.12826	.31262	.00842
#2	19.435	4.7906	.00971	1.3625	.12751	.30478	.00852
#3	19.695	4.8591	.00957	1.4227	.12720	.30215	.00461
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042330 Acquired: 3/24/2011 3:49:34 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00655	F 153.86	.01221	.33302	.99830	-.00038	.56351
Stddev	.00353	1.43	.00018	.00461	.01748	.00185	.00050
%RSD	53.979	.92967	1.4570	1.3843	1.7511	492.88	.08870
#1	.00477	154.88	.01218	.32875	.98010	-.00002	.56355
#2	.01062	154.48	.01205	.33239	.99986	.00127	.56299
#3	.00425	152.23	.01240	.33791	1.0150	-.00238	.56398
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.80010
Stddev	.00102
%RSD	.12739
#1	.80091
#2	.80043
#3	.79895
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	48691.	65041.
Stddev	14.	821.
%RSD	.02833	1.2626
#1	48693.	65770.
#2	48704.	65202.
#3	48677.	64151.

Approved: March 24, 2011
Pierce Morris

Sample Name: CCV Acquired: 3/24/2011 3:53:19 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -.00015	F -.03988	F .00239	F -.00226	F -.00005	F .00015	F .08755
Stddev	.00093	.02093	.00114	.00055	.00143	.00001	.03562
%RSD	632.65	52.488	47.465	24.329	2676.5	5.0778	40.679
#1	-.00053	-.05351	.00126	-.00278	-.00150	.00016	.06100
#2	-.00083	-.05035	.00353	-.00231	.00136	.00014	.12803
#3	.00092	-.01578	.00238	-.00168	-.00002	.00014	.07363
Check ?	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail
Value	.40000	10.000	.40000	.50000	1.0000	.05000	10.000
Range	-10.000%	-10.000%	-10.000%	-10.000%	-10.000%	-10.000%	-10.000%

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -.00006	F .00159	F .00064	F .00785	F .26354	F -1.2906	F -.00521
Stddev	.00012	.00155	.00007	.00805	.15212	.0123	.00131
%RSD	202.98	97.520	11.506	102.53	57.723	.95398	25.050
#1	-.00020	-.00017	.00073	-.00125	.12804	-1.2961	-.00669
#2	.00000	.00275	.00058	.01404	.42810	-1.2764	-.00420
#3	.00002	.00221	.00062	.01076	.23448	-1.2991	-.00475
Check ?	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail
Value	.05000	.20000	.50000	.50000	4.0000	50.000	1.0000
Range	-10.000%	-10.000%	-10.000%	-10.000%	-10.000%	-10.000%	-10.000%

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -.01803	F .00492	F .00008	F .23474	F .00394	F .01072	F .00372
Stddev	.00956	.00314	.00013	.02142	.00250	.00788	.00170
%RSD	53.011	63.841	170.51	9.1237	63.278	73.472	45.757
#1	-.02468	.00168	-.00007	.25051	.00119	.00233	.00252
#2	-.00708	.00795	.00015	.24335	.00606	.01796	.00298
#3	-.02233	.00513	.00014	.21036	.00458	.01187	.00567
Check ?	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail
Value	10.000	.50000	1.0000	50.000	.50000	.50000	1.2000
Range	-10.000%	-10.000%	-10.000%	-10.000%	-10.000%	-10.000%	-10.000%

Approved: March 24, 2011
Pierce Morris

Sample Name: CCV Acquired: 3/24/2011 3:53:19 Type: QC
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F .00435	F .24401	F .00001	F -.00040	F .01154	F .00339	F .00051
Stddev	.00119	3.8846	.00026	.00015	.00486	.00101	.00011
%RSD	27.395	1592.0	2726.6	37.982	42.154	29.688	20.522
#1	.00522	-3.9593	.00006	-.00057	.00839	.00272	.00040
#2	.00483	3.7019	.00024	-.00028	.00909	.00455	.00061
#3	.00299	.98941	-.00027	-.00035	.01714	.00291	.00053
Check ?	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail
Value	.40000	5.0000	1.0000	1.0000	1.0000	.50000	1.0000
Range	-10.000%	-10.000%	-10.000%	-10.000%	-10.000%	-10.000%	-10.000%

Elem	Zn2062
Units	ppm
Avg	F .01401
Stddev	.01609
%RSD	114.79
#1	-.00400
#2	.02694
#3	.01911
Check ?	Chk Fail
Value	1.0000
Range	-10.000%

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	92974.	125840.
Stddev	4397.	20726.
%RSD	4.7295	16.470
#1	97970.	142470.
#2	91257.	132440.
#3	89694.	102620.

Approved: March 24, 2011
Pierce Morris

Sample Name: CCB Acquired: 3/24/2011 3:56:52 Type: Blank
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00126	.00239	-.00156	-.00262	-.00118	.00002	.03885
Stddev	.00018	.00162	.00421	.00009	.00008	.00002	.01313
%RSD	14.351	67.941	270.07	3.3867	7.1963	121.43	33.799
#1	-.00126	.00288	-.00115	-.00268	-.00109	.00004	.04351
#2	-.00108	.00371	-.00595	-.00266	-.00125	.00001	.02402
#3	-.00144	.00058	.00243	-.00252	-.00121	.00000	.04901
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00005	-.00009	.00056	.00019	.04846	F -1.1882	-.00202
Stddev	.00020	.00016	.00031	.00038	.00290	.0019	.00213
%RSD	360.59	173.99	55.969	200.62	5.9813	.16262	105.60
#1	.00018	-.00014	.00042	.00060	.04667	-1.1881	-.00187
#2	-.00017	.00009	.00092	-.00016	.04690	-1.1863	.00003
#3	.00016	-.00021	.00034	.00014	.05180	-1.1901	-.00422
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit						1.0000	
Low Limit						-1.0000	

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.03165	.00028	.00000	.14758	.00046	.00175	.00236
Stddev	.01959	.00038	.00026	.00561	.00011	.00199	.00079
%RSD	61.880	132.68	43572.	3.8033	24.281	113.72	33.466
#1	-.05200	-.00014	-.00025	.15242	.00033	.00386	.00210
#2	-.01292	.00056	-.00003	.14143	.00054	.00147	.00173
#3	-.03004	.00043	.00028	.14888	.00052	-.00009	.00325
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: CCB Acquired: 3/24/2011 3:56:52 Type: Blank
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00383	F -2.8443	.00005	-.00045	.00331	.00277	.00060
Stddev	.00152	.1071	.00025	.00010	.00006	.00094	.00023
%RSD	39.643	3.7660	505.12	21.601	1.8069	34.052	39.432
#1	.00320	-2.7210	.00009	-.00035	.00332	.00384	.00049
#2	.00555	-2.9148	-.00022	-.00054	.00337	.00243	.00043
#3	.00272	-2.8970	.00028	-.00047	.00325	.00204	.00086
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		1.0000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	-.00238
Stddev	.00020
%RSD	8.4814
#1	-.00219
#2	-.00259
#3	-.00234
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	51243.	64981.
Stddev	179.	524.
%RSD	.35026	.80696
#1	51162.	65581.
#2	51448.	64610.
#3	51118.	64754.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042331 Acquired: 3/24/2011 4:00:35 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00168	238.13	.11671	.03560	2.3419	.01321	37.094
Stddev	.00054	4.53	.00169	.00665	.0621	.00001	.996
%RSD	32.457	1.9007	1.4489	18.687	2.6527	.09145	2.6859
#1	.00174	234.44	.11526	.02853	2.2737	.01321	36.003
#2	.00110	236.78	.11630	.03654	2.3568	.01323	37.325
#3	.00219	243.18	.11857	.04174	2.3953	.01320	37.955
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00076	.08011	.34027	.12068	258.50	15.798	.19682
Stddev	.00029	.00043	.00115	.00774	7.01	.461	.00513
%RSD	38.222	.53569	.33743	6.4126	2.7099	2.9193	2.6044
#1	.00101	.08060	.34065	.12863	250.87	15.311	.19146
#2	.00083	.07992	.33898	.12023	260.01	15.854	.19734
#3	.00044	.07981	.34118	.11317	264.63	16.228	.20167
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	20.123	4.9833	.01051	1.5040	.13734	.31843	.00313
Stddev	.541	.1386	.00035	.0389	.00107	.00237	.00385
%RSD	2.6895	2.7817	3.3302	2.5845	.77614	.74440	123.27
#1	19.597	4.8373	.01030	1.4613	.13799	.32112	.00725
#2	20.092	4.9997	.01032	1.5136	.13791	.31667	-.00037
#3	20.679	5.1131	.01092	1.5372	.13611	.31749	.00250
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042331 Acquired: 3/24/2011 4:00:35 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00378	F 138.39	.01238	.34189	.58297	-.00004	.63970
Stddev	.00161	.69	.00054	.00905	.01650	.00139	.00309
%RSD	42.504	.50093	4.3831	2.6467	2.8308	3787.2	.48352
#1	.00537	138.94	.01204	.33231	.56481	-.00010	.63662
#2	.00216	138.62	.01301	.34306	.58706	-.00140	.63968
#3	.00381	137.61	.01209	.35029	.59705	.00138	.64281
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	.67177
Stddev	.00121
%RSD	.18011
#1	.67177
#2	.67299
#3	.67057
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	50026.	66168.
Stddev	50.	1033.
%RSD	.10049	1.5603
#1	49998.	67208.
#2	49997.	66155.
#3	50084.	65143.

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042332 Acquired: 3/24/2011 4:04:09 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00510	211.57	.09409	.06174	2.0911	.00905	147.00
Stddev	.00065	4.38	.00054	.00219	.0497	.00002	3.58
%RSD	12.713	2.0719	.57095	3.5528	2.3783	.16750	2.4363
#1	.00442	206.64	.09465	.05931	2.0386	.00905	143.19
#2	.00518	213.04	.09358	.06232	2.0973	.00904	147.53
#3	.00571	215.02	.09404	.06358	2.1374	.00907	150.29
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00173	.07444	.27743	.16574	196.02	26.835	.17834
Stddev	.00026	.00013	.00185	.00654	4.44	.614	.00403
%RSD	14.905	.17754	.66830	3.9467	2.2666	2.2867	2.2573
#1	.00202	.07452	.27913	.17226	191.37	26.173	.17413
#2	.00166	.07450	.27545	.16578	196.49	26.946	.17875
#3	.00152	.07429	.27771	.15918	200.22	27.385	.18215
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	20.957	4.5568	.01105	1.5750	.14189	.30093	.00738
Stddev	.541	.1056	.00032	.0453	.00048	.00312	.00228
%RSD	2.5811	2.3175	2.9230	2.8785	.34114	1.0361	30.862
#1	20.404	4.4437	.01128	1.5248	.14236	.30130	.00833
#2	20.981	4.5738	.01119	1.5872	.14139	.30385	.00902
#3	21.485	4.6529	.01068	1.6129	.14192	.29764	.00478
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 24, 2011
Pierce Morris

Sample Name: L1103042332 Acquired: 3/24/2011 4:04:09 Type: Unk
Method: ICP-THERMO1_6010_200.7_FAST(v582) Mode: CONC Corr. Factor: 1.000000
User: PDM Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00373	F 148.28	.01189	.88259	1.0529	.00117	.50749
Stddev	.00454	.17	.00097	.02165	.0255	.00276	.00127
%RSD	121.94	.11271	8.1868	2.4532	2.4243	235.84	.24987
#1	.00896	148.17	.01190	.85919	1.0256	.00215	.50715
#2	.00076	148.48	.01092	.88667	1.0568	.00330	.50643
#3	.00146	148.20	.01287	.90192	1.0762	-.00195	.50889
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		72.000					
Low Limit		-1.0000					

Elem	Zn2062
Units	ppm
Avg	1.1399
Stddev	.0018
%RSD	.15600
#1	1.1415
#2	1.1403
#3	1.1380
Check ?	Chk Pass
High Limit	
Low Limit	

Int. Std.	Y_2243	Y_3774
Units	Cts/S	Cts/S
Avg	49312.	66112.
Stddev	32.	942.
%RSD	.06511	1.4244
#1	49279.	67078.
#2	49315.	66061.
#3	49343.	65197.

Approved: March 24, 2011
Pierce Morris

2.2 General Chemistry Data

2.2.1 Percent Solids Data

2.2.1.1 Raw Data

LABORATORY REPORT

L11030665

03/22/11 15:30

Submitted By

Microbac Laboratories Inc.
158 Starlite Drive
Marietta , OH 45750
(740) 373 - 4071

For

Account Name: Versar Inc
12050 N. Pecos Street
Suite 300
Westminster, CO 80234
Attention: Gary Torf

Project Number: 2415.036
Project: Cannon AFB
Site: CANNON AFB

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
SR001A	L11030665-01	D2216-90	1	18-MAR-11
SR001AMS	L11030665-02	D2216-90	1	18-MAR-11
SR001AMSD	L11030665-03	D2216-90	1	18-MAR-11
SR003A	L11030665-04	D2216-90	1	18-MAR-11
SR004A	L11030665-05	D2216-90	1	18-MAR-11
SR008A	L11030665-06	D2216-90	1	18-MAR-11
SR010A	L11030665-07	D2216-90	1	18-MAR-11
SR016A	L11030665-08	D2216-90	1	18-MAR-11
SR020A	L11030665-09	D2216-90	1	18-MAR-11
SR024A	L11030665-10	D2216-90	1	18-MAR-11
SR027A	L11030665-11	D2216-90	1	18-MAR-11
SR027ADUP	L11030665-12	D2216-90	1	18-MAR-11
SR032A	L11030665-13	D2216-90	1	18-MAR-11
SR034A	L11030665-14	D2216-90	1	18-MAR-11
SR034ADUP	L11030665-15	D2216-90	1	18-MAR-11
SR037A	L11030665-16	D2216-90	1	18-MAR-11

Report Number: **L11030665**
Report Date : **March 22, 2011**

Sample Number: **L11030665-01**
Client ID: **SR001A**
Matrix: **Soil**
Workgroup Number: **WG359523**
Collect Date: **03/16/2011 10:33**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/22/2011 08:52**
Cal Date:
Run Date: **03/22/2011 08:52**
File ID: **B1.359523-0101**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	94.2		1.00	1.00

Report Number: **L11030665**
Report Date : **March 22, 2011**

Sample Number: **L11030665-02**
Client ID: **SR001AMS**
Matrix: **Soil**
Workgroup Number: **WG359523**
Collect Date: **03/16/2011 10:33**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/22/2011 08:52**
Cal Date:
Run Date: **03/22/2011 08:52**
File ID: **B1.359523-0102**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	94.2		1.00	1.00

Report Number: **L11030665**
Report Date : **March 22, 2011**

Sample Number: **L11030665-03**
Client ID: **SR001AMSD**
Matrix: **Soil**
Workgroup Number: **WG359523**
Collect Date: **03/16/2011 10:33**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/22/2011 08:52**
Cal Date:
Run Date: **03/22/2011 08:52**
File ID: **B1.359523-0103**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	94.2		1.00	1.00

Report Number: **L11030665**
Report Date : **March 22, 2011**

Sample Number: **L11030665-04**
Client ID: **SR003A**
Matrix: **Soil**
Workgroup Number: **WG359523**
Collect Date: **03/16/2011 10:44**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/22/2011 08:52**
Cal Date:
Run Date: **03/22/2011 08:52**
File ID: **B1.359523-0104**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	96.4		1.00	1.00

Report Number: **L11030665**
Report Date : **March 22, 2011**

Sample Number: **L11030665-05**
Client ID: **SR004A**
Matrix: **Soil**
Workgroup Number: **WG359523**
Collect Date: **03/16/2011 10:50**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/22/2011 08:52**
Cal Date:
Run Date: **03/22/2011 08:52**
File ID: **B1.359523-0105**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	96.3		1.00	1.00

Report Number: **L11030665**
Report Date : **March 22, 2011**

Sample Number: **L11030665-06**
Client ID: **SR008A**
Matrix: **Soil**
Workgroup Number: **WG359523**
Collect Date: **03/16/2011 11:10**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/22/2011 08:52**
Cal Date:
Run Date: **03/22/2011 08:52**
File ID: **B1.359523-0106**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	94.5		1.00	1.00

Report Number: **L11030665**
Report Date : **March 22, 2011**

Sample Number: **L11030665-07**
Client ID: **SR010A**
Matrix: **Soil**
Workgroup Number: **WG359523**
Collect Date: **03/16/2011 11:20**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/22/2011 08:52**
Cal Date:
Run Date: **03/22/2011 08:52**
File ID: **B1.359523-0107**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	96.1		1.00	1.00

Report Number: **L11030665**
Report Date : **March 22, 2011**

Sample Number: **L11030665-08**
Client ID: **SR016A**
Matrix: **Soil**
Workgroup Number: **WG359523**
Collect Date: **03/16/2011 13:20**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/22/2011 08:52**
Cal Date:
Run Date: **03/22/2011 08:52**
File ID: **B1.359523-0108**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	**10-02-6**	**94.9**		**1.00**	**1.00**

Report Number: **L11030665**
Report Date : **March 22, 2011**

Sample Number: **L11030665-09**
Client ID: **SR020A**
Matrix: **Soil**
Workgroup Number: **WG359523**
Collect Date: **03/16/2011 13:38**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/22/2011 08:52**
Cal Date:
Run Date: **03/22/2011 08:52**
File ID: **B1.359523-0109**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	96.2		1.00	1.00

Report Number: **L11030665**
Report Date : **March 22, 2011**

Sample Number: **L11030665-10**
Client ID: **SR024A**
Matrix: **Soil**
Workgroup Number: **WG359523**
Collect Date: **03/16/2011 13:55**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/22/2011 08:52**
Cal Date:
Run Date: **03/22/2011 08:52**
File ID: **B1.359523-0110**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	**10-02-6**	**96.9**		**1.00**	**1.00**

Report Number: **L11030665**
Report Date : **March 22, 2011**

Sample Number: **L11030665-11**
Client ID: **SR027A**
Matrix: **Soil**
Workgroup Number: **WG359523**
Collect Date: **03/16/2011 14:15**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/22/2011 08:52**
Cal Date:
Run Date: **03/22/2011 08:52**
File ID: **B1.359523-0111**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	**10-02-6**	**98.0**		**1.00**	**1.00**

Report Number: **L11030665**
Report Date : **March 22, 2011**

Sample Number: **L11030665-12**
Client ID: **SR027ADUP**
Matrix: **Soil**
Workgroup Number: **WG359523**
Collect Date: **03/16/2011 14:15**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/22/2011 08:52**
Cal Date:
Run Date: **03/22/2011 08:52**
File ID: **B1.359523-0112**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	**10-02-6**	**97.8**		**1.00**	**1.00**

Report Number: **L11030665**
Report Date : **March 22, 2011**

Sample Number: **L11030665-13**
Client ID: **SR032A**
Matrix: **Soil**
Workgroup Number: **WG359523**
Collect Date: **03/16/2011 14:55**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/22/2011 08:52**
Cal Date:
Run Date: **03/22/2011 08:52**
File ID: **B1.359523-0113**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	96.0		1.00	1.00

Report Number: **L11030665**
Report Date : **March 22, 2011**

Sample Number: **L11030665-14**
Client ID: **SR034A**
Matrix: **Soil**
Workgroup Number: **WG359523**
Collect Date: **03/16/2011 15:05**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/22/2011 08:52**
Cal Date:
Run Date: **03/22/2011 08:52**
File ID: **B1.359523-0114**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	94.7		1.00	1.00

Report Number: **L11030665**
Report Date : **March 22, 2011**

Sample Number: **L11030665-15**
Client ID: **SR034ADUP**
Matrix: **Soil**
Workgroup Number: **WG359523**
Collect Date: **03/16/2011 15:05**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/22/2011 08:52**
Cal Date:
Run Date: **03/22/2011 08:52**
File ID: **B1.359523-0115**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	95.2		1.00	1.00

Report Number: **L11030665**
Report Date : **March 22, 2011**

Sample Number: **L11030665-16**
Client ID: **SR037A**
Matrix: **Soil**
Workgroup Number: **WG359523**
Collect Date: **03/16/2011 15:25**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL013**
Prep Date: **03/22/2011 08:52**
Cal Date:
Run Date: **03/22/2011 08:52**
File ID: **B1.359523-0116**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	93.3		1.00	1.00

Example Percent Solids Calculations

1.0 Calculating the percent solids of a sample.

$$\%Solids = \frac{WT3 - WT1}{WT2 - WT1} \times F$$

Where:	
WT1 = Weight, in grams, of the empty container	1.30 g
WT2 = Weight, in grams, of the container and wet sample	21.274 g
WT3 = Weight, in grams, of the container and dried sample	5.21 g
F = Factor to get units as percent weight	100
%Solids = Percent solids present in sample.	19.58%

2.0 Calculating the percent moisture of a sample.

% Moisture = 100 - % Solids from 1.0 calculation

Microbac Laboratories Inc.

PERCENT SOLIDS

Workgroup (AAB#): WG359523 Analyst: JDH ADT(on): 03/21/2011 16:39
Method: D2216-90 Instrument: BAL013 ADT(off): 03/22/2011 08:52
SOP: K0003 Rev: 11

SAMPLE NUMBER	EMPTY PAN WT 1	WET WT 2	DRY WT 3A	DRY WT 3B	DRY WT 3C	PERCENT SOLID	PERCENT MOISTURE
L11030665-01	1.317	14.992	14.197			94.19	
L11030665-02	1.317	14.992	14.197			94.19	
L11030665-03	1.317	14.992	14.197			94.19	
L11030665-04	1.332	27.861	26.894			96.35	
L11030665-05	1.311	25.053	24.177			96.31	
L11030665-06	1.327	25.44	24.112			94.49	
L11030665-07	1.317	25.498	24.545			96.06	
L11030665-08	1.326	22.945	21.845			94.91	
L11030665-09	1.327	31.674	30.519			96.19	
L11030665-10	1.33	20.525	19.93			96.90	
L11030665-11	1.331	28.048	27.518			98.02	
L11030665-12	1.322	26.119	25.584			97.84	
L11030665-13	1.324	33.794	32.49			95.98	
L11030665-14	1.331	28.021	26.605			94.69	
L11030665-15	1.324	22.396	21.377			95.16	
L11030665-16	1.329	27.082	25.366			93.34	
L11030695-01	1.323	32.289	29.06			89.57	
L11030695-02	1.323	32.289	29.06			89.57	
L11030695-03	1.327	26.321	22.996			86.70	
WG359523-01	1.327	26.321	22.996			86.70	13.30
WG359523-02	1.321	35.431	30.744			86.26	13.74

Analyst: Justin Hasson

PERCENT_SOLIDS - Modified 04/24/2008
PDF ID: 1950606
Report generated: 03/22/2011 10:34

3.0 Attachments

Microbac Laboratories Inc.
Analyst Listing
March 25, 2011

ADC - ANTHONY D. CANTER
AJF - AMANDA J. FICKIESEN
ALB - ANNIE L. BROWN
ALV - AMY L. VALENTINE
AML - TONY M. LONG
AZH - AFTER HOURS
BLG - BRENDA L. GREENWALT
BRG - BRENDA R. GREGORY
CAA - CASSIE A. AUGENSTEIN
CAF - CHERYL A. FLOWERS
CEB - CHAD E. BARNES
CLC - CHRYS L. CRAWFORD
CLS - CARA L. STRICKLER
CLW - CHARISSA L. WINTERS
CPD - CHAD P. DAVIS
CSH - CHRIS S. HILL
DDE - DEBRA D. ELLIOTT
DEL - DON E. LIGHTFRITZ
DEV - DAVID E. VANDENBERG
DGB - DOUGLAS G. BUTCHER
DIH - DEANNA I. HESSON
DLB - DAVID L. BUMGARNER
DLP - DOROTHY L. PAYNE
DLR - DIANNA L. RAUCH
ECL - ERIC C. LAWSON
EDL - ERIN D. LONG
ERP - ERIN R. PORTER
FJB - FRANCES J. BOLDEN
HAV - HEMA VILASAGAR
HJR - HOLLY J. REED
JAL - JOHN A. LENT
JBK - JEREMY B. KINNEY
JDH - JUSTIN D. HESSON
JKT - JANE K. THOMPSON
JLL - JOHN L. LENT
JWR - JOHN W. RICHARDS
JWS - JACK W. SHEAVES
JYH - JI Y. HU
KEB - KATIE E. BARNES
KHR - KIM H. RHODES
KRA - KATHY R. ALBERTSON
LKN - LINDA K. NEDEFF
LSB - LESLIE S. BUCINA
MDA - MIKE D. ALBERTSON
MDC - MIKE D. COCHRAN
MES - MARY E. SCHILLING
MMB - MAREN M. BEERY
MRT - MICHELLE R. TAYLOR
MSW - MATT S. WILSON
PDM - PIERCE D. MORRIS
PWD - PAUL W. DENT
RAH - ROY A. HALSTEAD
RB - BOB BUCHANAN
REK - BOB E. KYER
RLK - ROBIN L. KLINGER
RWC - RODNEY W. CAMPBELL
SLM - STEPHANIE L. MOSSBURG
SLP - SHERI L. PFALZGRAF
TIP - TAE I. PARRISH
TMB - TIFFANY M. BAILEY
TMM - TAMMY M. MORRIS
VC - VICKI COLLIER
WJB - WILL J. BEASLEY
WTD - WADE T. DELONG

Microbac Laboratories Inc.
List of Valid Qualifiers
March 25, 2011

Qualkey: DOD

Qualifier	Description
*	Surrogate or spike compound out of range
+	Correlation coefficient for the MSA is less than 0.995
<	Result is less than the associated numerical value.
>	Result is greater than the associated numerical value.
A	See the report narrative
B	The reported result is associated with a contaminated method blank.
B1	Target analyte detected in method blank at or above the method reporting limit
B3	Target analyte detected in calibration blank at or above the method reporting limit
B4	The BOD unseeded dilution water blank exceeded 0.2 mg/L
C	Confirmed by GC/MS
CG	Confluent growth
DL	Surrogate or spike compound was diluted out
E	Estimated concentration due to sample matrix interference
EDL	Elevated sample reporting limits, presence of non-target analytes
EMPC	Estimated Maximum Possible Concentration
F, S	Estimated result below quantitation limit; method of standard additions(MSA)
FL	Free Liquid
H1	Sample analysis performed past holding time.
I	Semiquantitative result (out of instrument calibration range)
J	Estimated concentration; sample matrix interference.
J	Estimated value ; the analyte concentration was greater than the highest standard
J	Estimated value ; the analyte concentration was less than the low standard (LOQ)
J	The reported result is an estimated value.
J,B	Analyte detected in both the method blank and sample above the MDL.
J,P	Estimate; columns don't agree to within 40%
J,S	Estimated concentration; analyzed by method of standard addition (MSA)
L	Sample reporting limits elevated due to matrix interference
L1	The associated blank spike (LCS) recovery was above the laboratory acceptance limits.
L2	The associated blank spike (LCS) recovery was below the laboratory acceptance limits.
M	Matrix effect; the concentration is an estimate due to matrix effect.
N	Nontarget analyte; the analyte is a tentativlely identified compound (TIC) by GC/MS
NA	Not applicable
ND	Not detected at or above the reporting limit (RL).
ND, L	Not detected; sample reporting limit (RL) elevated due to interference
ND, S	Not detected; analyzed by method of standard addition (MSA)
NF	Not found by library search
NFL	No free liquid
NI	Non-ignitable
NR	Analyte is not required to be analyzed
NS	Not spiked
P	Concentrations >40% difference between the two GC columns
Q	One or more quality control criteria failed. See narrative.
QNS	Quantity of sample not sufficient to perform analysis
RA	Reanalysis confirms reported results
RE	Reanalysis confirms sample matrix interference
S	Analyzed by method of standard addition (MSA)
SMI	Sample matrix interference on surrogate
SP	Reported results are for spike compounds only
TIC	Library Search Compound
TNTC	Too numerous to count
U	Analyte was not detected. The concentration is below the reported LOD.
UJ	Undetected; the analyte was analyzed for, but not detected.
UQ	Undetected; the analyte was analyzed for, but not detected.
W	Post-digestion spike for furnace AA out of control limits
X	Exceeds regulatory limit
X, S	Exceeds regulatory limit; method of standard additions (MSA)
Z	Cannot be resolved from isomer - see below

*****Special Notes for Organic Analytes**

Qualkey: DOD

1. Acrolein and acrylonitrile by method 624 are semi-quantitative screens only.
2. 1,2-Diphenylhydrazine is unstable and is reported as azobenzene.
3. N-nitrosodiphenylamine cannot be separated from diphenylamine.
4. 3-Methylphenol and 4-Methylphenol are unresolvable compounds.
5. m-Xylene and p-Xylene are unresolvable compounds.
6. The reporting limits for Appendix II/IX compounds by method 8270 are based on EPA estimated PQLs referenced in 40 CFR Part 264, Appendix IX. They are not always achievable for every compound an are matrix dependent.

Versar

CHAIN OF CUSTODY RECORD

№ 0154

PROJECT NO.	PROJECT NAME	LAB:
111736.0006	CANNON AFB CSE PHASE II	MICROBAC

SAMPLERS: (Signature) (Printed) PATRICK LAWLER / CRAIG KIRK

FIELD SAMPLE NUMBER	DATE	TIME	MATRIX	METH.	LOCATION ID	NO. OF CONTAINERS	LEAD 6010B							SBD (ft)	SED (ft)	REMARKS SACODE	LOTCTLNUM	Preservative
SR001A	3/16/11	1033	SO		SR001	1	X							0.0	0.5	N	–	–
SR001AMS	3/16/11	1033	SO		SR001	1	X							0.0	0.5	MS	–	–
SR001AMSD	3/16/11	1033	SO		SR001	1	X							0.0	0.5	SD	–	–
SR003A	3/16/11	1044	SO		SR003	1	X							0.0	0.5	N	–	–
SR004A	3/16/11	1050	SO		SR004	1	X							0.0	0.5	N	–	–
SR008A	3/16/11	1110	SO		SR008	1	X							0.0	0.5	N	–	–
SR010A	3/16/11	1120	SO		SR010	1	X							0.0	0.5	N	–	–
SR016A	3/16/11	1320	SO		SR016	1	X							0.0	0.5	N	–	–
SR020A	3/16/11	1338	SO		SR020	1	X							0.0	0.5	N	–	–
SR024A	3/16/11	1355	SO		SR024	1	X							0.0	0.5	N	–	–
SR027A	3/16/11	1415	SO		SR027	1	X							0.0	0.5	N	–	–
SR027ADUP	3/16/11	1415	SO		SR027	1	X							0.0	0.5	FD	–	–

PARAMETERS

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time
Gary Torf	3/17/11 1630	FED EX	
(Printed) GARY TORF		(Printed)	
Relinquished by: (Signature)			Time
(Printed)			

Microbac OVD 221000013288
Received: 03/18/2011 10:55
By: CARA STRICKLER
Cara Strickler

Remarks: Temp Received

QUESTIONS CALL
GARY TORF 720.231.8022 (CELL)

Turn-Around-Time 14 DAY

FedEx Airbill #

Distribution: Original Plus One Accompanies Shipment (white and yellow); Copy to Coordinator Field Files (pink).

Versar

CHAIN OF CUSTODY RECORD

№ 0155

PROJECT NO.	PROJECT NAME	LAB:
111736.0006	CANNON AFB CSE PHASE II	MICROBAC

SAMPLERS: (Signature) (Printed) Patrick Lawler, Craig Kisy

FIELD SAMPLE NUMBER	DATE	TIME	MATRIX	METH.	LOCATION ID	NO. OF CONTAINERS	LEAD 6010B						SBD (ft)	SED (ft)	REMARKS SACODE	LOTCTLNUM	Preservative
SR032A	3/16/11	1455	SO		SR032	1	X						0.0	0.5	N	-	-
SR034A	3/16/11	1505	SO		SR034	1	X						0.0	0.5	N	-	-
SR034ADUP	3/16/11	1505	SO		SR034	1	X						0.0	0.5	FD	-	-
SR037A	3/16/11	1525	SO		SR037	1	X						0.0	0.5	N	-	-

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time
(Printed) GARY TORF	3/17/11 1630	FED EX (Printed)	
Relinquished by: (Signature)			
(Printed)			

Microbac OVD 221000013288
Received: 03/18/2011 10:55
By: CARA STRICKLER
Cara Strickler

Remarks: QUESTIONS CALL GARY TORF 720.231.8022 (CELL)

Temp Received

Turn-Around-Time 14 DAY

FedEx Airbill #

Distribution: Original Plus One Accompanies Shipment (white and yellow); Copy to Coordinator Field Files (pink).

1000013288

COOLER INSPECTION

Received: 03/18/2011 10:55
Delivery Method: FedEx
Opened By: Cara Strickler
Comments:

Login(s): L11030665|

Cooler(s)

Cooler #	Temp Gun	Temp	Tracking #	COC #	Comments
0013041	H	3.0	3457507711002562795755504471681 1	0154 0155	
0014958	H	3.0	3457507711002562873530195051215 6	0154 0155	

1	Yes	Were shipping coolers sealed?
2	Yes	Were custody seals intact?
3	Yes	Were cooler temperatures in range of 0-6?
4	Yes	Was ice present?
5	Yes	Were COC's received/information complete/signed and dated?
6	Yes	Were sample containers and labels intact and match COC?
7	Yes	Were the correct containers and volumes received?
8	Yes	Were samples received within EPA hold times?
9	NA	Were correct perservatives used? (water only)
10	NA	Were pH ranges acceptable? (voa's excluded)
11	NA	Were VOA samples free of headspace (less than 6mm)?

Discrepancies:

Look closer. Go further. Do more.

Microbac - Ohio Valley Division
158 Starlite Drive
Marietta, OH 45750
Tel: (740)373-4071 Fax: (740)373-4835

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L11030665
Account: 2415
Project: 2415.036
Samples: 16
Due Date: 29-MAR-2011

Samplenum	Container ID	Products
L11030665-01	809861	PB-AX PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	18-MAR-2011 15:53	JKT	
2	ANALYZ	W1	DIG	21-MAR-2011 14:49	ERP	JKT
3	STORE	DIG	A1	23-MAR-2011 08:20	BRG	JKT

Samplenum	Container ID	Products
L11030665-02	809862	PB-AX PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	18-MAR-2011 15:53	JKT	
2	ANALYZ	W1	DIG	21-MAR-2011 14:49	ERP	JKT
3	STORE	DIG	A1	23-MAR-2011 08:20	BRG	JKT

Samplenum	Container ID	Products
L11030665-03	809863	PB-AX PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	18-MAR-2011 15:53	JKT	
2	ANALYZ	W1	DIG	21-MAR-2011 14:49	ERP	JKT
3	STORE	DIG	A1	23-MAR-2011 08:20	BRG	JKT

Samplenum	Container ID	Products
L11030665-04	809864	PB-AX PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	18-MAR-2011 15:53	JKT	
2	ANALYZ	W1	DIG	21-MAR-2011 14:49	ERP	JKT
3	STORE	DIG	A1	23-MAR-2011 08:20	BRG	JKT

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L11030665
Account: 2415
Project: 2415.036
Samples: 16
Due Date: 29-MAR-2011

Samplenum	Container ID	Products
L11030665-05	809865	PB-AX PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	18-MAR-2011 15:53	JKT	
2	ANALYZ	W1	DIG	21-MAR-2011 14:49	ERP	JKT
3	STORE	DIG	A1	23-MAR-2011 08:20	BRG	JKT

Samplenum	Container ID	Products
L11030665-06	809866	PB-AX PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	18-MAR-2011 15:53	JKT	
2	ANALYZ	W1	DIG	21-MAR-2011 14:49	ERP	JKT
3	STORE	DIG	A1	23-MAR-2011 08:20	BRG	JKT

Samplenum	Container ID	Products
L11030665-07	809867	PB-AX PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	18-MAR-2011 15:53	JKT	
2	ANALYZ	W1	DIG	21-MAR-2011 14:49	ERP	JKT
3	STORE	DIG	A1	23-MAR-2011 08:20	BRG	JKT

Samplenum	Container ID	Products
L11030665-08	809868	PB-AX PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	18-MAR-2011 15:53	JKT	
2	ANALYZ	W1	DIG	21-MAR-2011 14:49	ERP	JKT
3	STORE	DIG	A1	23-MAR-2011 08:20	BRG	JKT

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L11030665
Account: 2415
Project: 2415.036
Samples: 16
Due Date: 29-MAR-2011

Samplenum	Container ID	Products
L11030665-09	809869	PB-AX PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	18-MAR-2011 15:53	JKT	
2	ANALYZ	W1	DIG	21-MAR-2011 14:49	ERP	JKT
3	STORE	DIG	A1	23-MAR-2011 08:20	BRG	JKT

Samplenum	Container ID	Products
L11030665-10	809870	PB-AX PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	18-MAR-2011 15:53	JKT	
2	ANALYZ	W1	DIG	21-MAR-2011 14:49	ERP	JKT
3	STORE	DIG	A1	23-MAR-2011 08:20	BRG	JKT

Samplenum	Container ID	Products
L11030665-11	809871	PB-AX PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	18-MAR-2011 15:53	JKT	
2	ANALYZ	W1	DIG	21-MAR-2011 14:49	ERP	JKT
3	STORE	DIG	A1	23-MAR-2011 08:20	BRG	JKT

Samplenum	Container ID	Products
L11030665-12	809872	PB-AX PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	18-MAR-2011 15:53	JKT	
2	ANALYZ	W1	DIG	21-MAR-2011 14:49	ERP	JKT
3	STORE	DIG	A1	23-MAR-2011 08:20	BRG	JKT

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L11030665
Account: 2415
Project: 2415.036
Samples: 16
Due Date: 29-MAR-2011

Samplenum	Container ID	Products
L11030665-13	809873	PB-AX PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	18-MAR-2011 15:53	JKT	
2	ANALYZ	W1	DIG	21-MAR-2011 14:49	ERP	JKT
3	STORE	DIG	A1	23-MAR-2011 08:19	BRG	JKT

Samplenum	Container ID	Products
L11030665-14	809874	PB-AX PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	18-MAR-2011 15:53	JKT	
2	ANALYZ	W1	DIG	21-MAR-2011 14:49	ERP	JKT
3	STORE	DIG	A1	23-MAR-2011 08:19	BRG	JKT

Samplenum	Container ID	Products
L11030665-15	809875	PB-AX PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	18-MAR-2011 15:53	JKT	
2	ANALYZ	W1	DIG	21-MAR-2011 14:49	ERP	JKT
3	STORE	DIG	A1	23-MAR-2011 08:19	BRG	JKT

Samplenum	Container ID	Products
L11030665-16	809876	PB-AX PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	18-MAR-2011 15:53	JKT	
2	ANALYZ	W1	DIG	21-MAR-2011 14:49	ERP	JKT
3	STORE	DIG	A1	23-MAR-2011 08:19	BRG	JKT

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

158 Starlite Drive, Marietta, OH 45750 • T:740-373-4071 • F:740-373-4835 • http://www.microbac.com

Laboratory Report Number: L11030669

Client: Gary Torf, 12050 N. Pecos Street, Westminster, CO, 80234

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories.

Review and compilation of your report was completed by Microbac's Sales and Service Team. If you have questions, comments or require further assistance regarding this report, please contact your team member noted in the reviewed box below at 800-373-4071. Team member e-mail addresses also appear here for your convenience.

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This report was reviewed on March 30, 2011.

Stephanie Mossburg

Stephanie Mossburg - Team Chemist/Data Specialist

I certify that all test results meet all of the requirements of the accrediting authority listed below. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

This report was certified on March 30, 2011.

David E. Vandenberg

David Vandenberg - Managing Director

State of origin: New Mexico
Accrediting authority: N/A ID:N/A
QAPP: DOD Ver 4.1
This report contains a total of 221 pages.

Look closer. Go further. Do more.

Microbac REPORT L11030669
PREPARED FOR Versar Inc
WORK ID:

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1.0 Introduction

LABORATORY REPORT

L11030669

03/30/11 14:17

Submitted By

Microbac Laboratories Inc.
158 Starlite Drive
Marietta , OH 45750
(740) 373 - 4071

For

Account Name: Versar Inc
12050 N. Pecos Street
Suite 300
Westminster, CO 80234
Attention: Gary Torf

Project Number: 2415.036
Project: Cannon AFB
Site: CANNON AFB

Sample Summary

Client ID	Lab ID	Date Collected	Date Received
BKG001A	L11030669-01	03/17/2011 13:30	03/18/2011
BKG002A	L11030669-02	03/17/2011 13:35	03/18/2011
BKG003A	L11030669-03	03/17/2011 13:40	03/18/2011
BKG004A	L11030669-04	03/17/2011 13:45	03/18/2011
BKG005A	L11030669-05	03/17/2011 13:50	03/18/2011
BKG005AMS	L11030669-06	03/17/2011 13:50	03/18/2011
BKG005AMSD	L11030669-07	03/17/2011 13:50	03/18/2011
BKG006A	L11030669-08	03/17/2011 13:55	03/18/2011
BKG007A	L11030669-09	03/17/2011 14:00	03/18/2011
BKG007ADUP	L11030669-10	03/17/2011 14:00	03/18/2011
BKG008A	L11030669-11	03/17/2011 14:05	03/18/2011
BKG009A	L11030669-12	03/17/2011 14:10	03/18/2011
BKG010A	L11030669-13	03/17/2011 14:15	03/18/2011

L1_A_PROD_COVER - Modified 02/06/2008
PDF File ID: 1954802
Report generated: 03/30/2011 14:17

Report Number: **L11030669**
Report Date : **March 30, 2011**

Sample Number: **L11030669-01**
Client ID: **BKG001A**
Matrix: **Soil**
Workgroup Number: **WG359878**
Collect Date: **03/17/2011 13:30**
Sample Tag: **REDL1**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/23/2011 14:12**
Cal Date: **02/15/2011 12:28**
Run Date: **03/24/2011 18:14**
File ID: **15M04127**
Percent Solid: **96.3**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	5.15	2.58
Acenaphthylene	208-96-8		U	5.15	2.58
Acenaphthene	83-32-9		U	5.15	2.58
Fluorene	86-73-7		U	5.15	2.58
Phenanthrene	85-01-8	8.19		5.15	2.58
Anthracene	120-12-7		U	5.15	2.58
Fluoranthene	206-44-0	15.5		5.15	2.58
Pyrene	129-00-0	12.3		5.15	2.58
Benzo(a)anthracene	56-55-3	5.93		5.15	2.58
Chrysene	218-01-9	7.69		5.15	2.58
Benzo(b)fluoranthene	205-99-2	7.25		5.15	2.58
Benzo(k)fluoranthene	207-08-9	6.58		5.15	2.58
Benzo(a)pyrene	50-32-8	6.54		5.15	2.58
Indeno(1,2,3-cd)pyrene	193-39-5	5.20		5.15	2.58
Dibenzo(a,h)anthracene	53-70-3	2.68	J	5.15	2.58
Benzo(g,h,i)perylene	191-24-2	5.67		5.15	2.58
1-Methylnaphthalene	90-12-0		U	5.15	2.58
2-Methylnaphthalene	91-57-6		U	5.15	2.58

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	49.3	35	100	
2-Fluorobiphenyl	52.5	45	105	
p-Terphenyl-d14	98.4	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Sample Number: **L11030669-01**
Client ID: **BKG001A**
Matrix: **Soil**
Workgroup Number: **WG360010**
Collect Date: **03/17/2011 13:30**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **03/28/2011 08:42**
Cal Date:
Run Date: **03/28/2011 08:42**
File ID: **B1.360010-0101**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	96.3		1.00	1.00

Sample Number: **L11030669-02**
Client ID: **BKG002A**
Matrix: **Soil**
Workgroup Number: **WG359878**
Collect Date: **03/17/2011 13:35**
Sample Tag: **REDL1**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/23/2011 14:12**
Cal Date: **02/15/2011 12:28**
Run Date: **03/24/2011 18:42**
File ID: **15M04128**
Percent Solid: **96.5**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	5.48	2.74
Acenaphthylene	208-96-8		U	5.48	2.74
Acenaphthene	83-32-9		U	5.48	2.74
Fluorene	86-73-7		U	5.48	2.74
Phenanthrene	85-01-8	7.01		5.48	2.74
Anthracene	120-12-7		U	5.48	2.74
Fluoranthene	206-44-0	18.5		5.48	2.74

Report Number: **L11030669**
Report Date : **March 30, 2011**

Sample Number: **L11030669-02**
Client ID: **BKG002A**
Matrix: **Soil**
Workgroup Number: **WG359878**
Collect Date: **03/17/2011 13:35**
Sample Tag: **REDL1**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/23/2011 14:12**
Cal Date: **02/15/2011 12:28**
Run Date: **03/24/2011 18:42**
File ID: **15M04128**
Percent Solid: **96.5**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Pyrene	129-00-0	13.6		5.48	2.74
Benzo(a)anthracene	56-55-3	6.12		5.48	2.74
Chrysene	218-01-9	8.82		5.48	2.74
Benzo(b)fluoranthene	205-99-2	8.75		5.48	2.74
Benzo(k)fluoranthene	207-08-9	8.24		5.48	2.74
Benzo(a)pyrene	50-32-8	7.87		5.48	2.74
Indeno(1,2,3-cd)pyrene	193-39-5	6.34		5.48	2.74
Dibenzo(a,h)anthracene	53-70-3		U	5.48	2.74
Benzo(g,h,i)perylene	191-24-2	7.03		5.48	2.74
1-Methylnaphthalene	90-12-0		U	5.48	2.74
2-Methylnaphthalene	91-57-6		U	5.48	2.74

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	66.8	35	100	
2-Fluorobiphenyl	71.4	45	105	
p-Terphenyl-d14	103	30	125	

U Analyte was not detected. The concentration is below the reported LOD.

Sample Number: **L11030669-02**
Client ID: **BKG002A**
Matrix: **Soil**
Workgroup Number: **WG360010**
Collect Date: **03/17/2011 13:35**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **03/28/2011 08:42**
Cal Date:
Run Date: **03/28/2011 08:42**
File ID: **B1.360010-0102**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	96.5		1.00	1.00

Sample Number: **L11030669-03**
Client ID: **BKG003A**
Matrix: **Soil**
Workgroup Number: **WG359878**
Collect Date: **03/17/2011 13:40**
Sample Tag: **REDL1**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/23/2011 14:12**
Cal Date: **02/15/2011 12:28**
Run Date: **03/24/2011 19:10**
File ID: **15M04129**
Percent Solid: **97.2**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	5.32	2.66
Acenaphthylene	208-96-8		U	5.32	2.66
Acenaphthene	83-32-9		U	5.32	2.66
Fluorene	86-73-7		U	5.32	2.66
Phenanthrene	85-01-8	5.33		5.32	2.66
Anthracene	120-12-7		U	5.32	2.66
Fluoranthene	206-44-0	13.2		5.32	2.66
Pyrene	129-00-0	9.91		5.32	2.66
Benzo(a)anthracene	56-55-3	4.42	J	5.32	2.66
Chrysene	218-01-9	6.41		5.32	2.66
Benzo(b)fluoranthene	205-99-2	6.69		5.32	2.66
Benzo(k)fluoranthene	207-08-9	4.89	J	5.32	2.66
Benzo(a)pyrene	50-32-8	5.35		5.32	2.66
Indeno(1,2,3-cd)pyrene	193-39-5	4.25	J	5.32	2.66
Dibenzo(a,h)anthracene	53-70-3		U	5.32	2.66

Report Number: **L11030669**
Report Date : **March 30, 2011**

Sample Number: **L11030669-03**
Client ID: **BKG003A**
Matrix: **Soil**
Workgroup Number: **WG359878**
Collect Date: **03/17/2011 13:40**
Sample Tag: **REDL1**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/23/2011 14:12**
Cal Date: **02/15/2011 12:28**
Run Date: **03/24/2011 19:10**
File ID: **15M04129**
Percent Solid: **97.2**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Benzo(g,h,i)perylene	191-24-2	4.66	J	5.32	2.66
1-Methylnaphthalene	90-12-0		U	5.32	2.66
2-Methylnaphthalene	91-57-6		U	5.32	2.66

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	53.6	35	100	
2-Fluorobiphenyl	59.0	45	105	
p-Terphenyl-d14	89.5	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Sample Number: **L11030669-03**
Client ID: **BKG003A**
Matrix: **Soil**
Workgroup Number: **WG360010**
Collect Date: **03/17/2011 13:40**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **03/28/2011 08:42**
Cal Date:
Run Date: **03/28/2011 08:42**
File ID: **B1.360010-0103**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	97.2		1.00	1.00

Sample Number: **L11030669-04**
Client ID: **BKG004A**
Matrix: **Soil**
Workgroup Number: **WG359878**
Collect Date: **03/17/2011 13:45**
Sample Tag: **REDL1**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/23/2011 14:12**
Cal Date: **02/15/2011 12:28**
Run Date: **03/24/2011 19:38**
File ID: **15M04130**
Percent Solid: **96.5**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	5.76	2.88
Acenaphthylene	208-96-8		U	5.76	2.88
Acenaphthene	83-32-9		U	5.76	2.88
Fluorene	86-73-7		U	5.76	2.88
Phenanthrene	85-01-8	3.61	J	5.76	2.88
Anthracene	120-12-7		U	5.76	2.88
Fluoranthene	206-44-0	7.90		5.76	2.88
Pyrene	129-00-0	6.12		5.76	2.88
Benzo(a)anthracene	56-55-3	3.07	J	5.76	2.88
Chrysene	218-01-9	4.23	J	5.76	2.88
Benzo(b)fluoranthene	205-99-2	4.12	J	5.76	2.88
Benzo(k)fluoranthene	207-08-9	3.66	J	5.76	2.88
Benzo(a)pyrene	50-32-8	3.65	J	5.76	2.88
Indeno(1,2,3-cd)pyrene	193-39-5	3.07	J	5.76	2.88
Dibenzo(a,h)anthracene	53-70-3		U	5.76	2.88
Benzo(g,h,i)perylene	191-24-2	3.25	J	5.76	2.88
1-Methylnaphthalene	90-12-0		U	5.76	2.88
2-Methylnaphthalene	91-57-6		U	5.76	2.88

Report Number: **L11030669**
Report Date : **March 30, 2011**

Sample Number: **L11030669-04**
Client ID: **BKG004A**
Matrix: **Soil**
Workgroup Number: **WG359878**
Collect Date: **03/17/2011 13:45**
Sample Tag: **REDL1**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/23/2011 14:12**
Cal Date: **02/15/2011 12:28**
Run Date: **03/24/2011 19:38**
File ID: **15M04130**
Percent Solid: **96.5**

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	58.6	35	100	
2-Fluorobiphenyl	62.5	45	105	
p-Terphenyl-d14	103	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Sample Number: **L11030669-04**
Client ID: **BKG004A**
Matrix: **Soil**
Workgroup Number: **WG360010**
Collect Date: **03/17/2011 13:45**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **03/28/2011 08:42**
Cal Date:
Run Date: **03/28/2011 08:42**
File ID: **B1.360010-0104**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	96.5		1.00	1.00

Sample Number: **L11030669-05**
Client ID: **BKG005A**
Matrix: **Soil**
Workgroup Number: **WG359878**
Collect Date: **03/17/2011 13:50**
Sample Tag: **REDL1**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/23/2011 14:12**
Cal Date: **02/15/2011 12:28**
Run Date: **03/24/2011 20:06**
File ID: **15M04131**
Percent Solid: **97.8**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	4.90	2.45
Acenaphthylene	208-96-8		U	4.90	2.45
Acenaphthene	83-32-9		U	4.90	2.45
Fluorene	86-73-7		U	4.90	2.45
Phenanthrene	85-01-8	3.06	J	4.90	2.45
Anthracene	120-12-7		U	4.90	2.45
Fluoranthene	206-44-0	6.98		4.90	2.45
Pyrene	129-00-0	5.50		4.90	2.45
Benzo(a)anthracene	56-55-3	2.74	J	4.90	2.45
Chrysene	218-01-9	3.76	J	4.90	2.45
Benzo(b)fluoranthene	205-99-2	3.78	J	4.90	2.45
Benzo(k)fluoranthene	207-08-9	3.48	J	4.90	2.45
Benzo(a)pyrene	50-32-8	3.27	J	4.90	2.45
Indeno(1,2,3-cd)pyrene	193-39-5	2.73	J	4.90	2.45
Dibenzo(a,h)anthracene	53-70-3		U	4.90	2.45
Benzo(g,h,i)perylene	191-24-2	2.88	J	4.90	2.45
1-Methylnaphthalene	90-12-0		U	4.90	2.45
2-Methylnaphthalene	91-57-6		U	4.90	2.45

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	56.9	35	100	
2-Fluorobiphenyl	58.1	45	105	
p-Terphenyl-d14	96.9	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Report Number: **L11030669**
Report Date : **March 30, 2011**

Sample Number: **L11030669-05**
Client ID: **BKG005A**
Matrix: **Soil**
Workgroup Number: **WG360010**
Collect Date: **03/17/2011 13:50**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **03/28/2011 08:42**
Cal Date:
Run Date: **03/28/2011 08:42**
File ID: **B1.360010-0105**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	97.8		1.00	1.00

Sample Number: **L11030669-06**
Client ID: **BKG005AMS**
Matrix: **Soil**
Workgroup Number: **WG359878**
Collect Date: **03/17/2011 13:50**
Sample Tag: **REDL1**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/23/2011 14:12**
Cal Date: **02/15/2011 12:28**
Run Date: **03/24/2011 20:35**
File ID: **15M04132**
Percent Solid: **97.8**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3	24.9		5.24	2.62
Acenaphthylene	208-96-8	26.6		5.24	2.62
Acenaphthene	83-32-9	26.7		5.24	2.62
Fluorene	86-73-7	29.4		5.24	2.62
Phenanthrene	85-01-8	46.1		5.24	2.62
Anthracene	120-12-7	46.2		5.24	2.62
Fluoranthene	206-44-0	63.5		5.24	2.62
Pyrene	129-00-0	57.9		5.24	2.62
Benzo(a)anthracene	56-55-3	54.4		5.24	2.62
Chrysene	218-01-9	57.8		5.24	2.62
Benzo(b)fluoranthene	205-99-2	56.3		5.24	2.62
Benzo(k)fluoranthene	207-08-9	52.2		5.24	2.62
Benzo(a)pyrene	50-32-8	56.0		5.24	2.62
Indeno(1,2,3-cd)pyrene	193-39-5	50.9		5.24	2.62
Dibenzo(a,h)anthracene	53-70-3	48.6		5.24	2.62
Benzo(g,h,i)perylene	191-24-2	48.2		5.24	2.62
1-Methylnaphthalene	90-12-0	23.1		5.24	2.62
2-Methylnaphthalene	91-57-6	25.0		5.24	2.62

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	48.2	35	100	
2-Fluorobiphenyl	50.8	45	105	
p-Terphenyl-d14	105	30	125	

Sample Number: **L11030669-06**
Client ID: **BKG005AMS**
Matrix: **Soil**
Workgroup Number: **WG360010**
Collect Date: **03/17/2011 13:50**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **03/28/2011 08:42**
Cal Date:
Run Date: **03/28/2011 08:42**
File ID: **B1.360010-0106**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	97.8		1.00	1.00

Report Number: **L11030669**
Report Date : **March 30, 2011**

Sample Number: **L11030669-07**
Client ID: **BKG005AMSD**
Matrix: **Soil**
Workgroup Number: **WG359878**
Collect Date: **03/17/2011 13:50**
Sample Tag: **REDL1**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/23/2011 14:12**
Cal Date: **02/15/2011 12:28**
Run Date: **03/24/2011 21:03**
File ID: **15M04133**
Percent Solid: **97.8**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3	22.6		4.79	2.39
Acenaphthylene	208-96-8	22.8		4.79	2.39
Acenaphthene	83-32-9	22.8		4.79	2.39
Fluorene	86-73-7	23.9		4.79	2.39
Phenanthrene	85-01-8	37.3		4.79	2.39
Anthracene	120-12-7	36.6		4.79	2.39
Fluoranthene	206-44-0	55.1		4.79	2.39
Pyrene	129-00-0	50.4		4.79	2.39
Benzo(a)anthracene	56-55-3	46.7		4.79	2.39
Chrysene	218-01-9	49.7		4.79	2.39
Benzo(b)fluoranthene	205-99-2	48.1		4.79	2.39
Benzo(k)fluoranthene	207-08-9	45.4		4.79	2.39
Benzo(a)pyrene	50-32-8	47.9		4.79	2.39
Indeno(1,2,3-cd)pyrene	193-39-5	44.0		4.79	2.39
Dibenzo(a,h)anthracene	53-70-3	42.1		4.79	2.39
Benzo(g,h,i)perylene	191-24-2	41.9		4.79	2.39
1-Methylnaphthalene	90-12-0	20.7		4.79	2.39
2-Methylnaphthalene	91-57-6	22.3		4.79	2.39

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	47.8	35	100	
2-Fluorobiphenyl	49.8	45	105	
p-Terphenyl-d14	96.4	30	125	

Sample Number: **L11030669-07**
Client ID: **BKG005AMSD**
Matrix: **Soil**
Workgroup Number: **WG360010**
Collect Date: **03/17/2011 13:50**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **03/28/2011 08:42**
Cal Date:
Run Date: **03/28/2011 08:42**
File ID: **B1.360010-0107**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	97.8		1.00	1.00

Sample Number: **L11030669-08**
Client ID: **BKG006A**
Matrix: **Soil**
Workgroup Number: **WG359878**
Collect Date: **03/17/2011 13:55**
Sample Tag: **REDL1**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/23/2011 14:12**
Cal Date: **02/15/2011 12:28**
Run Date: **03/24/2011 21:31**
File ID: **15M04134**
Percent Solid: **97.4**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	5.23	2.62
Acenaphthylene	208-96-8		U	5.23	2.62
Acenaphthene	83-32-9		U	5.23	2.62
Fluorene	86-73-7		U	5.23	2.62
Phenanthrene	85-01-8	10.9		5.23	2.62
Anthracene	120-12-7		U	5.23	2.62
Fluoranthene	206-44-0	22.6		5.23	2.62
Pyrene	129-00-0	18.3		5.23	2.62
Benzo(a)anthracene	56-55-3	8.33		5.23	2.62

Report Number: **L11030669**
Report Date : **March 30, 2011**

Sample Number: **L11030669-08**
Client ID: **BKG006A**
Matrix: **Soil**
Workgroup Number: **WG359878**
Collect Date: **03/17/2011 13:55**
Sample Tag: **REDL1**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/23/2011 14:12**
Cal Date: **02/15/2011 12:28**
Run Date: **03/24/2011 21:31**
File ID: **15M04134**
Percent Solid: **97.4**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Chrysene	218-01-9	10.4		5.23	2.62
Benzo(b)fluoranthene	205-99-2	9.29		5.23	2.62
Benzo(k)fluoranthene	207-08-9	10.2		5.23	2.62
Benzo(a)pyrene	50-32-8	9.53		5.23	2.62
Indeno(1,2,3-cd)pyrene	193-39-5	7.04		5.23	2.62
Dibenzo(a,h)anthracene	53-70-3		U	5.23	2.62
Benzo(g,h,i)perylene	191-24-2	7.75		5.23	2.62
1-Methylnaphthalene	90-12-0		U	5.23	2.62
2-Methylnaphthalene	91-57-6		U	5.23	2.62

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	51.8	35	100	
2-Fluorobiphenyl	56.7	45	105	
p-Terphenyl-d14	95.9	30	125	

U Analyte was not detected. The concentration is below the reported LOD.

Sample Number: **L11030669-08**
Client ID: **BKG006A**
Matrix: **Soil**
Workgroup Number: **WG360010**
Collect Date: **03/17/2011 13:55**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **03/28/2011 08:42**
Cal Date:
Run Date: **03/28/2011 08:42**
File ID: **B1.360010-0108**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	97.4		1.00	1.00

Sample Number: **L11030669-09**
Client ID: **BKG007A**
Matrix: **Soil**
Workgroup Number: **WG359878**
Collect Date: **03/17/2011 14:00**
Sample Tag: **REDL1**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/23/2011 14:12**
Cal Date: **02/15/2011 12:28**
Run Date: **03/24/2011 21:59**
File ID: **15M04135**
Percent Solid: **96.1**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	5.80	2.90
Acenaphthylene	208-96-8		U	5.80	2.90
Acenaphthene	83-32-9		U	5.80	2.90
Fluorene	86-73-7		U	5.80	2.90
Phenanthrene	85-01-8		U	5.80	2.90
Anthracene	120-12-7		U	5.80	2.90
Fluoranthene	206-44-0	6.70		5.80	2.90
Pyrene	129-00-0	5.35	J	5.80	2.90
Benzo(a)anthracene	56-55-3		U	5.80	2.90
Chrysene	218-01-9	3.61	J	5.80	2.90
Benzo(b)fluoranthene	205-99-2	3.74	J	5.80	2.90
Benzo(k)fluoranthene	207-08-9	3.31	J	5.80	2.90
Benzo(a)pyrene	50-32-8	3.20	J	5.80	2.90
Indeno(1,2,3-cd)pyrene	193-39-5		U	5.80	2.90
Dibenzo(a,h)anthracene	53-70-3		U	5.80	2.90
Benzo(g,h,i)perylene	191-24-2		U	5.80	2.90
1-Methylnaphthalene	90-12-0		U	5.80	2.90

Report Number: **L11030669**
Report Date : **March 30, 2011**

Sample Number: **L11030669-09**
Client ID: **BKG007A**
Matrix: **Soil**
Workgroup Number: **WG359878**
Collect Date: **03/17/2011 14:00**
Sample Tag: **REDL1**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/23/2011 14:12**
Cal Date: **02/15/2011 12:28**
Run Date: **03/24/2011 21:59**
File ID: **15M04135**
Percent Solid: **96.1**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
2-Methylnaphthalene	91-57-6		U	5.80	2.90

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	52.4	35	100	
2-Fluorobiphenyl	55.0	45	105	
p-Terphenyl-d14	96.8	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Sample Number: **L11030669-09**
Client ID: **BKG007A**
Matrix: **Soil**
Workgroup Number: **WG360010**
Collect Date: **03/17/2011 14:00**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **03/28/2011 08:42**
Cal Date:
Run Date: **03/28/2011 08:42**
File ID: **B1.360010-0109**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	96.1		1.00	1.00

Sample Number: **L11030669-10**
Client ID: **BKG007ADUP**
Matrix: **Soil**
Workgroup Number: **WG359878**
Collect Date: **03/17/2011 14:00**
Sample Tag: **REDL1**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/23/2011 14:12**
Cal Date: **02/15/2011 12:28**
Run Date: **03/24/2011 22:27**
File ID: **15M04136**
Percent Solid: **96.2**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	5.42	2.71
Acenaphthylene	208-96-8		U	5.42	2.71
Acenaphthene	83-32-9		U	5.42	2.71
Fluorene	86-73-7		U	5.42	2.71
Phenanthrene	85-01-8		U	5.42	2.71
Anthracene	120-12-7		U	5.42	2.71
Fluoranthene	206-44-0	2.93	J	5.42	2.71
Pyrene	129-00-0		U	5.42	2.71
Benzo(a)anthracene	56-55-3		U	5.42	2.71
Chrysene	218-01-9		U	5.42	2.71
Benzo(b)fluoranthene	205-99-2		U	5.42	2.71
Benzo(k)fluoranthene	207-08-9		U	5.42	2.71
Benzo(a)pyrene	50-32-8		U	5.42	2.71
Indeno(1,2,3-cd)pyrene	193-39-5		U	5.42	2.71
Dibenzo(a,h)anthracene	53-70-3		U	5.42	2.71
Benzo(g,h,i)perylene	191-24-2		U	5.42	2.71
1-Methylnaphthalene	90-12-0		U	5.42	2.71
2-Methylnaphthalene	91-57-6		U	5.42	2.71

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	54.2	35	100	
2-Fluorobiphenyl	58.4	45	105	
p-Terphenyl-d14	97.0	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)

Report Number: **L11030669**
Report Date : **March 30, 2011**

Sample Number: **L11030669-10**
Client ID: **BKG007ADUP**
Matrix: **Soil**
Workgroup Number: **WG359878**
Collect Date: **03/17/2011 14:00**
Sample Tag: **REDL1**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/23/2011 14:12**
Cal Date: **02/15/2011 12:28**
Run Date: **03/24/2011 22:27**
File ID: **15M04136**
Percent Solid: **96.2**

U Analyte was not detected. The concentration is below the reported LOD.

Sample Number: **L11030669-10**
Client ID: **BKG007ADUP**
Matrix: **Soil**
Workgroup Number: **WG360010**
Collect Date: **03/17/2011 14:00**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **03/28/2011 08:42**
Cal Date:
Run Date: **03/28/2011 08:42**
File ID: **B1.360010-0110**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	96.2		1.00	1.00

Sample Number: **L11030669-11**
Client ID: **BKG008A**
Matrix: **Soil**
Workgroup Number: **WG359878**
Collect Date: **03/17/2011 14:05**
Sample Tag: **REDL1**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/23/2011 14:12**
Cal Date: **02/15/2011 12:28**
Run Date: **03/24/2011 22:55**
File ID: **15M04137**
Percent Solid: **96.2**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	5.07	2.53
Acenaphthylene	208-96-8		U	5.07	2.53
Acenaphthene	83-32-9		U	5.07	2.53
Fluorene	86-73-7		U	5.07	2.53
Phenanthrene	85-01-8	3.17	J	5.07	2.53
Anthracene	120-12-7		U	5.07	2.53
Fluoranthene	206-44-0	8.07		5.07	2.53
Pyrene	129-00-0	6.59		5.07	2.53
Benzo(a)anthracene	56-55-3	3.40	J	5.07	2.53
Chrysene	218-01-9	4.53	J	5.07	2.53
Benzo(b)fluoranthene	205-99-2	4.27	J	5.07	2.53
Benzo(k)fluoranthene	207-08-9	4.04	J	5.07	2.53
Benzo(a)pyrene	50-32-8	4.01	J	5.07	2.53
Indeno(1,2,3-cd)pyrene	193-39-5	3.17	J	5.07	2.53
Dibenzo(a,h)anthracene	53-70-3		U	5.07	2.53
Benzo(g,h,i)perylene	191-24-2	3.13	J	5.07	2.53
1-Methylnaphthalene	90-12-0		U	5.07	2.53
2-Methylnaphthalene	91-57-6		U	5.07	2.53

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	59.6	35	100	
2-Fluorobiphenyl	63.2	45	105	
p-Terphenyl-d14	97.4	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Report Number: **L11030669**
Report Date : **March 30, 2011**

Sample Number: **L11030669-11**
Client ID: **BKG008A**
Matrix: **Soil**
Workgroup Number: **WG360010**
Collect Date: **03/17/2011 14:05**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **03/28/2011 08:42**
Cal Date:
Run Date: **03/28/2011 08:42**
File ID: **B1.360010-0111**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	96.2		1.00	1.00

Sample Number: **L11030669-12**
Client ID: **BKG009A**
Matrix: **Soil**
Workgroup Number: **WG359878**
Collect Date: **03/17/2011 14:10**
Sample Tag: **REDL1**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/23/2011 14:12**
Cal Date: **02/15/2011 12:28**
Run Date: **03/24/2011 23:23**
File ID: **15M04138**
Percent Solid: **96.7**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	5.13	2.56
Acenaphthylene	208-96-8		U	5.13	2.56
Acenaphthene	83-32-9		U	5.13	2.56
Fluorene	86-73-7		U	5.13	2.56
Phenanthrene	85-01-8	4.13	J	5.13	2.56
Anthracene	120-12-7		U	5.13	2.56
Fluoranthene	206-44-0	8.96		5.13	2.56
Pyrene	129-00-0	6.71		5.13	2.56
Benzo(a)anthracene	56-55-3	3.36	J	5.13	2.56
Chrysene	218-01-9	4.83	J	5.13	2.56
Benzo(b)fluoranthene	205-99-2	5.05	J	5.13	2.56
Benzo(k)fluoranthene	207-08-9	4.46	J	5.13	2.56
Benzo(a)pyrene	50-32-8	4.21	J	5.13	2.56
Indeno(1,2,3-cd)pyrene	193-39-5	3.34	J	5.13	2.56
Dibenzo(a,h)anthracene	53-70-3		U	5.13	2.56
Benzo(g,h,i)perylene	191-24-2	3.25	J	5.13	2.56
1-Methylnaphthalene	90-12-0		U	5.13	2.56
2-Methylnaphthalene	91-57-6		U	5.13	2.56

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	59.1	35	100	
2-Fluorobiphenyl	64.9	45	105	
p-Terphenyl-d14	104	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Sample Number: **L11030669-12**
Client ID: **BKG009A**
Matrix: **Soil**
Workgroup Number: **WG360010**
Collect Date: **03/17/2011 14:10**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **03/28/2011 08:42**
Cal Date:
Run Date: **03/28/2011 08:42**
File ID: **B1.360010-0112**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	96.7		1.00	1.00

Report Number: **L11030669**
Report Date : **March 30, 2011**

Sample Number: **L11030669-13**
Client ID: **BKG010A**
Matrix: **Soil**
Workgroup Number: **WG359878**
Collect Date: **03/17/2011 14:15**
Sample Tag: **REDL1**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/23/2011 14:12**
Cal Date: **02/15/2011 12:28**
Run Date: **03/24/2011 23:51**
File ID: **15M04139**
Percent Solid: **97.1**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	5.13	2.57
Acenaphthylene	208-96-8		U	5.13	2.57
Acenaphthene	83-32-9		U	5.13	2.57
Fluorene	86-73-7		U	5.13	2.57
Phenanthrene	85-01-8	6.89		5.13	2.57
Anthracene	120-12-7		U	5.13	2.57
Fluoranthene	206-44-0	13.4		5.13	2.57
Pyrene	129-00-0	10.5		5.13	2.57
Benzo(a)anthracene	56-55-3	4.60	J	5.13	2.57
Chrysene	218-01-9	6.55		5.13	2.57
Benzo(b)fluoranthene	205-99-2	6.03		5.13	2.57
Benzo(k)fluoranthene	207-08-9	5.73		5.13	2.57
Benzo(a)pyrene	50-32-8	5.34		5.13	2.57
Indeno(1,2,3-cd)pyrene	193-39-5	4.16	J	5.13	2.57
Dibenzo(a,h)anthracene	53-70-3		U	5.13	2.57
Benzo(g,h,i)perylene	191-24-2	4.28	J	5.13	2.57
1-Methylnaphthalene	90-12-0		U	5.13	2.57
2-Methylnaphthalene	91-57-6		U	5.13	2.57

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	62.4	35	100	
2-Fluorobiphenyl	67.0	45	105	
p-Terphenyl-d14	95.9	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Sample Number: **L11030669-13**
Client ID: **BKG010A**
Matrix: **Soil**
Workgroup Number: **WG360010**
Collect Date: **03/17/2011 14:15**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **03/28/2011 08:42**
Cal Date:
Run Date: **03/28/2011 08:42**
File ID: **B1.360010-0113**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	97.1		1.00	1.00

Login Number: L11030669

Department: Login

Chain of Custody:

Shipment Conditions

COC #	Cooler #	Temperature
0156 0157	0013041	3.0
	0014958	3.0

Sample Management: All samples were received intact.

Sample Identification

Lab ID	Client ID
L11030669-01	BKG001A
L11030669-02	BKG002A
L11030669-03	BKG003A
L11030669-04	BKG004A
L11030669-05	BKG005A
L11030669-06	BKG005AMS
L11030669-07	BKG005AMSD
L11030669-08	BKG006A
L11030669-09	BKG007A
L11030669-10	BKG007ADUP
L11030669-11	BKG008A
L11030669-12	BKG009A
L11030669-13	BKG010A

Narrative ID: 23800
Approved By: Stephanie Mossburg
Stephanie Mossburg

2.0 Full Sample Data Package

2.1 Semivolatiles Data

2.1.1 Semivolatiles GC/MS Data (827-PAHL)

2.1.1.1 Summary Data

Login Number: L11030669

Department: Semivolatiles

Analyst: Cassie A. Augenstein

METHOD

Preparation 3545

Analysis SW-846 8270C

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: For all compounds that yielded a %RSD greater than 15%, linear or higher order equations were applied. All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Continuing Calibration and Tune: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: Samples 01-13 were re-extracted due to several recoveries beyond acceptance limits; the re-extracts yielded an acceptable LCS; only the re-extraction data was reported.

Matrix Spikes: Recoveries were marginally out of range for the following analytes: Fluorene. Please see the applicable QC report for a detailed presentation of the failures.

SAMPLES

Samples: Samples 01-13 were analyzed at a dilution due to the dark color of the extracts.

Internal Standards: All acceptance criteria were met.

Surrogates: All acceptance criteria were met.

Manual Integration Reason Codes

Reason #1: Data System Fails to Select Correct Peak In some cases the chromatography system selects and integrates the 'wrong peak'. In this case the analyst must correct the selection and force the system to integrate the proper peak. Other times the system may miss the peak completely.

Reason #2: Data System Splits the Peak Incorrectly or Integrates a False Peak as a Rider Peak This phenomena is common at low concentrations where the signal:noise ratio is low. A single compound (peak) is incorrectly split into multiple peaks or integrated as a main peak with one or more rider peaks resulting in low area counts for the target compound.

Reason #3: Improperly Integrated Isomers and/or coeluting compounds. This system often fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations are wrong, and they must be corrected by manual integration. Prime examples are benzo(k)fluoranthene and benzo(b)fluoranthene which are often unresolved and integrated improperly when both are present at low concentrations in standards or samples.

Reason #4: System Establishes Incorrect Baseline There are numerous situations in chromatography where the system establishes the baseline incorrectly. Some baseline errors will be obvious to the analyst and should be corrected via manual procedures.

Reason #5: Miscellaneous Other situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the laboratory management. If the form of manual integration is not clearly covered by these four cases, then review and approval by the Managing Director or the QAO will be required.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 24280
Approved By: Mike Cochran

LABORATORY REPORT

L11030669

03/30/11 14:17

Submitted By

Microbac Laboratories Inc.
158 Starlite Drive
Marietta , OH 45750
(740) 373 - 4071

For

Account Name: Versar Inc
12050 N. Pecos Street
Suite 300
Westminster, CO 80234
Attention: Gary Torf

Project Number: 2415.036
Project: Cannon AFB
Site: CANNON AFB

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
BKG001A	L11030669-01	8270C	2	18-MAR-11
BKG002A	L11030669-02	8270C	2	18-MAR-11
BKG003A	L11030669-03	8270C	2	18-MAR-11
BKG004A	L11030669-04	8270C	2	18-MAR-11
BKG005A	L11030669-05	8270C	2	18-MAR-11
BKG005AMS	L11030669-06	8270C	2	18-MAR-11
BKG005AMSD	L11030669-07	8270C	2	18-MAR-11
BKG006A	L11030669-08	8270C	2	18-MAR-11
BKG007A	L11030669-09	8270C	2	18-MAR-11
BKG007ADUP	L11030669-10	8270C	2	18-MAR-11
BKG008A	L11030669-11	8270C	2	18-MAR-11
BKG009A	L11030669-12	8270C	2	18-MAR-11
BKG010A	L11030669-13	8270C	2	18-MAR-11

Report Number: **L11030669**
Report Date : **March 30, 2011**

Sample Number: **L11030669-01**
Client ID: **BKG001A**
Matrix: **Soil**
Workgroup Number: **WG359878**
Collect Date: **03/17/2011 13:30**
Sample Tag: **REDL1**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/23/2011 14:12**
Cal Date: **02/15/2011 12:28**
Run Date: **03/24/2011 18:14**
File ID: **15M04127**
Percent Solid: **96.3**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	5.15	2.58
Acenaphthylene	208-96-8		U	5.15	2.58
Acenaphthene	83-32-9		U	5.15	2.58
Fluorene	86-73-7		U	5.15	2.58
Phenanthrene	85-01-8	8.19		5.15	2.58
Anthracene	120-12-7		U	5.15	2.58
Fluoranthene	206-44-0	15.5		5.15	2.58
Pyrene	129-00-0	12.3		5.15	2.58
Benzo(a)anthracene	56-55-3	5.93		5.15	2.58
Chrysene	218-01-9	7.69		5.15	2.58
Benzo(b)fluoranthene	205-99-2	7.25		5.15	2.58
Benzo(k)fluoranthene	207-08-9	6.58		5.15	2.58
Benzo(a)pyrene	50-32-8	6.54		5.15	2.58
Indeno(1,2,3-cd)pyrene	193-39-5	5.20		5.15	2.58
Dibenzo(a,h)anthracene	53-70-3	2.68	J	5.15	2.58
Benzo(g,h,i)perylene	191-24-2	5.67		5.15	2.58
1-Methylnaphthalene	90-12-0		U	5.15	2.58
2-Methylnaphthalene	91-57-6		U	5.15	2.58

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	49.3	35	100	
2-Fluorobiphenyl	52.5	45	105	
p-Terphenyl-d14	98.4	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Report Number: **L11030669**
Report Date : **March 30, 2011**

Sample Number: **L11030669-02**
Client ID: **BKG002A**
Matrix: **Soil**
Workgroup Number: **WG359878**
Collect Date: **03/17/2011 13:35**
Sample Tag: **REDL1**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/23/2011 14:12**
Cal Date: **02/15/2011 12:28**
Run Date: **03/24/2011 18:42**
File ID: **15M04128**
Percent Solid: **96.5**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	5.48	2.74
Acenaphthylene	208-96-8		U	5.48	2.74
Acenaphthene	83-32-9		U	5.48	2.74
Fluorene	86-73-7		U	5.48	2.74
Phenanthrene	85-01-8	7.01		5.48	2.74
Anthracene	120-12-7		U	5.48	2.74
Fluoranthene	206-44-0	18.5		5.48	2.74
Pyrene	129-00-0	13.6		5.48	2.74
Benzo(a)anthracene	56-55-3	6.12		5.48	2.74
Chrysene	218-01-9	8.82		5.48	2.74
Benzo(b)fluoranthene	205-99-2	8.75		5.48	2.74
Benzo(k)fluoranthene	207-08-9	8.24		5.48	2.74
Benzo(a)pyrene	50-32-8	7.87		5.48	2.74
Indeno(1,2,3-cd)pyrene	193-39-5	6.34		5.48	2.74
Dibenzo(a,h)anthracene	53-70-3		U	5.48	2.74
Benzo(g,h,i)perylene	191-24-2	7.03		5.48	2.74
1-Methylnaphthalene	90-12-0		U	5.48	2.74
2-Methylnaphthalene	91-57-6		U	5.48	2.74

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	66.8	35	100	
2-Fluorobiphenyl	71.4	45	105	
p-Terphenyl-d14	103	30	125	

U Analyte was not detected. The concentration is below the reported LOD.

Report Number: **L11030669**
Report Date : **March 30, 2011**

Sample Number: **L11030669-03**
Client ID: **BKG003A**
Matrix: **Soil**
Workgroup Number: **WG359878**
Collect Date: **03/17/2011 13:40**
Sample Tag: **REDL1**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/23/2011 14:12**
Cal Date: **02/15/2011 12:28**
Run Date: **03/24/2011 19:10**
File ID: **15M04129**
Percent Solid: **97.2**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	5.32	2.66
Acenaphthylene	208-96-8		U	5.32	2.66
Acenaphthene	83-32-9		U	5.32	2.66
Fluorene	86-73-7		U	5.32	2.66
Phenanthrene	85-01-8	5.33		5.32	2.66
Anthracene	120-12-7		U	5.32	2.66
Fluoranthene	206-44-0	13.2		5.32	2.66
Pyrene	129-00-0	9.91		5.32	2.66
Benzo(a)anthracene	56-55-3	4.42	J	5.32	2.66
Chrysene	218-01-9	6.41		5.32	2.66
Benzo(b)fluoranthene	205-99-2	6.69		5.32	2.66
Benzo(k)fluoranthene	207-08-9	4.89	J	5.32	2.66
Benzo(a)pyrene	50-32-8	5.35		5.32	2.66
Indeno(1,2,3-cd)pyrene	193-39-5	4.25	J	5.32	2.66
Dibenzo(a,h)anthracene	53-70-3		U	5.32	2.66
Benzo(g,h,i)perylene	191-24-2	4.66	J	5.32	2.66
1-Methylnaphthalene	90-12-0		U	5.32	2.66
2-Methylnaphthalene	91-57-6		U	5.32	2.66

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	53.6	35	100	
2-Fluorobiphenyl	59.0	45	105	
p-Terphenyl-d14	89.5	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Report Number: **L11030669**
Report Date : **March 30, 2011**

Sample Number: **L11030669-04**
Client ID: **BKG004A**
Matrix: **Soil**
Workgroup Number: **WG359878**
Collect Date: **03/17/2011 13:45**
Sample Tag: **REDL1**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/23/2011 14:12**
Cal Date: **02/15/2011 12:28**
Run Date: **03/24/2011 19:38**
File ID: **15M04130**
Percent Solid: **96.5**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	5.76	2.88
Acenaphthylene	208-96-8		U	5.76	2.88
Acenaphthene	83-32-9		U	5.76	2.88
Fluorene	86-73-7		U	5.76	2.88
Phenanthrene	85-01-8	3.61	J	5.76	2.88
Anthracene	120-12-7		U	5.76	2.88
Fluoranthene	206-44-0	7.90		5.76	2.88
Pyrene	129-00-0	6.12		5.76	2.88
Benzo(a)anthracene	56-55-3	3.07	J	5.76	2.88
Chrysene	218-01-9	4.23	J	5.76	2.88
Benzo(b)fluoranthene	205-99-2	4.12	J	5.76	2.88
Benzo(k)fluoranthene	207-08-9	3.66	J	5.76	2.88
Benzo(a)pyrene	50-32-8	3.65	J	5.76	2.88
Indeno(1,2,3-cd)pyrene	193-39-5	3.07	J	5.76	2.88
Dibenzo(a,h)anthracene	53-70-3		U	5.76	2.88
Benzo(g,h,i)perylene	191-24-2	3.25	J	5.76	2.88
1-Methylnaphthalene	90-12-0		U	5.76	2.88
2-Methylnaphthalene	91-57-6		U	5.76	2.88

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	58.6	35	100	
2-Fluorobiphenyl	62.5	45	105	
p-Terphenyl-d14	103	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Report Number: **L11030669**
Report Date : **March 30, 2011**

Sample Number: **L11030669-05**
Client ID: **BKG005A**
Matrix: **Soil**
Workgroup Number: **WG359878**
Collect Date: **03/17/2011 13:50**
Sample Tag: **REDL1**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/23/2011 14:12**
Cal Date: **02/15/2011 12:28**
Run Date: **03/24/2011 20:06**
File ID: **15M04131**
Percent Solid: **97.8**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	4.90	2.45
Acenaphthylene	208-96-8		U	4.90	2.45
Acenaphthene	83-32-9		U	4.90	2.45
Fluorene	86-73-7		U	4.90	2.45
Phenanthrene	85-01-8	3.06	J	4.90	2.45
Anthracene	120-12-7		U	4.90	2.45
Fluoranthene	206-44-0	6.98		4.90	2.45
Pyrene	129-00-0	5.50		4.90	2.45
Benzo(a)anthracene	56-55-3	2.74	J	4.90	2.45
Chrysene	218-01-9	3.76	J	4.90	2.45
Benzo(b)fluoranthene	205-99-2	3.78	J	4.90	2.45
Benzo(k)fluoranthene	207-08-9	3.48	J	4.90	2.45
Benzo(a)pyrene	50-32-8	3.27	J	4.90	2.45
Indeno(1,2,3-cd)pyrene	193-39-5	2.73	J	4.90	2.45
Dibenzo(a,h)anthracene	53-70-3		U	4.90	2.45
Benzo(g,h,i)perylene	191-24-2	2.88	J	4.90	2.45
1-Methylnaphthalene	90-12-0		U	4.90	2.45
2-Methylnaphthalene	91-57-6		U	4.90	2.45

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	56.9	35	100	
2-Fluorobiphenyl	58.1	45	105	
p-Terphenyl-d14	96.9	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Report Number: **L11030669**
Report Date : **March 30, 2011**

Sample Number: **L11030669-06**
Client ID: **BKG005AMS**
Matrix: **Soil**
Workgroup Number: **WG359878**
Collect Date: **03/17/2011 13:50**
Sample Tag: **REDL1**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/23/2011 14:12**
Cal Date: **02/15/2011 12:28**
Run Date: **03/24/2011 20:35**
File ID: **15M04132**
Percent Solid: **97.8**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3	24.9		5.24	2.62
Acenaphthylene	208-96-8	26.6		5.24	2.62
Acenaphthene	83-32-9	26.7		5.24	2.62
Fluorene	86-73-7	29.4		5.24	2.62
Phenanthrene	85-01-8	46.1		5.24	2.62
Anthracene	120-12-7	46.2		5.24	2.62
Fluoranthene	206-44-0	63.5		5.24	2.62
Pyrene	129-00-0	57.9		5.24	2.62
Benzo(a)anthracene	56-55-3	54.4		5.24	2.62
Chrysene	218-01-9	57.8		5.24	2.62
Benzo(b)fluoranthene	205-99-2	56.3		5.24	2.62
Benzo(k)fluoranthene	207-08-9	52.2		5.24	2.62
Benzo(a)pyrene	50-32-8	56.0		5.24	2.62
Indeno(1,2,3-cd)pyrene	193-39-5	50.9		5.24	2.62
Dibenzo(a,h)anthracene	53-70-3	48.6		5.24	2.62
Benzo(g,h,i)perylene	191-24-2	48.2		5.24	2.62
1-Methylnaphthalene	90-12-0	23.1		5.24	2.62
2-Methylnaphthalene	91-57-6	25.0		5.24	2.62

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	48.2	35	100	
2-Fluorobiphenyl	50.8	45	105	
p-Terphenyl-d14	105	30	125	

Report Number: **L11030669**
Report Date : **March 30, 2011**

Sample Number: **L11030669-07**
Client ID: **BKG005AMSD**
Matrix: **Soil**
Workgroup Number: **WG359878**
Collect Date: **03/17/2011 13:50**
Sample Tag: **REDL1**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/23/2011 14:12**
Cal Date: **02/15/2011 12:28**
Run Date: **03/24/2011 21:03**
File ID: **15M04133**
Percent Solid: **97.8**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3	22.6		4.79	2.39
Acenaphthylene	208-96-8	22.8		4.79	2.39
Acenaphthene	83-32-9	22.8		4.79	2.39
Fluorene	86-73-7	23.9		4.79	2.39
Phenanthrene	85-01-8	37.3		4.79	2.39
Anthracene	120-12-7	36.6		4.79	2.39
Fluoranthene	206-44-0	55.1		4.79	2.39
Pyrene	129-00-0	50.4		4.79	2.39
Benzo(a)anthracene	56-55-3	46.7		4.79	2.39
Chrysene	218-01-9	49.7		4.79	2.39
Benzo(b)fluoranthene	205-99-2	48.1		4.79	2.39
Benzo(k)fluoranthene	207-08-9	45.4		4.79	2.39
Benzo(a)pyrene	50-32-8	47.9		4.79	2.39
Indeno(1,2,3-cd)pyrene	193-39-5	44.0		4.79	2.39
Dibenzo(a,h)anthracene	53-70-3	42.1		4.79	2.39
Benzo(g,h,i)perylene	191-24-2	41.9		4.79	2.39
1-Methylnaphthalene	90-12-0	20.7		4.79	2.39
2-Methylnaphthalene	91-57-6	22.3		4.79	2.39

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	47.8	35	100	
2-Fluorobiphenyl	49.8	45	105	
p-Terphenyl-d14	96.4	30	125	

Report Number: **L11030669**
Report Date : **March 30, 2011**

Sample Number: **L11030669-08**
Client ID: **BKG006A**
Matrix: **Soil**
Workgroup Number: **WG359878**
Collect Date: **03/17/2011 13:55**
Sample Tag: **REDL1**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/23/2011 14:12**
Cal Date: **02/15/2011 12:28**
Run Date: **03/24/2011 21:31**
File ID: **15M04134**
Percent Solid: **97.4**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	5.23	2.62
Acenaphthylene	208-96-8		U	5.23	2.62
Acenaphthene	83-32-9		U	5.23	2.62
Fluorene	86-73-7		U	5.23	2.62
Phenanthrene	85-01-8	10.9		5.23	2.62
Anthracene	120-12-7		U	5.23	2.62
Fluoranthene	206-44-0	22.6		5.23	2.62
Pyrene	129-00-0	18.3		5.23	2.62
Benzo(a)anthracene	56-55-3	8.33		5.23	2.62
Chrysene	218-01-9	10.4		5.23	2.62
Benzo(b)fluoranthene	205-99-2	9.29		5.23	2.62
Benzo(k)fluoranthene	207-08-9	10.2		5.23	2.62
Benzo(a)pyrene	50-32-8	9.53		5.23	2.62
Indeno(1,2,3-cd)pyrene	193-39-5	7.04		5.23	2.62
Dibenzo(a,h)anthracene	53-70-3		U	5.23	2.62
Benzo(g,h,i)perylene	191-24-2	7.75		5.23	2.62
1-Methylnaphthalene	90-12-0		U	5.23	2.62
2-Methylnaphthalene	91-57-6		U	5.23	2.62

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	51.8	35	100	
2-Fluorobiphenyl	56.7	45	105	
p-Terphenyl-d14	95.9	30	125	

U Analyte was not detected. The concentration is below the reported LOD.

Report Number: **L11030669**
Report Date : **March 30, 2011**

Sample Number: **L11030669-09**
Client ID: **BKG007A**
Matrix: **Soil**
Workgroup Number: **WG359878**
Collect Date: **03/17/2011 14:00**
Sample Tag: **REDL1**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/23/2011 14:12**
Cal Date: **02/15/2011 12:28**
Run Date: **03/24/2011 21:59**
File ID: **15M04135**
Percent Solid: **96.1**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	5.80	2.90
Acenaphthylene	208-96-8		U	5.80	2.90
Acenaphthene	83-32-9		U	5.80	2.90
Fluorene	86-73-7		U	5.80	2.90
Phenanthrene	85-01-8		U	5.80	2.90
Anthracene	120-12-7		U	5.80	2.90
Fluoranthene	206-44-0	6.70		5.80	2.90
Pyrene	129-00-0	5.35	J	5.80	2.90
Benzo(a)anthracene	56-55-3		U	5.80	2.90
Chrysene	218-01-9	3.61	J	5.80	2.90
Benzo(b)fluoranthene	205-99-2	3.74	J	5.80	2.90
Benzo(k)fluoranthene	207-08-9	3.31	J	5.80	2.90
Benzo(a)pyrene	50-32-8	3.20	J	5.80	2.90
Indeno(1,2,3-cd)pyrene	193-39-5		U	5.80	2.90
Dibenzo(a,h)anthracene	53-70-3		U	5.80	2.90
Benzo(g,h,i)perylene	191-24-2		U	5.80	2.90
1-Methylnaphthalene	90-12-0		U	5.80	2.90
2-Methylnaphthalene	91-57-6		U	5.80	2.90

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	52.4	35	100	
2-Fluorobiphenyl	55.0	45	105	
p-Terphenyl-d14	96.8	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Report Number: **L11030669**
Report Date : **March 30, 2011**

Sample Number: **L11030669-10**
Client ID: **BKG007ADUP**
Matrix: **Soil**
Workgroup Number: **WG359878**
Collect Date: **03/17/2011 14:00**
Sample Tag: **REDL1**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/23/2011 14:12**
Cal Date: **02/15/2011 12:28**
Run Date: **03/24/2011 22:27**
File ID: **15M04136**
Percent Solid: **96.2**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	5.42	2.71
Acenaphthylene	208-96-8		U	5.42	2.71
Acenaphthene	83-32-9		U	5.42	2.71
Fluorene	86-73-7		U	5.42	2.71
Phenanthrene	85-01-8		U	5.42	2.71
Anthracene	120-12-7		U	5.42	2.71
Fluoranthene	206-44-0	2.93	J	5.42	2.71
Pyrene	129-00-0		U	5.42	2.71
Benzo(a)anthracene	56-55-3		U	5.42	2.71
Chrysene	218-01-9		U	5.42	2.71
Benzo(b)fluoranthene	205-99-2		U	5.42	2.71
Benzo(k)fluoranthene	207-08-9		U	5.42	2.71
Benzo(a)pyrene	50-32-8		U	5.42	2.71
Indeno(1,2,3-cd)pyrene	193-39-5		U	5.42	2.71
Dibenzo(a,h)anthracene	53-70-3		U	5.42	2.71
Benzo(g,h,i)perylene	191-24-2		U	5.42	2.71
1-Methylnaphthalene	90-12-0		U	5.42	2.71
2-Methylnaphthalene	91-57-6		U	5.42	2.71

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	54.2	35	100	
2-Fluorobiphenyl	58.4	45	105	
p-Terphenyl-d14	97.0	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Report Number: **L11030669**
Report Date : **March 30, 2011**

Sample Number: **L11030669-11**
Client ID: **BKG008A**
Matrix: **Soil**
Workgroup Number: **WG359878**
Collect Date: **03/17/2011 14:05**
Sample Tag: **REDL1**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/23/2011 14:12**
Cal Date: **02/15/2011 12:28**
Run Date: **03/24/2011 22:55**
File ID: **15M04137**
Percent Solid: **96.2**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	5.07	2.53
Acenaphthylene	208-96-8		U	5.07	2.53
Acenaphthene	83-32-9		U	5.07	2.53
Fluorene	86-73-7		U	5.07	2.53
Phenanthrene	85-01-8	3.17	J	5.07	2.53
Anthracene	120-12-7		U	5.07	2.53
Fluoranthene	206-44-0	8.07		5.07	2.53
Pyrene	129-00-0	6.59		5.07	2.53
Benzo(a)anthracene	56-55-3	3.40	J	5.07	2.53
Chrysene	218-01-9	4.53	J	5.07	2.53
Benzo(b)fluoranthene	205-99-2	4.27	J	5.07	2.53
Benzo(k)fluoranthene	207-08-9	4.04	J	5.07	2.53
Benzo(a)pyrene	50-32-8	4.01	J	5.07	2.53
Indeno(1,2,3-cd)pyrene	193-39-5	3.17	J	5.07	2.53
Dibenzo(a,h)anthracene	53-70-3		U	5.07	2.53
Benzo(g,h,i)perylene	191-24-2	3.13	J	5.07	2.53
1-Methylnaphthalene	90-12-0		U	5.07	2.53
2-Methylnaphthalene	91-57-6		U	5.07	2.53

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	59.6	35	100	
2-Fluorobiphenyl	63.2	45	105	
p-Terphenyl-d14	97.4	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Report Number: **L11030669**
Report Date : **March 30, 2011**

Sample Number: **L11030669-12**
Client ID: **BKG009A**
Matrix: **Soil**
Workgroup Number: **WG359878**
Collect Date: **03/17/2011 14:10**
Sample Tag: **REDL1**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/23/2011 14:12**
Cal Date: **02/15/2011 12:28**
Run Date: **03/24/2011 23:23**
File ID: **15M04138**
Percent Solid: **96.7**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	5.13	2.56
Acenaphthylene	208-96-8		U	5.13	2.56
Acenaphthene	83-32-9		U	5.13	2.56
Fluorene	86-73-7		U	5.13	2.56
Phenanthrene	85-01-8	4.13	J	5.13	2.56
Anthracene	120-12-7		U	5.13	2.56
Fluoranthene	206-44-0	8.96		5.13	2.56
Pyrene	129-00-0	6.71		5.13	2.56
Benzo(a)anthracene	56-55-3	3.36	J	5.13	2.56
Chrysene	218-01-9	4.83	J	5.13	2.56
Benzo(b)fluoranthene	205-99-2	5.05	J	5.13	2.56
Benzo(k)fluoranthene	207-08-9	4.46	J	5.13	2.56
Benzo(a)pyrene	50-32-8	4.21	J	5.13	2.56
Indeno(1,2,3-cd)pyrene	193-39-5	3.34	J	5.13	2.56
Dibenzo(a,h)anthracene	53-70-3		U	5.13	2.56
Benzo(g,h,i)perylene	191-24-2	3.25	J	5.13	2.56
1-Methylnaphthalene	90-12-0		U	5.13	2.56
2-Methylnaphthalene	91-57-6		U	5.13	2.56

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	59.1	35	100	
2-Fluorobiphenyl	64.9	45	105	
p-Terphenyl-d14	104	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

Report Number: **L11030669**
Report Date : **March 30, 2011**

Sample Number: **L11030669-13**
Client ID: **BKG010A**
Matrix: **Soil**
Workgroup Number: **WG359878**
Collect Date: **03/17/2011 14:15**
Sample Tag: **REDL1**

PrePrep Method: **NONE**
Prep Method: **3545**
Analytical Method: **8270C**
Analyst: **CAA**
Dilution: **2**
Units: **ug/kg**

Instrument: **HPMS15**
Prep Date: **03/23/2011 14:12**
Cal Date: **02/15/2011 12:28**
Run Date: **03/24/2011 23:51**
File ID: **15M04139**
Percent Solid: **97.1**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	5.13	2.57
Acenaphthylene	208-96-8		U	5.13	2.57
Acenaphthene	83-32-9		U	5.13	2.57
Fluorene	86-73-7		U	5.13	2.57
Phenanthrene	85-01-8	6.89		5.13	2.57
Anthracene	120-12-7		U	5.13	2.57
Fluoranthene	206-44-0	13.4		5.13	2.57
Pyrene	129-00-0	10.5		5.13	2.57
Benzo(a)anthracene	56-55-3	4.60	J	5.13	2.57
Chrysene	218-01-9	6.55		5.13	2.57
Benzo(b)fluoranthene	205-99-2	6.03		5.13	2.57
Benzo(k)fluoranthene	207-08-9	5.73		5.13	2.57
Benzo(a)pyrene	50-32-8	5.34		5.13	2.57
Indeno(1,2,3-cd)pyrene	193-39-5	4.16	J	5.13	2.57
Dibenzo(a,h)anthracene	53-70-3		U	5.13	2.57
Benzo(g,h,i)perylene	191-24-2	4.28	J	5.13	2.57
1-Methylnaphthalene	90-12-0		U	5.13	2.57
2-Methylnaphthalene	91-57-6		U	5.13	2.57

Surrogate	% Recovery	Lower	Upper	Qual
Nitrobenzene-d5	62.4	35	100	
2-Fluorobiphenyl	67.0	45	105	
p-Terphenyl-d14	95.9	30	125	

J Estimated value ; the analyte concentration was less than the low standard (LOQ)
U Analyte was not detected. The concentration is below the reported LOD.

2.1.1.2 QC Summary Data

Example 8270 Calculations

1.0 Calculating the Response Factor (RF) from the initial calibration (ICAL) data:

RF = [(Ax) (Cis)] / [(Ais) (Cx)]

where:	Example
Ax = Area of the characteristic ion for the compound being measured:	1261197
Cis = Concentration of the specific internal standard (ug/mL)	40
Ais = Area of the characteristic ion of the specific internal standard	608044
Cx = Concentration of the compound in the standard being measured (ug/mL)	50
RF = Calculated Response Factor	**1.65935**

2.0 Calculating the concentration (C) of a compound in water using the data from the prep log and quantitation report: *

Cx = [(Ax) (Cis) (Vf) (D)] / [(Ais) (RF) (Vi)]

where:	Example
Ax = Area of the characteristic ion for the compound being measured	367250
Cis = Concentration of the specific internal standard (ug/mL)	40
Vf = Final volume of sample extract from prep log (mL)	1
D = Dilution factor for sample as a multiplier (10x = 10)	1
Ais = Area of the characteristic ion of the specific internal standard	511641
RF = Average RF from the ICAL	1.65935
Vi = Initial volume of sample extracted from prep log (mL)	1021
Cx = Concentration of the compound in the sample being measured (ug/mL)	0.016947
Cx = Concentration of the compound in the sample being measured (ug/L)	**16.947**

3.0 Calculating the concentration (C) of a compound in soil using the data from the prep log and quantitation report: *

Cx = [(Ax) (Cis) (Vf) (D)] / [(Ais) (RF) (Wi)]

where:	Example
Ax = Area of the characteristic ion for the compound being measured	367250
Cis = Concentration of the specific internal standard (ug/mL)	40
Vf = Final volume of sample extract from prep log (mL)	1
D = Dilution factor for sample as a multiplier (10x = 10)	1
Ais = Area of the characteristic ion of the specific internal standard	511641
RF = Average RF from the ICAL	1.65935
Wi = Initial weight of sample extracted (g) from prep log	30
Cx = Concentration of the compound in the sample being measured (ug/g)	0.576763
Cx = Concentration of the compound in the sample being measured (ug/kg)	**576.7627**

Dry weight correction:

Percent solids (PCT_S)	50
Cd = (Cx) (100)/PCT_S	**1153.525** ug/kg

* Concentrations appearing on the instrument quantitation reports are on-column results and do not take into account initial volume, final volume, and the dilution factor.

4.0 Concentration from Linear Regression

Step 1: Retrieve Curve Data From Plot, y = mx + b

y = response ratio = response of analyte / response of IS = Ax/Ais

x = amount ratio = concentration analyte/concentration internal standard = Cx / Cis

m = slope from curve plot

b = intercept from curve plot

Step 2: Calculate y from Quantitation Report

y = 16790/784838 = 0.02139

Step 3: Solve for x

x = (y - b)/m = [(0.02139 -(- 0.0435)]/ 0.0783 = 0.829

Step 4: Solve for analyte concentration Cx

Cx = Cis (x) = (25.0)(0.829) = 20.72 ug/L

Example Spreadsheet Calculation:

Slope from curve, m:	0.0783	
Intercept from curve, b:	-0.0435	
Area of analyte, Ax:	16790	
Area of Internal Standard , Ais:	784484	
Concentration of IS, Cis	25.00	ug/L
Response Ratio (y) :	0.021403	
Amount Ratio:	0.828897	
Concentration (Cx):	20.72241	ug/L

5.0 Concentration from Quadratic Regression

Step 1 - Retrieve Curve Data from Plot, y = Ax^2 + Bx + C
Where:
Ax^2 + Bx + (C - y) = 0
A, B, C = constants from the ICAL quadratic regression
y = Response ratio = Area of analyte/Area of internal standard (IS)
x = Amount ratio = Concentration of analyte/concentration of IS

Step 2: Calculate y from Quantitation Report

y = Ax/Ais

Step 3: Solve for x using the quadratic formula
Ax^2 + Bx + C - y = 0

$$x = \frac{b \pm \sqrt{\left(b^2 - 4a(c - y)\right)}}{2a}$$ (Two possible solutions)

Step 4: Solve for analyte concentration Cx

Cx = (Cis)(Amount ratio)

Example Spreadsheet Calculation:

Value of A from plot:	**0.0259**	
Value of B from plot:	**0.0596**	
Value of C from plot:	**-0.0165**	
Area of analyte from quantitation report:	**203233**	
Area of IS from quantiation report:	**1425653**	
Response ratio, y:	**0.142554**	
C - y:	**-0.15905**	
Root 1 - Computed amount ratio , X1:	**-3.88278**	
Root 2 - Computed amount ratio , X2:	**1.581623**	use this solution
Concentration of IS, Cis:	**40.00**	
Concentration of analyte, Cx:	**63.26**	ug/L

Microbac Laboratories Inc.
Sample Extract Log

Workgroup: WG359747
Analyst: RAH
Spike Analyst: RAH
Method: 3545
Run Date: 03/23/2011 14:12
SOP: ASE01 Revison 8
Spike Witness: CPD
Surr Solution: STD42350

Methylene Chloride Lot #: COA15249
Purified Lab Sand Lot #: COA14882
Diatomaceous Earth Lot #: COA14693
Sodium Sulfate,Anhydrous,Granular (Lot #: COA15226

	SAMPLE #	Type	Reference	pH	Prod	Init Amnt	Surr Amnt	Spike Amnt	Spike Sol	Final Vol	Color
1	L11030658-13	RS01			827-PAHL	17.78 g	.25 mL			1 mL	Colored
2	L11030658-14	MS01	L11030658-13		827-PAHL	18.14 g	.25 mL	1 mL	STD43935	1 mL	Colored
3	L11030658-15	SD01	L11030658-13		827-PAHL	18.41 g	.25 mL	1 mL	STD43935	1 mL	Colored
4	L11030658-16	SAMP			827-PAHL	20.52 g	.25 mL			1 mL	Colored
5	L11030669-01	SAMP			827-PAHL	20.16 g	.25 mL			1 mL	Colored
6	L11030669-02	SAMP			827-PAHL	18.92 g	.25 mL			1 mL	Colored
7	L11030669-03	SAMP			827-PAHL	19.35 g	.25 mL			1 mL	Colored
8	L11030669-04	SAMP			827-PAHL	17.98 g	.25 mL			1 mL	Colored
9	L11030669-05	RS01			827-PAHL	20.88 g	.25 mL			1 mL	Colored
10	L11030669-06	MS01	L11030669-05		827-PAHL	19.51 g	.25 mL	1 mL	STD43935	1 mL	Colored
11	L11030669-07	SD01	L11030669-05		827-PAHL	21.36 g	.25 mL	1 mL	STD43935	1 mL	Colored
12	L11030669-08	SAMP			827-PAHL	19.62 g	.25 mL			1 mL	Colored
13	L11030669-09	SAMP			827-PAHL	17.94 g	.25 mL			1 mL	Colored
14	L11030669-10	SAMP			827-PAHL	19.18 g	.25 mL			1 mL	Colored
15	L11030669-11	SAMP			827-PAHL	20.51 g	.25 mL			1 mL	Colored
16	L11030669-12	SAMP			827-PAHL	20.16 g	.25 mL			1 mL	Colored
17	L11030669-13	SAMP			827-PAHL	20.06 g	.25 mL			1 mL	Colored
18	WG359747-01	REF	L11030658-13		827-PAHL	17.78 g	.25 mL			1 mL	Colored
19	WG359747-02	REF	L11030669-05		827-PAHL	20.88 g	.25 mL			1 mL	Colored
20	WG359747-03	BLANK			827-PAHL	20 g	.25 mL			1 mL	Transparent
21	WG359747-04	LCS			827-PAHL	20 g	.25 mL	1 mL	STD43935	1 mL	Transparent
22	WG359747-05	MS	L11030658-13		827-PAHL	18.14 g	.25 mL	1 mL	STD43935	1 mL	Colored
23	WG359747-06	MSD	L11030658-13		827-PAHL	18.41 g	.25 mL	1 mL	STD43935	1 mL	Colored
24	WG359747-07	MS	L11030669-05		827-PAHL	19.51 g	.25 mL	1 mL	STD43935	1 mL	Colored
25	WG359747-08	MSD	L11030669-05		827-PAHL	21.36 g	.25 mL	1 mL	STD43935	1 mL	Colored

Entire batch are reextracts in hold

Analyst: [signature]

Reviewer: Chris Hill

EXTRACT - Modified 10/22/2008
PDF ID: 1952868
Report generated: 03/24/2011 13:42

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS15 Dataset: 021511
Analyst1: CAA Analyst2: NA
Method: 8270L SOP: MSS03 Rev: 9

Maintenance Log ID: 36452 Syringe Filter Lot#:

Column 1 ID: RXI-5MS Column 2 ID: NA

Workgroups: WG356524

CCV Std: LCS STD:
Internal STD: COA14927 Surrogate STD: NA Calibration STD:

Comments: Ran ICAL due to new column.

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	15M03931	BAKEOUT	1	1		02/15/11 07:56
2	15M03932	10PPM STD CHECK	1	1		02/15/11 08:24
3	15M03933	WG356529-01 5ppm DFTPP STD	1	1	STD41383	02/15/11 08:57
4	15M03934	WG356529-01 5ppm DFTPP STD	1	1	STD41383	02/15/11 09:19
5	15M03935	WG356529-02 1ppm PAHL STD	1	1	STD41768	02/15/11 09:38
6	15M03936	WG356529-03 10ppm PAHL STD	1	1	STD41768	02/15/11 10:06
7	15M03937	WG356529-04 5ppm PAHL STD	1	1	STD41768	02/15/11 10:34
8	15M03938	WG356529-05 2.5ppm PAHL STD	1	1	STD41768	02/15/11 11:02
9	15M03939	WG356529-06 0.5ppm PAHL STD	1	1	STD41768	02/15/11 11:30
10	15M03940	WG356529-07 0.1ppm PAHL STD	1	1	STD41768	02/15/11 11:59
11	15M03941	WG356529-08 0.05ppm PAHL STD	1	1	STD41768	02/15/11 12:28
12	15M03942	WG356529-09 1ppm PAHL Alt Src STD	1	1	STD43326	02/15/11 12:56
13	15M03943	WG356462-01 BLK 02/14	7	1	SOIL	02/15/11 13:24
14	15M03944	WG356462-02 LCS 02/14	7	1	SOIL	02/15/11 13:52
15	15M03945	WG356462-03 LCS DUP 02/14	7	1	SOIL	02/15/11 14:21
16	15M03946	L11020314-24 827-PAHL	7	1	SOIL	02/15/11 14:50
17	15M03947	L11020314-25 827-PAHL	7	1	SOIL	02/15/11 15:18
18	15M03948	L11020314-26 827-PAHL	7	1	SOIL	02/15/11 15:46
19	15M03949	L11020314-27 827-PAHL	7	1	SOIL	02/15/11 16:14
20	15M03950	L11020314-28 827-PAHL	7	1	SOIL	02/15/11 16:42
21	15M03951	L11020314-21 827-PAHL	7	1	SOIL	02/15/11 17:10
22	15M03952	L11020314-23 827-PAHL	7	1	SOIL	02/15/11 17:38
23	15M03953	L11020314-22 827-PAHL	7	1	SOIL	02/15/11 18:06
24	15M03954	L11020124-17 RE 827-PAHL	7	1	SOIL	02/15/11 18:33

Comments

Seq.	Rerun	Dil.	Reason	Analytes
3	X			
	WG356529-01 5ppm DFTPP STD - Tune failed.			
16				
	L11020314-24 827-PAHL - SS FBP low, needs re-extracted.			
17				
	L11020314-25 827-PAHL - SS FBP low, needs re-extracted.			
22				

Page: 1 Approved: 16-FEB-11

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS15 Dataset: 021511
Analyst1: CAA Analyst2: NA
Method: 8270L SOP: MSS03 Rev: 9

Maintenance Log ID: 36452 Syringe Filter Lot#:

Column 1 ID: RXI-5MS Column 2 ID: NA

Workgroups: WG356524

CCV Std: LCS STD:
Internal STD: COA14927 Surrogate STD: NA

Comments

Seq.	Rerun	Dil.	Reason	Analytes

L11020314-23 827-PAHL - SS FBP low, needs re-extracted.

Page: 2 Approved: 16-FEB-11

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS15 Dataset: 032411
Analyst1: CAA Analyst2: NA
Method: 8270L SOP: MSS03 Rev: 9

Maintenance Log ID: 36830 Syringe Filter Lot#:

Column 1 ID: RXI-5MS Column 2 ID: NA

Workgroups: WG359878

CCV Std: LCS STD:
Internal STD: COA15233 Surrogate STD: NA Calibration STD

Comments: Samples were analyzed at a diltuion due to the extracts' dark color.

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	15M04117	BAKEOUT	1	1		03/24/11 14:00
2	15M04118	WG359868-01 5ppm DFTPP STD	1	1	STD41383	03/24/11 14:23
3	15M04119	WG359868-01 5ppm DFTPP STD	1	1	STD41383	03/24/11 14:41
4	15M04120	WG359868-02 1ppm PAHL STD	1	1	STD41768	03/24/11 14:59
5	15M04121	WG359747-03 BLK 03/23	7	1	SOIL	03/24/11 15:27
6	15M04122	WG359747-04 LCS 03/23	7	1	SOIL	03/24/11 15:55
7	15M04123	L11030658-13 REF 2X RE 827-PAHL	7	2	SOIL	03/24/11 16:23
8	15M04124	L11030658-14 MS 2X RE 827-PAHL	7	2	SOIL	03/24/11 16:51
9	15M04125	L11030658-15 MSD 2X RE 827-PAHL	7	2	SOIL	03/24/11 17:19
10	15M04126	L11030658-16 2X RE 827-PAHL	7	2	SOIL	03/24/11 17:46
11	15M04127	L11030669-01 2X RE 827-PAHL	7	2	SOIL	03/24/11 18:14
12	15M04128	L11030669-02 2X RE 827-PAHL	7	2	SOIL	03/24/11 18:42
13	15M04129	L11030669-03 2X RE 827-PAHL	7	2	SOIL	03/24/11 19:10
14	15M04130	L11030669-04 2X RE 827-PAHL	7	2	SOIL	03/24/11 19:38
15	15M04131	L11030669-05 REF 2X RE 827-PAHL	7	2	SOIL	03/24/11 20:06
16	15M04132	L11030669-06 MS 2X RE 827-PAHL	7	2	SOIL	03/24/11 20:35
17	15M04133	L11030669-07 MSD 2X RE 827-PAHL	7	2	SOIL	03/24/11 21:03
18	15M04134	L11030669-08 2X RE 827-PAHL	7	2	SOIL	03/24/11 21:31
19	15M04135	L11030669-09 2X RE 827-PAHL	7	2	SOIL	03/24/11 21:59
20	15M04136	L11030669-10 2X RE 827-PAHL	7	2	SOIL	03/24/11 22:27
21	15M04137	L11030669-11 2X RE 827-PAHL	7	2	SOIL	03/24/11 22:55
22	15M04138	L11030669-12 2X RE 827-PAHL	7	2	SOIL	03/24/11 23:23
23	15M04139	L11030669-13 2X RE 827-PAHL	7	2	SOIL	03/24/11 23:51

Comments

Seq.	Rerun	Dil.	Reason	Analytes
2	X			
	WG359868-01 5ppm DFTPP STD - Tune failed.			
9				
	L11030658-15 MSD 2X RE 827-PAHL - 1 compound marginally low.			

Page: 1 Approved: 25-MAR-11

Microbac Laboratories Inc.

Data Checklist

Date: 15-FEB-2011
Analyst: CAA
Analyst: NA
Method: 8270L
Instrument: HPMS15
Curve Workgroup: NA
Runlog ID: 39037
Analytical Workgroups: L11020314, L11020124

ANALYTICAL	
System Performance Check	X
DFTPP (MS)	X
Endrin/DDT breakdown (8081/MS)	NA
Pentachlorophenol/benzidine tailing (MS)	NA
Eluent check (IC)/system pressure (HPLC)	NA
Window standard (FID)	NA
Initial Calibration	X
Average RF	X
Linear regression or higher order curve	NA
Alternate source standard (ICV) % Difference	X
Continuing Calibration (CCV)	NA
% D/% Drift	NA
Minimum response factors (MS)	NA
Continuing calibration blank (CCB) (IC)	NA
Special standards	NA
Blanks	X
TCL hits	X
Surrogate recoveries	X
LCS/LCSD (Laboratory Control Sample)	X
Recoveries	X
Surrogate recoveries	X
MS/MSD/Sample duplicates	NA
Recoveries	NA
%RPD	NA
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	X
Surrogate recoveries	X
Internal standard areas (MS)	X
Library searches (MS)	NA
Calculations & correct factors	X
Compounds above calibration range	NA
Reruns	NA
Manual integrations	X
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	NA
Check for completeness	X
Primary Reviewer	CAA
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	MDC

Primary Reviewer:
16-FEB-2011

Secondary Reviewer:
16-FEB-2011

CHECKLIST1 - Modified 03/05/2008
Generated: FEB-16-2011 10:23:21

Microbac Laboratories Inc.

Data Checklist

Date: 24-MAR-2011
Analyst: CAA
Analyst: NA
Method: 8270L
Instrument: HPMS15
Curve Workgroup: NA
Runlog ID: 39666
Analytical Workgroups: L11030658, L11030669

ANALYTICAL	
System Performance Check	X
DFTPP (MS)	X
Endrin/DDT breakdown (8081/MS)	NA
Pentachlorophenol/benzidine tailing (MS)	NA
Eluent check (IC)/system pressure (HPLC)	NA
Window standard (FID)	NA
Initial Calibration	NA
Average RF	NA
Linear regression or higher order curve	NA
Alternate source standard (ICV) % Difference	NA
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (MS)	X
Continuing calibration blank (CCB) (IC)	NA
Special standards	NA
Blanks	X
TCL hits	X
Surrogate recoveries	X
LCS/LCSD (Laboratory Control Sample)	X
Recoveries	X
Surrogate recoveries	X
MS/MSD/Sample duplicates	X
Recoveries	X
%RPD	X
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	X
Surrogate recoveries	X
Internal standard areas (MS)	X
Library searches (MS)	NA
Calculations & correct factors	X
Compounds above calibration range	NA
Reruns	NA
Manual integrations	X
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	NA
Check for completeness	X
Primary Reviewer	CAA
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	ECL

Primary Reviewer:
25-MAR-2011

Secondary Reviewer:
25-MAR-2011

CHECKLIST1 - Modified 03/05/2008
Generated: MAR-25-2011 09:34:51

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 8270C

AAB#: WG359878

Login Number: L11030669

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
BKG001A	01	03/17/11					03/23/11	6	14		03/24/11	1.2	40	
BKG002A	02	03/17/11					03/23/11	6	14		03/24/11	1.2	40	
BKG003A	03	03/17/11					03/23/11	6	14		03/24/11	1.2	40	
BKG004A	04	03/17/11					03/23/11	6	14		03/24/11	1.2	40	
BKG005A	05	03/17/11					03/23/11	6	14		03/24/11	1.2	40	
BKG005AMS	06	03/17/11					03/23/11	6	14		03/24/11	1.3	40	
BKG005AMSD	07	03/17/11					03/23/11	6	14		03/24/11	1.3	40	
BKG006A	08	03/17/11					03/23/11	6	14		03/24/11	1.3	40	
BKG007A	09	03/17/11					03/23/11	6	14		03/24/11	1.3	40	
BKG007ADUP	10	03/17/11					03/23/11	6	14		03/24/11	1.3	40	
BKG008A	11	03/17/11					03/23/11	6	14		03/24/11	1.4	40	
BKG009A	12	03/17/11					03/23/11	6	14		03/24/11	1.4	40	
BKG010A	13	03/17/11					03/23/11	6	14		03/24/11	1.4	40	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 1953770
Report generated 03/25/2011 14:48

Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L11030669
Instrument Id: HPMS15
Workgroup (AAB#): WG359878

Method: 8270L
CAL ID: HPMS15-15-FEB-11
Matrix: Soil

Sample Number	Dilution	Tag	1	2	3
L11030669-01	2.00	REDL1	52.5	49.3	98.4
L11030669-02	2.00	REDL1	71.4	66.8	103
L11030669-03	2.00	REDL1	59.0	53.6	89.5
L11030669-04	2.00	REDL1	62.5	58.6	103
L11030669-05	2.00	REDL1	58.1	56.9	96.9
L11030669-06	2.00	REDL1	50.8	48.2	105
L11030669-07	2.00	REDL1	49.8	47.8	96.4
L11030669-08	2.00	REDL1	56.7	51.8	95.9
L11030669-09	2.00	REDL1	55.0	52.4	96.8
L11030669-10	2.00	REDL1	58.4	54.2	97.0
L11030669-11	2.00	REDL1	63.2	59.6	97.4
L11030669-12	2.00	REDL1	64.9	59.1	104
L11030669-13	2.00	REDL1	67.0	62.4	95.9
WG359747-03	1.00	01	56.6	54.2	102
WG359747-04	1.00	01	64.7	62.3	105

Surrogates	Surrogate Limits		
1 - 2-Fluorobiphenyl	45	-	105
2 - Nitrobenzene-d5	35	-	100
3 - p-Terphenyl-d14	30	-	125

Underline = Result out of surrogate limits

DL = surrogate diluted out
ND = surrogate not detected

SURROGATES - Modified 03/06/2008
PDF File ID: 1951515
Report generated: 03/25/2011 14:48

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L11030669
Blank File ID: 15M04121
Prep Date: 03/23/11 14:12
Analyzed Date: 03/24/11 15:27
Analyst: CAA

Work Group: WG359878
Blank Sample ID: WG359747-03
Instrument ID: HPMS15
Method: 8270C

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG359747-04	15M04122	03/24/11 15:55	01
BKG001A	L11030669-01	15M04127	03/24/11 18:14	REDL1
BKG002A	L11030669-02	15M04128	03/24/11 18:42	REDL1
BKG003A	L11030669-03	15M04129	03/24/11 19:10	REDL1
BKG004A	L11030669-04	15M04130	03/24/11 19:38	REDL1
BKG005A	L11030669-05	15M04131	03/24/11 20:06	REDL1
BKG005AMS	L11030669-06	15M04132	03/24/11 20:35	REDL1
BKG005AMSD	L11030669-07	15M04133	03/24/11 21:03	REDL1
BKG006A	L11030669-08	15M04134	03/24/11 21:31	REDL1
BKG007A	L11030669-09	15M04135	03/24/11 21:59	REDL1
BKG007ADUP	L11030669-10	15M04136	03/24/11 22:27	REDL1
BKG008A	L11030669-11	15M04137	03/24/11 22:55	REDL1
BKG009A	L11030669-12	15M04138	03/24/11 23:23	REDL1
BKG010A	L11030669-13	15M04139	03/24/11 23:51	REDL1

Report Name: BLANK_SUMMARY
PDF File ID: 1953740
Report generated 03/25/2011 14:48

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L11030669 Prep Date: 03/23/11 14:12 Sample ID: WG359747-03
Instrument ID: HPMS15 Run Date: 03/24/11 15:27 Prep Method: 3545
File ID: 15M04121 Analyst: CAA Method: 8270C
Workgroup (AAB#): WG359878 Matrix: Soil Units: ug/kg
Contract #: Cal ID: HPMS15-15-FEB-11

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Naphthalene	1.25	2.50	1.25	1	U
Acenaphthylene	1.25	2.50	1.25	1	U
Acenaphthene	1.25	2.50	1.25	1	U
Fluorene	1.25	2.50	1.25	1	U
Phenanthrene	1.25	2.50	1.25	1	U
Anthracene	1.25	2.50	1.25	1	U
Fluoranthene	1.25	2.50	1.25	1	U
Pyrene	1.25	2.50	1.25	1	U
Benzo(a)anthracene	1.25	2.50	1.25	1	U
Chrysene	1.25	2.50	1.25	1	U
Benzo(b)fluoranthene	1.25	2.50	1.25	1	U
Benzo(k)fluoranthene	1.25	2.50	1.25	1	U
Benzo(a)pyrene	1.25	2.50	1.25	1	U
Indeno(1,2,3-cd)pyrene	1.25	2.50	1.25	1	U
Dibenzo(a,h)anthracene	1.25	2.50	1.25	1	U
Benzo(g,h,i)perylene	1.25	2.50	1.25	1	U
1-Methylnaphthalene	1.25	2.50	1.25	1	U
2-Methylnaphthalene	1.25	2.50	1.25	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
Nitrobenzene-d5	54.2	35 - 100	PASS
2-Fluorobiphenyl	56.6	45 - 105	PASS
p-Terphenyl-d14	102	30 - 125	PASS

LOD Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name: BLANK
PDF ID: 1951512
25-MAR-2011 14:48

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L11030669 Run Date: 03/24/2011 Sample ID: WG359747-04
Instrument ID: HPMS15 Run Time: 15:55 Prep Method: 3545
File ID: 15M04122 Analyst: CAA Method: 8270C
Workgroup (AAB#): WG359878 Matrix: Soil Units: ug/kg
QC Key: DOD4 Lot#: STD43935 Cal ID: HPMS15-15-FEB-11

Analytes	Expected	Found	% Rec	LCS Limits	Q
Naphthalene	50.0	30.0	59.9	40 - 105	
Acenaphthylene	50.0	29.8	59.7	45 - 105	
Acenaphthene	50.0	30.1	60.2	45 - 110	
Fluorene	50.0	30.9	61.8	50 - 110	
Phenanthrene	50.0	36.0	72.0	50 - 110	
Anthracene	50.0	39.2	78.4	55 - 105	
Fluoranthene	50.0	45.7	91.5	55 - 115	
Pyrene	50.0	43.5	87.1	45 - 125	
Benzo(a)anthracene	50.0	46.6	93.2	50 - 110	
Chrysene	50.0	48.7	97.4	55 - 110	
Benzo(b)fluoranthene	50.0	45.8	91.7	45 - 115	
Benzo(k)fluoranthene	50.0	48.1	96.3	45 - 125	
Benzo(a)pyrene	50.0	48.5	97.1	50 - 110	
Indeno(1,2,3-cd)pyrene	50.0	47.5	95.0	40 - 120	
Dibenzo(a,h)anthracene	50.0	47.5	95.0	40 - 125	
Benzo(g,h,i)perylene	50.0	47.5	95.0	40 - 125	
1-Methylnaphthalene	50.0	28.7	57.4	35 - 100	
2-Methylnaphthalene	50.0	31.0	61.9	45 - 105	

Surrogates	% Recovery	Surrogate Limits	Qualifier
Nitrobenzene-d5	62.3	35 - 100	PASS
2-Fluorobiphenyl	64.7	45 - 105	PASS
p-Terphenyl-d14	105	30 - 125	PASS

* EXCEEDS %REC LIMIT

LCS - Modified 03/06/2008
PDF File ID: 1951513
Report generated: 03/25/2011 14:48

Microbac Laboratories Inc.

MS/MSD REPORT

Loginnum: L11030669 Cal ID: HPMS15- 15-FEB-11 Worknum: WG359878

Instrument ID: HPMS15 Contract #: Prep Method: 3545

Parent ID: L11030669-05 File ID: 15M04131 Dil: 2 Method: 8270C

Sample ID: L11030669-06 MS File ID: 15M04132 Dil: 2 Matrix: Soil

Sample ID: L11030669-07 MSD File ID: 15M04133 Dil: 2 Units: ug/kg

Percent Solid: 97.8

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Naphthalene	U	52.4	24.9	47.5	47.9	22.6	47.2	9.82	40 - 105	30	
Acenaphthylene	U	52.4	26.6	50.7	47.9	22.8	47.6	15.4	45 - 105	30	
Acenaphthene	U	52.4	26.7	50.9	47.9	22.8	47.6	15.7	45 - 110	30	
Fluorene	U	52.4	29.4	56	47.9	23.9	49.8	20.6	50 - 110	30	*
Phenanthrene	3.06	52.4	46.1	82.2	47.9	37.3	71.5	21.2	50 - 110	30	
Anthracene	U	52.4	46.2	88.1	47.9	36.6	76.4	23.2	55 - 105	30	
Fluoranthene	6.98	52.4	63.5	108	47.9	55.1	101	14.1	55 - 115	30	
Pyrene	5.50	52.4	57.9	100	47.9	50.4	93.7	14.0	45 - 125	30	
Benzo(a)anthracene	2.74	52.4	54.4	98.5	47.9	46.7	91.8	15.1	50 - 110	30	
Chrysene	3.76	52.4	57.8	103	47.9	49.7	95.8	15.2	55 - 110	30	
Benzo(b)fluoranthene	3.78	52.4	56.3	100	47.9	48.1	92.4	15.9	45 - 115	30	
Benzo(k)fluoranthene	3.48	52.4	52.2	92.9	47.9	45.4	87.4	14.0	45 - 125	30	
Benzo(a)pyrene	3.27	52.4	56.0	100	47.9	47.9	93.3	15.4	50 - 110	30	
Indeno(1,2,3-cd)pyrene	2.73	52.4	50.9	91.8	47.9	44.0	86.1	14.5	40 - 120	30	
Dibenzo(a,h)anthracene	U	52.4	48.6	92.8	47.9	42.1	87.9	14.4	40 - 125	30	
Benzo(g,h,i)perylene	2.88	52.4	48.2	86.5	47.9	41.9	81.5	14.0	40 - 125	30	
1-Methylnaphthalene	U	52.4	23.1	44.1	47.9	20.7	43.2	11.1	35 - 100	30	
2-Methylnaphthalene	U	52.4	25.0	47.6	47.9	22.3	46.7	11.0	45 - 105	30	

* FAILS %REC LIMIT

\# FAILS RPD LIMIT

MS_MSD - Modified 03/06/2008
PDF File ID: 1951514
Report generated 03/28/2011 10:44

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

DFTPP

Login Number: L11030669
Instrument: HPMS15
Analyst: CAA
Workgroup: WG356529

Tune ID: WG356529-01
Run Date: 02/15/2011
Run Time: 09:19
File ID: 15M03934
Cal ID: HPMS15 - 15-FEB-11

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51.0	198	30.0	60.0	47.4	4927	PASS
68.0	69.0	0	2.00	0	0	PASS
69.0	198	0	100	51.2	5320	PASS
70.0	69.0	0	2.00	0	0	PASS
127	198	40.0	60.0	56.1	5830	PASS
197	198	0	1.00	0	0	PASS
198	198	100	100	100	10393	PASS
199	198	5.00	9.00	6.34	659	PASS
275	198	10.0	30.0	24.9	2588	PASS
365	198	1.00	100	1.91	198	PASS
441	443	0.0100	100	80.7	1085	PASS
442	198	40.0	100	70.5	7322	PASS
443	442	17.0	23.0	18.4	1344	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG356529-02	STD-CCV	01	02/15/2011 09:38	
WG356529-03	STD	01	02/15/2011 10:06	
WG356529-04	STD	01	02/15/2011 10:34	
WG356529-05	STD	01	02/15/2011 11:02	
WG356529-06	STD	01	02/15/2011 11:30	
WG356529-07	STD	01	02/15/2011 11:59	
WG356529-08	STD	01	02/15/2011 12:28	
WG356529-09	SSCV	01	02/15/2011 12:56	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 1953773
Report generated 03/25/2011 14:48

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

DFTPP

Login Number: L11030669
Instrument: HPMS15
Analyst: CAA
Workgroup: WG359868

Tune ID: WG359868-01
Run Date: 03/24/2011
Run Time: 14:41
File ID: 15M04119
Cal ID: HPMS15 - 15-FEB-11

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51.0	198	30.0	60.0	41.9	5632	PASS
68.0	69.0	0	2.00	0	0	PASS
69.0	198	0	100	43.5	5853	PASS
70.0	69.0	0	2.00	0	0	PASS
127	198	40.0	60.0	51.6	6942	PASS
197	198	0	1.00	0	0	PASS
198	198	100	100	100	13443	PASS
199	198	5.00	9.00	7.07	951	PASS
275	198	10.0	30.0	25.2	3391	PASS
365	198	1.00	100	3.00	403	PASS
441	443	0.0100	100	75.3	1485	PASS
442	198	40.0	100	72.2	9706	PASS
443	442	17.0	23.0	20.3	1971	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG359868-02	CCV	01	03/24/2011 14:59	
WG359747-03	BLANK	01	03/24/2011 15:27	
WG359747-04	LCS	01	03/24/2011 15:55	
L11030669-01	BKG001A	REDL1	03/24/2011 18:14	
L11030669-02	BKG002A	REDL1	03/24/2011 18:42	
L11030669-03	BKG003A	REDL1	03/24/2011 19:10	
L11030669-04	BKG004A	REDL1	03/24/2011 19:38	
L11030669-05	BKG005A	REDL1	03/24/2011 20:06	
L11030669-06	BKG005AMS	REDL1	03/24/2011 20:35	
L11030669-07	BKG005AMSD	REDL1	03/24/2011 21:03	
L11030669-08	BKG006A	REDL1	03/24/2011 21:31	
L11030669-09	BKG007A	REDL1	03/24/2011 21:59	
L11030669-10	BKG007ADUP	REDL1	03/24/2011 22:27	
L11030669-11	BKG008A	REDL1	03/24/2011 22:55	
L11030669-12	BKG009A	REDL1	03/24/2011 23:23	
L11030669-13	BKG010A	REDL1	03/24/2011 23:51	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 1953773
Report generated 03/25/2011 14:48

Microbac Laboratories Inc.

INITIAL CALIBRATION SUMMARY

Login Number: L11030669
Analytical Method: 8270C
ICAL Workgroup: WG356529

Instrument ID: HPMS15
Initial Calibration Date: 15-FEB-11 12:28
Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD (R^2)
Acenaphthene	CCC	1.156	2.99		
Benzo[a]pyrene	CCC	1.075	3.95		
Fluoranthene	CCC	1.166	4.85		
1-Methylnaphthalene		0.6820	5.88		
2-Methylnaphthalene		0.6832	2.92		
Acenaphthylene		1.800	4.23		
Anthracene		1.020	7.96		
Benzo[a]anthracene		1.005	4.70		
Benzo[b]fluoranthene		1.147	4.59		
Benzo[ghi]perylene		1.088	1.29		
Benzo[k]fluoranthene		1.069	5.13		
Chrysene		1.004	6.99		
Dibenz[ah]anthracene		1.059	2.31		
Fluorene		1.389	3.73		
Indeno[1,2,3-cd]pyrene		1.302	2.35		
Naphthalene		1.017	4.98		
Phenanthrene		1.123	4.45		
Pyrene		1.152	5.79		

R = Correlation coefficient; 0.995 minimum
R^2 = Coefficient of determination; 0.99 minimum

If the %RSD is greater than the limit specified by the method or project QAP, then linear or quadratic equations will be used.

INT_CAL - Modified 03/06/2008
PDF File ID: 1953771
Report generated 03/25/2011 14:48

Microbac Laboratories Inc.

INITIAL CALIBRATION DATA

Login Number: L11030669

Analytical Method: 8270C

Instrument ID: HPMS15

Initial Calibration Date: 15-FEB-11 12:28

Column ID: F

Analyte	WG356529-02			WG356529-03			WG356529-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Acenaphthene	1.00	55901.0000	1.162	10.0	515990.000	1.081	5.00	252303.000	1.174
Benzo[a]pyrene	1.00	95643.0000	1.115	10.0	831739.000	1.052	5.00	408968.000	1.114
Fluoranthene	1.00	103341.000	1.219	10.0	869452.000	1.061	5.00	444739.000	1.192
1-Methylnaphthalene	1.00	59184.0000	0.6693	10.0	533197.000	0.6207	5.00	260773.000	0.6816
2-Methylnaphthalene	1.00	60084.0000	0.6795	10.0	556360.000	0.6477	5.00	269638.000	0.7048
Acenaphthylene	1.00	89545.0000	1.861	10.0	805577.000	1.687	5.00	402547.000	1.873
Anthracene	1.00	91598.0000	1.080	10.0	799456.000	0.9755	5.00	407287.000	1.092
Benzo[a]anthracene	1.00	99178.0000	1.061	10.0	823674.000	0.9106	5.00	416510.000	0.9959
Benzo[b]fluoranthene	1.00	104367.000	1.217	10.0	868681.000	1.099	5.00	425074.000	1.158
Benzo[ghi]perylene	1.00	94509.0000	1.102	10.0	839944.000	1.063	5.00	403279.000	1.098
Benzo[k]fluoranthene	1.00	96028.0000	1.120	10.0	760576.000	0.9622	5.00	391713.000	1.067
Chrysene	1.00	97835.0000	1.046	10.0	782700.000	0.8653	5.00	404263.000	0.9666
Dibenz[ah]anthracene	1.00	92293.0000	1.076	10.0	829407.000	1.049	5.00	398702.000	1.086
Fluorene	1.00	67555.0000	1.404	10.0	622508.000	1.304	5.00	309109.000	1.438
Indeno[1,2,3-cd]pyrene	1.00	113930.000	1.328	10.0	1016708.00	1.286	5.00	489686.000	1.334
Naphthalene	1.00	91469.0000	1.035	10.0	778561.000	0.9063	5.00	386454.000	1.010
Phenanthrene	1.00	97820.0000	1.154	10.0	829719.000	1.013	5.00	421873.000	1.131
Pyrene	1.00	110884.000	1.186	10.0	915378.000	1.012	5.00	470868.000	1.126

INT_CAL - Modified 03/06/2008
PDF File ID: 1953771
Report generated 03/25/2011 14:48

Microbac Laboratories Inc.

INITIAL CALIBRATION DATA

Login Number: L11030669

Analytical Method: 8270C

Instrument ID: HPMS15

Initial Calibration Date: 15-FEB-11 12:28

Column ID: F

Analyte	WG356529-05			WG356529-06			WG356529-07		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Acenaphthene	2.50	133157.000	1.172	0.500	24450.0000	1.185	0.100	4875.00000	1.157
Benzo[a]pyrene	2.50	217848.000	1.114	0.500	38493.0000	1.085	0.100	7293.00000	1.023
Fluoranthene	2.50	241657.000	1.217	0.500	43841.0000	1.195	0.100	8432.00000	1.140
1-Methylnaphthalene	2.50	136971.000	0.6884	0.500	25808.0000	0.7014	0.100	5687.00000	0.7517
2-Methylnaphthalene	2.50	140078.000	0.7041	0.500	25540.0000	0.6941	0.100	5119.00000	0.6766
Acenaphthylene	2.50	213321.000	1.878	0.500	37377.0000	1.811	0.100	7272.00000	1.726
Anthracene	2.50	218887.000	1.102	0.500	38480.0000	1.049	0.100	6950.00000	0.9394
Benzo[a]anthracene	2.50	226217.000	1.019	0.500	40826.0000	1.037	0.100	7870.00000	1.000
Benzo[b]fluoranthene	2.50	227373.000	1.163	0.500	42517.0000	1.199	0.100	7646.00000	1.073
Benzo[ghi]perylene	2.50	214196.000	1.096	0.500	38834.0000	1.095	0.100	7677.00000	1.077
Benzo[k]fluoranthene	2.50	212133.000	1.085	0.500	37128.0000	1.047	0.100	8027.00000	1.126
Chrysene	2.50	220901.000	0.9952	0.500	40923.0000	1.039	0.100	8262.00000	1.050
Dibenz[ah]anthracene	2.50	211035.000	1.079	0.500	37737.0000	1.064	0.100	7258.00000	1.018
Fluorene	2.50	163374.000	1.438	0.500	29439.0000	1.427	0.100	5743.00000	1.363
Indeno[1,2,3-cd]pyrene	2.50	259827.000	1.329	0.500	46403.0000	1.308	0.100	8948.00000	1.256
Naphthalene	2.50	204347.000	1.027	0.500	38428.0000	1.044	0.100	7874.00000	1.041
Phenanthrene	2.50	229277.000	1.155	0.500	42051.0000	1.146	0.100	8355.00000	1.129
Pyrene	2.50	257557.000	1.160	0.500	47177.0000	1.198	0.100	9317.00000	1.184

INT_CAL - Modified 03/06/2008
PDF File ID: 1953771
Report generated 03/25/2011 14:48

Microbac Laboratories Inc.

INITIAL CALIBRATION DATA

Login Number: L11030669

Analytical Method: 8270C

Instrument ID: HPMS15

Initial Calibration Date: 15-FEB-11 12:28

Column ID: F

Analyte	WG356529-08		
	CONC	RESP	RF
Acenaphthene	0.0500	2622.00000	1.164
Benzo[a]pyrene	0.0500	3937.00000	1.022
Fluoranthene	0.0500	4571.00000	1.142
1-Methylnaphthalene	0.0500	2674.00000	0.6608
2-Methylnaphthalene	0.0500	2735.00000	0.6759
Acenaphthylene	0.0500	3968.00000	1.762
Anthracene	0.0500	3597.00000	0.8989
Benzo[a]anthracene	0.0500	4384.00000	1.015
Benzo[b]fluoranthene	0.0500	4309.00000	1.118
Benzo[ghi]perylene	0.0500	4181.00000	1.085
Benzo[k]fluoranthene	0.0500	4148.00000	1.077
Chrysene	0.0500	4601.00000	1.065
Dibenz[ah]anthracene	0.0500	4005.00000	1.039
Fluorene	0.0500	3035.00000	1.348
Indeno[1,2,3-cd]pyrene	0.0500	4912.00000	1.275
Naphthalene	0.0500	4265.00000	1.054
Phenanthrene	0.0500	4549.00000	1.137
Pyrene	0.0500	5174.00000	1.198

INT_CAL - Modified 03/06/2008
PDF File ID: 1953771
Report generated 03/25/2011 14:48

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L11030669 Run Date: 02/15/2011 Sample ID: WG356529-09
Instrument ID: HPMS15 Run Time: 12:56 Method: 8270C
File ID: 15M03942 Analyst: CAA QC Key: DOD4
ICal Workgroup: WG356529 Cal ID: HPMS15 - 15-FEB-11

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Acenaphthene	CCC	1000	946	ug/L	1.09	5.40	30	
Fluoranthene	CCC	1000	934	ug/L	1.09	6.60	30	
Benzo[a]pyrene	CCC	1000	954	ug/L	1.03	4.60	30	
Naphthalene		1000	956	ug/L	0.972	4.40	30	
Acenaphthylene		1000	912	ug/L	1.64	8.80	30	
Fluorene		1000	928	ug/L	1.29	7.20	30	
Phenanthrene		1000	935	ug/L	1.05	6.50	30	
Anthracene		1000	1010	ug/L	1.03	0.700	30	
Pyrene		1000	922	ug/L	1.06	7.80	30	
Benzo[a]anthracene		1000	888	ug/L	0.893	11.2	30	
Chrysene		1000	945	ug/L	0.949	5.50	30	
Benzo[b]fluoranthene		1000	869	ug/L	0.997	13.1	30	
Benzo[k]fluoranthene		1000	942	ug/L	1.01	5.80	30	
Indeno[1,2,3-cd]pyrene		1000	894	ug/L	1.16	10.6	30	
Dibenz[ah]anthracene		1000	886	ug/L	0.938	11.5	30	
Benzo[ghi]perylene		1000	929	ug/L	1.01	7.10	30	
1-Methylnaphthalene		1000	902	ug/L	0.615	9.80	30	
2-Methylnaphthalene		1000	936	ug/L	0.639	6.40	30	

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 1953772
Report generated 03/25/2011 14:48

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11030669
Run Date: 03/24/2011
Sample ID: WG359868-02
Instrument ID: HPMS15
Run Time: 14:59
Method: 8270C
File ID: 15M04120
Analyst: CAA
QC Key: DOD4
Workgroup (AAB#): WG359878
Cal ID: HPMS15 - 15-FEB-11
Matrix: SOIL

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Acenaphthene	CCC	1000	1060	ug/L	1.23	6.09	20	
Fluoranthene	CCC	1000	1160	ug/L	1.35	15.7	20	
Benzo[a]pyrene	CCC	1000	1100	ug/L	1.18	9.88	20	
Naphthalene		1000	1050	ug/L	1.07	4.76	20	
Acenaphthylene		1000	1030	ug/L	1.86	3.38	20	
Fluorene		1000	1080	ug/L	1.49	7.52	20	
Phenanthrene		1000	1090	ug/L	1.22	8.84	20	
Anthracene		1000	1110	ug/L	1.13	10.8	20	
Pyrene		1000	1140	ug/L	1.31	14.1	20	
Benzo[a]anthracene		1000	1120	ug/L	1.13	12.0	20	
Chrysene		1000	1130	ug/L	1.14	13.2	20	
Benzo[b]fluoranthene		1000	1100	ug/L	1.26	9.89	20	
Benzo[k]fluoranthene		1000	1060	ug/L	1.13	5.96	20	
Indeno[1,2,3-cd]pyrene		1000	1110	ug/L	1.45	11.2	20	
Dibenz[ah]anthracene		1000	1100	ug/L	1.17	10.1	20	
Benzo[ghi]perylene		1000	1120	ug/L	1.22	11.9	20	
1-Methylnaphthalene		1000	1090	ug/L	0.742	8.85	20	
2-Methylnaphthalene		1000	1090	ug/L	0.744	8.83	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 1953774
Report generated 03/25/2011 14:48

Microbac Laboratories Inc.

INTERNAL STANDARD AREA SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L11030669
Instrument ID: HPMS15
Workgroup (AAB#): WG359878

ICAL CCV Number: WG356529-02
CAL ID: HPMS15-15-FEB-11
Matrix: SOLID

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3	IS-4	IS-5
WG356529-02	NA	NA	48126	93522	88421	85766	84788
Upper Limit	NA	NA	96252	187044	176842	171532	169576
Lower Limit	NA	NA	24063	46761	44211	42883	42394
L11030669-01	2.00	REDL1	64045	131095	119737	131511	110517
L11030669-02	2.00	REDL1	60101	122359	111839	120961	102257
L11030669-03	2.00	REDL1	63385	126827	119211	124849	107466
L11030669-04	2.00	REDL1	61896	123951	116634	120458	104816
L11030669-05	2.00	REDL1	69986	141623	131612	139163	118763
L11030669-06	2.00	REDL1	62265	124505	116930	122825	104438
L11030669-07	2.00	REDL1	62595	126505	116952	123988	106470
L11030669-08	2.00	REDL1	60346	122073	112634	119994	102549
L11030669-09	2.00	REDL1	61618	124353	116602	124012	104717
L11030669-10	2.00	REDL1	60700	122123	114133	119864	103164
L11030669-11	2.00	REDL1	60994	122339	114712	125350	104278
L11030669-12	2.00	REDL1	59677	121953	112378	119029	102693
L11030669-13	2.00	REDL1	61632	125710	116595	122043	105089
WG359747-03	1.00	01	53291	105347	96518	106078	90929
WG359747-04	1.00	01	55065	109230	100187	109891	93645

IS-1 - Acenaphthene-d10
IS-2 - Chrysene-d12
IS-3 - Naphthalene-d8
IS-4 - Perylene-d12
IS-5 - Phenanthrene-d10

Underline = Response outside limits

INTERNAL_STD_ICAL - Modified 03/06/2008
PDF File ID: 1953775
Report generated 03/25/2011 14:48

Microbac Laboratories Inc.

INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L11030669
Instrument ID: HPMS15
Workgroup (AAB#): WG359878

ICAL CCV Number: WG356529-02
CAL ID: HPMS15-15-FEB-11
Matrix: SOLID

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3	IS-4	IS-5
WG356529-02	NA	NA	8.14	13.35	5.95	15.49	9.99
Upper Limit	NA	NA	8.64	13.85	6.45	15.99	10.49
Lower Limit	NA	NA	7.64	12.85	5.45	14.99	9.49
L11030669-01	2.00	REDL1	8.093	13.301	5.91	15.41	9.945
L11030669-02	2.00	REDL1	8.093	13.301	5.91	15.41	9.944
L11030669-03	2.00	REDL1	8.093	13.301	5.91	15.41	9.944
L11030669-04	2.00	REDL1	8.093	13.301	5.91	15.41	9.944
L11030669-05	2.00	REDL1	8.093	13.301	5.91	15.41	9.945
L11030669-06	2.00	REDL1	8.093	13.3	5.91	15.41	9.944
L11030669-07	2.00	REDL1	8.093	13.301	5.91	15.41	9.944
L11030669-08	2.00	REDL1	8.088	13.301	5.911	15.41	9.945
L11030669-09	2.00	REDL1	8.088	13.3	5.91	15.41	9.944
L11030669-10	2.00	REDL1	8.088	13.301	5.91	15.41	9.944
L11030669-11	2.00	REDL1	8.088	13.301	5.91	15.41	9.945
L11030669-12	2.00	REDL1	8.088	13.301	5.91	15.41	9.945
L11030669-13	2.00	REDL1	8.093	13.3	5.91	15.41	9.944
WG359747-03	1.00	01	8.093	13.301	5.916	15.41	9.944
WG359747-04	1.00	01	8.093	13.301	5.911	15.41	9.945

IS-1 - Acenaphthene-d10
IS-2 - Chrysene-d12
IS-3 - Naphthalene-d8
IS-4 - Perylene-d12
IS-5 - Phenanthrene-d10

Underline = Response outside limits

INTERNAL_STD_RT_ICAL - Modified 03/06/2008
PDF File ID: 1953778
Report generated: 03/25/2011 14:48

2.1.1.3 Sample Data

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04127.D
Acq On : 24 Mar 2011 6:14 pm
Operator : CAA
Sample : L11030669-01 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 9 Sample Multiplier: 2

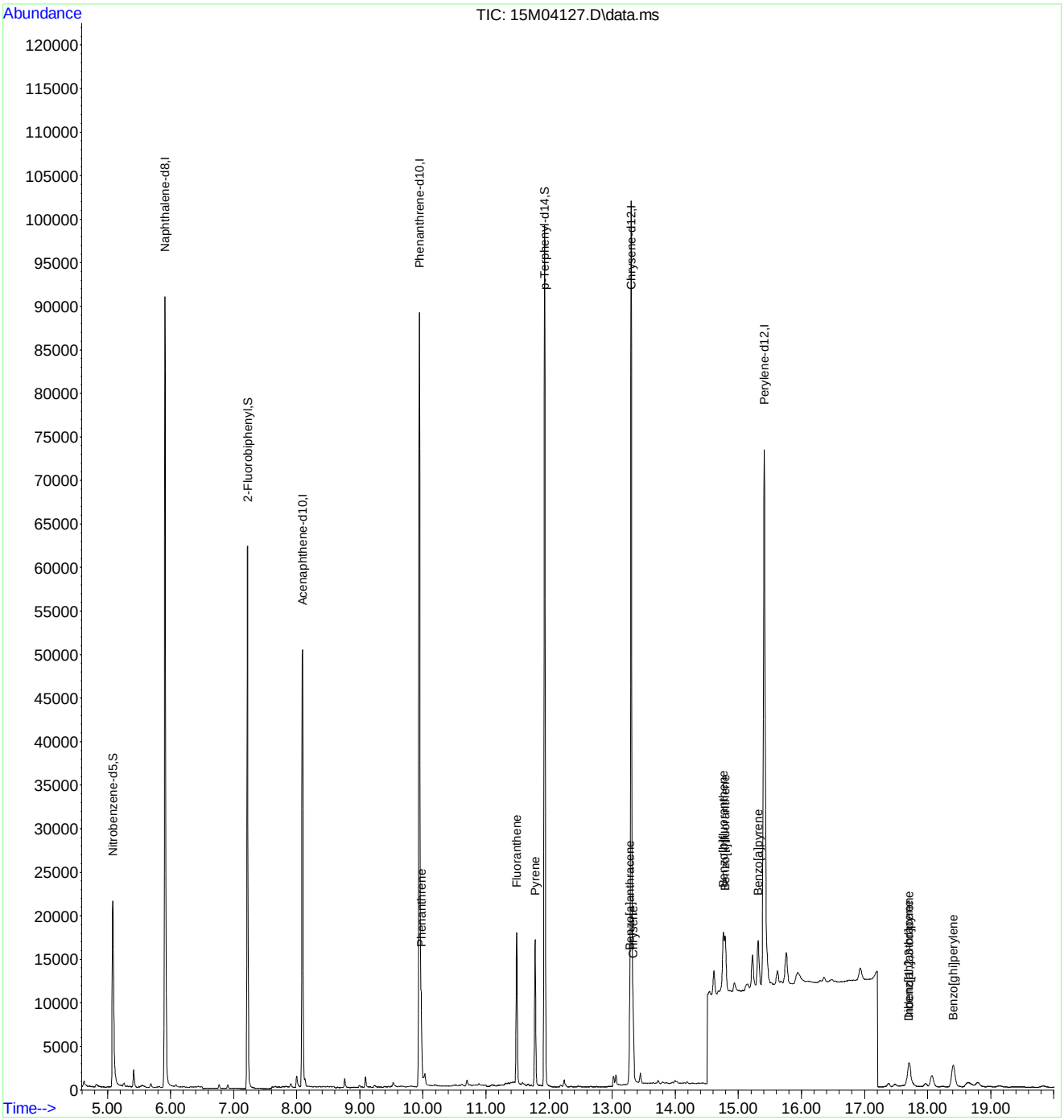
Quant Time: Mar 25 07:10:05 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration

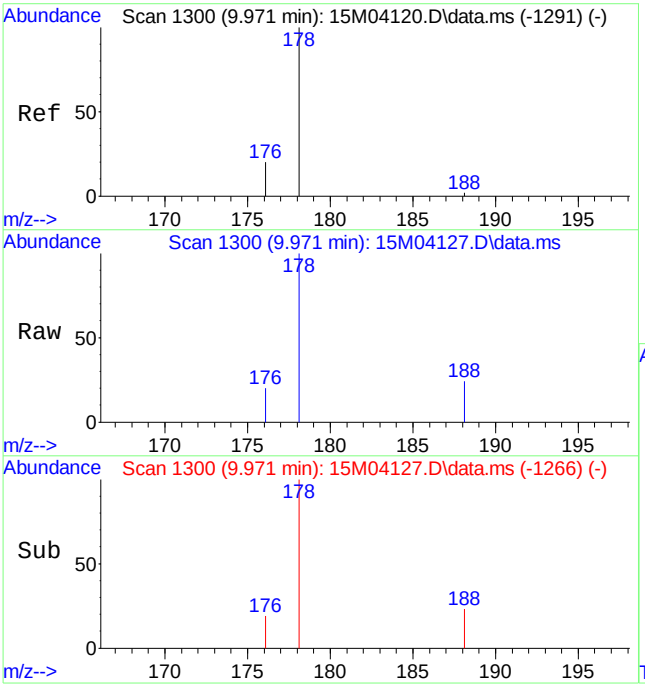
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8	5.910	136	119737	1.00 ug/mL	-0.01
6) Acenaphthene-d10	8.093	164	64045	1.00 ug/mL	-0.01
11) Phenanthrene-d10	9.945	188	110517	1.00 ug/mL	-0.01
15) Chrysene-d12	13.301	240	131095	1.00 ug/mL	-0.01
20) Perylene-d12	15.410	264	131511	1.00 ug/mL	-0.02
System Monitoring Compounds					
2) Nitrobenzene-d5	5.085	82	25182	1.23 ug/mL	-0.02
Spiked Amount 2.500	Range 23 - 120		Recovery	= 49.20%	
7) 2-Fluorobiphenyl	7.220	172	55498	1.31 ug/mL	-0.02
Spiked Amount 2.500	Range 30 - 115		Recovery	= 52.40%	
17) p-Terphenyl-d14	11.931	244	106410	2.46 ug/mL	-0.01
Spiked Amount 2.500	Range 18 - 137		Recovery	= 98.40%	
Target Compounds					Qvalue
12) Phenanthrene	9.971	178	9868	0.0795 ug/mL	100
14) Fluoranthene	11.485	202	19413	0.1506 ug/mL	94
16) Pyrene	11.780	202	18067	0.1196 ug/mL	92
18) Benzo[a]anthracene	13.279	228	7591	0.0576 ug/mL	99
19) Chrysene	13.333	228	9818	0.0746 ug/mL	95
21) Benzo[b]fluoranthene	14.762	252	10613	0.0704 ug/mL	90
22) Benzo[k]fluoranthene	14.791	252	8976m	0.0638 ug/mL	
23) Benzo[a]pyrene	15.313	252	8977	0.0635 ug/mL#	72
24) Indeno[1,2,3-cd]pyrene	17.707	276	8641	0.0505 ug/mL#	100
25) Dibenz[ah]anthracene	17.693	278	3621	0.0260 ug/mL#	100
26) Benzo[ghi]perylene	18.407	276	7869	0.0550 ug/mL	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04127.D
Acq On : 24 Mar 2011 6:14 pm
Operator : CAA
Sample : L11030669-01 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 9 Sample Multiplier: 2

Quant Time: Mar 25 07:10:05 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration

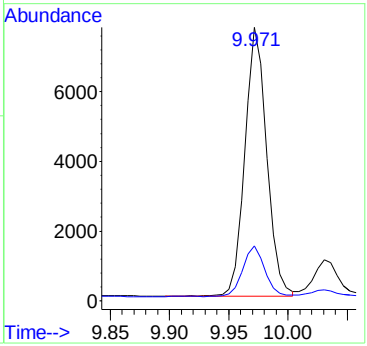


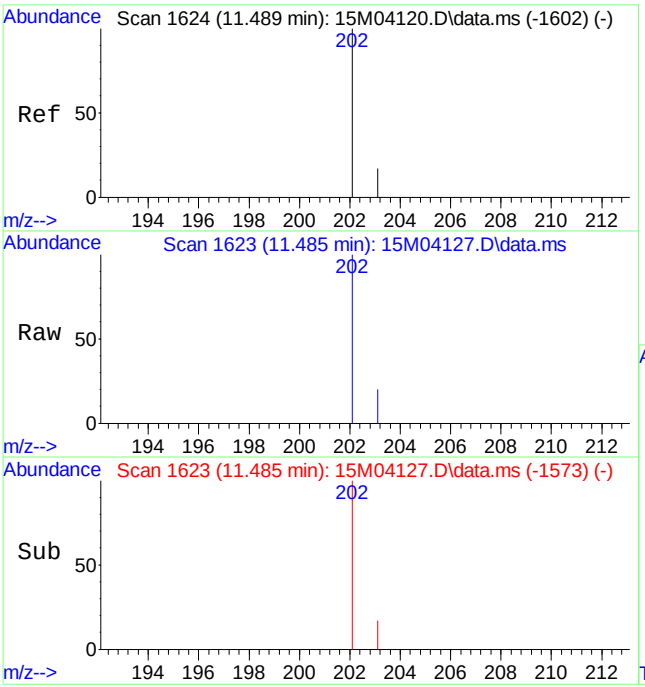


#12
Phenanthrene
Concen: 0.0795 ug/mL
RT: 9.971 min Scan# 1300
Delta R.T. -0.016 min
Lab File: 15M04127.D
Acq: 24 Mar 2011 6:14 pm

Tgt Ion:178 Resp: 9868

Ion	Ratio	Lower	Upper
178	100		
176	19.1	11.4	26.6

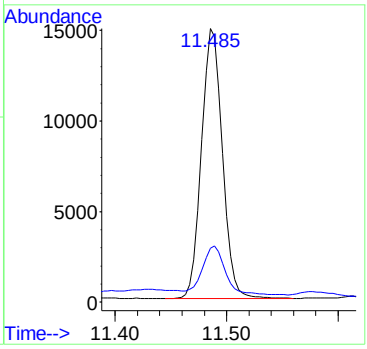


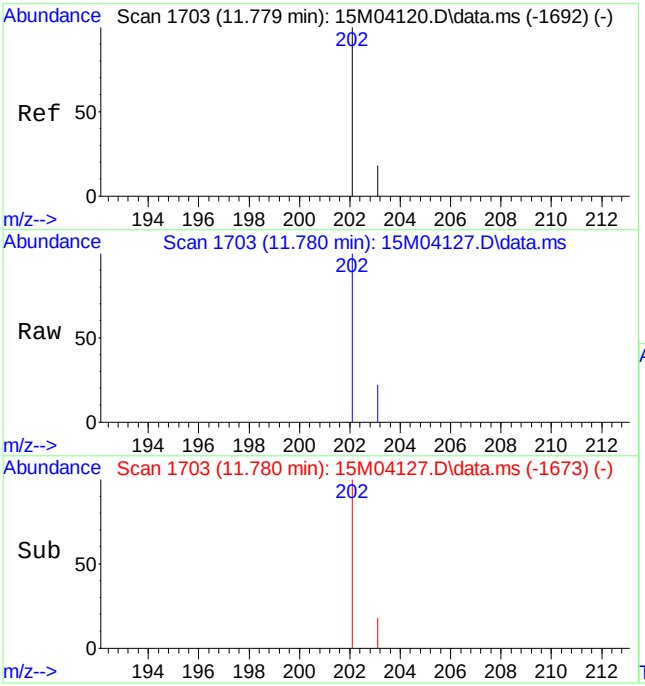


#14
Fluoranthene
Concen: 0.1506 ug/mL
RT: 11.485 min Scan# 1623
Delta R.T. -0.014 min
Lab File: 15M04127.D
Acq: 24 Mar 2011 6:14 pm

Tgt Ion:202 Resp: 19413

Ion	Ratio	Lower	Upper
202	100		
203	19.9	10.4	24.4

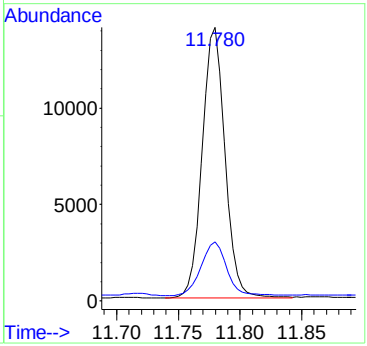


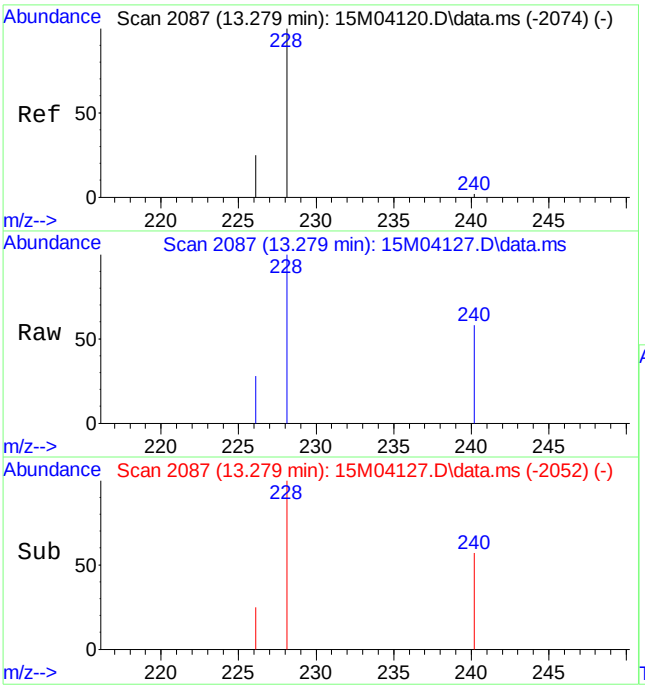


#16
Pyrene
Concen: 0.1196 ug/mL
RT: 11.780 min Scan# 1703
Delta R.T. -0.014 min
Lab File: 15M04127.D
Acq: 24 Mar 2011 6:14 pm

Tgt Ion:202 Resp: 18067

Ion	Ratio	Lower	Upper
202	100		
203	22.0	11.0	25.6

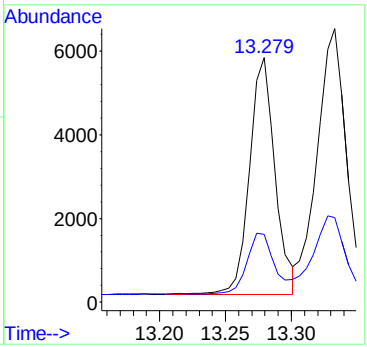


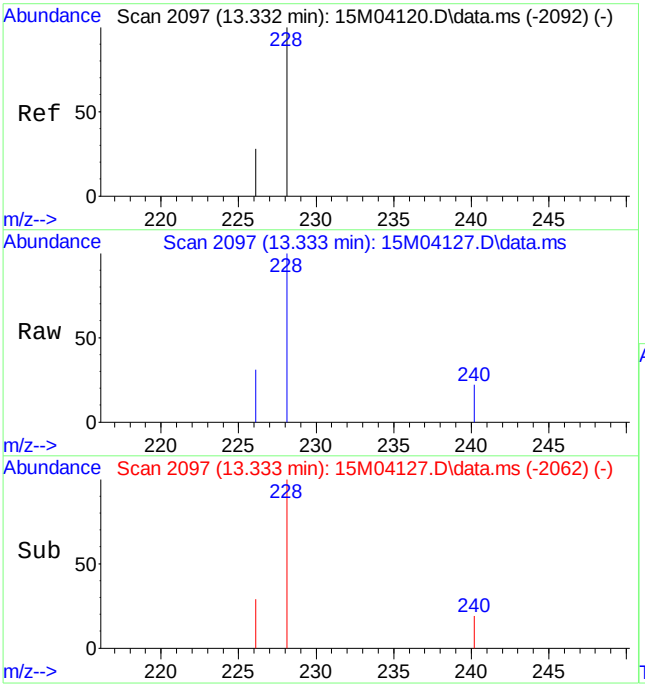


#18
Benzo[a]anthracene
Concen: 0.0576 ug/mL
RT: 13.279 min Scan# 2087
Delta R.T. -0.011 min
Lab File: 15M04127.D
Acq: 24 Mar 2011 6:14 pm

Tgt Ion:228 Resp: 7591

Ion	Ratio	Lower	Upper
228	100		
226	26.4	15.7	36.5

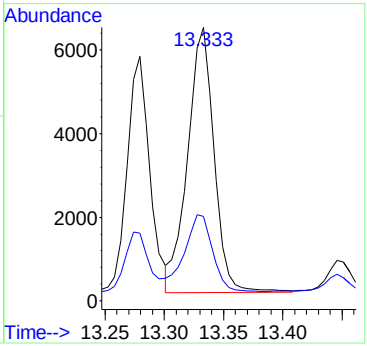


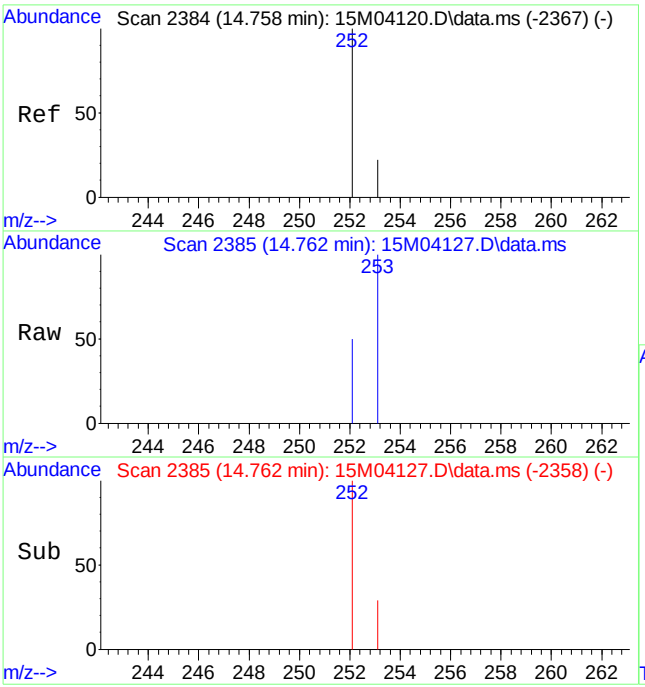


#19
Chrysene
Concen: 0.0746 ug/mL
RT: 13.333 min Scan# 2097
Delta R.T. -0.011 min
Lab File: 15M04127.D
Acq: 24 Mar 2011 6:14 pm

Tgt Ion:228 Resp: 9818

Ion	Ratio	Lower	Upper
228	100		
226	30.8	17.0	39.8

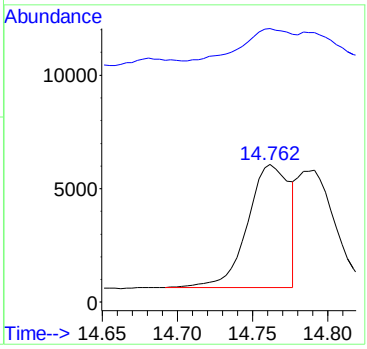


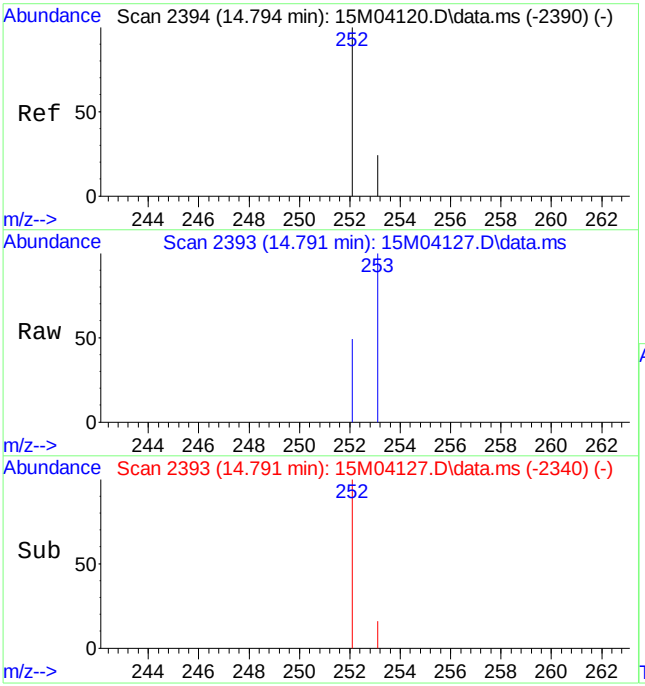


#21
Benzo[b]fluoranthene
Concen: 0.0704 ug/mL
RT: 14.762 min Scan# 2385
Delta R.T. -0.015 min
Lab File: 15M04127.D
Acq: 24 Mar 2011 6:14 pm

Tgt Ion:252 Resp: 10613

Ion	Ratio	Lower	Upper
252	100		
253	31.8	22.8	53.2

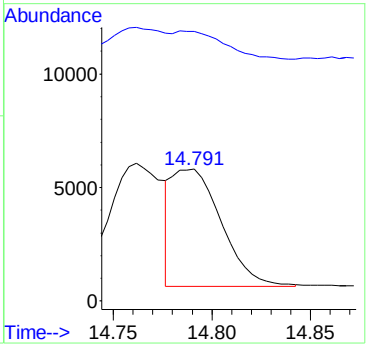


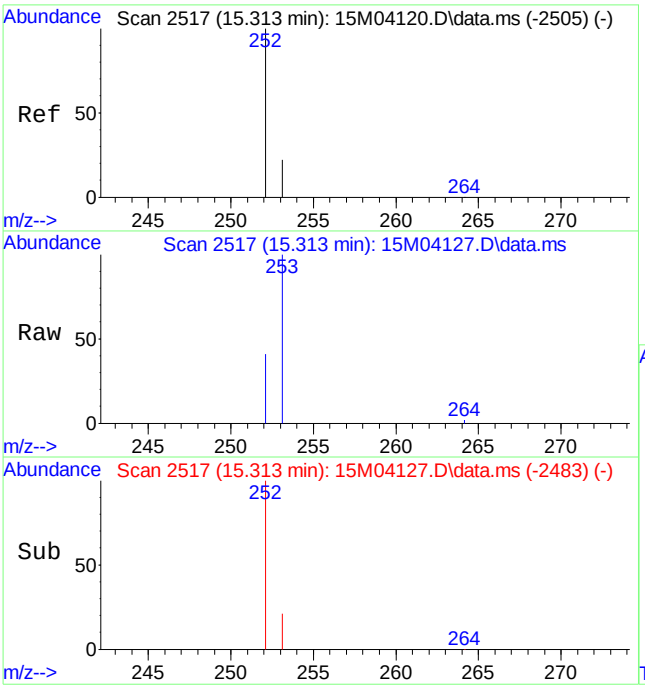


#22
Benzo[k]fluoranthene
Concen: 0.0638 ug/mL m
RT: 14.791 min Scan# 2393
Delta R.T. -0.018 min
Lab File: 15M04127.D
Acq: 24 Mar 2011 6:14 pm

Tgt Ion:252 Resp: 8976

Ion	Ratio	Lower	Upper
252	100		
253	37.7	23.0	53.6

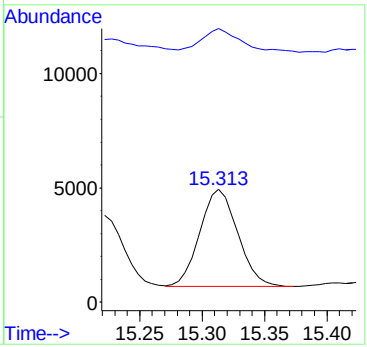


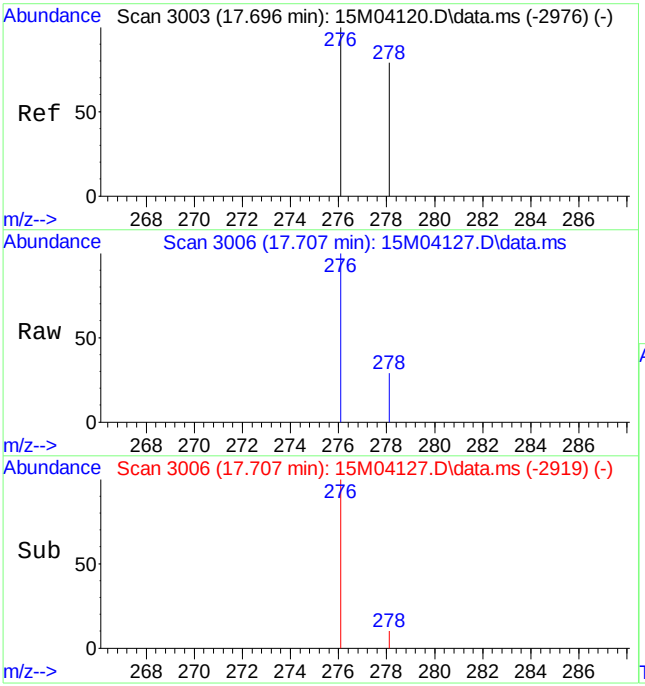


#23
Benzo[a]pyrene
Concen: 0.0635 ug/mL
RT: 15.313 min Scan# 2517
Delta R.T. -0.016 min
Lab File: 15M04127.D
Acq: 24 Mar 2011 6:14 pm

Tgt Ion:252 Resp: 8977

Ion	Ratio	Lower	Upper
252	100		
253	24.5	25.2	58.8#

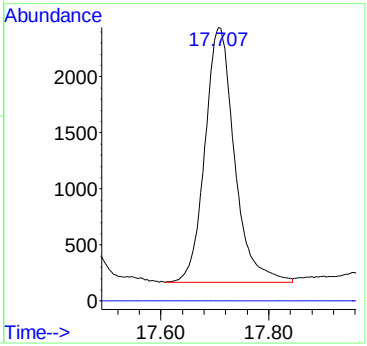


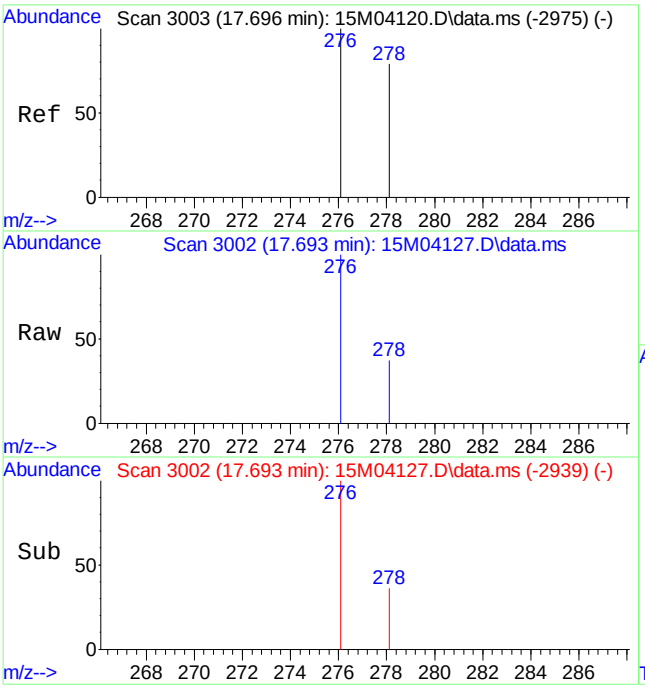


#24
Indeno[1,2,3-cd]pyrene
Concen: 0.0505 ug/mL
RT: 17.707 min Scan# 3006
Delta R.T. -0.018 min
Lab File: 15M04127.D
Acq: 24 Mar 2011 6:14 pm

Tgt Ion:276 Resp: 8641

Ion	Ratio	Lower	Upper
276	100		
277	0.0	0.0	0.0

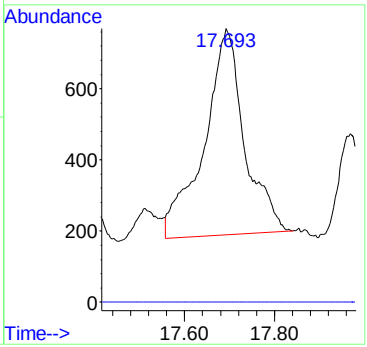


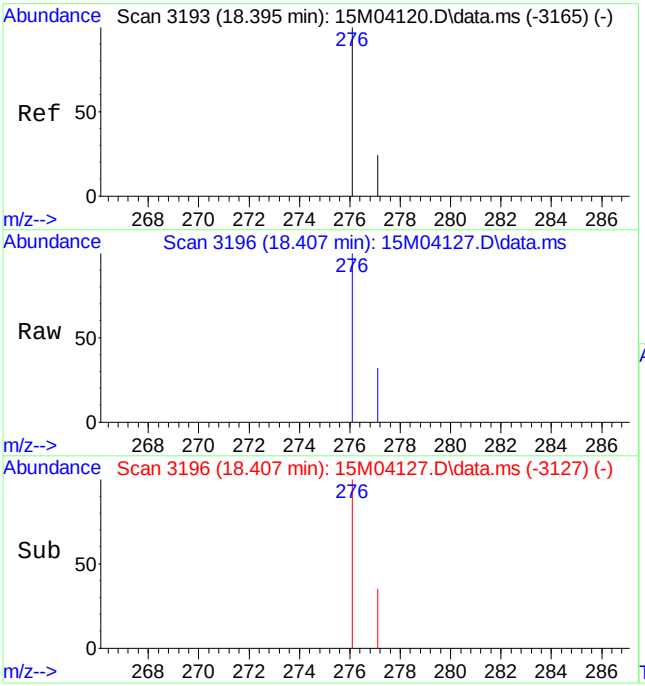


#25
Dibenz[ah]anthracene
Concen: 0.0260 ug/mL
RT: 17.693 min Scan# 3002
Delta R.T. -0.029 min
Lab File: 15M04127.D
Acq: 24 Mar 2011 6:14 pm

Tgt Ion:278 Resp: 3621

Ion	Ratio	Lower	Upper
278	100		
279	0.0	0.0	0.0

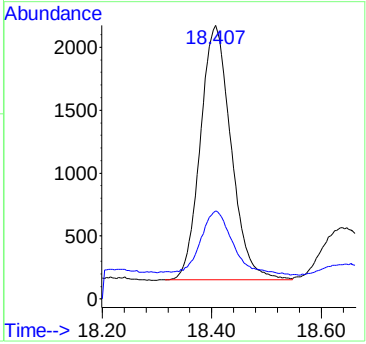




#26
Benzo[ghi]perylene
Concen: 0.0550 ug/mL
RT: 18.407 min Scan# 3196
Delta R.T. -0.018 min
Lab File: 15M04127.D
Acq: 24 Mar 2011 6:14 pm

Tgt Ion:276 Resp: 7869

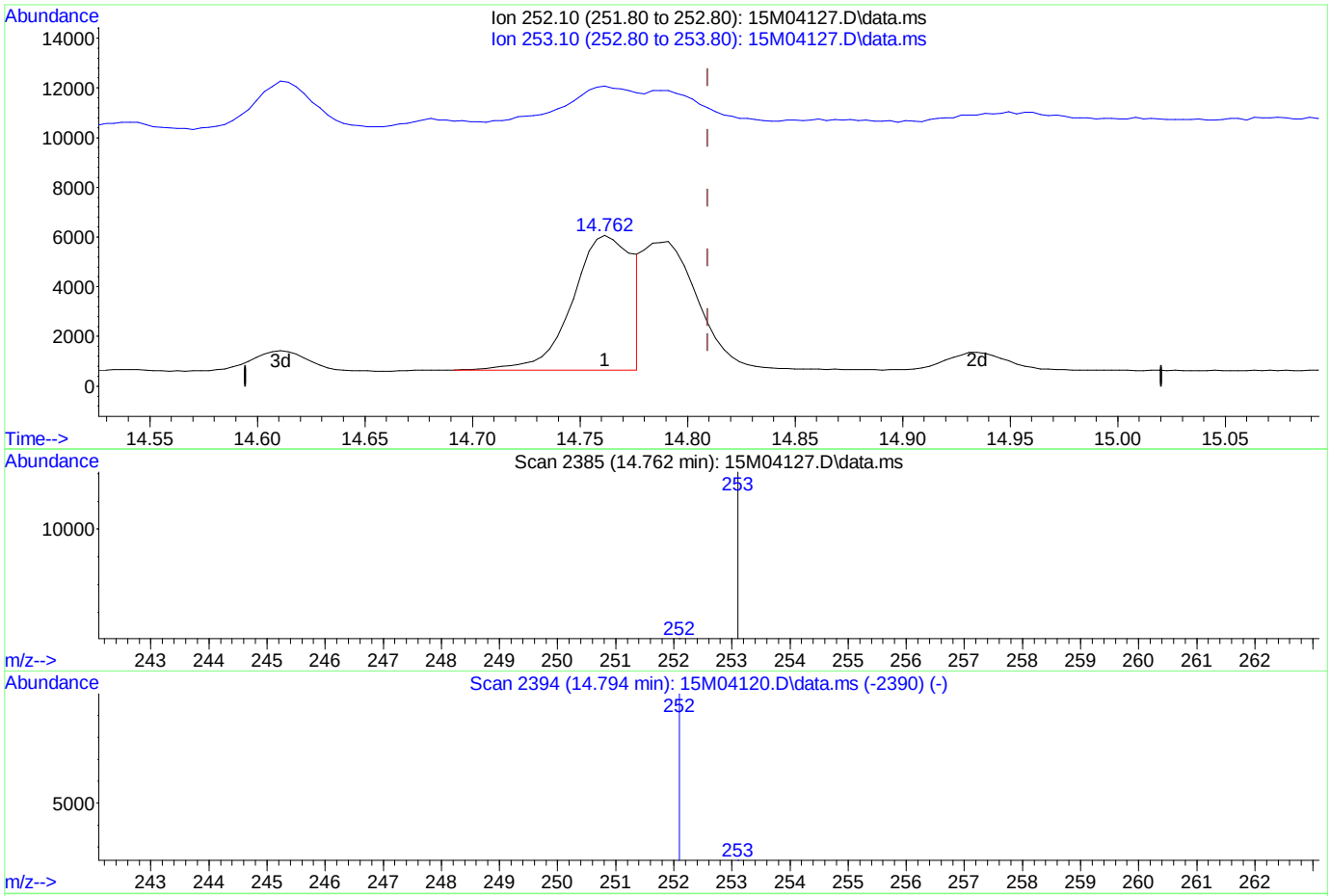
Ion	Ratio	Lower	Upper
276	100		
277	25.4	14.5	33.7



Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04127.D
Acq On : 24 Mar 2011 6:14 pm
Operator : CAA
Sample : L11030669-01 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 9 Sample Multiplier: 2

Quant Time: Mar 25 07:06:16 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration



(22) Benzo[k]fluoranthene

14.762min (-0.048) 0.08 ug/mL

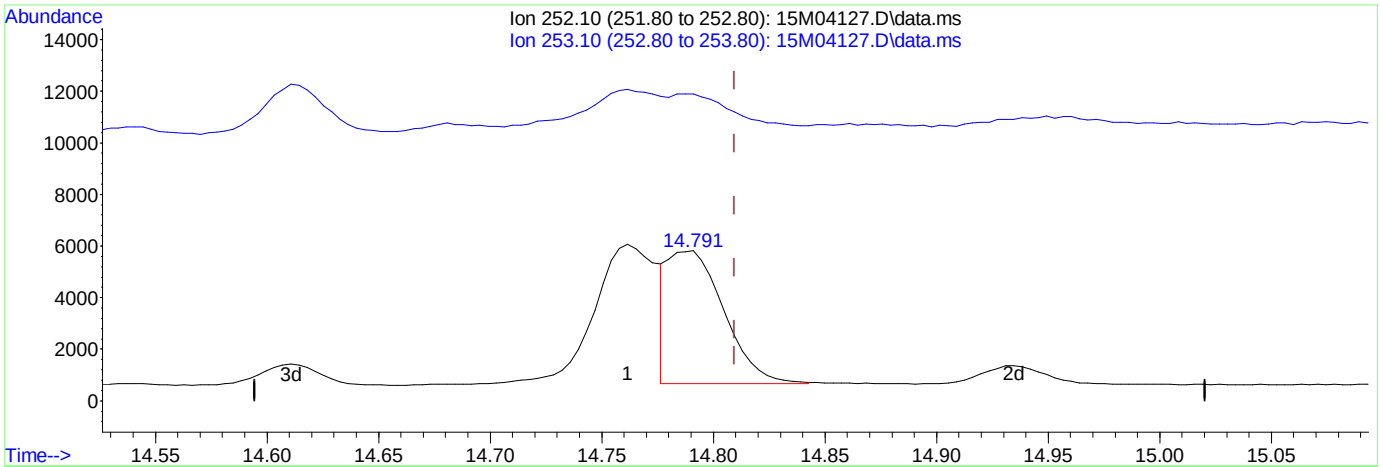
response 10613

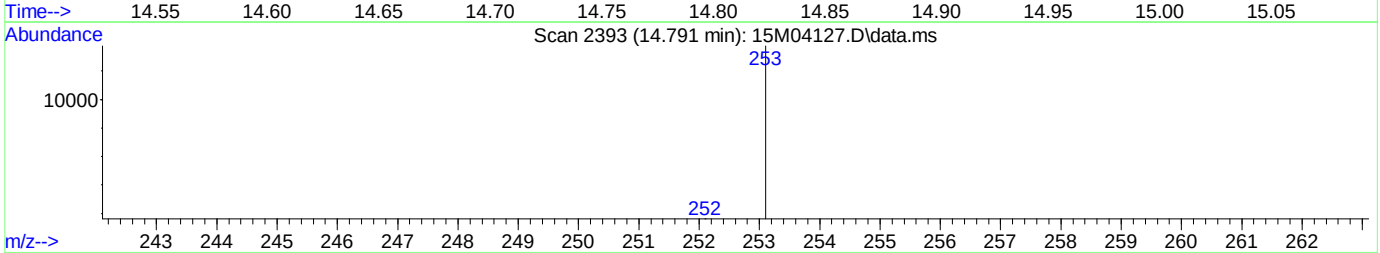
Ion	Exp%	Act%
252.10	100	100
253.10	38.30	31.85
0.00	0.00	0.00
0.00	0.00	0.00

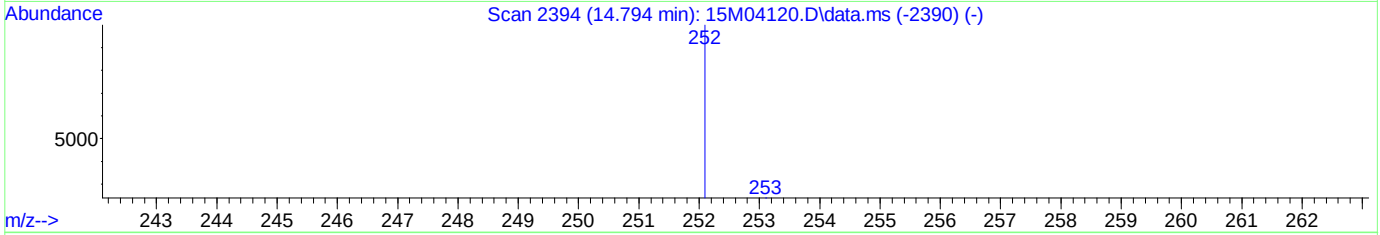
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04127.D
Acq On : 24 Mar 2011 6:14 pm
Operator : CAA
Sample : L11030669-01 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 9 Sample Multiplier: 2

Quant Time: Mar 25 07:06:16 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration







TIC: 15M04127.D\data.ms

(22) Benzo[k]fluoranthene

14.791min (-0.018) 0.06 ug/mL mint

response 8976

Ion	Exp%	Act%
252.10	100	100
253.10	38.30	37.66
0.00	0.00	0.00
0.00	0.00	0.00

Analyst: 03/25/2011 07:43 Supervisor: 03/25/2011 09:23

#3 - Improperly integrated isomers and/or coeluting compounds

PAHQUANT.M Fri Mar 25 07:10:07 2011

Page: 1

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04128.D
Acq On : 24 Mar 2011 6:42 pm
Operator : CAA
Sample : L11030669-02 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 10 Sample Multiplier: 2

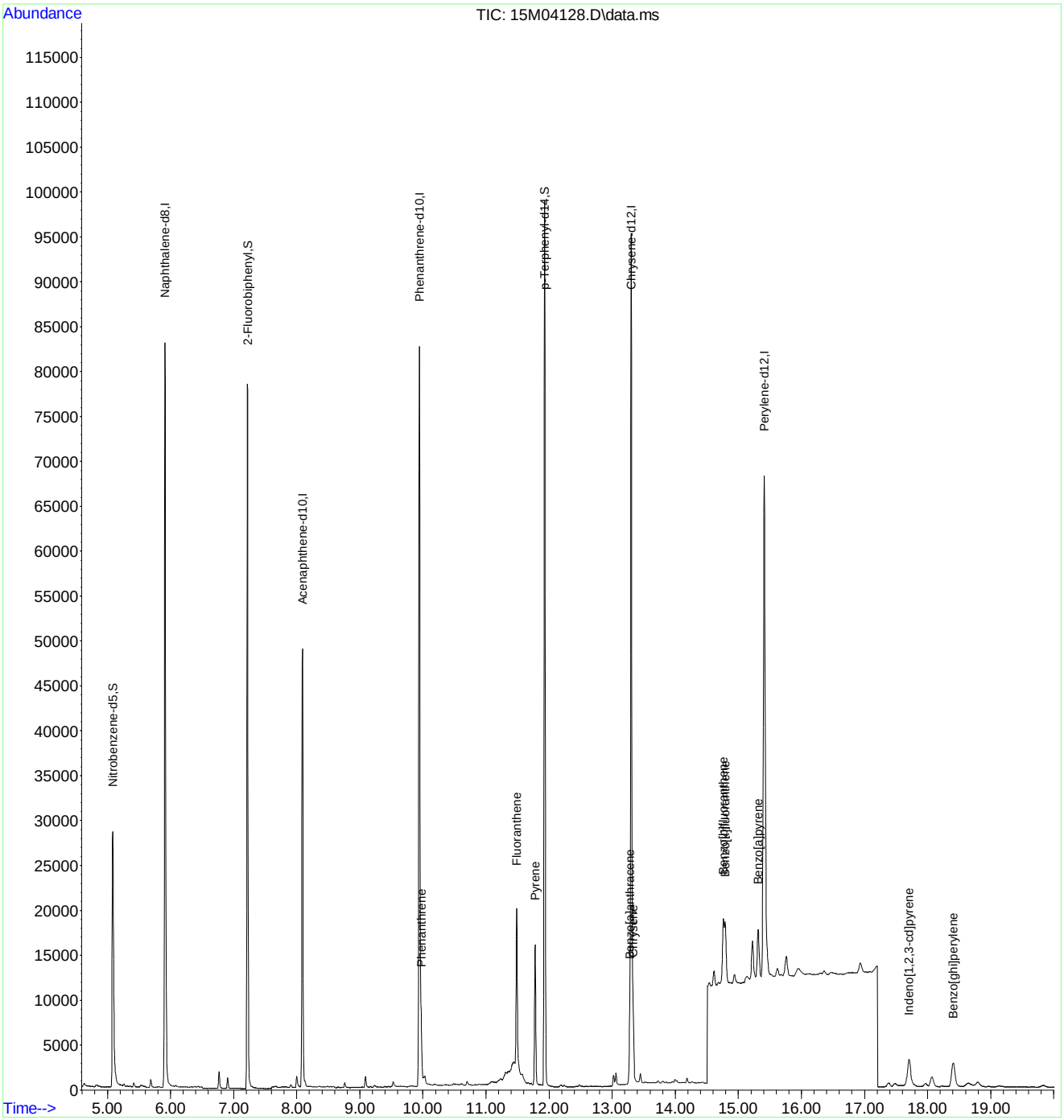
Quant Time: Mar 25 07:10:18 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration

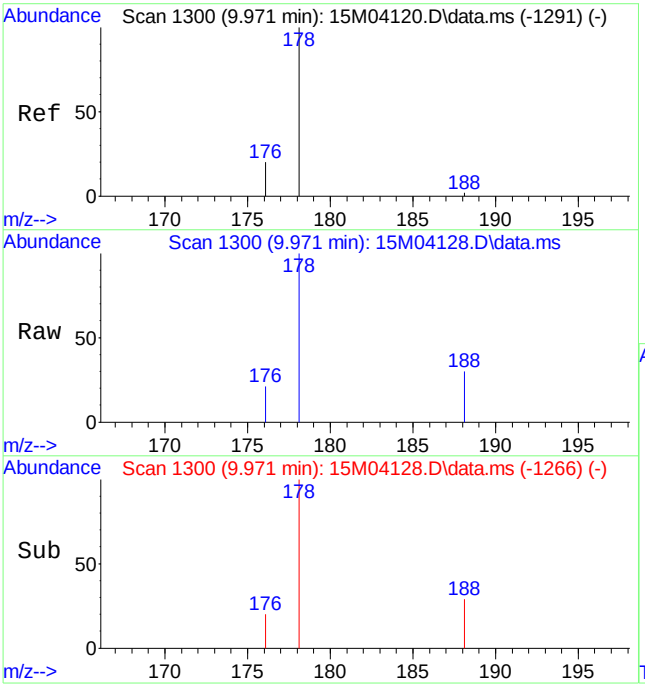
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8	5.910	136	111839	1.00 ug/mL	-0.01
6) Acenaphthene-d10	8.093	164	60101	1.00 ug/mL	-0.01
11) Phenanthrene-d10	9.944	188	102257	1.00 ug/mL	-0.01
15) Chrysene-d12	13.301	240	122359	1.00 ug/mL	-0.01
20) Perylene-d12	15.410	264	120961	1.00 ug/mL	-0.02
System Monitoring Compounds					
2) Nitrobenzene-d5	5.085	82	31908	1.67 ug/mL	-0.02
Spiked Amount 2.500	Range 23 - 120		Recovery	= 66.80%	
7) 2-Fluorobiphenyl	7.220	172	70884	1.79 ug/mL	-0.02
Spiked Amount 2.500	Range 30 - 115		Recovery	= 71.60%	
17) p-Terphenyl-d14	11.931	244	104332	2.58 ug/mL	-0.01
Spiked Amount 2.500	Range 18 - 137		Recovery	= 103.20%	
Target Compounds					Qvalue
12) Phenanthrene	9.971	178	7351	0.0640 ug/mL	99
14) Fluoranthene	11.485	202	20205	0.1694 ug/mL#	58
16) Pyrene	11.780	202	17449	0.1238 ug/mL	94
18) Benzo[a]anthracene	13.279	228	6879	0.0559 ug/mL	97
19) Chrysene	13.333	228	9892	0.0805 ug/mL	95
21) Benzo[b]fluoranthene	14.761	252	11076	0.0799 ug/mL	79
22) Benzo[k]fluoranthene	14.787	252	9724m	0.0752 ug/mL	
23) Benzo[a]pyrene	15.313	252	9347	0.0719 ug/mL	74
24) Indeno[1,2,3-cd]pyrene	17.707	276	9122	0.0579 ug/mL#	100
26) Benzo[ghi]perylene	18.407	276	8448	0.0642 ug/mL	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04128.D
Acq On : 24 Mar 2011 6:42 pm
Operator : CAA
Sample : L11030669-02 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 10 Sample Multiplier: 2

Quant Time: Mar 25 07:10:18 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration

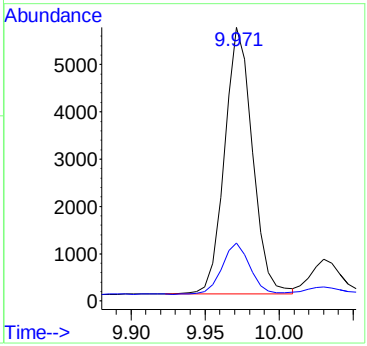


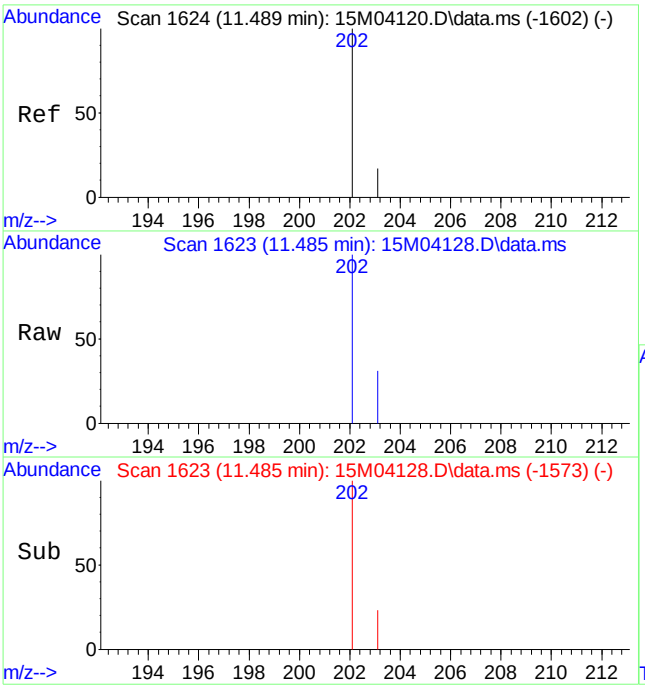


#12
Phenanthrene
Concen: 0.0640 ug/mL
RT: 9.971 min Scan# 1300
Delta R.T. -0.016 min
Lab File: 15M04128.D
Acq: 24 Mar 2011 6:42 pm

Tgt Ion:178 Resp: 7351

Ion	Ratio	Lower	Upper
178	100		
176	19.3	11.4	26.6

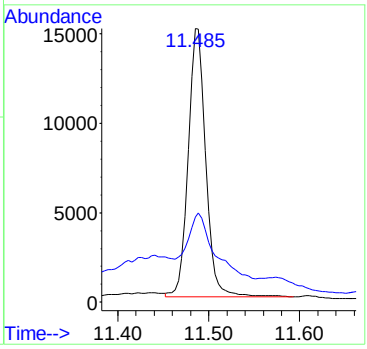


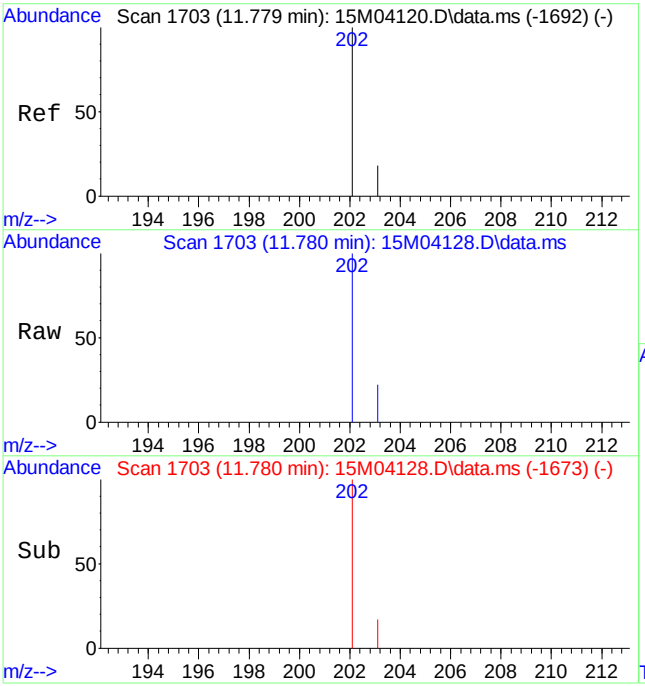


#14
Fluoranthene
Concen: 0.1694 ug/mL
RT: 11.485 min Scan# 1623
Delta R.T. -0.014 min
Lab File: 15M04128.D
Acq: 24 Mar 2011 6:42 pm

Tgt Ion:202 Resp: 20205

Ion	Ratio	Lower	Upper
202	100		
203	35.7	10.4	24.4#

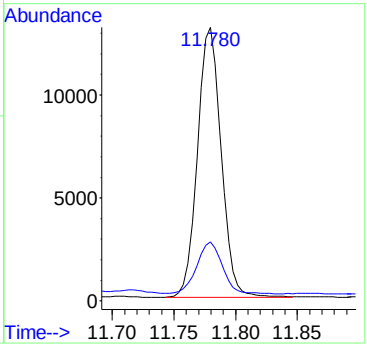


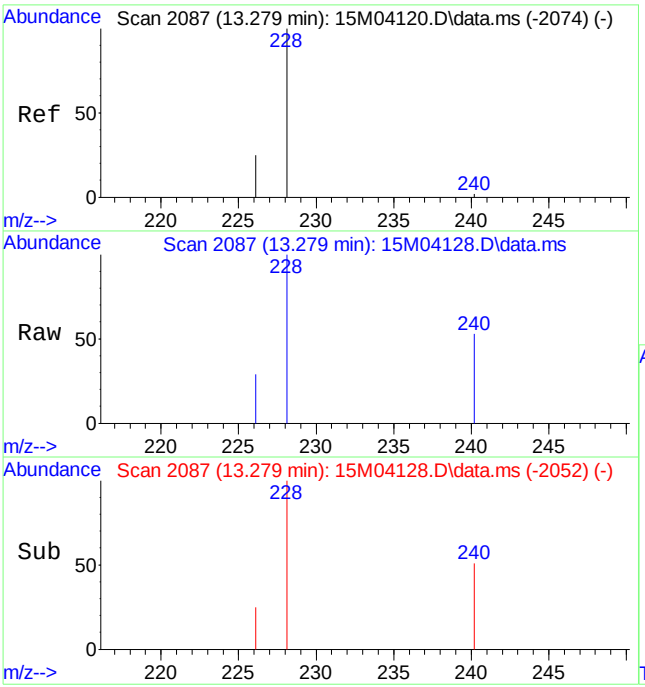


#16
Pyrene
Concen: 0.1238 ug/mL
RT: 11.780 min Scan# 1703
Delta R.T. -0.015 min
Lab File: 15M04128.D
Acq: 24 Mar 2011 6:42 pm

Tgt Ion:202 Resp: 17449

Ion	Ratio	Lower	Upper
202	100		
203	20.8	11.0	25.6

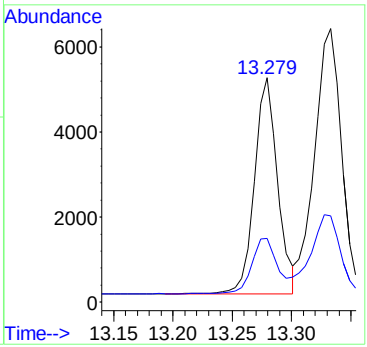


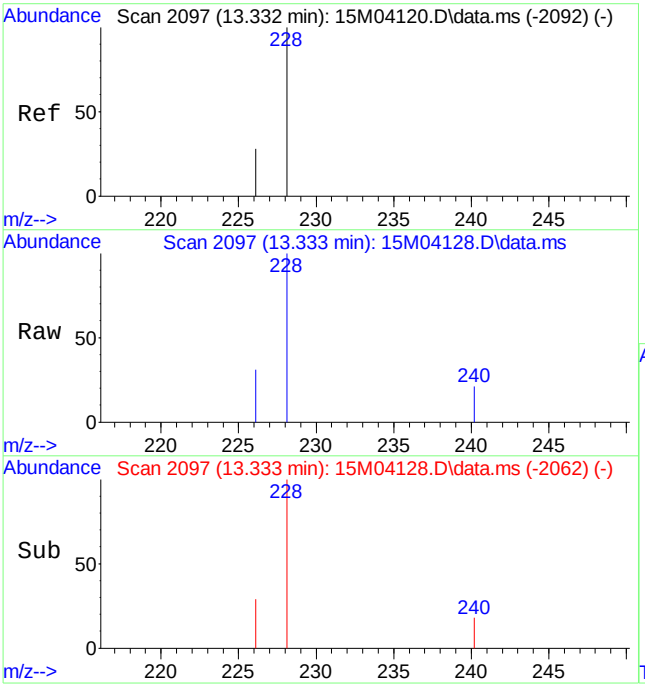


#18
Benzo[a]anthracene
Concen: 0.0559 ug/mL
RT: 13.279 min Scan# 2087
Delta R.T. -0.011 min
Lab File: 15M04128.D
Acq: 24 Mar 2011 6:42 pm

Tgt Ion:228 Resp: 6879

Ion	Ratio	Lower	Upper
228	100		
226	27.7	15.7	36.5

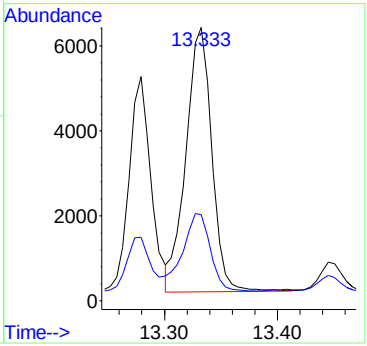


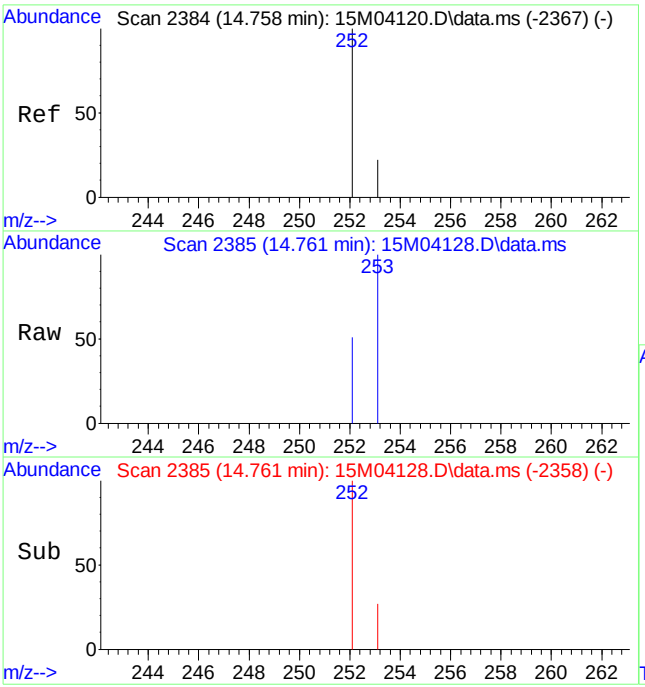


#19
Chrysene
Concen: 0.0805 ug/mL
RT: 13.333 min Scan# 2097
Delta R.T. -0.011 min
Lab File: 15M04128.D
Acq: 24 Mar 2011 6:42 pm

Tgt Ion:228 Resp: 9892

Ion	Ratio	Lower	Upper
228	100		
226	31.1	17.0	39.8

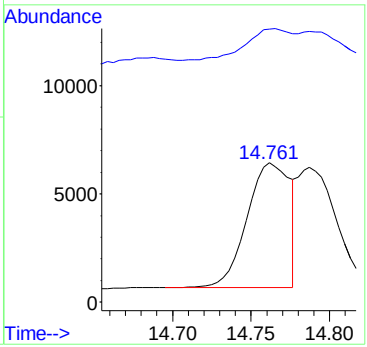


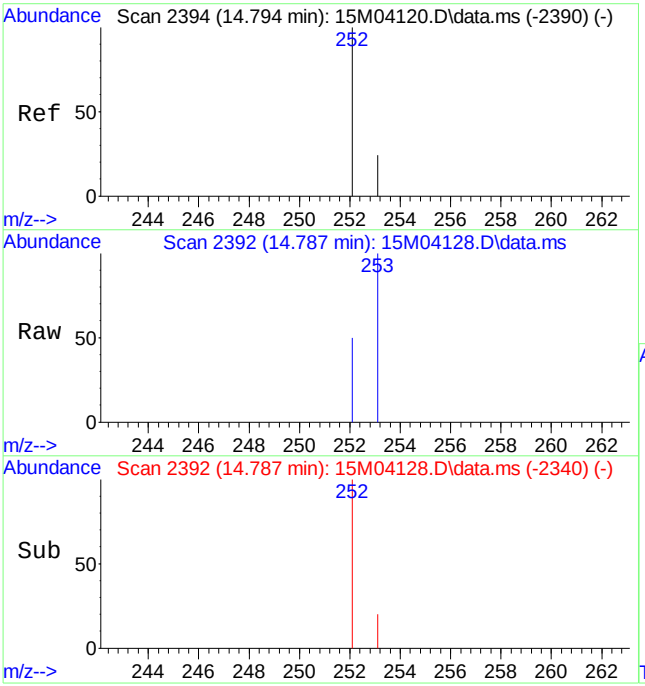


#21
Benzo[b]fluoranthene
Concen: 0.0799 ug/mL
RT: 14.761 min Scan# 2385
Delta R.T. -0.015 min
Lab File: 15M04128.D
Acq: 24 Mar 2011 6:42 pm

Tgt Ion:252 Resp: 11076

Ion	Ratio	Lower	Upper
252	100		
253	25.3	22.8	53.2

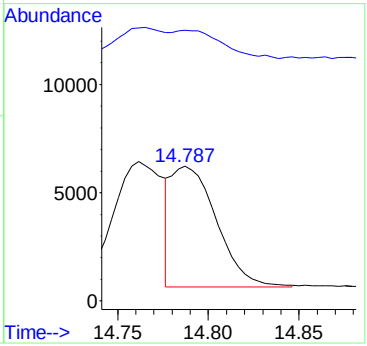


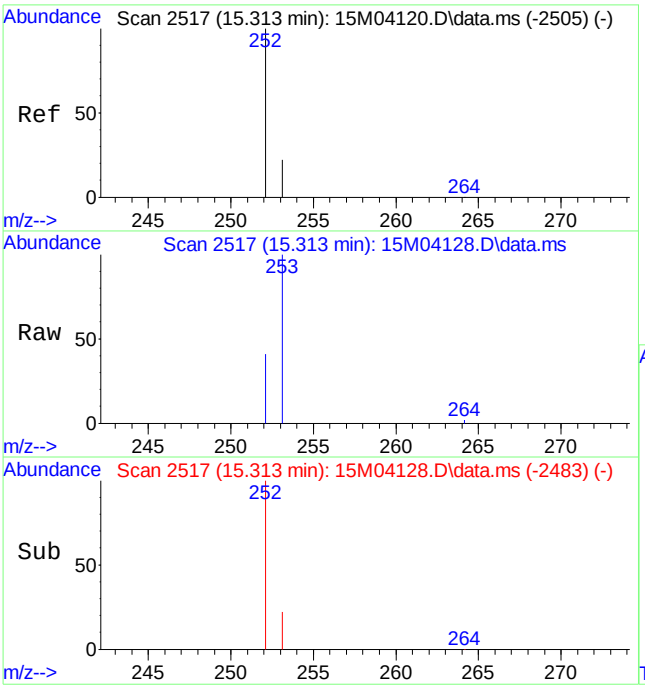


#22
Benzo[k]fluoranthene
Concen: 0.0752 ug/mL m
RT: 14.787 min Scan# 2392
Delta R.T. -0.022 min
Lab File: 15M04128.D
Acq: 24 Mar 2011 6:42 pm

Tgt Ion:252 Resp: 9724

Ion	Ratio	Lower	Upper
252	100		
253	28.8	23.0	53.6

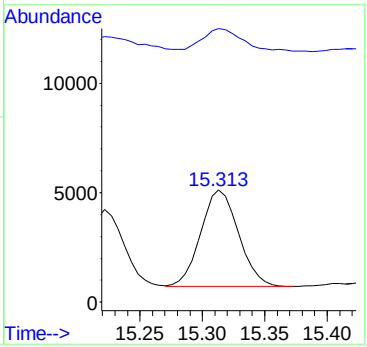


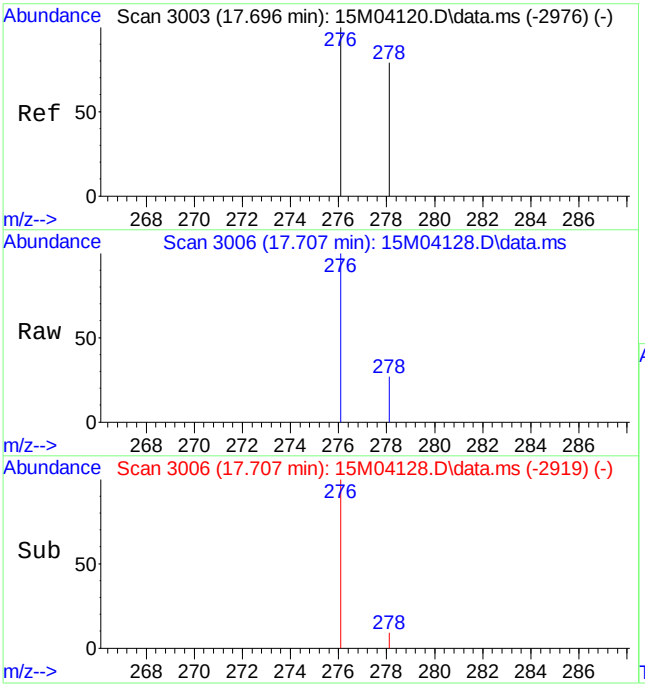


#23
Benzo[a]pyrene
Concen: 0.0719 ug/mL
RT: 15.313 min Scan# 2517
Delta R.T. -0.016 min
Lab File: 15M04128.D
Acq: 24 Mar 2011 6:42 pm

Tgt Ion:252 Resp: 9347

Ion	Ratio	Lower	Upper
252	100		
253	25.7	25.2	58.8

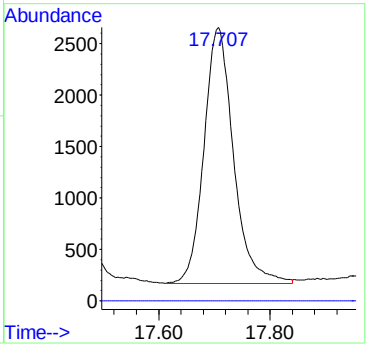


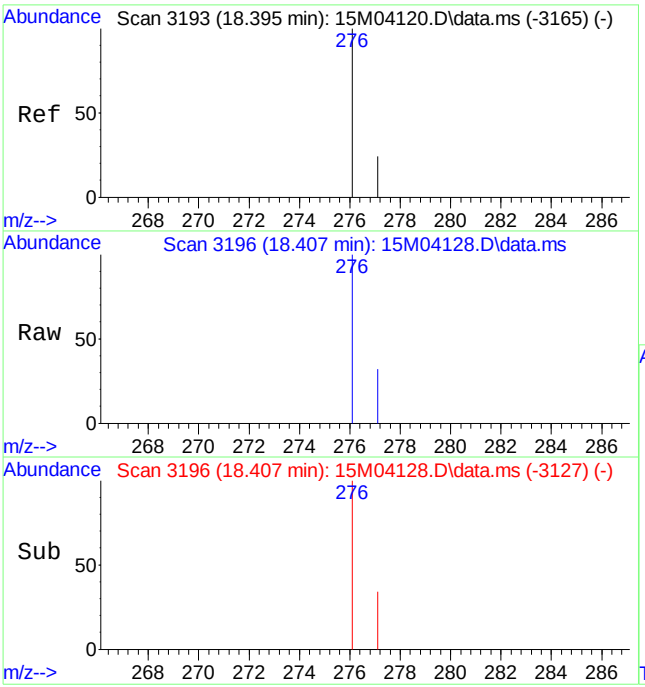


#24
Indeno[1,2,3-cd]pyrene
Concen: 0.0579 ug/mL
RT: 17.707 min Scan# 3006
Delta R.T. -0.018 min
Lab File: 15M04128.D
Acq: 24 Mar 2011 6:42 pm

Tgt Ion:276 Resp: 9122

Ion	Ratio	Lower	Upper
276	100		
277	0.0	0.0	0.0

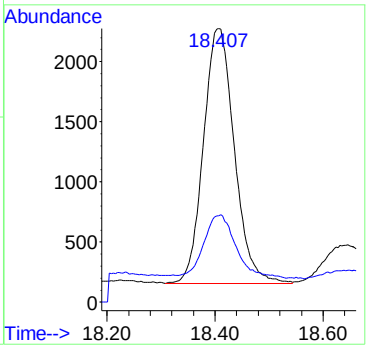




#26
Benzo[ghi]perylene
Concen: 0.0642 ug/mL
RT: 18.407 min Scan# 3196
Delta R.T. -0.018 min
Lab File: 15M04128.D
Acq: 24 Mar 2011 6:42 pm

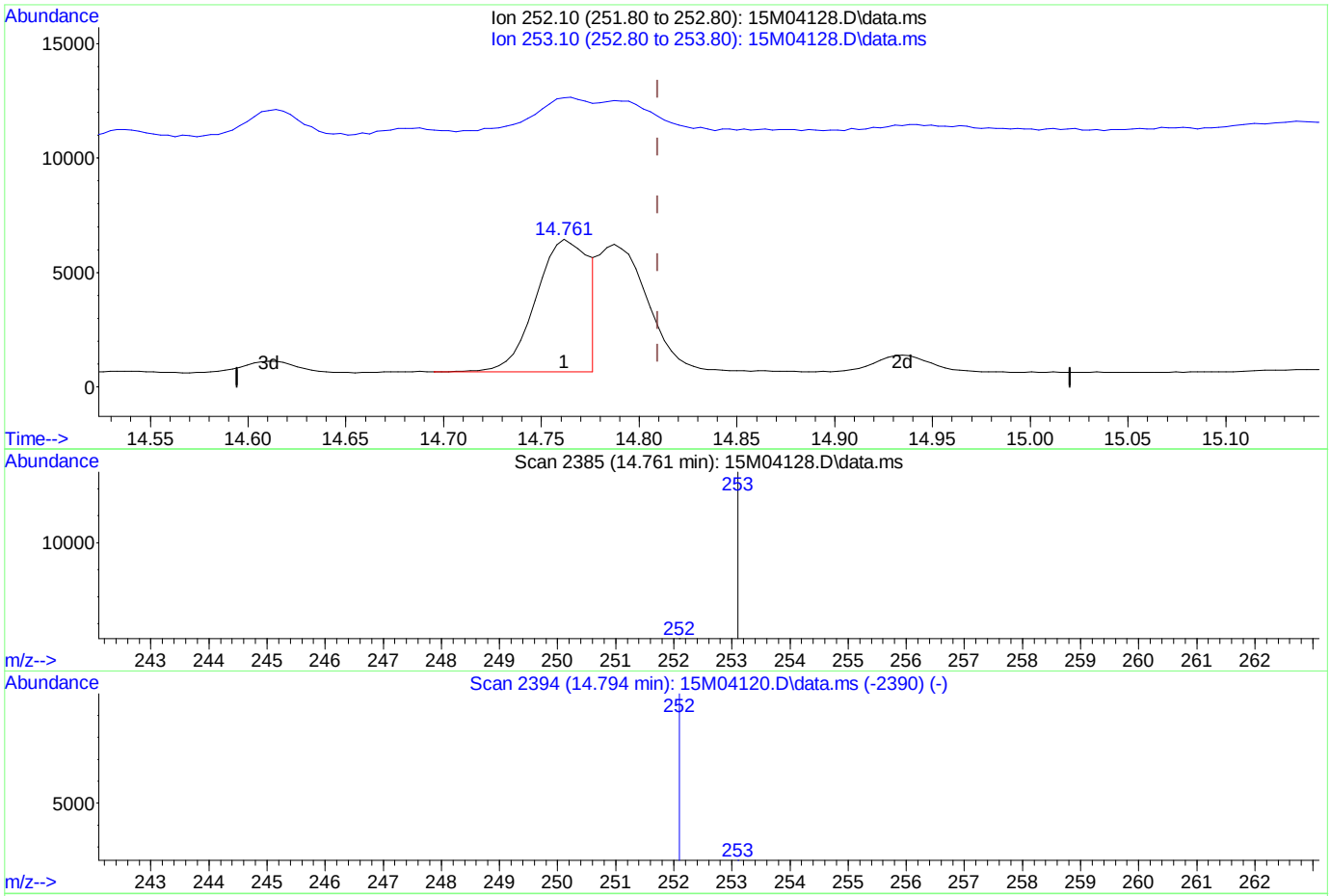
Tgt Ion:276 Resp: 8448

Ion	Ratio	Lower	Upper
276	100		
277	24.9	14.5	33.7



Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04128.D
Acq On : 24 Mar 2011 6:42 pm
Operator : CAA
Sample : L11030669-02 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 10 Sample Multiplier: 2

Quant Time: Mar 25 07:06:18 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration



(22) Benzo[k]fluoranthene

14.761min (-0.048) 0.09 ug/mL

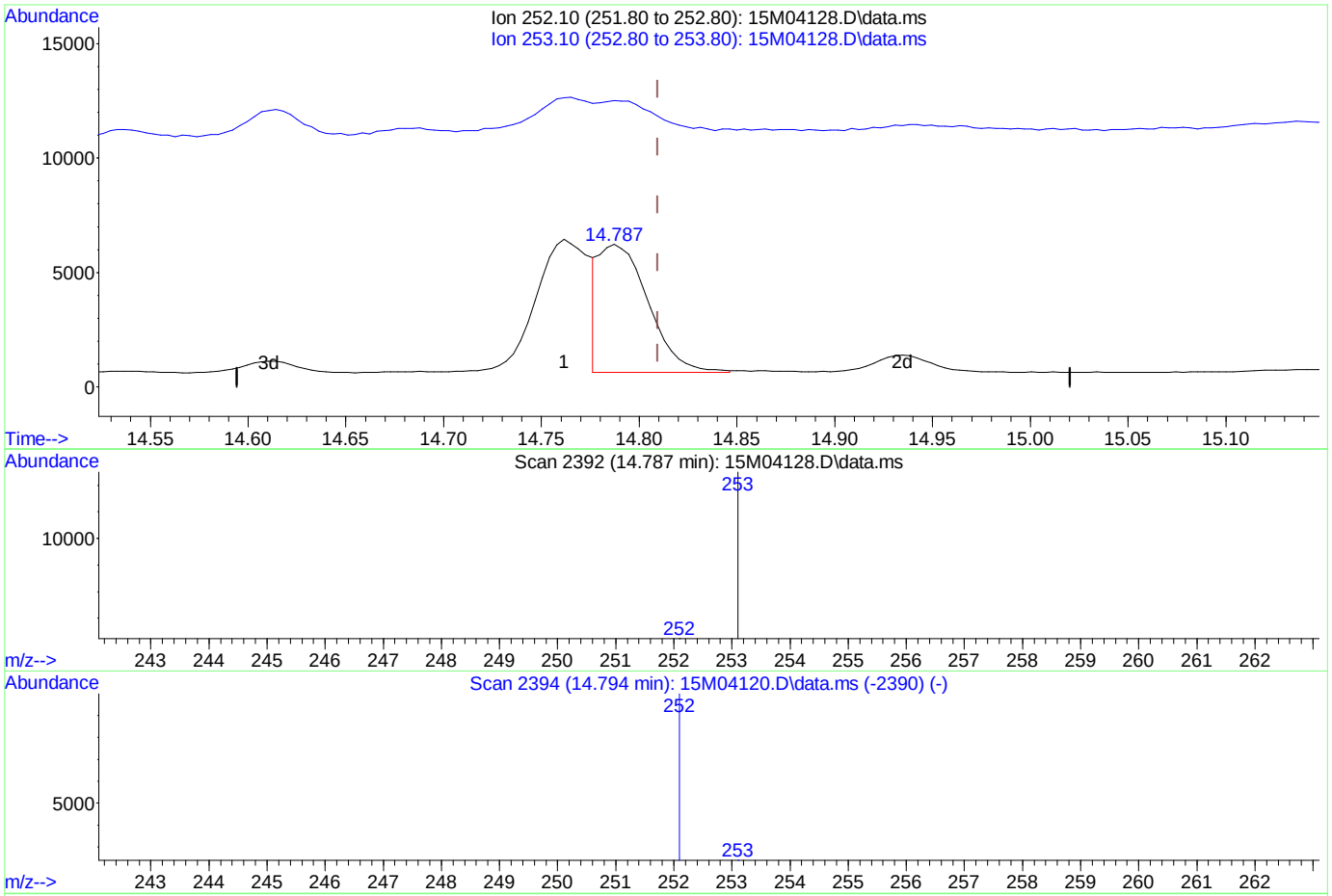
response 11076

Ion	Exp%	Act%
252.10	100	100
253.10	38.30	25.28
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04128.D
Acq On : 24 Mar 2011 6:42 pm
Operator : CAA
Sample : L11030669-02 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 10 Sample Multiplier: 2

Quant Time: Mar 25 07:06:18 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration



(22) Benzo[k]fluoranthene

14.787min (-0.022) 0.08 ug/mL mint

response 9724

Ion	Exp%	Act%
252.10	100	100
253.10	38.30	28.79
0.00	0.00	0.00
0.00	0.00	0.00

Analyst: 03/25/2011 07:43 Supervisor: 03/25/2011 09:23

#3 - Improperly integrated isomers and/or coeluting compounds

PAHQUANT.M Fri Mar 25 07:10:20 2011

Page: 1

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04129.D
Acq On : 24 Mar 2011 7:10 pm
Operator : CAA
Sample : L11030669-03 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 11 Sample Multiplier: 2

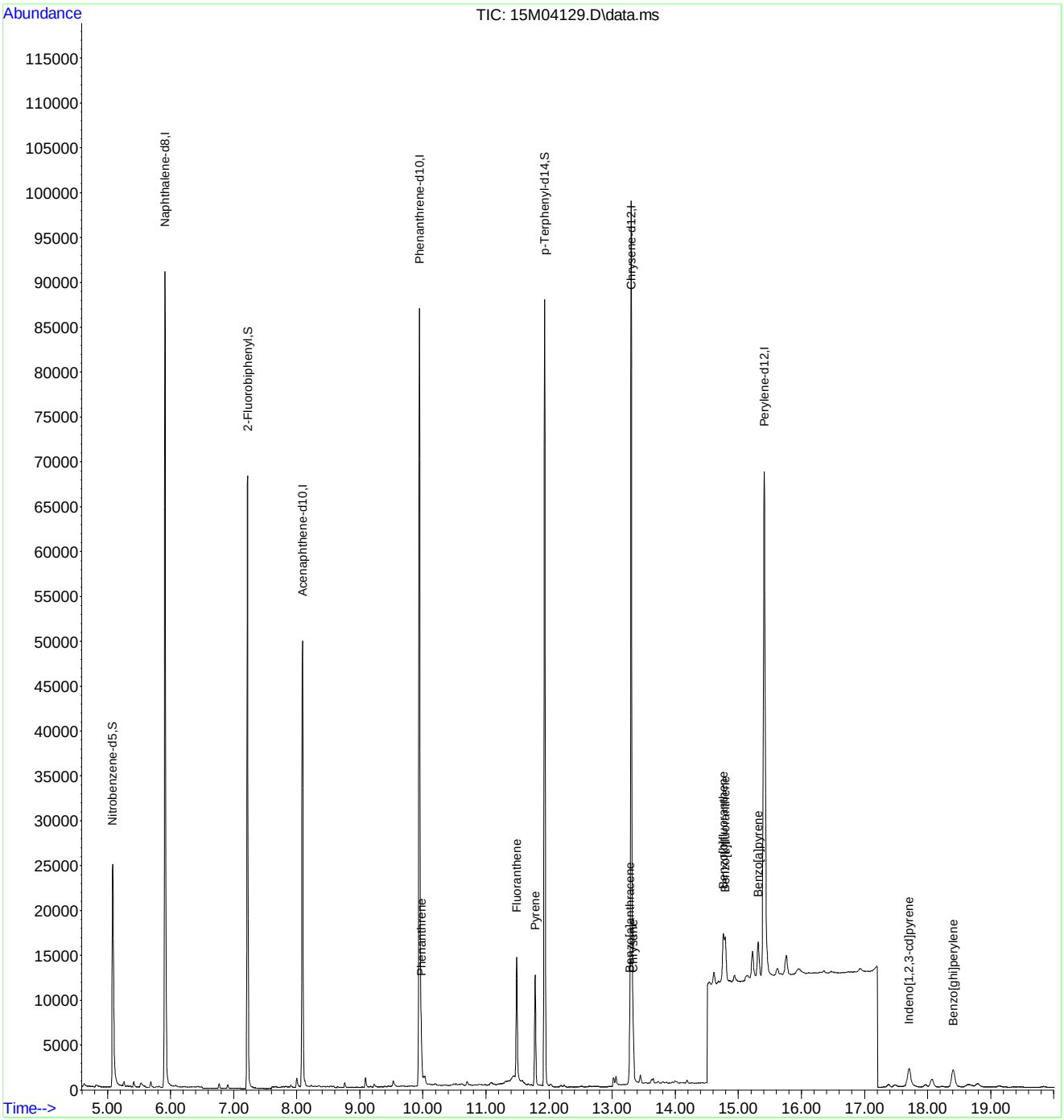
Quant Time: Mar 25 07:10:31 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration

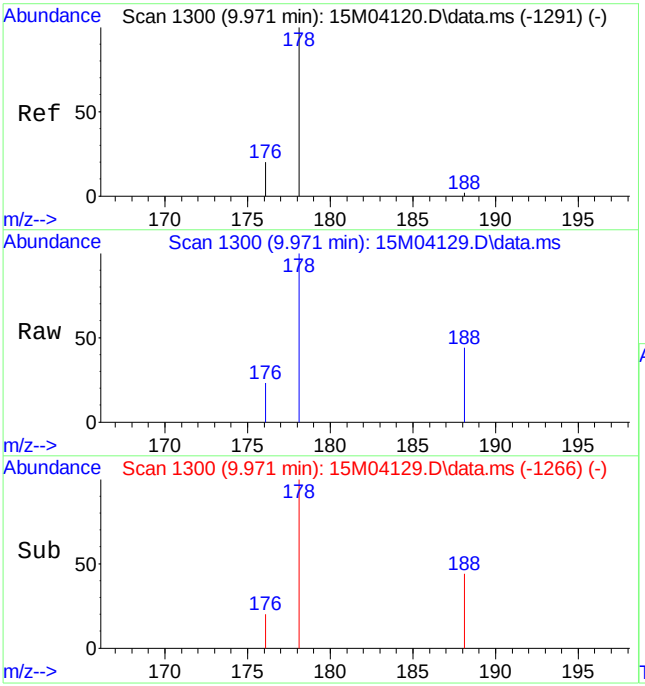
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8	5.910	136	119211	1.00 ug/mL	-0.01
6) Acenaphthene-d10	8.093	164	63385	1.00 ug/mL	-0.01
11) Phenanthrene-d10	9.944	188	107466	1.00 ug/mL	-0.01
15) Chrysene-d12	13.301	240	126827	1.00 ug/mL	-0.01
20) Perylene-d12	15.410	264	124849	1.00 ug/mL	-0.02
System Monitoring Compounds					
2) Nitrobenzene-d5	5.081	82	27282	1.34 ug/mL	-0.03
Spiked Amount 2.500	Range 23 - 120		Recovery	= 53.60%	
7) 2-Fluorobiphenyl	7.220	172	61783	1.48 ug/mL	-0.02
Spiked Amount 2.500	Range 30 - 115		Recovery	= 59.20%	
17) p-Terphenyl-d14	11.931	244	93563	2.24 ug/mL	-0.01
Spiked Amount 2.500	Range 18 - 137		Recovery	= 89.60%	
Target Compounds					Qvalue
12) Phenanthrene	9.971	178	6046	0.0501 ug/mL	98
14) Fluoranthene	11.485	202	15575	0.1242 ug/mL#	82
16) Pyrene	11.780	202	13616	0.0932 ug/mL	94
18) Benzo[a]anthracene	13.279	228	5298	0.0416 ug/mL	94
19) Chrysene	13.333	228	7669	0.0602 ug/mL	94
21) Benzo[b]fluoranthene	14.762	252	9006	0.0629 ug/mL	86
22) Benzo[k]fluoranthene	14.787	252	6139m	0.0460 ug/mL	
23) Benzo[a]pyrene	15.313	252	6751	0.0503 ug/mL	75
24) Indeno[1,2,3-cd]pyrene	17.707	276	6490	0.0399 ug/mL#	100
26) Benzo[ghi]perylene	18.407	276	5946	0.0438 ug/mL	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04129.D
Acq On : 24 Mar 2011 7:10 pm
Operator : CAA
Sample : L11030669-03 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 11 Sample Multiplier: 2

Quant Time: Mar 25 07:10:31 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration

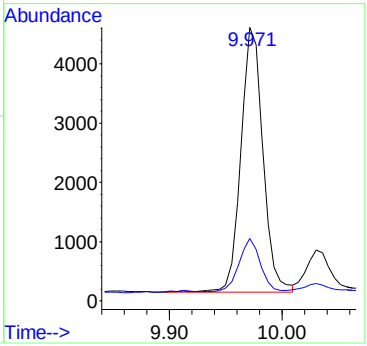


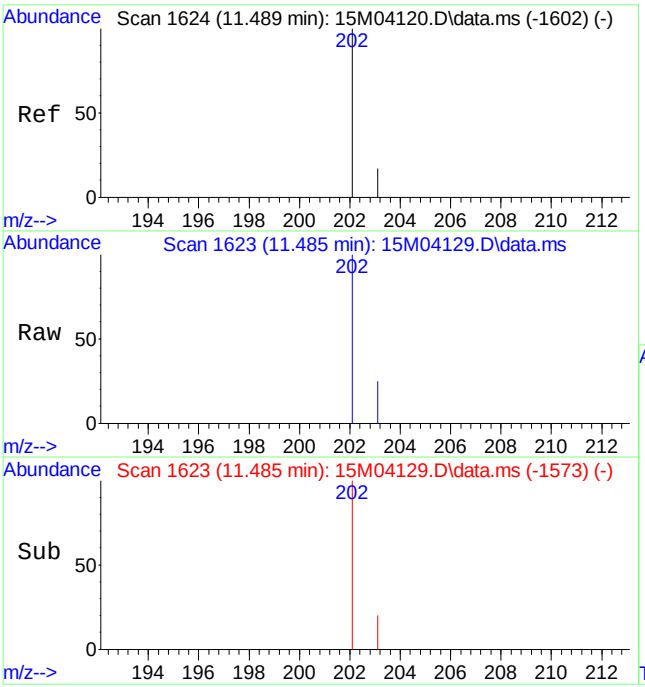


#12
Phenanthrene
Concen: 0.0501 ug/mL
RT: 9.971 min Scan# 1300
Delta R.T. -0.016 min
Lab File: 15M04129.D
Acq: 24 Mar 2011 7:10 pm

Tgt Ion:178 Resp: 6046

Ion	Ratio	Lower	Upper
178	100		
176	19.7	11.4	26.6

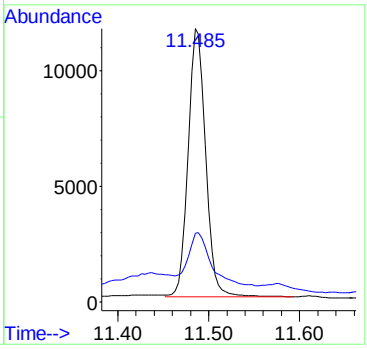


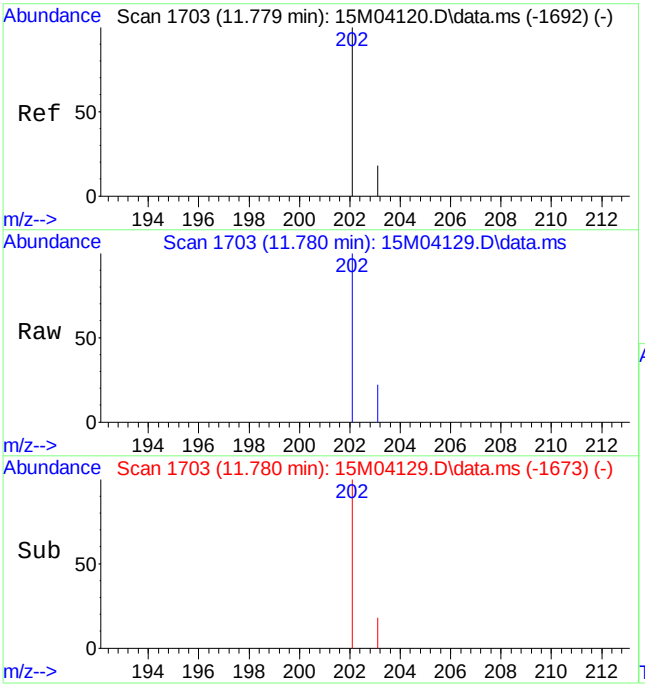


#14
Fluoranthene
Concen: 0.1242 ug/mL
RT: 11.485 min Scan# 1623
Delta R.T. -0.014 min
Lab File: 15M04129.D
Acq: 24 Mar 2011 7:10 pm

Tgt Ion:202 Resp: 15575

Ion	Ratio	Lower	Upper
202	100		
203	25.4	10.4	24.4#

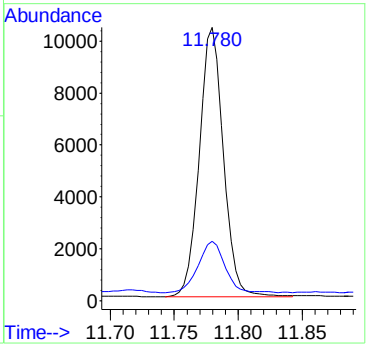


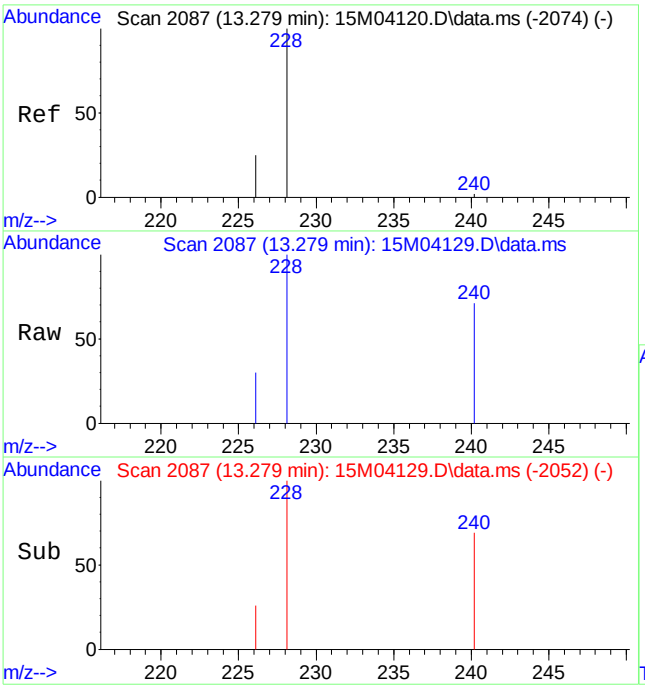


#16
Pyrene
Concen: 0.0932 ug/mL
RT: 11.780 min Scan# 1703
Delta R.T. -0.015 min
Lab File: 15M04129.D
Acq: 24 Mar 2011 7:10 pm

Tgt Ion:202 Resp: 13616

Ion	Ratio	Lower	Upper
202	100		
203	20.8	11.0	25.6

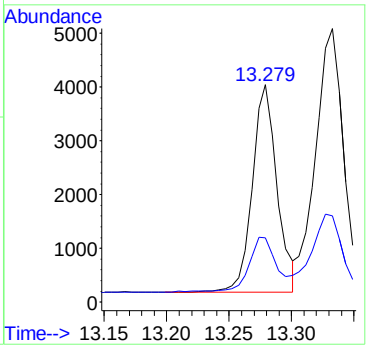


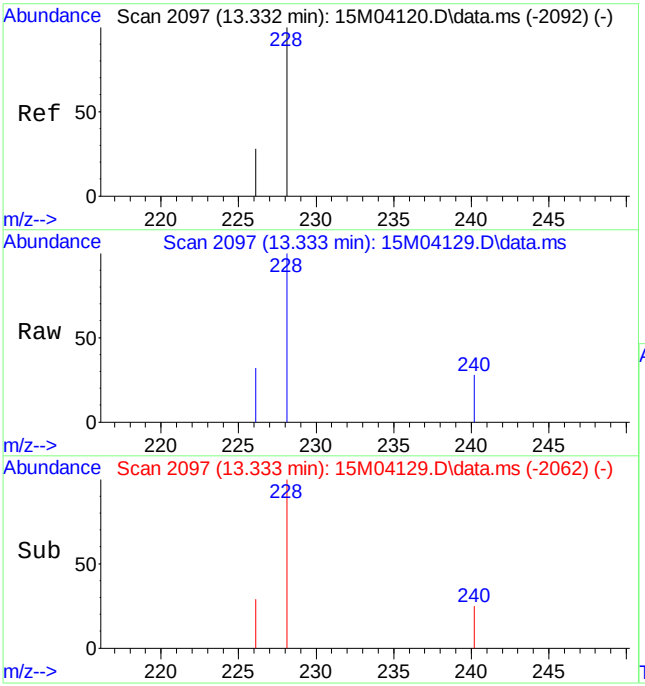


#18
Benzo[a]anthracene
Concen: 0.0416 ug/mL
RT: 13.279 min Scan# 2087
Delta R.T. -0.011 min
Lab File: 15M04129.D
Acq: 24 Mar 2011 7:10 pm

Tgt Ion:228 Resp: 5298

Ion	Ratio	Lower	Upper
228	100		
226	29.1	15.7	36.5

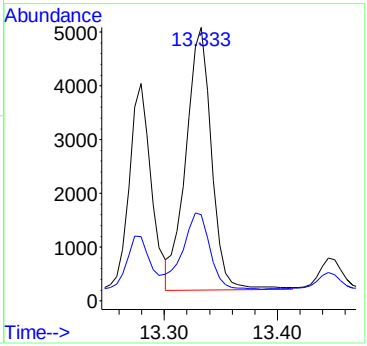


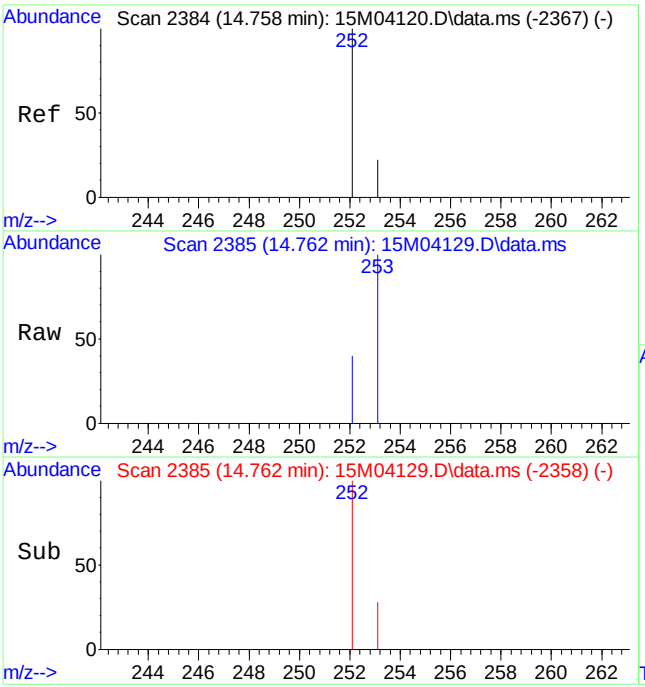


#19
Chrysene
Concen: 0.0602 ug/mL
RT: 13.333 min Scan# 2097
Delta R.T. -0.011 min
Lab File: 15M04129.D
Acq: 24 Mar 2011 7:10 pm

Tgt Ion:228 Resp: 7669

Ion	Ratio	Lower	Upper
228	100		
226	31.8	17.0	39.8

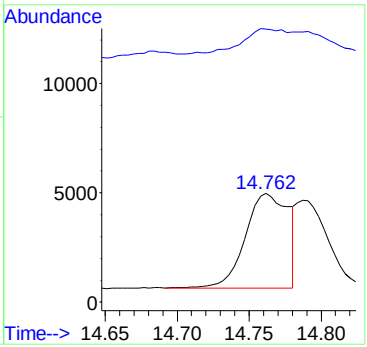


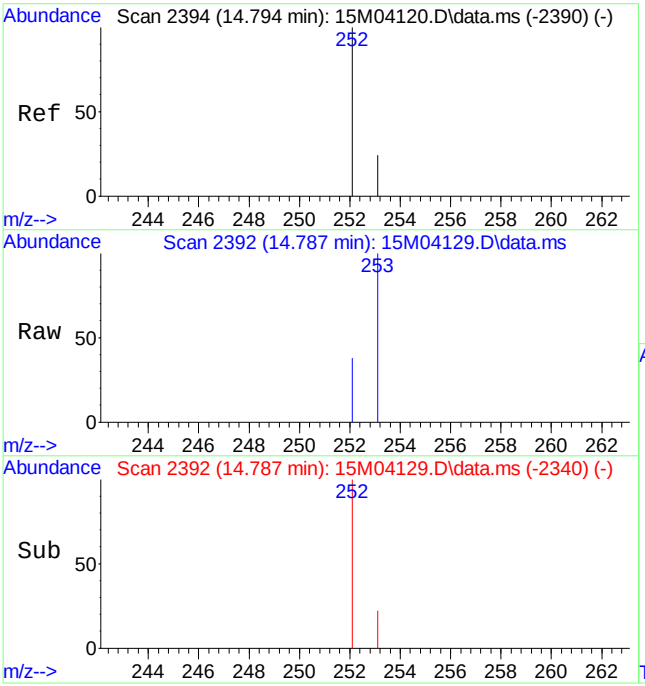


#21
Benzo[b]fluoranthene
Concen: 0.0629 ug/mL
RT: 14.762 min Scan# 2385
Delta R.T. -0.015 min
Lab File: 15M04129.D
Acq: 24 Mar 2011 7:10 pm

Tgt Ion:252 Resp: 9006

Ion	Ratio	Lower	Upper
252	100		
253	29.4	22.8	53.2

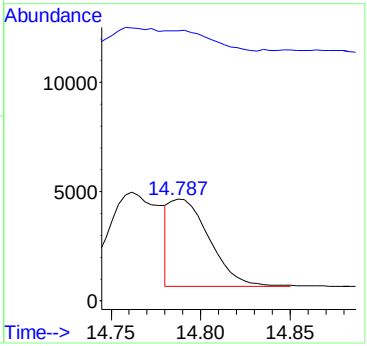


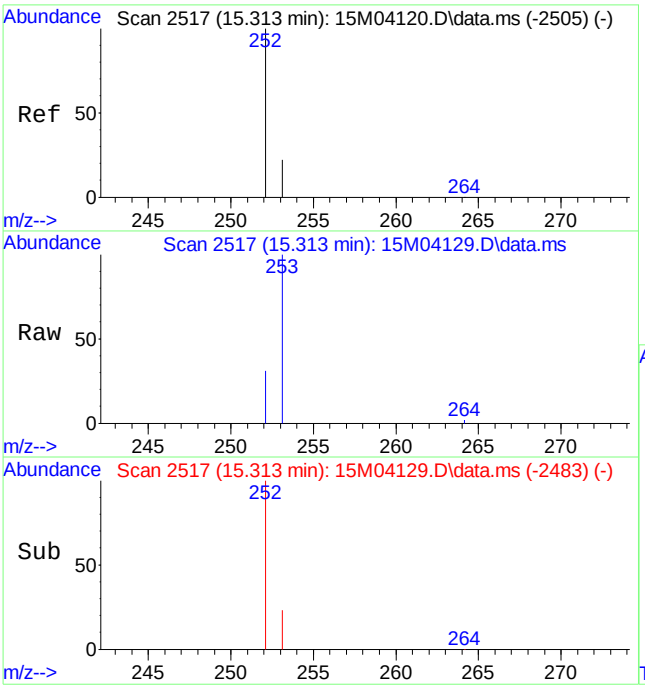


#22
Benzo[k]fluoranthene
Concen: 0.0460 ug/mL m
RT: 14.787 min Scan# 2392
Delta R.T. -0.022 min
Lab File: 15M04129.D
Acq: 24 Mar 2011 7:10 pm

Tgt Ion:252 Resp: 6139

Ion	Ratio	Lower	Upper
252	100		
253	43.1	23.0	53.6

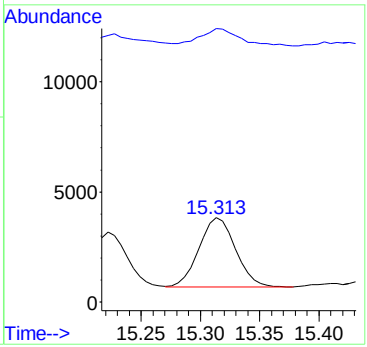


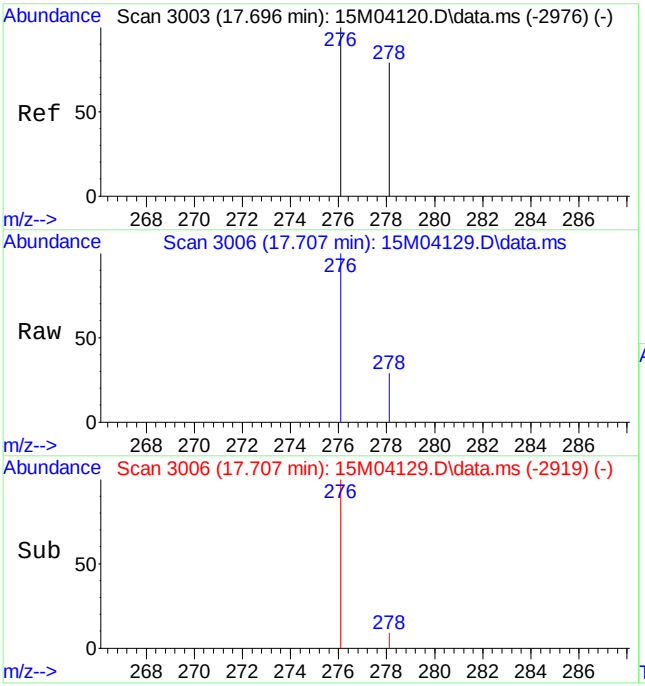


#23
Benzo[a]pyrene
Concen: 0.0503 ug/mL
RT: 15.313 min Scan# 2517
Delta R.T. -0.016 min
Lab File: 15M04129.D
Acq: 24 Mar 2011 7:10 pm

Tgt Ion:252 Resp: 6751

Ion	Ratio	Lower	Upper
252	100		
253	25.9	25.2	58.8

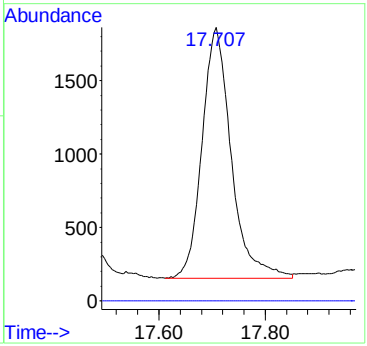


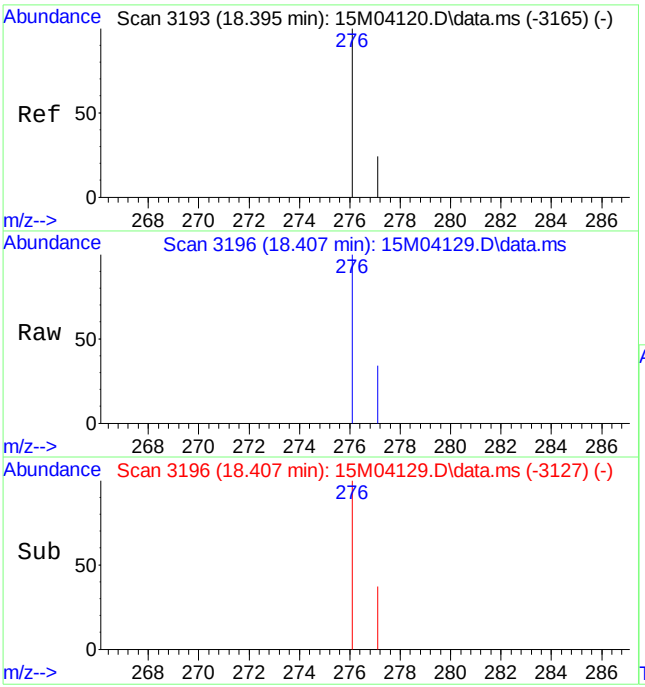


#24
Indeno[1,2,3-cd]pyrene
Concen: 0.0399 ug/mL
RT: 17.707 min Scan# 3006
Delta R.T. -0.018 min
Lab File: 15M04129.D
Acq: 24 Mar 2011 7:10 pm

Tgt Ion:276 Resp: 6490

Ion	Ratio	Lower	Upper
276	100		
277	0.0	0.0	0.0

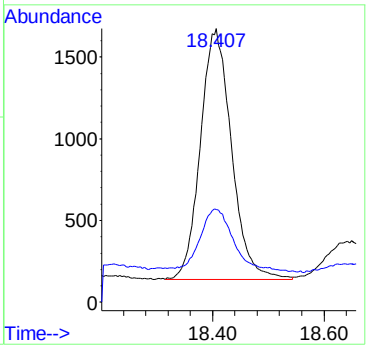




#26
Benzo[ghi]perylene
Concen: 0.0438 ug/mL
RT: 18.407 min Scan# 3196
Delta R.T. -0.018 min
Lab File: 15M04129.D
Acq: 24 Mar 2011 7:10 pm

Tgt Ion:276 Resp: 5946

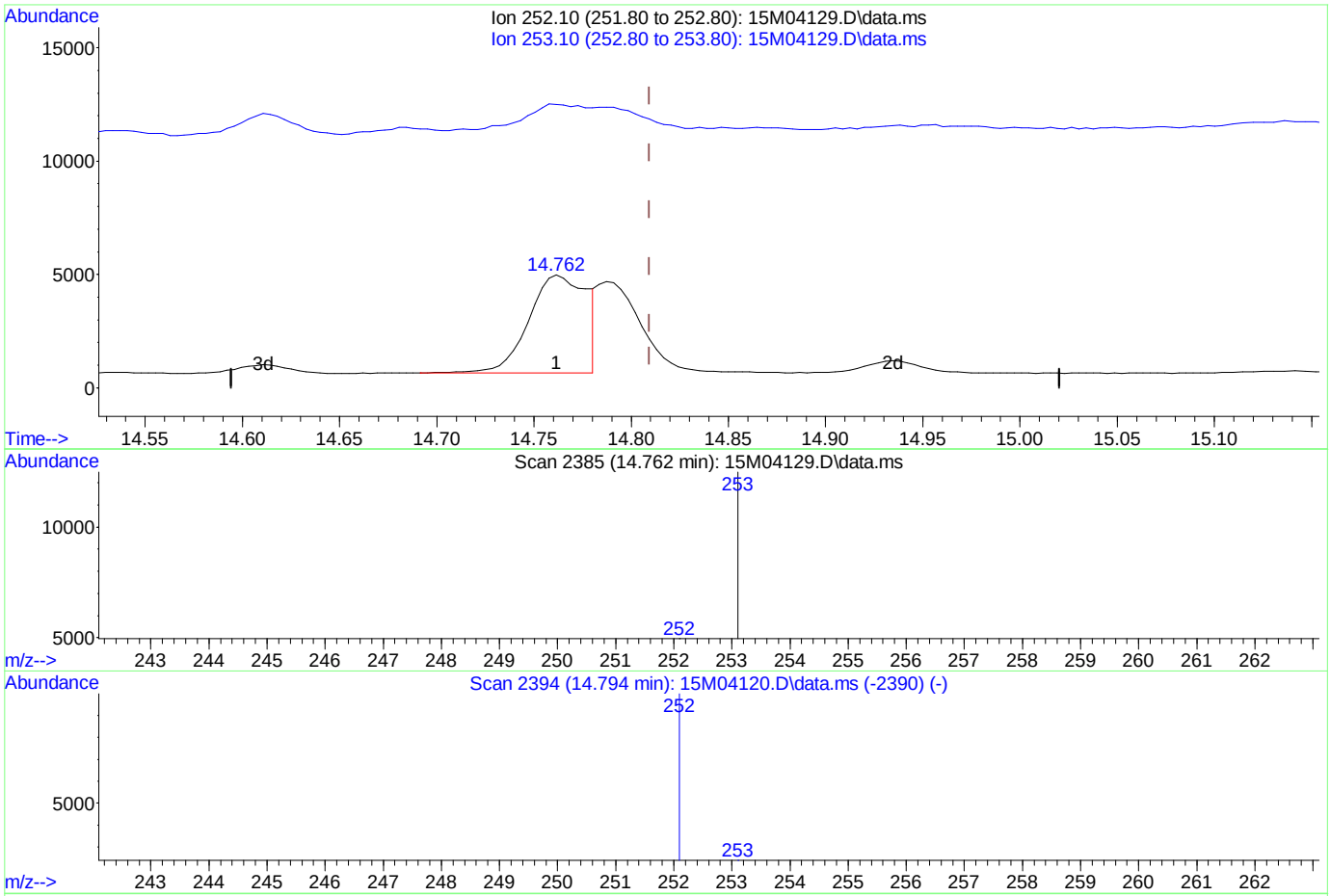
Ion	Ratio	Lower	Upper
276	100		
277	22.1	14.5	33.7



Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04129.D
Acq On : 24 Mar 2011 7:10 pm
Operator : CAA
Sample : L11030669-03 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 11 Sample Multiplier: 2

Quant Time: Mar 25 07:06:20 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration



(22) Benzo[k]fluoranthene

14.762min (-0.048) 0.07 ug/mL

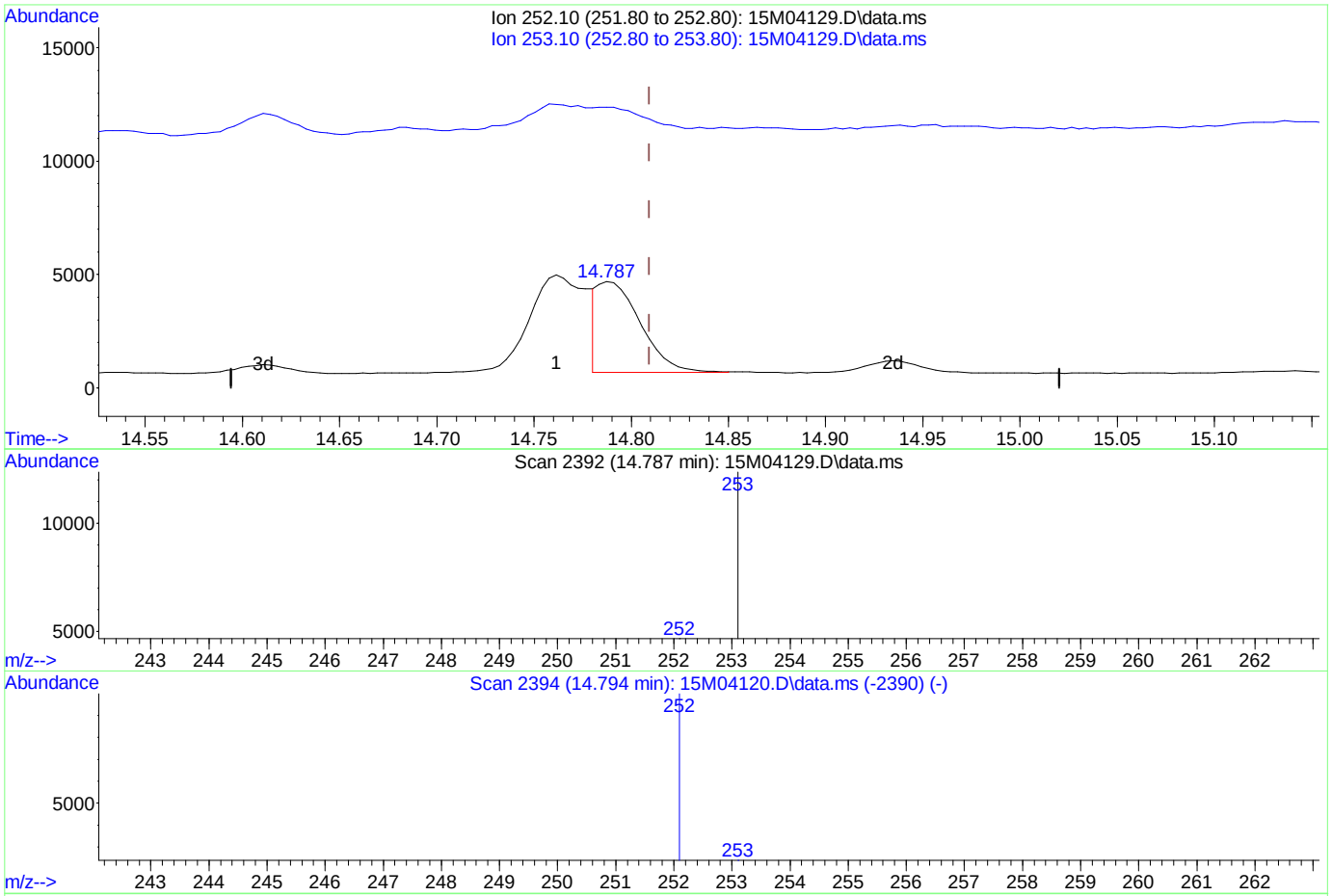
response 9006

Ion	Exp%	Act%
252.10	100	100
253.10	38.30	29.39
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04129.D
Acq On : 24 Mar 2011 7:10 pm
Operator : CAA
Sample : L11030669-03 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 11 Sample Multiplier: 2

Quant Time: Mar 25 07:06:20 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration



TIC: 15M04129.D\data.ms

(22) Benzo[k]fluoranthene

14.787min (-0.022) 0.05 ug/mL mint

response 6139

Ion	Exp%	Act%
252.10	100	100
253.10	38.30	43.12
0.00	0.00	0.00
0.00	0.00	0.00

Analyst: 03/25/2011 07:43 Supervisor: 03/25/2011 09:23

#3 - Improperly integrated isomers and/or coeluting compounds

PAHQUANT.M Fri Mar 25 07:10:33 2011

Page: 1

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04130.D
Acq On : 24 Mar 2011 7:38 pm
Operator : CAA
Sample : L11030669-04 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 12 Sample Multiplier: 2

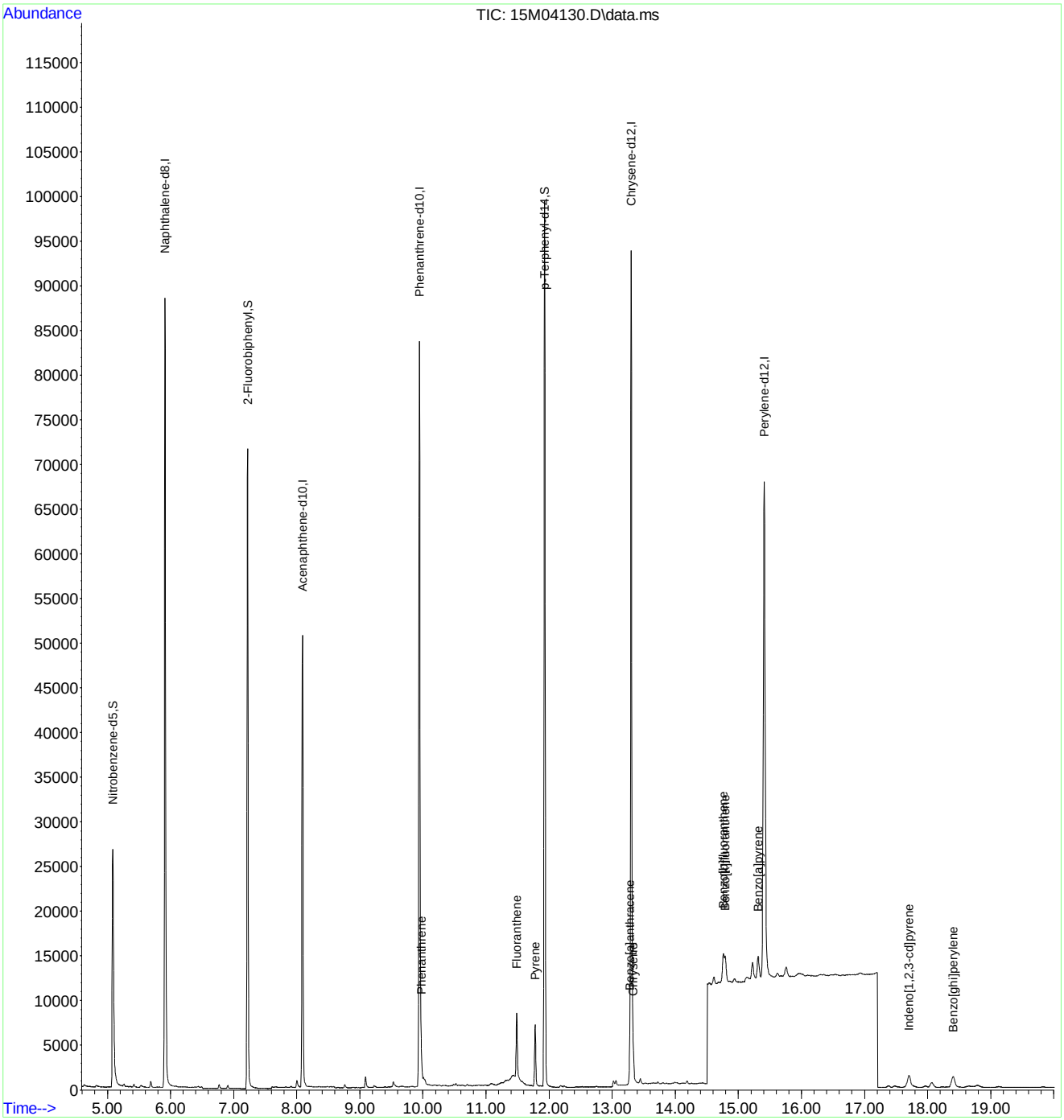
Quant Time: Mar 25 07:10:44 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration

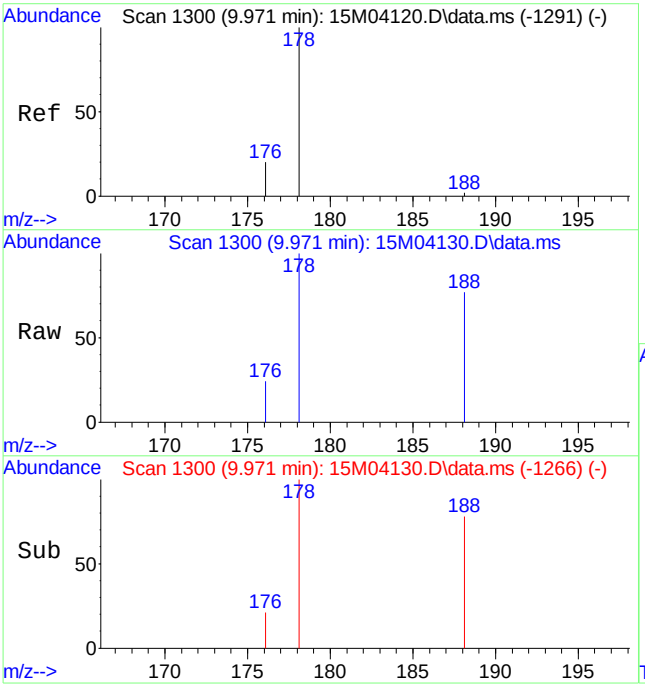
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8	5.910	136	116634	1.00 ug/mL	-0.01
6) Acenaphthene-d10	8.093	164	61896	1.00 ug/mL	-0.01
11) Phenanthrene-d10	9.944	188	104816	1.00 ug/mL	-0.01
15) Chrysene-d12	13.301	240	123951	1.00 ug/mL	-0.01
20) Perylene-d12	15.410	264	120458	1.00 ug/mL	-0.02
System Monitoring Compounds					
2) Nitrobenzene-d5	5.085	82	29166	1.46 ug/mL	-0.02
Spiked Amount 2.500	Range 23 - 120		Recovery	= 58.40%	
7) 2-Fluorobiphenyl	7.220	172	63876	1.56 ug/mL	-0.02
Spiked Amount 2.500	Range 30 - 115		Recovery	= 62.40%	
17) p-Terphenyl-d14	11.927	244	105705	2.59 ug/mL	-0.01
Spiked Amount 2.500	Range 18 - 137		Recovery	= 103.60%	
Target Compounds					Qvalue
12) Phenanthrene	9.971	178	3683	0.0313 ug/mL	98
14) Fluoranthene	11.485	202	8376	0.0685 ug/mL#	57
16) Pyrene	11.780	202	7586	0.0531 ug/mL	92
18) Benzo[a]anthracene	13.279	228	3320	0.0266 ug/mL	92
19) Chrysene	13.333	228	4565	0.0367 ug/mL	93
21) Benzo[b]fluoranthene	14.761	252	4942	0.0358 ug/mL	93
22) Benzo[k]fluoranthene	14.787	252	4088m	0.0317 ug/mL	
23) Benzo[a]pyrene	15.313	252	4100	0.0317 ug/mL	80
24) Indeno[1,2,3-cd]pyrene	17.703	276	4184	0.0267 ug/mL#	100
26) Benzo[ghi]perylene	18.407	276	3692	0.0282 ug/mL#	51

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04130.D
Acq On : 24 Mar 2011 7:38 pm
Operator : CAA
Sample : L11030669-04 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 12 Sample Multiplier: 2

Quant Time: Mar 25 07:10:44 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration

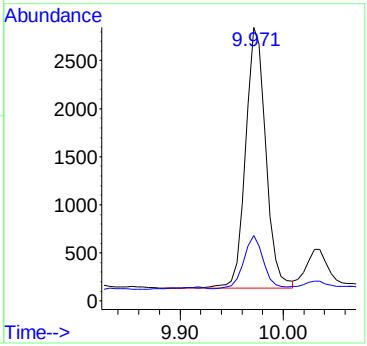


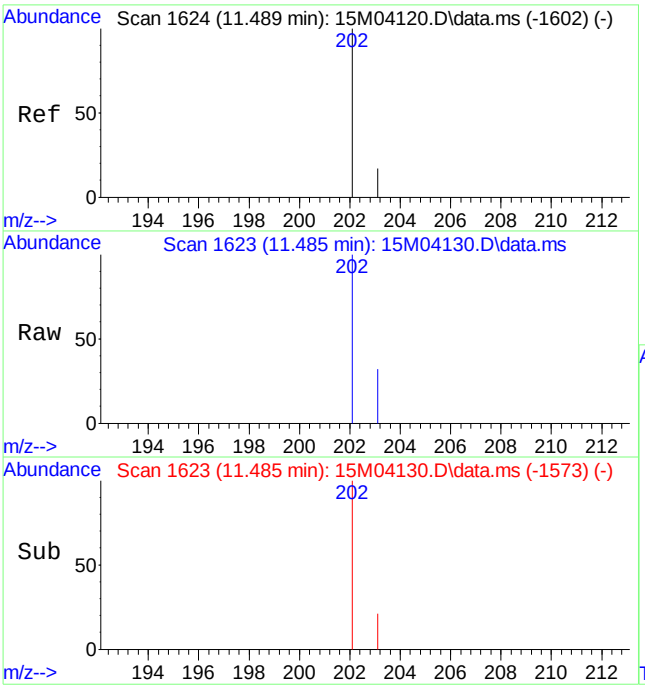


#12
Phenanthrene
Concen: 0.0313 ug/mL
RT: 9.971 min Scan# 1300
Delta R.T. -0.016 min
Lab File: 15M04130.D
Acq: 24 Mar 2011 7:38 pm

Tgt Ion:178 Resp: 3683

Ion	Ratio	Lower	Upper
178	100		
176	19.8	11.4	26.6

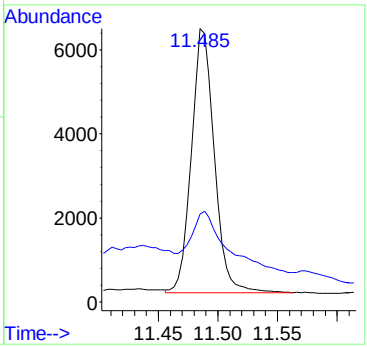


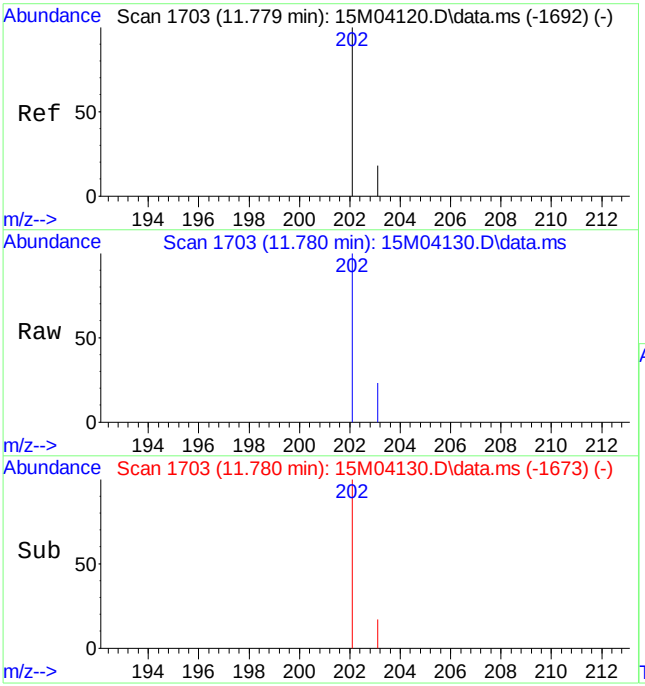


#14
Fluoranthene
Concen: 0.0685 ug/mL
RT: 11.485 min Scan# 1623
Delta R.T. -0.014 min
Lab File: 15M04130.D
Acq: 24 Mar 2011 7:38 pm

Tgt Ion:202 Resp: 8376

Ion	Ratio	Lower	Upper
202	100		
203	36.0	10.4	24.4#

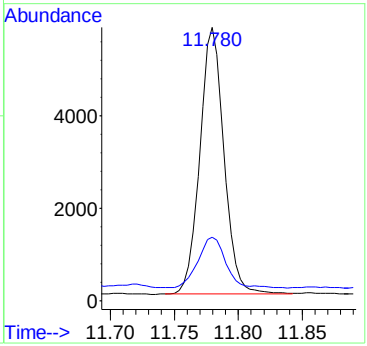


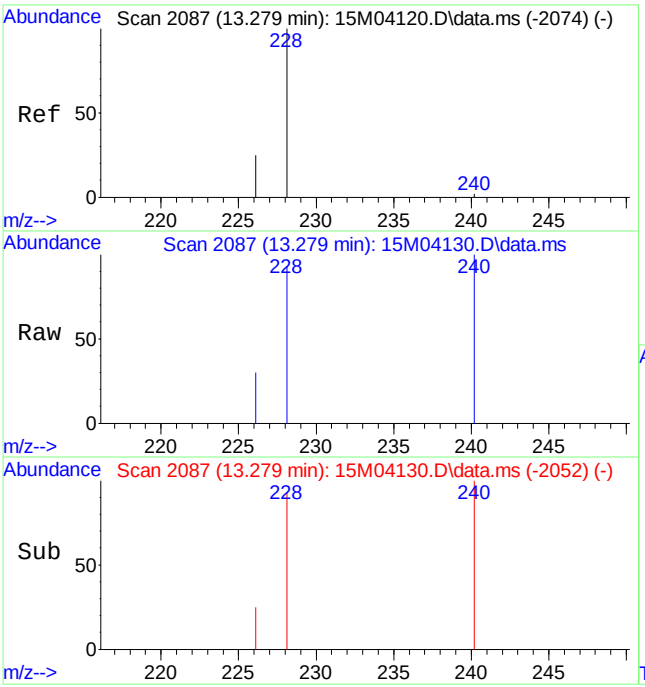


#16
Pyrene
Concen: 0.0531 ug/mL
RT: 11.780 min Scan# 1703
Delta R.T. -0.015 min
Lab File: 15M04130.D
Acq: 24 Mar 2011 7:38 pm

Tgt Ion:202 Resp: 7586

Ion	Ratio	Lower	Upper
202	100		
203	21.8	11.0	25.6

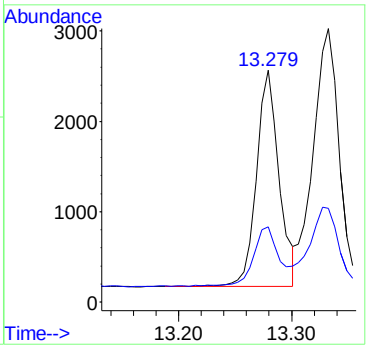


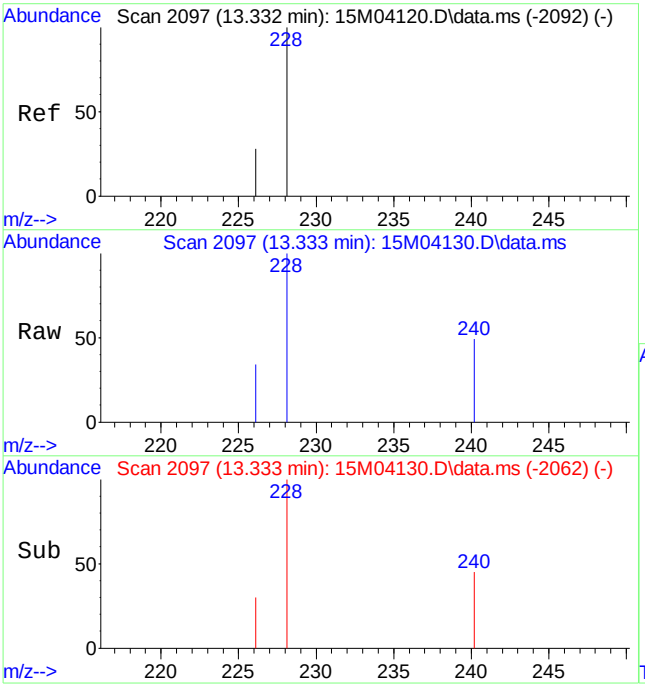


#18
Benzo[a]anthracene
Concen: 0.0266 ug/mL
RT: 13.279 min Scan# 2087
Delta R.T. -0.011 min
Lab File: 15M04130.D
Acq: 24 Mar 2011 7:38 pm

Tgt Ion:228 Resp: 3320

Ion	Ratio	Lower	Upper
228	100		
226	30.1	15.7	36.5

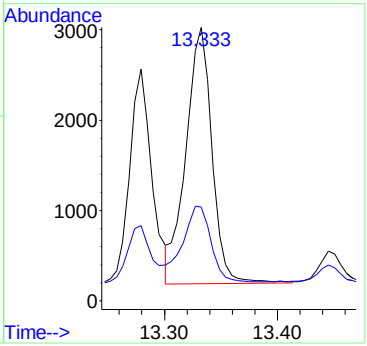


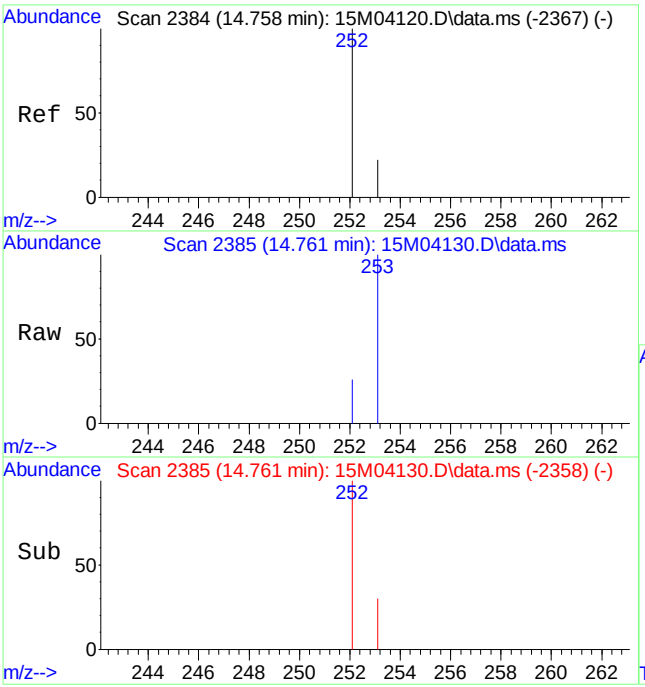


#19
Chrysene
Concen: 0.0367 ug/mL
RT: 13.333 min Scan# 2097
Delta R.T. -0.011 min
Lab File: 15M04130.D
Acq: 24 Mar 2011 7:38 pm

Tgt Ion:228 Resp: 4565

Ion	Ratio	Lower	Upper
228	100		
226	32.3	17.0	39.8

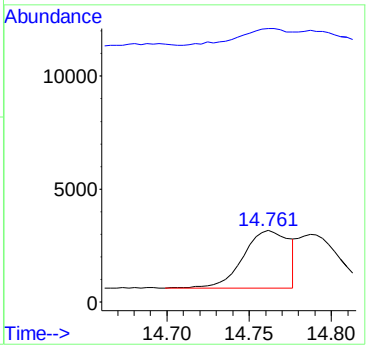


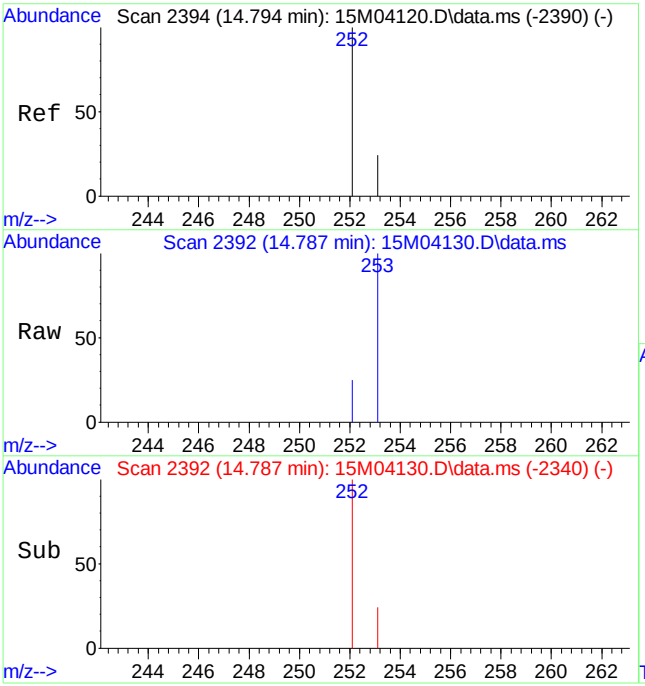


#21
Benzo[b]fluoranthene
Concen: 0.0358 ug/mL
RT: 14.761 min Scan# 2385
Delta R.T. -0.015 min
Lab File: 15M04130.D
Acq: 24 Mar 2011 7:38 pm

Tgt Ion:252 Resp: 4942

Ion	Ratio	Lower	Upper
252	100		
253	34.0	22.8	53.2

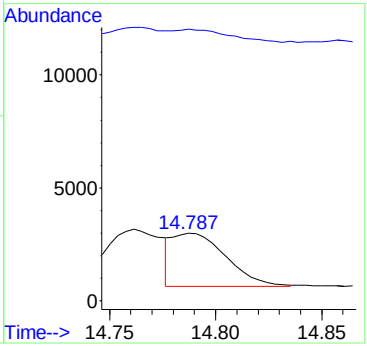


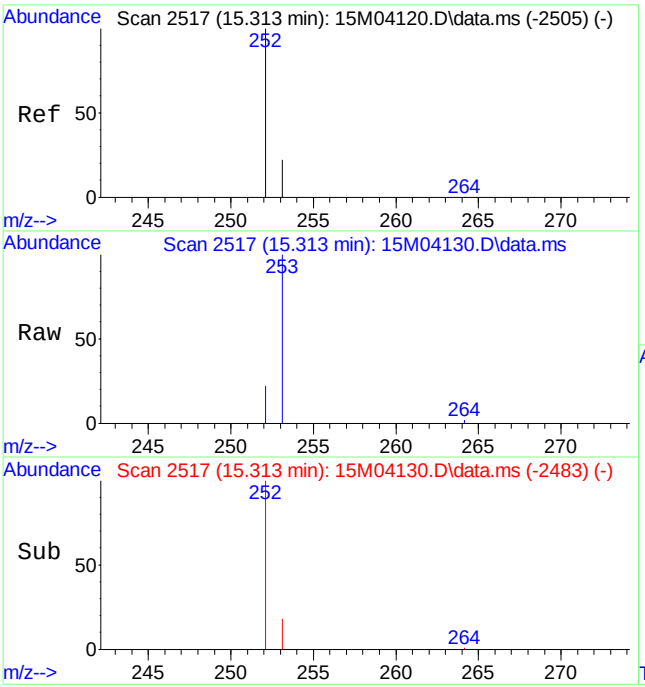


#22
Benzo[k]fluoranthene
Concen: 0.0317 ug/mL m
RT: 14.787 min Scan# 2392
Delta R.T. -0.022 min
Lab File: 15M04130.D
Acq: 24 Mar 2011 7:38 pm

Tgt Ion:252 Resp: 4088

Ion	Ratio	Lower	Upper
252	100		
253	41.1	23.0	53.6

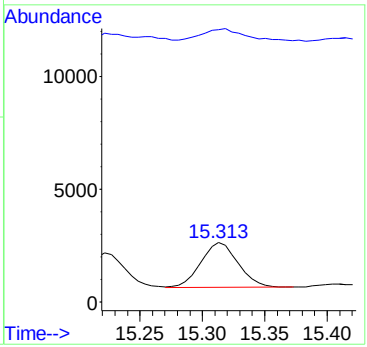


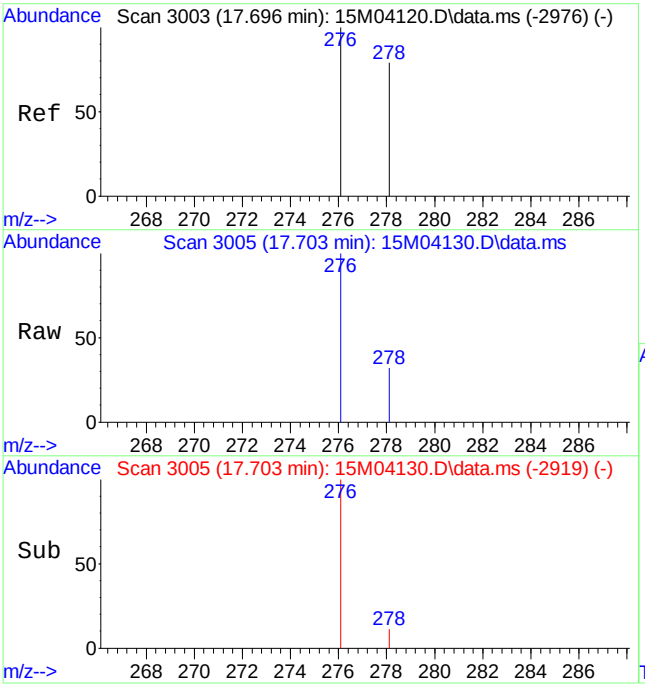


#23
Benzo[a]pyrene
Concen: 0.0317 ug/mL
RT: 15.313 min Scan# 2517
Delta R.T. -0.016 min
Lab File: 15M04130.D
Acq: 24 Mar 2011 7:38 pm

Tgt Ion:252 Resp: 4100

Ion	Ratio	Lower	Upper
252	100		
253	29.6	25.2	58.8

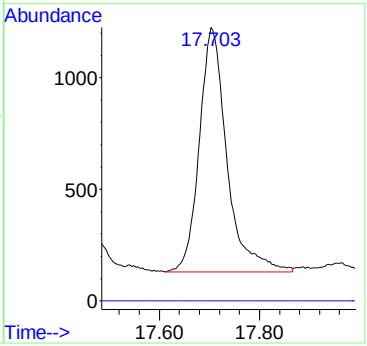


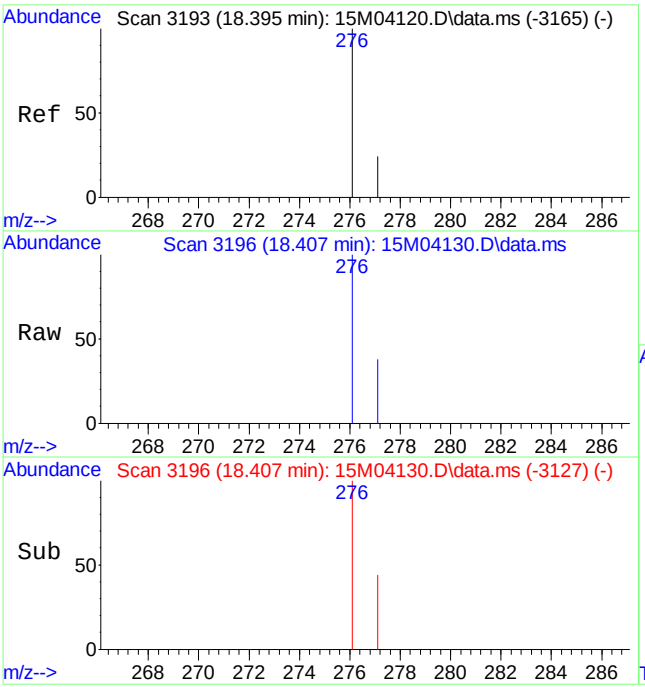


#24
Indeno[1,2,3-cd]pyrene
Concen: 0.0267 ug/mL
RT: 17.703 min Scan# 3005
Delta R.T. -0.022 min
Lab File: 15M04130.D
Acq: 24 Mar 2011 7:38 pm

Tgt Ion:276 Resp: 4184

Ion	Ratio	Lower	Upper
276	100		
277	0.0	0.0	0.0

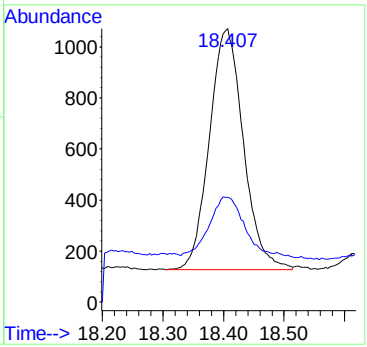




#26
Benzo[ghi]perylene
Concen: 0.0282 ug/mL
RT: 18.407 min Scan# 3196
Delta R.T. -0.018 min
Lab File: 15M04130.D
Acq: 24 Mar 2011 7:38 pm

Tgt Ion:276 Resp: 3692

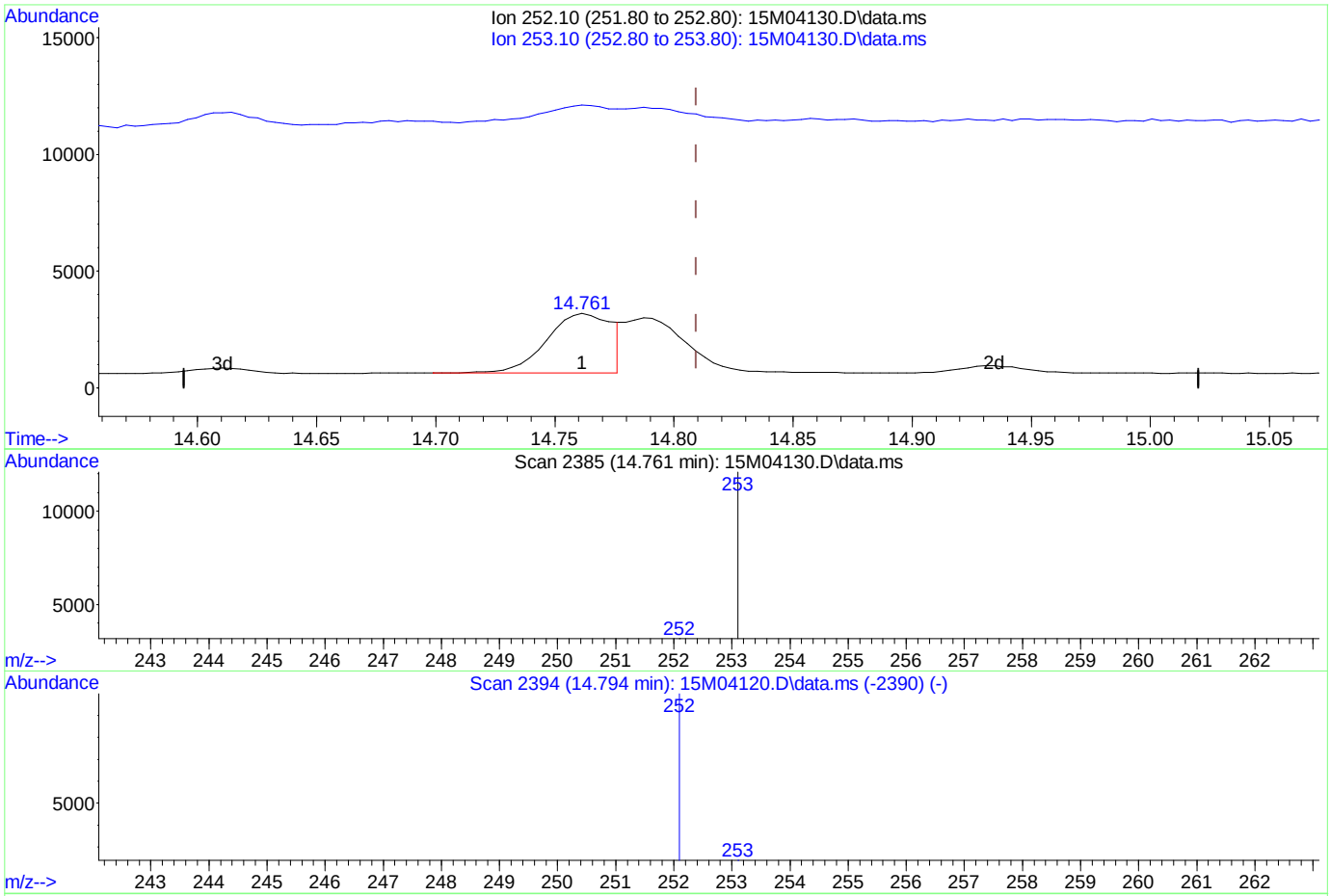
Ion	Ratio	Lower	Upper
276	100		
277	0.0	14.5	33.7#



Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04130.D
Acq On : 24 Mar 2011 7:38 pm
Operator : CAA
Sample : L11030669-04 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 12 Sample Multiplier: 2

Quant Time: Mar 25 07:06:22 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration



(22) Benzo[k]fluoranthene

14.761min (-0.048) 0.04 ug/mL

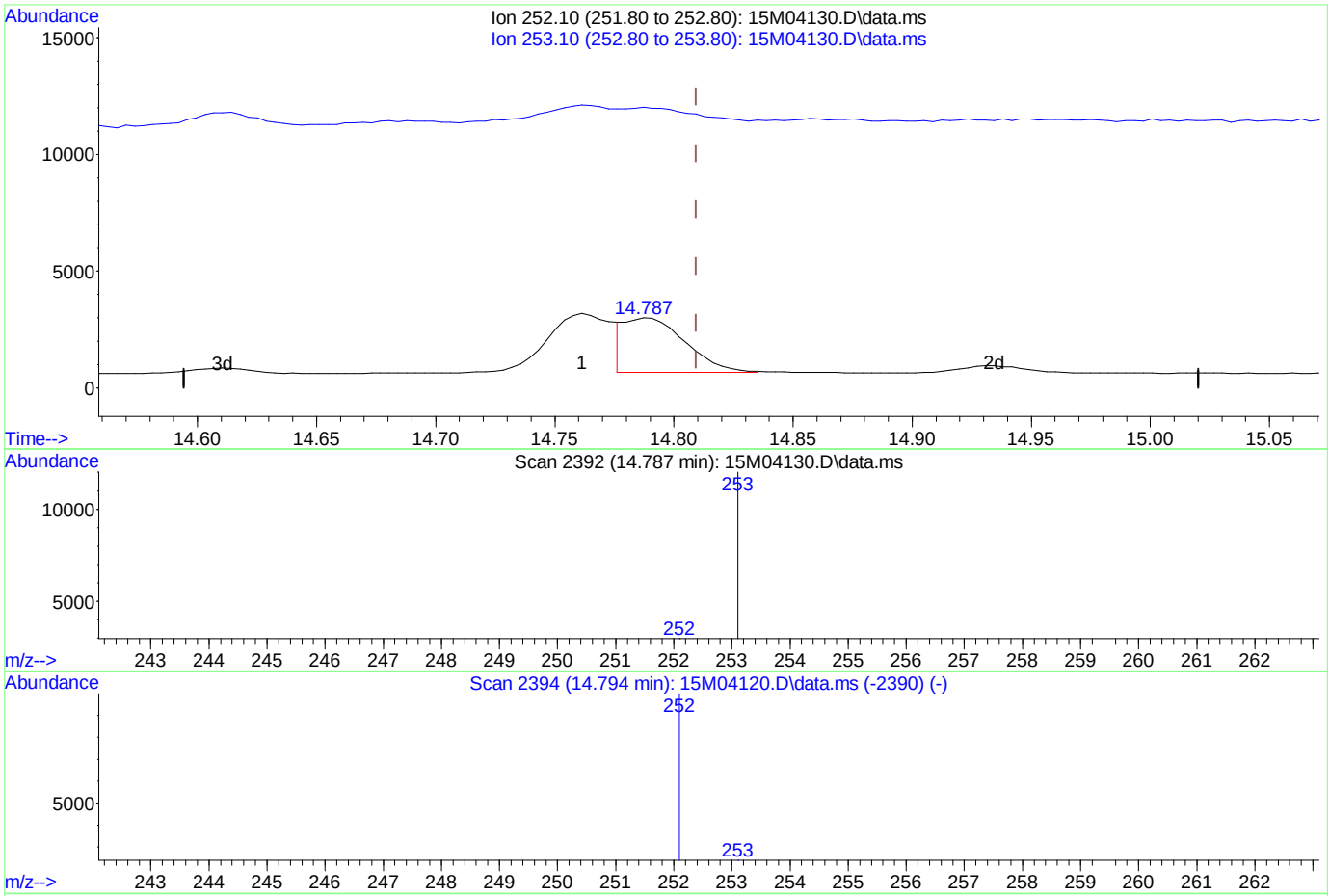
response 4942

Ion	Exp%	Act%
252.10	100	100
253.10	38.30	34.01
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04130.D
Acq On : 24 Mar 2011 7:38 pm
Operator : CAA
Sample : L11030669-04 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 12 Sample Multiplier: 2

Quant Time: Mar 25 07:06:22 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration



TIC: 15M04130.D\data.ms

(22) Benzo[k]fluoranthene

14.787min (-0.022) 0.03 ug/mL mint

response 4088

Ion	Exp%	Act%
252.10	100	100
253.10	38.30	41.12
0.00	0.00	0.00
0.00	0.00	0.00

Analyst: 03/25/2011 07:43 Supervisor: 03/25/2011 09:23

#3 - Improperly integrated isomers and/or coeluting compounds

PAHQUANT.M Fri Mar 25 07:10:46 2011

Page: 1

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04131.D
Acq On : 24 Mar 2011 8:06 pm
Operator : CAA
Sample : L11030669-05 REF 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 13 Sample Multiplier: 2

Quant Time: Mar 25 07:10:56 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration

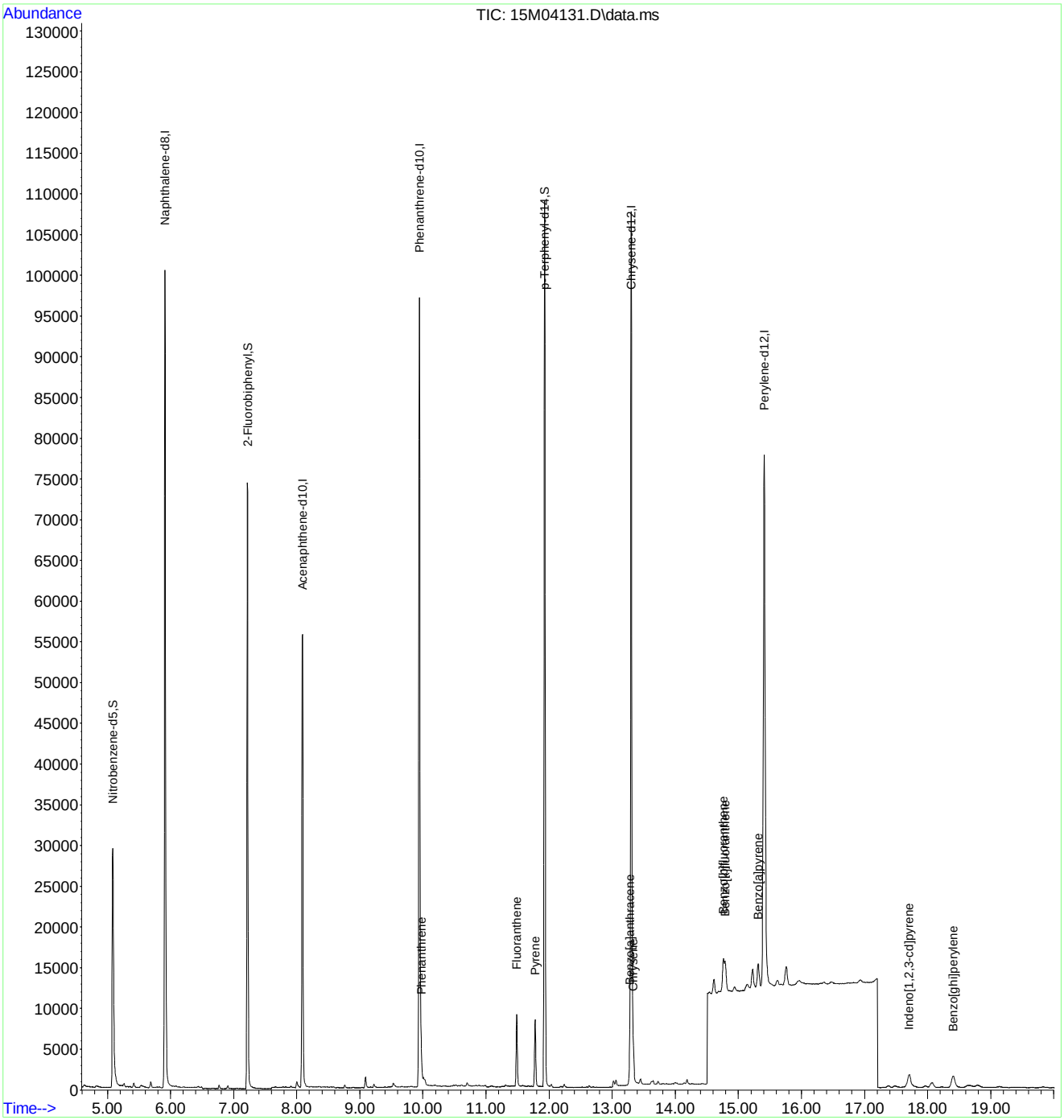
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8	5.910	136	131612	1.00 ug/mL	-0.01
6) Acenaphthene-d10	8.093	164	69986	1.00 ug/mL	-0.01
11) Phenanthrene-d10	9.945	188	118763	1.00 ug/mL	-0.01
15) Chrysene-d12	13.301	240	141623	1.00 ug/mL	-0.01
20) Perylene-d12	15.410	264	139163	1.00 ug/mL	-0.02
System Monitoring Compounds					
2) Nitrobenzene-d5	5.085	82	31996	1.42 ug/mL	-0.02
Spiked Amount 2.500	Range 23 - 120		Recovery	= 56.80%	
7) 2-Fluorobiphenyl	7.220	172	67126	1.45 ug/mL	-0.02
Spiked Amount 2.500	Range 30 - 115		Recovery	= 58.00%	
17) p-Terphenyl-d14	11.931	244	113200	2.42 ug/mL	-0.01
Spiked Amount 2.500	Range 18 - 137		Recovery	= 96.80%	
Target Compounds					Qvalue
12) Phenanthrene	9.971	178	4161	0.0312 ug/mL	99
14) Fluoranthene	11.489	202	9866	0.0712 ug/mL	98
16) Pyrene	11.780	202	9164	0.0562 ug/mL	92
18) Benzo[a]anthracene	13.279	228	3981	0.0280 ug/mL	95
19) Chrysene	13.333	228	5455	0.0384 ug/mL	86
21) Benzo[b]fluoranthene	14.762	252	6163	0.0386 ug/mL	87
22) Benzo[k]fluoranthene	14.787	252	5286m	0.0355 ug/mL	
23) Benzo[a]pyrene	15.313	252	5000	0.0334 ug/mL	76
24) Indeno[1,2,3-cd]pyrene	17.707	276	5045	0.0278 ug/mL#	100
26) Benzo[ghi]perylene	18.403	276	4450	0.0294 ug/mL	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

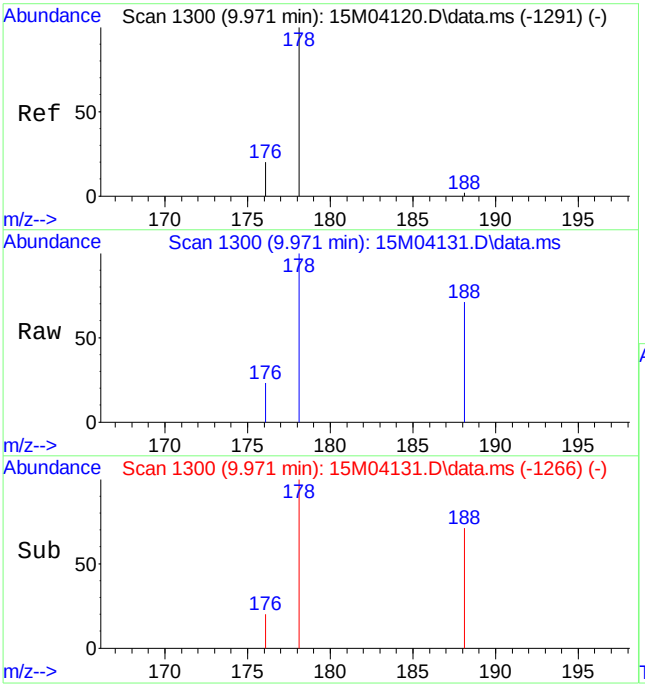
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04131.D
Acq On : 24 Mar 2011 8:06 pm
Operator : CAA
Sample : L11030669-05 REF 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 13 Sample Multiplier: 2

Quant Time: Mar 25 07:10:56 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration



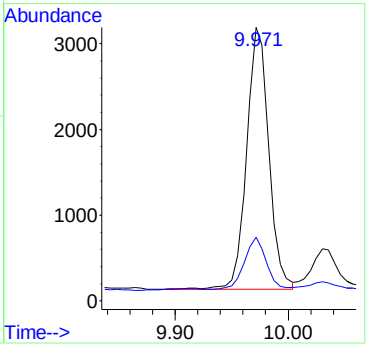
PAHQUANT.M Fri Mar 25 07:13:21 2011 Page: 2

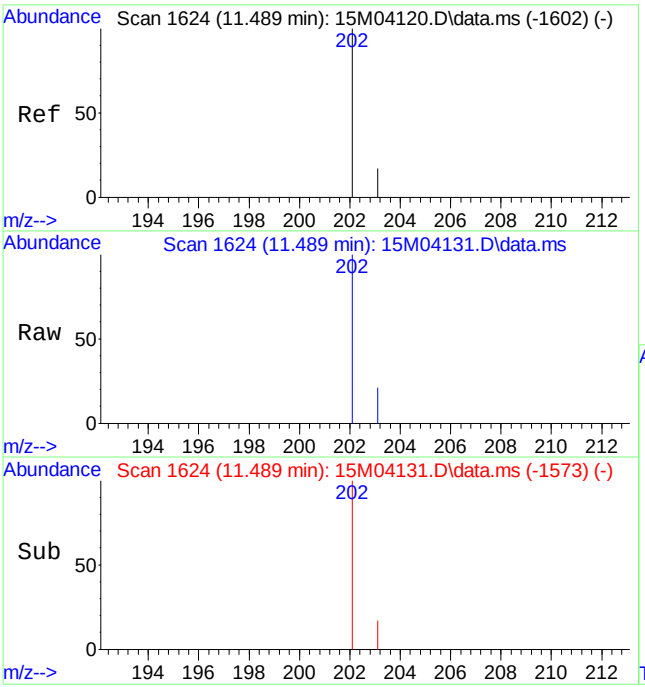


#12
Phenanthrene
Concen: 0.0312 ug/mL
RT: 9.971 min Scan# 1300
Delta R.T. -0.016 min
Lab File: 15M04131.D
Acq: 24 Mar 2011 8:06 pm

Tgt Ion:178 Resp: 4161

Ion	Ratio	Lower	Upper
178	100		
176	19.4	11.4	26.6

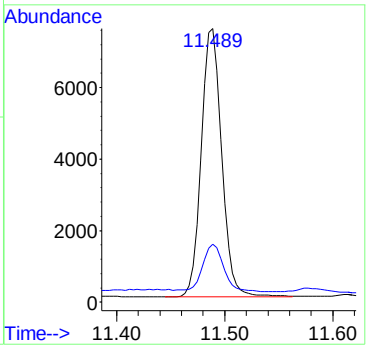


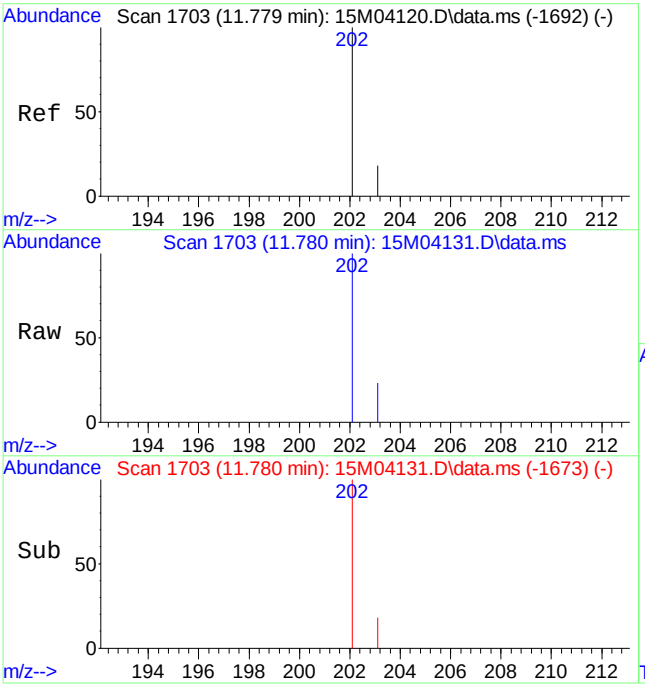


#14
Fluoranthene
Concen: 0.0712 ug/mL
RT: 11.489 min Scan# 1624
Delta R.T. -0.011 min
Lab File: 15M04131.D
Acq: 24 Mar 2011 8:06 pm

Tgt Ion:202 Resp: 9866

Ion	Ratio	Lower	Upper
202	100		
203	18.3	10.4	24.4

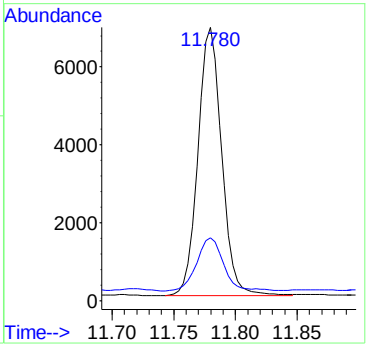


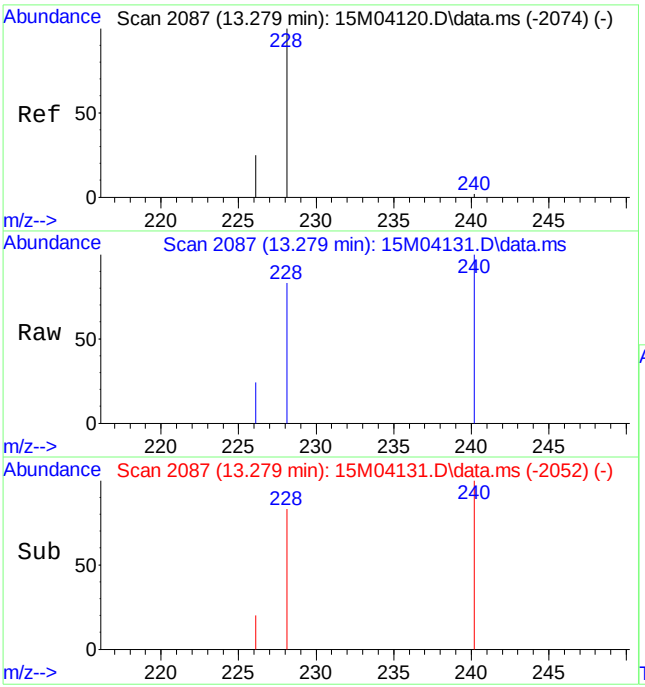


#16
Pyrene
Concen: 0.0562 ug/mL
RT: 11.780 min Scan# 1703
Delta R.T. -0.015 min
Lab File: 15M04131.D
Acq: 24 Mar 2011 8:06 pm

Tgt Ion:202 Resp: 9164

Ion	Ratio	Lower	Upper
202	100		
203	21.9	11.0	25.6

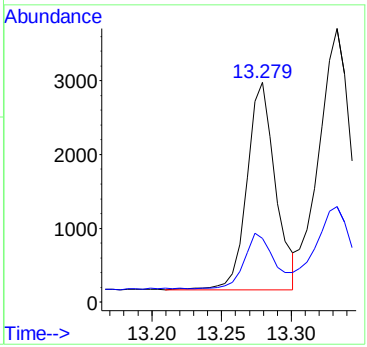


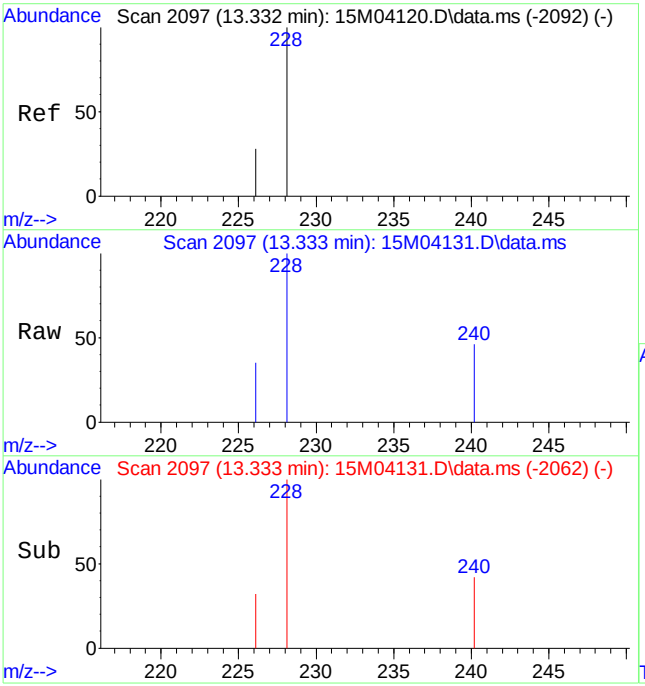


#18
Benzo[a]anthracene
Concen: 0.0280 ug/mL
RT: 13.279 min Scan# 2087
Delta R.T. -0.011 min
Lab File: 15M04131.D
Acq: 24 Mar 2011 8:06 pm

Tgt Ion:228 Resp: 3981

Ion	Ratio	Lower	Upper
228	100		
226	28.8	15.7	36.5

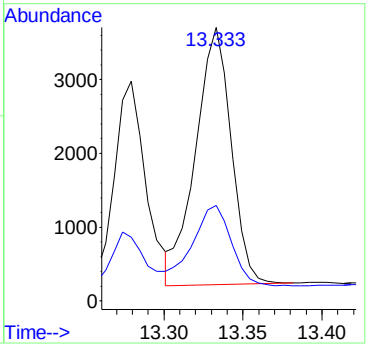


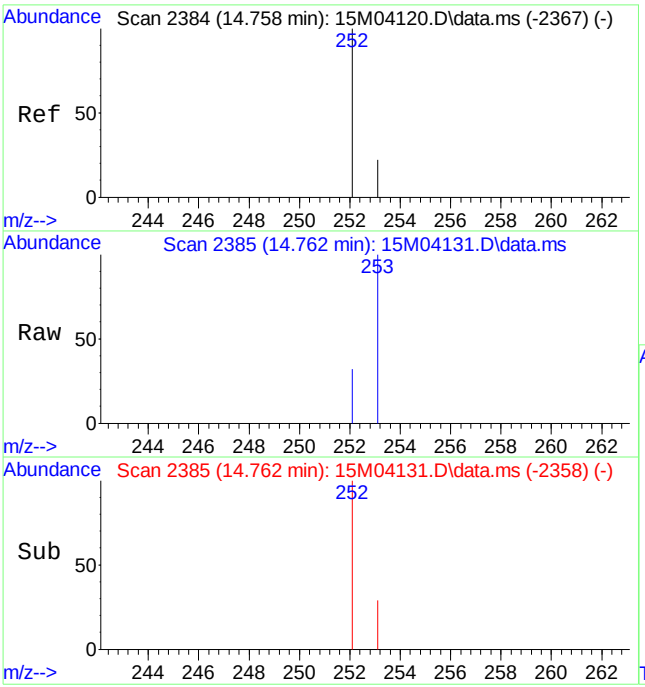


#19
Chrysene
Concen: 0.0384 ug/mL
RT: 13.333 min Scan# 2097
Delta R.T. -0.011 min
Lab File: 15M04131.D
Acq: 24 Mar 2011 8:06 pm

Tgt Ion:228 Resp: 5455

Ion	Ratio	Lower	Upper
228	100		
226	35.6	17.0	39.8

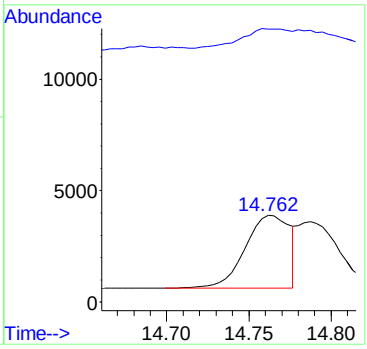


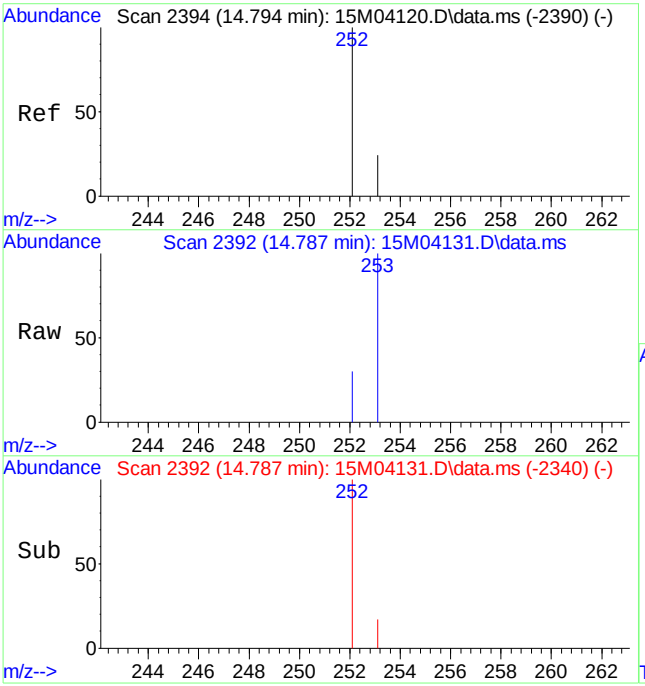


#21
Benzo[b]fluoranthene
Concen: 0.0386 ug/mL
RT: 14.762 min Scan# 2385
Delta R.T. -0.015 min
Lab File: 15M04131.D
Acq: 24 Mar 2011 8:06 pm

Tgt Ion:252 Resp: 6163

Ion	Ratio	Lower	Upper
252	100		
253	29.9	22.8	53.2

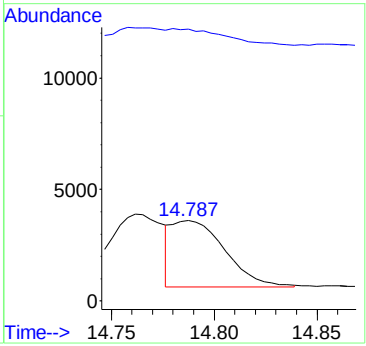


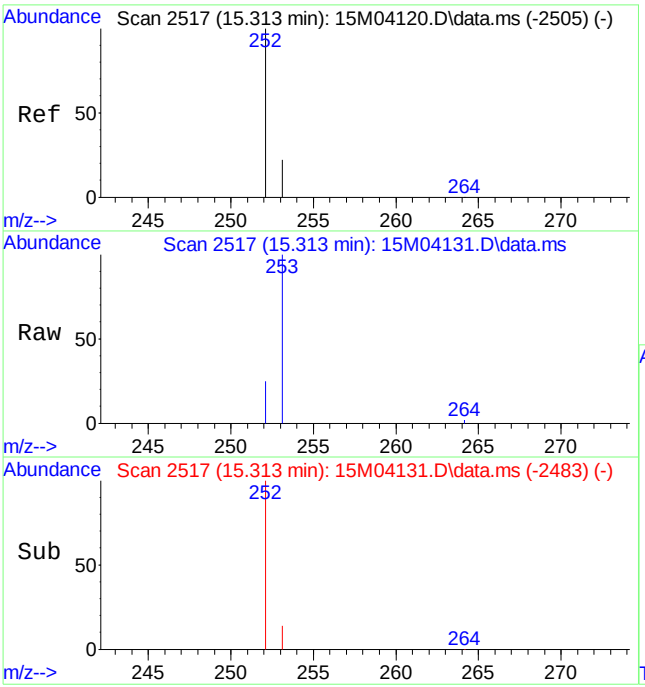


#22
Benzo[k]fluoranthene
Concen: 0.0355 ug/mL m
RT: 14.787 min Scan# 2392
Delta R.T. -0.022 min
Lab File: 15M04131.D
Acq: 24 Mar 2011 8:06 pm

Tgt Ion:252 Resp: 5286

Ion	Ratio	Lower	Upper
252	100		
253	34.8	23.0	53.6

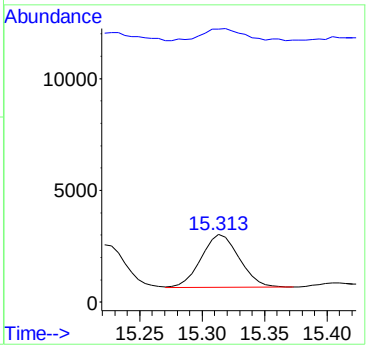


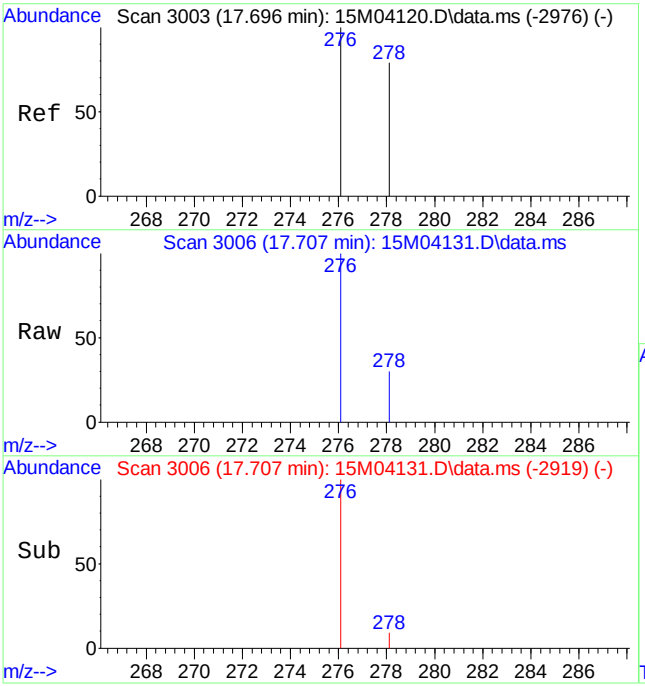


#23
Benzo[a]pyrene
Concen: 0.0334 ug/mL
RT: 15.313 min Scan# 2517
Delta R.T. -0.016 min
Lab File: 15M04131.D
Acq: 24 Mar 2011 8:06 pm

Tgt Ion:252 Resp: 5000

Ion	Ratio	Lower	Upper
252	100		
253	26.5	25.2	58.8

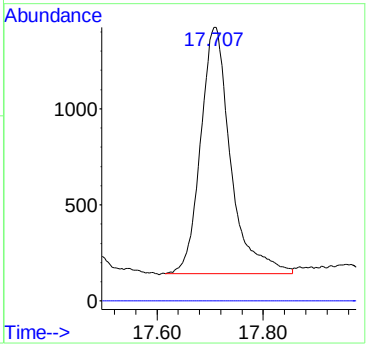


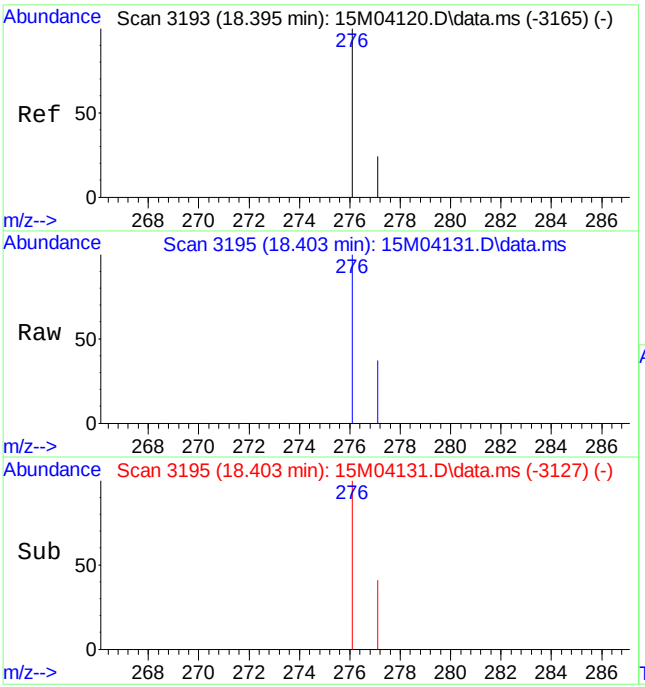


#24
Indeno[1,2,3-cd]pyrene
Concen: 0.0278 ug/mL
RT: 17.707 min Scan# 3006
Delta R.T. -0.018 min
Lab File: 15M04131.D
Acq: 24 Mar 2011 8:06 pm

Tgt Ion:276 Resp: 5045

Ion	Ratio	Lower	Upper
276	100		
277	0.0	0.0	0.0

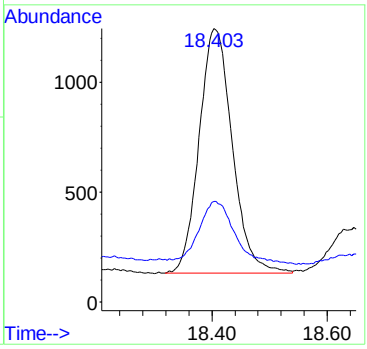




#26
Benzo[ghi]perylene
Concen: 0.0294 ug/mL
RT: 18.403 min Scan# 3195
Delta R.T. -0.022 min
Lab File: 15M04131.D
Acq: 24 Mar 2011 8:06 pm

Tgt Ion:276 Resp: 4450

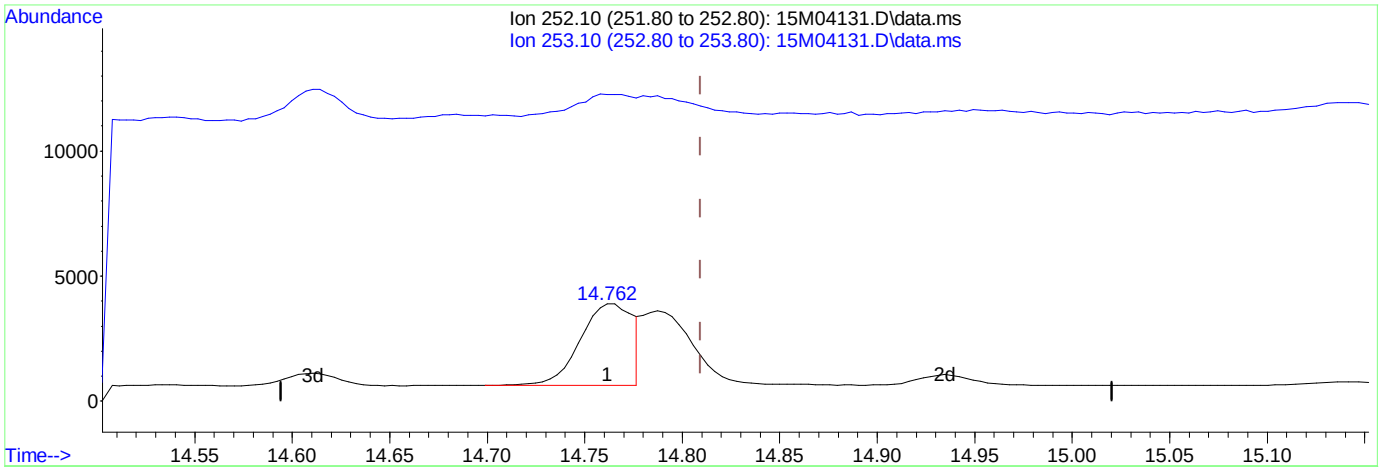
Ion	Ratio	Lower	Upper
276	100		
277	25.9	14.5	33.7

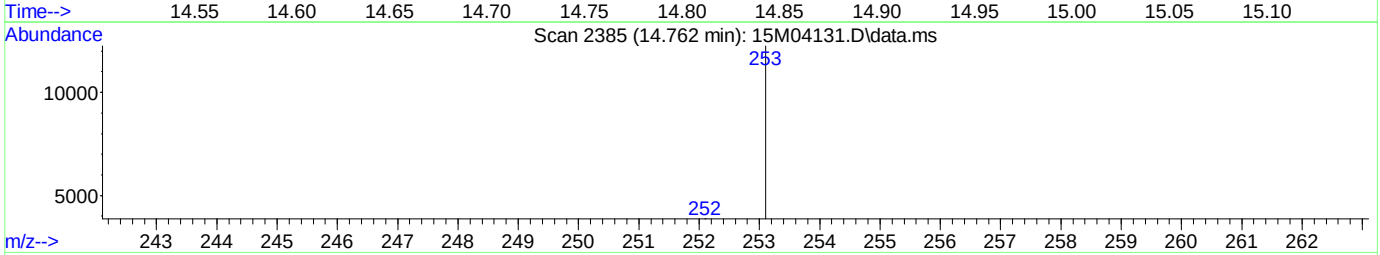


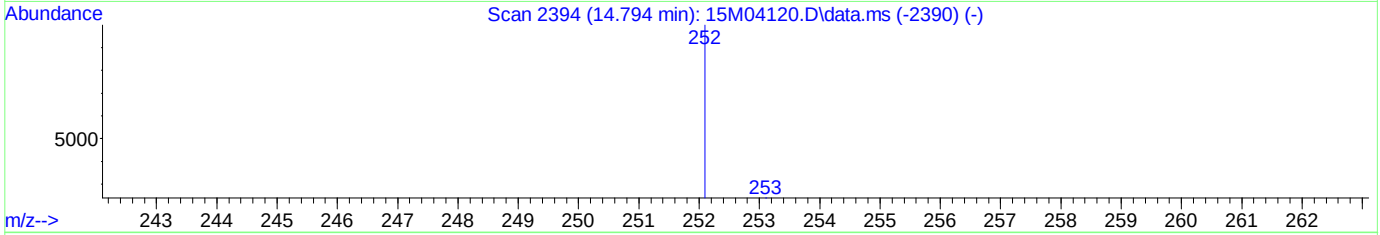
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04131.D
Acq On : 24 Mar 2011 8:06 pm
Operator : CAA
Sample : L11030669-05 REF 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 13 Sample Multiplier: 2

Quant Time: Mar 25 07:06:24 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration







TIC: 15M04131.D\data.ms

(22) Benzo[k]fluoranthene

14.762min (-0.048) 0.04 ug/mL

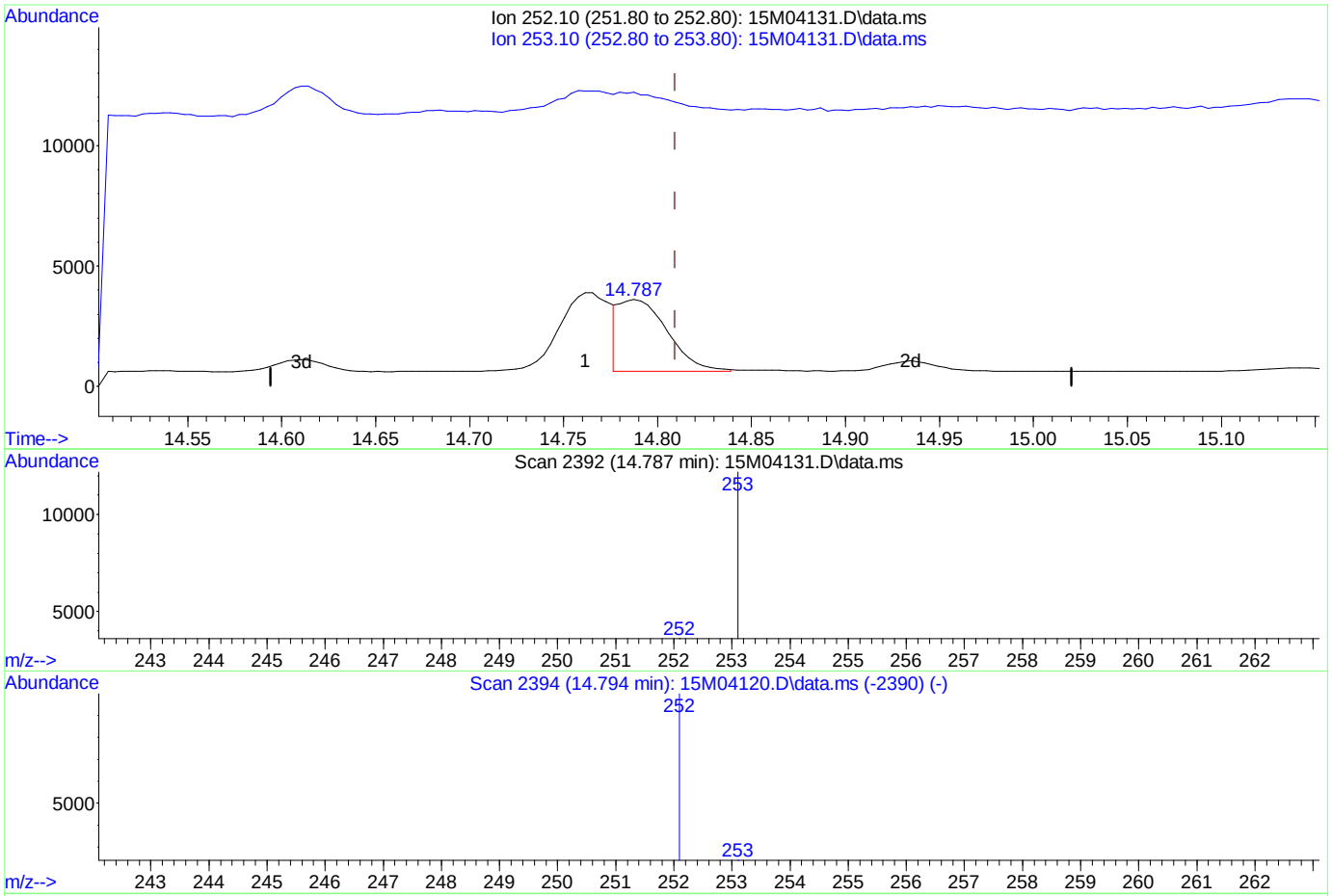
response 6163

Ion	Exp%	Act%
252.10	100	100
253.10	38.30	29.87
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04131.D
Acq On : 24 Mar 2011 8:06 pm
Operator : CAA
Sample : L11030669-05 REF 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 13 Sample Multiplier: 2

Quant Time: Mar 25 07:06:24 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration



(22) Benzo[k]fluoranthene

14.787min (-0.022) 0.04 ug/mL mint

response 5286

Ion	Exp%	Act%
252.10	100	100
253.10	38.30	34.83
0.00	0.00	0.00
0.00	0.00	0.00

Analyst: 03/25/2011 07:43 Supervisor: 03/25/2011 09:24

#3 - Improperly integrated isomers and/or coeluting compounds

PAHQUANT.M Fri Mar 25 07:10:58 2011

Page: 1

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04132.D
Acq On : 24 Mar 2011 8:35 pm
Operator : CAA
Sample : L11030669-06 MS 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 14 Sample Multiplier: 2

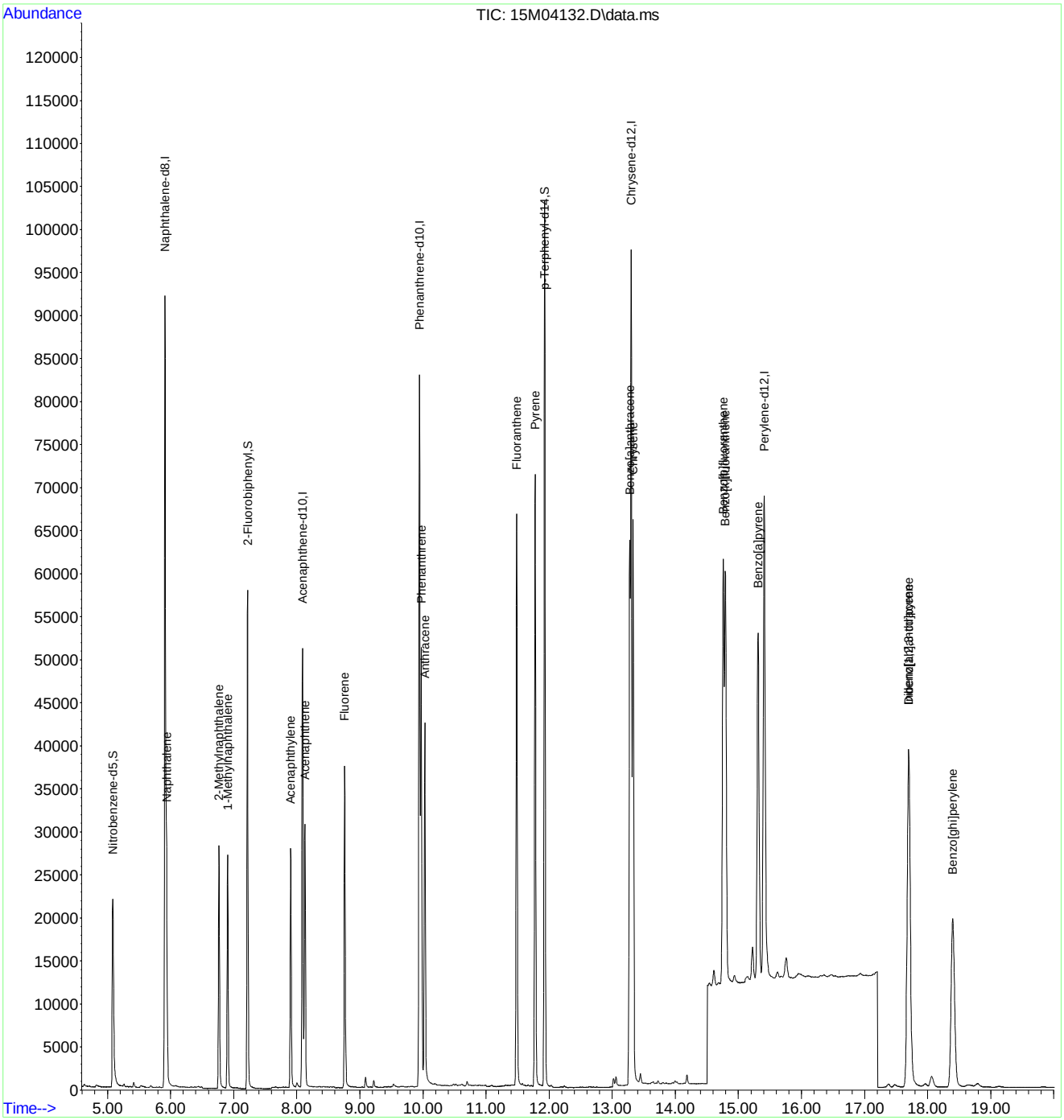
Quant Time: Mar 25 07:06:26 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8	5.910	136	116930	1.00	ug/mL	-0.01
6) Acenaphthene-d10	8.093	164	62265	1.00	ug/mL	-0.01
11) Phenanthrene-d10	9.944	188	104438	1.00	ug/mL	-0.01
15) Chrysene-d12	13.300	240	124505	1.00	ug/mL	-0.01
20) Perylene-d12	15.410	264	122825	1.00	ug/mL	-0.02
System Monitoring Compounds						
2) Nitrobenzene-d5	5.085	82	24063	1.20	ug/mL	-0.02
Spiked Amount 2.500	Range 23 - 120		Recovery	= 48.00%		
7) 2-Fluorobiphenyl	7.220	172	52220	1.27	ug/mL	-0.02
Spiked Amount 2.500	Range 30 - 115		Recovery	= 50.80%		
17) p-Terphenyl-d14	11.930	244	107760	2.62	ug/mL	-0.01
Spiked Amount 2.500	Range 18 - 137		Recovery	= 104.80%		
Target Compounds						Qvalue
3) Naphthalene	5.937	128	28247	0.2376	ug/mL	99
4) 2-Methylnaphthalene	6.767	142	19008	0.2379	ug/mL	98
5) 1-Methylnaphthalene	6.903	142	17573	0.2204	ug/mL	98
8) Acenaphthylene	7.905	152	28425	0.2537	ug/mL	100
9) Acenaphthene	8.131	154	18324	0.2545	ug/mL	97
10) Fluorene	8.761	166	24205	0.2799	ug/mL	99
12) Phenanthrene	9.971	178	51617	0.4400	ug/mL	100
13) Anthracene	10.030	178	46915	0.4406	ug/mL	98
14) Fluoranthene	11.485	202	73816	0.6059	ug/mL	100
16) Pyrene	11.780	202	79236	0.5525	ug/mL	100
18) Benzo[a]anthracene	13.279	228	64910	0.5186	ug/mL	100
19) Chrysene	13.333	228	68923	0.5514	ug/mL	98
21) Benzo[b]fluoranthene	14.758	252	75656	0.5372	ug/mL#	73
22) Benzo[k]fluoranthene	14.791	252	65336	0.4976	ug/mL#	73
23) Benzo[a]pyrene	15.313	252	70455	0.5335	ug/mL#	69
24) Indeno[1,2,3-cd]pyrene	17.700	276	77564	0.4849	ug/mL#	100
25) Dibenz[ah]anthracene	17.696	278	60319	0.4638	ug/mL#	100
26) Benzo[ghi]perylene	18.399	276	61455	0.4599	ug/mL	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04132.D
Acq On : 24 Mar 2011 8:35 pm
Operator : CAA
Sample : L11030669-06 MS 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 14 Sample Multiplier: 2

Quant Time: Mar 25 07:06:26 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04133.D
Acq On : 24 Mar 2011 9:03 pm
Operator : CAA
Sample : L11030669-07 MSD 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 15 Sample Multiplier: 2

Quant Time: Mar 25 07:06:28 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration

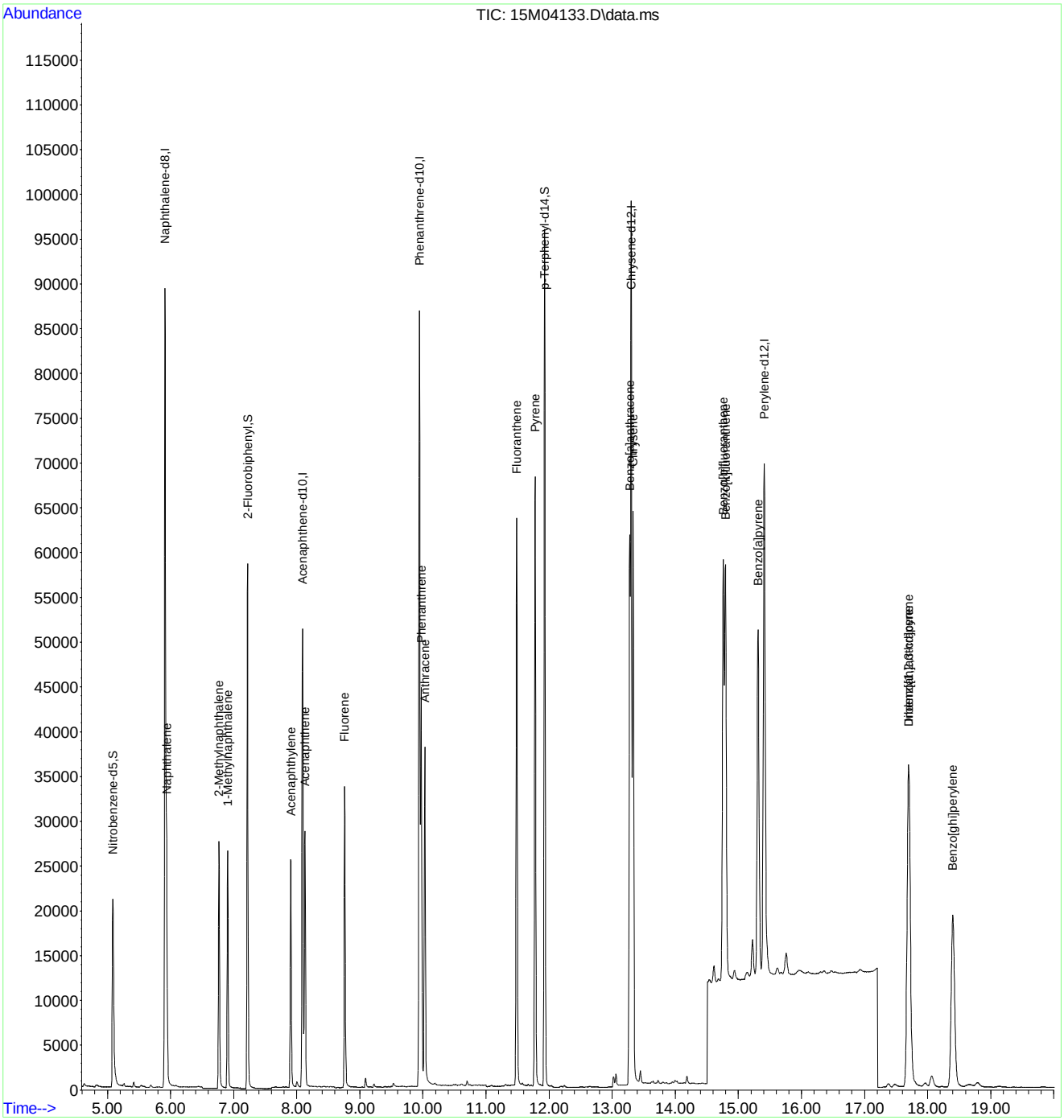
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8	5.910	136	116952	1.00	ug/mL	-0.01
6) Acenaphthene-d10	8.093	164	62595	1.00	ug/mL	-0.01
11) Phenanthrene-d10	9.944	188	106470	1.00	ug/mL	-0.01
15) Chrysene-d12	13.301	240	126505	1.00	ug/mL	-0.01
20) Perylene-d12	15.410	264	123988	1.00	ug/mL	-0.02
System Monitoring Compounds						
2) Nitrobenzene-d5	5.085	82	23886	1.20	ug/mL	-0.02
Spiked Amount 2.500	Range 23 - 120		Recovery = 48.00%			
7) 2-Fluorobiphenyl	7.220	172	51452	1.24	ug/mL	-0.02
Spiked Amount 2.500	Range 30 - 115		Recovery = 49.60%			
17) p-Terphenyl-d14	11.931	244	100617	2.41	ug/mL	-0.01
Spiked Amount 2.500	Range 18 - 137		Recovery = 96.40%			
Target Compounds						Qvalue
3) Naphthalene	5.937	128	28037	0.2358	ug/mL	98
4) 2-Methylnaphthalene	6.767	142	18641	0.2333	ug/mL	98
5) 1-Methylnaphthalene	6.903	142	17224	0.2159	ug/mL	98
8) Acenaphthylene	7.908	152	26816	0.2380	ug/mL	100
9) Acenaphthene	8.131	154	17230	0.2380	ug/mL	98
10) Fluorene	8.761	166	21666	0.2492	ug/mL	99
12) Phenanthrene	9.971	178	46562	0.3893	ug/mL	100
13) Anthracene	10.030	178	41463	0.3820	ug/mL	99
14) Fluoranthene	11.485	202	71502	0.5757	ug/mL	100
16) Pyrene	11.780	202	76625	0.5258	ug/mL	100
18) Benzo[a]anthracene	13.279	228	62040	0.4878	ug/mL	100
19) Chrysene	13.333	228	65838	0.5184	ug/mL	97
21) Benzo[b]fluoranthene	14.758	252	71327	0.5017	ug/mL#	73
22) Benzo[k]fluoranthene	14.795	252	62755	0.4735	ug/mL#	73
23) Benzo[a]pyrene	15.313	252	66718	0.5005	ug/mL#	68
24) Indeno[1,2,3-cd]pyrene	17.700	276	74142	0.4592	ug/mL#	100
25) Dibenz[ah]anthracene	17.692	278	57694	0.4394	ug/mL#	100
26) Benzo[ghi]perylene	18.399	276	59023	0.4376	ug/mL	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04133.D
Acq On : 24 Mar 2011 9:03 pm
Operator : CAA
Sample : L11030669-07 MSD 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 15 Sample Multiplier: 2

Quant Time: Mar 25 07:06:28 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration



PAHQUANT.M Fri Mar 25 07:13:40 2011 Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04134.D
Acq On : 24 Mar 2011 9:31 pm
Operator : CAA
Sample : L11030669-08 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 16 Sample Multiplier: 2

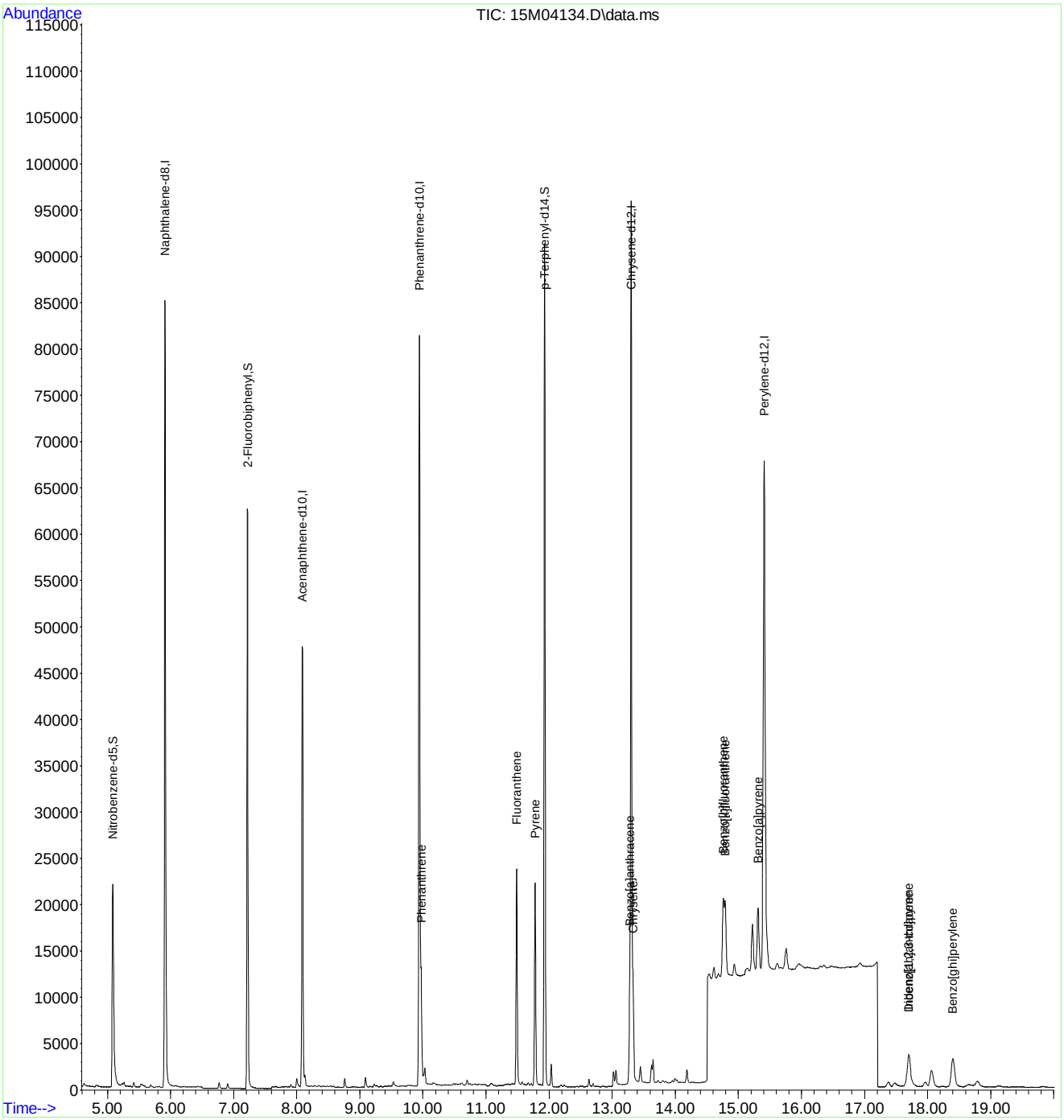
Quant Time: Mar 25 07:11:18 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration

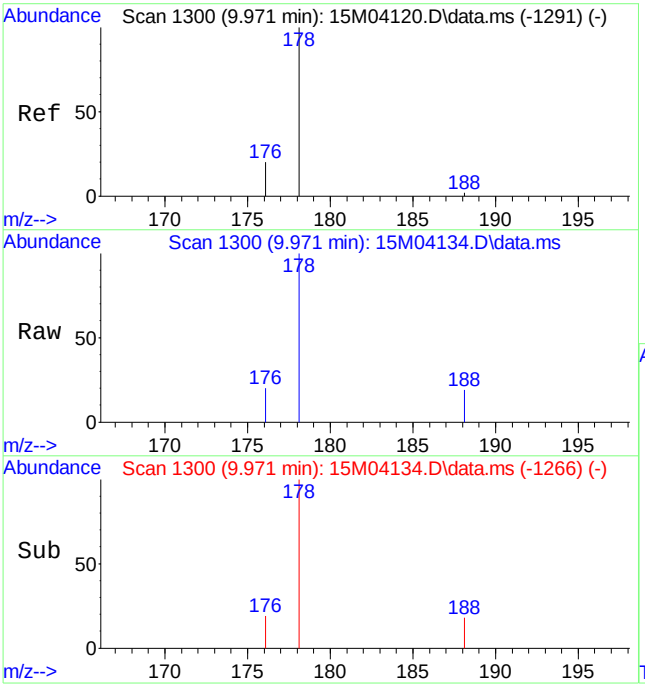
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8	5.911	136	112634	1.00 ug/mL	-0.01
6) Acenaphthene-d10	8.088	164	60346	1.00 ug/mL	-0.02
11) Phenanthrene-d10	9.945	188	102549	1.00 ug/mL	-0.01
15) Chrysene-d12	13.301	240	122073	1.00 ug/mL	-0.01
20) Perylene-d12	15.410	264	119994	1.00 ug/mL	-0.02
System Monitoring Compounds					
2) Nitrobenzene-d5	5.085	82	24916	1.30 ug/mL	-0.02
Spiked Amount 2.500	Range 23 - 120		Recovery	= 52.00%	
7) 2-Fluorobiphenyl	7.220	172	56523	1.42 ug/mL	-0.02
Spiked Amount 2.500	Range 30 - 115		Recovery	= 56.80%	
17) p-Terphenyl-d14	11.927	244	96584	2.40 ug/mL	-0.01
Spiked Amount 2.500	Range 18 - 137		Recovery	= 96.00%	
Target Compounds					Qvalue
12) Phenanthrene	9.971	178	11962	0.1038 ug/mL	99
14) Fluoranthene	11.485	202	25802	0.2157 ug/mL	100
16) Pyrene	11.780	202	24523	0.1744 ug/mL	93
18) Benzo[a]anthracene	13.279	228	9771	0.0796 ug/mL	96
19) Chrysene	13.333	228	12221	0.0997 ug/mL	91
21) Benzo[b]fluoranthene	14.762	252	12205	0.0887 ug/mL	82
22) Benzo[k]fluoranthene	14.787	252	12486m	0.0973 ug/mL	
23) Benzo[a]pyrene	15.313	252	11741	0.0910 ug/mL#	73
24) Indeno[1,2,3-cd]pyrene	17.700	276	10514	0.0673 ug/mL#	100
25) Dibenz[ah]anthracene	17.693	278	2967	0.0234 ug/mL#	100
26) Benzo[ghi]perylene	18.399	276	9661	0.0740 ug/mL	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04134.D
Acq On : 24 Mar 2011 9:31 pm
Operator : CAA
Sample : L11030669-08 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 16 Sample Multiplier: 2

Quant Time: Mar 25 07:11:18 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration

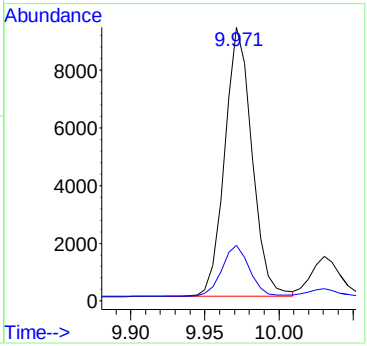


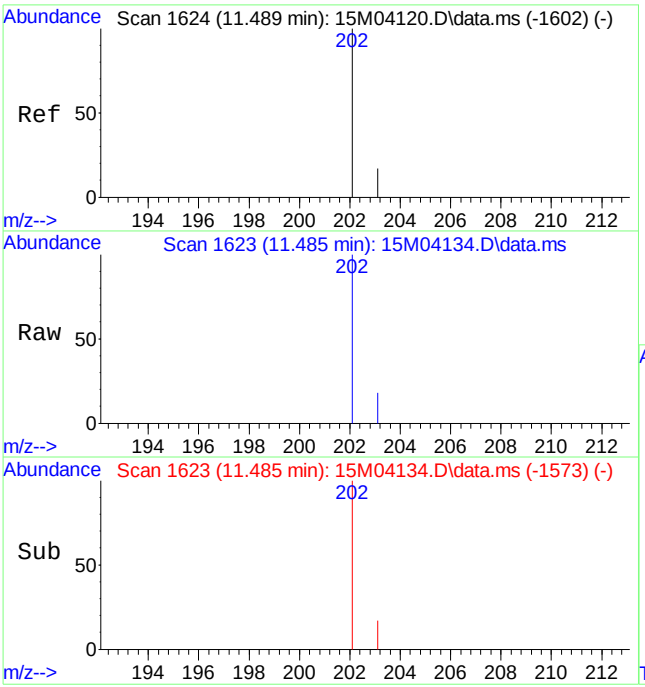


#12
Phenanthrene
Concen: 0.1038 ug/mL
RT: 9.971 min Scan# 1300
Delta R.T. -0.016 min
Lab File: 15M04134.D
Acq: 24 Mar 2011 9:31 pm

Tgt Ion:178 Resp: 11962

Ion	Ratio	Lower	Upper
178	100		
176	19.3	11.4	26.6

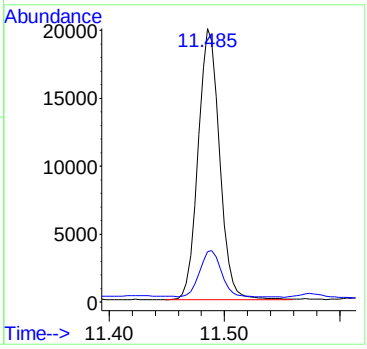


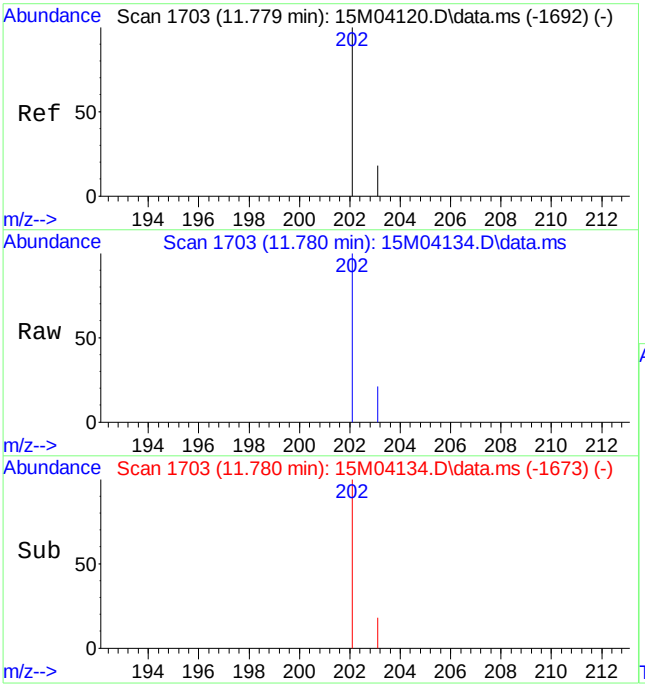


#14
Fluoranthene
Concen: 0.2157 ug/mL
RT: 11.485 min Scan# 1623
Delta R.T. -0.014 min
Lab File: 15M04134.D
Acq: 24 Mar 2011 9:31 pm

Tgt Ion:202 Resp: 25802

Ion	Ratio	Lower	Upper
202	100		
203	17.6	10.4	24.4

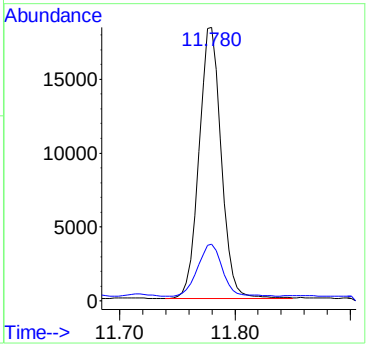


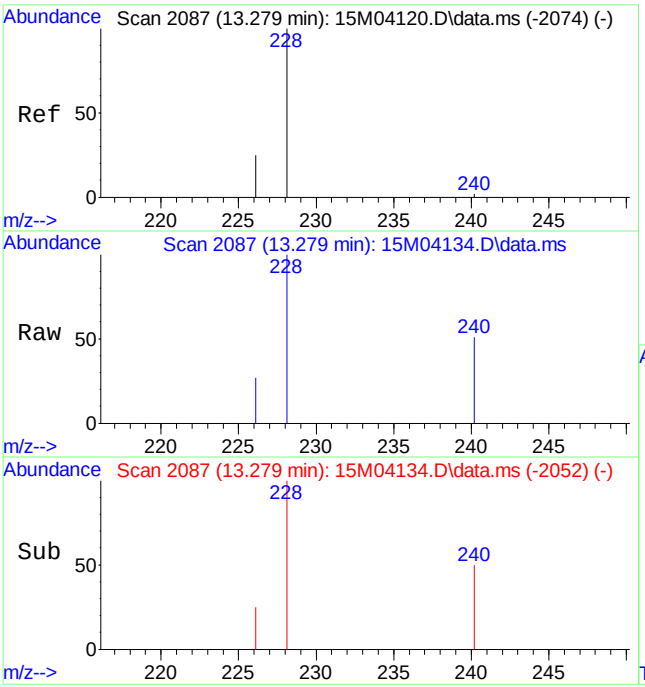


#16
Pyrene
Concen: 0.1744 ug/mL
RT: 11.780 min Scan# 1703
Delta R.T. -0.014 min
Lab File: 15M04134.D
Acq: 24 Mar 2011 9:31 pm

Tgt Ion:202 Resp: 24523

Ion	Ratio	Lower	Upper
202	100		
203	21.5	11.0	25.6

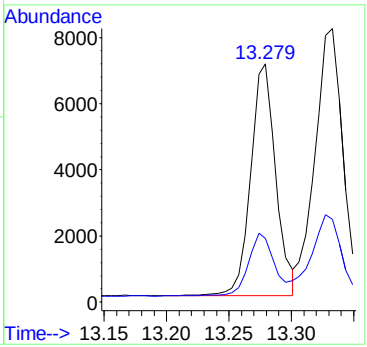


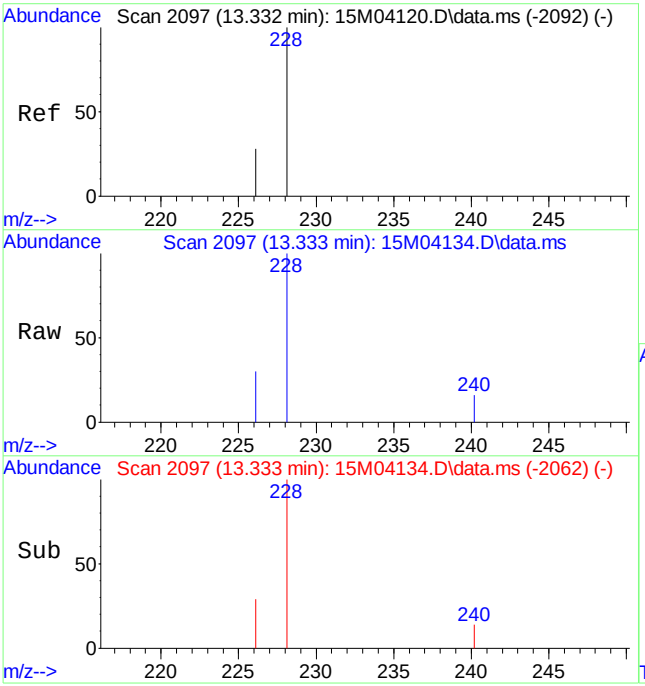


#18
Benzo[a]anthracene
Concen: 0.0796 ug/mL
RT: 13.279 min Scan# 2087
Delta R.T. -0.011 min
Lab File: 15M04134.D
Acq: 24 Mar 2011 9:31 pm

Tgt Ion:228 Resp: 9771

Ion	Ratio	Lower	Upper
228	100		
226	28.0	15.7	36.5

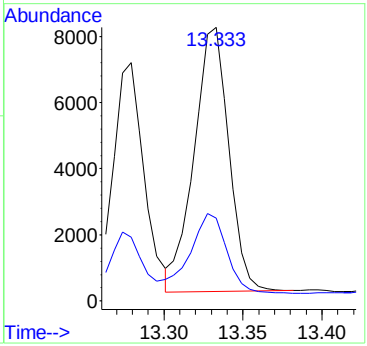


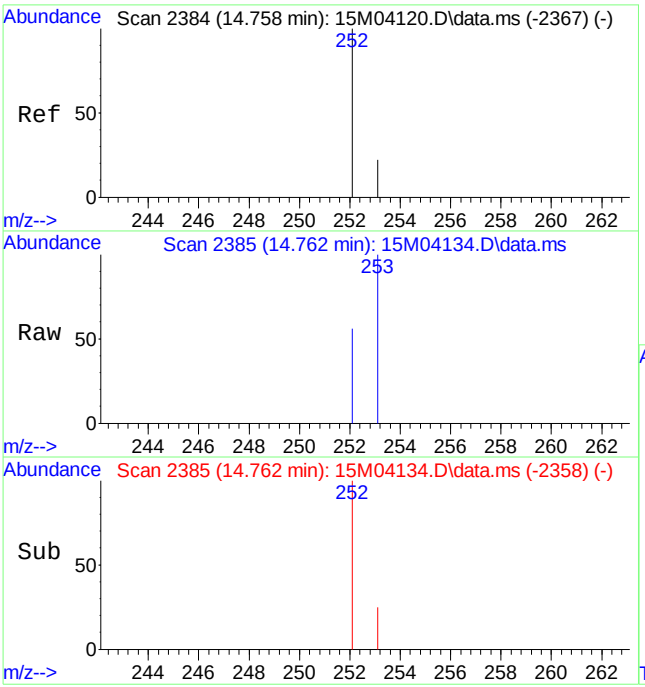


#19
Chrysene
Concen: 0.0997 ug/mL
RT: 13.333 min Scan# 2097
Delta R.T. -0.011 min
Lab File: 15M04134.D
Acq: 24 Mar 2011 9:31 pm

Tgt Ion:228 Resp: 12221

Ion	Ratio	Lower	Upper
228	100		
226	32.9	17.0	39.8

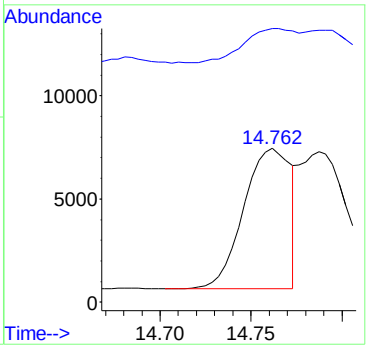


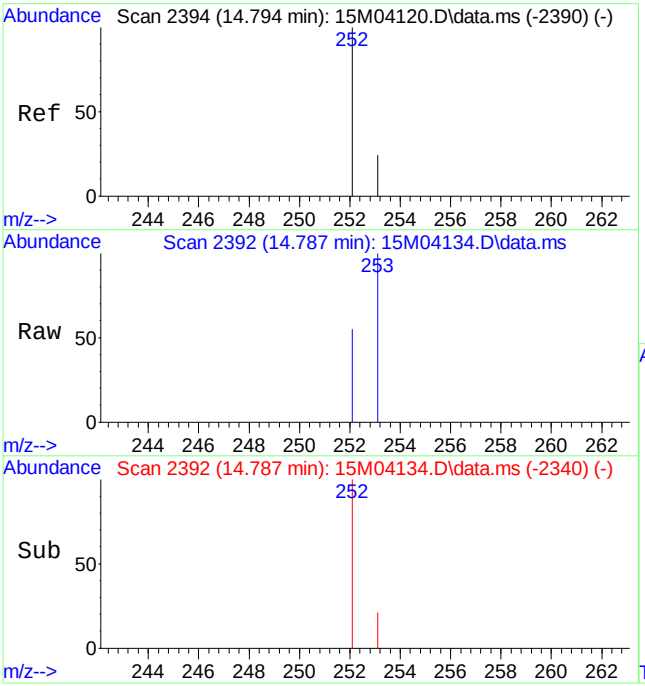


#21
Benzo[b]fluoranthene
Concen: 0.0887 ug/mL
RT: 14.762 min Scan# 2385
Delta R.T. -0.015 min
Lab File: 15M04134.D
Acq: 24 Mar 2011 9:31 pm

Tgt Ion:252 Resp: 12205

Ion	Ratio	Lower	Upper
252	100		
253	27.3	22.8	53.2

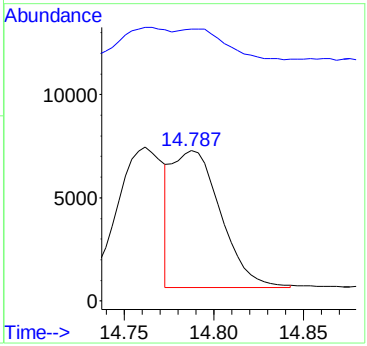


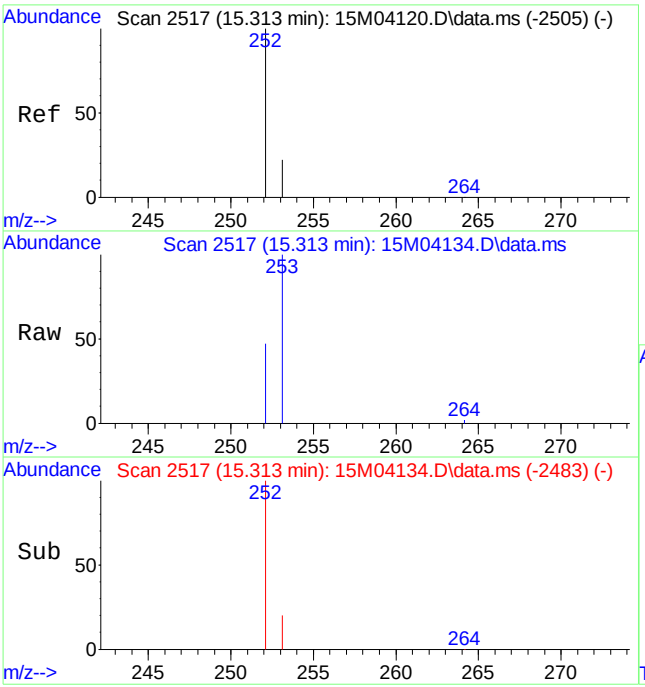


#22
Benzo[k]fluoranthene
Concen: 0.0973 ug/mL m
RT: 14.787 min Scan# 2392
Delta R.T. -0.022 min
Lab File: 15M04134.D
Acq: 24 Mar 2011 9:31 pm

Tgt Ion:252 Resp: 12486

Ion	Ratio	Lower	Upper
252	100		
253	26.7	23.0	53.6

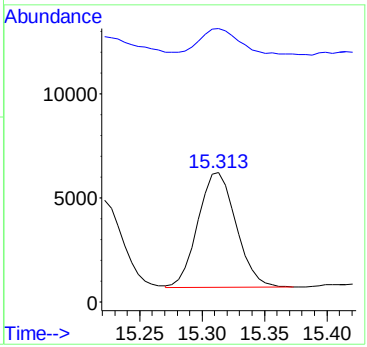


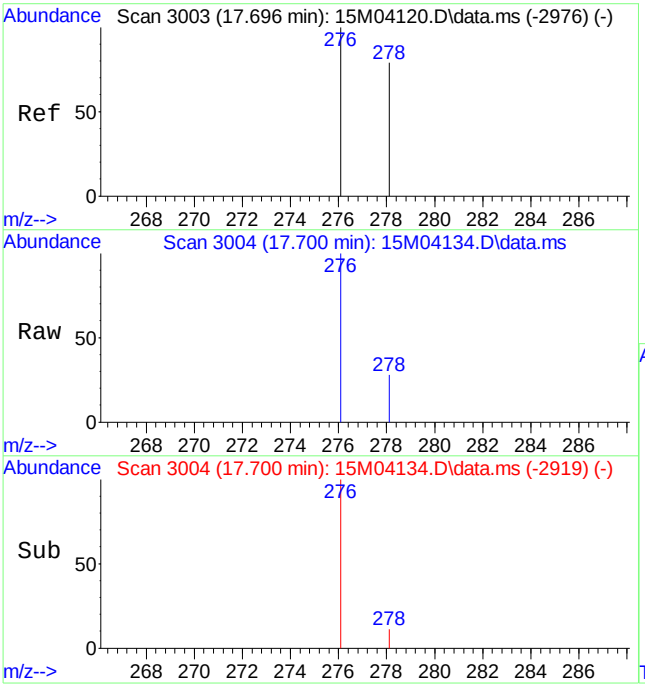


#23
Benzo[a]pyrene
Concen: 0.0910 ug/mL
RT: 15.313 min Scan# 2517
Delta R.T. -0.016 min
Lab File: 15M04134.D
Acq: 24 Mar 2011 9:31 pm

Tgt Ion:252 Resp: 11741

Ion	Ratio	Lower	Upper
252	100		
253	24.6	25.2	58.8#

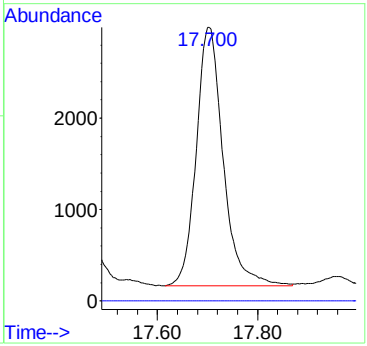


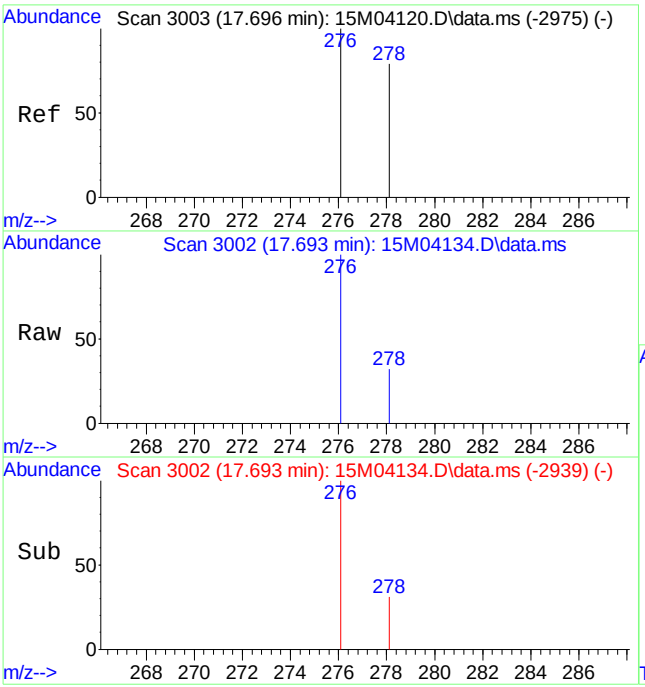


#24
Indeno[1,2,3-cd]pyrene
Concen: 0.0673 ug/mL
RT: 17.700 min Scan# 3004
Delta R.T. -0.026 min
Lab File: 15M04134.D
Acq: 24 Mar 2011 9:31 pm

Tgt Ion:276 Resp: 10514

Ion	Ratio	Lower	Upper
276	100		
277	0.0	0.0	0.0

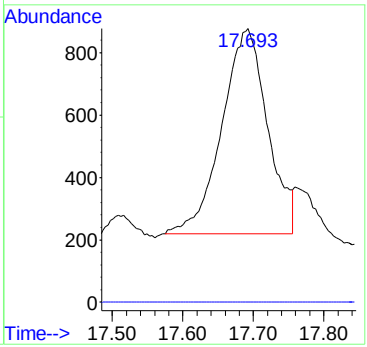


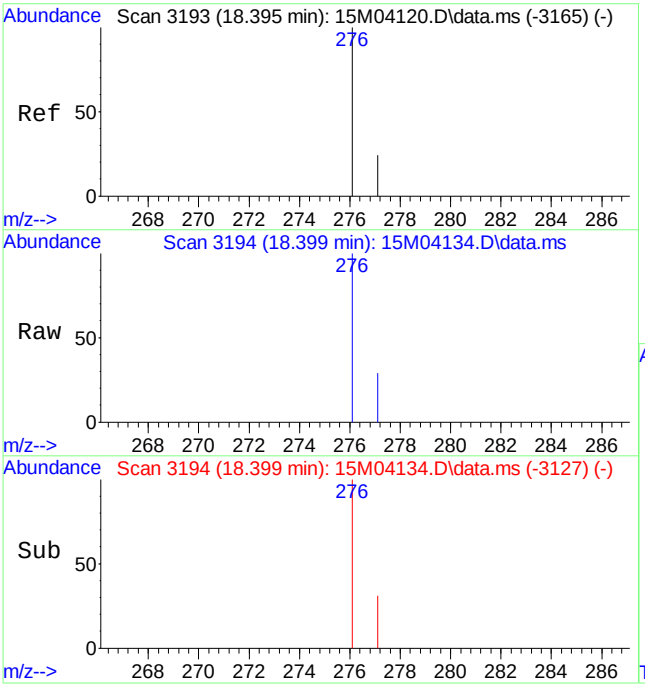


#25
Dibenz[ah]anthracene
Concen: 0.0234 ug/mL
RT: 17.693 min Scan# 3002
Delta R.T. -0.029 min
Lab File: 15M04134.D
Acq: 24 Mar 2011 9:31 pm

Tgt Ion:278 Resp: 2967

Ion	Ratio	Lower	Upper
278	100		
279	0.0	0.0	0.0

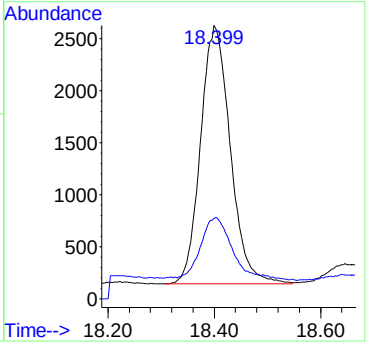




#26
Benzo[ghi]perylene
Concen: 0.0740 ug/mL
RT: 18.399 min Scan# 3194
Delta R.T. -0.026 min
Lab File: 15M04134.D
Acq: 24 Mar 2011 9:31 pm

Tgt Ion:276 Resp: 9661

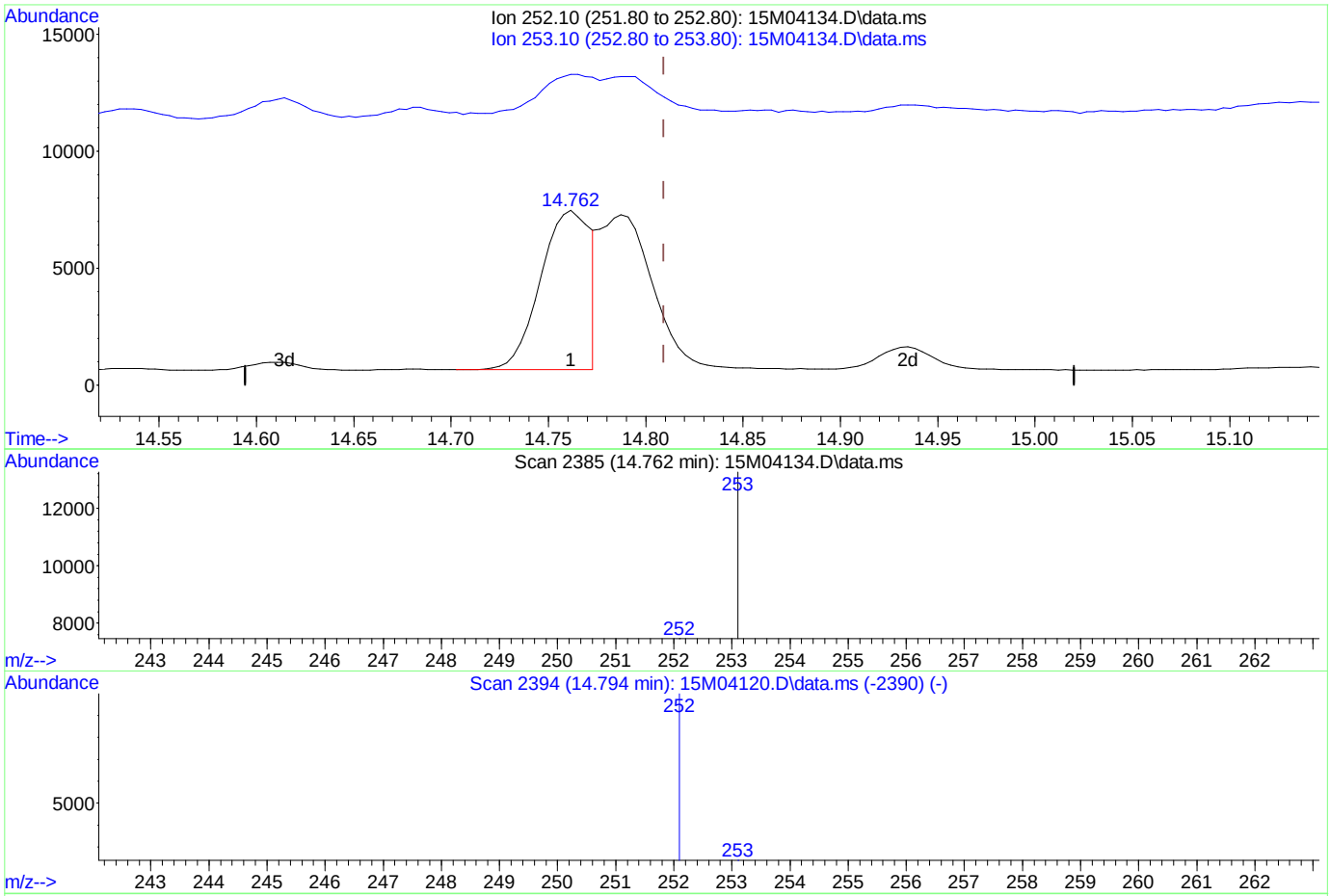
Ion	Ratio	Lower	Upper
276	100		
277	25.6	14.5	33.7



Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04134.D
Acq On : 24 Mar 2011 9:31 pm
Operator : CAA
Sample : L11030669-08 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 16 Sample Multiplier: 2

Quant Time: Mar 25 07:06:30 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration



TIC: 15M04134.D\data.ms

(22) Benzo[k]fluoranthene

14.762min (-0.048) 0.10 ug/mL

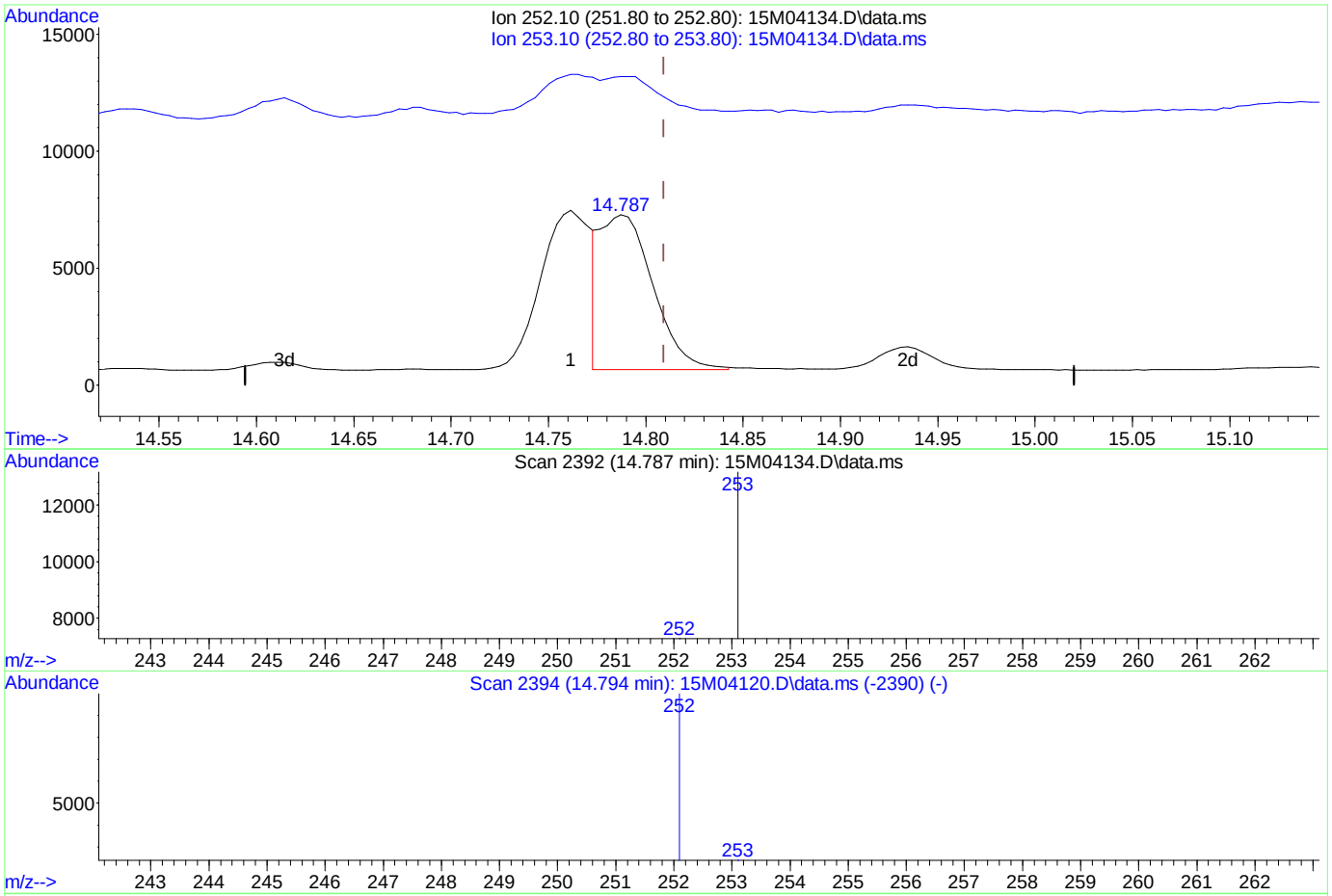
response 12205

Ion	Exp%	Act%
252.10	100	100
253.10	38.30	27.30
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04134.D
Acq On : 24 Mar 2011 9:31 pm
Operator : CAA
Sample : L11030669-08 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 16 Sample Multiplier: 2

Quant Time: Mar 25 07:06:30 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration



TIC: 15M04134.D\data.ms

(22) Benzo[k]fluoranthene

14.787min (-0.022) 0.10 ug/mL mint

response 12486

Ion	Exp%	Act%
252.10	100	100
253.10	38.30	26.69
0.00	0.00	0.00
0.00	0.00	0.00

Analyst: 03/25/2011 07:43 Supervisor: 03/25/2011 09:24

#3 - Improperly integrated isomers and/or coeluting compounds

PAHQUANT.M Fri Mar 25 07:11:20 2011

Page: 1

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04135.D
Acq On : 24 Mar 2011 9:59 pm
Operator : CAA
Sample : L11030669-09 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 17 Sample Multiplier: 2

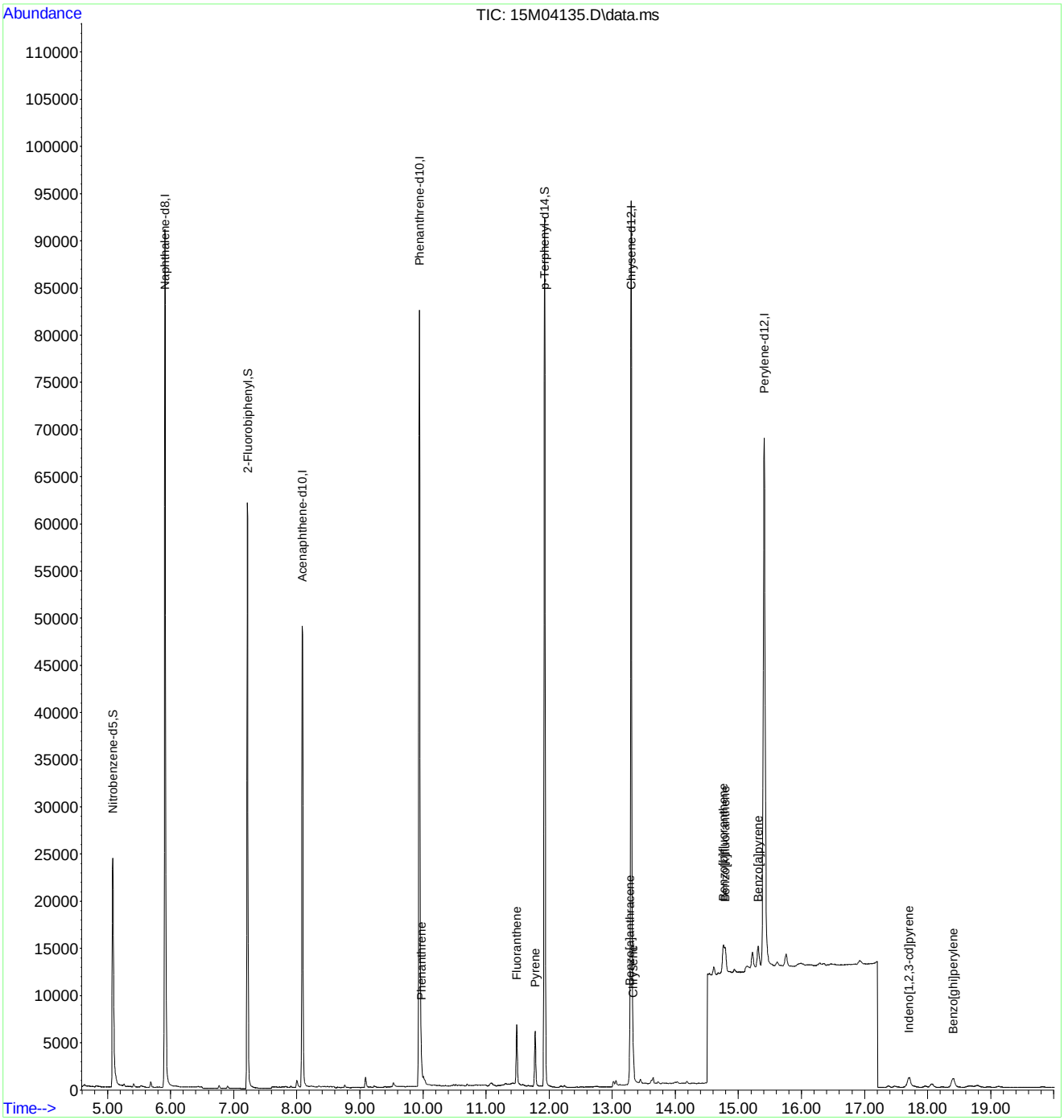
Quant Time: Mar 25 07:11:30 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration

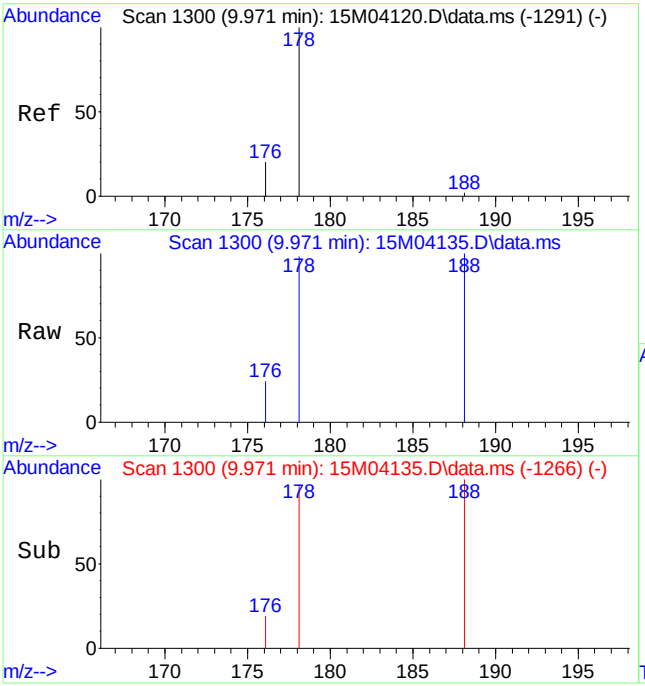
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8	5.910	136	116602	1.00 ug/mL	-0.01
6) Acenaphthene-d10	8.088	164	61618	1.00 ug/mL	-0.02
11) Phenanthrene-d10	9.944	188	104717	1.00 ug/mL	-0.01
15) Chrysene-d12	13.300	240	124353	1.00 ug/mL	-0.01
20) Perylene-d12	15.410	264	124012	1.00 ug/mL	-0.02
System Monitoring Compounds					
2) Nitrobenzene-d5	5.085	82	26086	1.31 ug/mL	-0.02
Spiked Amount 2.500	Range 23 - 120		Recovery	= 52.40%	
7) 2-Fluorobiphenyl	7.220	172	55936	1.37 ug/mL	-0.02
Spiked Amount 2.500	Range 30 - 115		Recovery	= 54.80%	
17) p-Terphenyl-d14	11.930	244	99298	2.42 ug/mL	-0.01
Spiked Amount 2.500	Range 18 - 137		Recovery	= 96.80%	
Target Compounds					Qvalue
12) Phenanthrene	9.971	178	2893	0.0246 ug/mL	99
14) Fluoranthene	11.489	202	7056	0.0578 ug/mL	85
16) Pyrene	11.780	202	6609	0.0461 ug/mL	92
18) Benzo[a]anthracene	13.279	228	2878	0.0230 ug/mL	98
19) Chrysene	13.333	228	3887	0.0311 ug/mL	90
21) Benzo[b]fluoranthene	14.758	252	4578	0.0322 ug/mL#	55
22) Benzo[k]fluoranthene	14.787	252	3782m	0.0285 ug/mL	
23) Benzo[a]pyrene	15.313	252	3672	0.0275 ug/mL	77
24) Indeno[1,2,3-cd]pyrene	17.703	276	3508	0.0217 ug/mL#	100
26) Benzo[ghi]perylene	18.403	276	2955	0.0219 ug/mL#	51

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04135.D
Acq On : 24 Mar 2011 9:59 pm
Operator : CAA
Sample : L11030669-09 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 17 Sample Multiplier: 2

Quant Time: Mar 25 07:11:30 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration

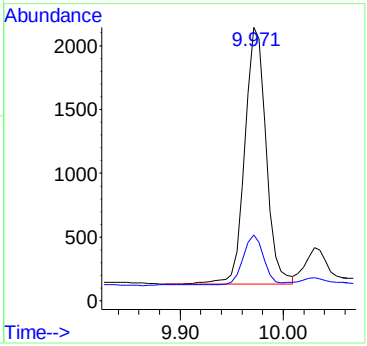


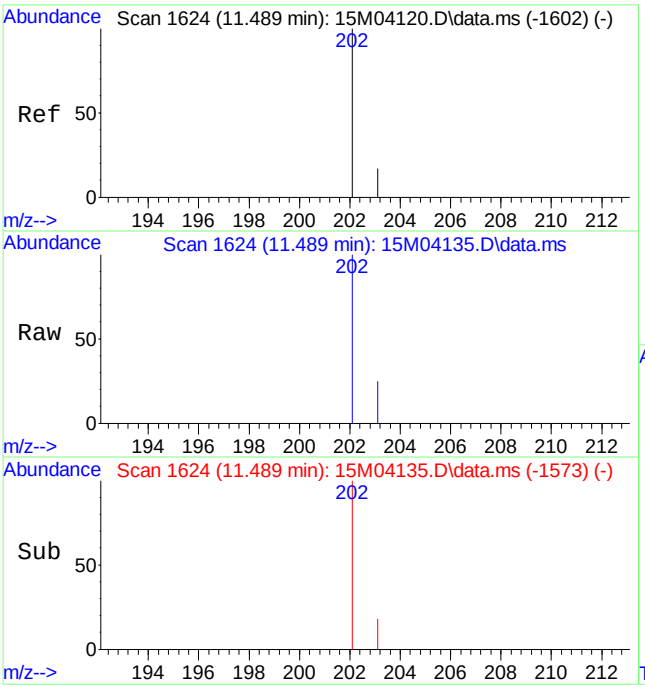


#12
Phenanthrene
Concen: 0.0246 ug/mL
RT: 9.971 min Scan# 1300
Delta R.T. -0.016 min
Lab File: 15M04135.D
Acq: 24 Mar 2011 9:59 pm

Tgt Ion:178 Resp: 2893

Ion	Ratio	Lower	Upper
178	100		
176	18.4	11.4	26.6

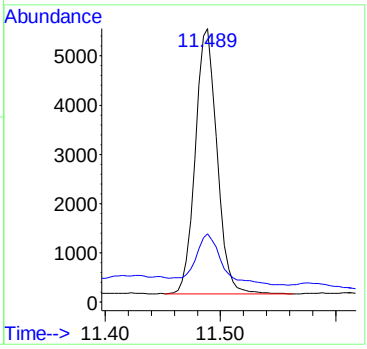


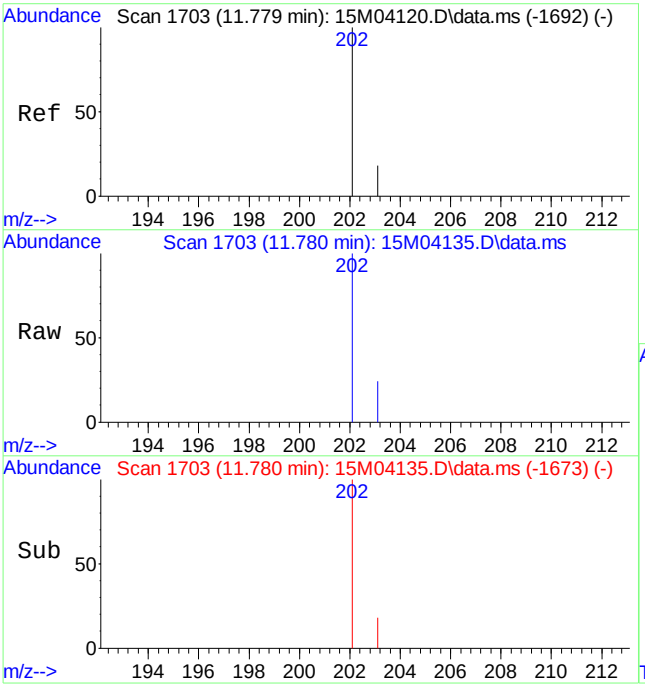


#14
Fluoranthene
Concen: 0.0578 ug/mL
RT: 11.489 min Scan# 1624
Delta R.T. -0.011 min
Lab File: 15M04135.D
Acq: 24 Mar 2011 9:59 pm

Tgt Ion:202 Resp: 7056

Ion	Ratio	Lower	Upper
202	100		
203	23.8	10.4	24.4

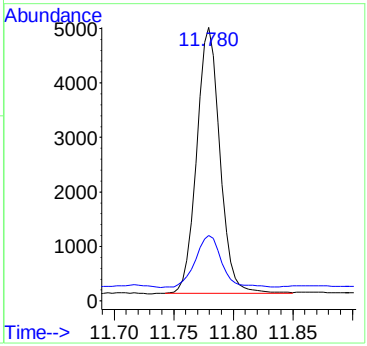


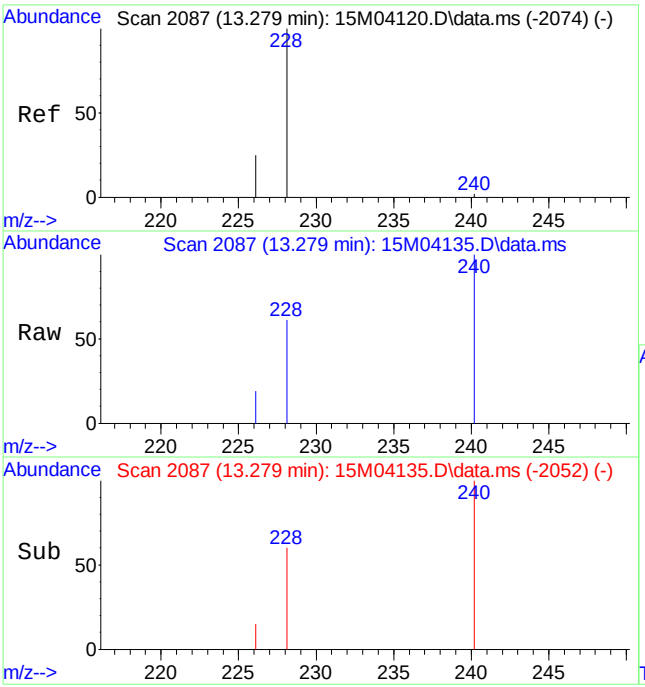


#16
Pyrene
Concen: 0.0461 ug/mL
RT: 11.780 min Scan# 1703
Delta R.T. -0.015 min
Lab File: 15M04135.D
Acq: 24 Mar 2011 9:59 pm

Tgt Ion:202 Resp: 6609

Ion	Ratio	Lower	Upper
202	100		
203	21.7	11.0	25.6

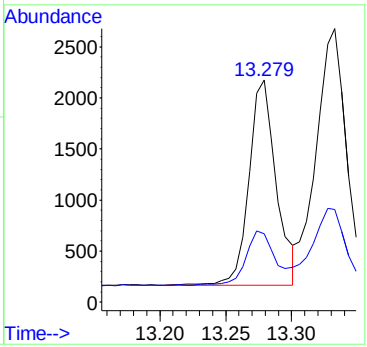


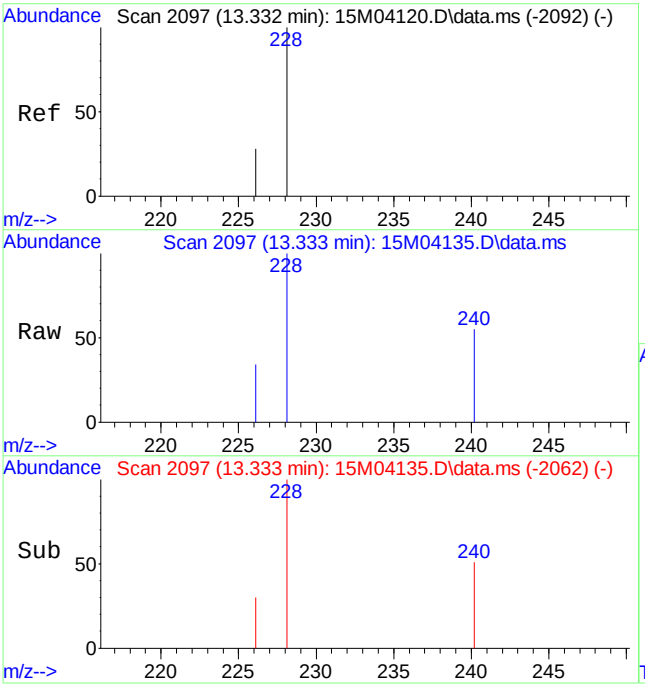


#18
Benzo[a]anthracene
Concen: 0.0230 ug/mL
RT: 13.279 min Scan# 2087
Delta R.T. -0.011 min
Lab File: 15M04135.D
Acq: 24 Mar 2011 9:59 pm

Tgt Ion:228 Resp: 2878

Ion	Ratio	Lower	Upper
228	100		
226	27.3	15.7	36.5

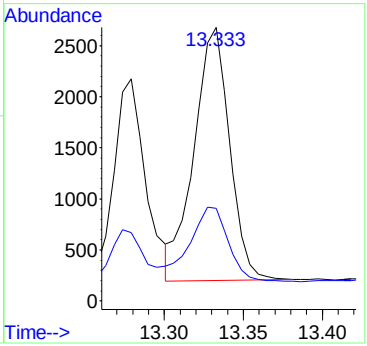


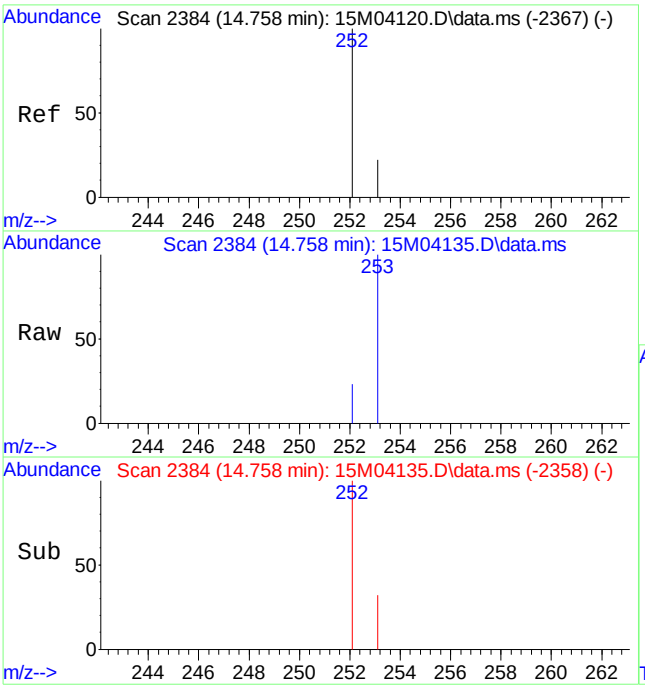


#19
Chrysene
Concen: 0.0311 ug/mL
RT: 13.333 min Scan# 2097
Delta R.T. -0.011 min
Lab File: 15M04135.D
Acq: 24 Mar 2011 9:59 pm

Tgt Ion:228 Resp: 3887

Ion	Ratio	Lower	Upper
228	100		
226	33.8	17.0	39.8

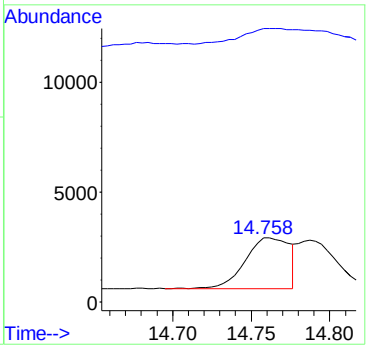


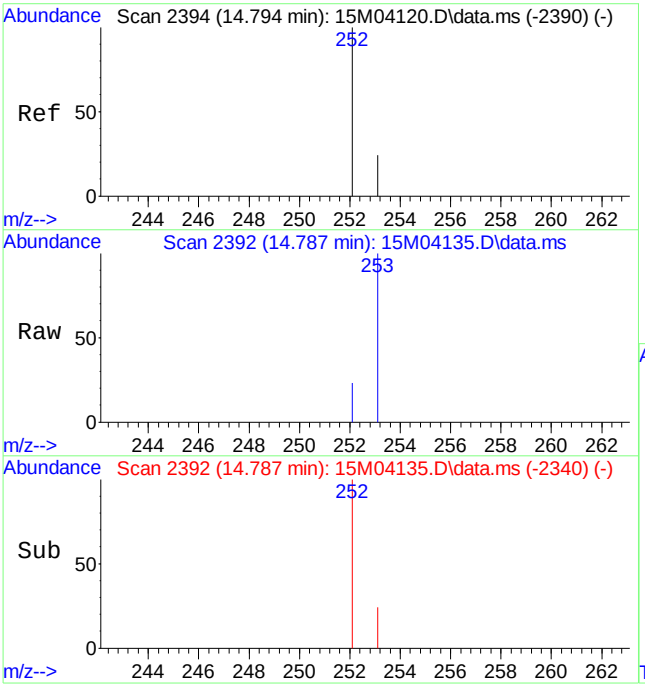


#21
Benzo[b]fluoranthene
Concen: 0.0322 ug/mL
RT: 14.758 min Scan# 2384
Delta R.T. -0.018 min
Lab File: 15M04135.D
Acq: 24 Mar 2011 9:59 pm

Tgt Ion:252 Resp: 4578

Ion	Ratio	Lower	Upper
252	100		
253	65.0	22.8	53.2#

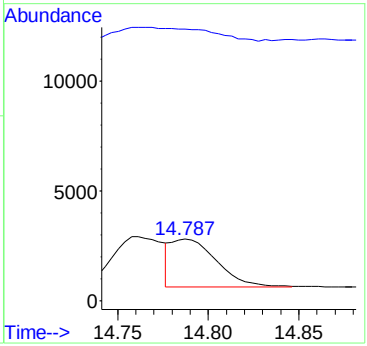


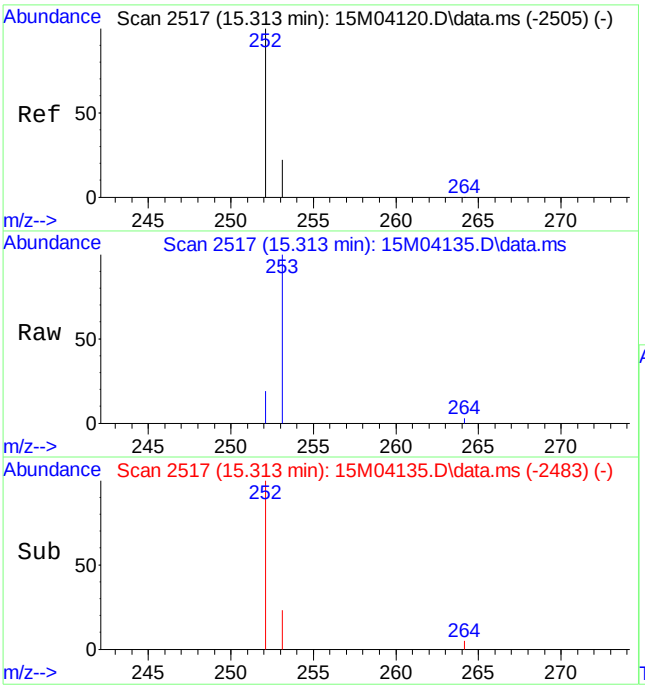


#22
Benzo[k]fluoranthene
Concen: 0.0285 ug/mL m
RT: 14.787 min Scan# 2392
Delta R.T. -0.022 min
Lab File: 15M04135.D
Acq: 24 Mar 2011 9:59 pm

Tgt Ion:252 Resp: 3782

Ion	Ratio	Lower	Upper
252	100		
253	76.1	23.0	53.6#

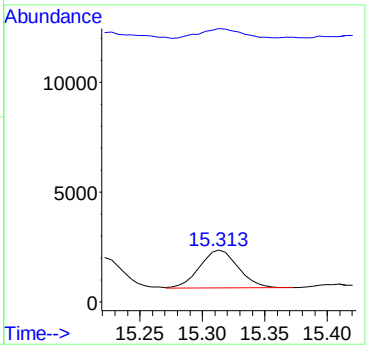


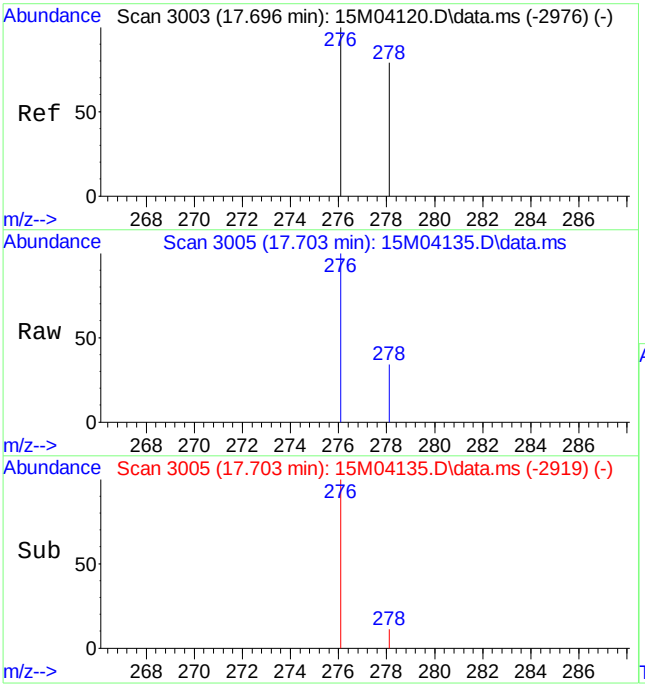


#23
Benzo[a]pyrene
Concen: 0.0275 ug/mL
RT: 15.313 min Scan# 2517
Delta R.T. -0.016 min
Lab File: 15M04135.D
Acq: 24 Mar 2011 9:59 pm

Tgt Ion:252 Resp: 3672

Ion	Ratio	Lower	Upper
252	100		
253	27.3	25.2	58.8

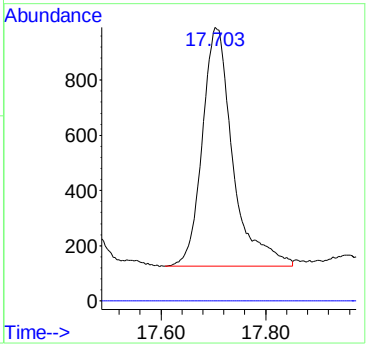


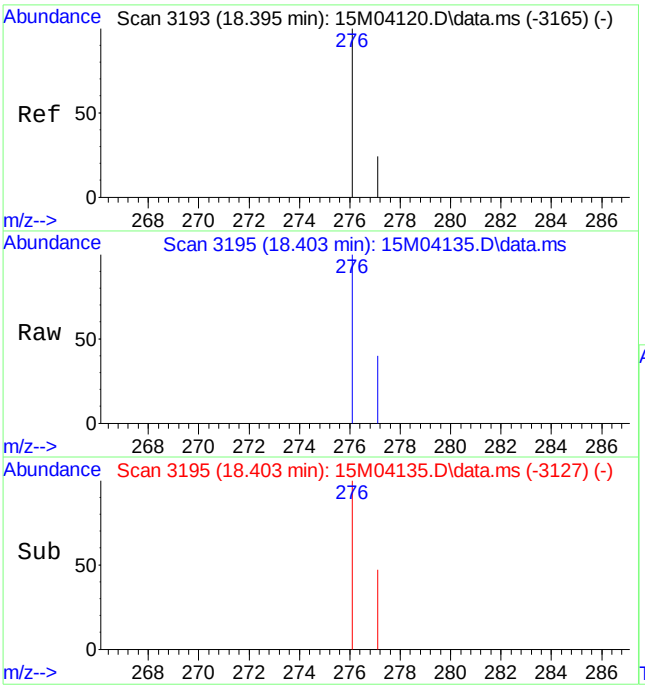


#24
Indeno[1,2,3-cd]pyrene
Concen: 0.0217 ug/mL
RT: 17.703 min Scan# 3005
Delta R.T. -0.022 min
Lab File: 15M04135.D
Acq: 24 Mar 2011 9:59 pm

Tgt Ion:276 Resp: 3508

Ion	Ratio	Lower	Upper
276	100		
277	0.0	0.0	0.0

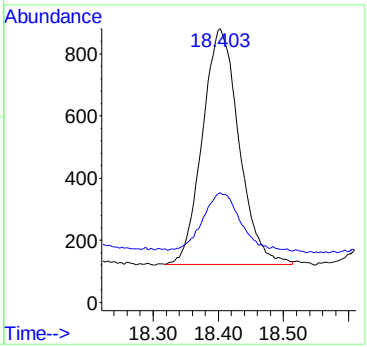




#26
Benzo[ghi]perylene
Concen: 0.0219 ug/mL
RT: 18.403 min Scan# 3195
Delta R.T. -0.022 min
Lab File: 15M04135.D
Acq: 24 Mar 2011 9:59 pm

Tgt Ion:276 Resp: 2955

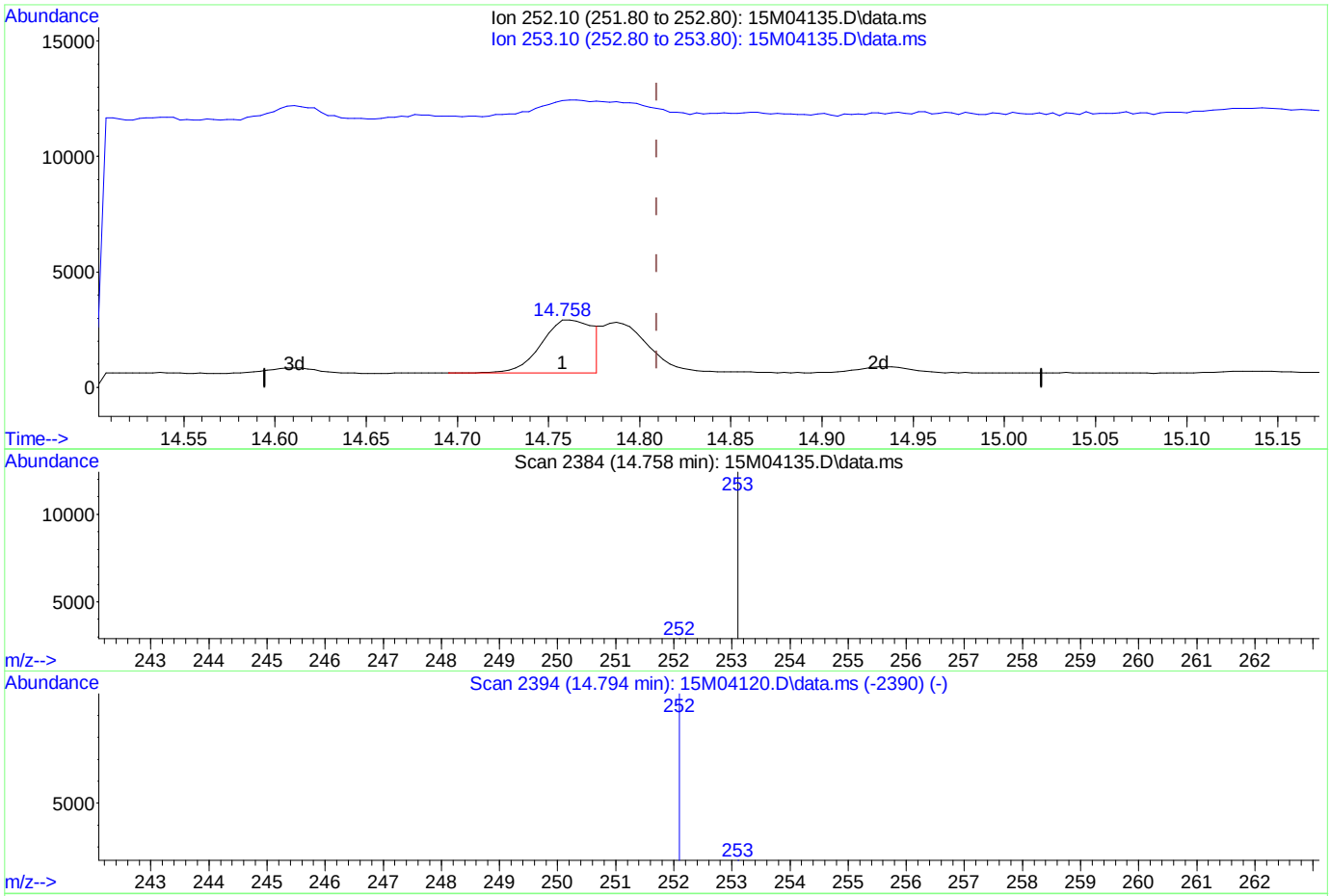
Ion	Ratio	Lower	Upper
276	100		
277	0.0	14.5	33.7#



Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04135.D
Acq On : 24 Mar 2011 9:59 pm
Operator : CAA
Sample : L11030669-09 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 17 Sample Multiplier: 2

Quant Time: Mar 25 07:06:32 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration



TIC: 15M04135.D\data.ms

(22) Benzo[k]fluoranthene

14.758min (-0.052) 0.03 ug/mL

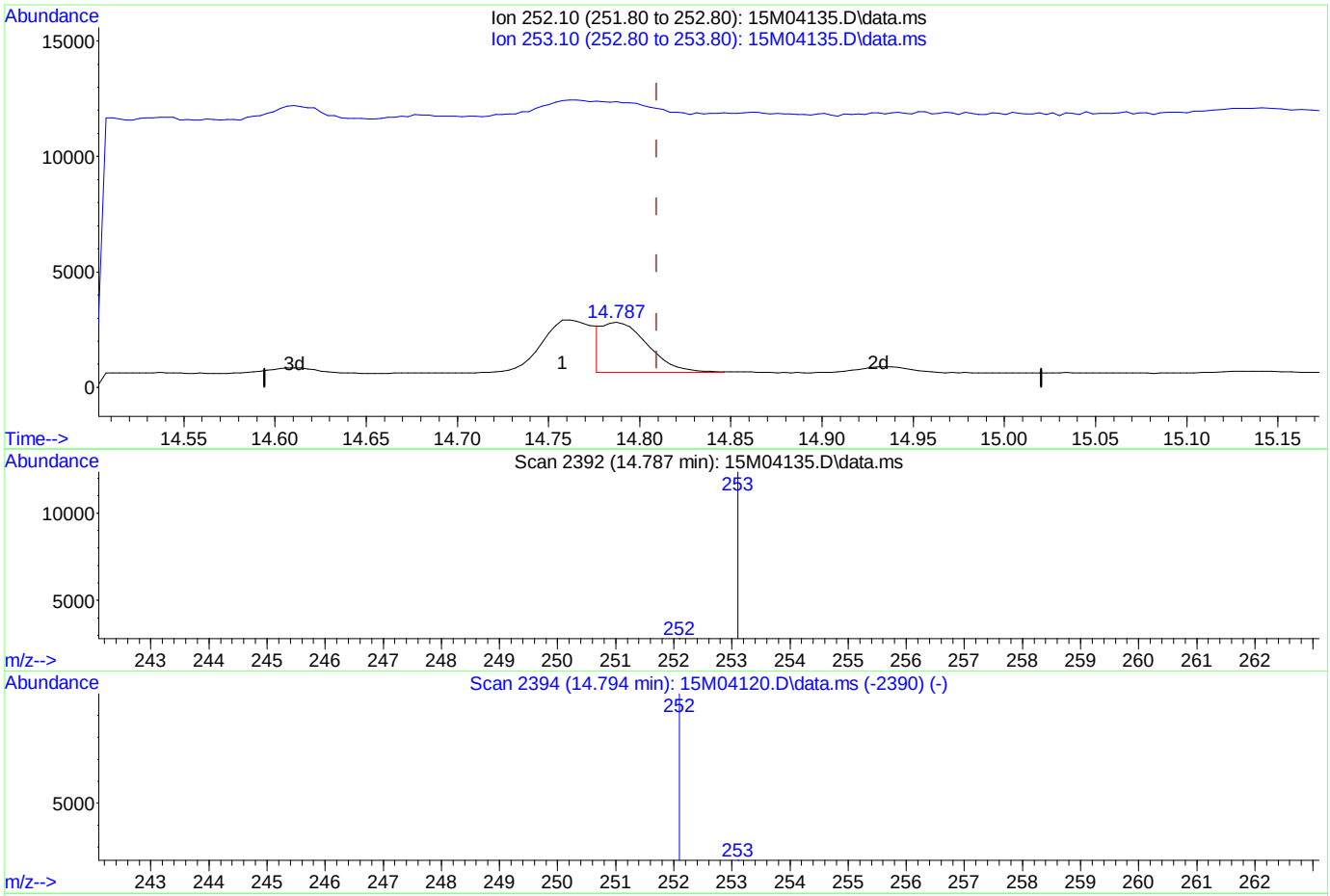
response 4578

Ion	Exp%	Act%
252.10	100	100
253.10	38.30	62.87#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04135.D
Acq On : 24 Mar 2011 9:59 pm
Operator : CAA
Sample : L11030669-09 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 17 Sample Multiplier: 2

Quant Time: Mar 25 07:06:32 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration



TIC: 15M04135.D\data.ms

(22) Benzo[k]fluoranthene

14.787min (-0.022) 0.03 ug/mL mint

response 3782

Ion	Exp%	Act%
252.10	100	100
253.10	38.30	76.10#
0.00	0.00	0.00
0.00	0.00	0.00

Analyst: 03/25/2011 07:43 Supervisor: 03/25/2011 09:24

#3 - Improperly integrated isomers and/or coeluting compounds

PAHQUANT.M Fri Mar 25 07:11:32 2011

Page: 1

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04136.D
Acq On : 24 Mar 2011 10:27 pm
Operator : CAA
Sample : L11030669-10 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 18 Sample Multiplier: 2

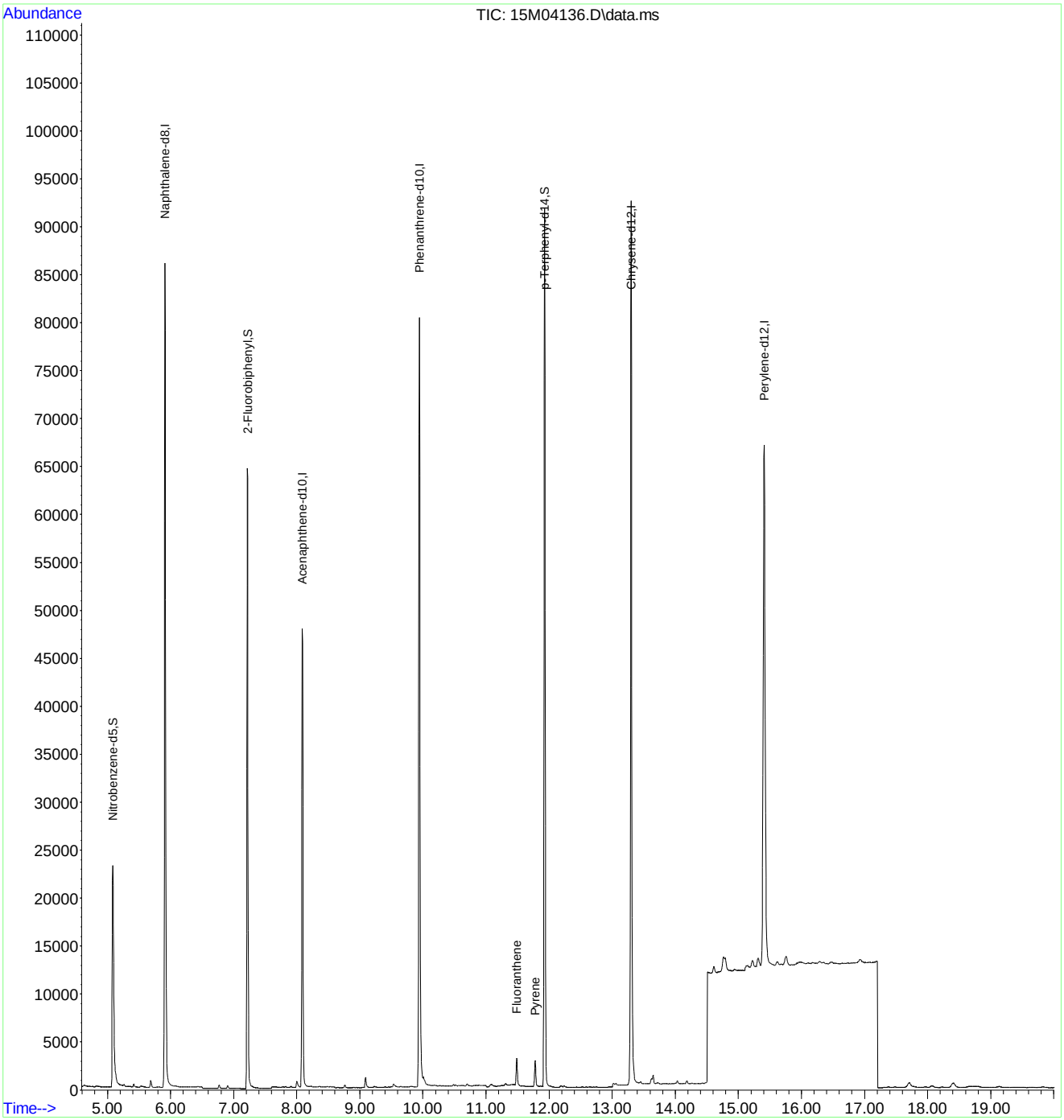
Quant Time: Mar 25 07:06:34 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration

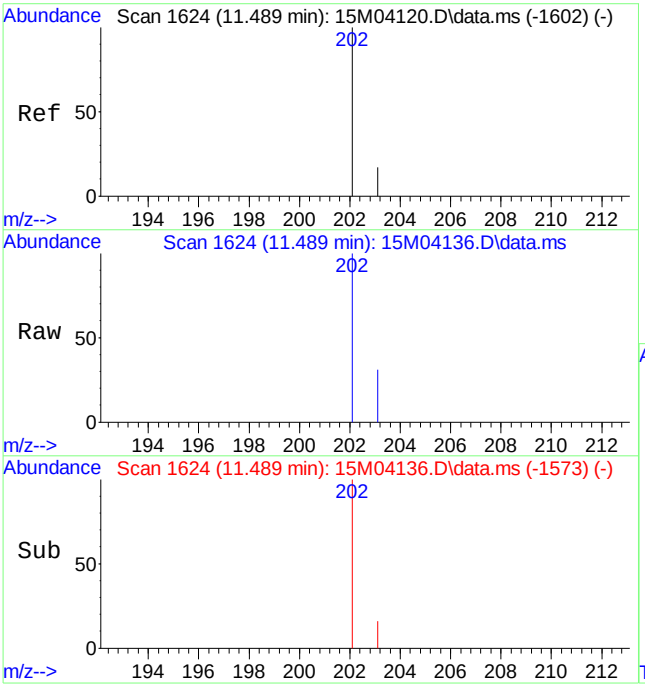
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8	5.910	136	114133	1.00 ug/mL	-0.01
6) Acenaphthene-d10	8.088	164	60700	1.00 ug/mL	-0.02
11) Phenanthrene-d10	9.944	188	103164	1.00 ug/mL	-0.01
15) Chrysene-d12	13.301	240	122123	1.00 ug/mL	-0.01
20) Perylene-d12	15.410	264	119864	1.00 ug/mL	-0.02
System Monitoring Compounds					
2) Nitrobenzene-d5	5.085	82	26400	1.35 ug/mL	-0.02
Spiked Amount 2.500	Range 23 - 120		Recovery	= 54.00%	
7) 2-Fluorobiphenyl	7.220	172	58501	1.46 ug/mL	-0.02
Spiked Amount 2.500	Range 30 - 115		Recovery	= 58.40%	
17) p-Terphenyl-d14	11.927	244	97686	2.42 ug/mL	-0.01
Spiked Amount 2.500	Range 18 - 137		Recovery	= 96.80%	
Target Compounds					Qvalue
14) Fluoranthene	11.489	202	3250	0.0270 ug/mL#	77
16) Pyrene	11.780	202	3024	0.0215 ug/mL	92

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04136.D
Acq On : 24 Mar 2011 10:27 pm
Operator : CAA
Sample : L11030669-10 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 18 Sample Multiplier: 2

Quant Time: Mar 25 07:06:34 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration

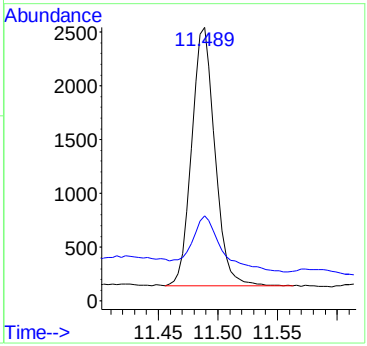


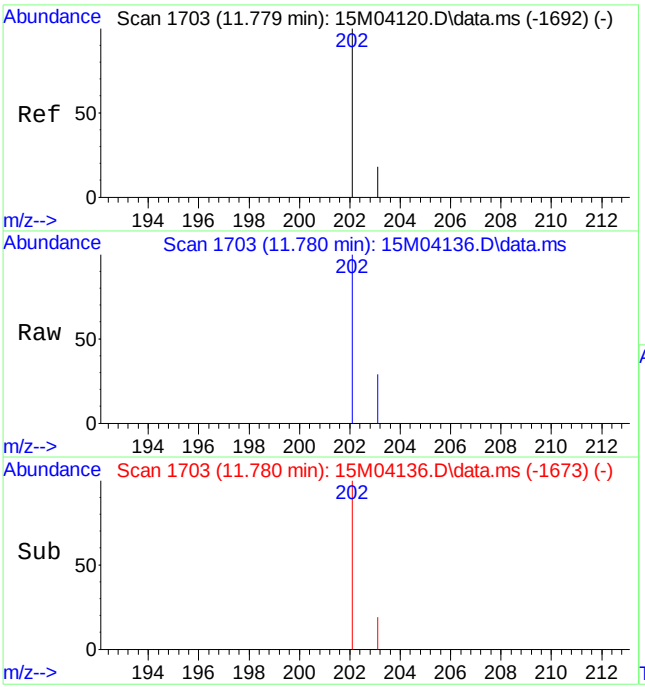


#14
Fluoranthene
Concen: 0.0270 ug/mL
RT: 11.489 min Scan# 1624
Delta R.T. -0.011 min
Lab File: 15M04136.D
Acq: 24 Mar 2011 10:27 pm

Tgt Ion:202 Resp: 3250

Ion	Ratio	Lower	Upper
202	100		
203	27.5	10.4	24.4#

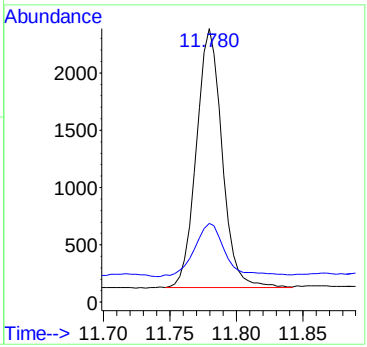




#16
Pyrene
Concen: 0.0215 ug/mL
RT: 11.780 min Scan# 1703
Delta R.T. -0.015 min
Lab File: 15M04136.D
Acq: 24 Mar 2011 10:27 pm

Tgt Ion:202 Resp: 3024

Ion	Ratio	Lower	Upper
202	100		
203	21.8	11.0	25.6



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04137.D
Acq On : 24 Mar 2011 10:55 pm
Operator : CAA
Sample : L11030669-11 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 19 Sample Multiplier: 2

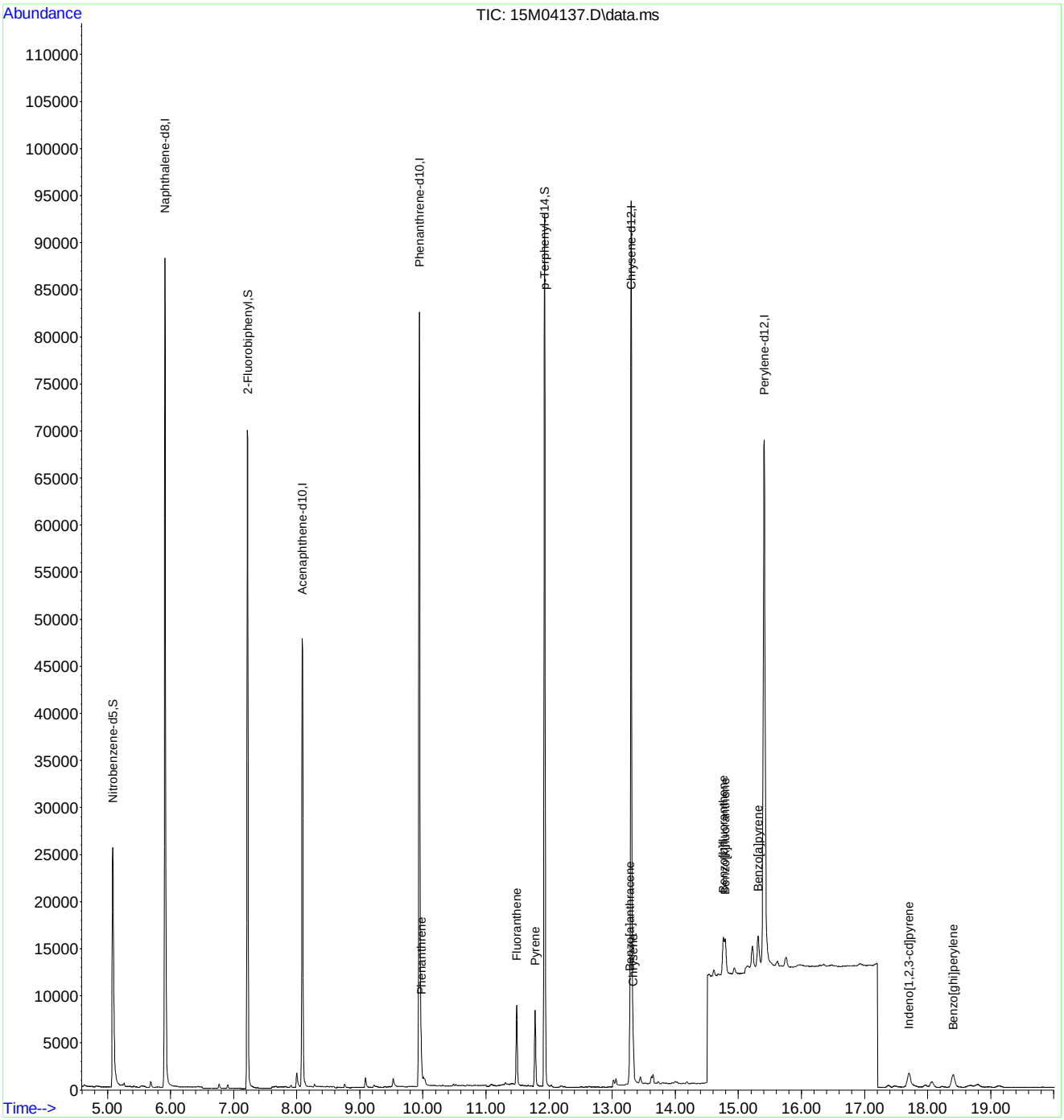
Quant Time: Mar 25 07:11:45 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration

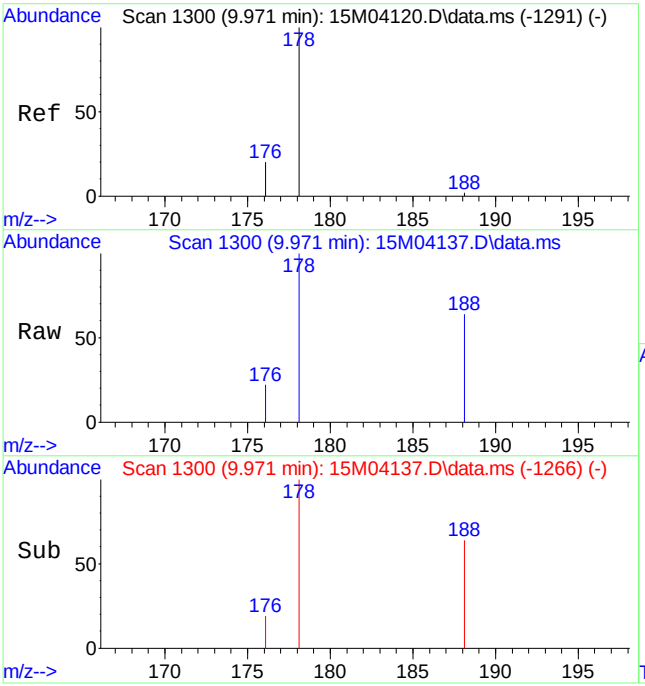
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8	5.910	136	114712	1.00 ug/mL	-0.01
6) Acenaphthene-d10	8.088	164	60994	1.00 ug/mL	-0.02
11) Phenanthrene-d10	9.945	188	104278	1.00 ug/mL	-0.01
15) Chrysene-d12	13.301	240	122339	1.00 ug/mL	-0.01
20) Perylene-d12	15.410	264	125350	1.00 ug/mL	-0.02
System Monitoring Compounds					
2) Nitrobenzene-d5	5.085	82	29202	1.49 ug/mL	-0.02
Spiked Amount 2.500	Range 23 - 120		Recovery	= 59.60%	
7) 2-Fluorobiphenyl	7.220	172	63608	1.58 ug/mL	-0.02
Spiked Amount 2.500	Range 30 - 115		Recovery	= 63.20%	
17) p-Terphenyl-d14	11.927	244	98274	2.44 ug/mL	-0.01
Spiked Amount 2.500	Range 18 - 137		Recovery	= 97.60%	
Target Compounds					Qvalue
12) Phenanthrene	9.971	178	3670	0.0313 ug/mL	99
14) Fluoranthene	11.485	202	9691	0.0797 ug/mL	92
16) Pyrene	11.780	202	9159	0.0650 ug/mL	93
18) Benzo[a]anthracene	13.279	228	4129	0.0336 ug/mL	97
19) Chrysene	13.333	228	5489	0.0447 ug/mL	94
21) Benzo[b]fluoranthene	14.762	252	6059	0.0422 ug/mL	89
22) Benzo[k]fluoranthene	14.787	252	5345m	0.0399 ug/mL	
23) Benzo[a]pyrene	15.313	252	5338	0.0396 ug/mL	80
24) Indeno[1,2,3-cd]pyrene	17.704	276	5109	0.0313 ug/mL#	100
26) Benzo[ghi]perylene	18.407	276	4206	0.0308 ug/mL	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04137.D
Acq On : 24 Mar 2011 10:55 pm
Operator : CAA
Sample : L11030669-11 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 19 Sample Multiplier: 2

Quant Time: Mar 25 07:11:45 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration

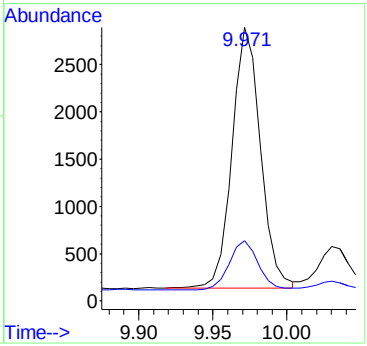


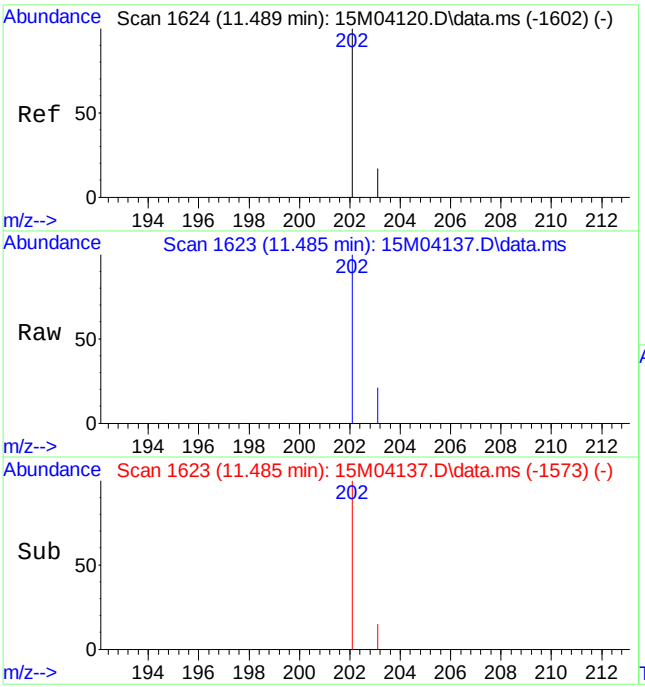


#12
Phenanthrene
Concen: 0.0313 ug/mL
RT: 9.971 min Scan# 1300
Delta R.T. -0.016 min
Lab File: 15M04137.D
Acq: 24 Mar 2011 10:55 pm

Tgt Ion:178 Resp: 3670

Ion	Ratio	Lower	Upper
178	100		
176	19.2	11.4	26.6

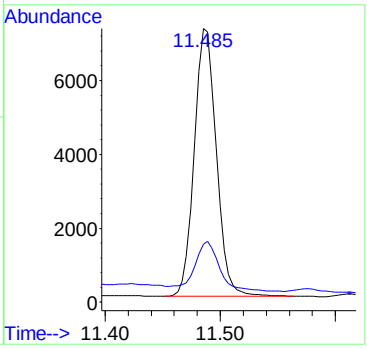


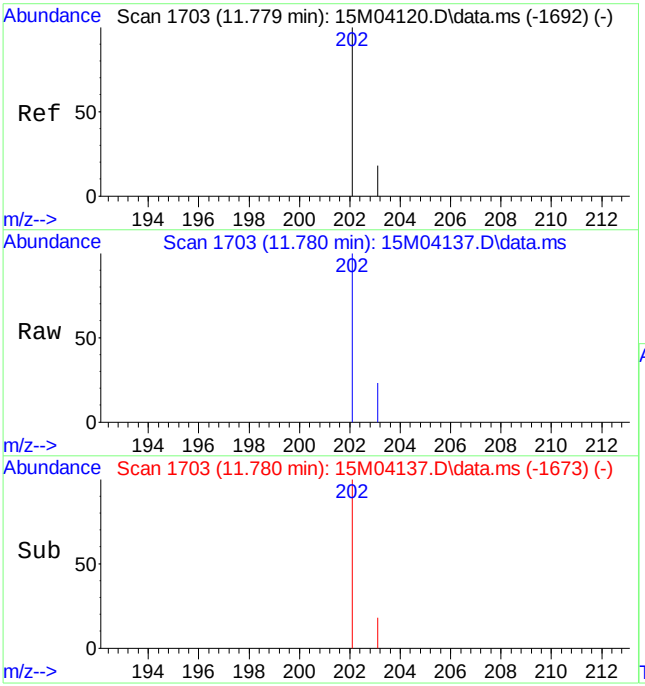


#14
Fluoranthene
Concen: 0.0797 ug/mL
RT: 11.485 min Scan# 1623
Delta R.T. -0.014 min
Lab File: 15M04137.D
Acq: 24 Mar 2011 10:55 pm

Tgt Ion:202 Resp: 9691

Ion	Ratio	Lower	Upper
202	100		
203	21.0	10.4	24.4

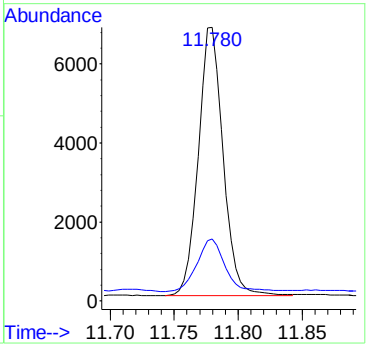


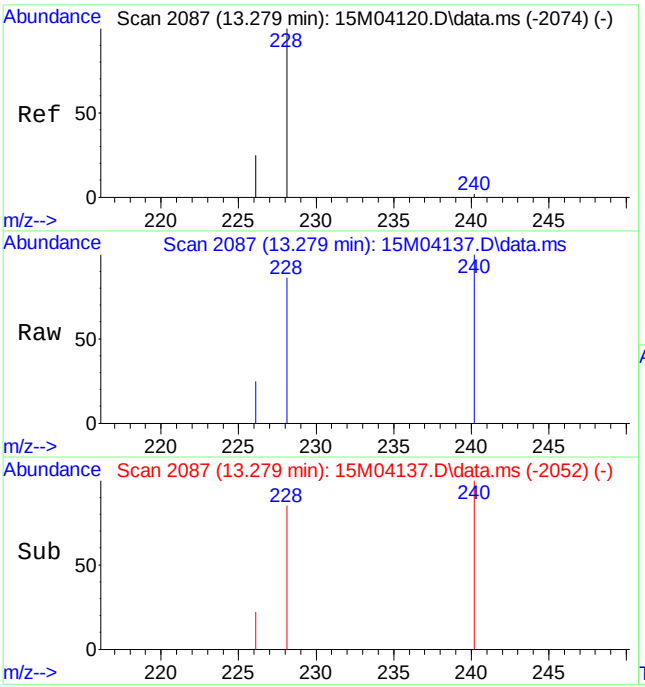


#16
Pyrene
Concen: 0.0650 ug/mL
RT: 11.780 min Scan# 1703
Delta R.T. -0.015 min
Lab File: 15M04137.D
Acq: 24 Mar 2011 10:55 pm

Tgt Ion:202 Resp: 9159

Ion	Ratio	Lower	Upper
202	100		
203	21.6	11.0	25.6

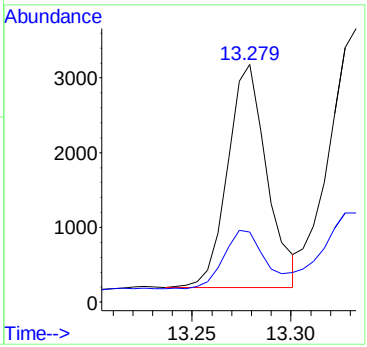


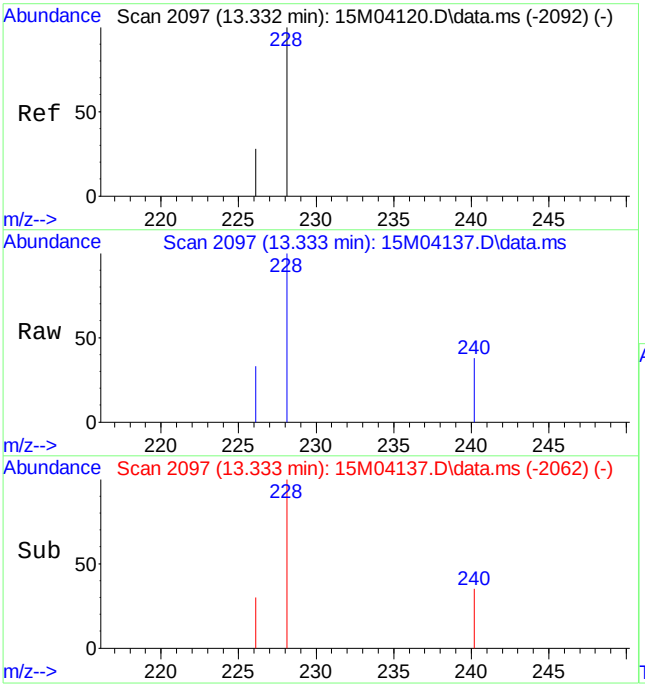


#18
Benzo[a]anthracene
Concen: 0.0336 ug/mL
RT: 13.279 min Scan# 2087
Delta R.T. -0.011 min
Lab File: 15M04137.D
Acq: 24 Mar 2011 10:55 pm

Tgt Ion:228 Resp: 4129

Ion	Ratio	Lower	Upper
228	100		
226	27.7	15.7	36.5

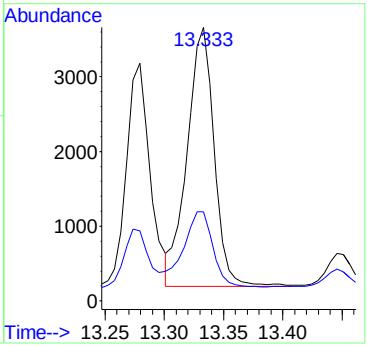


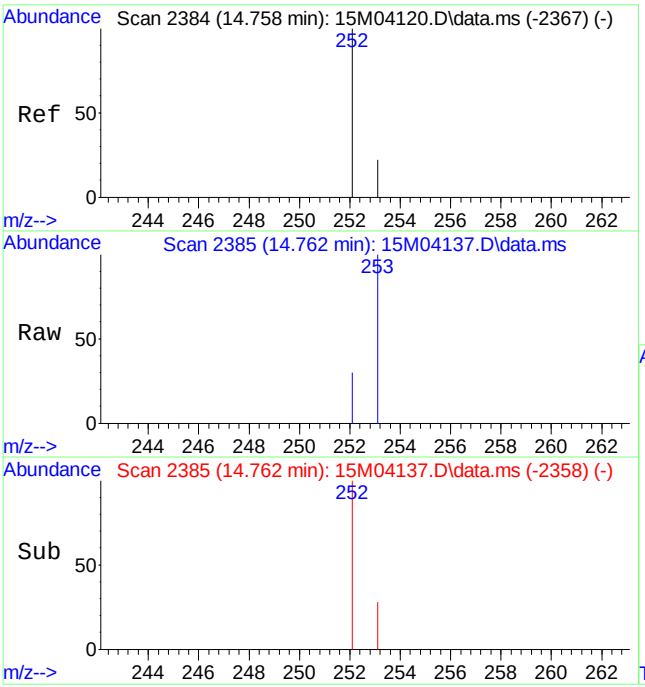


#19
Chrysene
Concen: 0.0447 ug/mL
RT: 13.333 min Scan# 2097
Delta R.T. -0.011 min
Lab File: 15M04137.D
Acq: 24 Mar 2011 10:55 pm

Tgt Ion:228 Resp: 5489

Ion	Ratio	Lower	Upper
228	100		
226	31.5	17.0	39.8

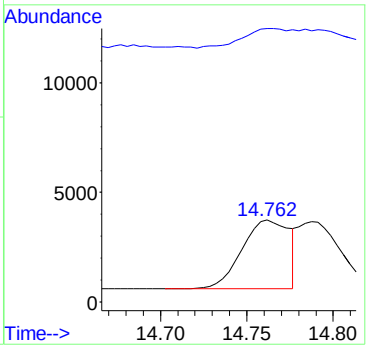


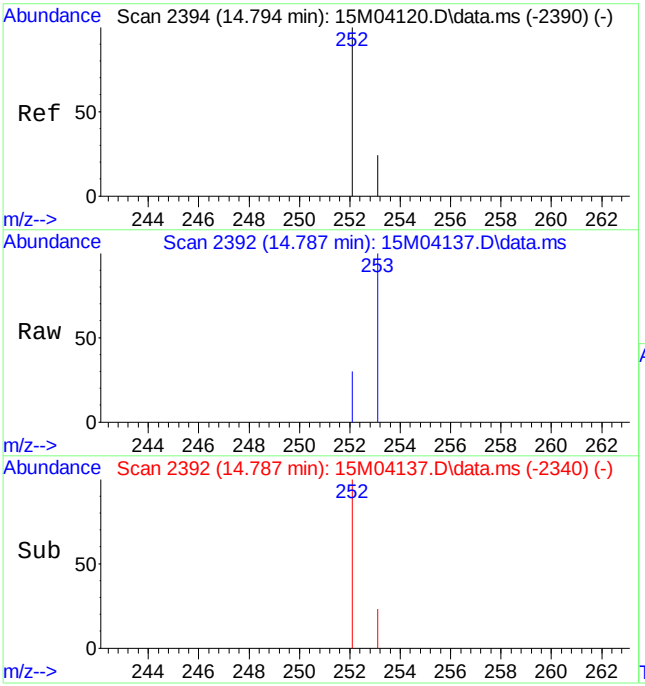


#21
Benzo[b]fluoranthene
Concen: 0.0422 ug/mL
RT: 14.762 min Scan# 2385
Delta R.T. -0.015 min
Lab File: 15M04137.D
Acq: 24 Mar 2011 10:55 pm

Tgt Ion:252 Resp: 6059

Ion	Ratio	Lower	Upper
252	100		
253	31.4	22.8	53.2

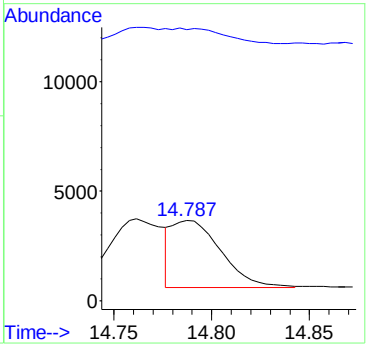


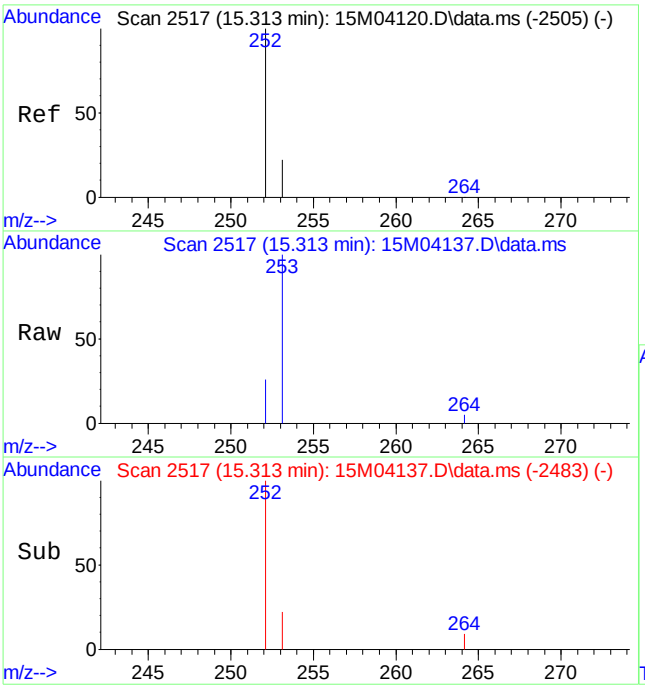


#22
Benzo[k]fluoranthene
Concen: 0.0399 ug/mL m
RT: 14.787 min Scan# 2392
Delta R.T. -0.022 min
Lab File: 15M04137.D
Acq: 24 Mar 2011 10:55 pm

Tgt Ion:252 Resp: 5345

Ion	Ratio	Lower	Upper
252	100		
253	35.6	23.0	53.6

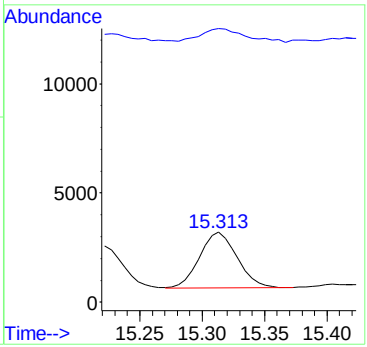


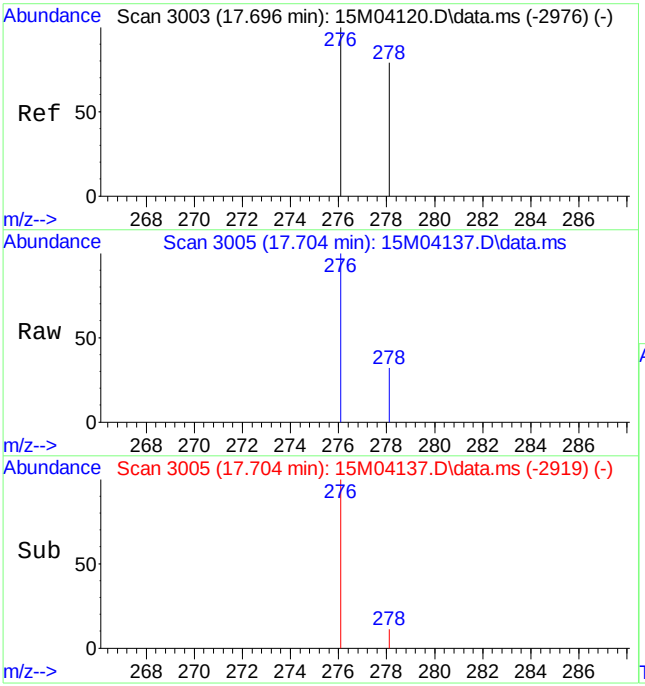


#23
Benzo[a]pyrene
Concen: 0.0396 ug/mL
RT: 15.313 min Scan# 2517
Delta R.T. -0.016 min
Lab File: 15M04137.D
Acq: 24 Mar 2011 10:55 pm

Tgt Ion:252 Resp: 5338

Ion	Ratio	Lower	Upper
252	100		
253	29.6	25.2	58.8

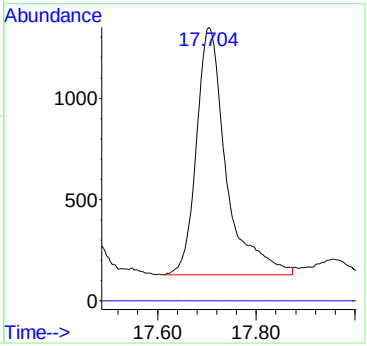


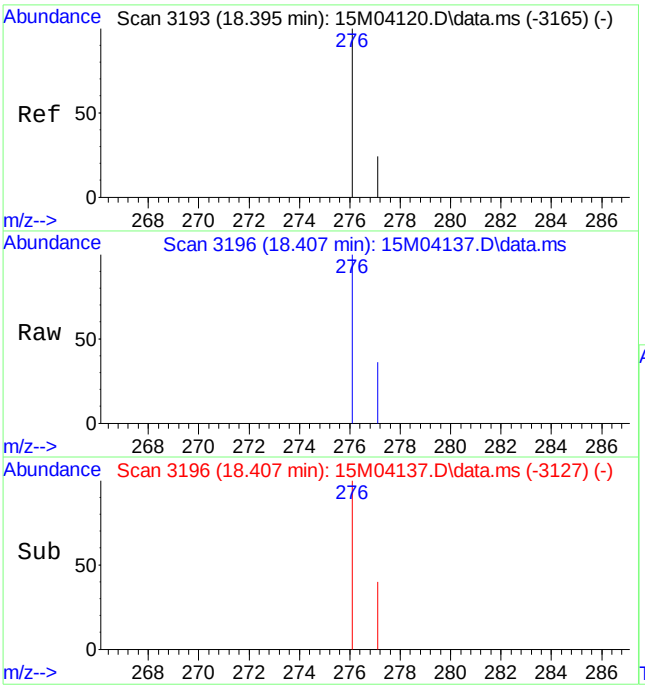


#24
Indeno[1,2,3-cd]pyrene
Concen: 0.0313 ug/mL
RT: 17.704 min Scan# 3005
Delta R.T. -0.022 min
Lab File: 15M04137.D
Acq: 24 Mar 2011 10:55 pm

Tgt Ion:276 Resp: 5109

Ion	Ratio	Lower	Upper
276	100		
277	0.0	0.0	0.0

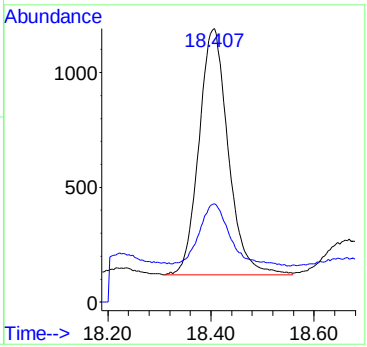




#26
Benzo[ghi]perylene
Concen: 0.0308 ug/mL
RT: 18.407 min Scan# 3196
Delta R.T. -0.018 min
Lab File: 15M04137.D
Acq: 24 Mar 2011 10:55 pm

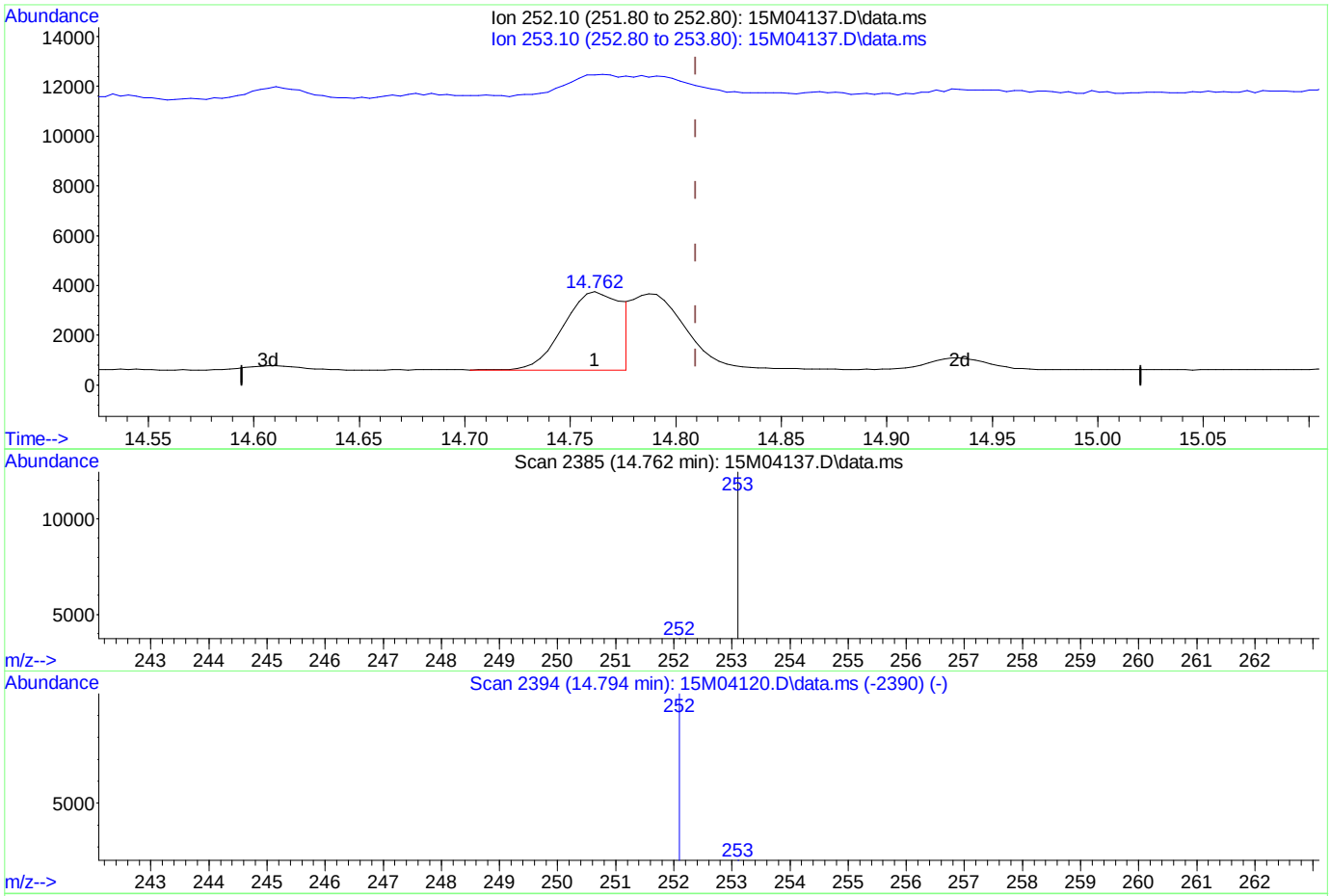
Tgt Ion:276 Resp: 4206

Ion	Ratio	Lower	Upper
276	100		
277	21.4	14.5	33.7



Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04137.D
Acq On : 24 Mar 2011 10:55 pm
Operator : CAA
Sample : L11030669-11 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 19 Sample Multiplier: 2

Quant Time: Mar 25 07:06:36 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration



(22) Benzo[k]fluoranthene

14.762min (-0.048) 0.05 ug/mL

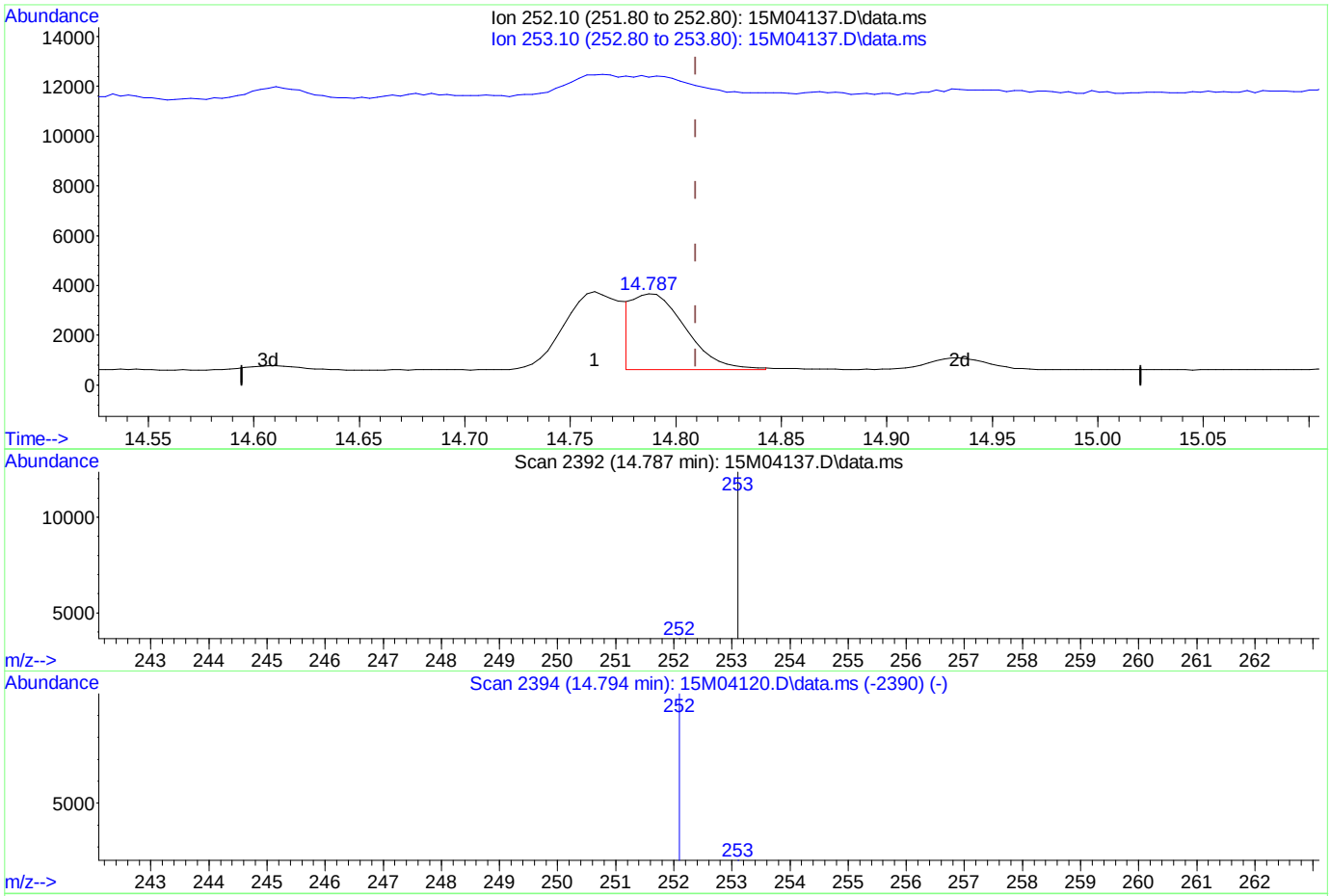
response 6059

Ion	Exp%	Act%
252.10	100	100
253.10	38.30	31.41
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04137.D
Acq On : 24 Mar 2011 10:55 pm
Operator : CAA
Sample : L11030669-11 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 19 Sample Multiplier: 2

Quant Time: Mar 25 07:06:36 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration



(22) Benzo[k]fluoranthene

14.787min (-0.022) 0.04 ug/mL mint

response 5345

Ion	Exp%	Act%
252.10	100	100
253.10	38.30	35.60
0.00	0.00	0.00
0.00	0.00	0.00

Analyst: 03/25/2011 07:43 Supervisor: 03/25/2011 09:24

#3 - Improperly integrated isomers and/or coeluting compounds

PAHQUANT.M Fri Mar 25 07:11:47 2011

Page: 1

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04138.D
Acq On : 24 Mar 2011 11:23 pm
Operator : CAA
Sample : L11030669-12 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 20 Sample Multiplier: 2

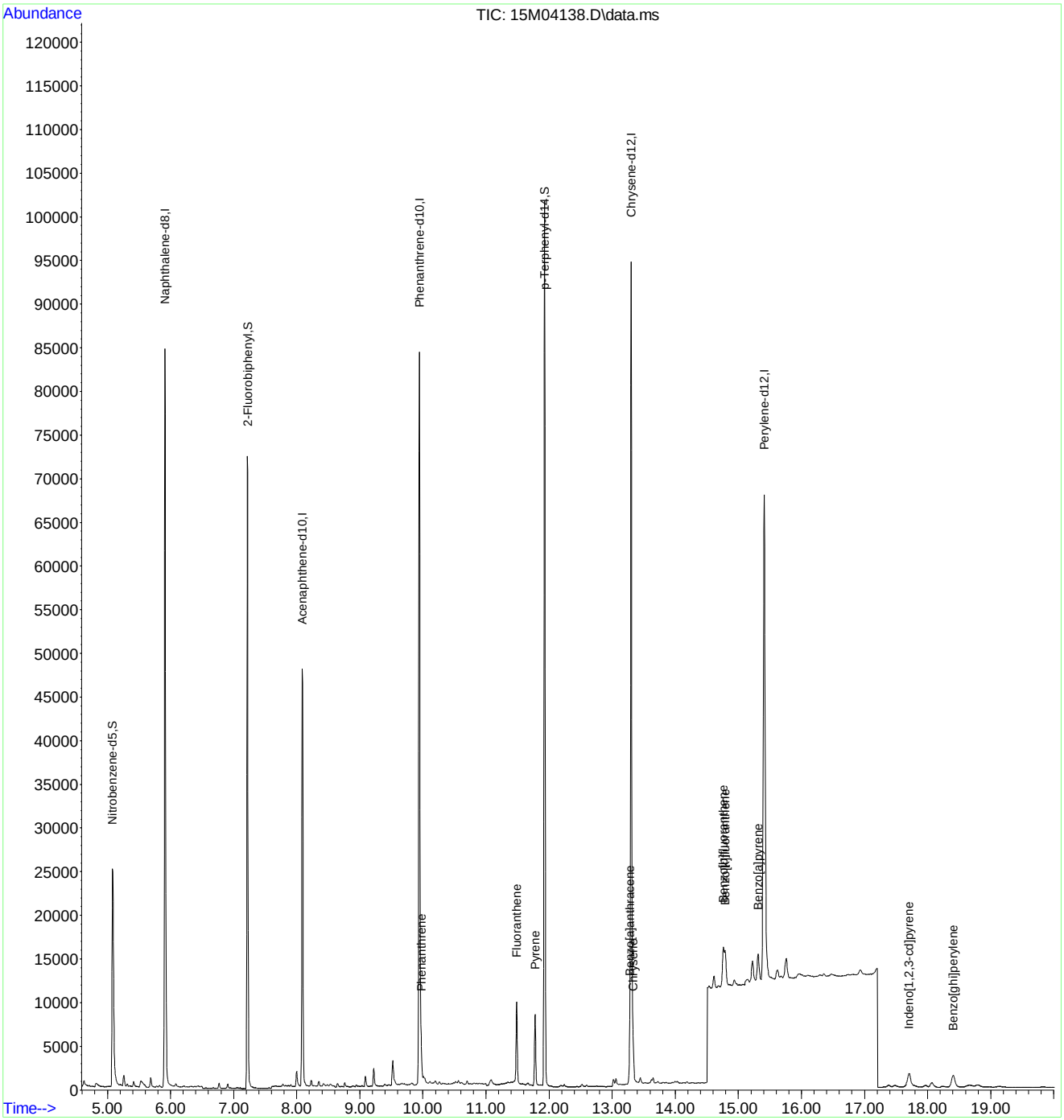
Quant Time: Mar 25 07:11:58 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration

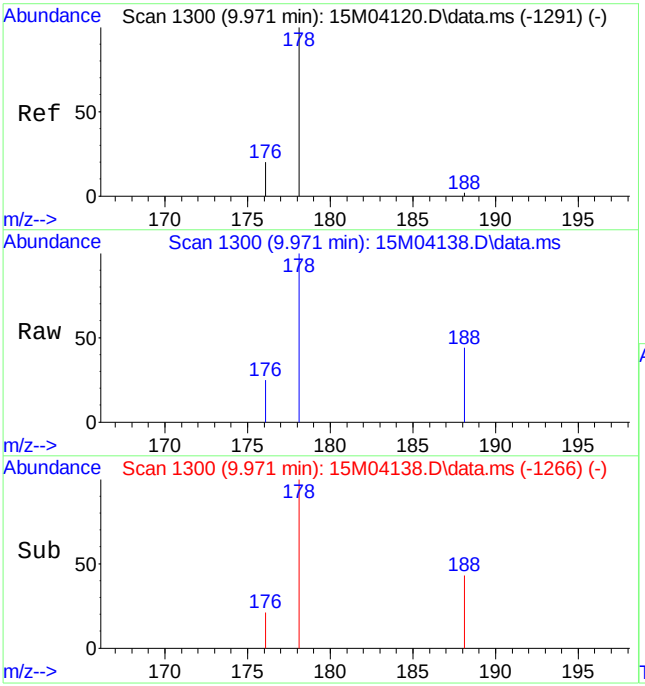
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8	5.910	136	112378	1.00 ug/mL	-0.01
6) Acenaphthene-d10	8.088	164	59677	1.00 ug/mL	-0.02
11) Phenanthrene-d10	9.945	188	102693	1.00 ug/mL	-0.01
15) Chrysene-d12	13.301	240	121953	1.00 ug/mL	-0.01
20) Perylene-d12	15.410	264	119029	1.00 ug/mL	-0.02
System Monitoring Compounds					
2) Nitrobenzene-d5	5.081	82	28342	1.48 ug/mL	-0.03
Spiked Amount 2.500	Range 23 - 120		Recovery	= 59.20%	
7) 2-Fluorobiphenyl	7.220	172	63944	1.62 ug/mL	-0.02
Spiked Amount 2.500	Range 30 - 115		Recovery	= 64.80%	
17) p-Terphenyl-d14	11.927	244	104438	2.60 ug/mL	-0.01
Spiked Amount 2.500	Range 18 - 137		Recovery	= 104.00%	
Target Compounds					Qvalue
12) Phenanthrene	9.971	178	4643	0.0402 ug/mL#	83
14) Fluoranthene	11.485	202	10465	0.0874 ug/mL#	68
16) Pyrene	11.780	202	9193	0.0654 ug/mL	93
18) Benzo[a]anthracene	13.279	228	4012	0.0327 ug/mL	98
19) Chrysene	13.333	228	5768	0.0471 ug/mL	92
21) Benzo[b]fluoranthene	14.762	252	6722	0.0493 ug/mL#	57
22) Benzo[k]fluoranthene	14.787	252	5534m	0.0435 ug/mL	
23) Benzo[a]pyrene	15.313	252	5253	0.0410 ug/mL#	73
24) Indeno[1,2,3-cd]pyrene	17.707	276	5054	0.0326 ug/mL#	100
26) Benzo[ghi]perylene	18.407	276	4101	0.0317 ug/mL#	51

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04138.D
Acq On : 24 Mar 2011 11:23 pm
Operator : CAA
Sample : L11030669-12 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 20 Sample Multiplier: 2

Quant Time: Mar 25 07:11:58 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration

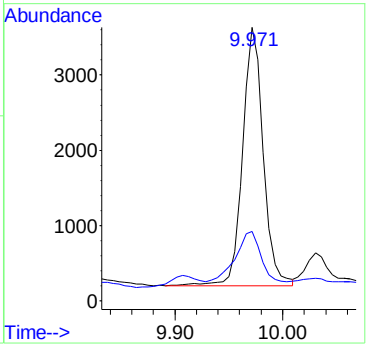


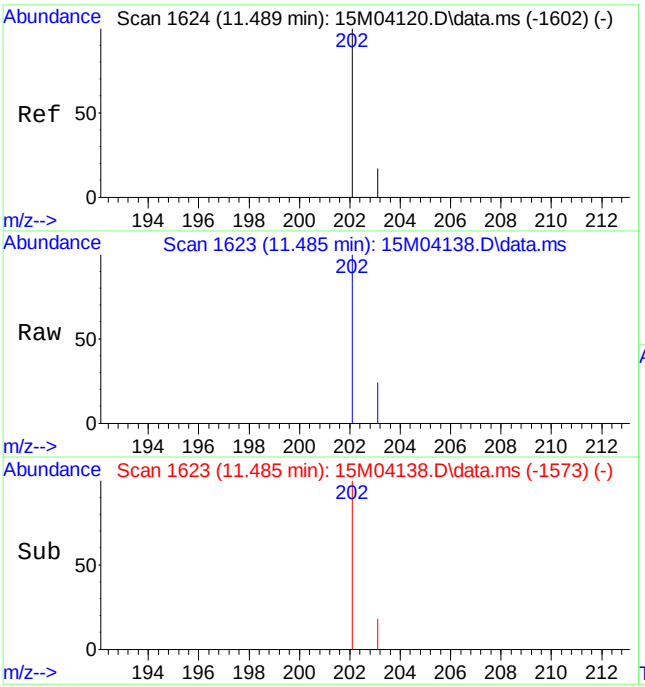


#12
Phenanthrene
Concen: 0.0402 ug/mL
RT: 9.971 min Scan# 1300
Delta R.T. -0.016 min
Lab File: 15M04138.D
Acq: 24 Mar 2011 11:23 pm

Tgt Ion:178 Resp: 4643

Ion	Ratio	Lower	Upper
178	100		
176	26.9	11.4	26.6#

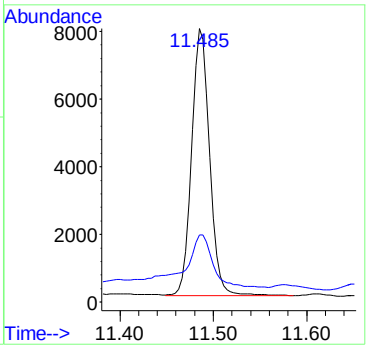


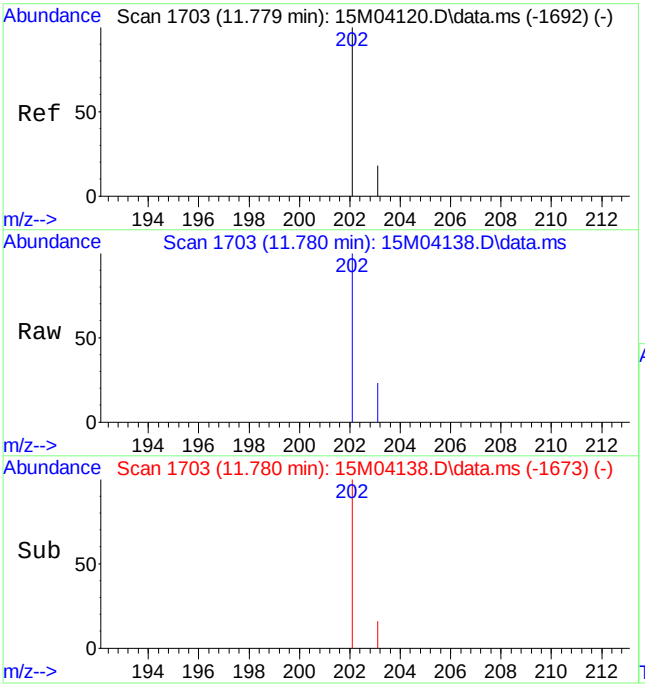


#14
Fluoranthene
Concen: 0.0874 ug/mL
RT: 11.485 min Scan# 1623
Delta R.T. -0.014 min
Lab File: 15M04138.D
Acq: 24 Mar 2011 11:23 pm

Tgt Ion:202 Resp: 10465

Ion	Ratio	Lower	Upper
202	100		
203	31.3	10.4	24.4#

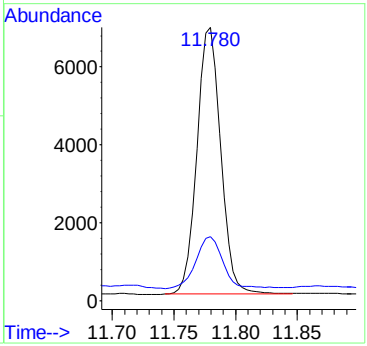


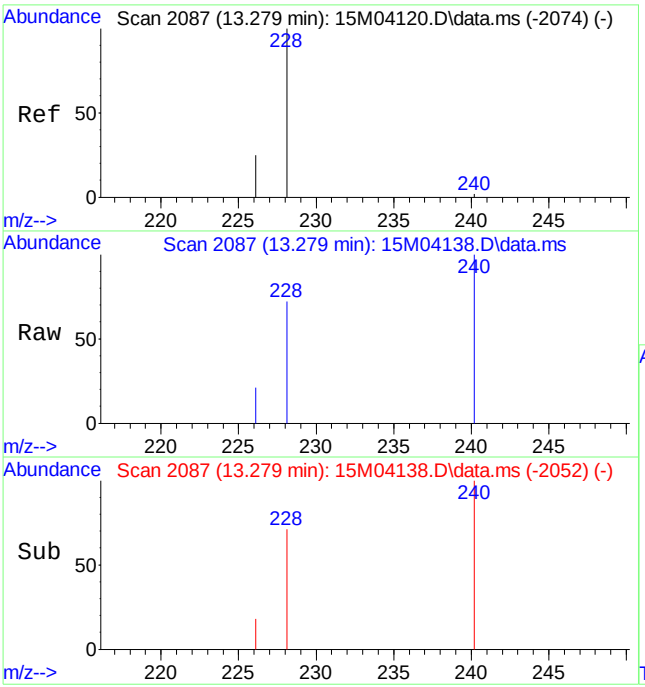


#16
Pyrene
Concen: 0.0654 ug/mL
RT: 11.780 min Scan# 1703
Delta R.T. -0.015 min
Lab File: 15M04138.D
Acq: 24 Mar 2011 11:23 pm

Tgt Ion:202 Resp: 9193

Ion	Ratio	Lower	Upper
202	100		
203	21.4	11.0	25.6

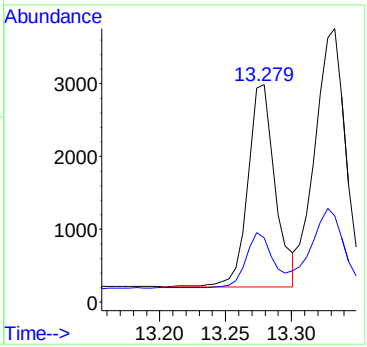


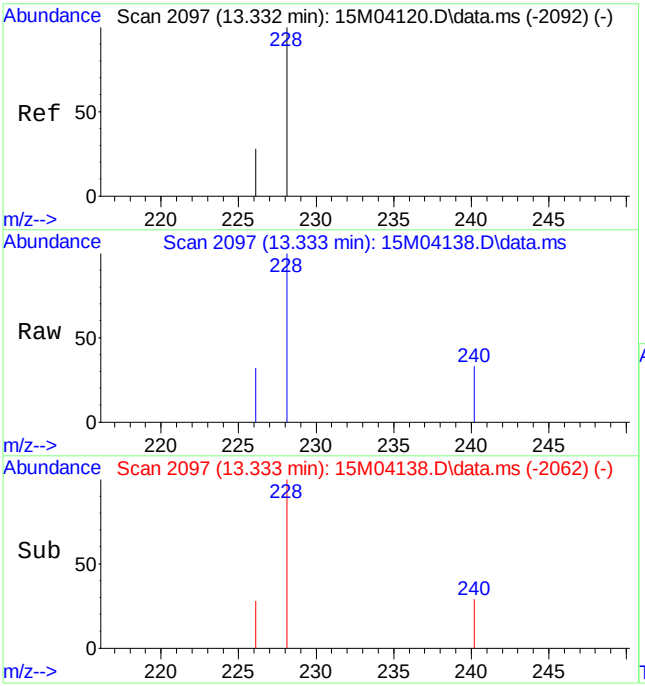


#18
Benzo[a]anthracene
Concen: 0.0327 ug/mL
RT: 13.279 min Scan# 2087
Delta R.T. -0.011 min
Lab File: 15M04138.D
Acq: 24 Mar 2011 11:23 pm

Tgt Ion:228 Resp: 4012

Ion	Ratio	Lower	Upper
228	100		
226	26.9	15.7	36.5

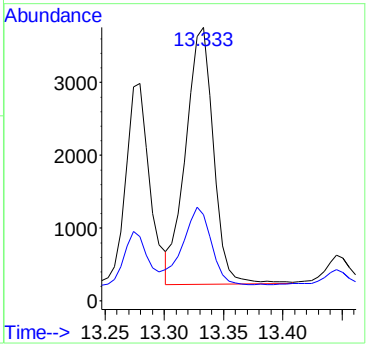


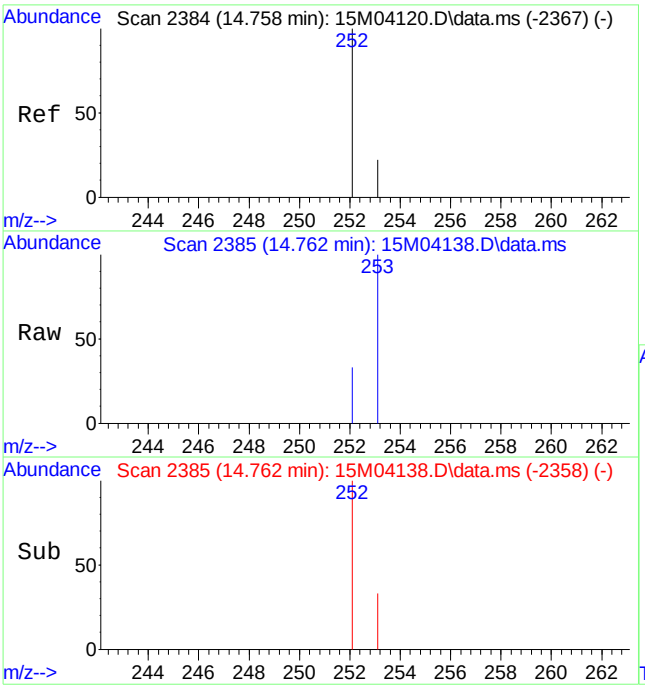


#19
Chrysene
Concen: 0.0471 ug/mL
RT: 13.333 min Scan# 2097
Delta R.T. -0.011 min
Lab File: 15M04138.D
Acq: 24 Mar 2011 11:23 pm

Tgt Ion:228 Resp: 5768

Ion	Ratio	Lower	Upper
228	100		
226	32.7	17.0	39.8

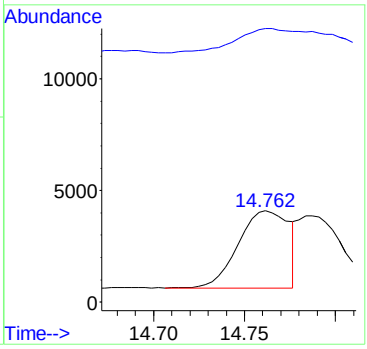


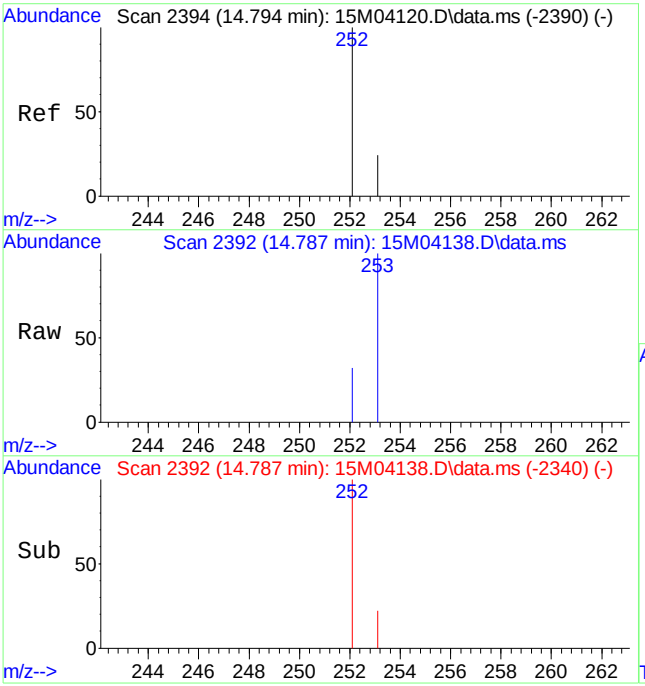


#21
Benzo[b]fluoranthene
Concen: 0.0493 ug/mL
RT: 14.762 min Scan# 2385
Delta R.T. -0.015 min
Lab File: 15M04138.D
Acq: 24 Mar 2011 11:23 pm

Tgt Ion:252 Resp: 6722

Ion	Ratio	Lower	Upper
252	100		
253	63.8	22.8	53.2#

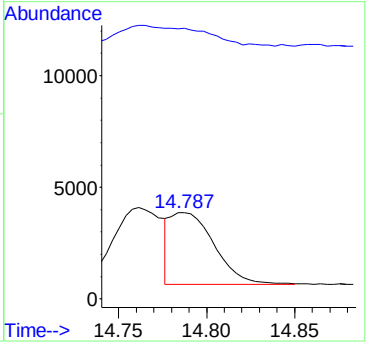


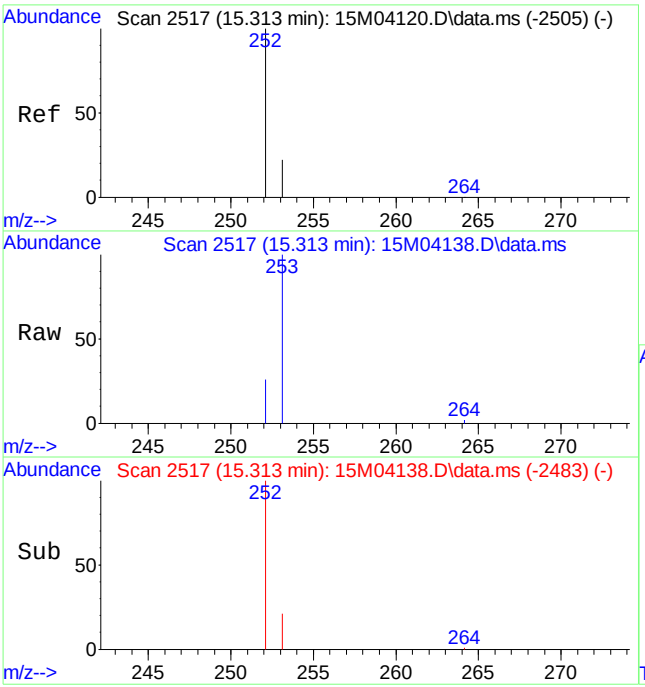


#22
Benzo[k]fluoranthene
Concen: 0.0435 ug/mL m
RT: 14.787 min Scan# 2392
Delta R.T. -0.022 min
Lab File: 15M04138.D
Acq: 24 Mar 2011 11:23 pm

Tgt Ion:252 Resp: 5534

Ion	Ratio	Lower	Upper
252	100		
253	76.4	23.0	53.6#

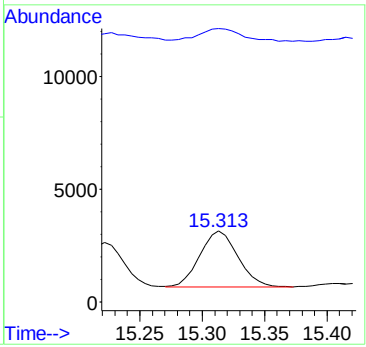


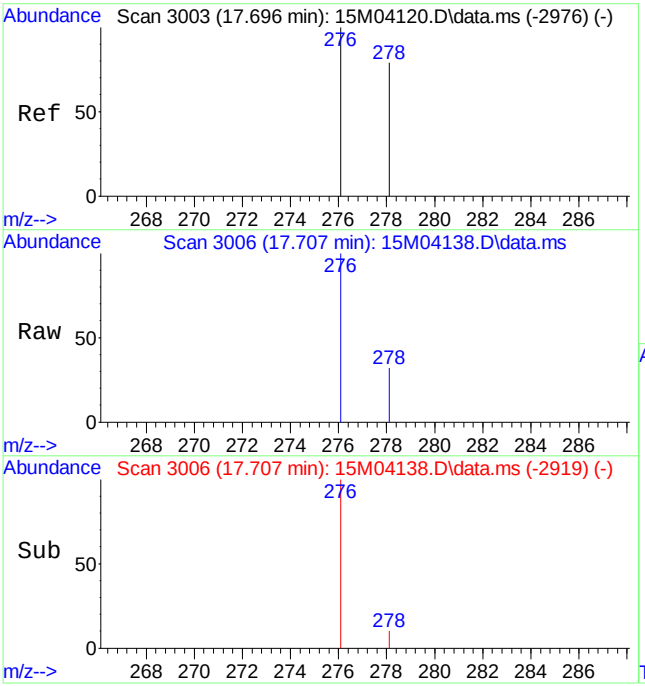


#23
Benzo[a]pyrene
Concen: 0.0410 ug/mL
RT: 15.313 min Scan# 2517
Delta R.T. -0.016 min
Lab File: 15M04138.D
Acq: 24 Mar 2011 11:23 pm

Tgt Ion:252 Resp: 5253

Ion	Ratio	Lower	Upper
252	100		
253	25.0	25.2	58.8#

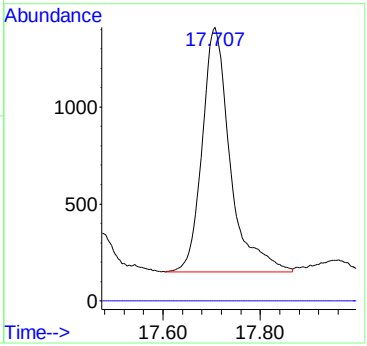


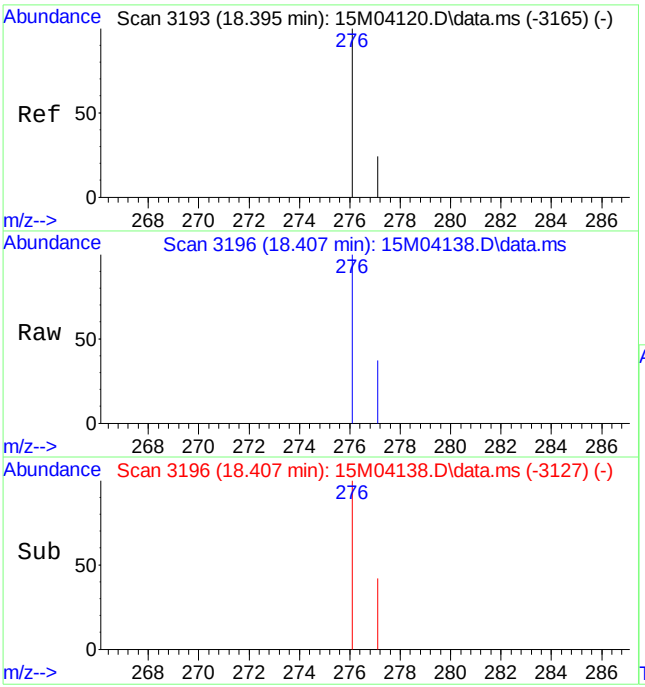


#24
Indeno[1,2,3-cd]pyrene
Concen: 0.0326 ug/mL
RT: 17.707 min Scan# 3006
Delta R.T. -0.018 min
Lab File: 15M04138.D
Acq: 24 Mar 2011 11:23 pm

Tgt Ion:276 Resp: 5054

Ion	Ratio	Lower	Upper
276	100		
277	0.0	0.0	0.0

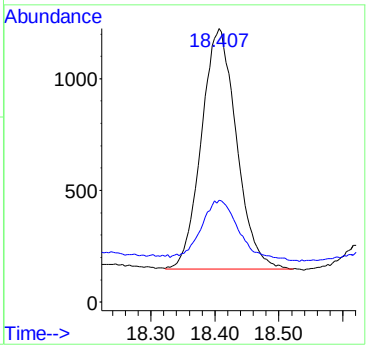




#26
Benzo[ghi]perylene
Concen: 0.0317 ug/mL
RT: 18.407 min Scan# 3196
Delta R.T. -0.018 min
Lab File: 15M04138.D
Acq: 24 Mar 2011 11:23 pm

Tgt Ion:276 Resp: 4101

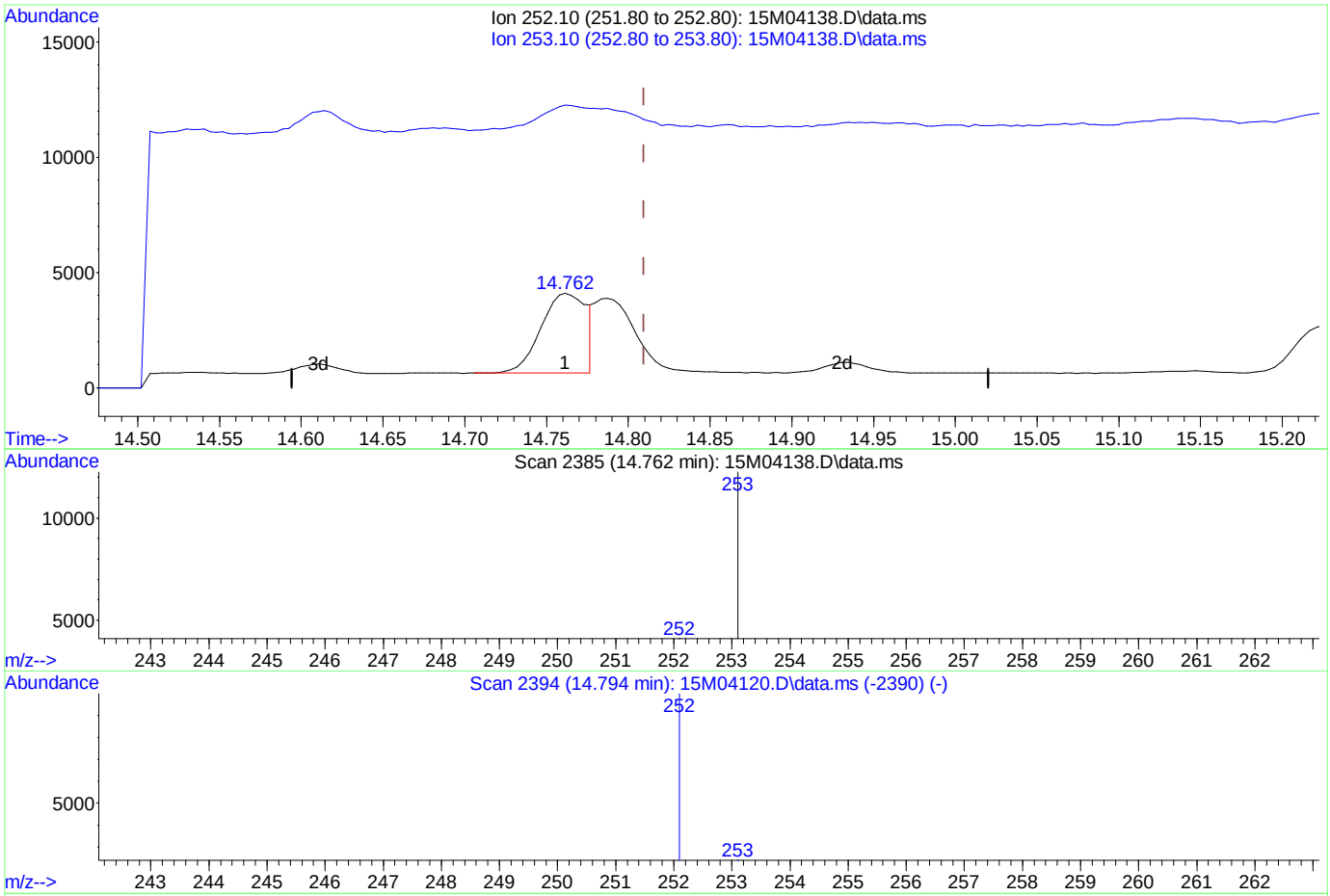
Ion	Ratio	Lower	Upper
276	100		
277	0.0	14.5	33.7#



Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04138.D
Acq On : 24 Mar 2011 11:23 pm
Operator : CAA
Sample : L11030669-12 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 20 Sample Multiplier: 2

Quant Time: Mar 25 07:06:38 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration



(22) Benzo[k]fluoranthene

14.762min (-0.048) 0.05 ug/mL

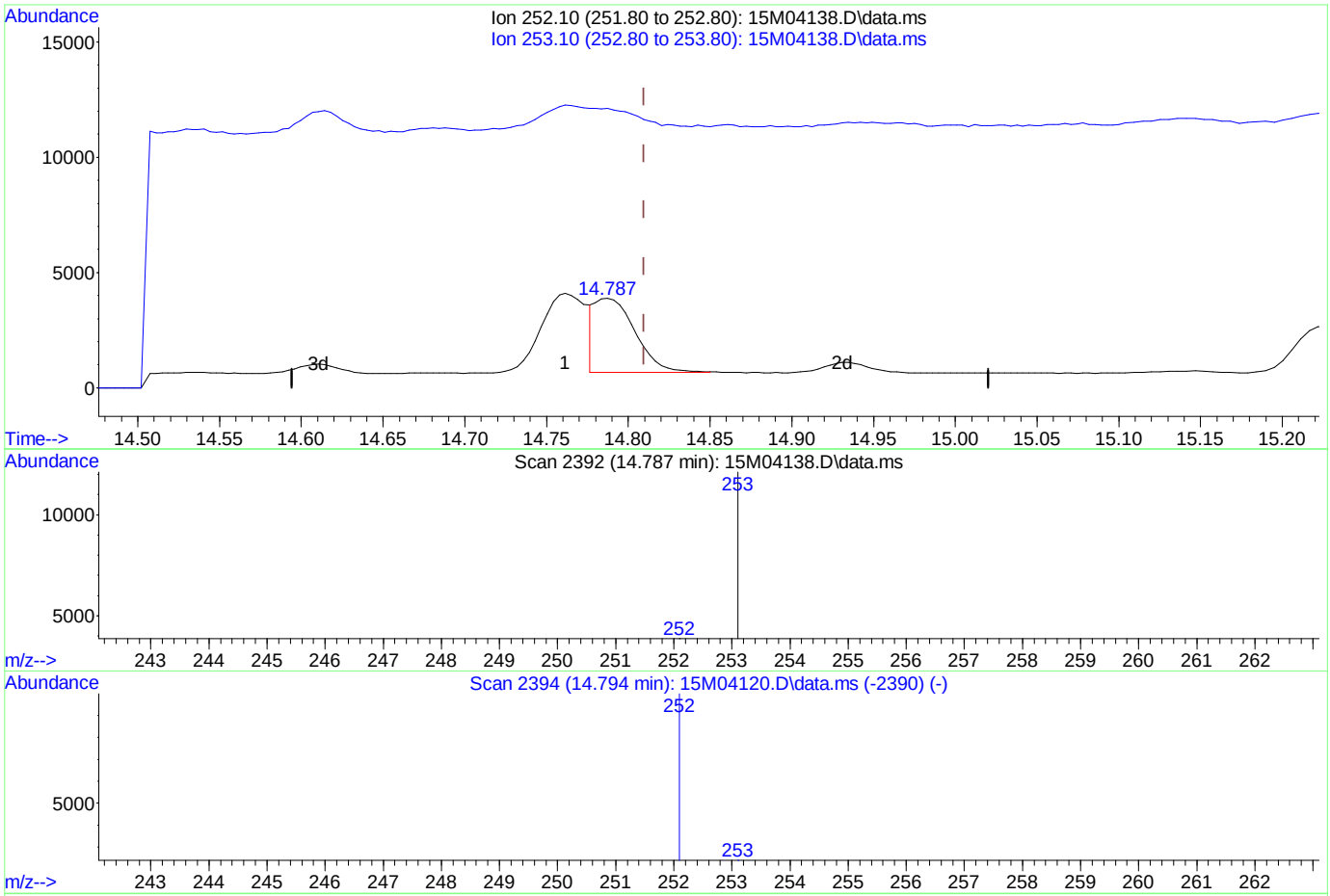
response 6722

Ion	Exp%	Act%
252.10	100	100
253.10	38.30	62.88#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04138.D
Acq On : 24 Mar 2011 11:23 pm
Operator : CAA
Sample : L11030669-12 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 20 Sample Multiplier: 2

Quant Time: Mar 25 07:06:38 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration



TIC: 15M04138.D\data.ms

(22) Benzo[k]fluoranthene

14.787min (-0.022) 0.04 ug/mL mint

response 5534

Ion	Exp%	Act%
252.10	100	100
253.10	38.30	76.38#
0.00	0.00	0.00
0.00	0.00	0.00

Analyst: 03/25/2011 07:43 Supervisor: 03/25/2011 09:24

#3 - Improperly integrated isomers and/or coeluting compounds

PAHQUANT.M Fri Mar 25 07:11:59 2011

Page: 1

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04139.D
Acq On : 24 Mar 2011 11:51 pm
Operator : CAA
Sample : L11030669-13 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 21 Sample Multiplier: 2

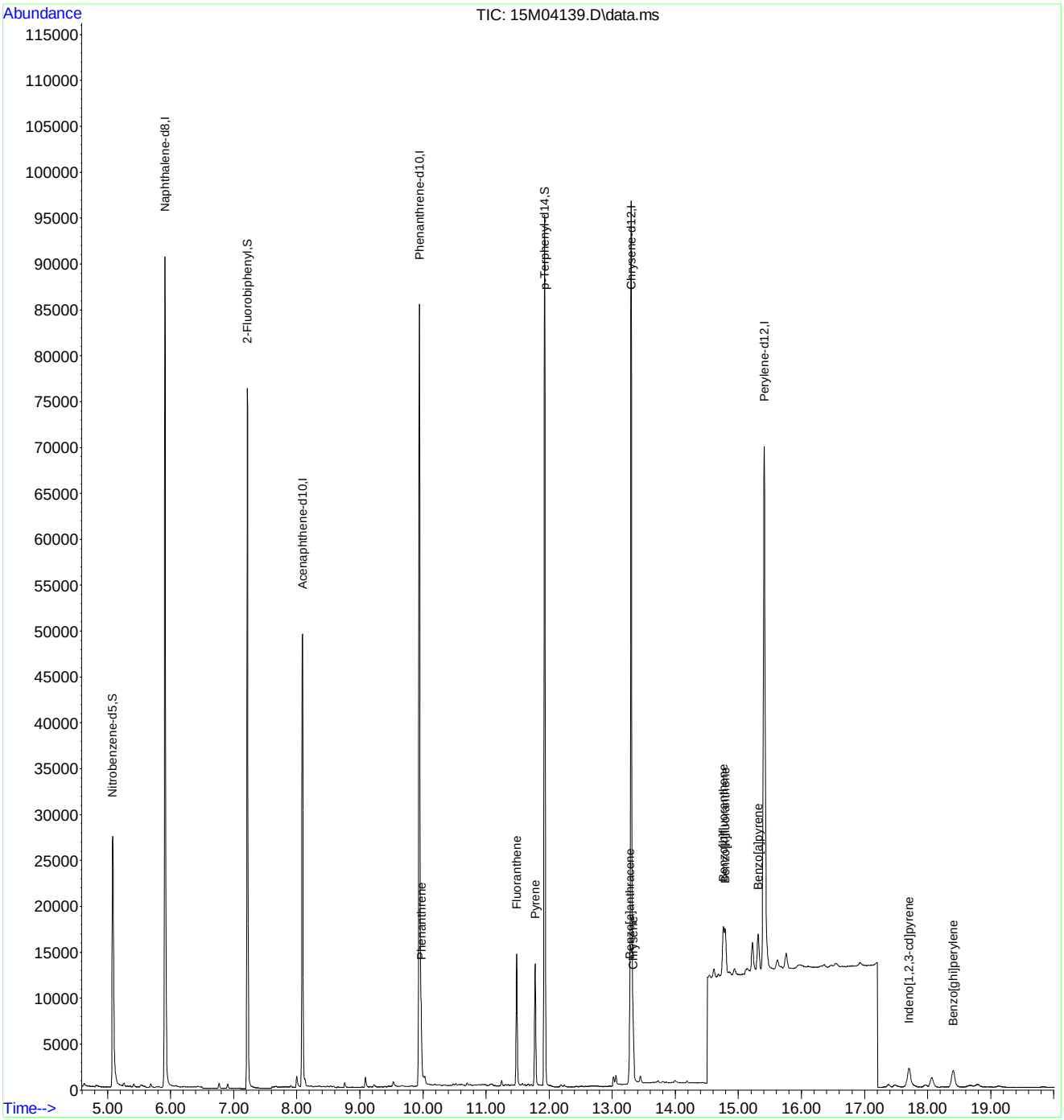
Quant Time: Mar 25 07:12:10 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration

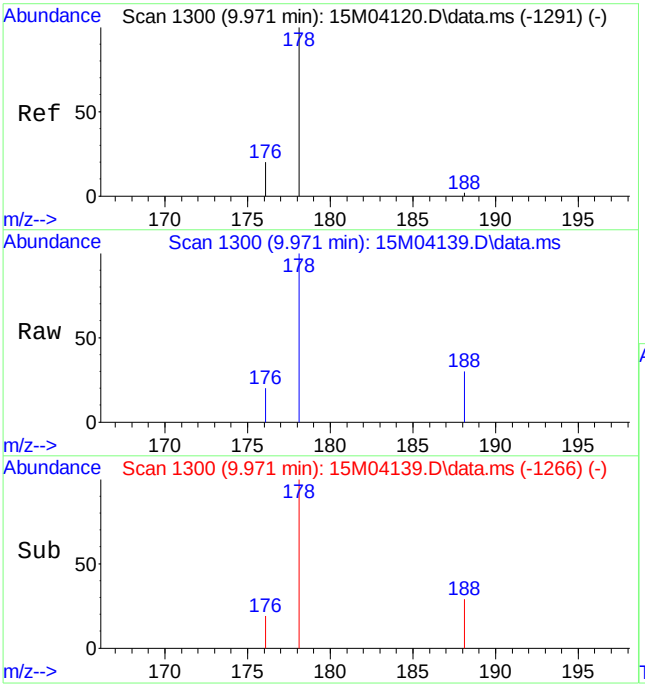
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8	5.910	136	116595	1.00 ug/mL	-0.01
6) Acenaphthene-d10	8.093	164	61632	1.00 ug/mL	-0.01
11) Phenanthrene-d10	9.944	188	105089	1.00 ug/mL	-0.01
15) Chrysene-d12	13.300	240	125710	1.00 ug/mL	-0.01
20) Perylene-d12	15.410	264	122043	1.00 ug/mL	-0.02
System Monitoring Compounds					
2) Nitrobenzene-d5	5.081	82	31075	1.56 ug/mL	-0.03
Spiked Amount 2.500	Range 23 - 120		Recovery	= 62.40%	
7) 2-Fluorobiphenyl	7.216	172	68214	1.68 ug/mL	-0.02
Spiked Amount 2.500	Range 30 - 115		Recovery	= 67.20%	
17) p-Terphenyl-d14	11.927	244	99400	2.40 ug/mL	-0.01
Spiked Amount 2.500	Range 18 - 137		Recovery	= 96.00%	
Target Compounds					Qvalue
12) Phenanthrene	9.971	178	7925	0.0671 ug/mL	100
14) Fluoranthene	11.485	202	15978	0.1303 ug/mL	99
16) Pyrene	11.780	202	14794	0.1022 ug/mL	94
18) Benzo[a]anthracene	13.279	228	5665	0.0448 ug/mL	97
19) Chrysene	13.333	228	8047	0.0638 ug/mL	93
21) Benzo[b]fluoranthene	14.761	252	8210	0.0587 ug/mL	83
22) Benzo[k]fluoranthene	14.787	252	7278m	0.0558 ug/mL	
23) Benzo[a]pyrene	15.313	252	6827	0.0520 ug/mL	76
24) Indeno[1,2,3-cd]pyrene	17.703	276	6436	0.0405 ug/mL#	100
26) Benzo[ghi]perylene	18.403	276	5534	0.0417 ug/mL	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04139.D
Acq On : 24 Mar 2011 11:51 pm
Operator : CAA
Sample : L11030669-13 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 21 Sample Multiplier: 2

Quant Time: Mar 25 07:12:10 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration

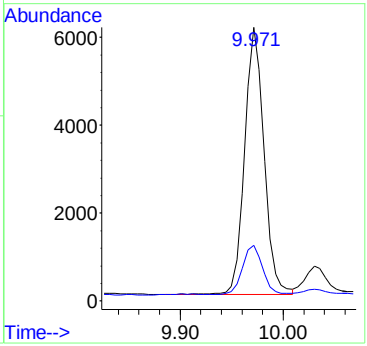


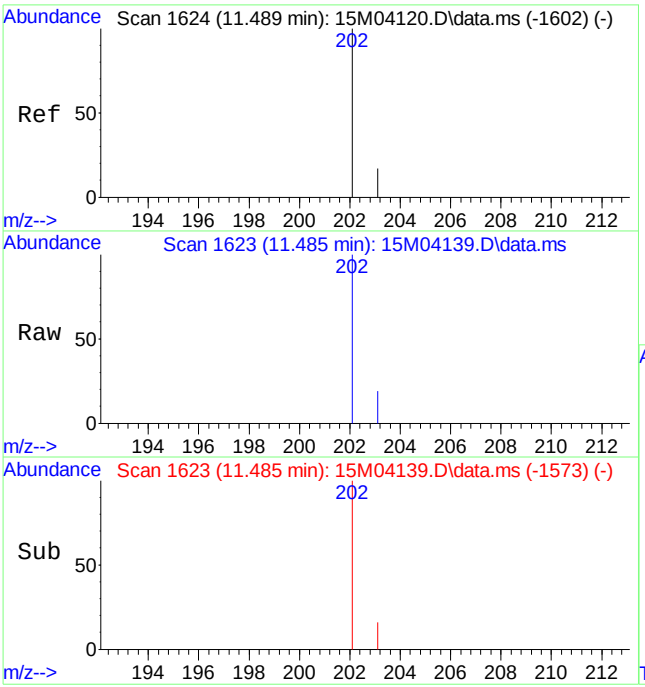


#12
Phenanthrene
Concen: 0.0671 ug/mL
RT: 9.971 min Scan# 1300
Delta R.T. -0.016 min
Lab File: 15M04139.D
Acq: 24 Mar 2011 11:51 pm

Tgt Ion:178 Resp: 7925

Ion	Ratio	Lower	Upper
178	100		
176	19.2	11.4	26.6

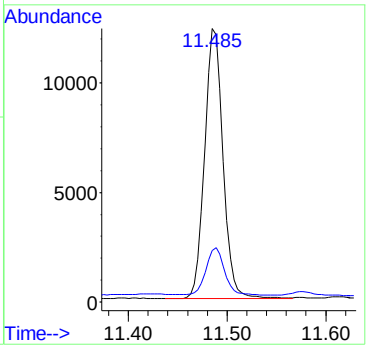


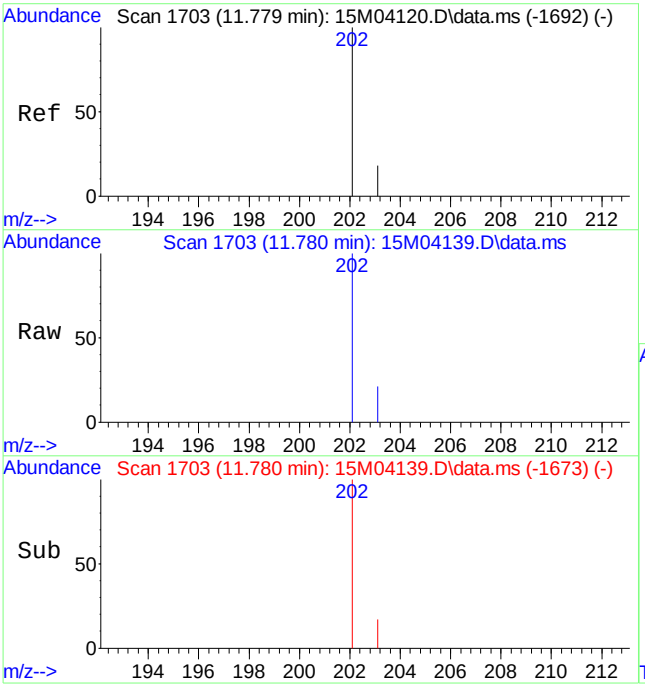


#14
Fluoranthene
Concen: 0.1303 ug/mL
RT: 11.485 min Scan# 1623
Delta R.T. -0.014 min
Lab File: 15M04139.D
Acq: 24 Mar 2011 11:51 pm

Tgt Ion:202 Resp: 15978

Ion	Ratio	Lower	Upper
202	100		
203	18.0	10.4	24.4

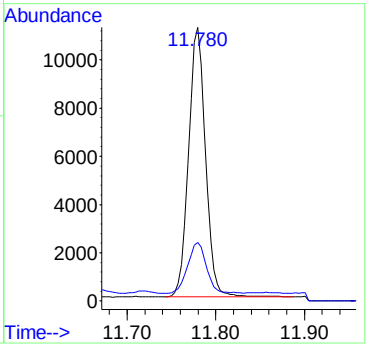


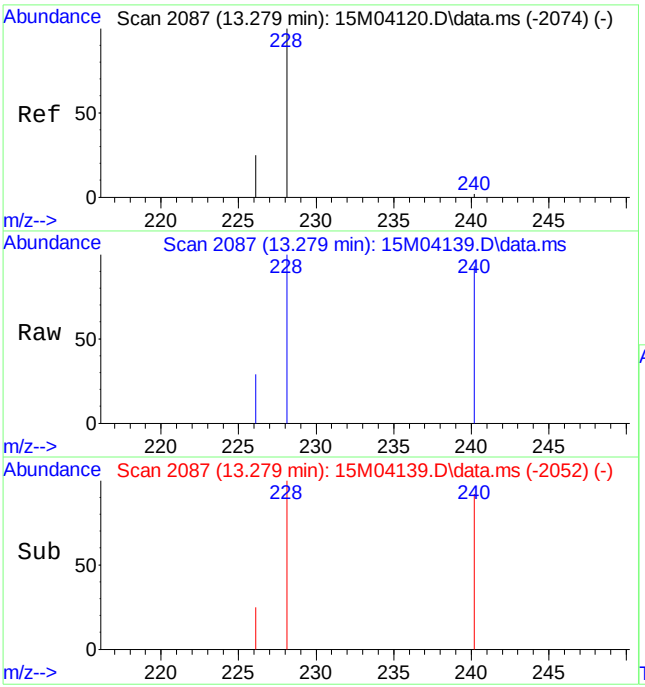


#16
Pyrene
Concen: 0.1022 ug/mL
RT: 11.780 min Scan# 1703
Delta R.T. -0.015 min
Lab File: 15M04139.D
Acq: 24 Mar 2011 11:51 pm

Tgt Ion:202 Resp: 14794

Ion	Ratio	Lower	Upper
202	100		
203	20.9	11.0	25.6

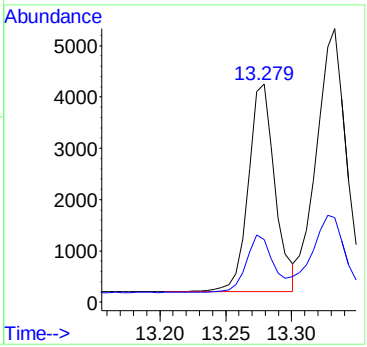


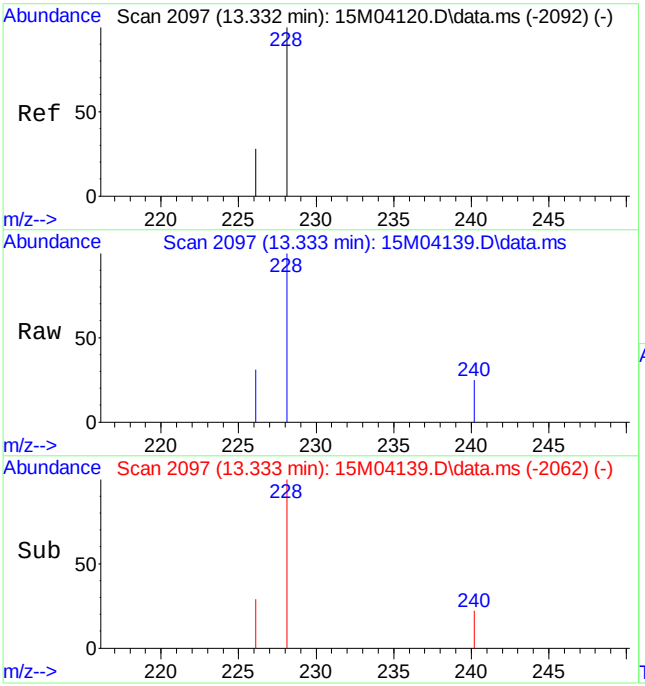


#18
Benzo[a]anthracene
Concen: 0.0448 ug/mL
RT: 13.279 min Scan# 2087
Delta R.T. -0.011 min
Lab File: 15M04139.D
Acq: 24 Mar 2011 11:51 pm

Tgt Ion:228 Resp: 5665

Ion	Ratio	Lower	Upper
228	100		
226	27.6	15.7	36.5

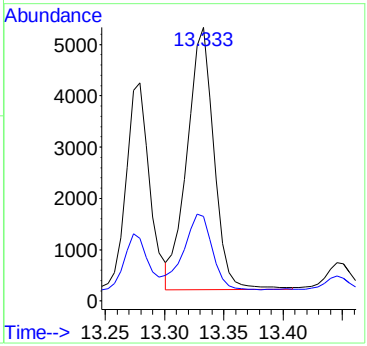


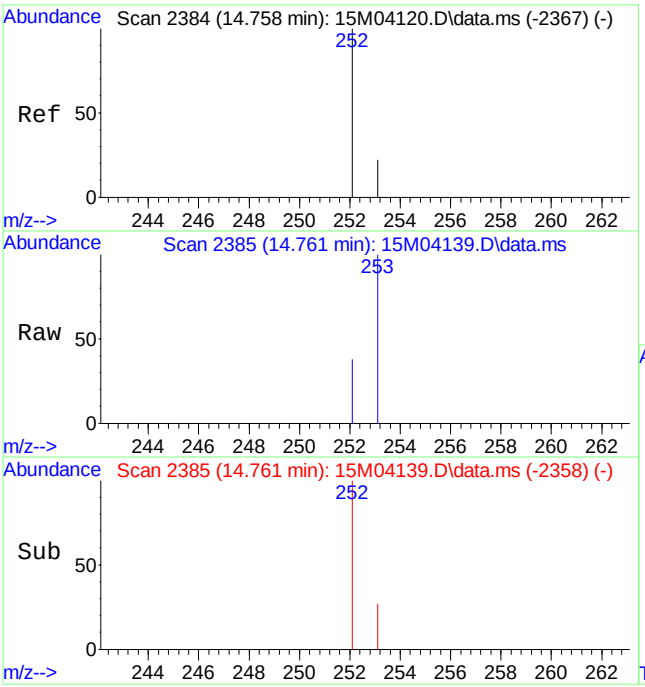


#19
Chrysene
Concen: 0.0638 ug/mL
RT: 13.333 min Scan# 2097
Delta R.T. -0.011 min
Lab File: 15M04139.D
Acq: 24 Mar 2011 11:51 pm

Tgt Ion:228 Resp: 8047

Ion	Ratio	Lower	Upper
228	100		
226	31.9	17.0	39.8

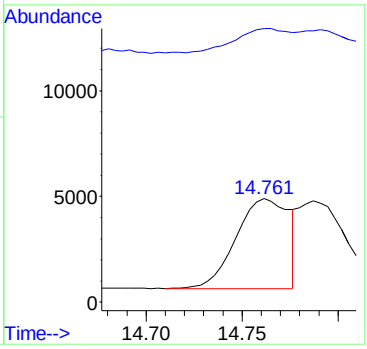


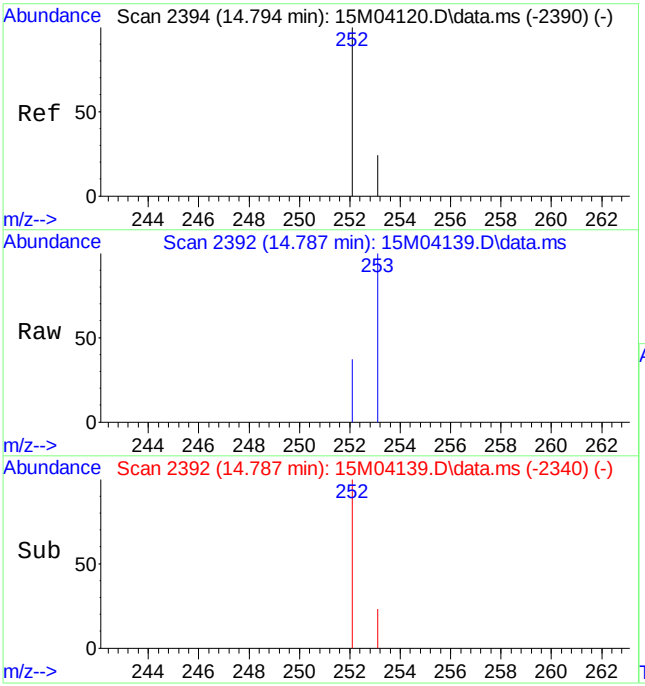


#21
Benzo[b]fluoranthene
Concen: 0.0587 ug/mL
RT: 14.761 min Scan# 2385
Delta R.T. -0.015 min
Lab File: 15M04139.D
Acq: 24 Mar 2011 11:51 pm

Tgt Ion:252 Resp: 8210

Ion	Ratio	Lower	Upper
252	100		
253	27.5	22.8	53.2

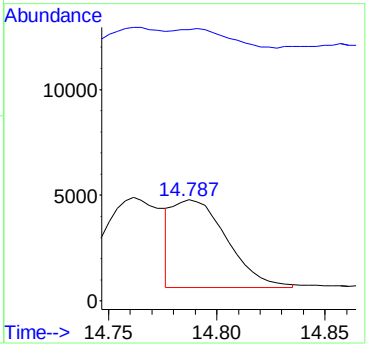


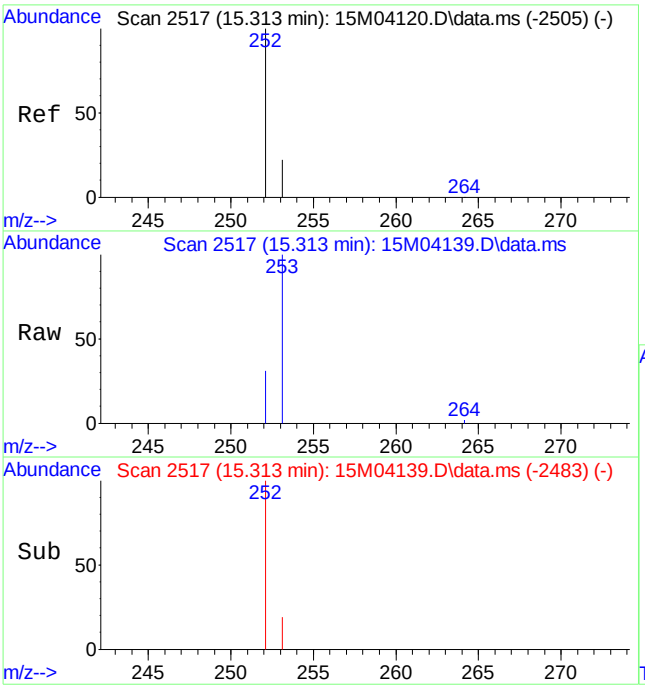


#22
Benzo[k]fluoranthene
Concen: 0.0558 ug/mL m
RT: 14.787 min Scan# 2392
Delta R.T. -0.022 min
Lab File: 15M04139.D
Acq: 24 Mar 2011 11:51 pm

Tgt Ion:252 Resp: 7278

Ion	Ratio	Lower	Upper
252	100		
253	31.0	23.0	53.6

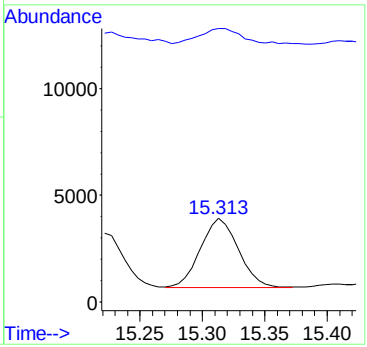


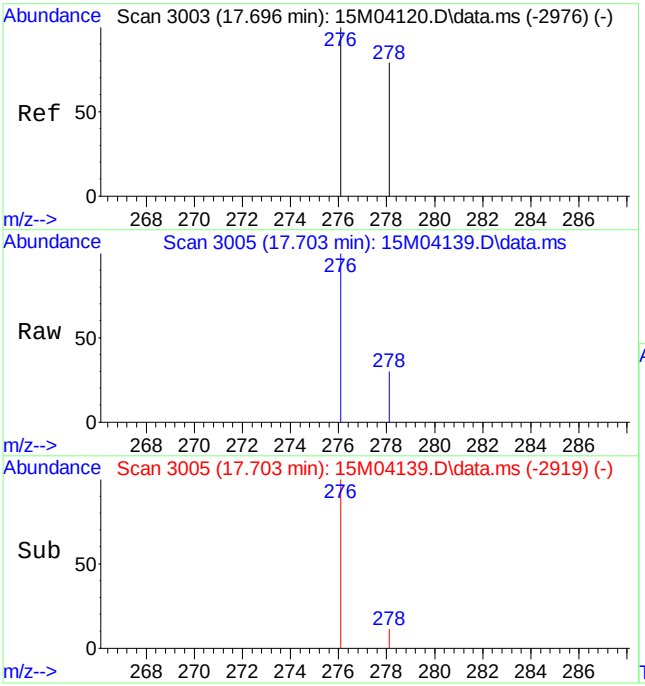


#23
Benzo[a]pyrene
Concen: 0.0520 ug/mL
RT: 15.313 min Scan# 2517
Delta R.T. -0.016 min
Lab File: 15M04139.D
Acq: 24 Mar 2011 11:51 pm

Tgt Ion:252 Resp: 6827

Ion	Ratio	Lower	Upper
252	100		
253	26.9	25.2	58.8

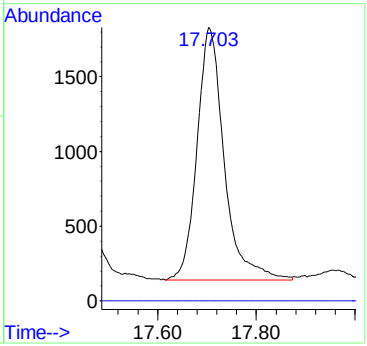


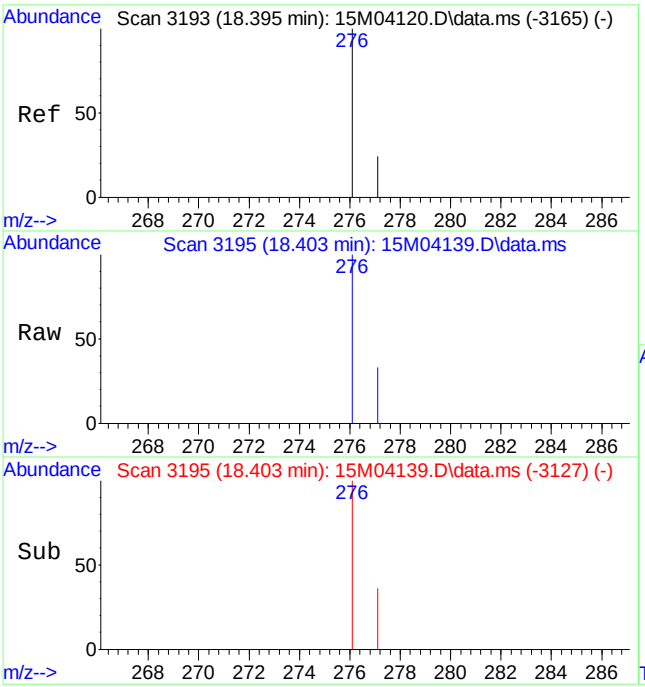


#24
Indeno[1,2,3-cd]pyrene
Concen: 0.0405 ug/mL
RT: 17.703 min Scan# 3005
Delta R.T. -0.022 min
Lab File: 15M04139.D
Acq: 24 Mar 2011 11:51 pm

Tgt Ion:276 Resp: 6436

Ion	Ratio	Lower	Upper
276	100		
277	0.0	0.0	0.0

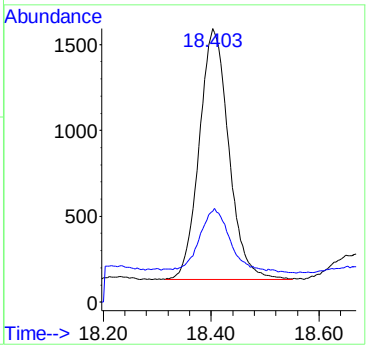




#26
Benzo[ghi]perylene
Concen: 0.0417 ug/mL
RT: 18.403 min Scan# 3195
Delta R.T. -0.022 min
Lab File: 15M04139.D
Acq: 24 Mar 2011 11:51 pm

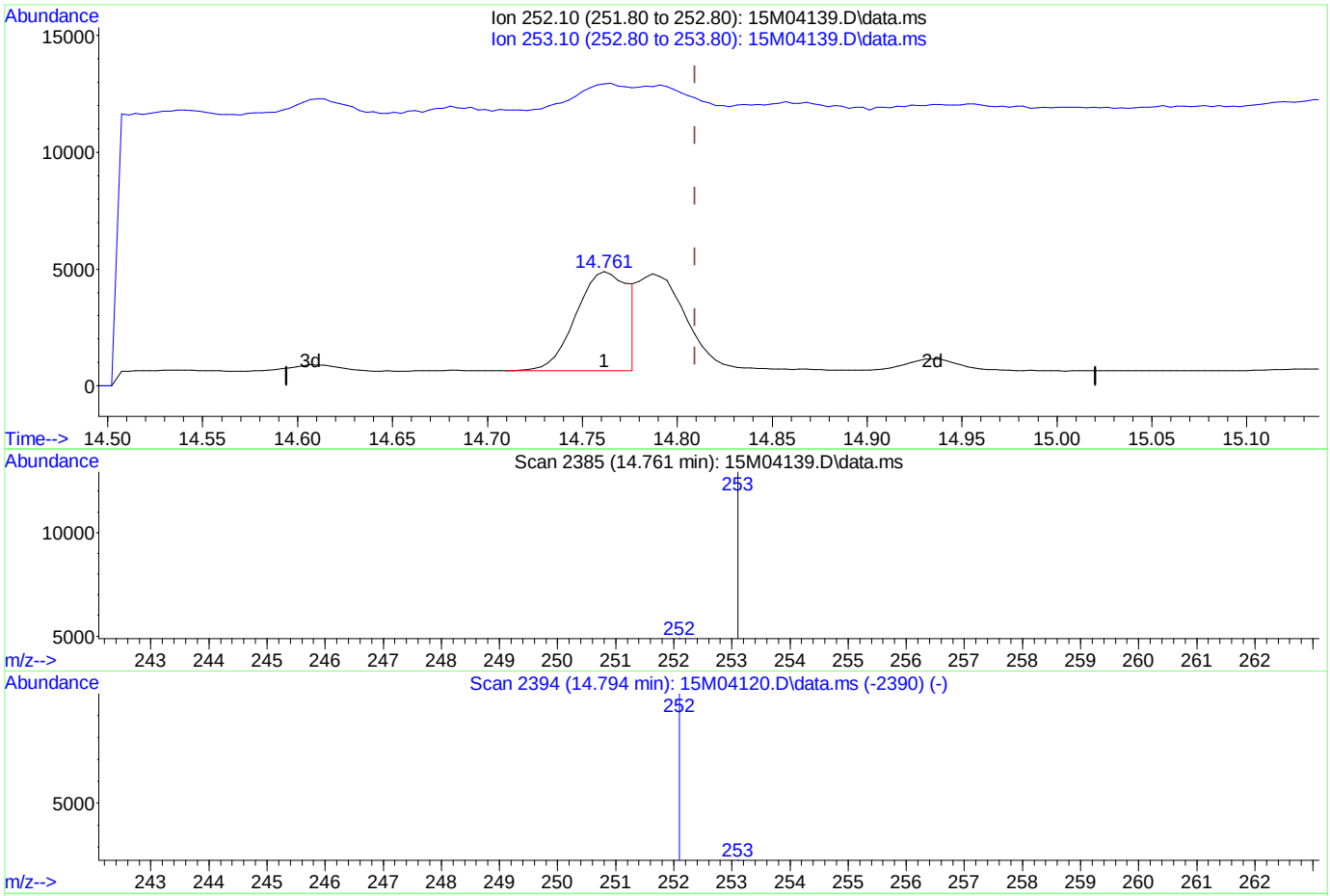
Tgt Ion:276 Resp: 5534

Ion	Ratio	Lower	Upper
276	100		
277	23.0	14.5	33.7



Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04139.D
Acq On : 24 Mar 2011 11:51 pm
Operator : CAA
Sample : L11030669-13 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 21 Sample Multiplier: 2

Quant Time: Mar 25 07:06:40 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration



(22) Benzo[k]fluoranthene

14.761min (-0.048) 0.06 ug/mL

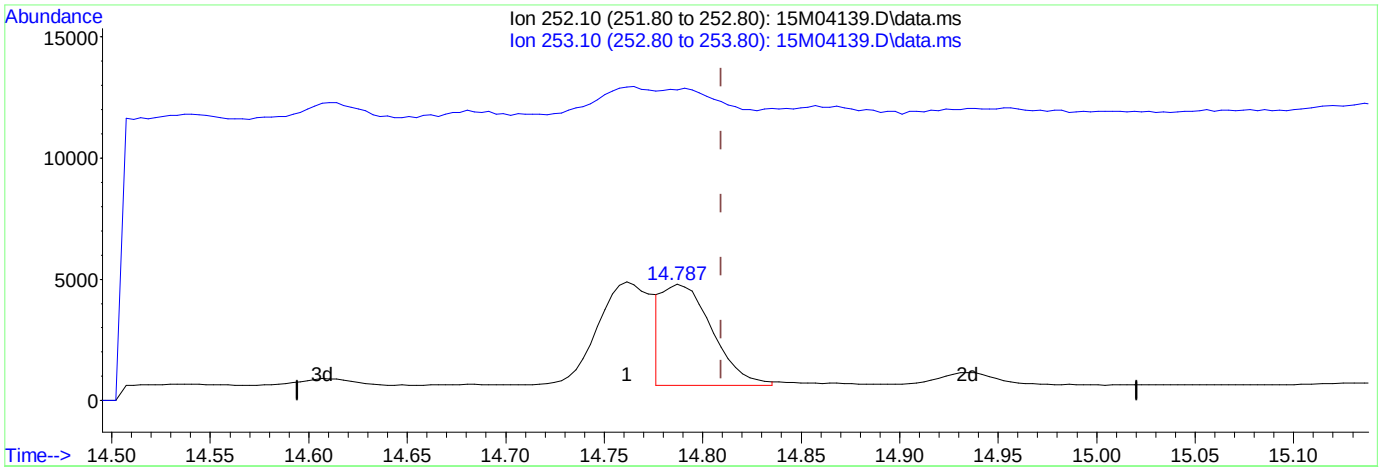
response 8210

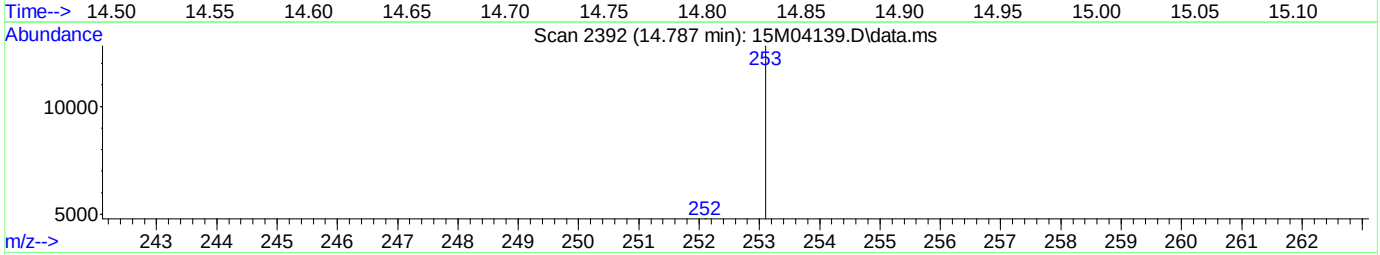
Ion	Exp%	Act%
252.10	100	100
253.10	38.30	27.45
0.00	0.00	0.00
0.00	0.00	0.00

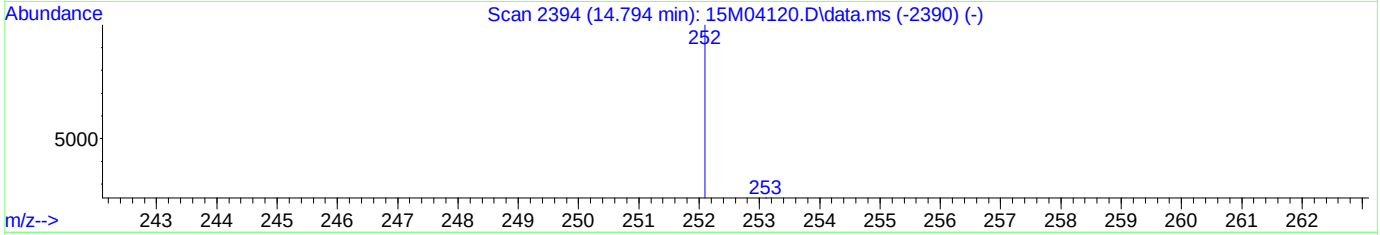
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04139.D
Acq On : 24 Mar 2011 11:51 pm
Operator : CAA
Sample : L11030669-13 2X RE 827-PAHL
Misc : 7,2 SOIL
ALS Vial : 21 Sample Multiplier: 2

Quant Time: Mar 25 07:06:40 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration







TIC: 15M04139.D\data.ms

(22) Benzo[k]fluoranthene

14.787min (-0.022) 0.06 ug/mL mint

response 7278

Ion	Exp%	Act%
252.10	100	100
253.10	38.30	30.97
0.00	0.00	0.00
0.00	0.00	0.00

Analyst: 03/25/2011 07:43 Supervisor: 03/25/2011 09:24

#3 - Improperly integrated isomers and/or coeluting compounds

PAHQUANT.M Fri Mar 25 07:12:12 2011

Page: 1

2.1.1.4 Standards Data

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\021511\
Data File : 15M03935.D
Acq On : 15 Feb 2011 9:38 am
Operator : CAA
Sample : WG356529-02 1ppm PAHL STD
Misc : 1,1 STD41768
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Feb 15 12:38:41 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Tue Feb 15 12:38:37 2011
Response via : Initial Calibration

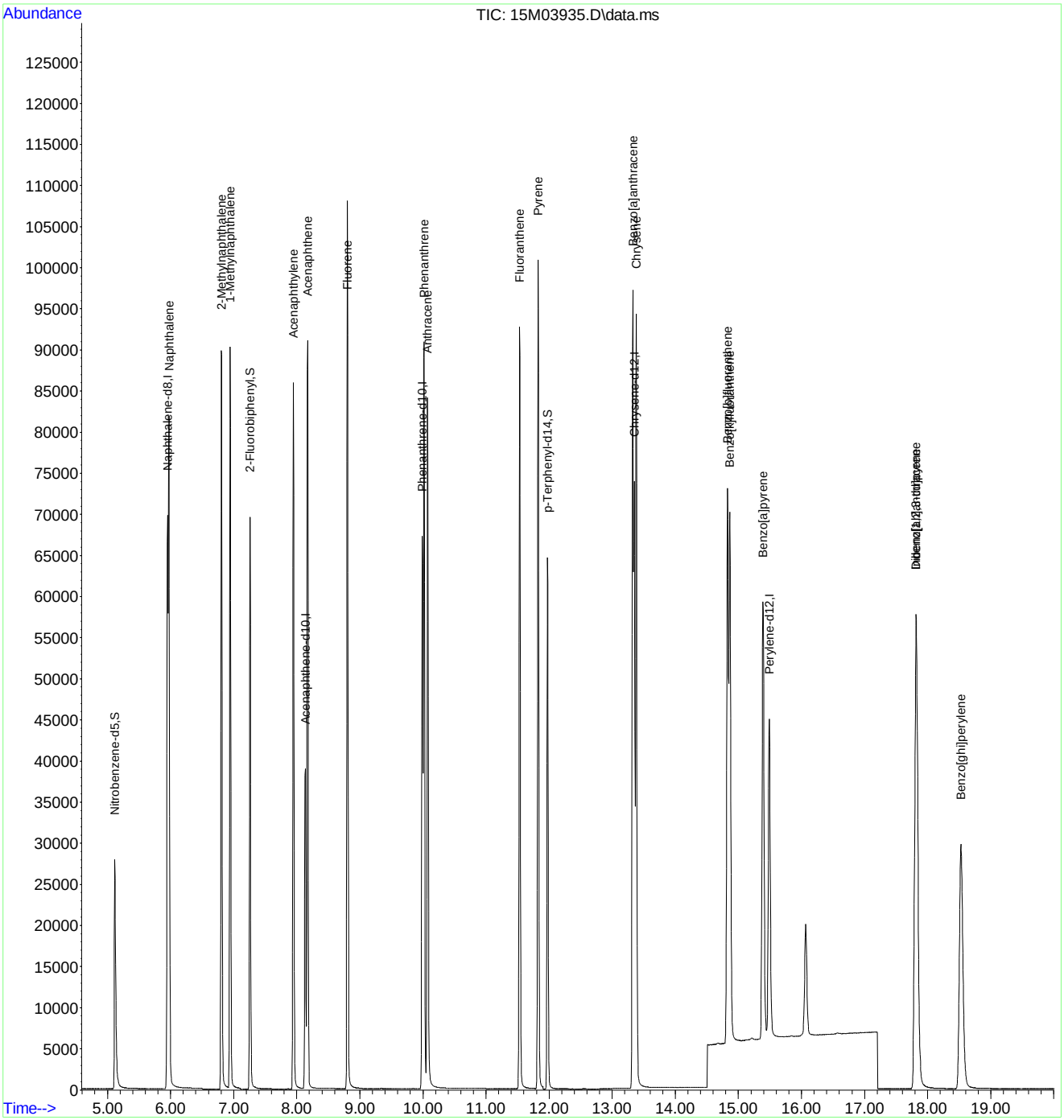
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8	5.953	136	88421	1.00 ug/mL	0.00
6) Acenaphthene-d10	8.136	164	48126	1.00 ug/mL	0.00
11) Phenanthrene-d10	9.987	188	84788	1.00 ug/mL	0.00
15) Chrysene-d12	13.349	240	93522	1.00 ug/mL	0.00
20) Perylene-d12	15.490	264	85766	1.00 ug/mL	0.00
System Monitoring Compounds					
2) Nitrobenzene-d5	5.118	82	30978	0.99 ug/mL	-0.04
Spiked Amount 2.500	Range 35 - 114		Recovery	= 39.60%	
7) 2-Fluorobiphenyl	7.260	172	63305	0.92 ug/mL	0.00
Spiked Amount 2.500	Range 43 - 116		Recovery	= 36.80%#	
17) p-Terphenyl-d14	11.975	244	63167	1.00 ug/mL	0.00
Spiked Amount 2.500	Range 33 - 141		Recovery	= 40.00%	
Target Compounds					Qvalue
3) Naphthalene	5.975	128	91469	0.9792 ug/mL	99
4) 2-Methylnaphthalene	6.808	142	60084	0.9596 ug/mL	99
5) 1-Methylnaphthalene	6.944	142	59184	0.9830 ug/mL	99
8) Acenaphthylene	7.949	152	89545	1.0330 ug/mL	96
9) Acenaphthene	8.174	154	55901	0.9327 ug/mL	97
10) Fluorene	8.805	166	67555	0.9456 ug/mL	99
12) Phenanthrene	10.019	178	97820	0.9314 ug/mL	96
13) Anthracene	10.073	178	91598	0.9563 ug/mL	97
14) Fluoranthene	11.533	202	103341	0.9292 ug/mL	95
16) Pyrene	11.827	202	110884	1.0242 ug/mL	97
18) Benzo[a]anthracene	13.327	228	99178	1.0830 ug/mL	96
19) Chrysene	13.381	228	97835	1.1138 ug/mL	95
21) Benzo[b]fluoranthene	14.828	252	104367	0.9728 ug/mL	94
22) Benzo[k]fluoranthene	14.861	252	96028	1.0133 ug/mL	91
23) Benzo[a]pyrene	15.388	252	95643	0.9858 ug/mL	97
24) Indeno[1,2,3-cd]pyrene	17.817	276	113930	1.1295 ug/mL#	49
25) Dibenz[ah]anthracene	17.817	278	92293	1.1370 ug/mL#	51
26) Benzo[ghi]perylene	18.528	276	94509	1.1038 ug/mL	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\021511\
Data File : 15M03935.D
Acq On : 15 Feb 2011 9:38 am
Operator : CAA
Sample : WG356529-02 1ppm PAHL STD
Misc : 1,1 STD41768
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Feb 15 12:38:41 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Tue Feb 15 12:38:37 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\021511\
Data File : 15M03936.D
Acq On : 15 Feb 2011 10:06 am
Operator : CAA
Sample : WG356529-03 10ppm PAHL STD
Misc : 1,1 STD41768
ALS Vial : 3 Sample Multiplier: 1

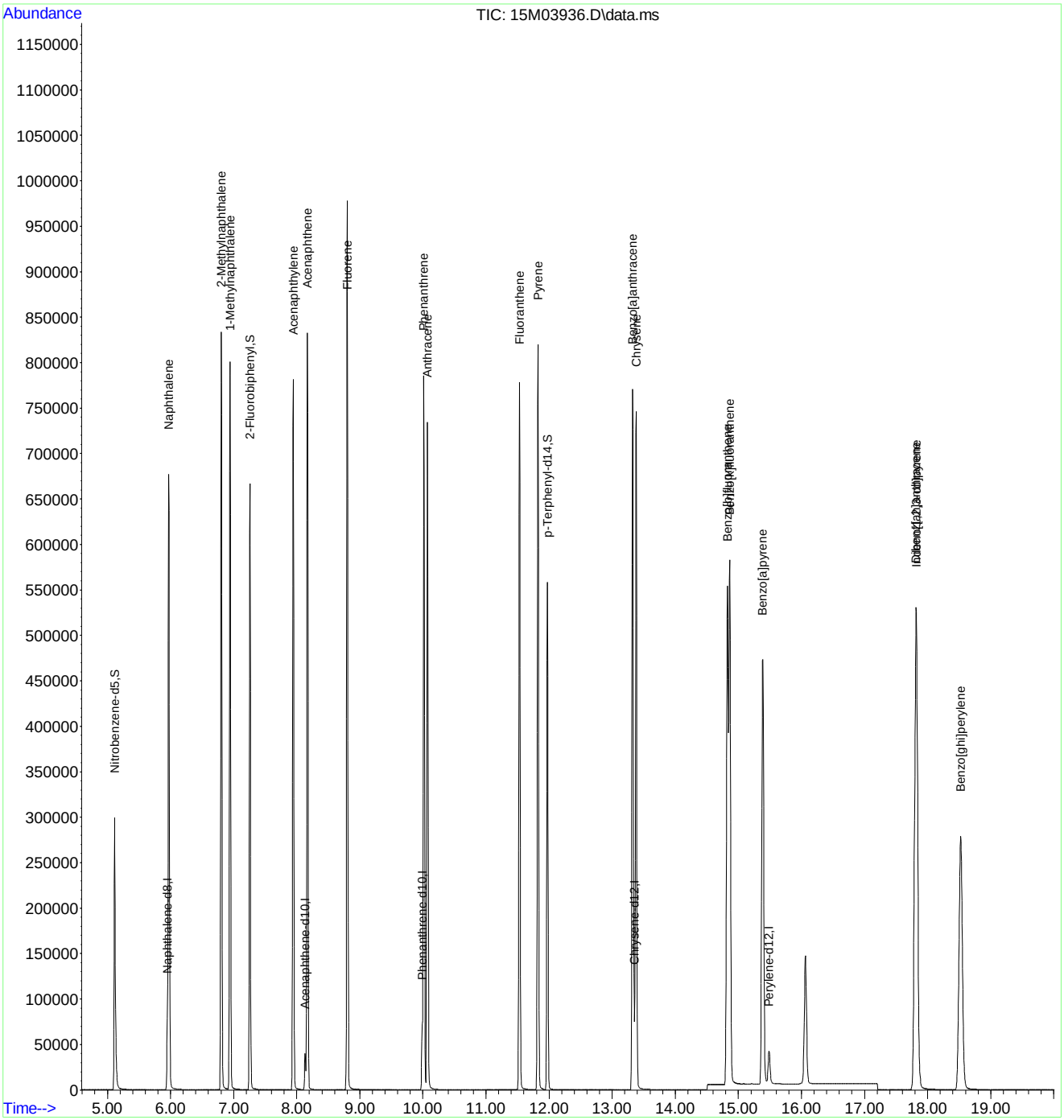
Quant Time: Feb 15 12:39:08 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Tue Feb 15 12:38:53 2011
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8	5.948	136	85902	1.00	ug/mL	0.00
6) Acenaphthene-d10	8.131	164	47748	1.00	ug/mL	0.00
11) Phenanthrene-d10	9.987	188	81951	1.00	ug/mL	0.00
15) Chrysene-d12	13.349	240	90456	1.00	ug/mL	0.00
20) Perylene-d12	15.485	264	79045	1.00	ug/mL	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5	5.114	82	306132	10.14	ug/mL	0.00
Spiked Amount 2.500	Range 35 - 114		Recovery	=	405.60%#	
7) 2-Fluorobiphenyl	7.257	172	586880	8.75	ug/mL	0.00
Spiked Amount 2.500	Range 43 - 116		Recovery	=	350.00%#	
17) p-Terphenyl-d14	11.971	244	550536	9.01	ug/mL	0.00
Spiked Amount 2.500	Range 33 - 141		Recovery	=	360.40%#	
Target Compounds						Qvalue
3) Naphthalene	5.969	128	778561	8.6668	ug/mL	94
4) 2-Methylnaphthalene	6.804	142	556360	9.2520	ug/mL	98
5) 1-Methylnaphthalene	6.944	142	533197	9.1938	ug/mL	99
8) Acenaphthylene	7.945	152	805577	9.4868	ug/mL	94
9) Acenaphthene	8.168	154	515990	8.8156	ug/mL	98
10) Fluorene	8.802	166	622508	8.9277	ug/mL	99
12) Phenanthrene	10.014	178	829719	8.3177	ug/mL	93
13) Anthracene	10.073	178	799456	8.8102	ug/mL	93
14) Fluoranthene	11.529	202	869452	8.2469	ug/mL	93
16) Pyrene	11.824	202	915378	8.7564	ug/mL	94
18) Benzo[a]anthracene	13.322	228	823674	9.2422	ug/mL	93
19) Chrysene	13.381	228	782700	9.1141	ug/mL	92
21) Benzo[b]fluoranthene	14.824	252	868681	8.8121	ug/mL	91
22) Benzo[k]fluoranthene	14.861	252	760576	8.7493	ug/mL	90
23) Benzo[a]pyrene	15.383	252	831739	9.3552	ug/mL	98
24) Indeno[1,2,3-cd]pyrene	17.821	276	1016708	10.7662	ug/mL#	100
25) Dibenz[ah]anthracene	17.818	278	829407	10.9021	ug/mL#	100
26) Benzo[ghi]perylene	18.525	276	839944	10.4992	ug/mL	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\021511\
Data File : 15M03936.D
Acq On : 15 Feb 2011 10:06 am
Operator : CAA
Sample : WG356529-03 10ppm PAHL STD
Misc : 1,1 STD41768
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 15 12:39:08 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Tue Feb 15 12:38:53 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\021511\
Data File : 15M03937.D
Acq On : 15 Feb 2011 10:34 am
Operator : CAA
Sample : WG356529-04 5ppm PAHL STD
Misc : 1,1 STD41768
ALS Vial : 4 Sample Multiplier: 1

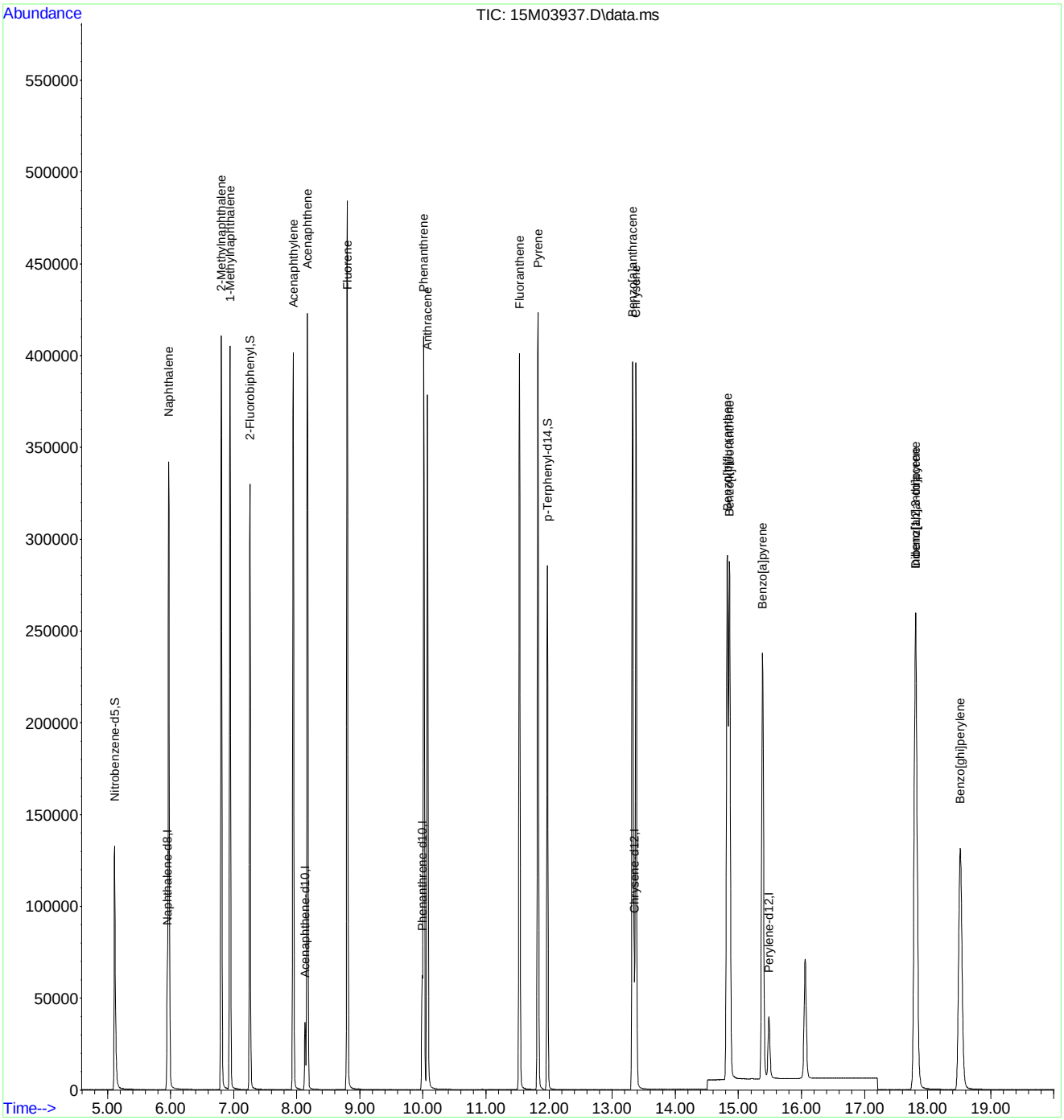
Quant Time: Feb 15 12:39:25 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Tue Feb 15 12:39:18 2011
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8	5.948	136	76513	1.00	ug/mL	0.00
6) Acenaphthene-d10	8.131	164	42987	1.00	ug/mL	0.00
11) Phenanthrene-d10	9.987	188	74610	1.00	ug/mL	0.00
15) Chrysene-d12	13.349	240	83647	1.00	ug/mL	0.00
20) Perylene-d12	15.485	264	73437	1.00	ug/mL	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5	5.114	82	139020	5.16	ug/mL	0.00
Spiked Amount 2.500	Range 35 - 114		Recovery	= 206.40%#		
7) 2-Fluorobiphenyl	7.257	172	287186	4.77	ug/mL	0.00
Spiked Amount 2.500	Range 43 - 116		Recovery	= 190.80%#		
17) p-Terphenyl-d14	11.971	244	273366	4.79	ug/mL	0.00
Spiked Amount 2.500	Range 33 - 141		Recovery	= 191.60%#		
Target Compounds						Qvalue
3) Naphthalene	5.969	128	386454	4.8157	ug/mL	98
4) 2-Methylnaphthalene	6.804	142	269638	5.0142	ug/mL	99
5) 1-Methylnaphthalene	6.940	142	260773	5.0309	ug/mL	99
8) Acenaphthylene	7.945	152	402547	5.2352	ug/mL	98
9) Acenaphthene	8.168	154	252303	4.7958	ug/mL	99
10) Fluorene	8.802	166	309109	4.9188	ug/mL	100
12) Phenanthrene	10.014	178	421873	4.6436	ug/mL	97
13) Anthracene	10.073	178	407287	4.9268	ug/mL	97
14) Fluoranthene	11.529	202	444739	4.6424	ug/mL	98
16) Pyrene	11.824	202	470868	4.8055	ug/mL	98
18) Benzo[a]anthracene	13.322	228	416510	4.9810	ug/mL	97
19) Chrysene	13.376	228	404263	5.0228	ug/mL	97
21) Benzo[b]fluoranthene	14.824	252	425074	4.6525	ug/mL	95
22) Benzo[k]fluoranthene	14.857	252	391713	4.8899	ug/mL	93
23) Benzo[a]pyrene	15.383	252	408968	4.9510	ug/mL	100
24) Indeno[1,2,3-cd]pyrene	17.810	276	489686	5.5070	ug/mL#	100
25) Dibenz[ah]anthracene	17.807	278	398702	5.5708	ug/mL#	100
26) Benzo[ghi]perylene	18.517	276	403279	5.3571	ug/mL	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\021511\
Data File : 15M03937.D
Acq On : 15 Feb 2011 10:34 am
Operator : CAA
Sample : WG356529-04 5ppm PAHL STD
Misc : 1,1 STD41768
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 15 12:39:25 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Tue Feb 15 12:39:18 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\021511\
Data File : 15M03938.D
Acq On : 15 Feb 2011 11:02 am
Operator : CAA
Sample : WG356529-05 2.5ppm PAHL STD
Misc : 1,1 STD41768
ALS Vial : 5 Sample Multiplier: 1

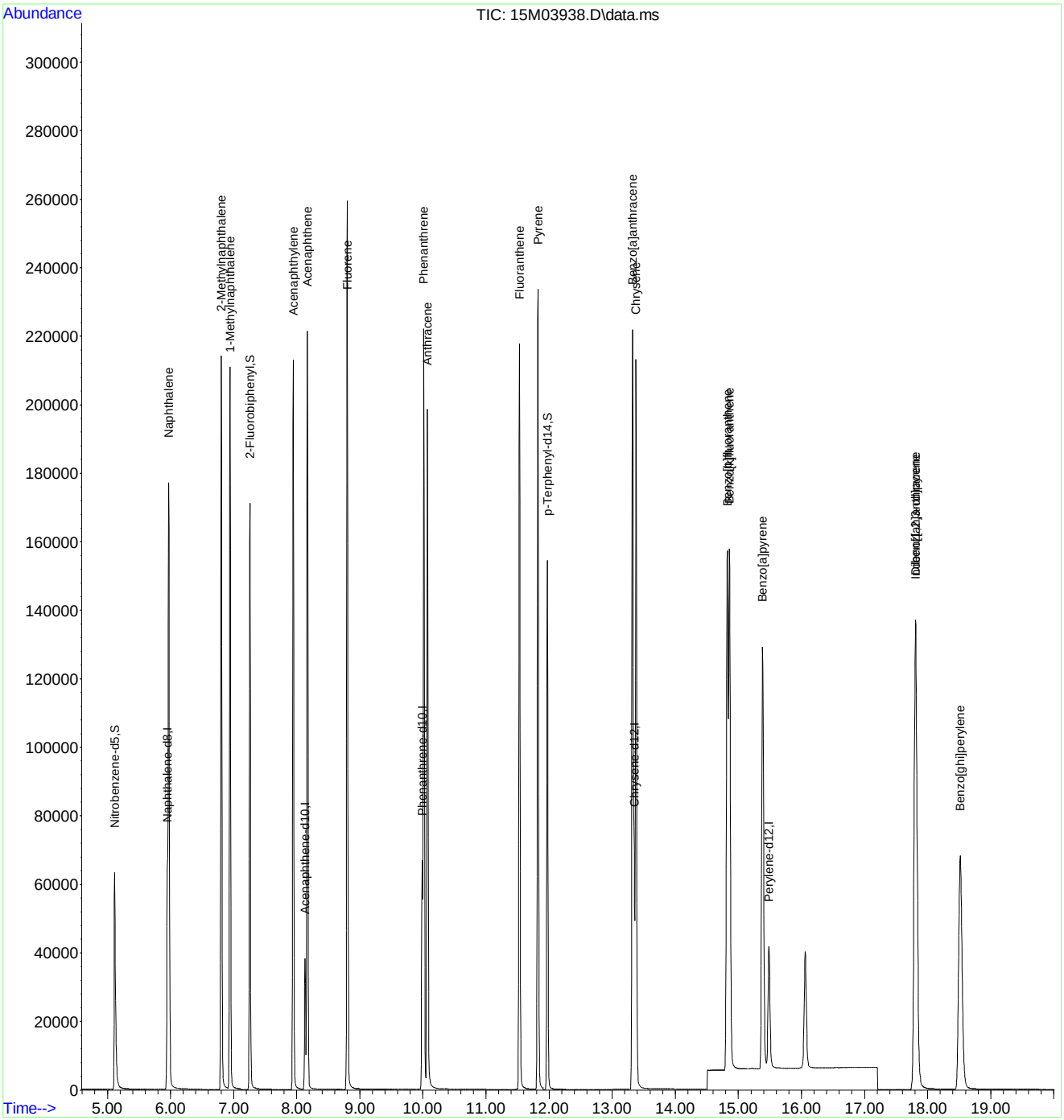
Quant Time: Feb 15 12:39:40 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Tue Feb 15 12:39:34 2011
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8	5.948	136	79584	1.00 ug/mL	0.00
6) Acenaphthene-d10	8.131	164	45447	1.00 ug/mL	0.00
11) Phenanthrene-d10	9.987	188	79439	1.00 ug/mL	0.00
15) Chrysene-d12	13.349	240	88789	1.00 ug/mL	0.00
20) Perylene-d12	15.485	264	78207	1.00 ug/mL	0.00
System Monitoring Compounds					
2) Nitrobenzene-d5	5.114	82	69900	2.50 ug/mL	0.00
Spiked Amount 2.500	Range 35 - 114		Recovery	= 100.00%	
7) 2-Fluorobiphenyl	7.257	172	151667	2.40 ug/mL	0.00
Spiked Amount 2.500	Range 43 - 116		Recovery	= 96.00%	
17) p-Terphenyl-d14	11.971	244	147133	2.42 ug/mL	0.00
Spiked Amount 2.500	Range 33 - 141		Recovery	= 96.80%	
Target Compounds					Qvalue
3) Naphthalene	5.969	128	204347	2.4507 ug/mL	99
4) 2-Methylnaphthalene	6.804	142	140078	2.5042 ug/mL	99
5) 1-Methylnaphthalene	6.944	142	136971	2.5391 ug/mL	100
8) Acenaphthylene	7.945	152	213321	2.6190 ug/mL	100
9) Acenaphthene	8.168	154	133157	2.4062 ug/mL	99
10) Fluorene	8.802	166	163374	2.4637 ug/mL	100
12) Phenanthrene	10.014	178	229277	2.3813 ug/mL	99
13) Anthracene	10.073	178	218887	2.4945 ug/mL	99
14) Fluoranthene	11.529	202	241657	2.3864 ug/mL	99
16) Pyrene	11.824	202	257557	2.4523 ug/mL	99
18) Benzo[a]anthracene	13.322	228	226217	2.5211 ug/mL	99
19) Chrysene	13.376	228	220901	2.5549 ug/mL	99
21) Benzo[b]fluoranthene	14.824	252	227373	2.3545 ug/mL	96
22) Benzo[k]fluoranthene	14.857	252	212133	2.5108 ug/mL	95
23) Benzo[a]pyrene	15.383	252	217848	2.4812 ug/mL	99
24) Indeno[1,2,3-cd]pyrene	17.810	276	259827	2.7078 ug/mL#	100
25) Dibenz[ah]anthracene	17.807	278	211035	2.7334 ug/mL#	100
26) Benzo[ghi]perylene	18.517	276	214196	2.6401 ug/mL	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\021511\
Data File : 15M03938.D
Acq On : 15 Feb 2011 11:02 am
Operator : CAA
Sample : WG356529-05 2.5ppm PAHL STD
Misc : 1,1 STD41768
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Feb 15 12:39:40 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Tue Feb 15 12:39:34 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\021511\
Data File : 15M03939.D
Acq On : 15 Feb 2011 11:30 am
Operator : CAA
Sample : WG356529-06 0.5ppm PAHL STD
Misc : 1,1 STD41768
ALS Vial : 6 Sample Multiplier: 1

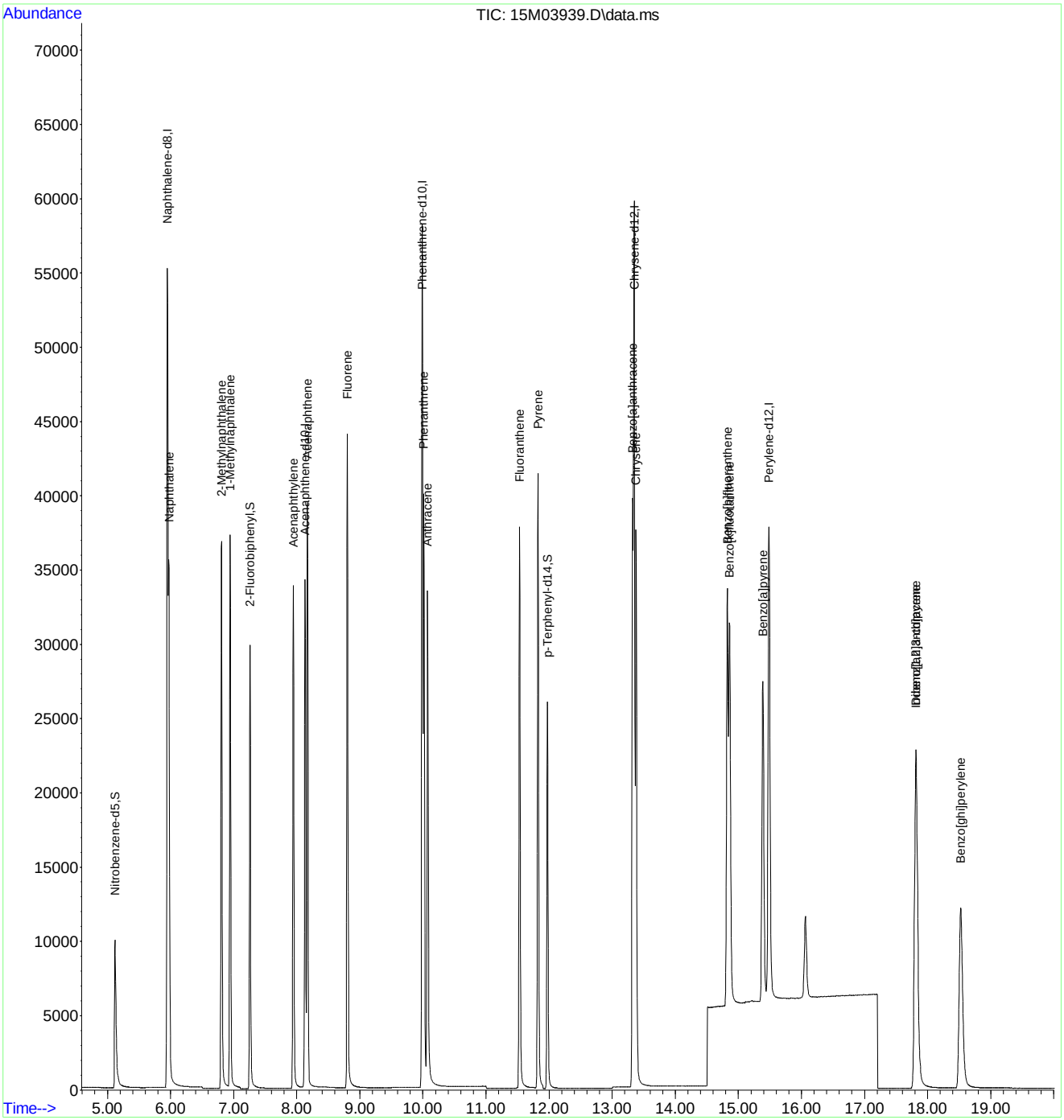
Quant Time: Feb 15 12:39:54 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Tue Feb 15 12:39:48 2011
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8	5.948	136	73587	1.00 ug/mL	0.00
6) Acenaphthene-d10	8.131	164	41274	1.00 ug/mL	0.00
11) Phenanthrene-d10	9.987	188	73398	1.00 ug/mL	0.00
15) Chrysene-d12	13.349	240	78756	1.00 ug/mL	0.00
20) Perylene-d12	15.485	264	70929	1.00 ug/mL	0.00
System Monitoring Compounds					
2) Nitrobenzene-d5	5.122	82	12439	0.48 ug/mL	0.00
Spiked Amount 2.500	Range 35 - 114		Recovery	= 19.20%#	
7) 2-Fluorobiphenyl	7.260	172	27898	0.49 ug/mL	0.00
Spiked Amount 2.500	Range 43 - 116		Recovery	= 19.60%#	
17) p-Terphenyl-d14	11.975	244	26698	0.49 ug/mL	0.00
Spiked Amount 2.500	Range 33 - 141		Recovery	= 19.60%#	
Target Compounds					Qvalue
3) Naphthalene	5.975	128	38428	0.5007 ug/mL	100
4) 2-Methylnaphthalene	6.808	142	25540	0.4952 ug/mL	100
5) 1-Methylnaphthalene	6.944	142	25808	0.5180 ug/mL	100
8) Acenaphthylene	7.949	152	37377	0.5066 ug/mL	99
9) Acenaphthene	8.168	154	24450	0.4908 ug/mL	99
10) Fluorene	8.805	166	29439	0.4918 ug/mL	100
12) Phenanthrene	10.014	178	42051	0.4775 ug/mL	100
13) Anthracene	10.073	178	38480	0.4788 ug/mL	100
14) Fluoranthene	11.533	202	43841	0.4743 ug/mL	100
16) Pyrene	11.824	202	47177	0.5045 ug/mL	99
18) Benzo[a]anthracene	13.322	228	40826	0.5095 ug/mL	99
19) Chrysene	13.376	228	40923	0.5292 ug/mL	100
21) Benzo[b]fluoranthene	14.824	252	42517	0.4902 ug/mL	100
22) Benzo[k]fluoranthene	14.857	252	37128	0.4855 ug/mL	95
23) Benzo[a]pyrene	15.388	252	38493	0.4851 ug/mL	100
24) Indeno[1,2,3-cd]pyrene	17.818	276	46403	0.5257 ug/mL#	100
25) Dibenz[ah]anthracene	17.814	278	37737	0.5313 ug/mL#	100
26) Benzo[ghi]perylene	18.525	276	38834	0.5214 ug/mL	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\021511\
Data File : 15M03939.D
Acq On : 15 Feb 2011 11:30 am
Operator : CAA
Sample : WG356529-06 0.5ppm PAHL STD
Misc : 1,1 STD41768
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Feb 15 12:39:54 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Tue Feb 15 12:39:48 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\021511\
Data File : 15M03940.D
Acq On : 15 Feb 2011 11:59 am
Operator : CAA
Sample : WG356529-07 0.1ppm PAHL STD
Misc : 1,1 STD41768
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Feb 15 12:40:12 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Tue Feb 15 12:40:05 2011
Response via : Initial Calibration

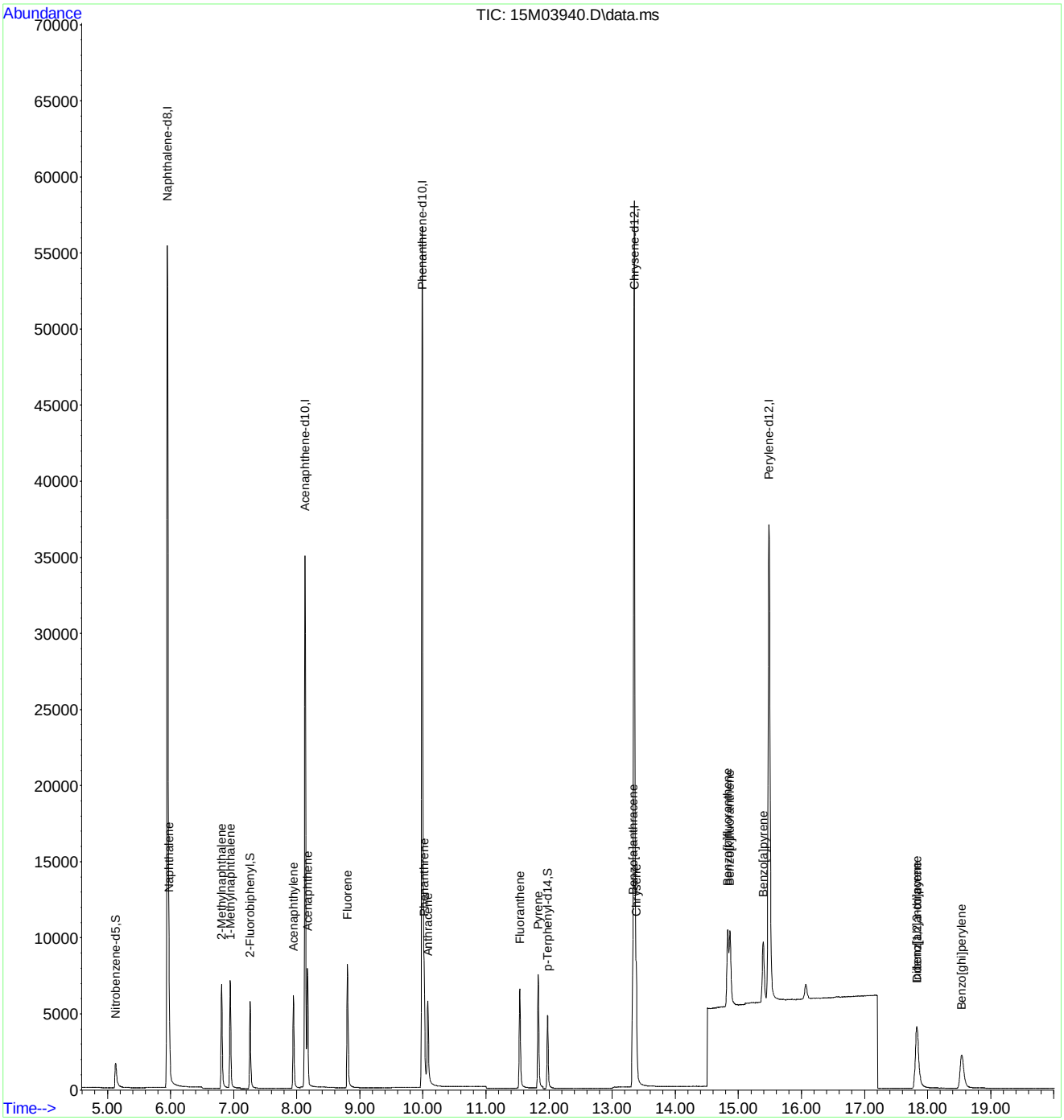
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8	5.948	136	75653	1.00 ug/mL	0.00
6) Acenaphthene-d10	8.131	164	42128	1.00 ug/mL	0.00
11) Phenanthrene-d10	9.987	188	73987	1.00 ug/mL	0.00
15) Chrysene-d12	13.349	240	78703	1.00 ug/mL	0.00
20) Perylene-d12	15.485	264	71273	1.00 ug/mL	0.00
System Monitoring Compounds					
2) Nitrobenzene-d5	5.129	82	2401	0.09 ug/mL	0.00
Spiked Amount 2.500	Range 35 - 114		Recovery	= 3.60%#	
7) 2-Fluorobiphenyl	7.261	172	5627	0.10 ug/mL	0.00
Spiked Amount 2.500	Range 43 - 116		Recovery	= 4.00%#	
17) p-Terphenyl-d14	11.975	244	5239	0.10 ug/mL	0.00
Spiked Amount 2.500	Range 33 - 141		Recovery	= 4.00%#	
Target Compounds					Qvalue
3) Naphthalene	5.975	128	7874	0.1005 ug/mL	100
4) 2-Methylnaphthalene	6.808	142	5119	0.0972 ug/mL	100
5) 1-Methylnaphthalene	6.948	142	5687	0.1109 ug/mL	89
8) Acenaphthylene	7.949	152	7272	0.0968 ug/mL	91
9) Acenaphthene	8.174	154	4875	0.0970 ug/mL	100
10) Fluorene	8.805	166	5743	0.0950 ug/mL	100
12) Phenanthrene	10.020	178	8355	0.0959 ug/mL	100
13) Anthracene	10.079	178	6950	0.0874 ug/mL	100
14) Fluoranthene	11.537	202	8432	0.0924 ug/mL	99
16) Pyrene	11.828	202	9317	0.0999 ug/mL	91
18) Benzo[a]anthracene	13.327	228	7870	0.0981 ug/mL	100
19) Chrysene	13.381	228	8262	0.1062 ug/mL	99
21) Benzo[b]fluoranthene	14.828	252	7646	0.0886 ug/mL	100
22) Benzo[k]fluoranthene	14.865	252	8027	0.1055 ug/mL	98
23) Benzo[a]pyrene	15.394	252	7293	0.0923 ug/mL	97
24) Indeno[1,2,3-cd]pyrene	17.832	276	8948	0.0993 ug/mL#	100
25) Dibenz[ah]anthracene	17.829	278	7258	0.0999 ug/mL#	100
26) Benzo[ghi]perylene	18.539	276	7677	0.1013 ug/mL	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\021511\
Data File : 15M03940.D
Acq On : 15 Feb 2011 11:59 am
Operator : CAA
Sample : WG356529-07 0.1ppm PAHL STD
Misc : 1,1 STD41768
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Feb 15 12:40:12 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Tue Feb 15 12:40:05 2011
Response via : Initial Calibration



PAHQUANT.M Wed Feb 16 07:43:41 2011 Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\021511\
Data File : 15M03941.D
Acq On : 15 Feb 2011 12:28 pm
Operator : CAA
Sample : WG356529-08 0.05ppm PAHL STD
Misc : 1,1 STD41768
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Feb 15 12:44:07 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Tue Feb 15 12:40:20 2011
Response via : Initial Calibration

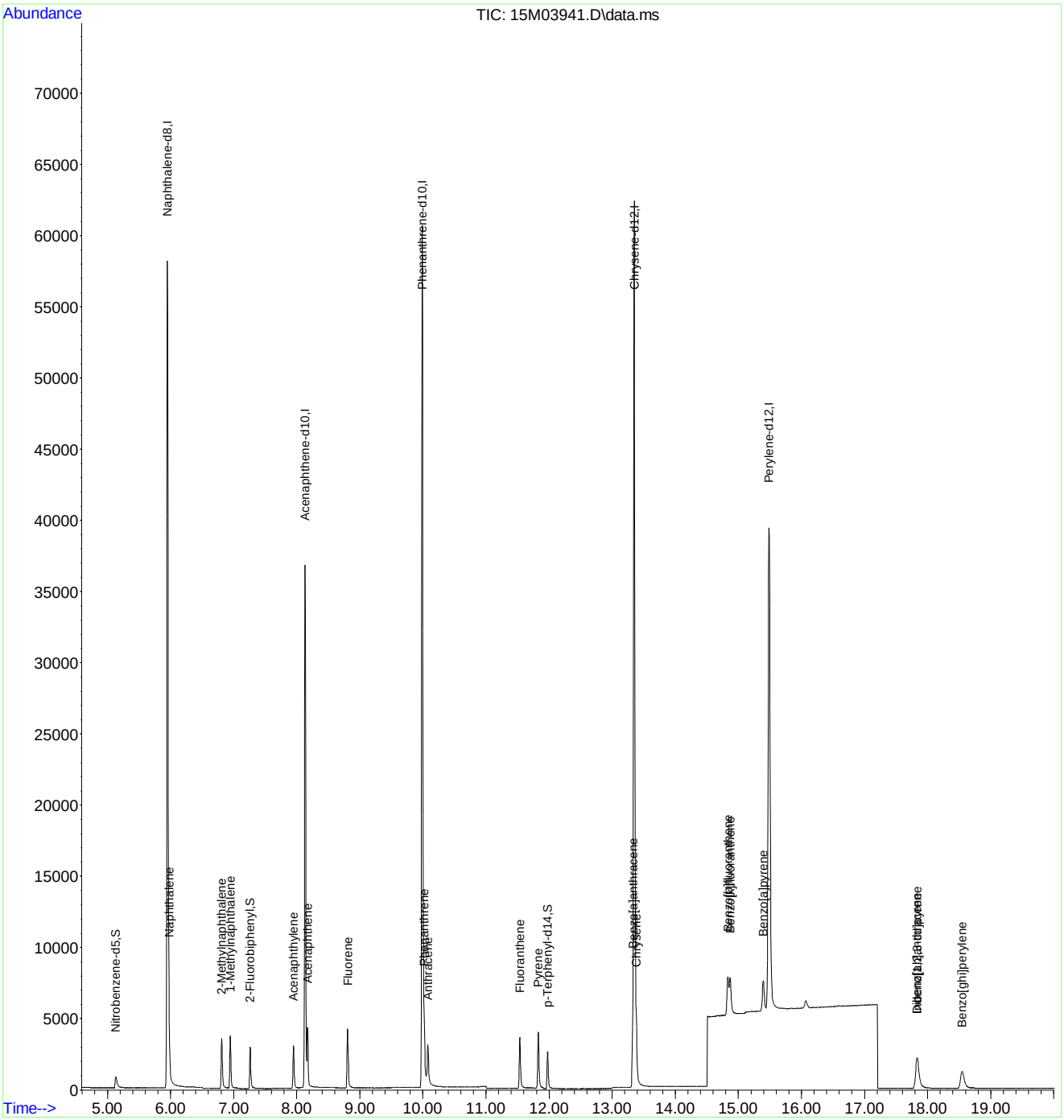
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8	5.948	136	80934	1.00 ug/mL	0.00
6) Acenaphthene-d10	8.131	164	45035	1.00 ug/mL	0.00
11) Phenanthrene-d10	9.987	188	80027	1.00 ug/mL	0.00
15) Chrysene-d12	13.349	240	86398	1.00 ug/mL	0.00
20) Perylene-d12	15.485	264	77065	1.00 ug/mL	0.00
System Monitoring Compounds					
2) Nitrobenzene-d5	5.133	82	1272	0.05 ug/mL	0.00
Spiked Amount 2.500	Range 35 - 114		Recovery	= 2.00%#	
7) 2-Fluorobiphenyl	7.260	172	3024	0.05 ug/mL	0.00
Spiked Amount 2.500	Range 43 - 116		Recovery	= 2.00%#	
17) p-Terphenyl-d14	11.975	244	2911	0.05 ug/mL	0.00
Spiked Amount 2.500	Range 33 - 141		Recovery	= 2.00%#	
Target Compounds					Qvalue
3) Naphthalene	5.975	128	4265	0.0513 ug/mL	100
4) 2-Methylnaphthalene	6.811	142	2735	0.0489 ug/mL	99
5) 1-Methylnaphthalene	6.948	142	2674	0.0481 ug/mL	100
8) Acenaphthylene	7.949	152	3968	0.0493 ug/mL	92
9) Acenaphthene	8.174	154	2622	0.0495 ug/mL	99
10) Fluorene	8.809	166	3035	0.0477 ug/mL	98
12) Phenanthrene	10.020	178	4549	0.0493 ug/mL	100
13) Anthracene	10.079	178	3597	0.0428 ug/mL	99
14) Fluoranthene	11.537	202	4571	0.0475 ug/mL	99
16) Pyrene	11.828	202	5174	0.0511 ug/mL	84
18) Benzo[a]anthracene	13.327	228	4384	0.0500 ug/mL	99
19) Chrysene	13.381	228	4601	0.0534 ug/mL	99
21) Benzo[b]fluoranthene	14.832	252	4309	0.0475 ug/mL	100
22) Benzo[k]fluoranthene	14.868	252	4148	0.0501 ug/mL	98
23) Benzo[a]pyrene	15.394	252	3937	0.0468 ug/mL	95
24) Indeno[1,2,3-cd]pyrene	17.836	276	4912	0.0497 ug/mL#	100
25) Dibenz[ah]anthracene	17.829	278	4005	0.0501 ug/mL#	100
26) Benzo[ghi]perylene	18.543	276	4181	0.0504 ug/mL	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\021511\
Data File : 15M03941.D
Acq On : 15 Feb 2011 12:28 pm
Operator : CAA
Sample : WG356529-08 0.05ppm PAHL STD
Misc : 1,1 STD41768
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Feb 15 12:44:07 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Tue Feb 15 12:40:20 2011
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\021511\
Data File : 15M03942.D
Acq On : 15 Feb 2011 12:56 pm
Operator : CAA
Sample : WG356529-09 1ppm PAHL Alt Src STD
Misc : 1,1 STD43326
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Feb 15 13:20:11 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Tue Feb 15 12:44:16 2011
Response via : Initial Calibration

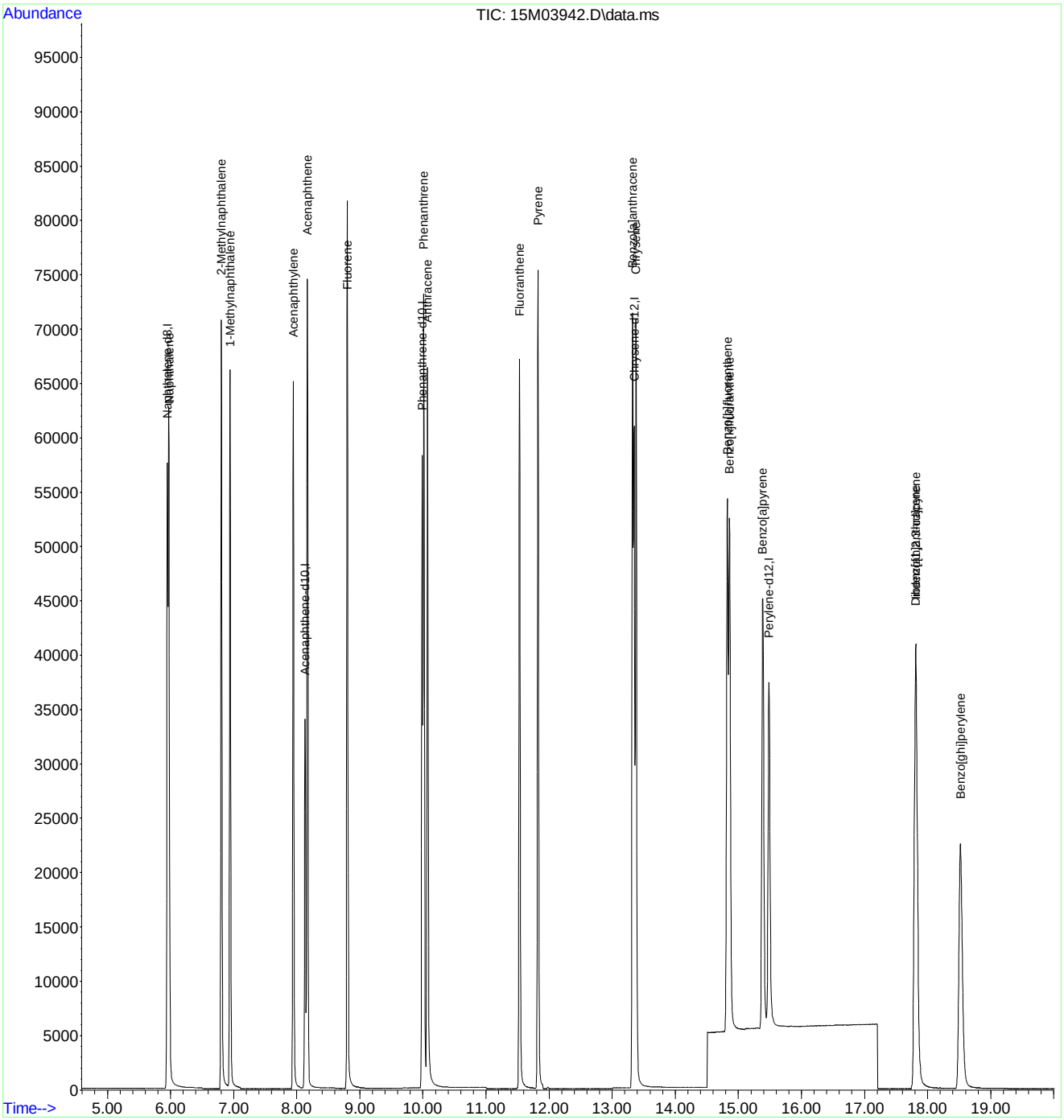
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8	5.948	136	72946	1.00 ug/mL	0.00
6) Acenaphthene-d10	8.131	164	41159	1.00 ug/mL	0.00
11) Phenanthrene-d10	9.987	188	72656	1.00 ug/mL	0.00
15) Chrysene-d12	13.349	240	79790	1.00 ug/mL	0.00
20) Perylene-d12	15.485	264	70088	1.00 ug/mL	0.00
System Monitoring Compounds					
2) Nitrobenzene-d5	5.136	82	7	0.00 ug/mL	0.00
Spiked Amount 2.500	Range 35 - 114		Recovery	= 0.00%#	
7) 2-Fluorobiphenyl	7.106	172	30	0.00 ug/mL	-0.15
Spiked Amount 2.500	Range 43 - 116		Recovery	= 0.00%#	
17) p-Terphenyl-d14	11.979	244	201	0.00 ug/mL	0.00
Spiked Amount 2.500	Range 33 - 141		Recovery	= 0.00%#	
Target Compounds					Qvalue
3) Naphthalene	5.975	128	70873	0.9556 ug/mL	100
4) 2-Methylnaphthalene	6.804	142	46630	0.9356 ug/mL	100
5) 1-Methylnaphthalene	6.944	142	44855	0.9016 ug/mL	100
8) Acenaphthylene	7.945	152	67556	0.9120 ug/mL	100
9) Acenaphthene	8.168	154	45018	0.9459 ug/mL	99
10) Fluorene	8.802	166	53031	0.9278 ug/mL	100
12) Phenanthrene	10.014	178	76279	0.9346 ug/mL	100
13) Anthracene	10.073	178	74608	1.0072 ug/mL	100
14) Fluoranthene	11.529	202	79191	0.9344 ug/mL	100
16) Pyrene	11.824	202	84732	0.9219 ug/mL	100
18) Benzo[a]anthracene	13.322	228	71225	0.8879 ug/mL	99
19) Chrysene	13.376	228	75700	0.9451 ug/mL	100
21) Benzo[b]fluoranthene	14.824	252	69869	0.8694 ug/mL	96
22) Benzo[k]fluoranthene	14.857	252	70603	0.9423 ug/mL	100
23) Benzo[a]pyrene	15.383	252	71857	0.9536 ug/mL	99
24) Indeno[1,2,3-cd]pyrene	17.814	276	81609	0.8941 ug/mL#	100
25) Dibenz[ah]anthracene	17.807	278	65716	0.8855 ug/mL#	100
26) Benzo[ghi]perylene	18.521	276	70812	0.9287 ug/mL	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\021511\
Data File : 15M03942.D
Acq On : 15 Feb 2011 12:56 pm
Operator : CAA
Sample : WG356529-09 1ppm PAHL Alt Src STD
Misc : 1,1 STD43326
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Feb 15 13:20:11 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Tue Feb 15 12:44:16 2011
Response via : Initial Calibration



PAHQUANT.M Wed Feb 16 07:43:56 2011 Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04120.D
Acq On : 24 Mar 2011 2:59 pm
Operator : CAA
Sample : WG359868-02 1ppm PAHL STD
Misc : 1,1 STD41768
ALS Vial : 2 Sample Multiplier: 1

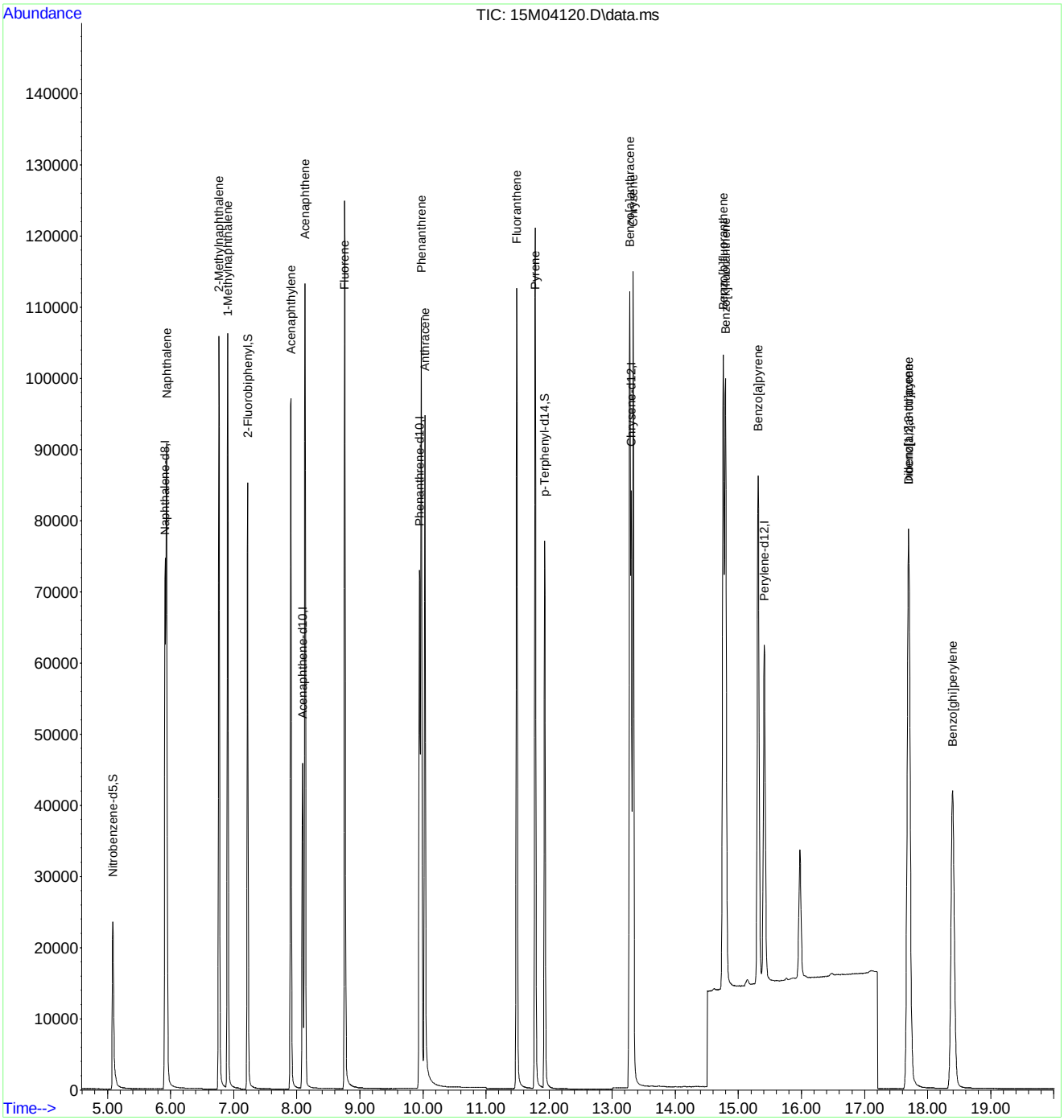
Quant Time: Mar 24 15:16:12 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Thu Mar 24 08:44:54 2011
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8	5.910	136	95571	1.00 ug/mL	-0.01
6) Acenaphthene-d10	8.093	164	54000	1.00 ug/mL	-0.01
11) Phenanthrene-d10	9.944	188	95120	1.00 ug/mL	-0.01
15) Chrysene-d12	13.300	240	102937	1.00 ug/mL	-0.01
20) Perylene-d12	15.409	264	103970	1.00 ug/mL	-0.02
System Monitoring Compounds					
2) Nitrobenzene-d5	5.084	82	27778	0.85 ug/mL	-0.03
Spiked Amount 2.500	Range 35 - 114		Recovery	= 34.00%#	
7) 2-Fluorobiphenyl	7.220	172	76939	1.08 ug/mL	-0.02
Spiked Amount 2.500	Range 43 - 116		Recovery	= 43.20%	
17) p-Terphenyl-d14	11.930	244	79190	1.17 ug/mL	-0.01
Spiked Amount 2.500	Range 33 - 141		Recovery	= 46.80%	
Target Compounds					Qvalue
3) Naphthalene	5.937	128	101800	1.0476 ug/mL	98
4) 2-Methylnaphthalene	6.767	142	71065	1.0883 ug/mL	99
5) 1-Methylnaphthalene	6.907	142	70950	1.0885 ug/mL	97
8) Acenaphthylene	7.908	152	100463	1.0338 ug/mL	98
9) Acenaphthene	8.130	154	66243	1.0609 ug/mL	98
10) Fluorene	8.761	166	80628	1.0752 ug/mL	100
12) Phenanthrene	9.971	178	116302	1.0884 ug/mL	100
13) Anthracene	10.030	178	107461	1.1081 ug/mL	100
14) Fluoranthene	11.489	202	128363	1.1569 ug/mL	100
16) Pyrene	11.779	202	135329	1.1413 ug/mL	99
18) Benzo[a]anthracene	13.279	228	115889	1.1198 ug/mL	100
19) Chrysene	13.332	228	116993	1.1321 ug/mL	100
21) Benzo[b]fluoranthene	14.758	252	131000	1.0989 ug/mL	76
22) Benzo[k]fluoranthene	14.794	252	117769	1.0596 ug/mL#	74
23) Benzo[a]pyrene	15.313	252	122827	1.0988 ug/mL#	69
24) Indeno[1,2,3-cd]pyrene	17.696	276	150560	1.1120 ug/mL#	100
25) Dibenz[ah]anthracene	17.696	278	121247	1.1013 ug/mL#	100
26) Benzo[ghi]perylene	18.395	276	126571	1.1190 ug/mL	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04120.D
Acq On : 24 Mar 2011 2:59 pm
Operator : CAA
Sample : WG359868-02 1ppm PAHL STD
Misc : 1,1 STD41768
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 24 15:16:12 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Thu Mar 24 08:44:54 2011
Response via : Initial Calibration

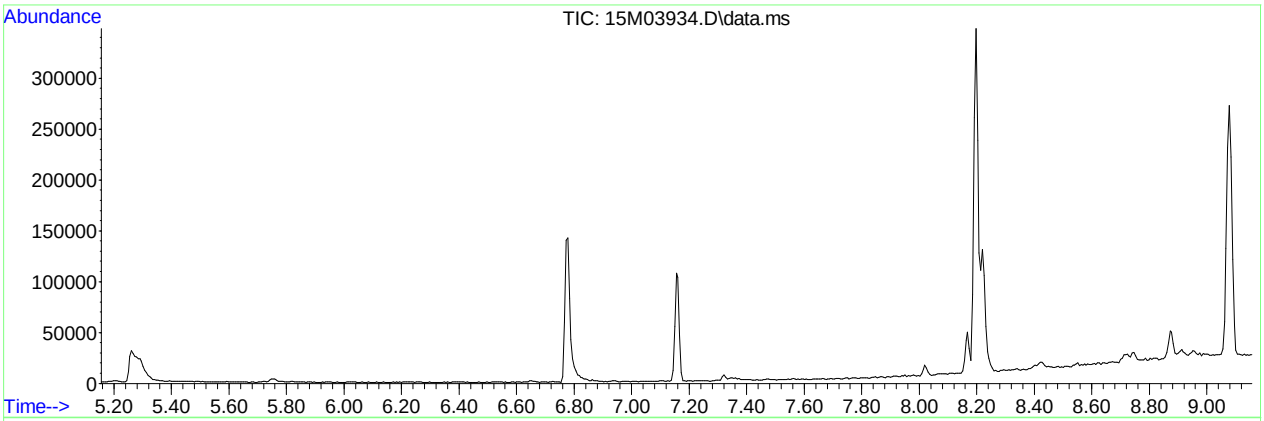


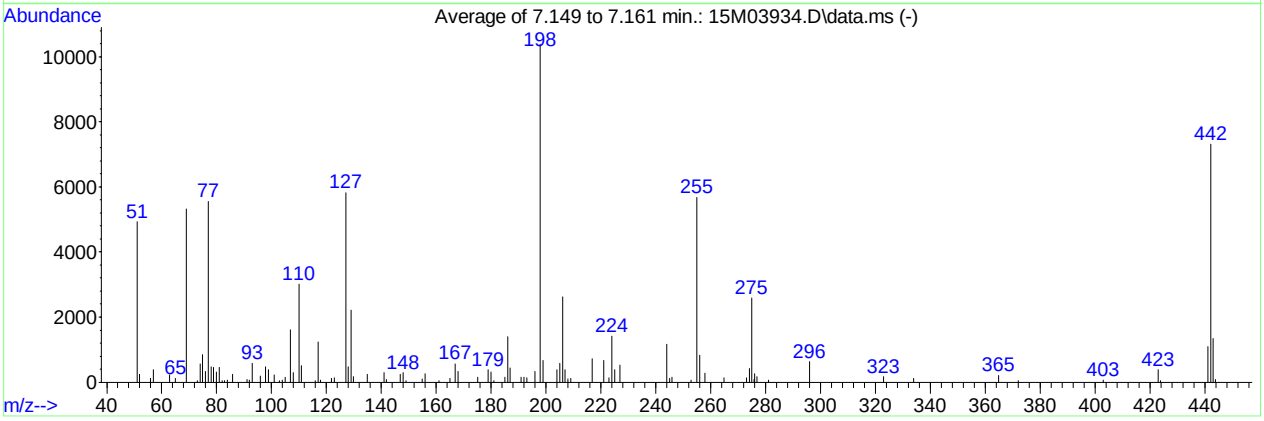
2.1.1.5 Raw QC Data

Data Path : C:\msdchem\1\DATA\021511\
Data File : 15M03934.D
Acq On : 15 Feb 2011 9:19 am
Operator : CAA
Sample : WG356529-01 5ppm DFTPP STD
Misc : 1,1 STD41383
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\METHODS\DFTPPQ.M
Title : DFTPP
Last Update : Mon Feb 14 14:21:44 2011





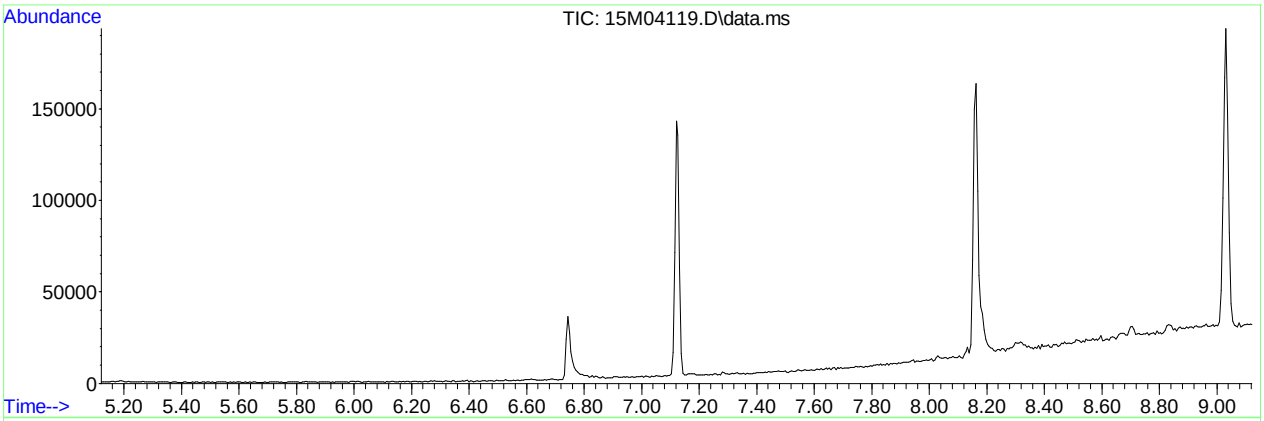
AutoFind: Scans 710, 711, 712; Background Corrected with Scan 705

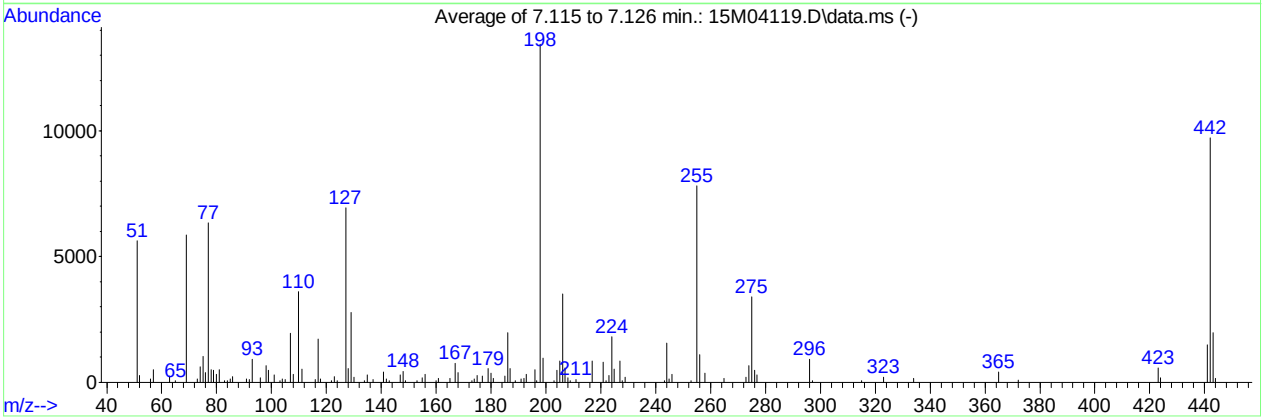
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	47.4	4927	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	51.2	5320	PASS
70	69	0.00	2	0.0	0	PASS
127	198	40	60	56.1	5830	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	10393	PASS
199	198	5	9	6.3	659	PASS
275	198	10	30	24.9	2588	PASS
365	198	1	100	1.9	198	PASS
441	443	0.01	100	80.7	1085	PASS
442	198	40	100	70.5	7322	PASS
443	442	17	23	18.4	1344	PASS

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04119.D
Acq On : 24 Mar 2011 2:41 pm
Operator : CAA
Sample : WG359868-01 5ppm DFTPP STD
Misc : 1,1 STD41383
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\METHODS\DFTPPQ.M
Title : DFTPP
Last Update : Mon Feb 14 14:21:44 2011





AutoFind: Scans 704, 705, 706; Background Corrected with Scan 699

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	41.9	5632	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	43.5	5853	PASS
70	69	0.00	2	0.0	0	PASS
127	198	40	60	51.6	6942	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	13443	PASS
199	198	5	9	7.1	951	PASS
275	198	10	30	25.2	3391	PASS
365	198	1	100	3.0	403	PASS
441	443	0.01	100	75.3	1485	PASS
442	198	40	100	72.2	9706	PASS
443	442	17	23	20.3	1971	PASS

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04121.D
Acq On : 24 Mar 2011 3:27 pm
Operator : CAA
Sample : WG359747-03 BLK 03/23
Misc : 7,1 SOIL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 25 07:06:04 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration

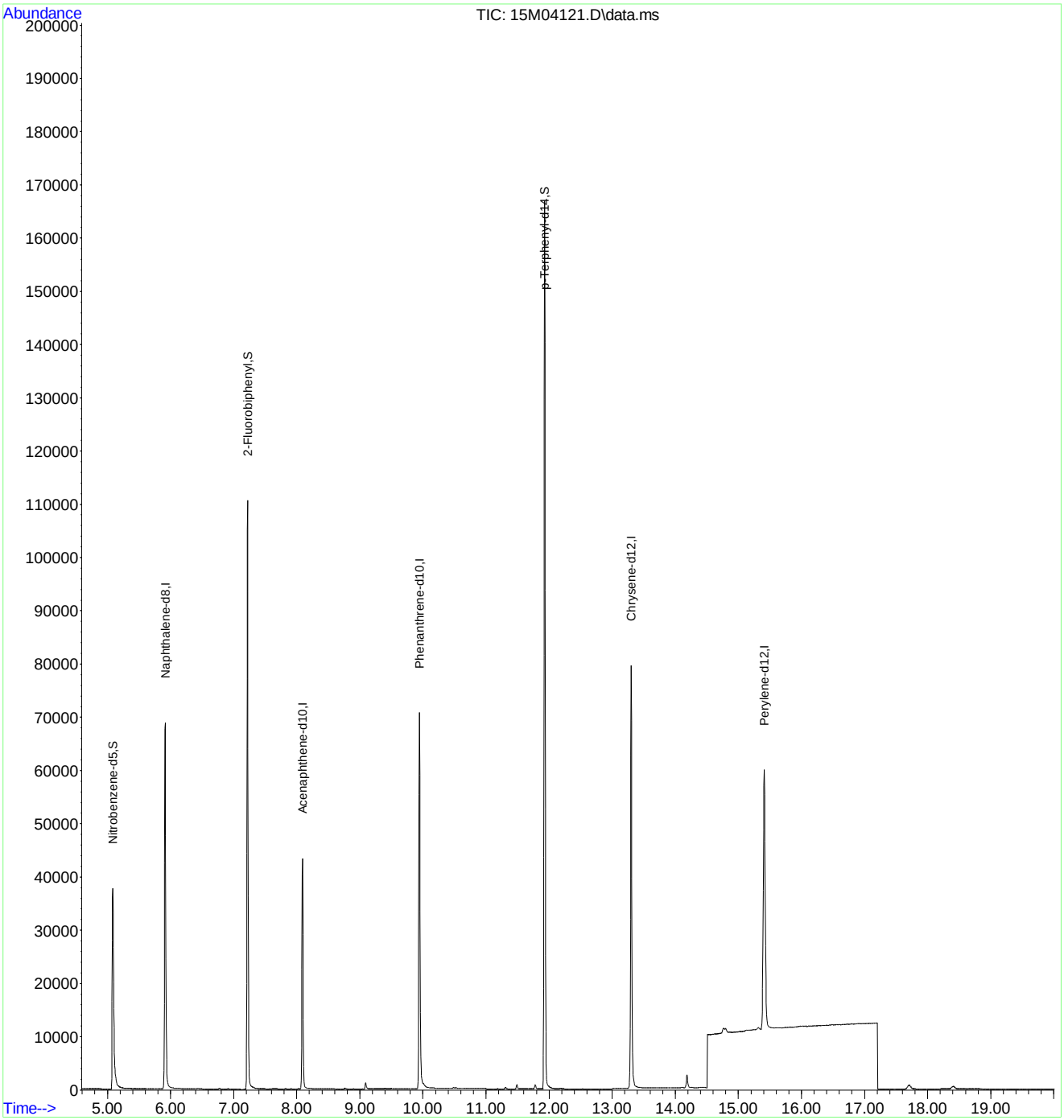
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8	5.916	136	96518	1.00	ug/mL	0.00
6) Acenaphthene-d10	8.093	164	53291	1.00	ug/mL	-0.01
11) Phenanthrene-d10	9.944	188	90929	1.00	ug/mL	-0.01
15) Chrysene-d12	13.301	240	105347	1.00	ug/mL	-0.01
20) Perylene-d12	15.410	264	106078	1.00	ug/mL	-0.02
System Monitoring Compounds						
2) Nitrobenzene-d5	5.085	82	44689	1.36	ug/mL	-0.02
Spiked Amount 2.500	Range 23 - 120		Recovery = 54.40%			
7) 2-Fluorobiphenyl	7.220	172	99642	1.42	ug/mL	-0.02
Spiked Amount 2.500	Range 30 - 115		Recovery = 56.80%			
17) p-Terphenyl-d14	11.930	244	177173	2.55	ug/mL	-0.01
Spiked Amount 2.500	Range 18 - 137		Recovery = 102.00%			

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04121.D
Acq On : 24 Mar 2011 3:27 pm
Operator : CAA
Sample : WG359747-03 BLK 03/23
Misc : 7,1 SOIL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 25 07:06:04 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04122.D
Acq On : 24 Mar 2011 3:55 pm
Operator : CAA
Sample : WG359747-04 LCS 03/23
Misc : 7,1 SOIL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 25 07:06:06 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration

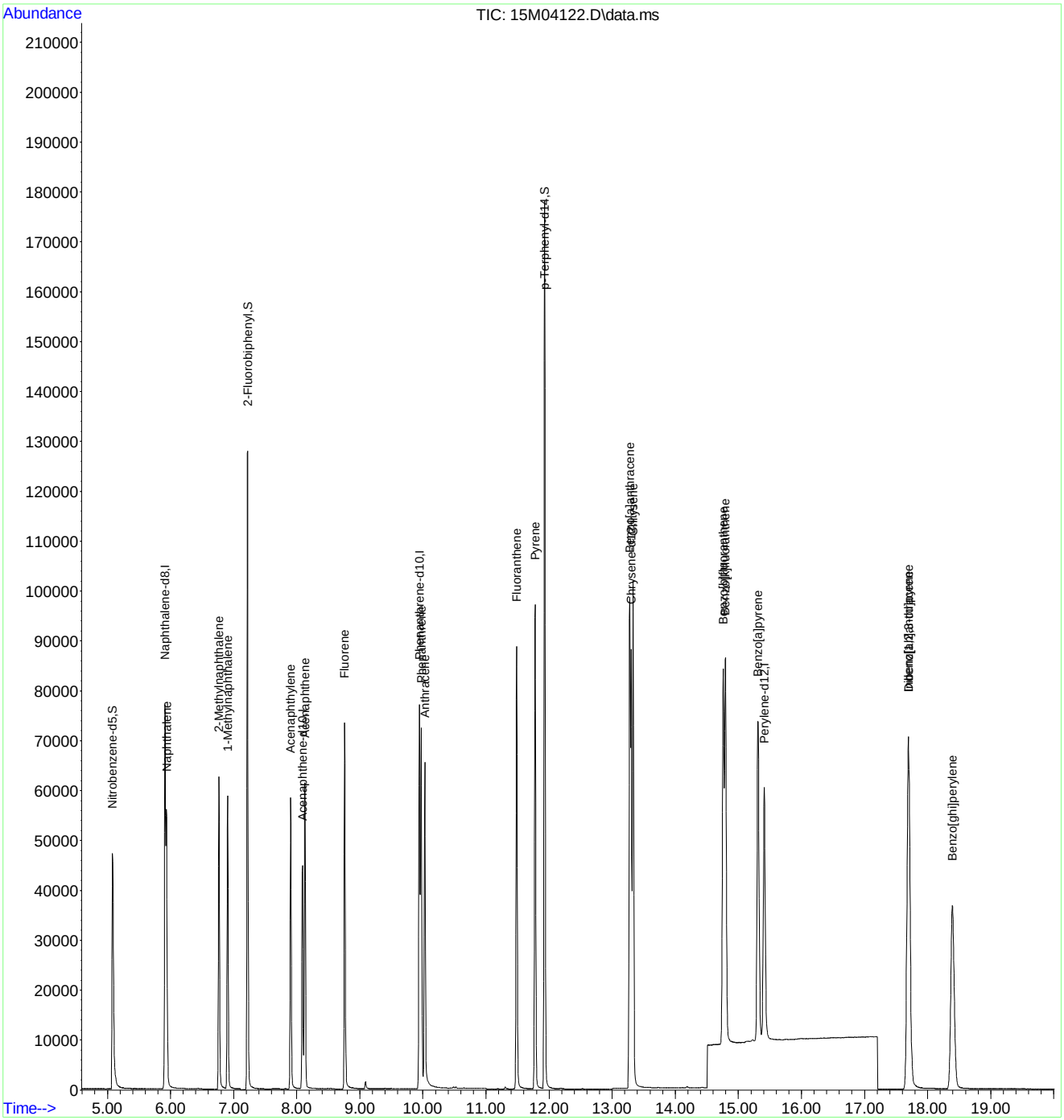
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8	5.911	136	100187	1.00 ug/mL	-0.01
6) Acenaphthene-d10	8.093	164	55065	1.00 ug/mL	-0.01
11) Phenanthrene-d10	9.945	188	93645	1.00 ug/mL	-0.01
15) Chrysene-d12	13.301	240	109230	1.00 ug/mL	-0.01
20) Perylene-d12	15.410	264	109891	1.00 ug/mL	-0.02
System Monitoring Compounds					
2) Nitrobenzene-d5	5.081	82	53271	1.56 ug/mL	-0.03
Spiked Amount 2.500	Range 23 - 120		Recovery	= 62.40%	
7) 2-Fluorobiphenyl	7.220	172	117632	1.62 ug/mL	-0.02
Spiked Amount 2.500	Range 30 - 115		Recovery	= 64.80%	
17) p-Terphenyl-d14	11.927	244	188472	2.62 ug/mL	-0.01
Spiked Amount 2.500	Range 18 - 137		Recovery	= 104.80%	
Target Compounds					Qvalue
3) Naphthalene	5.937	128	61040	0.5992 ug/mL	97
4) 2-Methylnaphthalene	6.767	142	42387	0.6192 ug/mL	99
5) 1-Methylnaphthalene	6.903	142	39227	0.5741 ug/mL	99
8) Acenaphthylene	7.905	152	59159	0.5970 ug/mL	98
9) Acenaphthene	8.131	154	38320	0.6018 ug/mL	97
10) Fluorene	8.761	166	47258	0.6180 ug/mL	99
12) Phenanthrene	9.971	178	75766	0.7202 ug/mL	100
13) Anthracene	10.030	178	74872	0.7842 ug/mL	100
14) Fluoranthene	11.485	202	99932	0.9148 ug/mL	100
16) Pyrene	11.780	202	109560	0.8707 ug/mL	99
18) Benzo[a]anthracene	13.279	228	102358	0.9321 ug/mL	100
19) Chrysene	13.333	228	106836	0.9743 ug/mL	99
21) Benzo[b]fluoranthene	14.758	252	115482	0.9165 ug/mL#	72
22) Benzo[k]fluoranthene	14.791	252	113104	0.9628 ug/mL#	71
23) Benzo[a]pyrene	15.308	252	114700	0.9708 ug/mL#	68
24) Indeno[1,2,3-cd]pyrene	17.693	276	135996	0.9503 ug/mL#	100
25) Dibenz[ah]anthracene	17.693	278	110544	0.9500 ug/mL#	100
26) Benzo[ghi]perylene	18.392	276	113580	0.9500 ug/mL	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\032411\
Data File : 15M04122.D
Acq On : 24 Mar 2011 3:55 pm
Operator : CAA
Sample : WG359747-04 LCS 03/23
Misc : 7,1 SOIL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 25 07:06:06 2011
Quant Method : C:\msdchem\1\METHODS\PAHQUANT.M
Quant Title : OVD MSS03 PAHSIM/ICAL 02/15/11
QLast Update : Fri Mar 25 07:05:52 2011
Response via : Initial Calibration



PAHQUANT.M Fri Mar 25 07:12:32 2011 Page: 2

2.2 General Chemistry Data

2.2.1 Percent Solids Data

2.2.1.1 Raw Data

LABORATORY REPORT

L11030669

03/28/11 12:23

Submitted By

Microbac Laboratories Inc.
158 Starlite Drive
Marietta , OH 45750
(740) 373 - 4071

For

Account Name: Versar Inc
12050 N. Pecos Street
Suite 300
Westminster, CO 80234
Attention: Gary Torf

Project Number: 2415.036
Project: Cannon AFB
Site: CANNON AFB

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
BKG001A	L11030669-01	D2216-90	1	18-MAR-11
BKG002A	L11030669-02	D2216-90	1	18-MAR-11
BKG003A	L11030669-03	D2216-90	1	18-MAR-11
BKG004A	L11030669-04	D2216-90	1	18-MAR-11
BKG005A	L11030669-05	D2216-90	1	18-MAR-11
BKG005AMS	L11030669-06	D2216-90	1	18-MAR-11
BKG005AMSD	L11030669-07	D2216-90	1	18-MAR-11
BKG006A	L11030669-08	D2216-90	1	18-MAR-11
BKG007A	L11030669-09	D2216-90	1	18-MAR-11
BKG007ADUP	L11030669-10	D2216-90	1	18-MAR-11
BKG008A	L11030669-11	D2216-90	1	18-MAR-11
BKG009A	L11030669-12	D2216-90	1	18-MAR-11
BKG010A	L11030669-13	D2216-90	1	18-MAR-11

Report Number: **L11030669**
Report Date : **March 28, 2011**

Sample Number: **L11030669-01**
Client ID: **BKG001A**
Matrix: **Soil**
Workgroup Number: **WG360010**
Collect Date: **03/17/2011 13:30**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **03/28/2011 08:42**
Cal Date:
Run Date: **03/28/2011 08:42**
File ID: **B1.360010-0101**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	96.3		1.00	1.00

Report Number: **L11030669**
Report Date : **March 28, 2011**

Sample Number: **L11030669-02**
Client ID: **BKG002A**
Matrix: **Soil**
Workgroup Number: **WG360010**
Collect Date: **03/17/2011 13:35**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **03/28/2011 08:42**
Cal Date:
Run Date: **03/28/2011 08:42**
File ID: **B1.360010-0102**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	96.5		1.00	1.00

Report Number: **L11030669**
Report Date : **March 28, 2011**

Sample Number: **L11030669-03**
Client ID: **BKG003A**
Matrix: **Soil**
Workgroup Number: **WG360010**
Collect Date: **03/17/2011 13:40**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **03/28/2011 08:42**
Cal Date:
Run Date: **03/28/2011 08:42**
File ID: **B1.360010-0103**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	97.2		1.00	1.00

Report Number: **L11030669**
Report Date : **March 28, 2011**

Sample Number: **L11030669-04**
Client ID: **BKG004A**
Matrix: **Soil**
Workgroup Number: **WG360010**
Collect Date: **03/17/2011 13:45**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **03/28/2011 08:42**
Cal Date:
Run Date: **03/28/2011 08:42**
File ID: **B1.360010-0104**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	96.5		1.00	1.00

Report Number: **L11030669**
Report Date : **March 28, 2011**

Sample Number: **L11030669-05**
Client ID: **BKG005A**
Matrix: **Soil**
Workgroup Number: **WG360010**
Collect Date: **03/17/2011 13:50**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **03/28/2011 08:42**
Cal Date:
Run Date: **03/28/2011 08:42**
File ID: **B1.360010-0105**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	97.8		1.00	1.00

Report Number: **L11030669**
Report Date : **March 28, 2011**

Sample Number: **L11030669-06**
Client ID: **BKG005AMS**
Matrix: **Soil**
Workgroup Number: **WG360010**
Collect Date: **03/17/2011 13:50**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **03/28/2011 08:42**
Cal Date:
Run Date: **03/28/2011 08:42**
File ID: **B1.360010-0106**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	97.8		1.00	1.00

Report Number: **L11030669**
Report Date : **March 28, 2011**

Sample Number: **L11030669-07**
Client ID: **BKG005AMSD**
Matrix: **Soil**
Workgroup Number: **WG360010**
Collect Date: **03/17/2011 13:50**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **03/28/2011 08:42**
Cal Date:
Run Date: **03/28/2011 08:42**
File ID: **B1.360010-0107**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	97.8		1.00	1.00

Report Number: **L11030669**
Report Date : **March 28, 2011**

Sample Number: **L11030669-08**
Client ID: **BKG006A**
Matrix: **Soil**
Workgroup Number: **WG360010**
Collect Date: **03/17/2011 13:55**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **03/28/2011 08:42**
Cal Date:
Run Date: **03/28/2011 08:42**
File ID: **B1.360010-0108**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	97.4		1.00	1.00

Report Number: **L11030669**
Report Date : **March 28, 2011**

Sample Number: **L11030669-09**
Client ID: **BKG007A**
Matrix: **Soil**
Workgroup Number: **WG360010**
Collect Date: **03/17/2011 14:00**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **03/28/2011 08:42**
Cal Date:
Run Date: **03/28/2011 08:42**
File ID: **B1.360010-0109**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	96.1		1.00	1.00

Report Number: **L11030669**
Report Date : **March 28, 2011**

Sample Number: **L11030669-10**
Client ID: **BKG007ADUP**
Matrix: **Soil**
Workgroup Number: **WG360010**
Collect Date: **03/17/2011 14:00**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **03/28/2011 08:42**
Cal Date:
Run Date: **03/28/2011 08:42**
File ID: **B1.360010-0110**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	96.2		1.00	1.00

Report Number: **L11030669**
Report Date : **March 28, 2011**

Sample Number: **L11030669-11**
Client ID: **BKG008A**
Matrix: **Soil**
Workgroup Number: **WG360010**
Collect Date: **03/17/2011 14:05**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **03/28/2011 08:42**
Cal Date:
Run Date: **03/28/2011 08:42**
File ID: **B1.360010-0111**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	96.2		1.00	1.00

Report Number: **L11030669**
Report Date : **March 28, 2011**

Sample Number: **L11030669-12**
Client ID: **BKG009A**
Matrix: **Soil**
Workgroup Number: **WG360010**
Collect Date: **03/17/2011 14:10**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **03/28/2011 08:42**
Cal Date:
Run Date: **03/28/2011 08:42**
File ID: **B1.360010-0112**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	96.7		1.00	1.00

Report Number: **L11030669**
Report Date : **March 28, 2011**

Sample Number: **L11030669-13**
Client ID: **BKG010A**
Matrix: **Soil**
Workgroup Number: **WG360010**
Collect Date: **03/17/2011 14:15**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **03/28/2011 08:42**
Cal Date:
Run Date: **03/28/2011 08:42**
File ID: **B1.360010-0113**

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Percent Solids	10-02-6	97.1		1.00	1.00

Example Percent Solids Calculations

1.0 Calculating the percent solids of a sample.

$$\%Solids = \frac{WT3 - WT1}{WT2 - WT1} \times F$$

Where:	
WT1 = Weight, in grams, of the empty container	1.30 g
WT2 = Weight, in grams, of the container and wet sample	21.274 g
WT3 = Weight, in grams, of the container and dried sample	5.21 g
F = Factor to get units as percent weight	100
%Solids = Percent solids present in sample.	19.58%

2.0 Calculating the percent moisture of a sample.

% Moisture = 100 - % Solids from 1.0 calculation

Microbac Laboratories Inc.

PERCENT SOLIDS

Workgroup (AAB#): WG360010 Analyst: JDH ADT(on): 03/25/2011 16:25
Method: D2216-90 Instrument: BAL001 ADT(off): 03/28/2011 08:42
SOP: K0003 Rev: 11

SAMPLE NUMBER	EMPTY PAN WT 1	WET WT 2	DRY WT 3A	DRY WT 3B	DRY WT 3C	PERCENT SOLID	PERCENT MOISTURE
L11030669-01	1.35	31.69	30.56			96.28	
L11030669-02	1.35	25.84	24.99			96.53	
L11030669-03	1.35	29.92	29.11			97.16	
L11030669-04	1.35	26.21	25.34			96.50	
L11030669-05	1.35	32.91	32.2			97.75	
L11030669-06	1.35	32.91	32.2			97.75	
L11030669-07	1.35	32.91	32.2			97.75	
L11030669-08	1.35	32.49	31.67			97.37	
L11030669-09	1.36	19.44	18.73			96.07	
L11030669-10	1.34	18.93	18.26			96.19	
L11030669-11	1.34	29.18	28.13			96.23	
L11030669-12	1.33	22.64	21.94			96.72	
L11030669-13	1.33	32.9	31.98			97.09	
L11030726-01	1.34	27.68	25.92			93.32	
L11030726-02	1.36	41.92	39.27			93.47	
L11030726-03	1.36	45.23	41.81			92.20	
L11030726-04	1.34	38.21	35.82			93.52	
L11030726-05	1.35	38.24	35.89			93.63	
L11030726-06	1.34	39.55	37.15			93.72	
L11030726-07	1.34	35.45	32.23			90.56	
L11030726-08	1.31	39.62	37.61			94.75	
L11030739-01	1.34	31.41	25.31			79.71	
L11030739-03	1.35	27.32	23.45			85.10	
L11030739-05	1.35	24.5	21.23			85.87	
L11030739-07	1.34	24.77	21.68			86.81	
L11030739-09	1.35	39.43	32.29			81.25	
L11030762-01	1.35	12.87	11.67			89.58	
L11030762-03	1.33	25.07	22.24			88.08	
L11030817-01	1.34	19.63	19.59			99.78	
L11030818-01	1.35	23.07	23.03			99.82	
L11030893-01	1.33	12.86	11.29			86.38	
L11030893-02	1.34	24.82	21.8			87.14	
L11030893-03	1.31	28.18	23.86			83.92	
L11030893-04	1.35	24.56	21.75			87.89	
L11030893-05	1.34	24.17	21.99			90.45	
L11030893-06	1.34	24.17	21.99			90.45	
L11030893-07	1.34	24.17	21.99			90.45	
WG360010-01	1.35	31.69	30.56			96.28	3.724
WG360010-02	1.34	24.17	21.99			90.45	9.549
WG360010-03	1.34	25.85	24.97			96.41	3.590
WG360010-04	1.33	19.62	17.92			90.71	9.295

PERCENT_SOLIDS - Modified 04/24/2008
PDF ID: 1954454
Report generated: 03/28/2011 08:47

Microbac Laboratories Inc.

PERCENT SOLIDS

Workgroup (AAB#): WG360010 Analyst: JDH ADT(on): 03/25/2011 16:25
Method: D2216-90 Instrument: BAL001 ADT(off): 03/28/2011 08:42
SOP: K0003 Rev: 11

SAMPLE NUMBER	EMPTY PAN WT 1	WET WT 2	DRY WT 3A	DRY WT 3B	DRY WT 3C	PERCENT SOLID	PERCENT MOISTURE

Analyst: Justin Hesson

PERCENT_SOLIDS - Modified 04/24/2008
PDF ID: 1954454
Report generated: 03/28/2011 08:47

3.0 Attachments

Microbac Laboratories Inc.
Analyst Listing
March 30, 2011

ADC – ANTHONY D. CANTER	AJF – AMANDA J. FICKIESEN	ALB – ANNIE L. BROWN
ALV – AMY L. VALENTINE	AML – TONY M. LONG	AZH – AFTER HOURS
BLG – BRENDA L. GREENWALT	BRG – BRENDA R. GREGORY	CAA – CASSIE A. AUGENSTEIN
CAF – CHERYL A. FLOWERS	CEB – CHAD E. BARNES	CLC – CHRYS L. CRAWFORD
CLS – CARA L. STRICKLER	CLW – CHARISSA L. WINTERS	CPD – CHAD P. DAVIS
CSH – CHRIS S. HILL	DDE – DEBRA D. ELLIOTT	DEL – DON E. LIGHTFRITZ
DEV – DAVID E. VANDENBERG	DGB – DOUGLAS G. BUTCHER	DIH – DEANNA I. HESSON
DLB – DAVID L. BUMGARNER	DLP – DOROTHY L. PAYNE	DLR – DIANNA L. RAUCH
ECL – ERIC C. LAWSON	EDL – ERIN D. LONG	ERP – ERIN R. PORTER
FJB – FRANCES J. BOLDEN	HAV – HEMA VILASAGAR	HJR – HOLLY J. REED
JAL – JOHN A. LENT	JBK – JEREMY B. KINNEY	JDH – JUSTIN D. HESSON
JKT – JANE K. THOMPSON	JLL – JOHN L. LENT	JWR – JOHN W. RICHARDS
JWS – JACK W. SHEAVES	JYH – JI Y. HU	KEB – KATIE E. BARNES
KHR – KIM H. RHODES	KRA – KATHY R. ALBERTSON	LKN – LINDA K. NEDEFF
LSB – LESLIE S. BUCINA	MDA – MIKE D. ALBERTSON	MDC – MIKE D. COCHRAN
MES – MARY E. SCHILLING	MMB – MAREN M. BEERY	MRT – MICHELLE R. TAYLOR
MSW – MATT S. WILSON	PDM – PIERCE D. MORRIS	PWD – PAUL W. DENT
RAH – ROY A. HALSTEAD	RB – BOB BUCHANAN	REK – BOB E. KYER
RLK – ROBIN L. KLINGER	RWC – RODNEY W. CAMPBELL	SLM – STEPHANIE L. MOSSBURG
SLP – SHERI L. PFALZGRAF	TIP – TAE I. PARRISH	TMB – TIFFANY M. BAILEY
TMM – TAMMY M. MORRIS	VC – VICKI COLLIER	WJB – WILL J. BEASLEY
WTD – WADE T. DELONG		

Microbac Laboratories Inc.
List of Valid Qualifiers
March 30, 2011

Qualkey: DOD

Qualifier	Description
*	Surrogate or spike compound out of range
+	Correlation coefficient for the MSA is less than 0.995
<	Result is less than the associated numerical value.
>	Result is greater than the associated numerical value.
A	See the report narrative
B	The reported result is associated with a contaminated method blank.
B1	Target analyte detected in method blank at or above the method reporting limit
B3	Target analyte detected in calibration blank at or above the method reporting limit
B4	The BOD unseeded dilution water blank exceeded 0.2 mg/L
C	Confirmed by GC/MS
CG	Confluent growth
DL	Surrogate or spike compound was diluted out
E	Estimated concentration due to sample matrix interference
EDL	Elevated sample reporting limits, presence of non-target analytes
EMPC	Estimated Maximum Possible Concentration
F, S	Estimated result below quantitation limit; method of standard additions(MSA)
FL	Free Liquid
H1	Sample analysis performed past holding time.
I	Semiquantitative result (out of instrument calibration range)
J	Estimated concentration; sample matrix interference.
J	Estimated value ; the analyte concentration was greater than the highest standard
J	Estimated value ; the analyte concentration was less than the low standard (LOQ)
J	The reported result is an estimated value.
J,B	Analyte detected in both the method blank and sample above the MDL.
J,P	Estimate; columns don't agree to within 40%
J,S	Estimated concentration; analyzed by method of standard addition (MSA)
L	Sample reporting limits elevated due to matrix interference
L1	The associated blank spike (LCS) recovery was above the laboratory acceptance limits.
L2	The associated blank spike (LCS) recovery was below the laboratory acceptance limits.
M	Matrix effect; the concentration is an estimate due to matrix effect.
N	Nontarget analyte; the analyte is a tentativlely identified compound (TIC) by GC/MS
NA	Not applicable
ND	Not detected at or above the reporting limit (RL).
ND, L	Not detected; sample reporting limit (RL) elevated due to interference
ND, S	Not detected; analyzed by method of standard addition (MSA)
NF	Not found by library search
NFL	No free liquid
NI	Non-ignitable
NR	Analyte is not required to be analyzed
NS	Not spiked
P	Concentrations >40% difference between the two GC columns
Q	One or more quality control criteria failed. See narrative.
QNS	Quantity of sample not sufficient to perform analysis
RA	Reanalysis confirms reported results
RE	Reanalysis confirms sample matrix interference
S	Analyzed by method of standard addition (MSA)
SMI	Sample matrix interference on surrogate
SP	Reported results are for spike compounds only
TIC	Library Search Compound
TNTC	Too numerous to count
U	Analyte was not detected. The concentration is below the reported LOD.
UJ	Undetected; the analyte was analyzed for, but not detected.
UQ	Undetected; the analyte was analyzed for, but not detected.
W	Post-digestion spike for furnace AA out of control limits
X	Exceeds regulatory limit
X, S	Exceeds regulatory limit; method of standard additions (MSA)
Z	Cannot be resolved from isomer - see below

*****Special Notes for Organic Analytes**

Qualkey: DOD

1. Acrolein and acrylonitrile by method 624 are semi-quantitative screens only.
2. 1,2-Diphenylhydrazine is unstable and is reported as azobenzene.
3. N-nitrosodiphenylamine cannot be separated from diphenylamine.
4. 3-Methylphenol and 4-Methylphenol are unresolvable compounds.
5. m-Xylene and p-Xylene are unresolvable compounds.
6. The reporting limits for Appendix II/IX compounds by method 8270 are based on EPA estimated PQLs referenced in 40 CFR Part 264, Appendix IX. They are not always achievable for every compound an are matrix dependent.

Versar

CHAIN OF CUSTODY RECORD

№ 0156

PROJECT NO.	PROJECT NAME	LAB:
111736.0006	CANNON AFB CSE PHASE II	MICROBAC

SAMPLERS: (Signature) (Printed) PATRICK LAWLER, CRAIG KISK

FIELD SAMPLE NUMBER	DATE	TIME	MATRIX	METH.	LOCATION ID	NO. OF CONTAINERS	RAH SW8270C						SBD (ft)	SED (ft)	REMARKS SACODE	LOTCTLNUM	Preservative
BK6001A	3/17/11	1330	SO		BK6001	1	X						0.0	0.5	N	-	-
BK6002A	3/17/11	1335	SO		BK6002	1	X						0.0	0.5	N	-	-
BK6003A	3/17/11	1340	SO		BK6003	1	X						0.0	0.5	N	-	-
BK6004A	3/17/11	1345	SO		BK6004	1	X						0.0	0.5	N	-	-
BK6005A	3/17/11	1350	SO		BK6005	1	X						0.0	0.5	N	-	-
BK6005A ~~DUP~~ MS	3/17/11	1350	SO		BK6005	1	X						0.0	0.5	MS	-	-
BK6005A ~~DUP~~ MSD	3/17/11	1350	SO		BK6005	1	X						0.0	0.5	SD	-	-
BK6006A	3/17/11	1355	SO		BK6006	1	X						0.0	0.5	N	-	-
BK6007A	3/17/11	1400	SO		BK6007	1	X						0.0	0.5	N	-	-
BK6007ADUP	3/17/11	1400	SO		BK6007	1	X						0.0	0.5	FD	-	-
BK6008A	3/17/11	1405	SO		BK6008	1	X						0.0	0.5	N	-	-
BK6009A	3/17/11	1410	SO		BK6009	1	X						0.0	0.5	N	-	-

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time
Gary Torf	3/17/11 1630	FED EX	
(Printed) GARY TORF		(Printed)	
Relinquished by: (Signature)			Time
(Printed)			

Microbac OVD 221000013301
Received: 03/18/2011 10:55
By: ROBIN KLINGER
Robin L. Klinger

Remarks: CALL GARY TORF W/QUESTIONS 720.231.8022 (CELL)

Temp Received

Turn-Around-Time 14 DAY

FedEx Airbill #

Distribution: Original Plus One Accompanies Shipment (white and yellow); Copy to Coordinator Field Files (pink).

Versar

CHAIN OF CUSTODY RECORD

№ 0157

PROJECT NO.	PROJECT NAME	LAB:
11736.0006	CANNON AFB CSE PHASE II	MICROBAC

SAMPLERS: (Signature) (Printed) PATRICK LAWLER, CRAIG KISY

FIELD SAMPLE NUMBER	DATE	TIME	MATRIX	METH.	LOCATION ID	NO. OF CONTAINERS	PARAMETERS: PAH	PARAMETERS: SW8270C					SBD (ft)	SED (ft)	REMARKS: SACODE	REMARKS: LOTCTLNUM	REMARKS: Preservative
BKG01DA	3/17/11	1415	SO		BKG01D	1	X						0.0	0.5	N	-	—

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time
Gary Torf	3/17/11 1430	FED EX	
(Printed) GARY TORF		(Printed)	
Relinquished by: (Signature)			/ Time
(Printed)			

Microbac OVD 221000013301
Received: 03/18/2011 10:55
By: ROBIN KLINGER
Robin L. Klinger

Remarks: CALL GARY TORF W/ QUESTIONS 720.231.8022 (CELL)

Temp Received

Turn-Around-Time 14 DAY

FedEx Airbill #

Distribution: Original Plus One Accompanies Shipment (white and yellow); Copy to Coordinator Field Files (pink).

1000015301

COOLER INSPECTION

Received: 03/18/2011 10:55
Delivery Method: FedEx
Opened By: Cara Strickler
Comments:

Login(s): L11030669|

Cooler(s)

Cooler #	Temp Gun	Temp	Tracking #	COC #	Comments
0013041	H	3.0	34575077110025627957555044716811	0156 0157	
0014958	H	3.0	34575077110025628735301950512156	0156 0157	

1	Yes	Were shipping coolers sealed?
2	Yes	Were custody seals intact?
3	Yes	Were cooler temperatures in range of 0-6?
4	Yes	Was ice present?
5	Yes	Were COC's received/information complete/signed and dated?
6	Yes	Were sample containers and labels intact and match COC?
7	Yes	Were the correct containers and volumes received?
8	Yes	Were samples received within EPA hold times?
9	NA	Were correct perservatives used? (water only)
10	NA	Were pH ranges acceptable? (voa's excluded)
11	NA	Were VOA samples free of headspace (less than 6mm)?

Discrepancies:

Look closer. Go further. Do more.

Microbac - Ohio Valley Division
158 Starlite Drive
Marietta, OH 45750
Tel: (740)373-4071 Fax: (740)373-4835

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L11030669
Account: 2415
Project: 2415.036
Samples: 13
Due Date: 29-MAR-2011

Samplenum	Container ID	Products
L11030669-01	809985	827-PAHL PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	18-MAR-2011 16:34	JKT	
2	PREP	W1	EXT	21-MAR-2011 06:47	CEB	AZH
3	STORE	EXT	W1	21-MAR-2011 08:56	JKT	CEB
4	ANALYZ*	EXT	SEMI	21-MAR-2011 14:53	CAA	CEB
5	PREP	W1	EXT	23-MAR-2011 13:30	CSH	JKT
6	STORE	EXT	W1	23-MAR-2011 15:15	CSH	JKT
7	ANALYZ	W1	WET	25-MAR-2011 13:47	JDH	RLK
8	ANALYZ	WET	A1	29-MAR-2011 08:16	RLK	JDH

Sample extract/digestate/leachate

Samplenum	Container ID	Products
L11030669-02	809986	827-PAHL PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	18-MAR-2011 16:34	JKT	
2	PREP	W1	EXT	21-MAR-2011 06:47	CEB	AZH
3	STORE	EXT	W1	21-MAR-2011 08:56	JKT	CEB
4	ANALYZ*	EXT	SEMI	21-MAR-2011 14:53	CAA	CEB
5	PREP	W1	EXT	23-MAR-2011 13:30	CSH	JKT
6	STORE	EXT	W1	23-MAR-2011 15:15	CSH	JKT
7	ANALYZ	W1	WET	25-MAR-2011 13:47	JDH	RLK
8	ANALYZ	WET	A1	29-MAR-2011 08:16	RLK	JDH

Sample extract/digestate/leachate

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L11030669
Account: 2415
Project: 2415.036
Samples: 13
Due Date: 29-MAR-2011

Samplenum	Container ID	Products
L11030669-03	809987	827-PAHL PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	18-MAR-2011 16:34	JKT	
2	PREP	W1	EXT	21-MAR-2011 06:47	CEB	AZH
3	STORE	EXT	W1	21-MAR-2011 08:56	JKT	CEB
4	ANALYZ*	EXT	SEMI	21-MAR-2011 14:53	CAA	CEB
5	PREP	W1	EXT	23-MAR-2011 13:30	CSH	JKT
6	STORE	EXT	W1	23-MAR-2011 15:15	CSH	JKT
7	ANALYZ	W1	WET	25-MAR-2011 13:47	JDH	RLK
8	ANALYZ	WET	A1	29-MAR-2011 08:16	RLK	JDH

Sample extract/digestate/leachate

Samplenum	Container ID	Products
L11030669-04	809988	827-PAHL PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	18-MAR-2011 16:34	JKT	
2	PREP	W1	EXT	21-MAR-2011 06:47	CEB	AZH
3	STORE	EXT	W1	21-MAR-2011 08:56	JKT	CEB
4	ANALYZ*	EXT	SEMI	21-MAR-2011 14:53	CAA	CEB
5	PREP	W1	EXT	23-MAR-2011 13:30	CSH	JKT
6	STORE	EXT	W1	23-MAR-2011 15:15	CSH	JKT
7	ANALYZ	W1	WET	25-MAR-2011 13:47	JDH	RLK
8	ANALYZ	WET	A1	29-MAR-2011 08:16	RLK	JDH

Sample extract/digestate/leachate

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L11030669
Account: 2415
Project: 2415.036
Samples: 13
Due Date: 29-MAR-2011

Samplenum	Container ID	Products
L11030669-05	809989	827-PAHL PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	18-MAR-2011 16:34	JKT	
2	PREP	W1	EXT	21-MAR-2011 06:48	CEB	AZH
3	STORE	EXT	W1	21-MAR-2011 08:56	JKT	CEB
4	ANALYZ*	EXT	SEMI	21-MAR-2011 14:53	CAA	CEB
5	PREP	W1	EXT	23-MAR-2011 13:30	CSH	JKT
6	STORE	EXT	W1	23-MAR-2011 15:15	CSH	JKT
7	ANALYZ	W1	WET	25-MAR-2011 13:47	JDH	RLK
8	ANALYZ	WET	A1	29-MAR-2011 08:16	RLK	JDH

Sample extract/digestate/leachate

Samplenum	Container ID	Products
L11030669-06	809990	827-PAHL PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	18-MAR-2011 16:34	JKT	
2	PREP	W1	EXT	21-MAR-2011 06:48	CEB	AZH
3	STORE	EXT	W1	21-MAR-2011 08:56	JKT	CEB
4	ANALYZ*	EXT	SEMI	21-MAR-2011 14:53	CAA	CEB
5	PREP	W1	EXT	23-MAR-2011 13:30	CSH	JKT
6	STORE	EXT	W1	23-MAR-2011 15:15	CSH	JKT
7	ANALYZ	W1	WET	25-MAR-2011 13:47	JDH	RLK
8	ANALYZ	WET	A1	29-MAR-2011 08:16	RLK	JDH

Sample extract/digestate/leachate

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Internal Chain of Custody Report

Login: L11030669
Account: 2415
Project: 2415.036
Samples: 13
Due Date: 29-MAR-2011

Samplenum	Container ID	Products
L11030669-07	809991	827-PAHL PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	18-MAR-2011 16:34	JKT	
2	PREP	W1	EXT	21-MAR-2011 06:48	CEB	AZH
3	STORE	EXT	W1	21-MAR-2011 08:56	JKT	CEB
4	ANALYZ*	EXT	SEMI	21-MAR-2011 14:53	CAA	CEB
5	PREP	W1	EXT	23-MAR-2011 13:30	CSH	JKT
6	STORE	EXT	W1	23-MAR-2011 15:15	CSH	JKT
7	ANALYZ	W1	WET	25-MAR-2011 13:47	JDH	RLK
8	ANALYZ	WET	A1	29-MAR-2011 08:16	RLK	JDH

Sample extract/digestate/leachate

Samplenum	Container ID	Products
L11030669-08	809992	827-PAHL PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	18-MAR-2011 16:34	JKT	
2	PREP	W1	EXT	21-MAR-2011 06:48	CEB	AZH
3	STORE	EXT	W1	21-MAR-2011 08:56	JKT	CEB
4	ANALYZ*	EXT	SEMI	21-MAR-2011 14:53	CAA	CEB
5	PREP	W1	EXT	23-MAR-2011 13:30	CSH	JKT
6	STORE	EXT	W1	23-MAR-2011 15:15	CSH	JKT
7	ANALYZ	W1	WET	25-MAR-2011 13:47	JDH	RLK
8	ANALYZ	WET	A1	29-MAR-2011 08:16	RLK	JDH

Sample extract/digestate/leachate

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L11030669
Account: 2415
Project: 2415.036
Samples: 13
Due Date: 29-MAR-2011

Samplenum	Container ID	Products
L11030669-09	809993	827-PAHL PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	18-MAR-2011 16:34	JKT	
2	PREP	W1	EXT	21-MAR-2011 06:48	CEB	AZH
3	STORE	EXT	W1	21-MAR-2011 08:56	JKT	CEB
4	ANALYZ*	EXT	SEMI	21-MAR-2011 14:53	CAA	CEB
5	PREP	W1	EXT	23-MAR-2011 13:30	CSH	JKT
6	STORE	EXT	W1	23-MAR-2011 15:15	CSH	JKT
7	ANALYZ	W1	WET	25-MAR-2011 13:47	JDH	RLK
8	ANALYZ	WET	A1	29-MAR-2011 08:16	RLK	JDH

Sample extract/digestate/leachate

Samplenum	Container ID	Products
L11030669-10	809994	827-PAHL PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	18-MAR-2011 16:34	JKT	
2	PREP	W1	EXT	21-MAR-2011 06:48	CEB	AZH
3	STORE	EXT	W1	21-MAR-2011 08:56	JKT	CEB
4	ANALYZ*	EXT	SEMI	21-MAR-2011 14:53	CAA	CEB
5	PREP	W1	EXT	23-MAR-2011 13:30	CSH	JKT
6	STORE	EXT	W1	23-MAR-2011 15:15	CSH	JKT
7	ANALYZ	W1	WET	25-MAR-2011 13:47	JDH	RLK
8	ANALYZ	WET	A1	29-MAR-2011 08:16	RLK	JDH

Sample extract/digestate/leachate

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L11030669
Account: 2415
Project: 2415.036
Samples: 13
Due Date: 29-MAR-2011

Samplenum	Container ID	Products
L11030669-11	809995	827-PAHL PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	18-MAR-2011 16:34	JKT	
2	PREP	W1	EXT	21-MAR-2011 06:48	CEB	AZH
3	STORE	EXT	W1	21-MAR-2011 08:56	JKT	CEB
4	ANALYZ*	EXT	SEMI	21-MAR-2011 14:53	CAA	CEB
5	PREP	W1	EXT	23-MAR-2011 13:30	CSH	JKT
6	STORE	EXT	W1	23-MAR-2011 15:15	CSH	JKT
7	ANALYZ	W1	WET	25-MAR-2011 13:47	JDH	RLK
8	ANALYZ	WET	A1	29-MAR-2011 08:15	RLK	JDH

Sample extract/digestate/leachate

Samplenum	Container ID	Products
L11030669-12	809996	827-PAHL PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	18-MAR-2011 16:34	JKT	
2	PREP	W1	EXT	21-MAR-2011 06:48	CEB	AZH
3	STORE	EXT	W1	21-MAR-2011 08:56	JKT	CEB
4	ANALYZ*	EXT	SEMI	21-MAR-2011 14:53	CAA	CEB
5	PREP	W1	EXT	23-MAR-2011 13:30	CSH	JKT
6	STORE	EXT	W1	23-MAR-2011 15:15	CSH	JKT
7	ANALYZ	W1	WET	25-MAR-2011 13:47	JDH	RLK
8	ANALYZ	WET	A1	29-MAR-2011 08:16	RLK	JDH

Sample extract/digestate/leachate

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L11030669
Account: 2415
Project: 2415.036
Samples: 13
Due Date: 29-MAR-2011

Samplenum	Container ID	Products
L11030669-13	809997	827-PAHL PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	18-MAR-2011 16:34	JKT	
2	PREP	W1	EXT	21-MAR-2011 06:48	CEB	AZH
3	STORE	EXT	W1	21-MAR-2011 08:57	JKT	CEB
4	ANALYZ*	EXT	SEMI	21-MAR-2011 14:53	CAA	CEB
5	PREP	W1	EXT	23-MAR-2011 13:30	CSH	JKT
6	STORE	EXT	W1	23-MAR-2011 15:15	CSH	JKT
7	ANALYZ	W1	WET	25-MAR-2011 13:47	JDH	RLK
8	ANALYZ	WET	A1	29-MAR-2011 08:16	RLK	JDH

Sample extract/digestate/leachate

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

APPENDIX H

Data Validation Reports

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VERSAR, INC.
DATA REVIEW REPORT

PROJECT NAME:	MMRP CSE Phase II, Cannon AFB
CLIENT NAME:	USACE Omaha District
LABORATORY NAME:	Microbac Laboratories, Inc., Ohio Valley Division
LAB PROJECT NUMBER:	L11030658
QAPP:	Final CSE Phase II Work Plan Cannon AFB, September 2010; DoD QSM, Version 4.1
DATA REVIEWER:	Gary Torf

INTRODUCTION

The data review report was prepared in accordance with the guidance listed in the *Final Comprehensive Site Evaluation Phase II Work Plan, Military Munitions Response Program (MMRP), Cannon Air Force Base, New Mexico,* September 2010; the *Department of Defense Quality Systems Manual for Environmental Laboratories, Version 4.1*; and with respect to the following analytical methods:

Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods (SW-846), Third Edition, Final Update III

- 8270C – Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

DATA VERIFICATION

Data verification is a sample-specific assessment performed to evaluate sample data completeness, correctness, consistency, and compliance with the quality objectives of the project plan and contract requirements.

Data verification was performed on the laboratory data package to determine whether 1) the samples were collected and analyzed for the list of analytes and test methods specified; 2) sample detection limits met project-specific objectives; 3) analytical holding times were met; and 4) measurement acceptance criteria for QC samples were met. Sample-specific data verification was performed on all field samples collected and analyzed.

The field sample identifiers and corresponding laboratory sample identifiers were as follows:

FIELD SAMPLE ID	LABORATORY SAMPLE ID	MATRIX
SR042A	L11030658-01	Soil
SR043A	L11030658-02	Soil
SR043ADUP	L11030658-03	Soil
SR044A	L11030658-04	Soil
SR045A	L11030658-05	Soil

FIELD SAMPLE ID	LABORATORY SAMPLE ID	MATRIX
SR046A	L11030658-06	Soil
SR047A	L11030658-07	Soil
SR048A	L11030658-08	Soil
SR048ADUP	L11030658-09	Soil
SR049A	L11030658-10	Soil
SR050A	L11030658-11	Soil
SR051A	L11030658-12	Soil
SR052A	L11030658-13	Soil
SR052AMS	L11030658-14	Soil
SR0052AMSD	L11030658-15	Soil
SR053A	L11030658-16	Soil

- The samples were transported to the laboratory in two (2) coolers, with a documented temperature upon receipt of 3.0°C for each cooler.

DATA VALIDATION

Data validation is a method-specific assessment that substantiates whether analytical requirements have been met and data qualifiers applied appropriately and consistently for specific sample analyses. Data validation has been performed on one field sample analyzed by the listed analytical method. The Data Validation Report follows the data qualifier summary tables.

DATA QUALIFIER DEFINITION

The following definitions provide a brief explanation of the data review flags used during the data review process:

U The analyte was not detected, and is reported as less than the limit of detection (LOD).

J The reported result is an estimated value.

B The analyte result is associated with a contaminated blank.

R The data are rejected due to deficiencies in the ability to analyze the sample and meet QC criteria.

VERSAR, INC.
DATA REVIEW REPORT

SUMMARY OF DATA QUALIFIERS

The following tables summarize the final data qualifiers applied during the data review. Sample results that have not been qualified indicate the data meet all acceptance criteria, and results are considered usable unless specifically qualified as rejected. Qualification for non-detect analytes (“U”) has not been noted in the summary tables.

METHOD 8270C PAHs BY GC/MS

FIELD SAMPLE	ANALYTE	QUALIFIER	REASON
SR042A	Naphthalene	J	>DL<LOQ
SR043A	Naphthalene	J	DUP>CL
	Acenaphthylene	J	>DL<LOQ
	Acenaphthene	J	DUP>CL
	Fluorene	J	DUP>CL
	Phenanthrene	J	DUP>CL
	Anthracene	J	DUP>CL
	Fluoranthene	J	DUP>CL
	Pyrene	J	DUP>CL
	Benzo(a)anthracene	J	DUP>CL
	Chrysene	J	DUP>CL
	Benzo(b)fluoranthene	J	DUP>CL
	Benzo(k)fluoranthene	J	DUP>CL
	Benzo(a)pyrene	J	DUP>CL
	Indeno(1,2,3-cd)pyrene	J	DUP>CL
	Dibenz(a,h)anthracene	J	DUP>CL
	Benzo(g,h,i)perylene	J	DUP>CL
	1-Methylnaphthelene	J	>DL<LOQ,DUP>CL
	2-Methylnaphthalene	J	DUP>CL
SR043ADUP	Naphthalene	J	DUP>CL
	Acenaphthylene	J	DUP>CL
	Acenaphthene	J	DUP>CL
	Fluorene	J	DUP>CL
	Phenanthrene	J	DUP>CL
	Anthracene	J	>DL<LOQ,DUP>CL
	Fluoranthene	J	DUP>CL
	Pyrene	J	DUP>CL
	Benzo(a)anthracene	J	DUP>CL
	Chrysene	J	DUP>CL
	Benzo(b)fluoranthene	J	DUP>CL
	Benzo(k)fluoranthene	J	DUP>CL
	Benzo(a)pyrene	J	DUP>CL
	Indeno(1,2,3-cd)pyrene	J	DUP>CL
	Dibenz(a,h)anthracene	J	DUP>CL

VERSAR, INC.
DATA REVIEW REPORT

FIELD SAMPLE	ANALYTE	QUALIFIER	REASON
	Benzo(g,h,i)perylene	J	DUP>CL
	1-Methylnaphthalene	J	DUP>CL
	2-Methylnaphthalene	J	DUP>CL
SR044A	Anthracene	J	>DL<LOQ
SR045A	1-Methylnaphthalene	J	>DL<LOQ
SR046A	Naphthalene	J	>DL<LOQ
	Acenaphthene	J	>DL<LOQ
SR047A	Anthracene	J	>DL<LOQ
SR048A	Acenaphthene	J	DUP>CL
	Phenanthrene	J	DUP>CL
	Fluoranthene	J	DUP>CL
	Pyrene	J	DUP>CL
	Benzo(a)anthracene	J	DUP>CL
	Chrysene	J	DUP>CL
	Benzo(b)fluoranthene	J	DUP>CL
	Benzo(k)fluoranthene	J	DUP>CL
	Benzo(a)pyrene	J	DUP>CL
	Indeno(1,2,3-cd)pyrene	J	DUP>CL
	Dibenz(a,h)anthracene	J	DUP>CL
	Benzo(g,h,i)perylene	J	DUP>CL
SR048ADUP	Acenaphthene	J	DUP>CL
	Phenanthrene	J	DUP>CL
	Fluoranthene	J	>DL<LOQ, DUP>CL
	Pyrene	J	>DL<LOQ, DUP>CL
	Benzo(a)anthracene	J	DUP >CL
	Chrysene	J	DUP >CL
	Benzo(b)fluoranthene	J	DUP >CL
	Benzo(k)fluoranthene	J	DUP >CL
	Benzo(a)pyrene	J	DUP >CL
	Indeno(1,2,3-cd)pyrene	J	DUP >CL
	Dibenz(a,h)anthracene	J	DUP >CL
	Benzo(g,h,i)perylene	J	DUP >CL
SR049A	Anthracene	J	>DL<LOQ
SR050A	Fluorene	J	>DL<LOQ
	2-Methylnaphthalene	J	>DL<LOQ
SR051A	Anthracene	J	>DL<LOQ
SR052A	Phenanthrene	J	>DL<LOQ
SR052AMS	None	None	Not applicable
SR0052AMSD	None	None	Not applicable
SR053A	Phenanthrene	J	>DL<LOQ
	Pyrene	J	>DL<LOQ
	Benzo(a)anthracene	J	>DL<LOQ

VERSAR, INC.
DATA REVIEW REPORT

FIELD SAMPLE	ANALYTE	QUALIFIER	REASON
	Chrysene	J	>DL<LOQ
	Benzo(b)fluoranthene	J	>DL<LOQ
	Benzo(k)fluoranthene	J	>DL<LOQ
	Benzo(a)pyrene	J	>DL<LOQ
	Indeno(1,2,3-cd)pyrene	J	>DL<LOQ
	Benzo(g,h,i)perylene	J	>DL<LOQ

CL – control limit
DL – detection limit
DUP – duplicate
LOQ – limit of quantitation

DATA VALIDATION REPORT
Method 8270C Polynuclear Aromatic Hydrocarbons (PAHs) by GC/MS
Field Sample SR043A, SR052A

I. DELIVERABLES

All deliverables were present.
YES

II. SAMPLE PRESERVATION

All samples were appropriately preserved upon sample collection.
YES
Comments: Samples were received at the laboratory in a cooler with a recorded temperature of 3.0°C.

III. HOLDING TIMES

All samples met prescribed holding times. Soil samples were extracted within 14 days of collection. All samples were analyzed within 40 days after extraction.
YES

IV. SAMPLE PREPARATION PROCEDURES

All samples were prepared for analysis with applicable extraction procedures. Appropriate extract clean-up techniques were used when necessary, and percent solids were calculated for non-aqueous samples.
YES

V. INSTRUMENT TUNE PERFORMANCE RESULTS

The GC/MS was tuned at the beginning of each 12-hour sequence. All decafluorotriphenylphosphine (DFTPP) performance results were within the specified acceptance criteria.
YES

VI. INSTRUMENT CALIBRATIONS

Initial instrument calibrations met the specified criteria. The percent relative standard deviation (RSD) of the response factors for the calibration check compounds (CCCs) were equal to or less than 30%. If the average response factor was used for quantitation, the analyte RSD was equal to or less than 15%; if a linear least squares regression was used for quantitation, the analyte correlation coefficient (r) was equal to or greater than 0.995; if a non-linear regression was used for quantitation, the coefficient of determination (COD) was equal to or greater than 0.990.
YES

A second source calibration verification standard was analyzed after each initial instrument calibration, and the analytes were within 20% of the expected value.
YES

Continuing instrument calibration verification was performed daily and after every 12 hours of analysis. The percent difference or percent drift for all analytes was equal to or less than 20%.
YES

VII. RETENTION TIME WINDOW ESTABLISHMENT AND EVALUATION

A retention time (RT) window was established for each analyte and surrogate using either the midpoint standard of the initial calibration for analytical sequences that include the initial instrument calibration, or using the initial continuing instrument calibration verification for analytical sequences that do not include an initial instrument calibration.
YES

For each sample, the relative retention time (RRT) was within ± 0.06 RRT units for each analyte and surrogate.
YES

VIII. INTERNAL STANDARD VERIFICATION

Internal standard retention times of every sample and standard was ± 30 seconds from the RT of either the midpoint standard of the initial calibration for analytical sequences that include the initial instrument calibration or of the initial continuing instrument calibration verification for analytical sequences that do not include an initial instrument calibration.
YES

The internal standard EICP (extracted ion current profile) areas of every sample and standard was within -50% to +100% of the initial calibration midpoint standard.
YES

IX. METHOD BLANK ANALYSIS RESULTS

Target analytes, other than common lab contaminants, were not detected in the method blank at a concentration greater than ½ the limit of quantitation (LOQ) and greater than 1/10 the concentration in any sample. No common lab contaminants were detected at concentrations greater than the LOQ.
YES

X. OTHER BLANK ANALYSIS RESULTS

No target analytes were detected in other blanks above the LOQ.

Comments: There were no additional blank results

XI. LABORATORY CONTROL SAMPLE (LCS) RESULTS

Recoveries of all analytes in the LCS met the specified control limits.
YES

XII. MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) RESULTS

All MS/MSD results met specified recovery and precision limits.
YES
Comments: The validated sample SR052A was designated for matrix spike analyses. The results met specified control limits.

XIII. FIELD SAMPLE DUPLICATE RESULTS

Field sample duplicate results met specified precision limits.
NO
Comments: A field duplicate sample was collected for validated sample SR043A and field sample SR048A. The majority of analytes had duplicate precision above the 30% relative percent difference limit for the field duplicates associated with SR043A (ranging between 174% and 200%) and SR048A (ranging between 130% and 154%). Analyte results have been qualified for the analytes in the duplicate samples which were above the control limit.

XIV. SURROGATE COMPOUND RECOVERY RESULTS

Recovery of all surrogate compounds met the specified control limits.
YES

XV. DETECTION LIMITS

All results met specified detection limits. The LOQ was verified by analyzing a standard at a concentration ≤ the LOQ. Results were qualified when detected between the detection limit and the LOQ.
YES

XVI. SAMPLE RESULTS

The validated sample results were reviewed and all compound identifications were acceptable.
YES

Manual chromatographic integrations were documented.
YES

VERSAR, INC.
DATA REVIEW REPORT

PROJECT NAME:	MMRP CSE Phase II, Cannon AFB
CLIENT NAME:	USACE Omaha District
LABORATORY NAME:	Microbac Laboratories, Inc., Ohio Valley Division
LAB PROJECT NUMBER:	L11030664
QAPP:	Final CSE Phase II Work Plan Cannon AFB, September 2010; DoD QSM, Version 4.1
DATA REVIEWER:	Gary Torf

INTRODUCTION

The data review report was prepared in accordance with the guidance listed in the *Final Comprehensive Site Evaluation Phase II Work Plan, Military Munitions Response Program (MMRP), Cannon Air Force Base, New Mexico,* September 2010; the *Department of Defense Quality Systems Manual for Environmental Laboratories, Version 4.1*; and with respect to the following analytical methods:

Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods (SW-846), Third Edition, Final Update III

- 8270C – Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

DATA VERIFICATION

Data verification is a sample-specific assessment performed to evaluate sample data completeness, correctness, consistency, and compliance with the quality objectives of the project plan and contract requirements.

Data verification was performed on the laboratory data package to determine whether 1) the samples were collected and analyzed for the list of analytes and test methods specified; 2) sample detection limits met project-specific objectives; 3) analytical holding times were met; and 4) measurement acceptance criteria for QC samples were met. Sample-specific data verification was performed on all field samples collected and analyzed.

The field sample identifiers and corresponding laboratory sample identifiers were as follows:

FIELD SAMPLE ID	LABORATORY SAMPLE ID	MATRIX
SR042B	L11030664-01	Soil
SR043B	L11030664-02	Soil
SR044B	L11030664-03	Soil
SR045B	L11030664-04	Soil
SR045C	L11030664-05	Soil
SR046B	L11030664-06	Soil
SR047B	L11030664-07	Soil
SR048B	L11030664-08	Soil
SR049B	L11030664-9	Soil
SR050B	L11030664-10	Soil
SR051B	L11030664-11	Soil
SR052B	L11030664-12	Soil
SR053B	L11030664-13	Soil

- The samples were transported to the laboratory in two (2) coolers, with a documented temperature upon receipt of 3.0°C for each cooler.

DATA VALIDATION

Data validation is a method-specific assessment that substantiates whether analytical requirements have been met and data qualifiers applied appropriately and consistently for specific sample analyses. Data validation has been performed on one field sample analyzed by the listed analytical method. The Data Validation Report follows the data qualifier summary tables.

DATA QUALIFIER DEFINITION

The following definitions provide a brief explanation of the data review flags used during the data review process:

U The analyte was not detected, and is reported as less than the limit of detection (LOD).

J The reported result is an estimated value.

B The analyte result is associated with a contaminated blank.

R The data are rejected due to deficiencies in the ability to analyze the sample and meet QC criteria.

VERSAR, INC.
DATA REVIEW REPORT

SUMMARY OF DATA QUALIFIERS

The following tables summarize the final data qualifiers applied during the data review. Sample results that have not been qualified indicate the data meet all acceptance criteria, and results are considered usable unless specifically qualified as rejected. Qualification for non-detect analytes ("U") has not been noted in the summary tables.

METHOD 8270C PAHs BY GC/MS

FIELD SAMPLE	ANALYTE	QUALIFIER	REASON
SR042B	Anthracene	J	>DL<LOQ
SR043B	Fluoranthene	J	>DL<LOQ
SR044B	Acenaphthene	J	>DL<LOQ
SR045B	1-Methylnaphthalene 2-Methylnaphthalene	J J	>DL<LOQ >DL<LOQ
SR045C	Naphthalene	J	>DL<LOQ
SR046B	Acenaphthene	J	>DL<LOQ
SR047B	Phenanthrene	J	>DL<LOQ
SR048B	None	None	Not applicable
SR049B	Pyrene Benzo(a)anthracene Dibenz(a,h)anthracene	J J J	>DL<LOQ >DL<LOQ >DL<LOQ
SR050B	Phenanthrene	J	>DL<LOQ
SR051B	None	None	Not applicable
SR052B	Benzo(a)pyrene Indeno(1,2,3-cd)pyrene Benzo(g,h,i)perylene	J J J	>DL<LOQ >DL<LOQ >DL<LOQ
SR053B	Acenaphthene	J	>DL<LOQ

DL – detection limit
LOQ – limit of quantitation

DATA VALIDATION REPORT
Method 8270C Polynuclear Aromatic Hydrocarbons (PAHs) by GC/MS
Field Sample SR045C

I. DELIVERABLES

All deliverables were present.
YES

II. SAMPLE PRESERVATION

All samples were appropriately preserved upon sample collection.
YES
Comments: Samples were received at the laboratory in a cooler with a recorded temperature of 3.0°C.

III. HOLDING TIMES

All samples met prescribed holding times. Soil samples were extracted within 14 days of collection. All samples were analyzed within 40 days after extraction.
YES

IV. SAMPLE PREPARATION PROCEDURES

All samples were prepared for analysis with applicable extraction procedures. Appropriate extract clean-up techniques were used when necessary, and percent solids were calculated for non-aqueous samples.
YES

V. INSTRUMENT TUNE PERFORMANCE RESULTS

The GC/MS was tuned at the beginning of each 12-hour sequence. All decafluorotriphenylphosphine (DFTPP) performance results were within the specified acceptance criteria.
YES

VI. INSTRUMENT CALIBRATIONS

Initial instrument calibrations met the specified criteria. The percent relative standard deviation (RSD) of the response factors for the calibration check compounds (CCCs) were equal to or less than 30%. If the average response factor was used for quantitation, the analyte RSD was equal to or less than 15%; if a linear least squares regression was used for quantitation, the analyte correlation coefficient (r) was equal to or greater than 0.995; if a non-linear regression was used for quantitation, the coefficient of determination (COD) was equal to or greater than 0.990.
YES

A second source calibration verification standard was analyzed after each initial instrument calibration, and the analytes were within 20% of the expected value.
YES

Continuing instrument calibration verification was performed daily and after every 12 hours of analysis. The percent difference or percent drift for all analytes was equal to or less than 20%.
YES

VII. RETENTION TIME WINDOW ESTABLISHMENT AND EVALUATION

A retention time (RT) window was established for each analyte and surrogate using either the midpoint standard of the initial calibration for analytical sequences that include the initial instrument calibration, or using the initial continuing instrument calibration verification for analytical sequences that do not include an initial instrument calibration.
YES

For each sample, the relative retention time (RRT) was within ± 0.06 RRT units for each analyte and surrogate.
YES

VIII. INTERNAL STANDARD VERIFICATION

Internal standard retention times of every sample and standard was ± 30 seconds from the RT of either the midpoint standard of the initial calibration for analytical sequences that include the initial instrument calibration or of the initial continuing instrument calibration verification for analytical sequences that do not include an initial instrument calibration.
YES

The internal standard EICP (extracted ion current profile) areas of every sample and standard was within -50% to +100% of the initial calibration midpoint standard.
YES

IX. METHOD BLANK ANALYSIS RESULTS

Target analytes, other than common lab contaminants, were not detected in the method blank at a concentration greater than ½ the limit of quantitation (LOQ) and greater than 1/10 the concentration in any sample. No common lab contaminants were detected at concentrations greater than the LOQ.
YES

X. OTHER BLANK ANALYSIS RESULTS

No target analytes were detected in other blanks above the LOQ.

Comments: There were no additional blank results.

XI. LABORATORY CONTROL SAMPLE (LCS) RESULTS

Recoveries of all analytes in the LCS met the specified control limits.
YES

XII. MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) RESULTS

All MS/MSD results met specified recovery and precision limits.

Comments: The validated sample was not designated for matrix spike analyses.

XIII. FIELD SAMPLE DUPLICATE RESULTS

Field sample duplicate results met specified precision limits.

Comments: A field duplicate sample was not analyzed in the sample delivery group.

XIV. SURROGATE COMPOUND RECOVERY RESULTS

Recovery of all surrogate compounds met the specified control limits.
YES

XV. DETECTION LIMITS

All results met specified detection limits. The LOQ was verified by analyzing a standard at a concentration ≤ the LOQ. Results were qualified when detected between the detection limit and the LOQ.
YES

XVI. SAMPLE RESULTS

The validated sample results were reviewed and all compound identifications were acceptable.
YES

Manual chromatographic integrations were documented.
YES

VERSAR, INC.
DATA REVIEW REPORT

PROJECT NAME:	MMRP CSE Phase II, Cannon AFB
CLIENT NAME:	USACE Omaha District
LABORATORY NAME:	Microbac Laboratories, Inc., Ohio Valley Division
LAB PROJECT NUMBER:	L11030665
QAPP:	Final CSE Phase II Work Plan Cannon AFB, September 2010; DoD QSM, Version 4.1
DATA REVIEWER:	Gary Torf

INTRODUCTION

The data review report was prepared in accordance with the guidance listed in the *Final Comprehensive Site Evaluation Phase II Work Plan, Military Munitions Response Program (MMRP), Cannon Air Force Base, New Mexico,* September 2010; the *Department of Defense Quality Systems Manual for Environmental Laboratories, Version 4.1*; and with respect to the following analytical methods:

Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods (SW-846), Third Edition, Final Update III

- 6010B – Metals by Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES)

DATA VERIFICATION

Data verification is a sample-specific assessment performed to evaluate sample data completeness, correctness, consistency, and compliance with the quality objectives of the project plan and contract requirements.

Data verification was performed on the laboratory data package to determine whether 1) the samples were collected and analyzed for the list of analytes and test methods specified; 2) sample detection limits met project-specific objectives; 3) analytical holding times were met; and 4) measurement acceptance criteria for QC samples were met. Sample-specific data verification was performed on all field samples collected and analyzed.

The field sample identifiers and corresponding laboratory sample identifiers were as follows:

FIELD SAMPLE ID	LABORATORY SAMPLE ID	MATRIX
SR001A	L11030665-01	Soil
SR001AMS	L11030665-02	Soil
SR001AMSD	L11030665-03	Soil
SR003A	L11030665-04	Soil
SR004A	L11030665-05	Soil
SR008A	L11030665-06	Soil
SR010A	L11030665-07	Soil
SR016A	L11030665-08	Soil
SR020A	L11030665-09	Soil
SR024A	L11030665-10	Soil
SR027A	L11030665-11	Soil
SR027ADUP	L11030665-12	Soil
SR032A	L11030665-13	Soil
SR034A	L11030665-14	Soil
SR034ADUP	L11030665-15	Soil
SR037A	L11030665-16	Soil

- The samples were transported to the laboratory in two (2) coolers, with a documented temperature upon receipt of 3.0°C for each cooler.

DATA VALIDATION

Data validation is a method-specific assessment that substantiates whether analytical requirements have been met and data qualifiers applied appropriately and consistently for specific sample analyses. Data validation has been performed on one field sample analyzed by the listed analytical method. The Data Validation Report follows the data qualifier summary tables.

DATA QUALIFIER DEFINITION

The following definitions provide a brief explanation of the data review flags used during the data review process:

U The analyte was not detected, and is reported as less than the limit of detection (LOD).

J The reported result is an estimated value.

B The analyte result is associated with a contaminated blank.

R The data are rejected due to deficiencies in the ability to analyze the sample and

meet QC criteria.

SUMMARY OF DATA QUALIFIERS

The following tables summarize the final data qualifiers applied during the data review. Sample results that have not been qualified indicate the data meet all acceptance criteria, and results are considered usable unless specifically qualified as rejected. Qualification for non-detect analytes ("U") has not been noted in the summary tables.

METHOD 6010B LEAD BY ICP

FIELD SAMPLE	ANALYTE	QUALIFIER	REASON
SR001A	Lead	None	Not applicable
SR001AMS	Lead	None	Not applicable
SR001AMSD	Lead	None	Not applicable
SR003A	Lead	None	Not applicable
SR004A	Lead	None	Not applicable
SR008A	Lead	None	Not applicable
SR010A	Lead	None	Not applicable
SR016A	Lead	None	Not applicable
SR020A	Lead	None	Not applicable
SR024A	Lead	None	Not applicable
SR027A	Lead	None	Not applicable
SR027ADUP	Lead	None	Not applicable
SR032A	Lead	None	Not applicable
SR034A	Lead	None	Not applicable
SR034ADUP	Lead	None	Not applicable
SR037A	Lead	None	Not applicable

DATA VALIDATION REPORT
Method 6010B Lead by ICP
Field Sample SR001A

I. DELIVERABLES

All deliverables were present.
YES

II. SAMPLE PRESERVATION

All samples were appropriately preserved upon sample collection.
YES

III. HOLDING TIMES

All samples were analyzed within the prescribed holding time of 180 days from collection until analysis.
YES

IV. SAMPLE PREPARATION PROCEDURES

All samples were prepared for analysis with applicable digestion procedures. Percent solids were calculated for non-aqueous samples.
YES

V. INTERFERENCE CHECK SOLUTION

An appropriate interference check standard was analyzed at the beginning of the analytical sequence. All target elements were within 20% of the expected value.
YES

VI. INSTRUMENT CALIBRATIONS

Initial instrument calibrations met the specified criteria. The daily calibration consisted of at least one high concentration standard and a calibration blank. If more than one standard was used for the calibration, the correlation coefficient (r) was equal to or greater than 0.995.
YES

A second source calibration verification standard was analyzed after the initial calibration and the elements were within 10% of the expected value.
YES

If a single-point calibration was used, a low concentration calibration check standard was

analyzed at a concentration at or below the limit of quantitation (LOQ) prior to sample analysis; the elements were within 20% of the expected value. If a multi-point calibration was used, at least one standard was at or below the LOQ.
YES

The calibration was verified by the analysis of continuing calibration verification standard after every 10 samples and at the end of the analytical sequence. All elements were within 10% of the expected value.
YES

A calibration blank was analyzed before beginning the analytical sequence, after every 10 samples and at the end of the analytical sequence with no elements detected at or above the limit of detection (LOD).
YES

VII. METHOD BLANK ANALYSIS RESULTS

No target elements were detected in the method blank at concentrations greater than ½ the LOQ and greater than 1/10 the amount measured in any sample.
YES

VIII. LABORATORY CONTROL SAMPLE (LCS) RESULTS

Recovery of all elements in the LCS met the specified control limits.
YES

IX. MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) RESULTS

All MS/MSD results met specified recovery and precision limits.
YES
Comments: Field sample SR001A was designated for MS/MSD analyses.

X. FIELD SAMPLE DUPLICATE RESULTS

Field sample duplicate results met specified precision limits.

Comments: The validated field sample was not designated for field duplicate analyses. A single blind field duplicate was collected for field samples SR027A and SR034A, and the results were within QC limits.

XI. DILUTION TEST

A five-fold (5X) dilution test was performed and the results were within 10% of the original value.

Comments: A serial dilution test was not performed on the validated sample. A serial dilution was performed on field sample SR003A and the results were within QC limits.

XII. POST DIGESTION SPIKE ANALYSIS

A post digestion spike analysis was performed and the results were within 75-125% of the original value.

Comments: A post digestion spike analysis was not performed on the validated sample. A post digestion spike analysis was performed on field sample SR003A and the results were within QC limits.

XIII. DETECTION LIMITS

All reporting limits met specified quantitation limits. Results were qualified when detected between the detection limit and the LOQ.
YES
Comments: All field samples had detections of lead at concentrations greater than the LOQ.

XIV. SAMPLE RESULTS

The validated sample data were reviewed and all results were acceptable.
YES

VERSAR, INC.
DATA REVIEW REPORT

PROJECT NAME:	MMRP CSE Phase II, Cannon AFB
CLIENT NAME:	USACE Omaha District
LABORATORY NAME:	Microbac Laboratories, Inc., Ohio Valley Division
LAB PROJECT NUMBER:	L11030669
QAPP:	Final CSE Phase II Work Plan Cannon AFB, September 2010; DoD QSM, Version 4.1
DATA REVIEWER:	Gary Torf

INTRODUCTION

The data review report was prepared in accordance with the guidance listed in the *Final Comprehensive Site Evaluation Phase II Work Plan, Military Munitions Response Program (MMRP), Cannon Air Force Base, New Mexico,* September 2010; the *Department of Defense Quality Systems Manual for Environmental Laboratories, Version 4.1*; and with respect to the following analytical methods:

Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods (SW-846), Third Edition, Final Update III

- 8270C – Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

DATA VERIFICATION

Data verification is a sample-specific assessment performed to evaluate sample data completeness, correctness, consistency, and compliance with the quality objectives of the project plan and contract requirements.

Data verification was performed on the laboratory data package to determine whether 1) the samples were collected and analyzed for the list of analytes and test methods specified; 2) sample detection limits met project-specific objectives; 3) analytical holding times were met; and 4) measurement acceptance criteria for QC samples were met. Sample-specific data verification was performed on all field samples collected and analyzed.

The field sample identifiers and corresponding laboratory sample identifiers were as follows:

FIELD SAMPLE ID	LABORATORY SAMPLE ID	MATRIX
BKG001A	L11030669-01	Soil
BKG002A	L11030669-02	Soil
BKG003A	L11030669-03	Soil
BKG004A	L11030669-04	Soil
BKG005A	L11030669-05	Soil
BKG005AMS	L11030669-06	Soil
BKG005AMSD	L11030669-07	Soil
BKG006A	L11030669-08	Soil
BKG007A	L11030669-09	Soil
BKG007ADUP	L11030669-10	Soil
BKG008A	L11030669-11	Soil
BKG009A	L11030669-12	Soil
BKG0010A	L11030669-13	Soil

- The samples were transported to the laboratory in two (2) coolers, with a documented temperature upon receipt of 3.0°C for each cooler.

DATA VALIDATION

Data validation is a method-specific assessment that substantiates whether analytical requirements have been met and data qualifiers applied appropriately and consistently for specific sample analyses. Data validation has been performed on one field sample analyzed by the listed analytical method. The Data Validation Report follows the data qualifier summary tables.

DATA QUALIFIER DEFINITION

The following definitions provide a brief explanation of the data review flags used during the data review process:

U The analyte was not detected, and is reported as less than the limit of detection (LOD).

J The reported result is an estimated value.

B The analyte result is associated with a contaminated blank.

R The data are rejected due to deficiencies in the ability to analyze the sample and meet QC criteria.

VERSAR, INC.
DATA REVIEW REPORT

SUMMARY OF DATA QUALIFIERS

The following tables summarize the final data qualifiers applied during the data review. Sample results that have not been qualified indicate the data meet all acceptance criteria, and results are considered usable unless specifically qualified as rejected. Qualification for non-detect analytes ("U") has not been noted in the summary tables.

METHOD 8270C PAHs BY GC/MS

FIELD SAMPLE	ANALYTE	QUALIFIER	REASON
BKG001A	Dibenz(a,h)anthracene	J	>DL<LOQ
BKG002A	None	None	Not applicable
BKG003A	Benzo(a)anthracene	J	>DL<LOQ
	Benzo(k)fluoranthene	J	>DL<LOQ
	Indeno(1,2,3-cd)pyrene	J	>DL<LOQ
	Benzo(g,h,i)perylene	J	>DL<LOQ
BKG004A	Phenanthrene	J	>DL<LOQ
	Chrysene	J	>DL<LOQ
	Benzo(b)fluoranthene	J	>DL<LOQ
	Benzo(k)fluoranthene	J	>DL<LOQ
	Benzo(a)pyrene	J	>DL<LOQ
	Indeno(1,2,3-cd)pyrene	J	>DL<LOQ
	Benzo(g,h,i)perylene	J	>DL<LOQ
BKG005A	Fluorene	J	MS/MSD<LCL
	Phenanthrene	J	>DL<LOQ
	Benzo(a)anthracene	J	>DL<LOQ
	Chrysene	J	>DL<LOQ
	Benzo(b)fluoranthene	J	>DL<LOQ
	Benzo(k)fluoranthene	J	>DL<LOQ
	Benzo(a)pyrene	J	>DL<LOQ
	Indeno(1,2,3-cd)pyrene	J	>DL<LOQ
	Benzo(g,h,i)perylene	J	>DL<LOQ
BKG005AMS	Fluorene	J	MS<LCL
BKG005AMSD	Fluorene	J	MSD<LCL
BKG006A	None	None	Not applicable
BKG007A	Fluoranthene	J	DUP>CL
	Pyrene	J	>DL<LOQ
	Chrysene	J	>DL<LOQ
	Benzo(b)fluoranthene	J	>DL<LOQ
	Benzo(k)fluoranthene	J	>DL<LOQ
	Benzo(a)pyrene	J	>DL<LOQ
BKG007ADUP	Fluoranthene	J	>DL<LOQ, DUP>CL
BKG008A	Phenanthrene	J	>DL<LOQ
	Benzo(a)anthracene	J	>DL<LOQ

VERSAR, INC.
DATA REVIEW REPORT

FIELD SAMPLE	ANALYTE	QUALIFIER	REASON
	Chrysene	J	>DL<LOQ
	Benzo(b)fluoranthene	J	>DL<LOQ
	Benzo(k)fluoranthene	J	>DL<LOQ
	Benzo(a)pyrene	J	>DL<LOQ
	Indeno(1,2,3-cd)pyrene	J	>DL<LOQ
	Benzo(g,h,i)perylene	J	>DL<LOQ
BKG009A	Phenanthrene	J	>DL<LOQ
	Benzo(a)anthracene	J	>DL<LOQ
	Chrysene	J	>DL<LOQ
	Benzo(b)fluoranthene	J	>DL<LOQ
	Benzo(k)fluoranthene	J	>DL<LOQ
	Benzo(a)pyrene	J	>DL<LOQ
	Indeno(1,2,3-cd)pyrene	J	>DL<LOQ
	Benzo(g,h,i)perylene	J	>DL<LOQ
BKG0010A	Benzo(a)anthracene	J	>DL<LOQ
	Indeno(1,2,3-cd)pyrene	J	>DL<LOQ
	Benzo(g,h,i)perylene	J	>DL<LOQ

CL – control limit
DL – detection limit
DUP – duplicate
LOQ – limit of quantitation
LCL – lower control limit

DATA VALIDATION REPORT
Method 8270C Polynuclear Aromatic Hydrocarbons (PAHs) by GC/MS
Field Sample BKG007A

I. DELIVERABLES

All deliverables were present.
YES

II. SAMPLE PRESERVATION

All samples were appropriately preserved upon sample collection.
YES
Comments: Samples were received at the laboratory in a cooler with a recorded temperature of 3.0°C.

III. HOLDING TIMES

All samples met prescribed holding times. Soil samples were extracted within 14 days of collection. All samples were analyzed within 40 days after extraction.
YES

IV. SAMPLE PREPARATION PROCEDURES

All samples were prepared for analysis with applicable extraction procedures. Appropriate extract clean-up techniques were used when necessary, and percent solids were calculated for non-aqueous samples.
YES

V. INSTRUMENT TUNE PERFORMANCE RESULTS

The GC/MS was tuned at the beginning of each 12-hour sequence. All decafluorotriphenylphosphine (DFTPP) performance results were within the specified acceptance criteria.
YES

VI. INSTRUMENT CALIBRATIONS

Initial instrument calibrations met the specified criteria. The percent relative standard deviation (RSD) of the response factors for the calibration check compounds (CCCs) were equal to or less than 30%. If the average response factor was used for quantitation, the analyte RSD was equal to or less than 15%; if a linear least squares regression was used for quantitation, the analyte correlation coefficient (r) was equal to or greater than 0.995; if a non-linear regression was used for quantitation, the coefficient of determination (COD) was equal to or greater than 0.990.
YES

A second source calibration verification standard was analyzed after each initial instrument calibration, and the analytes were within 20% of the expected value.
YES

Continuing instrument calibration verification was performed daily and after every 12 hours of analysis. The percent difference or percent drift for all analytes was equal to or less than 20%.
YES

VII. RETENTION TIME WINDOW ESTABLISHMENT AND EVALUATION

A retention time (RT) window was established for each analyte and surrogate using either the midpoint standard of the initial calibration for analytical sequences that include the initial instrument calibration, or using the initial continuing instrument calibration verification for analytical sequences that do not include an initial instrument calibration.
YES

For each sample, the relative retention time (RRT) was within ± 0.06 RRT units for each analyte and surrogate.
YES

VIII. INTERNAL STANDARD VERIFICATION

Internal standard retention times of every sample and standard was ± 30 seconds from the RT of either the midpoint standard of the initial calibration for analytical sequences that include the initial instrument calibration or of the initial continuing instrument calibration verification for analytical sequences that do not include an initial instrument calibration.
YES

The internal standard EICP (extracted ion current profile) areas of every sample and standard was within -50% to +100% of the initial calibration midpoint standard.
YES

IX. METHOD BLANK ANALYSIS RESULTS

Target analytes, other than common lab contaminants, were not detected in the method blank at a concentration greater than ½ the limit of quantitation (LOQ) and greater than 1/10 the concentration in any sample. No common lab contaminants were detected at concentrations greater than the LOQ.
YES

X. OTHER BLANK ANALYSIS RESULTS

No target analytes were detected in other blanks above the LOQ.

Comments: There were no additional blank results

XI. LABORATORY CONTROL SAMPLE (LCS) RESULTS

Recoveries of all analytes in the LCS met the specified control limits.
YES

XII. MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) RESULTS

All MS/MSD results met specified recovery and precision limits.

Comments: The validated sample was not designated for matrix spike analyses.

XIII. FIELD SAMPLE DUPLICATE RESULTS

Field sample duplicate results met specified precision limits.
NO
Comments: A field duplicate sample was collected for validated sample BKG007A. Fluoranthene was the only analyte detected above the LOQ in both the parent sample and the associated field duplicate. The relative percent difference was higher than the control limit of 30% relative percent difference (RPD) at 78%. The fluoranthene result has been qualified in the parent sample and the associated field duplicate sample.

XIV. SURROGATE COMPOUND RECOVERY RESULTS

Recovery of all surrogate compounds met the specified control limits.
YES

XV. DETECTION LIMITS

All results met specified detection limits. The LOQ was verified by analyzing a standard at a concentration ≤ the LOQ. Results were qualified when detected between the detection limit and the LOQ.
YES

XVI. SAMPLE RESULTS

The validated sample results were reviewed and all compound identifications were

acceptable.
YES

Manual chromatographic integrations were documented.
YES

(intentionally blank)

APPENDIX I

Background Study and Site-to-Background Comparisons

(intentionally blank)

	General Background Statistics for Data Sets with Non-Detects
User Selected Options	
From File	PROUCL.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	95%
Different or Future K Values	1
Number of Bootstrap Operations	2000

ACENAPHTHYLENE

General Statistics			
Number of Valid Data	10	Number of Detected Data	0
Number of Distinct Detected Data	0	Number of Non-Detect Data	10

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!

Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!

The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable ACENAPHTHYLENE was not processed!

ANTHRACENE

General Statistics			
Number of Valid Data	10	Number of Detected Data	0
Number of Distinct Detected Data	0	Number of Non-Detect Data	10

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!

Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!

The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable ANTHRACENE was not processed!

BENZO(a)ANTHRACENE

General Statistics			
Number of Valid Data	10	Number of Detected Data	9
Number of Distinct Detected Data	9	Number of Non-Detect Data	1
		Percent Non-Detects	10.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	2.74	Minimum Detected	1.008
Maximum Detected	8.33	Maximum Detected	2.12
Mean of Detected	4.663	Mean of Detected	1.477
SD of Detected	1.829	SD of Detected	0.371

Minimum Non-Detect	1.25	Minimum Non-Detect	0.223
Maximum Non-Detect	1.25	Maximum Non-Detect	0.223

Warning: There are only 9 Detected Values in this data

Note: It should be noted that even though bootstrap may be performed on this data set

the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

Background Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.898	Shapiro Wilk Test Statistic	0.945
5% Shapiro Wilk Critical Value	0.829	5% Shapiro Wilk Critical Value	0.829
Data appear Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	4.26	Mean (Log Scale)	1.282
SD	2.146	SD (Log Scale)	0.708
95% UTL 95% Coverage	10.51	95% UTL 95% Coverage	28.29
95% UPL (t)	8.385	95% UPL (t)	14.05
90% Percentile (z)	7.01	90% Percentile (z)	8.927
95% Percentile (z)	7.789	95% Percentile (z)	11.55
99% Percentile (z)	9.252	99% Percentile (z)	18.7
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	4.226	Mean in Original Scale	4.372
SD	2.113	SD in Original Scale	1.955
95% UTL with 95% Coverage	10.38	95% UTL with 95% Coverage	14.99
		95% BCA UTL with 95% Coverage	8.33
		95% Bootstrap (%) UTL with 95% Coverage	8.33
95% UPL (t)	8.289	95% UPL (t)	9.566
90% Percentile (z)	6.935	90% Percentile (z)	7.149
95% Percentile (z)	7.702	95% Percentile (z)	8.432
99% Percentile (z)	9.142	99% Percentile (z)	11.49
Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	5.459	Data appear Normal at 5% Significance Level	
Theta Star	0.854		
nu star	98.26		
A-D Test Statistic	0.334	**Nonparametric Statistics**	
5% A-D Critical Value	0.722	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.213	Mean	4.471
5% K-S Critical Value	0.28	SD	1.735
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.582
		95% KM UTL with 95% Coverage	9.521
Assuming Gamma Distribution		95% KM Chebyshev UPL	12.4

Gamma ROS Statistics with Extrapolated Data		95% KM UPL (t)	7.806
Mean	4.351	90% Percentile (z)	6.694
Median	3.91	95% Percentile (z)	7.325
SD	1.987	99% Percentile (z)	8.507
k star	3.741		
Theta star	1.163	**Gamma ROS Limits with Extrapolated Data**	
Nu star	74.83	95% Wilson Hilferty (WH) Approx. Gamma UPL	8.99
95% Percentile of Chisquare (2k)	14.77	95% Hawkins Wixley (HW) Approx. Gamma UPL	9.173
		95% WH Approx. Gamma UTL with 95% Coverage	12.6
90% Percentile	7.367	95% HW Approx. Gamma UTL with 95% Coverage	13.19
95% Percentile	8.586		
99% Percentile	11.2		

Note: DL/2 is not a recommended method.

BENZO(a)PYRENE

General Statistics			
Total Number of Observations	10	Number of Distinct Observations	10
Raw Statistics		**Log-Transformed Statistics**	
Minimum	3.2	Minimum	1.163
Maximum	9.53	Maximum	2.254
Second Largest	7.87	Second Largest	2.063
First Quartile	3.74	First Quartile	1.318
Median	4.775	Median	1.556
Third Quartile	6.243	Third Quartile	1.828
Mean	5.297	Mean	1.602
SD	2.112	SD	0.374
Coefficient of Variation	0.399		
Skewness	1.023		

Background Statistics			
Normal Distribution Test		**Lognormal Distribution Test**	
Shapiro Wilk Test Statistic	0.889	Shapiro Wilk Test Statistic	0.935
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value	0.842
Data appear Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% UTL with 95% Coverage	11.45	95% UTL with 95% Coverage	14.74
95% UPL (t)	9.358	95% UPL (t)	10.18
90% Percentile (z)	8.004	90% Percentile (z)	8.012
95% Percentile (z)	8.771	95% Percentile (z)	9.179
99% Percentile (z)	10.21	99% Percentile (z)	11.84
Gamma Distribution Test		**Data Distribution Test**	
k star	5.526	**Data appear Normal at 5% Significance Level**	
Theta Star	0.958		
MLE of Mean	5.297		

MLE of Standard Deviation	2.253		
nu star	110.5		
A-D Test Statistic	0.355	**Nonparametric Statistics**	
5% A-D Critical Value	0.727	90% Percentile	8.036
K-S Test Statistic	0.19	95% Percentile	8.783
5% K-S Critical Value	0.267	99% Percentile	9.381
Data appear Gamma Distributed at 5% Significance Level			
Assuming Gamma Distribution		95% UTL with 95% Coverage	9.53
90% Percentile	8.311	95% Percentile Bootstrap UTL with 95% Coverage	9.53
95% Percentile	9.464	95% BCA Bootstrap UTL with 95% Coverage	9.53
99% Percentile	11.89	95% UPL	9.53
		95% Chebyshev UPL	14.95
95% WH Approx. Gamma UPL	9.797	Upper Threshold Limit Based upon IQR	9.996
95% HW Approx. Gamma UPL	9.88		
95% WH Approx. Gamma UTL with 95% Coverage	13.09		
95% HW Approx. Gamma UTL with 95% Coverage	13.42		

BENZO(b)FLUORANTHENE

General Statistics

Total Number of Observations	10	Number of Distinct Observations	10

Raw Statistics		**Log-Transformed Statistics**	
Minimum	3.74	Minimum	1.319
Maximum	9.29	Maximum	2.229
Second Largest	8.75	Second Largest	2.169
First Quartile	4.158	First Quartile	1.425
Median	5.54	Median	1.708
Third Quartile	7.11	Third Quartile	1.961
Mean	5.897	Mean	1.721
SD	2.049	SD	0.342
Coefficient of Variation	0.347		
Skewness	0.569		

Background Statistics

Normal Distribution Test		**Lognormal Distribution Test**	
Shapiro Wilk Test Statistic	0.898	Shapiro Wilk Test Statistic	0.913
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value	0.842
Data appear Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% UTL with 95% Coverage	11.86	95% UTL with 95% Coverage	15.15
95% UPL (t)	9.836	95% UPL (t)	10.8
90% Percentile (z)	8.523	90% Percentile (z)	8.671
95% Percentile (z)	9.267	95% Percentile (z)	9.819
99% Percentile (z)	10.66	99% Percentile (z)	12.4

Gamma Distribution Test		**Data Distribution Test**	
k star	6.755	**Data appear Normal at 5% Significance Level**	
Theta Star	0.873		
MLE of Mean	5.897		
MLE of Standard Deviation	2.269		
nu star	135.1		
A-D Test Statistic	0.395	**Nonparametric Statistics**	
5% A-D Critical Value	0.725	90% Percentile	8.804
K-S Test Statistic	0.198	95% Percentile	9.047
5% K-S Critical Value	0.267	99% Percentile	9.241
Data appear Gamma Distributed at 5% Significance Level			
Assuming Gamma Distribution		95% UTL with 95% Coverage	9.29
90% Percentile	8.927	95% Percentile Bootstrap UTL with 95% Coverage	9.29
95% Percentile	10.06	95% BCA Bootstrap UTL with 95% Coverage	9.29
99% Percentile	12.41	95% UPL	9.29
		95% Chebyshev UPL	15.26
95% WH Approx. Gamma UPL	10.37	Upper Threshold Limit Based upon IQR	11.54
95% HW Approx. Gamma UPL	10.46		
95% WH Approx. Gamma UTL with 95% Coverage	13.55		
95% HW Approx. Gamma UTL with 95% Coverage	13.88		

BENZO(g,h,i)PERYLENE

General Statistics			
Number of Valid Data	10	Number of Detected Data	9
Number of Distinct Detected Data	8	Number of Non-Detect Data	1
		Percent Non-Detects	10.00%
Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	2.88	Minimum Detected	1.058
Maximum Detected	7.75	Maximum Detected	2.048
Mean of Detected	4.656	Mean of Detected	1.476
SD of Detected	1.796	SD of Detected	0.369
Minimum Non-Detect	1.25	Minimum Non-Detect	0.223
Maximum Non-Detect	1.25	Maximum Non-Detect	0.223

Warning: There are only 9 Detected Values in this data

Note: It should be noted that even though bootstrap may be performed on this data set

the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

Background Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.872	Shapiro Wilk Test Statistic	0.9
5% Shapiro Wilk Critical Value	0.829	5% Shapiro Wilk Critical Value	0.829
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	4.253	Mean (Log Scale)	1.281
SD	2.12	SD (Log Scale)	0.707
95% UTL 95% Coverage	10.42	95% UTL 95% Coverage	28.17
95% UPL (t)	8.328	95% UPL (t)	14.01
90% Percentile (z)	6.969	90% Percentile (z)	8.907
95% Percentile (z)	7.739	95% Percentile (z)	11.51
99% Percentile (z)	9.184	99% Percentile (z)	18.64
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	4.221	Mean in Original Scale	4.368
SD	2.085	SD in Original Scale	1.923
95% UTL with 95% Coverage	10.29	95% UTL with 95% Coverage	14.8
		95% BCA UTL with 95% Coverage	7.75
		95% Bootstrap (%) UTL with 95% Coverage	7.75
95% UPL (t)	8.23	95% UPL (t)	9.487
90% Percentile (z)	6.893	90% Percentile (z)	7.112
95% Percentile (z)	7.651	95% Percentile (z)	8.374
99% Percentile (z)	9.072	99% Percentile (z)	11.38
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	5.536	Data appear Normal at 5% Significance Level	
Theta Star	0.841		
nu star	99.65		
A-D Test Statistic	0.474	Nonparametric Statistics	
5% A-D Critical Value	0.722	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.247	Mean	4.478
5% K-S Critical Value	0.28	SD	1.693
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.568
		95% KM UTL with 95% Coverage	9.405
Assuming Gamma Distribution		95% KM Chebyshev UPL	12.22
Gamma ROS Statistics with Extrapolated Data		95% KM UPL (t)	7.732
Mean	4.35	90% Percentile (z)	6.647
Median	3.765	95% Percentile (z)	7.262
SD	1.95	99% Percentile (z)	8.416
k star	3.868		
Theta star	1.125	Gamma ROS Limits with Extrapolated Data	
Nu star	77.35	95% Wilson Hilferty (WH) Approx. Gamma UPL	8.9
95% Percentile of Chisquare (2k)	15.13	95% Hawkins Wixley (HW) Approx. Gamma UPL	9.073
		95% WH Approx. Gamma UTL with 95% Coverage	12.42
90% Percentile	7.315	95% HW Approx. Gamma UTL with 95% Coverage	12.98
95% Percentile	8.508		
99% Percentile	11.06		

Note: DL/2 is not a recommended method.

BENZO(k)FLUORANTHENE

General Statistics			
Total Number of Observations	10	Number of Distinct Observations	10

Raw Statistics		Log-Transformed Statistics	
Minimum	3.31	Minimum	1.197
Maximum	10.2	Maximum	2.322
Second Largest	8.24	Second Largest	2.109
First Quartile	3.755	First Quartile	1.322
Median	4.675	Median	1.541
Third Quartile	6.368	Third Quartile	1.849
Mean	5.459	Mean	1.628
SD	2.277	SD	0.381
Coefficient of Variation	0.417		
Skewness	1.2		

Background Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.87	Shapiro Wilk Test Statistic	0.929
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value	0.842
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% UTL with 95% Coverage	12.09	95% UTL with 95% Coverage	15.44
95% UPL (t)	9.836	95% UPL (t)	10.6
90% Percentile (z)	8.377	90% Percentile (z)	8.301
95% Percentile (z)	9.204	95% Percentile (z)	9.533
99% Percentile (z)	10.76	99% Percentile (z)	12.36
Gamma Distribution Test		Data Distribution Test	
k star	5.242	Data appear Normal at 5% Significance Level	
Theta Star	1.041		
MLE of Mean	5.459		
MLE of Standard Deviation	2.384		
nu star	104.8		
A-D Test Statistic	0.391	Nonparametric Statistics	
5% A-D Critical Value	0.727	90% Percentile	8.436
K-S Test Statistic	0.167	95% Percentile	9.318
5% K-S Critical Value	0.267	99% Percentile	10.02
Data appear Gamma Distributed at 5% Significance Level			
Assuming Gamma Distribution		95% UTL with 95% Coverage	10.2
90% Percentile	8.65	95% Percentile Bootstrap UTL with 95% Coverage	10.2
95% Percentile	9.878	95% BCA Bootstrap UTL with 95% Coverage	10.2

99% Percentile	12.47	95% UPL	10.2
		95% Chebyshev UPL	15.87
95% WH Approx. Gamma UPL	10.24	Upper Threshold Limit Based upon IQR	10.29
95% HW Approx. Gamma UPL	10.31		
95% WH Approx. Gamma UTL with 95% Coverage	13.76		
95% HW Approx. Gamma UTL with 95% Coverage	14.1		

CHRYSENE

General Statistics			
Total Number of Observations	10	Number of Distinct Observations	10
Raw Statistics		**Log-Transformed Statistics**	
Minimum	3.61	Minimum	1.284
Maximum	10.4	Maximum	2.342
Second Largest	8.82	Second Largest	2.177
First Quartile	4.305	First Quartile	1.459
Median	5.62	Median	1.716
Third Quartile	7.405	Third Quartile	2
Mean	6.083	Mean	1.743
SD	2.309	SD	0.369
Coefficient of Variation	0.38		
Skewness	0.74		

Background Statistics			
Normal Distribution Test		**Lognormal Distribution Test**	
Shapiro Wilk Test Statistic	0.912	Shapiro Wilk Test Statistic	0.938
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value	0.842
Data appear Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% UTL with 95% Coverage	12.8	95% UTL with 95% Coverage	16.74
95% UPL (t)	10.52	95% UPL (t)	11.62
90% Percentile (z)	9.041	90% Percentile (z)	9.172
95% Percentile (z)	9.88	95% Percentile (z)	10.49
99% Percentile (z)	11.45	99% Percentile (z)	13.49
Gamma Distribution Test		**Data Distribution Test**	
k star	5.799	**Data appear Normal at 5% Significance Level**	
Theta Star	1.049		
MLE of Mean	6.083		
MLE of Standard Deviation	2.526		
nu star	116		
A-D Test Statistic	0.336	**Nonparametric Statistics**	
5% A-D Critical Value	0.727	90% Percentile	8.978
K-S Test Statistic	0.197	95% Percentile	9.689
5% K-S Critical Value	0.267	99% Percentile	10.26

Data appear Gamma Distributed at 5% Significance Level			
Assuming Gamma Distribution		95% UTL with 95% Coverage	10.4
90% Percentile	9.461	95% Percentile Bootstrap UTL with 95% Coverage	10.4
95% Percentile	10.74	95% BCA Bootstrap UTL with 95% Coverage	10.4
99% Percentile	13.44	95% UPL	10.4
		95% Chebyshev UPL	16.64
95% WH Approx. Gamma UPL	11.12	Upper Threshold Limit Based upon IQR	12.06
95% HW Approx. Gamma UPL	11.22		
95% WH Approx. Gamma UTL with 95% Coverage	14.77		
95% HW Approx. Gamma UTL with 95% Coverage	15.16		

DIBENZ(a,h)ANTHRACENE

General Statistics			
Number of Valid Data	10	Number of Detected Data	0
Number of Distinct Detected Data	0	Number of Non-Detect Data	10

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!

Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!

The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable DIBENZ(a,h)ANTHRACENE was not processed!

FLUORANTHENE

General Statistics			
Total Number of Observations	10	Number of Distinct Observations	10

Raw Statistics		Log-Transformed Statistics	
Minimum	6.7	Minimum	1.902
Maximum	22.6	Maximum	3.118
Second Largest	18.5	Second Largest	2.918
First Quartile	7.943	First Quartile	2.072
Median	11.08	Median	2.386
Third Quartile	14.98	Third Quartile	2.704
Mean	12.18	Mean	2.414
SD	5.423	SD	0.432
Coefficient of Variation	0.445		
Skewness	0.815		

Background Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.892	Shapiro Wilk Test Statistic	0.918
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value	0.842
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% UTL with 95% Coverage	27.97	95% UTL with 95% Coverage	39.28
95% UPL (t)	22.61	95% UPL (t)	25.64
90% Percentile (z)	19.13	90% Percentile (z)	19.44
95% Percentile (z)	21.1	95% Percentile (z)	22.74
99% Percentile (z)	24.8	99% Percentile (z)	30.52
Gamma Distribution Test		**Data Distribution Test**	
k star	4.279	**Data appear Normal at 5% Significance Level**	
Theta Star	2.847		
MLE of Mean	12.18		
MLE of Standard Deviation	5.888		
nu star	85.58		
A-D Test Statistic	0.432	**Nonparametric Statistics**	
5% A-D Critical Value	0.729	90% Percentile	18.91
K-S Test Statistic	0.218	95% Percentile	20.76
5% K-S Critical Value	0.267	99% Percentile	22.23
Data appear Gamma Distributed at 5% Significance Level			
Assuming Gamma Distribution		95% UTL with 95% Coverage	22.6
90% Percentile	20.07	95% Percentile Bootstrap UTL with 95% Coverage	22.6
95% Percentile	23.2	95% BCA Bootstrap UTL with 95% Coverage	22.6
99% Percentile	29.85	95% UPL	22.6
		95% Chebyshev UPL	36.97
95% WH Approx. Gamma UPL	24.19	Upper Threshold Limit Based upon IQR	25.52
95% HW Approx. Gamma UPL	24.49		
95% WH Approx. Gamma UTL with 95% Coverage	33.33		
95% HW Approx. Gamma UTL with 95% Coverage	34.48		

FLUORENE

General Statistics

Number of Valid Data	10	Number of Detected Data	0
Number of Distinct Detected Data	0	Number of Non-Detect Data	10

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!

Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!

The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable FLUORENE was not processed!

INDENO(1,2,3-c,d)PYRENE

General Statistics

Number of Valid Data	10	Number of Detected Data	9
Number of Distinct Detected Data	9	Number of Non-Detect Data	1
		Percent Non-Detects	10.00%
Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	2.73	Minimum Detected	1.004
Maximum Detected	7.04	Maximum Detected	1.952
Mean of Detected	4.367	Mean of Detected	1.423
SD of Detected	1.526	SD of Detected	0.335
Minimum Non-Detect	1.25	Minimum Non-Detect	0.223
Maximum Non-Detect	1.25	Maximum Non-Detect	0.223

Warning: There are only 9 Detected Values in this data

Note: It should be noted that even though bootstrap may be performed on this data set

the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

Background Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.896	Shapiro Wilk Test Statistic	0.931
5% Shapiro Wilk Critical Value	0.829	5% Shapiro Wilk Critical Value	0.829
Data appear Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	3.993	Mean (Log Scale)	1.234
SD	1.863	SD (Log Scale)	0.677
95% UTL 95% Coverage	9.416	95% UTL 95% Coverage	24.61
95% UPL (t)	7.574	95% UPL (t)	12.61
90% Percentile (z)	6.38	90% Percentile (z)	8.172
95% Percentile (z)	7.057	95% Percentile (z)	10.45
99% Percentile (z)	8.327	99% Percentile (z)	16.57
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	3.976	Mean in Original Scale	4.111
SD	1.814	SD in Original Scale	1.65
95% UTL with 95% Coverage	9.256	95% UTL with 95% Coverage	12.59
		95% BCA UTL with 95% Coverage	7.04
		95% Bootstrap (%) UTL with 95% Coverage	7.04
95% UPL (t)	7.463	95% UPL (t)	8.399
90% Percentile (z)	6.3	90% Percentile (z)	6.458
95% Percentile (z)	6.959	95% Percentile (z)	7.495
99% Percentile (z)	8.195	99% Percentile (z)	9.91
Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	6.695	Data appear Normal at 5% Significance Level	
Theta Star	0.652		

nu star	120.5		
A-D Test Statistic	0.371	**Nonparametric Statistics**	
5% A-D Critical Value	0.722	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.203	Mean	4.203
5% K-S Critical Value	0.279	SD	1.451
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.487
		95% KM UTL with 95% Coverage	8.426
Assuming Gamma Distribution		95% KM Chebyshev UPL	10.84
Gamma ROS Statistics with Extrapolated Data		95% KM UPL (t)	6.992
Mean	4.101	90% Percentile (z)	6.062
Median	3.75	95% Percentile (z)	6.589
SD	1.666	99% Percentile (z)	7.578
k star	4.731		
Theta star	0.867	**Gamma ROS Limits with Extrapolated Data**	
Nu star	94.63	95% Wilson Hilferty (WH) Approx. Gamma UPL	7.916
95% Percentile of Chisquare (2k)	17.56	95% Hawkins Wixley (HW) Approx. Gamma UPL	8.042
		95% WH Approx. Gamma UTL with 95% Coverage	10.77
90% Percentile	6.627	95% HW Approx. Gamma UTL with 95% Coverage	11.18
95% Percentile	7.613		
99% Percentile	9.702		

Note: DL/2 is not a recommended method.

NAPHTHALENE

General Statistics

Number of Valid Data	10	Number of Detected Data	0
Number of Distinct Detected Data	0	Number of Non-Detect Data	10

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!

Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!

The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable NAPHTHALENE was not processed!

PHENANTHRENE

General Statistics

Number of Valid Data	10	Number of Detected Data	9
Number of Distinct Detected Data	9	Number of Non-Detect Data	1
		Percent Non-Detects	10.00%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	3.06	Minimum Detected	1.118
Maximum Detected	10.9	Maximum Detected	2.389
Mean of Detected	5.81	Mean of Detected	1.669

SD of Detected	2.66	SD of Detected	0.452
Minimum Non-Detect	1.25	Minimum Non-Detect	0.223
Maximum Non-Detect	1.25	Maximum Non-Detect	0.223

Warning: There are only 9 Detected Values in this data

Note: It should be noted that even though bootstrap may be performed on this data set

the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

Background Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.91	Shapiro Wilk Test Statistic	0.935
5% Shapiro Wilk Critical Value	0.829	5% Shapiro Wilk Critical Value	0.829
Data appear Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	5.292	Mean (Log Scale)	1.455
SD	2.996	SD (Log Scale)	0.799
95% UTL 95% Coverage	14.01	95% UTL 95% Coverage	43.86
95% UPL (t)	11.05	95% UPL (t)	19.91
90% Percentile (z)	9.131	90% Percentile (z)	11.93
95% Percentile (z)	10.22	95% Percentile (z)	15.95
99% Percentile (z)	12.26	99% Percentile (z)	27.49
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	5.214	Mean in Original Scale	5.403
SD	3.001	SD in Original Scale	2.819
95% UTL with 95% Coverage	13.95	95% UTL with 95% Coverage	23.74
		95% BCA UTL with 95% Coverage	10.9
		95% Bootstrap (%) UTL with 95% Coverage	10.9
95% UPL (t)	10.98	95% UPL (t)	13.74
90% Percentile (z)	9.06	90% Percentile (z)	9.639
95% Percentile (z)	10.15	95% Percentile (z)	11.78
99% Percentile (z)	12.2	99% Percentile (z)	17.18
Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	3.842	Data appear Normal at 5% Significance Level	
Theta Star	1.512		
nu star	69.15		
A-D Test Statistic	0.318	**Nonparametric Statistics**	
5% A-D Critical Value	0.723	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.178	Mean	5.535
5% K-S Critical Value	0.28	SD	2.518
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.845
		95% KM UTL with 95% Coverage	12.87

Assuming Gamma Distribution		95% KM Chebyshev UPL	17.05
Gamma ROS Statistics with Extrapolated Data		95% KM UPL (t)	10.38
Mean	5.351	90% Percentile (z)	8.762
Median	4.73	95% Percentile (z)	9.677
SD	2.898	99% Percentile (z)	11.39
k star	2.422		
Theta star	2.209	**Gamma ROS Limits with Extrapolated Data**	
Nu star	48.43	95% Wilson Hilferty (WH) Approx. Gamma UPL	12.74
95% Percentile of Chisquare (2k)	10.83	95% Hawkins Wixley (HW) Approx. Gamma UPL	13.2
		95% WH Approx. Gamma UTL with 95% Coverage	18.95
90% Percentile	9.956	95% HW Approx. Gamma UTL with 95% Coverage	20.43
95% Percentile	11.96		
99% Percentile	16.36		

Note: DL/2 is not a recommended method.

PYRENE

General Statistics			
Total Number of Observations	10	Number of Distinct Observations	10

Raw Statistics		Log-Transformed Statistics	
Minimum	5.35	Minimum	1.677
Maximum	18.3	Maximum	2.907
Second Largest	13.6	Second Largest	2.61
First Quartile	6.238	First Quartile	1.83
Median	8.31	Median	2.099
Third Quartile	11.85	Third Quartile	2.47
Mean	9.488	Mean	2.165
SD	4.271	SD	0.427
Coefficient of Variation	0.45		
Skewness	0.996		

Background Statistics			
Normal Distribution Test		**Lognormal Distribution Test**	
Shapiro Wilk Test Statistic	0.881	Shapiro Wilk Test Statistic	0.916
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value	0.842
Data appear Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% UTL with 95% Coverage	21.92	95% UTL with 95% Coverage	30.2
95% UPL (t)	17.7	95% UPL (t)	19.81
90% Percentile (z)	14.96	90% Percentile (z)	15.07
95% Percentile (z)	16.51	95% Percentile (z)	17.59
99% Percentile (z)	19.42	99% Percentile (z)	23.53
Gamma Distribution Test		**Data Distribution Test**	
k star	4.316	**Data appear Normal at 5% Significance Level**	
Theta Star	2.198		

MLE of Mean	9.488		
MLE of Standard Deviation	4.567		
nu star	86.32		
A-D Test Statistic	0.443	**Nonparametric Statistics**	
5% A-D Critical Value	0.729	90% Percentile	14.07
K-S Test Statistic	0.248	95% Percentile	16.19
5% K-S Critical Value	0.267	99% Percentile	17.88
Data appear Gamma Distributed at 5% Significance Level			
Assuming Gamma Distribution		95% UTL with 95% Coverage	18.3
90% Percentile	15.61	95% Percentile Bootstrap UTL with 95% Coverage	18.3
95% Percentile	18.03	95% BCA Bootstrap UTL with 95% Coverage	18.3
99% Percentile	23.18	95% UPL	18.3
		95% Chebyshev UPL	29.01
95% WH Approx. Gamma UPL	18.79	Upper Threshold Limit Based upon IQR	20.27
95% HW Approx. Gamma UPL	19		
95% WH Approx. Gamma UTL with 95% Coverage	25.86		
95% HW Approx. Gamma UTL with 95% Coverage	26.7		

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APPENDIX J

MRSPP Tables

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Installation: CANNON AIR FORCE BASE
MAJCOM: AFSOC **MRAID:** TS835 **MRS:** TS835
FFID: NM7572124454

Table A

MRS Background Information

Munitions Response Site Name: 1940s Skeet Range - TS835

Component: Air Force

Installation/Property Name: CANNON AIR FORCE BASE

Location (City, County, State): Clovis, Curry County, NM

Site Name/Project name (Project No.): 1940s Skeet Range - TS835

Date Information Entered\Updated: 4/2/2012 4:14:40 PM

Point of Contact Name: Mathew Higginbotham **Point of Contact Phone:** (575) 784-1092

Project Phase (check only one):

☐ PA	☑ SI	☐ RI	☐ FS	☐ RD
☐ RA	☐ RIP	☐ RC		

Media Evaluated (check all that apply):

☐ Groundwater	☐ Sediment (human receptor)
☑ Surface soil	☐ Surface Water (ecological receptor)
☐ Sediment (ecological receptor)	☐ Surface Water (human receptor)

MRS Summary:

MRS Description: Describe the munitions-related activities that occurred at the installation, the dates of operation, and the UXO, DMM, or MC known or suspected to be present. When possible, identify munitions, CWM, and MC by type:

MRS TS835 is located in the northeast portion of the Base, just north of the Former Ordnance/Current Munitions Storage Area. MRS TS835 is the portion of MRA TS835 where munitions debris was found during the Comprehensive Site Evaluation Phase II visual survey. The MRA range was oriented to the northeast. MRS TS835 does not contain any structures. The area generally consists of an open field with a sparse vegetative cover of low grasses. The only remnants of the range observed on-base include clay target debris and several slabs of concrete. The topography is relatively flat, sloping gently to the southeast. The soil type at the MRS was generally fine sandy loam.

Description of Pathways for Human and Ecological Receptors:

There is no historical or physical evidence of explosive MEC associated with the MRS. Therefore, exposure to MEC is not applicable for this MRA. Only military munitions use identified at this MRA are associated with small arms. Once fired, these may result in release of MC. No sensitive ecological populations, habitat, or natural resources are at or adjacent to the site. Consequently, a biological assessment for impact from munitions-related activities is not warranted. Human and ecological receptors are not likely to come into contact with the groundwater medium at Cannon AFB. However, as previously stated, there is no historical or physical evidence of MEC at the Cannon AFB MRA; therefore, the potential pathways associated with the above listed receptors are considered incomplete with respect to MEC. The Modified CSE Phase I (USACE,2009) found that there is a there are no wetlands in the vicinity of the MRA, and the depth to groundwater is approximately 250 ft (CH2M Hill, 1983).

Description of Receptors (Human and Ecological):

The MRS is located amidst an active airfield, operational buildings, and recreational areas, in an area of maintained grasses. Cannon AFB is located approximately 8 miles west of the city of Clovis, in Curry County, New Mexico. It had a population estimate of 32,863 people in 2009 (U.S. Census, 2011). In 2009, the population density of Curry County was 32 persons per square mile (U.S. Census, 2011). The off-base portion of the MRA extending onto the Rajen Dairy Property contains four buildings. Numerous buildings are located within a one-mile radius of the MRA. There are more than 26 buildings within a 2-mile radius of the MRS.
The receptors that were considered for Cannon AFB were: authorized installation personnel, authorized contractors and visitors, trespassers, and biota.
Most of the vegetation at the site is grass typical of semiarid short grass prairies (CH2M Hill, 1983). The black-tailed prairie dog is a Federal Endangered Species Act candidate animal that has been found at the Base, however, according to the CSE Phase I, no black-tailed prairie dogs were found to be present at the MRS (USACE, 2009). Most biota would not likely find suitable habitat in the grassy areas with limited cover. The current land use of the MRS is private property mainly used for storage. Therefore, no ecological receptors are considered for the SR.

Installation: CANNON AIR FORCE BASE
MAJCOM: AFSOC **MRAID:** TS835 **MRS:** TS835
FFID: NM7572124454

Reference (Section, Page #):
GENERAL - 2.1,2-1/2.3.1-2.3.2,2-5/2.4,2-6,8.0, 8-1 to 8-6/9.2,9-1/10.2,10-1,10.3,10-1, LOCATION - 5.1, 5-1, POC - N/A, CONTRACTOR - N/A

Table 1

EHE Module: Munitions Type Data Element Worksheet

Classification	Description	Score
Sensitive	- All UXO that are considered likely to function upon any interaction with exposed persons [e.g., submunitions, 40mm high explosive (HE) grenades, white phosphorus (WP) munitions, high-explosive antitank (HEAT) munitions, and practice munitions with sensitive fuzes, but excluding all other practice munitions]. - All hand grenades containing energetic filler. - Bulk primary explosives, or mixtures of these with environmental media, such that the mixture poses an explosive hazard.	30
High explosive (used or damaged)	- All UXO containing a high-explosive filler (e.g., RDX, Composition B), that are not considered "sensitive." - All DMM containing a high-explosive filler that have: - Been damaged by burning or detonation - Deteriorated to the point of instability.	25
Pyrotechnic (used or damaged)	- All UXO containing pyrotechnic fillers other than white phosphorous (e.g., flares, signals, simulators, smoke grenades). - All DMM containing pyrotechnic fillers other than white phosphorous (e.g., flares, signals, simulators, smoke grenades) that have: - Been damaged by burning or detonation - Deteriorated to the point of instability.	20
High explosive (unused)	- All DMM containing a high explosive filler that: - Have not been damaged by burning or detonation - Are not deteriorated to the point of instability.	15
Propellant	- All UXO containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor). - All DMM containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor) that are: - Damaged by burning or detonation - Deteriorated to the point of instability.	15
Bulk secondary high explosives, pyrotechnics, or propellant	- All DMM containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor), that are deteriorated. - Bulk secondary high explosives, pyrotechnic compositions, or propellant (not contained in a munition), or mixtures of these with environmental media such that the mixture poses an explosive hazard.	10
Pyrotechnic (not used or damaged)	- All DMM containing a pyrotechnic fillers (i.e., red phosphorous), other than white phosphorous filler, that: - Have not been damaged by burning or detonation - Are not deteriorated to the point of instability.	10
Practice	- All UXO that are practice munitions that are not associated with a sensitive fuze. - All DMM that are practice munitions that are not associated with a sensitive fuze and that have not: - Been damaged by burning or detonation - Deteriorated to the point of instability.	5
Riot control	- All UXO or DMM containing a riot control agent filler (e.g., tear gas).	3
Small arms	- All used munitions or DMM that are categorized as small arms ammunition [Physical evidence or historical evidence that no other types of munitions (e.g., grenades, subcaliber training rockets) were used or are present on the MRS is required for selection of this category.].	2
Evidence of no munitions	- Following investigation of the MRS, there is physical evidence that there are no UXO or DMM present, or there is historical evidence indicating that no UXO or DMM are present.	0
MUNITIONS TYPE	**DIRECTIONS: Record the single highest score from above in the box to the right (maximum score = 30).**	2

Site-specific data used in selection MUNITIONS TYPE classification:

CSE Phase I described area as small arms use only - former skeet range. CSE Phase II visual survey noted clay target debris in MRS.

Reference (Section, Page #): (5.2,5-1/6.1,6-1

Installation: CANNON AIR FORCE BASE

MAJCOM: AFSOC **MRAID:** TS835 **MRS:** TS835

FFID: NM7572124454

Table 2

EHE Module: Source of Hazard Data Element Worksheet

Classification	Description	Score
Former Range	- The MRS is a former military range where munitions (including practice munitions with sensitive fuzes) have been used. Such areas include: impact or target areas, associated buffer and safety zones, firing points, and live-fire maneuver areas.	10
Former Munitions treatment (i.e., OB/OD unit)	- The MRS is a location where UXO or DMM (e.g., munitions, bulk explosives, bulk pyrotechnic, or bulk propellants) were burned or detonated for the purpose of treatment prior to disposal.	8
Former practice munitions range	- The MRS is a former military range on which only practice munitions without sensitive fuzes were used.	6
Former maneuver area	- The MRS is a former maneuver area where no munitions other than flares, simulators, smokes, and blanks were used. There must be evidence that no other munitions were used at the location to place an MRS into this category.	5
Former burial pit or other disposal area	- The MRS is a location where DMM were buried or disposed of (e.g., disposed of into a water body) without prior thermal treatment.	5
Former industrial operating facilities	- The MRS is a location that is a former munitions maintenance, manufacturing, or demilitarization facility.	4
Former firing points	- The MRS is a firing point, where the firing point is delineated as an MRS separate from the rest of a former military range.	4
Former missile or air defense artillery emplacements	- The MRS is a former missile defense or air defense artillery (ADA) emplacement not associated with a military range.	2
Former storage or transfer points	- The MRS is a location where munitions were stored or handled for transfer between different modes of transportation (e.g., rail to truck, truck to weapon system).	2
Former small arms range	- The MRS is a former military range where only small arms ammunition was used [There must be evidence that no other types of munitions (e.g., grenades) were used or are present to place an MRS into this category.].	1
Evidence of no munitions	- Following investigation of the MRS, there is physical evidence that no UXO or DMM are present, or there is historical evidence indicating that no UXO or DMM are present.	0
Source of Hazard	**DIRECTIONS: Record the single highest score from above in the box to the right (maximum score = 10).**	1

Site-specific data characteristics used to select the SOURCE OF HAZARD classification:

CSE Phase I described area as small arms use only - former skeet range. CSE Phase II visual survey noted clay target debris in MRS.

Reference (Section, Page #): 5.2,5-1/6.1,6-1

Installation: CANNON AIR FORCE BASE
MAJCOM: AFSOC **MRAID:** TS835 **MRS:** TS835
FFID: NM7572124454

Table 3

EHE Module: Information on the Location of Munitions Data Element Worksheet

Classification	Description	Score
Confirmed surface	- Physical evidence indicates that there are UXO or DMM on the surface of the MRS - Historical evidence (e.g., a confirmed incident report or accident report) indicates there are UXO or DMM on the surface of the MRS.	25
Confirmed subsurface, active	- Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS, and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena (e.g., drought, flooding, erosion, frost, heat heave, tidal action), or intrusive activities (e.g., plowing, construction, dredging) at the MRS are likely to expose UXO or DMM. - Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena (e.g., drought, flooding, erosion, frost, heat heave, tidal action), or intrusive activities (e.g., plowing, construction, dredging) at the MRS are likely to expose UXO or DMM.	20
Confirmed subsurface, stable	- Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena, or intrusive activities at the MRS are not likely to cause UXO or DMM to be exposed. - Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena, or intrusive activities at the MRS are not likely to cause UXO or DMM to be exposed.	15
Suspected (physical evidence)	- There is physical evidence (e.g., munitions debris, such fragments, penetrators, projectiles, shell casings, links, fins), other than the documented presence of UXO or DMM, indicating that UXO or DMM may be present at the MRS.	10
Suspected (historical evidence)	- There is historical evidence indicating that UXO or DMM may be present at the MRS.	5
Subsurface, physical constraint	- There is physical or historical evidence indicating that UXO or DMM may be present in the subsurface, but there is a physical constraint (e.g., pavement, water depth over 120 feet) preventing direct access to the UXO or DMM.	2
Small arms range (regardless of location	- The presence of small arms ammunition is confirmed or suspected, regardless of other factors such as geological stability [There must be evidence that no other types of munitions (e.g., grenades) were used or are present at the MRS to place an MRS into this category.].	1
Evidence of no munitions	- Following investigation of the MRS, there is physical evidence that there are no UXO or DMM present, or there is historical evidence indicating that no UXO or DMM are present.	0
Location of Munitions	**DIRECTIONS: Record the single highest score from above in the box to the right (maximum score = 25).**	1

Site-specific data characteristics used to select the LOCATION OF MUNITIONS classification:

CSE Phase I described area as small arms use only. CSE Phase II visual survey noted clay target debris in MRS.

Reference (Section, Page #):	5.2,5-1/6.1,6-1

Installation: CANNON AIR FORCE BASE

MAJCOM: AFSOC **MRAID:** TS835 **MRS:** TS835

FFID: NM7572124454

Table 4

EHE Module: Ease of Access Data Element Worksheet

Classification	Description	Score
No barrier	- There is no barrier preventing access to any part of the MRS (i.e., all parts of the MRS are accessible).	10
Barrier to MRS access is incomplete	- There is a barrier preventing access to parts of the MRS, but not the entire MRS.	8
Barrier to MRS access is complete but not monitored	- There is a barrier preventing access to all parts of the MRS, but there is no surveillance (e.g., by a guard) to ensure that the barrier is effectively preventing access to all parts of the MRS.	5
Barrier to MRS access is complete and monitored	- There is a barrier preventing access to all parts of the MRS, and there is active, continual surveillance (e.g., by a guard, video monitoring) to ensure that the barrier is effectively preventing access to all parts of the MRS.	0
Ease of Access	**DIRECTIONS: Record the single highest score from above in the box to the right (maximum score = 10).**	10

Site-specific characteristics used to select the EASE OF ACCESS classification:

Reference (Section, Page #):	5.4,5-1,2.1,2-1,5.1,5-1

Installation: CANNON AIR FORCE BASE
MAJCOM: AFSOC **MRAID:** TS835 **MRS:** TS835
FFID: NM7572124454

Table 5

EHE Module: Status of Property Data Element Worksheet

Classification	Description	Score
Non-DoD control	- The MRS is at a location that is no longer owned by, leased to, or otherwise possessed or used by DoD. Examples are privately owned land or water bodies; land or water bodies owned or controlled by state, tribal, or local governments; and land or water bodies managed by other federal agencies.	5
Scheduled for transfer from DoD control	- The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD, and DoD plans to transfer that land or water body to the control of another entity (e.g., a state, tribal, or local government; a private party; another federal agency) within 3 years from the date the rule is applied.	3
DoD control	- The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD. With respect to property that is leased or otherwise possessed, DoD must control access to the MRS 24 hours per day, every day of the calendar year.	0
Status of Property	**DIRECTIONS: Record the single highest score from above in the box to the right (maximum score = 5).**	0

Site-specific characteristics used to select the EASE OF ACCESS classification:

Reference (Section, Page #):	5.2,5-1/6.1,6-1

Installation: CANNON AIR FORCE BASE

MAJCOM: AFSOC **MRAID:** TS835 **MRS:** TS835

FFID: NM7572124454

Table 6

EHE Module: Population Density Data Element Worksheet

Classification	Description	Score
> 500 persons per square mile	- There are more than 500 persons per square mile in the county in which the MRS is located, based on U.S. Census Bureau data.	5
100- 500 persons per square mile	- There are 100 to 500 persons per square mile in the county in which the MRS is located, based on U.S. Census Bureau data.	3
< 100 persons per square mile	- There are fewer than 100 persons per square mile in the county in which the MRS is located, based on U.S. Census Bureau data.	1
Population Density	**DIRECTIONS: Record the single highest score from above in the box to the right (maximum score = 5).**	1

Site-specific characteristics that helped select the POPULATION DENSITY classification

Reference (Section, Page #):	5.4,5-1,2.1,2-1,5.1,5-1

Installation: CANNON AIR FORCE BASE
MAJCOM: AFSOC **MRAID:** TS835 **MRS:** TS835
FFID: NM7572124454

Table 7

EHE Module: Population Near Hazard Data Element Worksheet

Classification	Description	Score
26 or more inhabited structures	- There are 26 or more inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	5
16 to 25 inhabited structures	- There are 16 to 25 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	4
11 to 15 inhabited structures	- There are 11 to 15 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	3
6 to 10 inhabited structures	- There are 6 to 10 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	2
1 to 5 inhabited structures	- There are 1 to 5 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	1
0 inhabited structures	- There are no inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	0
Population Near Hazard	**DIRECTIONS: Record the single highest score from above in the box to the right (maximum score = 5).**	5

Site-specific data characteristics used to select the POPULATION NEAR HAZARD classification:

Reference (Section, Page #):	5.4,5-1,2.1,2-1,5.1,5-1

Installation: CANNON AIR FORCE BASE
MAJCOM: AFSOC **MRAID:** TS835 **MRS:** TS835
FFID: NM7572124454

Table 8

EHE Module: Types of Activities/Structures Data Element Worksheet

Classification	Description	Score
Residential. educational, or subsitence	- Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with any of the following purposes: residential, educational, child care, critical assets (e.g., hospitals, fire and rescue, police stations, dams), hotels, commercial, shopping centers, playgrounds, community gathering areas, religious sites, or sites used for subsistence hunting, fishing, and gathering.	5
Parks and recreational areas	- Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with parks, nature preserves, or other recreational uses.	4
Agricultural, forestry	- Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with agriculture or forestry.	3
Industrial or warehousing	- Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with industrial activities or warehousing.	2
No known or recurring activities	- There are no known or recurring activities occurring up to two miles from the MRS's boundary or within the MRS's boundary.	1
Types of Activites/Structures	**DIRECTIONS: Record the single highest score from above in the box to the right (maximum score = 5).**	5

Site-specific data characteristics used to select the LOCATION OF MUNITIONS classification:

Reference (Section, Page #):	5.4,5-1,2.1,2-1,5.1,5-1

Installation: CANNON AIR FORCE BASE

MAJCOM: AFSOC **MRAID:** TS835 **MRS:** TS835

FFID: NM7572124454

Table 9

EHE Module: Ecological and/or Cultural Resources Data Element Worksheet

Classification	Description	Score
Ecological and cultural resources present	- There are both ecological and cultural resources present on the MRS.	5
Ecological resources present	- There are ecological resources present on the MRS.	3
Cultural resources present	- There are cultural resources present on the MRS.	3
No ecological or cultural resources present	- There are no ecological resources or cultural resources present on the MRS.	0
Ecological and/or Cultural Resources	**DIRECTIONS: Record the single highest score from above in the box to the right (maximum score = 5).**	0

Site-specific characteristics used to select the ECOLOGICAL AND/OR CULTURAL RESOURCES classification:

Reference (Section, Page #):	5.4,5-1,2.1,2-1,5.1,5-1

Installation: CANNON AIR FORCE BASE
MAJCOM: AFSOC **MRAID:** TS835 **MRS:** TS835
FFID: NM7572124454

Table 10

Determining the EHE Module Rating

	Source	Score
Explosive Hazard Factor Data Elements		
Munitions Type	**Table 1**	2
Source of Hazard	**Table 2**	1
Accessibility Factor Data Elements		
Information on Location of Munitions	**Table 3**	1
Ease of Access	**Table 4**	10
Status of Property	**Table 5**	0
Receptors Factor Data Elements		
Population Density	**Table 6**	1
Population Near Hazard	**Table 7**	5
Types of Activities/Structures	**Table 8**	5
Ecological and/or Cultural Resources	**Table 9**	0
	Sum	25

EHE Module Value	EHE Module Rating
92 to 100	**A**
82 to 91	**B**
71 to 81	**C**
60 to 70	**D**
48 to 59	**E**
38 to 47	**F**
less than 38	**G**
Alternative Module Ratings	**Prioritization No Longer Required**
	No Known or Suspected Explosive Hazard
	Evaluation Pending

Installation: CANNON AIR FORCE BASE
MAJCOM: AFSOC **MRAID:** TS835 **MRS:** TS835
FFID: NM7572124454

Table 20

Determining the CHE Module Rating

	Source	Score
CWM Hazard Factor Data Elements		
CWM Configuration	**Table 11**	N/A
Source of CWM	**Table 12**	N/A
Accessibility Factor Data Elements		
Information on Location of Munitions	**Table 13**	N/A
Ease of Access	**Table 14**	N/A
Status of Property	**Table 15**	N/A
Receptors Factor Data Elements		
Population Density	**Table 16**	N/A
Population Near Hazard	**Table 17**	N/A
Types of Activities/Structures	**Table 18**	N/A
Ecological and/or Cultural Resources	**Table 19**	N/A
	Sum	N/A

CHE Module Value	CHE Module Rating
92 to 100	**A**
82 to 91	**B**
71 to 81	**C**
60 to 70	**D**
48 to 59	**E**
38 to 47	**F**
less than 38	**G**
Alternative Module Ratings	**Prioritization No Longer Required**
	No Known or Suspected CWM Hazard
	Evaluation Pending

Tables 11-19 were not generated because there is no known or suspected CWM hazard at the MRS.

Installation: CANNON AIR FORCE BASE
MAJCOM: AFSOC **MRAID:** TS835 **MRS:** TS835
FFID: NM7572124454

Table 21

HHE Module: Groundwater Data Element Worksheet

Contaminant	Maximum Concentration (ug/L)	Comparison Value (ug/L)	Ratios
CHF Scale	**CHF Value**	**Contamination Hazard Factor (CHF)**	**No Data**
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CHF Value		**CHF VALUE**	**NA**

Migratory Pathway Factor		
Evident	Analytical data or observable evidence indicates that contamination in the groundwater is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in groundwater has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the groundwater to a potential point of exposure (possibly due to geological structures or physical controls).	L
Migratory Pathway Factor	The single highest value from above in the box to the right (maximum value = H).	NA
Receptor Factor		
Identified	There is a threatened water supply well downgradient of the source and the groundwater is a current source of drinking water or source of water for other beneficial uses such as irrigation/agriculture (equivalent to Class I or IIA aquifer).	H
Potential	There is no threatened water supply well downgradient of the source and the groundwater is currently or potentially usable for drinking water, irrigation, or agriculture (equivalent to Class I, IIA, or IIB aquifer).	M
Limited	There is no potentially threatened water supply well downgradient of the source and the groundwater is not considered a potential source of drinking water and is of limited beneficial use (equivalent to Class IIIA or IIIB aquifer, or where perched aquifer exists only).	L
Receptor Factor	The single highest value from above in the box to the right (maximum value = H).	NA

Alternative Module Ratings	Prioritization No Longer Required
	No Known or Suspected Hazard

Rationale for Selection of MPF:

Rationale for Selection of RF:

Sample comments:

No groundwater samples were collected because no significant impact to groundwater was expected. Human and ecological receptors are not likely to come into contact with the groundwater medium at Cannon AFB. Groundwater at 250ft bgs.

Reference (Section, Page #):

8.2.3,8-6

Installation: CANNON AIR FORCE BASE
MAJCOM: AFSOC **MRAID:** TS835 **MRS:** TS835
FFID: NM7572124454

Table 22

HHE Module: Surface Water - Human Endpoint Data Element Worksheet

Contaminant	Maximum Concentration (ug/L)	Comparison Value (ug/L)	Ratios
CHF Scale	**CHF Value**	**Contamination Hazard Factor (CHF)**	**No Data**
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CHF Value		**CHF VALUE**	**NA**

Migratory Pathway Factor		
Evident	Analytical data or observable evidence indicates that contamination in the surface water is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface water has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface water to a potential point of exposure (possibly due to geological structures or physical controls).	L
Migratory Pathway Factor	The single highest value from above in the box to the right (maximum value = H).	NA
Receptor Factor		
Identified	Identified receptors to have access to surface water to whick contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface water to whick contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface water to whick contamination has moved or can move.	L
Receptor Factor	The single highest value from above in the box to the right (maximum value = H).	NA

Alternative Module Ratings	Prioritization No Longer Required
	No Known or Suspected Hazard

Rationale for Selection of MPF:

Rationale for Selection of RF:

Sample comments:

No surface water on/near MRS. No surface water to sample.

Reference (Section, Page #):

Installation: CANNON AIR FORCE BASE
MAJCOM: AFSOC **MRAID:** TS835 **MRS:** TS835
FFID: NM7572124454

Table 23

HHE Module: Sediment - Human Endpoint Data Element Worksheet

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios
CHF Scale	**CHF Value**	**Contamination Hazard Factor (CHF)**	**No Data**
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CHF Value		**CHF VALUE**	**NA**

Migratory Pathway Factor		
Evident	Analytical data or observable evidence indicates that contamination in the sediment is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in sediment has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the sediment to a potential point of exposure (possibly due to geological structures or physical controls).	L
Migratory Pathway Factor	The single highest value from above in the box to the right (maximum value = H).	NA

Receptor Factor		
Identified	Identified receptors to have access to sediment to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to sediment to which contamination has moved or can move	M
Limited	Little or no potential for receptors to have access to sediment to which contamination has moved or can move	L
Receptor Factor	The single highest value from above in the box to the right (maximum value = H).	NA

Alternative Module Ratings	Prioritization No Longer Required
	No Known or Suspected Hazard

Rationale for Selection of MPF:

Rationale for Selection of RF:

Sample comments:
No bodies of water on/near MRS. No sediment to sample.

Reference (Section, Page #):

Installation: CANNON AIR FORCE BASE
MAJCOM: AFSOC **MRAID:** TS835 **MRS:** TS835
FFID: NM7572124454

Table 24

HHE Module: Surface Water - Ecological Data Element Worksheet

Contaminant	Maximum Concentration (ug/L)	Comparison Value (ug/L)	Ratios
CHF Scale	**CHF Value**	**Contamination Hazard Factor (CHF)**	**No Data**
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CHF Value		**CHF VALUE**	**NA**

Migratory Pathway Factor		
Evident	Analytical data or observable evidence indicates that contamination in the surface water is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface water has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface water to a potential point of exposure (possibly due to geological structures or physical controls).	L
Migratory Pathway Factor	The single highest value from above in the box to the right (maximum value = H).	NA
Receptor Factor		
Identified	Identified receptors have access to surface water to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface water to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface water to which contamination has moved or can move.	L
Receptor Factor	The single highest value from above in the box to the right (maximum value = H).	NA

Alternative Module Ratings	Prioritization No Longer Required
	No Known or Suspected Hazard

Rationale for Selection of MPF:

Rationale for Selection of RF:

Sample comments:

No surface water on/near MRS. No surface water to sample.

Reference (Section, Page #):

Installation: CANNON AIR FORCE BASE
MAJCOM: AFSOC **MRAID:** TS835 **MRS:** TS835
FFID: NM7572124454

Table 25

HHE Module: Sediment - Ecological Endpoint Data Element Worksheet

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios
CHF Scale	CHF Value	Contamination Hazard Factor (CHF)	No Data
CHF > 100	H (High)	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	M (Medium)		
2 > CHF	L (Low)		
CHF Value		CHF VALUE	NA

Migratory Pathway Factor		
Evident	Analytical data or observable evidence indicates that contamination in the sediment is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in sediment has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the sediment to a potential point of exposure (possibly due to geological structures or physical controls).	L
Migratory Pathway Factor	The single highest value from above in the box to the right (maximum value = H).	NA

Receptor Factor		
Identified	Identified receptors to have access to sediment to which contamination has moved or can move.	H
Potential	potential for receptors to have access to sediment to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to sediment to which contamination has moved or can move.	L
Receptor Factor	The single highest value from above in the box to the right (maximum value = H).	NA

Alternative Module Ratings	Prioritization No Longer Required
	No Known or Suspected Hazard

Rationale for Selection of MPF:

Rationale for Selection of RF

Sample comments:

No bodies of water on/near MRS. No sediment to sample.

Reference (Section, Page #):

Installation: CANNON AIR FORCE BASE
MAJCOM: AFSOC **MRAID:** TS835 **MRS:** TS835
FFID: NM7572124454

Table 26

HHE Module: Soil - Data Element Worksheet

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios
Lead	26	400	0.1
Pyrene	2300	2300	1.0
Naphthalene	31.9	56	0.6
Indeno[1,2,3-cd]pyrene	8430	62	136.0
Fluorene	80.9	2700	0.0
Fluoranthene	3390	2300	1.5
Dibenz[ah]anthracene	3700	6.2	596.8
Chrysene	3490	6200	0.6
Benzo[k]fluoranthene	6940	620	11.2
Benzo[b]fluoranthene	4440	62	71.6
Benzo[a]pyrene	10200	6.2	1645.2
Anthracene	293	22000	0.0
Acenaphthene	1450	3700	0.4
2-Methylnaphthalene	28.3	310	0.1
CHF Scale	**CHF Value**	**Contamination Hazard Factor (CHF)**	**2464.9**
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CHF Value		**CHF VALUE**	**H**

Migratory Pathway Factor		
Evident	Analytical data or observable evidence indicates that contamination in the soil is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in soil has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the soil to a potential point of exposure (possibly due to geological structures or physical controls).	L
Migratory Pathway Factor	The single highest value from above in the box to the right (maximum value = H).	M

Receptor Factor		
Identified	Identified receptors to have access to soil to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to soil to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to soil to which contamination has moved or can move.	L
Receptor Factor	The single highest value from above in the box to the right (maximum value = H).	M

Alternative Module Ratings	
	Prioritization No Longer Required
	No Known or Suspected Hazard

Rationale for Selection of MPF:
Only small arms use at the MRS.

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FFID: NM7572124454

Rationale for Selection of RF:

No ecological receptors. Most soil covered by grass.

Sample comments:

PAH samples above USEPA RSLs. PAH results in ug/kg. Lead at low concentrations - below the USEPA RSL of 400ppm.

Reference (Section, Page #):

5.6.3.1, 5-11 /5.6.3.2.1, 5-16 to 5-19

Installation: CANNON AIR FORCE BASE
MAJCOM: AFSOC **MRAID:** TS835 **MRS:** TS835
FFID: NM7572124454

Table 27

Determining the HHE Module Rating

Media Source	Contaminant Hazard Factor	Migratory Pathway Factor Value	Receptor Factor Value	3-Letter Ratings (Hs-Ms-Ls)	Media Rating (A-G)
Groundwater (Table 21)	NA	NA	NA	NA	NA
Surface Water/Human Endpoint (Table 22)	NA	NA	NA	NA	NA
Sediment/Human Endpoint (Table 23)	NA	NA	NA	NA	NA
Surface Water/Ecological Endpoint (Table 24)	NA	NA	NA	NA	NA
Sediment/Ecological Endpoint (Table 25)	NA	NA	NA	NA	NA
Soil (Table 26)	H	M	M	HMM	C

HHE Ratings (for reference only)	
Combination	Rating
HHH	A
HHM	B
HHL HMM	C
HML MMM	D
HLL MML	E
MLL	F
LLL	G
Alternative Module Ratings	Prioritization No Longer Required
	No Known or Suspected MC Hazard
	Evaluation Pending
HHE Module Ratings	C

Installation: CANNON AIR FORCE BASE
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Table 28

MRS Priority

EHE Rating	Priority	CHE Rating	Priority	HHE Rating	Priority
		A	1		
A	2	B	2	A	2
B	3	C	3	B	3
C	4	D	4	C	4
D	5	E	5	D	5
E	6	F	6	E	6
F	7	G	7	F	7
G	8			G	8
Prioritization No Longer Required		Prioritization No Longer Required		Prioritization No Longer Required	
No Known or Suspected Hazard		No Known or Suspected Hazard		No Known or Suspected Hazard	
Evaluation Pending		Evaluation Pending		Evaluation Pending	
			MRS Priority	4	

Installation: CANNON AIR FORCE BASE
MAJCOM: AFSOC **MRAID:** TS835 **MRS:** TS835a
FFID: NM7572124454

Table A

MRS Background Information

Munitions Response Site Name: 1940s Skeet Range - TS835a

Component: Air Force

Installation/Property Name: CANNON AIR FORCE BASE

Location (City, County, State): Clovis, Curry County, NM

Site Name/Project name (Project No.): 1940s Skeet Range - TS835a

Date Information Entered\Updated: 4/2/2012 4:49:55 PM

Point of Contact Name: MATHEW HIGGINBOTHAM **Point of Contact Phone:** (575) 784-1092

Project Phase (check only one):

☐ PA	☑ SI	☐ RI	☐ FS	☐ RD
☐ RA	☐ RIP	☐ RC		

Media Evaluated (check all that apply):

☐ Groundwater	☐ Sediment (human receptor)
☑ Surface soil	☐ Surface Water (ecological receptor)
☐ Sediment (ecological receptor)	☐ Surface Water (human receptor)

MRS Summary:

MRS Description: Describe the munitions-related activities that occurred at the installation, the dates of operation, and the UXO, DMM, or MC known or suspected to be present. When possible, identify munitions, CWM, and MC by type:

MRS TS835a is located in the northeast portion of the Base, just north of the Former Ordnance/Current Munitions Storage Area. MRS TS835a is the on-base portion of MRA TS835 where no munitions debris was discovered during the Comprehensive Site Evaluation Phase II visual survey. The MRA range was oriented to the northeast. MRS TS835a does not contain any structures. The area generally consists of an open field with a sparse vegetative cover of low grasses. The topography is relatively flat, sloping gently to the southeast. The soil type at the MRS was generally fine sandy loam.

Description of Pathways for Human and Ecological Receptors:

There is no historical or physical evidence of explosive MEC associated with the MRS. Therefore, exposure to MEC is not applicable for this MRA. Only military munitions use identified at this MRA are associated with small arms. Once fired, these may result in release of MC. No sensitive ecological populations, habitat, or natural resources are at or adjacent to the site. Consequently, a biological assessment for impact from munitions-related activities is not warranted. Human and ecological receptors are not likely to come into contact with the groundwater medium at Cannon AFB. However, as previously stated, there is no historical or physical evidence of MEC at the Cannon AFB MRA; therefore, the potential pathways associated with the above listed receptors are considered incomplete with respect to MEC. The Modified CSE Phase I (USACE,2009) found that there is a there are no wetlands in the vicinity of the MRA, and the depth to groundwater is approximately 250 ft (CH2M Hill, 1983).

Description of Receptors (Human and Ecological):

The MRS is located amidst an active airfield, operational buildings, and recreational areas, in an area of maintained grasses. Cannon AFB is located approximately 8 miles west of the city of Clovis, in Curry County, New Mexico. It had a population estimate of 32,863 people in 2009 (U.S. Census, 2011). In 2009, the population density of Curry County was 32 persons per square mile (U.S. Census, 2011). The off-base portion of the MRA extending onto the Rajen Dairy Property contains four buildings. Numerous buildings are located within a one-mile radius of the MRA. There are more than 26 buildings within a 2-mile radius of the MRS.
The receptors that were considered for Cannon AFB were: authorized installation personnel, authorized contractors and visitors, trespassers, and biota.
Most of the vegetation at the site is grass typical of semiarid short grass prairies (CH2M Hill, 1983). The black-tailed prairie dog is a Federal Endangered Species Act candidate animal that has been found at the Base, however, according to the CSE Phase I, no black-tailed prairie dogs were found to be present at the MRS (USACE, 2009). Most biota would not likely find suitable habitat in the grassy areas with limited cover. The current land use of the MRS is private property mainly used for storage. Therefore, no ecological receptors are considered for the SR.

Installation: CANNON AIR FORCE BASE

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Reference (Section, Page #):

GENERAL - 2.1,2-1/2.3.1-2.3.2,2-5/2.4,2-6/8.0, 8-1 to 8-6/9.2,9-1/10.2,10-1,10.3,10-1, LOCATION - 5.1, 5-1, POC - N/A, CONTRACTOR - N/A

Installation: CANNON AIR FORCE BASE

MAJCOM: AFSOC **MRAID:** TS835 **MRS:** TS835a

FFID: NM7572124454

Table 1

EHE Module: Munitions Type Data Element Worksheet

Classification	Description	Score
Sensitive	- All UXO that are considered likely to function upon any interaction with exposed persons [e.g., submunitions, 40mm high explosive (HE) grenades, white phosphorus (WP) munitions, high-explosive antitank (HEAT) munitions, and practice munitions with sensitive fuzes, but excluding all other practice munitions]. - All hand grenades containing energetic filler. - Bulk primary explosives, or mixtures of these with environmental media, such that the mixture poses an explosive hazard.	30

High explosive (used or damaged)	- All UXO containing a high-explosive filler (e.g., RDX, Composition B), that are not considered "sensitive."
	- All DMM containing a high-explosive filler that have:
	  - Been damaged by burning or detonation
	  - Deteriorated to the point of instability.
		25

Pyrotechnic (used or damaged)	- All UXO containing pyrotechnic fillers other than white phosphorous (e.g., flares, signals, simulators, smoke grenades).
	- All DMM containing pyrotechnic fillers other than white phosphorous (e.g., flares, signals, simulators, smoke grenades) that have:
	  - Been damaged by burning or detonation
	  - Deteriorated to the point of instability.
		20

High explosive (unused)	- All DMM containing a high explosive filler that:
	  - Have not been damaged by burning or detonation
	  - Are not deteriorated to the point of instability.
		15

Propellant	- All UXO containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor).
	- All DMM containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor) that are:
	  - Damaged by burning or detonation
	  - Deteriorated to the point of instability.
		15

Bulk secondary high explosives, pyrotechnics, or propellant	- All DMM containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor), that are deteriorated. - Bulk secondary high explosives, pyrotechnic compositions, or propellant (not contained in a munition), or mixtures of these with environmental media such that the mixture poses an explosive hazard.	10

Pyrotechnic (not used or damaged)	- All DMM containing a pyrotechnic fillers (i.e., red phosphorous), other than white phosphorous filler, that:
	  - Have not been damaged by burning or detonation
	  - Are not deteriorated to the point of instability.
		10

Practice	- All UXO that are practice munitions that are not associated with a sensitive fuze.
	- All DMM that are practice munitions that are not associated with a sensitive fuze and that have not:
	  - Been damaged by burning or detonation
	  - Deteriorated to the point of instability.
		5

Riot control	- All UXO or DMM containing a riot control agent filler (e.g., tear gas).	3
Small arms	- All used munitions or DMM that are categorized as small arms ammunition [Physical evidence or historical evidence that no other types of munitions (e.g., grenades, subcaliber training rockets) were used or are present on the MRS is required for selection of this category.].	2
Evidence of no munitions	- Following investigation of the MRS, there is physical evidence that there are no UXO or DMM present, or there is historical evidence indicating that no UXO or DMM are present.	0
MUNITIONS TYPE	**DIRECTIONS: Record the single highest score from above in the box to the right (maximum score = 30).**	2

Site-specific data used in selection MUNITIONS TYPE classification:

CSE Phase I described area as small arms use only - former skeet range. No munitions debris found in this MRS during the CSE Phase II visual survey.

Reference (Section, Page #): 2.3.1,2-5/6.5,6-1/4.1,4-1

Installation: CANNON AIR FORCE BASE

MAJCOM: AFSOC **MRAID:** TS835 **MRS:** TS835a

FFID: NM7572124454

Table 2

EHE Module: Source of Hazard Data Element Worksheet

Classification	Description	Score
Former Range	- The MRS is a former military range where munitions (including practice munitions with sensitive fuzes) have been used. Such areas include: impact or target areas, associated buffer and safety zones, firing points, and live-fire maneuver areas.	10
Former Munitions treatment (i.e., OB/OD unit)	- The MRS is a location where UXO or DMM (e.g., munitions, bulk explosives, bulk pyrotechnic, or bulk propellants) were burned or detonated for the purpose of treatment prior to disposal.	8
Former practice munitions range	- The MRS is a former military range on which only practice munitions without sensitive fuzes were used.	6
Former maneuver area	- The MRS is a former maneuver area where no munitions other than flares, simulators, smokes, and blanks were used. There must be evidence that no other munitions were used at the location to place an MRS into this category.	5
Former burial pit or other disposal area	- The MRS is a location where DMM were buried or disposed of (e.g., disposed of into a water body) without prior thermal treatment.	5
Former industrial operating facilities	- The MRS is a location that is a former munitions maintenance, manufacturing, or demilitarization facility.	4
Former firing points	- The MRS is a firing point, where the firing point is delineated as an MRS separate from the rest of a former military range.	4
Former missile or air defense artillery emplacements	- The MRS is a former missile defense or air defense artillery (ADA) emplacement not associated with a military range.	2
Former storage or transfer points	- The MRS is a location where munitions were stored or handled for transfer between different modes of transportation (e.g., rail to truck, truck to weapon system).	2
Former small arms range	- The MRS is a former military range where only small arms ammunition was used [There must be evidence that no other types of munitions (e.g., grenades) were used or are present to place an MRS into this category.].	1
Evidence of no munitions	- Following investigation of the MRS, there is physical evidence that no UXO or DMM are present, or there is historical evidence indicating that no UXO or DMM are present.	0
Source of Hazard	**DIRECTIONS: Record the single highest score from above in the box to the right (maximum score = 10).**	1

Site-specific data characteristics used to select the SOURCE OF HAZARD classification:

CSE Phase I described area as small arms use only - former skeet range. No munitions debris found in this MRS during the CSE Phase II visual survey.

Reference (Section, Page #): 2.3.1,2-5/6.5,6-1/4.1,4-1

Installation: CANNON AIR FORCE BASE
MAJCOM: AFSOC **MRAID:** TS835 **MRS:** TS835a
FFID: NM7572124454

Table 3

EHE Module: Information on the Location of Munitions Data Element Worksheet

Classification	Description	Score
Confirmed surface	- Physical evidence indicates that there are UXO or DMM on the surface of the MRS - Historical evidence (e.g., a confirmed incident report or accident report) indicates there are UXO or DMM on the surface of the MRS.	25
Confirmed subsurface, active	- Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS, and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena (e.g., drought, flooding, erosion, frost, heat heave, tidal action), or intrusive activities (e.g., plowing, construction, dredging) at the MRS are likely to expose UXO or DMM. - Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena (e.g., drought, flooding, erosion, frost, heat heave, tidal action), or intrusive activities (e.g., plowing, construction, dredging) at the MRS are likely to expose UXO or DMM.	20
Confirmed subsurface, stable	- Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena, or intrusive activities at the MRS are not likely to cause UXO or DMM to be exposed. - Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena, or intrusive activities at the MRS are not likely to cause UXO or DMM to be exposed.	15
Suspected (physical evidence)	- There is physical evidence (e.g., munitions debris, such fragments, penetrators, projectiles, shell casings, links, fins), other than the documented presence of UXO or DMM, indicating that UXO or DMM may be present at the MRS.	10
Suspected (historical evidence)	- There is historical evidence indicating that UXO or DMM may be present at the MRS.	5
Subsurface, physical constraint	- There is physical or historical evidence indicating that UXO or DMM may be present in the subsurface, but there is a physical constraint (e.g., pavement, water depth over 120 feet) preventing direct access to the UXO or DMM.	2
Small arms range (regardless of location	- The presence of small arms ammunition is confirmed or suspected, regardless of other factors such as geological stability [There must be evidence that no other types of munitions (e.g., grenades) were used or are present at the MRS to place an MRS into this category.].	1
Evidence of no munitions	- Following investigation of the MRS, there is physical evidence that there are no UXO or DMM present, or there is historical evidence indicating that no UXO or DMM are present.	0
Location of Munitions	**DIRECTIONS: Record the single highest score from above in the box to the right (maximum score = 25).**	1

Site-specific data characteristics used to select the LOCATION OF MUNITIONS classification:

CSE Phase I described area as small arms use only - former skeet range. No munitions debris found in this MRS during the CSE Phase II visual survey.

Reference (Section, Page #):	2.3.1,2-5/6.5,6-1/4.1,4-1

Installation: CANNON AIR FORCE BASE

MAJCOM: AFSOC **MRAID:** TS835 **MRS:** TS835a

FFID: NM7572124454

Table 4

EHE Module: Ease of Access Data Element Worksheet

Classification	Description	Score
No barrier	- There is no barrier preventing access to any part of the MRS (i.e., all parts of the MRS are accessible).	10
Barrier to MRS access is incomplete	- There is a barrier preventing access to parts of the MRS, but not the entire MRS.	8
Barrier to MRS access is complete but not monitored	- There is a barrier preventing access to all parts of the MRS, but there is no surveillance (e.g., by a guard) to ensure that the barrier is effectively preventing access to all parts of the MRS.	5
Barrier to MRS access is complete and monitored	- There is a barrier preventing access to all parts of the MRS, and there is active, continual surveillance (e.g., by a guard, video monitoring) to ensure that the barrier is effectively preventing access to all parts of the MRS.	0
Ease of Access	**DIRECTIONS: Record the single highest score from above in the box to the right (maximum score = 10).**	10

Site-specific characteristics used to select the EASE OF ACCESS classification:

Reference (Section, Page #):	5.4,5-1/2.1,2-1/5.1,5-1/

Installation: CANNON AIR FORCE BASE
MAJCOM: AFSOC **MRAID:** TS835 **MRS:** TS835a
FFID: NM7572124454

Table 5

EHE Module: Status of Property Data Element Worksheet

Classification	Description	Score
Non-DoD control	- The MRS is at a location that is no longer owned by, leased to, or otherwise possessed or used by DoD. Examples are privately owned land or water bodies; land or water bodies owned or controlled by state, tribal, or local governments; and land or water bodies managed by other federal agencies.	5
Scheduled for transfer from DoD control	- The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD, and DoD plans to transfer that land or water body to the control of another entity (e.g., a state, tribal, or local government; a private party; another federal agency) within 3 years from the date the rule is applied.	3
DoD control	- The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD. With respect to property that is leased or otherwise possessed, DoD must control access to the MRS 24 hours per day, every day of the calendar year.	0
Status of Property	**DIRECTIONS: Record the single highest score from above in the box to the right (maximum score = 5).**	0

Site-specific characteristics used to select the EASE OF ACCESS classification:

Reference (Section, Page #):	2.3.1,2-5/6.5,6-1/4.1,4-1

Installation: CANNON AIR FORCE BASE

MAJCOM: AFSOC **MRAID:** TS835 **MRS:** TS835a

FFID: NM7572124454

Table 6

EHE Module: Population Density Data Element Worksheet

Classification	Description	Score
> 500 persons per square mile	- There are more than 500 persons per square mile in the county in which the MRS is located, based on U.S. Census Bureau data.	5
100- 500 persons per square mile	- There are 100 to 500 persons per square mile in the county in which the MRS is located, based on U.S. Census Bureau data.	3
< 100 persons per square mile	- There are fewer than 100 persons per square mile in the county in which the MRS is located, based on U.S. Census Bureau data.	1
Population Density	**DIRECTIONS: Record the single highest score from above in the box to the right (maximum score = 5).**	1

Site-specific characteristics that helped select the POPULATION DENSITY classification

Reference (Section, Page #):	5.4,5-1/2.1,2-1/5.1,5-1/

Installation: CANNON AIR FORCE BASE
MAJCOM: AFSOC **MRAID:** TS835 **MRS:** TS835a
FFID: NM7572124454

Table 7

EHE Module: Population Near Hazard Data Element Worksheet

Classification	Description	Score
26 or more inhabited structures	- There are 26 or more inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	5
16 to 25 inhabited structures	- There are 16 to 25 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	4
11 to 15 inhabited structures	- There are 11 to 15 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	3
6 to 10 inhabited structures	- There are 6 to 10 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	2
1 to 5 inhabited structures	- There are 1 to 5 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	1
0 inhabited structures	- There are no inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	0
Population Near Hazard	**DIRECTIONS: Record the single highest score from above in the box to the right (maximum score = 5).**	5

Site-specific data characteristics used to select the POPULATION NEAR HAZARD classification:

Reference (Section, Page #):	5.4,5-1/2.1,2-1/5.1,5-1/

Installation: CANNON AIR FORCE BASE
MAJCOM: AFSOC **MRAID:** TS835 **MRS:** TS835a
FFID: NM7572124454

Table 8

EHE Module: Types of Activities/Structures Data Element Worksheet

Classification	Description	Score
Residential. educational, or subsitence	- Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with any of the following purposes: residential, educational, child care, critical assets (e.g., hospitals, fire and rescue, police stations, dams), hotels, commercial, shopping centers, playgrounds, community gathering areas, religious sites, or sites used for subsistence hunting, fishing, and gathering.	5
Parks and recreational areas	- Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with parks, nature preserves, or other recreational uses.	4
Agricultural, forestry	- Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with agriculture or forestry.	3
Industrial or warehousing	- Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with industrial activities or warehousing.	2
No known or recurring activities	- There are no known or recurring activities occurring up to two miles from the MRS's boundary or within the MRS's boundary.	1
Types of Activites/Structures	**DIRECTIONS: Record the single highest score from above in the box to the right (maximum score = 5).**	5

Site-specific data characteristics used to select the LOCATION OF MUNITIONS classification:

Reference (Section, Page #):	5.4,5-1/2.1,2-1/5.1,5-1/

Installation: CANNON AIR FORCE BASE

MAJCOM: AFSOC **MRAID:** TS835 **MRS:** TS835a

FFID: NM7572124454

Table 9

EHE Module: Ecological and/or Cultural Resources Data Element Worksheet

Classification	Description	Score
Ecological and cultural resources present	- There are both ecological and cultural resources present on the MRS.	5
Ecological resources present	- There are ecological resources present on the MRS.	3
Cultural resources present	- There are cultural resources present on the MRS.	3
No ecological or cultural resources present	- There are no ecological resources or cultural resources present on the MRS.	0
Ecological and/or Cultural Resources	**DIRECTIONS: Record the single highest score from above in the box to the right (maximum score = 5).**	0

Site-specific characteristics used to select the ECOLOGICAL AND/OR CULTURAL RESOURCES classification:

Reference (Section, Page #):	5.4,5-1/2.1,2-1/5.1,5-1/

Installation: CANNON AIR FORCE BASE
MAJCOM: AFSOC **MRAID:** TS835 **MRS:** TS835a
FFID: NM7572124454

Table 10

Determining the EHE Module Rating

	Source	Score
Explosive Hazard Factor Data Elements		
Munitions Type	**Table 1**	2
Source of Hazard	**Table 2**	1
Accessibility Factor Data Elements		
Information on Location of Munitions	**Table 3**	1
Ease of Access	**Table 4**	10
Status of Property	**Table 5**	0
Receptors Factor Data Elements		
Population Density	**Table 6**	1
Population Near Hazard	**Table 7**	5
Types of Activities/Structures	**Table 8**	5
Ecological and/or Cultural Resources	**Table 9**	0
	Sum	25

EHE Module Value	EHE Module Rating
92 to 100	**A**
82 to 91	**B**
71 to 81	**C**
60 to 70	**D**
48 to 59	**E**
38 to 47	**F**
less than 38	**G**
Alternative Module Ratings	**Prioritization No Longer Required**
	No Known or Suspected Explosive Hazard
	Evaluation Pending

Installation: CANNON AIR FORCE BASE
MAJCOM: AFSOC **MRAID:** TS835 **MRS:** TS835a
FFID: NM7572124454

Table 20

Determining the CHE Module Rating

	Source	Score
CWM Hazard Factor Data Elements		
CWM Configuration	**Table 11**	N/A
Source of CWM	**Table 12**	N/A
Accessibility Factor Data Elements		
Information on Location of Munitions	**Table 13**	N/A
Ease of Access	**Table 14**	N/A
Status of Property	**Table 15**	N/A
Receptors Factor Data Elements		
Population Density	**Table 16**	N/A
Population Near Hazard	**Table 17**	N/A
Types of Activities/Structures	**Table 18**	N/A
Ecological and/or Cultural Resources	**Table 19**	N/A
	Sum	N/A

CHE Module Value	CHE Module Rating
92 to 100	**A**
82 to 91	**B**
71 to 81	**C**
60 to 70	**D**
48 to 59	**E**
38 to 47	**F**
less than 38	**G**
Alternative Module Ratings	**Prioritization No Longer Required**
	No Known or Suspected CWM Hazard
	Evaluation Pending

Tables 11-19 were not generated because there is no known or suspected CWM hazard at the MRS.

Installation: CANNON AIR FORCE BASE
MAJCOM: AFSOC **MRAID:** TS835 **MRS:** TS835a
FFID: NM7572124454

Table 21

HHE Module: Groundwater Data Element Worksheet

Contaminant	Maximum Concentration (ug/L)	Comparison Value (ug/L)	Ratios
CHF Scale	**CHF Value**	**Contamination Hazard Factor (CHF)**	**No Data**
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CHF Value		**CHF VALUE**	**NA**

Migratory Pathway Factor		
Evident	Analytical data or observable evidence indicates that contamination in the groundwater is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in groundwater has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the groundwater to a potential point of exposure (possibly due to geological structures or physical controls).	L
Migratory Pathway Factor	The single highest value from above in the box to the right (maximum value = H).	NA
Receptor Factor		
Identified	There is a threatened water supply well downgradient of the source and the groundwater is a current source of drinking water or source of water for other beneficial uses such as irrigation/agriculture (equivalent to Class I or IIA aquifer).	H
Potential	There is no threatened water supply well downgradient of the source and the groundwater is currently or potentially usable for drinking water, irrigation, or agriculture (equivalent to Class I, IIA, or IIB aquifer).	M
Limited	There is no potentially threatened water supply well downgradient of the source and the groundwater is not considered a potential source of drinking water and is of limited beneficial use (equivalent to Class IIIA or IIIB aquifer, or where perched aquifer exists only).	L
Receptor Factor	The single highest value from above in the box to the right (maximum value = H).	NA

Alternative Module Ratings	Prioritization No Longer Required
	No Known or Suspected Hazard

Rationale for Selection of MPF:

Rationale for Selection of RF:

Sample comments:

No significant impact to groundwater was expected. Groundwater is at 250 feet bgs.

Reference (Section, Page #):

8.2.3,8-6

Installation: CANNON AIR FORCE BASE
MAJCOM: AFSOC **MRAID:** TS835 **MRS:** TS835a
FFID: NM7572124454

Table 22

HHE Module: Surface Water - Human Endpoint Data Element Worksheet

Contaminant	Maximum Concentration (ug/L)	Comparison Value (ug/L)	Ratios
CHF Scale	**CHF Value**	**Contamination Hazard Factor (CHF)**	**No Data**
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CHF Value		**CHF VALUE**	**NA**

Migratory Pathway Factor		
Evident	Analytical data or observable evidence indicates that contamination in the surface water is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface water has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface water to a potential point of exposure (possibly due to geological structures or physical controls).	L
Migratory Pathway Factor	The single highest value from above in the box to the right (maximum value = H).	
Receptor Factor		
Identified	Identified receptors to have access to surface water to whick contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface water to whick contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface water to whick contamination has moved or can move.	L
Receptor Factor	The single highest value from above in the box to the right (maximum value = H).	

Alternative Module Ratings	Prioritization No Longer Required
	No Known or Suspected Hazard

Rationale for Selection of MPF:

Rationale for Selection of RF:

Sample comments:

No surface water on/near MRS. No surface water to sample.

Reference (Section, Page #):

8.2.2,8-5

Installation: CANNON AIR FORCE BASE
MAJCOM: AFSOC **MRAID:** TS835 **MRS:** TS835a
FFID: NM7572124454

Table 23

HHE Module: Sediment - Human Endpoint Data Element Worksheet

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios
CHF Scale	**CHF Value**	**Contamination Hazard Factor (CHF)**	**No Data**
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CHF Value		**CHF VALUE**	**NA**

Migratory Pathway Factor		
Evident	Analytical data or observable evidence indicates that contamination in the sediment is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in sediment has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the sediment to a potential point of exposure (possibly due to geological structures or physical controls).	L
Migratory Pathway Factor	The single highest value from above in the box to the right (maximum value = H).	NA

Receptor Factor		
Identified	Identified receptors to have access to sediment to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to sediment to which contamination has moved or can move	M
Limited	Little or no potential for receptors to have access to sediment to which contamination has moved or can move	L
Receptor Factor	The single highest value from above in the box to the right (maximum value = H).	NA

Alternative Module Ratings	Prioritization No Longer Required
	No Known or Suspected Hazard

Rationale for Selection of MPF:

Rationale for Selection of RF:

Sample comments:
No bodies of water on/near MRS. No sediment to sample.

Reference (Section, Page #):

Installation: CANNON AIR FORCE BASE
MAJCOM: AFSOC **MRAID:** TS835 **MRS:** TS835a
FFID: NM7572124454

Table 24

HHE Module: Surface Water - Ecological Data Element Worksheet

Contaminant	Maximum Concentration (ug/L)	Comparison Value (ug/L)	Ratios
CHF Scale	**CHF Value**	**Contamination Hazard Factor (CHF)**	**No Data**
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CHF Value		**CHF VALUE**	**NA**

Migratory Pathway Factor		
Evident	Analytical data or observable evidence indicates that contamination in the surface water is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface water has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface water to a potential point of exposure (possibly due to geological structures or physical controls).	L
Migratory Pathway Factor	The single highest value from above in the box to the right (maximum value = H).	
Receptor Factor		
Identified	Identified receptors have access to surface water to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface water to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface water to which contamination has moved or can move.	L
Receptor Factor	The single highest value from above in the box to the right (maximum value = H).	

Alternative Module Ratings	Prioritization No Longer Required
	No Known or Suspected Hazard

Rationale for Selection of MPF:

Rationale for Selection of RF:

Sample comments:

No surface water on/near MRS. No surface water to sample.

Reference (Section, Page #):

3.3,3-2/8.2.2,8-5

Installation: CANNON AIR FORCE BASE
MAJCOM: AFSOC **MRAID:** TS835 **MRS:** TS835a
FFID: NM7572124454

Table 25

HHE Module: Sediment - Ecological Endpoint Data Element Worksheet

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios
CHF Scale	CHF Value	Contamination Hazard Factor (CHF)	No Data
CHF > 100	H (High)	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	M (Medium)		
2 > CHF	L (Low)		
CHF Value		CHF VALUE	NA

Migratory Pathway Factor		
Evident	Analytical data or observable evidence indicates that contamination in the sediment is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in sediment has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the sediment to a potential point of exposure (possibly due to geological structures or physical controls).	L
Migratory Pathway Factor	The single highest value from above in the box to the right (maximum value = H).	NA

Receptor Factor		
Identified	Identified receptors to have access to sediment to which contamination has moved or can move.	H
Potential	potential for receptors to have access to sediment to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to sediment to which contamination has moved or can move.	L
Receptor Factor	The single highest value from above in the box to the right (maximum value = H).	NA

Alternative Module Ratings	Prioritization No Longer Required
	No Known or Suspected Hazard

Rationale for Selection of MPF:

Rationale for Selection of RF

Sample comments:

No bodies of water on/near MRS. No sediment to sample.

Reference (Section, Page #):

3.3,3-28/8.2.2,8-5

Installation: CANNON AIR FORCE BASE
MAJCOM: AFSOC **MRAID:** TS835 **MRS:** TS835a
FFID: NM7572124454

Table 26

HHE Module: Soil - Data Element Worksheet

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios
Lead	26	400	0.1
CHF Scale	**CHF Value**	**Contamination Hazard Factor (CHF)**	**0.1**
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CHF Value		**CHF VALUE**	**L**

Migratory Pathway Factor		
Evident	Analytical data or observable evidence indicates that contamination in the soil is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in soil has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the soil to a potential point of exposure (possibly due to geological structures or physical controls).	L
Migratory Pathway Factor	The single highest value from above in the box to the right (maximum value = H).	L

Receptor Factor		
Identified	Identified receptors to have access to soil to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to soil to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to soil to which contamination has moved or can move.	L
Receptor Factor	The single highest value from above in the box to the right (maximum value = H).	L

Alternative Module Ratings	
	Prioritization No Longer Required
	No Known or Suspected Hazard

Rationale for Selection of MPF:
Only lead with detections below USEPA RSL.

Rationale for Selection of RF:
Only lead with detections below USEPA RSL.

Sample comments:
Lead at low concentrations - below the USEPA RSL of 400ppm.

Reference (Section, Page #):
5.6.3.1, 5-11 /5.6.3.2.1, 5-16 to 5-19

Installation: CANNON AIR FORCE BASE
MAJCOM: AFSOC **MRAID:** TS835 **MRS:** TS835a
FFID: NM7572124454

Table 27

Determining the HHE Module Rating

Media Source	Contaminant Hazard Factor	Migratory Pathway Factor Value	Receptor Factor Value	3-Letter Ratings (Hs-Ms-Ls)	Media Rating (A-G)
Groundwater (Table 21)	NA	NA	NA	NA	NA
Surface Water/Human Endpoint (Table 22)	NA			NA	NA
Sediment/Human Endpoint (Table 23)	NA	NA	NA	NA	NA
Surface Water/Ecological Endpoint (Table 24)	NA			NA	NA
Sediment/Ecological Endpoint (Table 25)	NA	NA	NA	NA	NA
Soil (Table 26)	L	L	L	LLL	G

HHE Ratings (for reference only)	
Combination	Rating
HHH	A
HHM	B
HHL HMM	C
HML MMM	D
HLL MML	E
MLL	F
LLL	G
Alternative Module Ratings	Prioritization No Longer Required
	No Known or Suspected MC Hazard
	Evaluation Pending
HHE Module Ratings	G

Installation: CANNON AIR FORCE BASE
MAJCOM: AFSOC **MRAID:** TS835 **MRS:** TS835a
FFID: NM7572124454

Table 28

MRS Priority

EHE Rating	Priority	CHE Rating	Priority	HHE Rating	Priority
		A	1		
A	2	B	2	A	2
B	3	C	3	B	3
C	4	D	4	C	4
D	5	E	5	D	5
E	6	F	6	E	6
F	7	G	7	F	7
G	8			G	8
Prioritization No Longer Required		Prioritization No Longer Required		Prioritization No Longer Required	
No Known or Suspected Hazard		No Known or Suspected Hazard		No Known or Suspected Hazard	
Evaluation Pending		Evaluation Pending		Evaluation Pending	
			MRS Priority	8	

Installation: CANNON AIR FORCE BASE
MAJCOM: AFSOC **MRAID:** TS835 **MRS:** TS835b
FFID: NM7572124454

Table A

MRS Background Information

Munitions Response Site Name: 1940s Skeet Range - TS835b

Component: Air Force

Installation/Property Name: CANNON AIR FORCE BASE

Location (City, County, State): Clovis, Curry County, NM

Site Name/Project name (Project No.): 1940s Skeet Range - TS835b

Date Information Entered\Updated: 8/2/2012 9:29:51 AM

Point of Contact Name: Mathew Higginbotham **Point of Contact Phone:** (575) 784-1092

Project Phase (check only one):

☐ PA	☑ SI	☐ RI	☐ FS	☐ RD
☐ RA	☐ RIP	☐ RC		

Media Evaluated (check all that apply):

☐ Groundwater	☐ Sediment (human receptor)
☐ Surface soil	☐ Surface Water (ecological receptor)
☐ Sediment (ecological receptor)	☐ Surface Water (human receptor)

MRS Summary:

MRS Description: Describe the munitions-related activities that occurred at the installation, the dates of operation, and the UXO, DMM, or MC known or suspected to be present. When possible, identify munitions, CWM, and MC by type:

MRS TS835b is located in the northeast portion of the Base, just north of the Former Ordnance/Current Munitions Storage Area. MRS TS835b is the off-base portion of MRA TS835, which belongs to the Rajen Dairy. The MRS range was oriented to the northeast. The soil type at the MRS was generally fine sandy loam.

Description of Pathways for Human and Ecological Receptors:

There is no historical or physical evidence of explosive MEC associated with the MRS. Therefore, exposure to MEC is not applicable for this MRA. Only military munitions use identified at this MRA are associated with small arms. Once fired, these may result in release of MC. No sensitive ecological populations, habitat, or natural resources are at or adjacent to the site. Consequently, a biological assessment for impact from munitions-related activities is not warranted. Human and ecological receptors are not likely to come into contact with the groundwater medium at Cannon AFB. However, as previously stated, there is no historical or physical evidence of MEC at the Cannon AFB MRA; therefore, the potential pathways associated with the above listed receptors are considered incomplete with respect to MEC. The Modified CSE Phase I (USACE,2009) found that there is a there are no wetlands in the vicinity of the MRA, and the depth to groundwater is approximately 250 ft (CH2M Hill, 1983).

Description of Receptors (Human and Ecological):

The MRS is located amidst an active airfield, operational buildings, and recreational areas, in an area of maintained grasses. Cannon AFB is located approximately 8 miles west of the city of Clovis, in Curry County, New Mexico. It had a population estimate of 32,863 people in 2009 (U.S. Census, 2011). In 2009, the population density of Curry County was 32 persons per square mile (U.S. Census, 2011). The off-base portion of the MRA extending onto the Rajen Dairy Property contains four buildings. Numerous buildings are located within a one-mile radius of the MRA. There are more than 26 buildings within a 2-mile radius of the MRS.
The receptors that were considered for Cannon AFB were: authorized installation personnel, authorized contractors and visitors, trespassers, and biota.
Most of the vegetation at the site is grass typical of semiarid short grass prairies (CH2M Hill, 1983). The black-tailed prairie dog is a Federal Endangered Species Act candidate animal that has been found at the Base, however, according to the CSE Phase I, no black-tailed prairie dogs were found to be present at the MRS (USACE, 2009). Most biota would not likely find suitable habitat in the grassy areas with limited cover. The current land use of the MRS is private property mainly used for storage. Therefore, no ecological receptors are considered for the SR

Reference (Section, Page #):

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GENERAL - 2.1,2-1/2.3.1-2.3.2,2-5/2.4,2-6,8.0, 8-1 to 8-6/9.2,9-1/10.2,10-1,10.3,10-1, LOCATION - 5.1, 5-1, POC - N/A, CONTRACTOR - N/A

Table 1

EHE Module: Munitions Type Data Element Worksheet

Classification	Description	Score
Sensitive	- All UXO that are considered likely to function upon any interaction with exposed persons [e.g., submunitions, 40mm high explosive (HE) grenades, white phosphorus (WP) munitions, high-explosive antitank (HEAT) munitions, and practice munitions with sensitive fuzes, but excluding all other practice munitions]. - All hand grenades containing energetic filler. - Bulk primary explosives, or mixtures of these with environmental media, such that the mixture poses an explosive hazard.	30
High explosive (used or damaged)	- All UXO containing a high-explosive filler (e.g., RDX, Composition B), that are not considered "sensitive." - All DMM containing a high-explosive filler that have: - Been damaged by burning or detonation - Deteriorated to the point of instability.	25
Pyrotechnic (used or damaged)	- All UXO containing pyrotechnic fillers other than white phosphorous (e.g., flares, signals, simulators, smoke grenades). - All DMM containing pyrotechnic fillers other than white phosphorous (e.g., flares, signals, simulators, smoke grenades) that have: - Been damaged by burning or detonation - Deteriorated to the point of instability.	20
High explosive (unused)	- All DMM containing a high explosive filler that: - Have not been damaged by burning or detonation - Are not deteriorated to the point of instability.	15
Propellant	- All UXO containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor). - All DMM containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor) that are: - Damaged by burning or detonation - Deteriorated to the point of instability.	15
Bulk secondary high explosives, pyrotechnics, or propellant	- All DMM containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor), that are deteriorated. - Bulk secondary high explosives, pyrotechnic compositions, or propellant (not contained in a munition), or mixtures of these with environmental media such that the mixture poses an explosive hazard.	10
Pyrotechnic (not used or damaged)	- All DMM containing a pyrotechnic fillers (i.e., red phosphorous), other than white phosphorous filler, that: - Have not been damaged by burning or detonation - Are not deteriorated to the point of instability.	10
Practice	- All UXO that are practice munitions that are not associated with a sensitive fuze. - All DMM that are practice munitions that are not associated with a sensitive fuze and that have not: - Been damaged by burning or detonation - Deteriorated to the point of instability.	5
Riot control	- All UXO or DMM containing a riot control agent filler (e.g., tear gas).	3
Small arms	- All used munitions or DMM that are categorized as small arms ammunition [Physical evidence or historical evidence that no other types of munitions (e.g., grenades, subcaliber training rockets) were used or are present on the MRS is required for selection of this category.].	2
Evidence of no munitions	- Following investigation of the MRS, there is physical evidence that there are no UXO or DMM present, or there is historical evidence indicating that no UXO or DMM are present.	0
MUNITIONS TYPE	**DIRECTIONS: Record the single highest score from above in the box to the right (maximum score = 30).**	2

Site-specific data used in selection MUNITIONS TYPE classification:

CSE Phase I described area as small arms use only - former skeet range. No munitions debris noted near MRS fence line.

Reference (Section, Page #): 5.2,5-1/6.1,6-1

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Table 2

EHE Module: Source of Hazard Data Element Worksheet

Classification	Description	Score
Former Range	- The MRS is a former military range where munitions (including practice munitions with sensitive fuzes) have been used. Such areas include: impact or target areas, associated buffer and safety zones, firing points, and live-fire maneuver areas.	10
Former Munitions treatment (i.e., OB/OD unit)	- The MRS is a location where UXO or DMM (e.g., munitions, bulk explosives, bulk pyrotechnic, or bulk propellants) were burned or detonated for the purpose of treatment prior to disposal.	8
Former practice munitions range	- The MRS is a former military range on which only practice munitions without sensitive fuzes were used.	6
Former maneuver area	- The MRS is a former maneuver area where no munitions other than flares, simulators, smokes, and blanks were used. There must be evidence that no other munitions were used at the location to place an MRS into this category.	5
Former burial pit or other disposal area	- The MRS is a location where DMM were buried or disposed of (e.g., disposed of into a water body) without prior thermal treatment.	5
Former industrial operating facilities	- The MRS is a location that is a former munitions maintenance, manufacturing, or demilitarization facility.	4
Former firing points	- The MRS is a firing point, where the firing point is delineated as an MRS separate from the rest of a former military range.	4
Former missile or air defense artillery emplacements	- The MRS is a former missile defense or air defense artillery (ADA) emplacement not associated with a military range.	2
Former storage or transfer points	- The MRS is a location where munitions were stored or handled for transfer between different modes of transportation (e.g., rail to truck, truck to weapon system).	2
Former small arms range	- The MRS is a former military range where only small arms ammunition was used [There must be evidence that no other types of munitions (e.g., grenades) were used or are present to place an MRS into this category.].	1
Evidence of no munitions	- Following investigation of the MRS, there is physical evidence that no UXO or DMM are present, or there is historical evidence indicating that no UXO or DMM are present.	0
Source of Hazard	**DIRECTIONS: Record the single highest score from above in the box to the right (maximum score = 10).**	1

Site-specific data characteristics used to select the SOURCE OF HAZARD classification:

CSE Phase I described area as small arms use only - former skeet range. No munitions debris noted near MRS fence line.

Reference (Section, Page #):	5.2,5-1/6.1,6-1

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Table 3

EHE Module: Information on the Location of Munitions Data Element Worksheet

Classification	Description	Score
Confirmed surface	- Physical evidence indicates that there are UXO or DMM on the surface of the MRS - Historical evidence (e.g., a confirmed incident report or accident report) indicates there are UXO or DMM on the surface of the MRS.	25
Confirmed subsurface, active	- Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS, and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena (e.g., drought, flooding, erosion, frost, heat heave, tidal action), or intrusive activities (e.g., plowing, construction, dredging) at the MRS are likely to expose UXO or DMM. - Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena (e.g., drought, flooding, erosion, frost, heat heave, tidal action), or intrusive activities (e.g., plowing, construction, dredging) at the MRS are likely to expose UXO or DMM.	20
Confirmed subsurface, stable	- Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena, or intrusive activities at the MRS are not likely to cause UXO or DMM to be exposed. - Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena, or intrusive activities at the MRS are not likely to cause UXO or DMM to be exposed.	15
Suspected (physical evidence)	- There is physical evidence (e.g., munitions debris, such fragments, penetrators, projectiles, shell casings, links, fins), other than the documented presence of UXO or DMM, indicating that UXO or DMM may be present at the MRS.	10
Suspected (historical evidence)	- There is historical evidence indicating that UXO or DMM may be present at the MRS.	5
Subsurface, physical constraint	- There is physical or historical evidence indicating that UXO or DMM may be present in the subsurface, but there is a physical constraint (e.g., pavement, water depth over 120 feet) preventing direct access to the UXO or DMM.	2
Small arms range (regardless of location	- The presence of small arms ammunition is confirmed or suspected, regardless of other factors such as geological stability [There must be evidence that no other types of munitions (e.g., grenades) were used or are present at the MRS to place an MRS into this category.].	1
Evidence of no munitions	- Following investigation of the MRS, there is physical evidence that there are no UXO or DMM present, or there is historical evidence indicating that no UXO or DMM are present.	0
Location of Munitions	**DIRECTIONS: Record the single highest score from above in the box to the right (maximum score = 25).**	1

Site-specific data characteristics used to select the LOCATION OF MUNITIONS classification:

CSE Phase I described area as small arms use only - former skeet range. No munitions debris noted near MRS fence line.

Reference (Section, Page #):	5.2,5-1/6.1,6-1

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Table 4

EHE Module: Ease of Access Data Element Worksheet

Classification	Description	Score
No barrier	- There is no barrier preventing access to any part of the MRS (i.e., all parts of the MRS are accessible).	10
Barrier to MRS access is incomplete	- There is a barrier preventing access to parts of the MRS, but not the entire MRS.	8
Barrier to MRS access is complete but not monitored	- There is a barrier preventing access to all parts of the MRS, but there is no surveillance (e.g., by a guard) to ensure that the barrier is effectively preventing access to all parts of the MRS.	5
Barrier to MRS access is complete and monitored	- There is a barrier preventing access to all parts of the MRS, and there is active, continual surveillance (e.g., by a guard, video monitoring) to ensure that the barrier is effectively preventing access to all parts of the MRS.	0
Ease of Access	**DIRECTIONS: Record the single highest score from above in the box to the right (maximum score = 10).**	10

Site-specific characteristics used to select the EASE OF ACCESS classification:

Reference (Section, Page #):	5.4,5-1/2.1,2-1/5.1,5-1

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Table 5

EHE Module: Status of Property Data Element Worksheet

Classification	Description	Score
Non-DoD control	- The MRS is at a location that is no longer owned by, leased to, or otherwise possessed or used by DoD. Examples are privately owned land or water bodies; land or water bodies owned or controlled by state, tribal, or local governments; and land or water bodies managed by other federal agencies.	5
Scheduled for transfer from DoD control	- The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD, and DoD plans to transfer that land or water body to the control of another entity (e.g., a state, tribal, or local government; a private party; another federal agency) within 3 years from the date the rule is applied.	3
DoD control	- The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD. With respect to property that is leased or otherwise possessed, DoD must control access to the MRS 24 hours per day, every day of the calendar year.	0
Status of Property	**DIRECTIONS: Record the single highest score from above in the box to the right (maximum score = 5).**	5

Site-specific characteristics used to select the EASE OF ACCESS classification:

Reference (Section, Page #):	5.2,5-1/6.1,6-1

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Table 6

EHE Module: Population Density Data Element Worksheet

Classification	Description	Score
> 500 persons per square mile	- There are more than 500 persons per square mile in the county in which the MRS is located, based on U.S. Census Bureau data.	5
100- 500 persons per square mile	- There are 100 to 500 persons per square mile in the county in which the MRS is located, based on U.S. Census Bureau data.	3
< 100 persons per square mile	- There are fewer than 100 persons per square mile in the county in which the MRS is located, based on U.S. Census Bureau data.	1
Population Density	**DIRECTIONS: Record the single highest score from above in the box to the right (maximum score = 5).**	1

Site-specific characteristics that helped select the POPULATION DENSITY classification

Reference (Section, Page #):	5.4,5-1/2.1,2-1/5.1,5-1

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Table 7

EHE Module: Population Near Hazard Data Element Worksheet

Classification	Description	Score
26 or more inhabited structures	- There are 26 or more inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	5
16 to 25 inhabited structures	- There are 16 to 25 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	4
11 to 15 inhabited structures	- There are 11 to 15 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	3
6 to 10 inhabited structures	- There are 6 to 10 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	2
1 to 5 inhabited structures	- There are 1 to 5 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	1
0 inhabited structures	- There are no inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	0
Population Near Hazard	**DIRECTIONS: Record the single highest score from above in the box to the right (maximum score = 5).**	5

Site-specific data characteristics used to select the POPULATION NEAR HAZARD classification:

Reference (Section, Page #):	5.4,5-1/2.1,2-1/5.1,5-1

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Table 8

EHE Module: Types of Activities/Structures Data Element Worksheet

Classification	Description	Score
Residential. educational, or subsitence	- Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with any of the following purposes: residential, educational, child care, critical assets (e.g., hospitals, fire and rescue, police stations, dams), hotels, commercial, shopping centers, playgrounds, community gathering areas, religious sites, or sites used for subsistence hunting, fishing, and gathering.	5
Parks and recreational areas	- Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with parks, nature preserves, or other recreational uses.	4
Agricultural, forestry	- Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with agriculture or forestry.	3
Industrial or warehousing	- Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with industrial activities or warehousing.	2
No known or recurring activities	- There are no known or recurring activities occurring up to two miles from the MRS's boundary or within the MRS's boundary.	1
Types of Activites/Structures	**DIRECTIONS: Record the single highest score from above in the box to the right (maximum score = 5).**	5

Site-specific data characteristics used to select the LOCATION OF MUNITIONS classification:

Reference (Section, Page #):	5.4,5-1/2.1,2-1/5.1,5-1

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Table 9

EHE Module: Ecological and/or Cultural Resources Data Element Worksheet

Classification	Description	Score
Ecological and cultural resources present	- There are both ecological and cultural resources present on the MRS.	5
Ecological resources present	- There are ecological resources present on the MRS.	3
Cultural resources present	- There are cultural resources present on the MRS.	3
No ecological or cultural resources present	- There are no ecological resources or cultural resources present on the MRS.	0
Ecological and/or Cultural Resources	**DIRECTIONS: Record the single highest score from above in the box to the right (maximum score = 5).**	0

Site-specific characteristics used to select the ECOLOGICAL AND/OR CULTURAL RESOURCES classification:

Reference (Section, Page #):	5.4,5-1/2.1,2-1/5.1,5-1

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Table 10

Determining the EHE Module Rating

	Source	Score
Explosive Hazard Factor Data Elements		
Munitions Type	**Table 1**	2
Source of Hazard	**Table 2**	1
Accessibility Factor Data Elements		
Information on Location of Munitions	**Table 3**	1
Ease of Access	**Table 4**	10
Status of Property	**Table 5**	5
Receptors Factor Data Elements		
Population Density	**Table 6**	1
Population Near Hazard	**Table 7**	5
Types of Activities/Structures	**Table 8**	5
Ecological and/or Cultural Resources	**Table 9**	0
	Sum	30

EHE Module Value	EHE Module Rating
92 to 100	**A**
82 to 91	**B**
71 to 81	**C**
60 to 70	**D**
48 to 59	**E**
38 to 47	**F**
less than 38	**G**
Alternative Module Ratings	**Prioritization No Longer Required**
	No Known or Suspected Explosive Hazard
	Evaluation Pending

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Table 20

Determining the CHE Module Rating

	Source	Score
CWM Hazard Factor Data Elements		
CWM Configuration	**Table 11**	N/A
Source of CWM	**Table 12**	N/A
Accessibility Factor Data Elements		
Information on Location of Munitions	**Table 13**	N/A
Ease of Access	**Table 14**	N/A
Status of Property	**Table 15**	N/A
Receptors Factor Data Elements		
Population Density	**Table 16**	N/A
Population Near Hazard	**Table 17**	N/A
Types of Activities/Structures	**Table 18**	N/A
Ecological and/or Cultural Resources	**Table 19**	N/A
	Sum	N/A

CHE Module Value	CHE Module Rating
92 to 100	**A**
82 to 91	**B**
71 to 81	**C**
60 to 70	**D**
48 to 59	**E**
38 to 47	**F**
less than 38	**G**
Alternative Module Ratings	**Prioritization No Longer Required**
	No Known or Suspected CWM Hazard
	Evaluation Pending

Tables 11-19 were not generated because there is no known or suspected CWM hazard at the MRS.

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Table 21

HHE Module: Groundwater Data Element Worksheet

Contaminant	Maximum Concentration (ug/L)	Comparison Value (ug/L)	Ratios
CHF Scale	**CHF Value**	**Contamination Hazard Factor (CHF)**	**No Data**
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CHF Value		**CHF VALUE**	**NA**

Migratory Pathway Factor		
Evident	Analytical data or observable evidence indicates that contamination in the groundwater is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in groundwater has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the groundwater to a potential point of exposure (possibly due to geological structures or physical controls).	L
Migratory Pathway Factor	The single highest value from above in the box to the right (maximum value = H).	NA
Receptor Factor		
Identified	There is a threatened water supply well downgradient of the source and the groundwater is a current source of drinking water or source of water for other beneficial uses such as irrigation/agriculture (equivalent to Class I or IIA aquifer).	H
Potential	There is no threatened water supply well downgradient of the source and the groundwater is currently or potentially usable for drinking water, irrigation, or agriculture (equivalent to Class I, IIA, or IIB aquifer).	M
Limited	There is no potentially threatened water supply well downgradient of the source and the groundwater is not considered a potential source of drinking water and is of limited beneficial use (equivalent to Class IIIA or IIIB aquifer, or where perched aquifer exists only).	L
Receptor Factor	The single highest value from above in the box to the right (maximum value = H).	NA

Alternative Module Ratings	Prioritization No Longer Required
	No Known or Suspected Hazard

Rationale for Selection of MPF:

Rationale for Selection of RF:

Sample comments:

No groundwater samples were collected because no significant impact to groundwater was expected. Groundwater at 250ft bgs.

Reference (Section, Page #):

8.2.3,8-6

Installation: CANNON AIR FORCE BASE
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Table 22

HHE Module: Surface Water - Human Endpoint Data Element Worksheet

Contaminant	Maximum Concentration (ug/L)	Comparison Value (ug/L)	Ratios
CHF Scale	**CHF Value**	**Contamination Hazard Factor (CHF)**	**No Data**
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CHF Value		**CHF VALUE**	**NA**

Migratory Pathway Factor		
Evident	Analytical data or observable evidence indicates that contamination in the surface water is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface water has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface water to a potential point of exposure (possibly due to geological structures or physical controls).	L
Migratory Pathway Factor	The single highest value from above in the box to the right (maximum value = H).	NA
Receptor Factor		
Identified	Identified receptors to have access to surface water to whick contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface water to whick contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface water to whick contamination has moved or can move.	L
Receptor Factor	The single highest value from above in the box to the right (maximum value = H).	NA

Alternative Module Ratings	Prioritization No Longer Required
	No Known or Suspected Hazard

Rationale for Selection of MPF:

Rationale for Selection of RF:

Sample comments:

No surface water on/near MRS.

Reference (Section, Page #):

3.3,3-2/8.2.2,8-5

Installation: CANNON AIR FORCE BASE
MAJCOM: AFSOC **MRAID:** TS835 **MRS:** TS835b
FFID: NM7572124454

Table 23

HHE Module: Sediment - Human Endpoint Data Element Worksheet

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios
CHF Scale	**CHF Value**	**Contamination Hazard Factor (CHF)**	**No Data**
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CHF Value		**CHF VALUE**	**NA**

Migratory Pathway Factor		
Evident	Analytical data or observable evidence indicates that contamination in the sediment is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in sediment has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the sediment to a potential point of exposure (possibly due to geological structures or physical controls).	L
Migratory Pathway Factor	The single highest value from above in the box to the right (maximum value = H).	NA
Receptor Factor		
Identified	Identified receptors to have access to sediment to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to sediment to which contamination has moved or can move	M
Limited	Little or no potential for receptors to have access to sediment to which contamination has moved or can move	L
Receptor Factor	The single highest value from above in the box to the right (maximum value = H).	NA

Alternative Module Ratings	Prioritization No Longer Required
	No Known or Suspected Hazard

Rationale for Selection of MPF:

Rationale for Selection of RF:

Sample comments:
No bodies of water on/near MRS.

Reference (Section, Page #):
3.3,3-28/8.2.2,8-5

Installation: CANNON AIR FORCE BASE

MAJCOM: AFSOC **MRAID:** TS835 **MRS:** TS835b

FFID: NM7572124454

Table 24

HHE Module: Surface Water - Ecological Data Element Worksheet

Contaminant	Maximum Concentration (ug/L)	Comparison Value (ug/L)	Ratios
CHF Scale	**CHF Value**	**Contamination Hazard Factor (CHF)**	**No Data**
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CHF Value		**CHF VALUE**	**NA**

Migratory Pathway Factor		
Evident	Analytical data or observable evidence indicates that contamination in the surface water is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface water has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface water to a potential point of exposure (possibly due to geological structures or physical controls).	L
Migratory Pathway Factor	The single highest value from above in the box to the right (maximum value = H).	NA
Receptor Factor		
Identified	Identified receptors have access to surface water to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface water to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface water to which contamination has moved or can move.	L
Receptor Factor	The single highest value from above in the box to the right (maximum value = H).	NA

Alternative Module Ratings	Prioritization No Longer Required
	No Known or Suspected Hazard

Rationale for Selection of MPF:

Rationale for Selection of RF:

Sample comments:

No surface water on/near MRS.

Reference (Section, Page #):

3.3,3-2/8.2.2,8-5

Installation: CANNON AIR FORCE BASE
MAJCOM: AFSOC **MRAID:** TS835 **MRS:** TS835b
FFID: NM7572124454

Table 25

HHE Module: Sediment - Ecological Endpoint Data Element Worksheet

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios
CHF Scale	CHF Value	Contamination Hazard Factor (CHF)	No Data
CHF > 100	H (High)	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	M (Medium)		
2 > CHF	L (Low)		
CHF Value		CHF VALUE	NA

Migratory Pathway Factor		
Evident	Analytical data or observable evidence indicates that contamination in the sediment is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in sediment has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the sediment to a potential point of exposure (possibly due to geological structures or physical controls).	L
Migratory Pathway Factor	The single highest value from above in the box to the right (maximum value = H).	NA

Receptor Factor		
Identified	Identified receptors to have access to sediment to which contamination has moved or can move.	H
Potential	potential for receptors to have access to sediment to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to sediment to which contamination has moved or can move.	L
Receptor Factor	The single highest value from above in the box to the right (maximum value = H).	NA

Alternative Module Ratings	Prioritization No Longer Required
	No Known or Suspected Hazard

Rationale for Selection of MPF:

Rationale for Selection of RF

Sample comments:

No bodies of water on/near MRS.

Reference (Section, Page #):

3.3,3-28/8.2.2,8-5

Installation: CANNON AIR FORCE BASE
MAJCOM: AFSOC **MRAID:** TS835 **MRS:** TS835b
FFID: NM7572124454

Table 26

HHE Module: Soil - Data Element Worksheet

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios
CHF Scale	CHF Value	Contamination Hazard Factor (CHF)	No Data
CHF > 100	H (High)	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	M (Medium)		
2 > CHF	L (Low)		
CHF Value		CHF VALUE	NA

Migratory Pathway Factor		
Evident	Analytical data or observable evidence indicates that contamination in the soil is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in soil has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the soil to a potential point of exposure (possibly due to geological structures or physical controls).	L
Migratory Pathway Factor	The single highest value from above in the box to the right (maximum value = H).	NA

Receptor Factor		
Identified	Identified receptors to have access to soil to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to soil to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to soil to which contamination has moved or can move.	L
Receptor Factor	The single highest value from above in the box to the right (maximum value = H).	NA

Alternative Module Ratings	Prioritization No Longer Required
	No Known or Suspected Hazard

Rationale for Selection of MPF:

Rationale for Selection of RF:

Sample comments:

No evidence of munitions debris near edge of MRA bordering off-site portion of MRA. No samples collected due to no evidence of munitions debris in vicinity.

Reference (Section, Page #):

5.6.3.1, 5-11 /5.6.3.2.1, 5-16 to 5-19

Installation: CANNON AIR FORCE BASE
MAJCOM: AFSOC **MRAID:** TS835 **MRS:** TS835b
FFID: NM7572124454

Installation: CANNON AIR FORCE BASE
MAJCOM: AFSOC **MRAID:** TS835 **MRS:** TS835b
FFID: NM7572124454

Table 27

Determining the HHE Module Rating

Media Source	Contaminant Hazard Factor	Migratory Pathway Factor Value	Receptor Factor Value	3-Letter Ratings (Hs-Ms-Ls)	Media Rating (A-G)
Groundwater (Table 21)	NA	NA	NA	NA	NA
Surface Water/Human Endpoint (Table 22)	NA	NA	NA	NA	NA
Sediment/Human Endpoint (Table 23)	NA	NA	NA	NA	NA
Surface Water/Ecological Endpoint (Table 24)	NA	NA	NA	NA	NA
Sediment/Ecological Endpoint (Table 25)	NA	NA	NA	NA	NA
Soil (Table 26)	NA	NA	NA	NA	NA

HHE Ratings (for reference only)	
Combination	Rating
HHH	A
HHM	B
HHL HMM	C
HML MMM	D
HLL MML	E
MLL	F
LLL	G
Alternative Module Ratings	Prioritization No Longer Required
	No Known or Suspected MC Hazard
	Evaluation Pending
HHE Module Ratings	N/A

Installation: CANNON AIR FORCE BASE
MAJCOM: AFSOC **MRAID:** TS835 **MRS:** TS835b
FFID: NM7572124454

Table 28

MRS Priority

EHE Rating	Priority	CHE Rating	Priority	HHE Rating	Priority
		A	1		
A	2	B	2	A	2
B	3	C	3	B	3
C	4	D	4	C	4
D	5	E	5	D	5
E	6	F	6	E HHE_EVALUATION_PENDING	6
F	7	G	7	F	7
G	8			G	8
Prioritization No Longer Required		Prioritization No Longer Required		Prioritization No Longer Required	
No Known or Suspected Hazard		No Known or Suspected Hazard		No Known or Suspected Hazard	
Evaluation Pending		Evaluation Pending		Evaluation Pending	
			MRS Priority	8	

Installation: CANNON AIR FORCE BASE
MAJCOM: AFSOC **MRAID:** TS835 **MRS:** TS835b
FFID: NM7572124454

APPENDIX K

RACER Data Input Worksheets

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COMPREHENSIVE SITE EVALUATION: RACER DATA

MAJCOM: AFSOC FFID: NM7572124454 MRAID: TS835 MRS: TS835

Installation: CANNON AIR FORCE BASE

City: Clovis State: NM County: Curry County

Site Name: 1940s Skeet Range - TS835

SITE DIMENSIONS:

Acreage: 2.45 Length (Feet): 490 Width (Feet): 550 Perimeter (Feet): 1881.67

SITE DIMENSIONS REFERENCES:

Section, Page #: 2.6, 2-12

CONTAMINANTS OF CONCERN:

- ☐ Acids/caustics
- ☐ Asbestos
- ☐ Fuels
- ☐ SVOCs
- ☐ VOCs
- ☐ PCBs
- ☐ Ordnance (not residual)
- ☐ Ordnance (residual)
- ☐ Pesticides
- ☑ Metals
- ☐ Low Level Radioactive
- ☑ Other*

*Description of other: Polynuclear Aromatic Hydrocarbons (PAHs)

CONTAMINANTS OF CONCERN REFERENCES:

Section:

5.6.3.1,5-11 to 5-13/5.6.3.2.1,5-15 to 5-19

Page:

RANGE TYPES:

- ☐ Air to Air
- ☐ Air to Ground
- ☐ Artillery
- ☐ Bombing
- ☐ Burial Pits
- ☐ Guided Missiles
- ☐ Hand Grenade
- ☐ OB/OD
- ☐ Mortar
- ☐ Multiple/combined Use
- ☐ Rifle Grenade, Anti-tank Rocket
- ☑ Small Arm
- ☐ Other

*Description of other:

RANGE TYPES REFERENCES:

Section:

5.2,5-1

Page:

COMPREHENSIVE SITE EVALUATION: RACER DATA

MAJCOM: AFSOC FFID: NM7572124454 MRAID: TS835 MRS: TS835

ORDNANCE TYPES:

- ☐ Bombs, high explosive
- ☐ Bombs (WP, Incendiary, Photoflash)
- ☐ Bombs, Practice
- ☐ Hand Grenades, Live
- ☐ Hand Grenades, Practice
- ☐ Ground Rockets, Rifle Grenades, Live
- ☐ Ground Rockets, Rifle Grenades, Practice
- ☐ Medium Caliber (20mm, 25mm, 30mm)
- ☐ Large Caliber (37mm and larger)
- ☐ Mortars
- ☐ Aerial Rockets (Live)
- ☐ Aerial Rockets, Practice
- ☐ Guided missil
- ☐ Pyrotechnics
- ☑ Small Arms
- ☐ Landmines
- ☐ Demolition Materials
- ☐ Other*

*Description of other:

ORDNANCE TYPES REFERENCES:

Section, Page #: 5.2,5-1

ANOMALY DENSITY: LOW

ANOMALY DENSITY REFERENCES:

Section, Page #: 4.3.2,4-9

AREA OF CONTAMINATION:

Depth to base of contamination (feet): 1

Depth to groundwater contamination (feet):

Depth to water table (feet): 250

AREA OF CONTAMINATION REFERENCES:

Section, Page #: 5.6.3.2.1,5-16/8.2.3.1,8-6

TYPE OF AQUIFER:
UNCONFINED

SOIL TYPE:
Silt/Silty-Clay Mixture

TOPOGRAPHY:
Flat

VEGETATION TYPE:
Low grass or few shrubs

AQUIFER, SOIL, TOPOGRAPHY, VEGETATION INFORMATION REFERENCES:

Section, Page #: 3.2,3-1/ 3.4,3-2

COMPREHENSIVE SITE EVALUATION: RACER DATA

MAJCOM: AFSOC FFID: NM7572124454 MRAID: TS835 MRS: TS835

IMPACTED MEDIA:

- ☑ Surface soil
- ☐ Surface water
- ☑ Subsurface
- ☐ Sediments
- ☐ Groundwater

IMPACTED MEDIA REFERENCES:

Section, Page #: 5.6.3.2.1,5-6

TYPICAL SAFETY LEVEL USED AT THE SITE:

SAFETY LEVEL REFERENCES:

Section, Page #:

ADDITIONAL INFORMATION THAT MAY INFLUENCE COST:

ADDITIONAL INFORMATION REFERENCES:

Section, Page #:

COMPREHENSIVE SITE EVALUATION: RACER DATA

MAJCOM: AFSOC FFID: NM7572124454 MRAID: TS835 MRS: TS835a

Installation: CANNON AIR FORCE BASE

City: Clovis State: NM County: Curry County

Site Name: 1940s Skeet Range - TS835a

SITE DIMENSIONS:

Acreage: 15.72 Length (Feet): 490 Width (Feet): 550 Perimeter (Feet): 1881.67

SITE DIMENSIONS REFERENCES:

Section, Page #: 2.6, 2-12

CONTAMINANTS OF CONCERN:

- ☐ Acids/caustics
- ☐ Asbestos
- ☐ Fuels
- ☐ SVOCs
- ☐ VOCs
- ☐ PCBs
- ☐ Ordnance (not residual)
- ☐ Ordnance (residual)
- ☐ Pesticides
- ☑ Metals
- ☐ Low Level Radioactive
- ☑ Other*

*Description of other: Polynuclear Aromatic Hydrocarbons (PAHs)

CONTAMINANTS OF CONCERN REFERENCES:

Section:

5.6.3.1,5-11 to 5-13/5.6.3.2.1,5-15 to 5-19

Page:

RANGE TYPES:

- ☐ Air to Air
- ☐ Air to Ground
- ☐ Artillery
- ☐ Bombing
- ☐ Burial Pits
- ☐ Guided Missiles
- ☐ Hand Grenade
- ☐ OB/OD
- ☐ Mortar
- ☐ Multiple/combined Use
- ☐ Rifle Grenade, Anti-tank Rocket
- ☑ Small Arm
- ☐ Other

*Description of other:

RANGE TYPES REFERENCES:

Section:

5.2,5-1

Page:

COMPREHENSIVE SITE EVALUATION: RACER DATA

MAJCOM: AFSOC FFID: NM7572124454 MRAID: TS835 MRS: TS835a

ORDNANCE TYPES:

- ☐ Bombs, high explosive
- ☐ Bombs (WP, Incendiary, Photoflash)
- ☐ Bombs, Practice
- ☐ Hand Grenades, Live
- ☐ Hand Grenades, Practice
- ☐ Ground Rockets, Rifle Grenades, Live
- ☐ Ground Rockets, Rifle Grenades, Practice
- ☐ Medium Caliber (20mm, 25mm, 30mm)
- ☐ Large Caliber (37mm and larger)
- ☐ Mortars
- ☐ Aerial Rockets (Live)
- ☐ Aerial Rockets, Practice
- ☐ Guided missil
- ☐ Pyrotechnics
- ☑ Small Arms
- ☐ Landmines
- ☐ Demolition Materials
- ☐ Other*

*Description of other:

ORDNANCE TYPES REFERENCES:

Section, Page #: 5.2,5-1

ANOMALY DENSITY: LOW

ANOMALY DENSITY REFERENCES:

Section, Page #: 4.3.2,4-9

AREA OF CONTAMINATION:

Depth to base of contamination (feet): 1

Depth to groundwater contamination (feet):

Depth to water table (feet): 250

AREA OF CONTAMINATION REFERENCES:

Section, Page #: 5.6.3.2.1,5-16/8.2.3.1,8-6

TYPE OF AQUIFER:
UNCONFINED

SOIL TYPE:
Silt/Silty-Clay Mixture

TOPOGRAPHY:
Flat

VEGETATION TYPE:
Low grass or few shrubs

AQUIFER, SOIL, TOPOGRAPHY, VEGETATION INFORMATION REFERENCES:

Section, Page #: 3.2,3-1/ 3.4,3-2

COMPREHENSIVE SITE EVALUATION: RACER DATA

MAJCOM: AFSOC FFID: NM7572124454 MRAID: TS835 MRS: TS835a

IMPACTED MEDIA:

- ☑ Surface soil
- ☐ Surface water
- ☑ Subsurface
- ☐ Sediments
- ☐ Groundwater

IMPACTED MEDIA REFERENCES:

Section, Page #: 5.6.3.2.1,5-6

TYPICAL SAFETY LEVEL USED AT THE SITE:

SAFETY LEVEL REFERENCES:

Section, Page #:

ADDITIONAL INFORMATION THAT MAY INFLUENCE COST:

ADDITIONAL INFORMATION REFERENCES:

Section, Page #:

COMPREHENSIVE SITE EVALUATION: RACER DATA

MAJCOM: AFSOC FFID: NM7572124454 MRAID: TS835 MRS: TS835b

Installation: CANNON AIR FORCE BASE

City: Clovis State: NM County: Curry County

Site Name: 1940s Skeet Range - TS835b

SITE DIMENSIONS:

Acreage: 6.32 Length (Feet): 490 Width (Feet): 550 Perimeter (Feet): 1881.67

SITE DIMENSIONS REFERENCES:

Section, Page #: 2.6, 2-12

CONTAMINANTS OF CONCERN:

- ☐ Acids/caustics
- ☐ Asbestos
- ☐ Fuels
- ☐ SVOCs
- ☐ VOCs
- ☐ PCBs
- ☐ Ordnance (not residual)
- ☐ Ordnance (residual)
- ☐ Pesticides
- ☑ Metals
- ☐ Low Level Radioactive
- ☑ Other*

*Description of other: Polynuclear Aromatic Hydrocarbons (PAHs)

CONTAMINANTS OF CONCERN REFERENCES:

Section:

5.6.3.1,5-11 to 5-13/5.6.3.2.1,5-15 to 5-19

Page:

RANGE TYPES:

- ☐ Air to Air
- ☐ Air to Ground
- ☐ Artillery
- ☐ Bombing
- ☐ Burial Pits
- ☐ Guided Missiles
- ☐ Hand Grenade
- ☐ OB/OD
- ☐ Mortar
- ☐ Multiple/combined Use
- ☐ Rifle Grenade, Anti-tank Rocket
- ☑ Small Arm
- ☐ Other

*Description of other:

RANGE TYPES REFERENCES:

Section:

5.2,5-1

Page:

COMPREHENSIVE SITE EVALUATION: RACER DATA

MAJCOM: AFSOC FFID: NM7572124454 MRAID: TS835 MRS: TS835b

ORDNANCE TYPES:

- ☐ Bombs, high explosive
- ☐ Bombs (WP, Incendiary, Photoflash)
- ☐ Bombs, Practice
- ☐ Hand Grenades, Live
- ☐ Hand Grenades, Practice
- ☐ Ground Rockets, Rifle Grenades, Live
- ☐ Ground Rockets, Rifle Grenades, Practice
- ☐ Medium Caliber (20mm, 25mm, 30mm)
- ☐ Large Caliber (37mm and larger)
- ☐ Mortars
- ☐ Aerial Rockets (Live)
- ☐ Aerial Rockets, Practice
- ☐ Guided missil
- ☐ Pyrotechnics
- ☑ Small Arms
- ☐ Landmines
- ☐ Demolition Materials
- ☐ Other*

*Description of other:

ORDNANCE TYPES REFERENCES:

Section, Page #: 5.2,5-1

ANOMALY DENSITY: LOW

ANOMALY DENSITY REFERENCES:

Section, Page #: 4.3.2,4-9

AREA OF CONTAMINATION:

Depth to base of contamination (feet):

Depth to groundwater contamination (feet):

Depth to water table (feet): 250

AREA OF CONTAMINATION REFERENCES:

Section, Page #: 5.6.3.2.1,5-16/8.2.3.1,8-6

TYPE OF AQUIFER:
UNCONFINED

SOIL TYPE:
Sand-Silt Mixture/Sand-Clay Mixture

TOPOGRAPHY:
Flat

VEGETATION TYPE:
Low grass or few shrubs

AQUIFER, SOIL, TOPOGRAPHY, VEGETATION INFORMATION REFERENCES:

Section, Page #: 3.2,3-1/ 3.4,3-2

COMPREHENSIVE SITE EVALUATION: RACER DATA

MAJCOM: AFSOC FFID: NM7572124454 MRAID: TS835 MRS: TS835b

IMPACTED MEDIA:

- ☑ Surface soil
- ☐ Surface water
- ☑ Subsurface
- ☐ Sediments
- ☐ Groundwater

IMPACTED MEDIA REFERENCES:

Section, Page #: 5.6.3.2.1,5-6

TYPICAL SAFETY LEVEL USED AT THE SITE:

SAFETY LEVEL REFERENCES:

Section, Page #: N/A

ADDITIONAL INFORMATION THAT MAY INFLUENCE COST:

ADDITIONAL INFORMATION REFERENCES:

Section, Page #: N/A

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APPENDIX L

EESOH-MIS Data Input Worksheet

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COMPREHENSIVE SITE EVALUATION: AFRIMS DATA

MAJCOM: AFSOC FFID: NM7572124454 MRAID: TS835 MRS: TS835

Installation: CANNON AIR FORCE BASE

City: Clovis State: NM County: Curry County

Site Name: 1940s Skeet Range - TS835

Site Description:

MRS TS835 is located in the northeast portion of the Base, just north of the Former Ordnance/Current Munitions Storage Area. MRS TS835 is the portion of MRA TS835 where munitions debris was found during the Comprehensive Site Evaluation Phase II visual survey. The MRA range was oriented to the northeast. MRS TS835 does not contain any structures. The area generally consists of an open field with a sparse vegetative cover of low grasses. The only remnants of the range observed on-base include clay target debris and several slabs of concrete. The topography is relatively flat, sloping gently to the southeast. The soil type at the MRS was generally fine sandy loam.

GENERAL INFORMATION REFERENCES:

Section, Page #: 2.1,2-1/2.3.1-2.3.2,2-5/2.4,2-6,8.0, 8-1 to 8-6/9.2,9-1/10.2,10-1,10.3,10-1

POINT OF CONTACT INFORMATION

Last Name: Higginbotham
First Name: Mathew
Organization: 27 SOCES/CEAN
Phone #: (575) 784-1092
Email: matthew.higginbotham@cannon.af.

Address: 506 N DL Ingram Blvd
City: Cannon AFB
State: NM
Zip: 88103-5003

POINT OF CONTACT REFERENCES:

Section, Page #: N/A

LOCATION:

City: Clovis
State: NM
County: Curry County

Latitude: 34.3978279583
Longitude: -103.29952967

LOCATION REFERENCES:

Section, Page #: 5.1, 5-1

AREA:

Total Acreage: 2.45

Acreage confirmed as containing UXO:
Acreage suspected or potentially containing UXO:
Acreage confirmed as NOT containing UXO: 2.45

AREA REFERENCES:

Section, Page #: 4.1,4-1 to 4-2

CLASSIFICATION:

CLASSIFICATION REFERENCES:

COMPREHENSIVE SITE EVALUATION: AFRIMS DATA

MAJCOM: AFSOC FFID: NM7572124454 MRAID: TS835 MRS: TS835

Installation: CANNON AIR FORCE BASE

☐ Testing ☑ Small Arms Range *Section: 5.2, 5-1*

☐ Training ☐ Skeet Range

☐ Treatment OBOD RCRA ☐ Waste Military Munitions

☐ Disposal RCRA ☐ Other* *Page:*

☐ Buffer Area

*Description of other:

RANGE TYPES:

☐ Air to Air ☐ Air to land ☑ Land to land ☐ Other*

☐ Air to water ☐ Land to air ☐ Land to water

*Description of other: 5.1,5.2, 5-

RANGE/SITE TYPES REFERENCES:

Section, Page #: 5.1,5.2, 5-1

ORDNANCE TYPES AND RELATED ANOMALY DENSITY:

Ordnance Types (check all that apply)		Contaminant is a Chemical residue of munitions?	Density
Medium/Large Caliber (20 mm and larger)	☐	☐	
Explosive grenades (hand or rifle)	☐	☐	
Explosive landmine	☐	☐	
Explosive rockets	☐	☐	
Guided Missiles	☐	☐	
Explosive detonators	☐	☐	
Blasting caps	☐	☐	
Practice grenades (with spotting charges)	☐	☐	
Practice landmines (with spotting charges)	☐	☐	
Small arms complete round (.22-.50 cal)	☐	☐	
Small arms, expended	☑	☐	LOW
Practice ordnance (without spotting charges)	☐	☐	
White phosphorous	☐	☐	
Incendiary material	☐	☐	
Primary or initiating explosives	☐	☐	

Ordnance Types (check all that apply)		Contaminant is a Chemical residue of munitions?	Density
Demolition charges	☐	☐	
Military dynamite	☐	☐	
Less sensitive explosives (Ammonium Nitrate, etc.)	☐	☐	
Solid or liquid propellants	☐	☐	
Toxic chem. agents (choking, nerve, blood, blister)	☐	☐	
War gas identification sets	☐	☐	
Radiological ordnance (e.g., depleted Uranium)	☐	☐	
Riot control agents (vomiting, tear)	☐	☐	
Bombs (explosive)	☐	☐	
Bombs (practice)	☐	☐	
Fuses, Boosters, Bursters	☐	☐	
Flares, signals, & simulators (other than white phos.)	☐	☐	
Torpedoes/Sea Mines	☐	☐	
Secondary explosives (PETN, Compositions A, B, C, Tetryl, TNT, RDX, HMX, HBX, Black Powder, etc.)	☐	☐	

ORDNANCE TYPES REFERENCES:

Section, Page #: 5.2, 5-1

COMPREHENSIVE SITE EVALUATION: AFRIMS DATA

MAJCOM: AFSOC FFID: NM7572124454 MRAID: TS835 MRS: TS835

Installation: CANNON AIR FORCE BASE

ANOMALY DENSITY REFERENCES:

Section, Page #: 5.6.1, 5-2

GENERAL MEDIA:

Predominant Soil Type: Sand-Silt/Sand-Clay Predominant Topography: Flat

Predominant Vegetation: Low grass and few shrubs

GENERAL MEDIA REFERENCES:

Section, Page #: 5.1,5-1

GROUNDWATER:

Potential for contamination of drinking water: NO POTENTIAL

Depth to Groundwater (feet): 250

Is the MRS located above a drinking water aquifer? YES

Sole source aquifer? No

GROUNDWATER REFERENCES:

Section, Page #: 8.2.3.2, 8-6

ARCHAEOLOGICAL/ECOLOGICAL:

Threatened or endangered species present? ○ Yes ◉ N

Archaeological or cultural sites present? ○ Yes ◉ N

ARCHEOLOGICAL/ECOLOGICAL REFERENCES:

Section: 5.8.2,5.8.3,5-30

WETLANDS:

Are there any wetland areas associated with this site? NO If yes, please list acreage:

WETLANDS REFERENCES:

Section, Page #: 5.8.1,5-30

COMPREHENSIVE SITE EVALUATION: AFRIMS DATA

MAJCOM: AFSOC FFID: NM7572124454 MRAID: TS835 MRS: TS835

Installation: CANNON AIR FORCE BASE

ENVIRONMENTAL RESPONSE:

Have environmental response activities been initiated/conducted on this MRS? ○ Yes ◉ No

If yes, what is the scope of the response activities?
- ☐ Past practices
- ☐ Chemical contamination
- ☐ Current practices
- ☐ Ordnance and explosives, including UXO

If yes, what is the status of the response activities?
- ☐ Data collection
- ☐ Investigation
- ☐ Response/remedial action
- ☐ Monitoring
- ☐ Close out
- ☐ Operation and maintenance

If yes, is contamination monitoring (i.e., groundwater sampling and analysis) needed?

If yes, under what authority were/are response actions conducted?

ENVIRONMENTAL RESPONSE REFERENCES:

Section, Page #: *2.6,2-9*

UXO RESPONSE:

What types of UXO response actions have been initiated/conducted on the site?

- ☑ None
- ☐ Unknown
- ☐ Other*
- ☐ Emergency response actions
- ☐ Routine range clearance/maintenance
- ☐ Time-critical removal actions
- ☐ UXO response actions associated with ERP activities
- ☑ Non-time-critical removal actions with Engineering Evaluation/Cost Analysis

*Please specify other:

UXO RESPONSE REFERENCES:

Section: *2.6, 2-11* *Page:*

LAND USE RESTRICTIONS:
- ☐ No public access
- ☐ Unrestricted public access
- ☐ Limited public access
- ☑ Restricted public access

ACCESS CONTROLS:
- ☑ No controls
- ☐ Locked gates
- ☐ Access signs
- ☐ Log book
- ☐ Fencing
- ☐ Security patrol

COMPREHENSIVE SITE EVALUATION: AFRIMS DATA

MAJCOM: AFSOC FFID: NM7572124454 MRAID: TS835 MRS: TS835

Installation: CANNON AIR FORCE BASE

TRANSFERRED OR TRANSFERRING RANGES:

For transferred and transferring ranges, what is the nature of the transfer?

Lease to:	Ownership transfer to:	Additional reasons:
☐ Federal agency	☐ Federal agency	☐ Lease termination
☐ State government	☐ State government	☐ Revocation of withdrawn land
☐ Local government	☐ Local government	☐ Other***
☐ Private entity	☐ Private entity	
☐ Tribal	☐ Tribal	

***Please specify:

LAND USE, ACCESS CONTROL, TRANSFERRED/TRANSFERRING RANGES REFERENCES:

Section, Page #: 5.4, 5-1

LAND USE INTEREST:

☑ DOD	☐ Public sector
☐ Federal agency	☐ Tribal
☐ State government	☐ Other****
☐ Local government	

****Please specify:

LAND USE INTEREST REFERENCES:

Section, Page #: 2.1,2-1

COMPREHENSIVE SITE EVALUATION: AFRIMS DATA

MAJCOM: AFSOC FFID: NM7572124454 MRAID: TS835 MRS: TS835a

Installation: CANNON AIR FORCE BASE

City: Clovis State: NM County: Curry County

Site Name: 1940s Skeet Range - TS835a

Site Description:

MRS TS835a is located in the northeast portion of the Base, just north of the Former Ordnance/Current Munitions Storage Area. MRS TS835a is the on-base portion of MRA TS835 where no munitions debris was discovered during the Comprehensive Site Evaluation Phase II visual survey. The MRA range was oriented to the northeast. MRS TS835a does not contain any structures. The area generally consists of an open field with a sparse vegetative cover of low grasses. The topography is relatively flat, sloping gently to the southeast. The soil type at the MRS was generally fine sandy loam.

GENERAL INFORMATION REFERENCES:

Section, Page #: 2.1,2-1/2.3.1-2.3.2,2-5/2.4,2-6/8.0, 8-1 to 8-6/9.2,9-1/10.2,10-1,10.3,10-1

POINT OF CONTACT INFORMATION

Last Name: HIGGINBOTHAM
First Name: MATHEW
Organization: 27 SOCES/CEAN
Phone #: (575) 784-1092
Email: matthew.higginbotham@cannon.af.

Address: 506 N DL INGRAM BLVD
City: CANNON AFB
State: NM
Zip: 88103-5003

POINT OF CONTACT REFERENCES:

Section, Page #: N/A

LOCATION:

City: Clovis
State: NM
County: Curry County

Latitude: 34.3978279583
Longitude: -103.29952967

LOCATION REFERENCES:

Section, Page #: 5.1, 5-1

AREA:

Total Acreage: 15.72

Acreage confirmed as containing UXO: 0
Acreage suspected or potentially containing UXO: 0
Acreage confirmed as NOT containing UXO: 15.72

AREA REFERENCES:

Section, Page #: 4.1,4-1 to 4-2

CLASSIFICATION:

CLASSIFICATION REFERENCES:

COMPREHENSIVE SITE EVALUATION: AFRIMS DATA

MAJCOM: AFSOC FFID: NM7572124454 MRAID: TS835 MRS: TS835a

Installation: CANNON AIR FORCE BASE

☐ Testing ☑ Small Arms Range *Section: 5.2, 5-1*

☐ Training ☐ Skeet Range

☐ Treatment OBOD RCRA ☐ Waste Military Munitions

☐ Disposal RCRA ☐ Other* *Page:*

☐ Buffer Area

*Description of other:

RANGE TYPES:

☐ Air to Air ☐ Air to land ☑ Land to land ☐ Other*

☐ Air to water ☐ Land to air ☐ Land to water

*Description of other:

RANGE/SITE TYPES REFERENCES:

Section, Page #: 5.1,5.2, 5-1

ORDNANCE TYPES AND RELATED ANOMALY DENSITY:

Ordnance Types (check all that apply)		Contaminant is a Chemical residue of munitions?	Density
Medium/Large Caliber (20 mm and larger)	☐	☐	
Explosive grenades (hand or rifle)	☐	☐	
Explosive landmine	☐	☐	
Explosive rockets	☐	☐	
Guided Missiles	☐	☐	
Explosive detonators	☐	☐	
Blasting caps	☐	☐	
Practice grenades (with spotting charges)	☐	☐	
Practice landmines (with spotting charges)	☐	☐	
Small arms complete round (.22-.50 cal)	☐	☐	
Small arms, expended	☑	☐	LOW
Practice ordnance (without spotting charges)	☐	☐	
White phosphorous	☐	☐	
Incendiary material	☐	☐	
Primary or initiating explosives	☐	☐	

Ordnance Types (check all that apply)		Contaminant is a Chemical residue of munitions?	Density
Demolition charges	☐	☐	
Military dynamite	☐	☐	
Less sensitive explosives (Ammonium Nitrate, etc.)	☐	☐	
Solid or liquid propellants	☐	☐	
Toxic chem. agents (choking, nerve, blood, blister)	☐	☐	
War gas identification sets	☐	☐	
Radiological ordnance (e.g., depleted Uranium)	☐	☐	
Riot control agents (vomiting, tear)	☐	☐	
Bombs (explosive)	☐	☐	
Bombs (practice)	☐	☐	
Fuses, Boosters, Bursters	☐	☐	
Flares, signals, & simulators (other than white phos.)	☐	☐	
Torpedoes/Sea Mines	☐	☐	
Secondary explosives (PETN, Compositions A, B, C, Tetryl, TNT, RDX, HMX, HBX, Black Powder, etc.)	☐	☐	

ORDNANCE TYPES REFERENCES:

Section, Page #: 5.2, 5-1

COMPREHENSIVE SITE EVALUATION: AFRIMS DATA

MAJCOM: AFSOC FFID: NM7572124454 MRAID: TS835 MRS: TS835a

Installation: CANNON AIR FORCE BASE

ANOMALY DENSITY REFERENCES:

Section, Page #: 5.6.1, 5-2

GENERAL MEDIA:

Predominant Soil Type: Sand-Silt/Sand-Clay Predominant Topography: Flat

Predominant Vegetation: Low grass and few shrubs

GENERAL MEDIA REFERENCES:

Section, Page #: 5.1,5-1

GROUNDWATER:

Potential for contamination of drinking water: NO POTENTIAL

Depth to Groundwater (feet): 250

Is the MRS located above a drinking water aquifer? YES

Sole source aquifer? No

GROUNDWATER REFERENCES:

Section, Page #: 8.2.3.2, 8-6

ARCHAEOLOGICAL/ECOLOGICAL:

Threatened or endangered species present? ○ Yes ◉ N

Archaeological or cultural sites present? ○ Yes ◉ N

ARCHEOLOGICAL/ECOLOGICAL REFERENCES:

Section: 5.8.2,5.8.3,5-30

WETLANDS:

Are there any wetland areas associated with this site? NO If yes, please list acreage:

WETLANDS REFERENCES:

Section, Page #: 5.8.1,5-30

COMPREHENSIVE SITE EVALUATION: AFRIMS DATA

MAJCOM: AFSOC FFID: NM7572124454 MRAID: TS835 MRS: TS835a

Installation: CANNON AIR FORCE BASE

ENVIRONMENTAL RESPONSE:

Have environmental response activities been initiated/conducted on this MRS? ○ Yes ◉ No

If yes, what is the scope of the response activities?
- ☐ Past practices
- ☐ Chemical contamination
- ☐ Current practices
- ☐ Ordnance and explosives, including UXO

If yes, what is the status of the response activities?
- ☐ Data collection
- ☐ Investigation
- ☐ Response/remedial action
- ☐ Monitoring
- ☐ Close out
- ☐ Operation and maintenance

If yes, is contamination monitoring (i.e., groundwater sampling and analysis) needed?

If yes, under what authority were/are response actions conducted?

ENVIRONMENTAL RESPONSE REFERENCES:

Section, Page #: *2.6,2-9*

UXO RESPONSE:

What types of UXO response actions have been initiated/conducted on the site?

- ☑ None
- ☐ Unknown
- ☐ Other*
- ☐ Emergency response actions
- ☐ Routine range clearance/maintenance
- ☐ Time-critical removal actions
- ☐ UXO response actions associated with ERP activities
- ☑ Non-time-critical removal actions with Engineering Evaluation/Cost Analysis

*Please specify other:

UXO RESPONSE REFERENCES:

Section: *2.6, 2-11* *Page:*

LAND USE RESTRICTIONS:
- ☐ No public access
- ☐ Unrestricted public access
- ☐ Limited public access
- ☑ Restricted public access

ACCESS CONTROLS:
- ☑ No controls
- ☐ Locked gates
- ☐ Access signs
- ☐ Log book
- ☐ Fencing
- ☐ Security patrol

COMPREHENSIVE SITE EVALUATION: AFRIMS DATA

MAJCOM: AFSOC FFID: NM7572124454 MRAID: TS835 MRS: TS835a

Installation: CANNON AIR FORCE BASE

TRANSFERRED OR TRANSFERRING RANGES:

For transferred and transferring ranges, what is the nature of the transfer?

Lease to:	Ownership transfer to:	Additional reasons:
☐ Federal agency	☐ Federal agency	☐ Lease termination
☐ State government	☐ State government	☐ Revocation of withdrawn land
☐ Local government	☐ Local government	☐ Other***
☐ Private entity	☐ Private entity	
☐ Tribal	☐ Tribal	

***Please specify:

LAND USE, ACCESS CONTROL, TRANSFERRED/TRANSFERRING RANGES REFERENCES:

Section, Page #: 5.4, 5-1

LAND USE INTEREST:

☑ DOD	☐ Public sector
☐ Federal agency	☐ Tribal
☐ State government	☐ Other****
☐ Local government	

****Please specify:

LAND USE INTEREST REFERENCES:

Section, Page #:

COMPREHENSIVE SITE EVALUATION: AFRIMS DATA

MAJCOM: AFSOC FFID: NM7572124454 MRAID: TS835 MRS: TS835b

Installation: CANNON AIR FORCE BASE

City: Clovis State: NM County: Curry County

Site Name: 1940s Skeet Range - TS835b

Site Description:

MRS TS835b is located in the northeast portion of the Base, just north of the Former Ordnance/Current Munitions Storage Area. MRS TS835b is the off-base portion of MRA TS835, which belongs to the Rajen Dairy. The MRS range was oriented to the northeast. The soil type at the MRS was generally fine sandy loam.

GENERAL INFORMATION REFERENCES:

Section, Page #: *2.1,2-1/2.3.1-2.3.2,2-5/2.4,2-6,8.0, 8-1 to 8-6/9.2,9-1/10.2,10-1,10.3,10-1*

POINT OF CONTACT INFORMATION

Last Name: Higginbotham
First Name: Mathew
Organization: 27 SOCES/CEAN
Phone #: (575) 784-1092
Email: matthew.higginbotham@cannon.af.

Address: 506 N DL Ingram Blvd
City: Cannon AFB
State: NM
Zip: 88103-5003

POINT OF CONTACT REFERENCES:

Section, Page #: *N/A*

LOCATION:

City: Clovis
State: NM
County: Curry County

Latitude: 34.3978279583
Longitude: -103.29952967

LOCATION REFERENCES:

Section, Page #: *5.1, 5-1*

AREA:

Total Acreage: 6.32

Acreage confirmed as containing UXO:
Acreage suspected or potentially containing UXO:
Acreage confirmed as NOT containing UXO: 6.32

AREA REFERENCES:

Section, Page #: *4.1,4-1 to 4-2*

CLASSIFICATION:

- ☐ Testing
- ☐ Training
- ☐ Treatment OBOD RCRA
- ☐ Disposal RCRA
- ☐ Buffer Area
- ☑ Small Arms Range
- ☐ Skeet Range
- ☐ Waste Military Munitions
- ☐ Other*

*Description of other:

CLASSIFICATION REFERENCES:

Section: *5.2, 5-1*

Page:

COMPREHENSIVE SITE EVALUATION: AFRIMS DATA

MAJCOM: AFSOC FFID: NM7572124454 MRAID: TS835 MRS: TS835b

Installation: CANNON AIR FORCE BASE

RANGE TYPES:

☐ Air to Air ☐ Air to land ☑ Land to land ☐ Other*

☐ Air to water ☐ Land to air ☐ Land to water

*Description of other:

RANGE/SITE TYPES REFERENCES:

Section, Page #: *5.1,5.2, 5-1*

ORDNANCE TYPES AND RELATED ANOMALY DENSITY:

Ordnance Types (check all that apply)		Contaminant is a Chemical residue of munitions?	Density
Medium/Large Caliber (20 mm and larger)	☐	☐	
Explosive grenades (hand or rifle)	☐	☐	
Explosive landmine	☐	☐	
Explosive rockets	☐	☐	
Guided Missiles	☐	☐	
Explosive detonators	☐	☐	
Blasting caps	☐	☐	
Practice grenades (with spotting charges)	☐	☐	
Practice landmines (with spotting charges)	☐	☐	
Small arms complete round (.22-.50 cal)	☐	☐	
Small arms, expended	☑	☐	LOW
Practice ordnance (without spotting charges)	☐	☐	
White phosphorous	☐	☐	
Incendiary material	☐	☐	
Primary or initiating explosives	☐	☐	

Ordnance Types (check all that apply)		Contaminant is a Chemical residue of munitions?	Density
Demolition charges	☐	☐	
Military dynamite	☐	☐	
Less sensitive explosives (Ammonium Nitrate, etc.)	☐	☐	
Solid or liquid propellants	☐	☐	
Toxic chem. agents (choking, nerve, blood, blister)	☐	☐	
War gas identification sets	☐	☐	
Radiological ordnance (e.g., depleted Uranium)	☐	☐	
Riot control agents (vomiting, tear)	☐	☐	
Bombs (explosive)	☐	☐	
Bombs (practice)	☐	☐	
Fuses, Boosters, Bursters	☐	☐	
Flares, signals, & simulators (other than white phos.)	☐	☐	
Torpedoes/Sea Mines	☐	☐	
Secondary explosives (PETN, Compositions A, B, C, Tetryl, TNT, RDX, HMX, HBX, Black Powder, etc.)	☐	☐	

ORDNANCE TYPES REFERENCES:

Section, Page #: *5.2, 5-1*

ANOMALY DENSITY REFERENCES:

Section, Page #: *5.6.1, 5-2*

GENERAL MEDIA:

Predominant Soil Type: Silt/Silty Clay Predominant Topography: Flat

Predominant Vegetation: Low grass and few shrubs

COMPREHENSIVE SITE EVALUATION: AFRIMS DATA

MAJCOM: AFSOC FFID: NM7572124454 MRAID: TS835 MRS: TS835b

Installation: CANNON AIR FORCE BASE

GENERAL MEDIA REFERENCES:

Section, Page #: 5.1,5-1

GROUNDWATER:

Potential for contamination of drinking water: NO POTENTIAL

Depth to Groundwater (feet): 250

Is the MRS located above a drinking water aquifer? YES

Sole source aquifer? No

GROUNDWATER REFERENCES:

Section, Page #: 8.2.3.2, 8-6

ARCHAEOLOGICAL/ECOLOGICAL:

Threatened or endangered species present? ○ Yes ◉ N

Archaeological or cultural sites present? ○ Yes ◉ N

ARCHEOLOGICAL/ECOLOGICAL REFERENCES:

Section: 5.8.2,5.8.3,5-30/5.8.1,5-30

WETLANDS:

Are there any wetland areas associated with this site? NO If yes, please list acreage:

WETLANDS REFERENCES:

Section, Page #: 5.8.1,5-30

COMPREHENSIVE SITE EVALUATION: AFRIMS DATA

MAJCOM: AFSOC FFID: NM7572124454 MRAID: TS835 MRS: TS835b

Installation: CANNON AIR FORCE BASE

ENVIRONMENTAL RESPONSE:

Have environmental response activities been initiated/conducted on this MRS? ○ Yes ◉ No

If yes, what is the scope of the response activities?
- ☐ Past practices
- ☐ Chemical contamination
- ☐ Current practices
- ☐ Ordnance and explosives, including UXO

If yes, what is the status of the response activities?
- ☐ Data collection
- ☐ Investigation
- ☐ Response/remedial action
- ☐ Monitoring
- ☐ Close out
- ☐ Operation and maintenance

If yes, is contamination monitoring (i.e., groundwater sampling and analysis) needed?

If yes, under what authority were/are response actions conducted?

ENVIRONMENTAL RESPONSE REFERENCES:

Section, Page #: *2.6,2-9*

UXO RESPONSE:

What types of UXO response actions have been initiated/conducted on the site?

- ☑ None
- ☐ Unknown
- ☐ Other*
- ☐ Emergency response actions
- ☐ Routine range clearance/maintenance
- ☐ Time-critical removal actions
- ☐ UXO response actions associated with ERP activities
- ☑ Non-time-critical removal actions with Engineering Evaluation/Cost Analysis

*Please specify other:

UXO RESPONSE REFERENCES:

Section: *2.6, 2-11* *Page:*

LAND USE RESTRICTIONS:
- ☐ No public access
- ☐ Unrestricted public access
- ☑ Limited public access
- ☐ Restricted public access

ACCESS CONTROLS:
- ☑ No controls
- ☐ Locked gates
- ☐ Access signs
- ☐ Log book
- ☐ Fencing
- ☐ Security patrol

COMPREHENSIVE SITE EVALUATION: AFRIMS DATA

MAJCOM: AFSOC FFID: NM7572124454 MRAID: TS835 MRS: TS835b

Installation: CANNON AIR FORCE BASE

TRANSFERRED OR TRANSFERRING RANGES:

For transferred and transferring ranges, what is the nature of the transfer?

Lease to:	Ownership transfer to:	Additional reasons:
☐ Federal agency	☐ Federal agency	☐ Lease termination
☐ State government	☐ State government	☐ Revocation of withdrawn land
☐ Local government	☐ Local government	☐ Other***
☐ Private entity	☐ Private entity	
☐ Tribal	☐ Tribal	

***Please specify:

LAND USE, ACCESS CONTROL, TRANSFERRED/TRANSFERRING RANGES REFERENCES:

Section, Page #: 5.4, 5-1

LAND USE INTEREST:

☐ DOD	☐ Public sector
☐ Federal agency	☐ Tribal
☐ State government	☑ Other****
☐ Local government	

****Please specify: Owned by Rajen Dairy. Primary use as storage.

LAND USE INTEREST REFERENCES:

Section, Page #: 2.1,2-1

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APPENDIX M

Documentation of Public Participation Support

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USAF Military Munitions Response Program Comprehensive Site Evaluation Phase II

1st FACT SHEET

Cannon Air Force Base

February 2011

THE AIR FORCE

- Is dedicated to protecting human health and the environment by making MRAs *safe to reuse*.
- Is developing the MMRP by *maximizing efficiencies* and lessons learned from 20 years of environmental restoration experience.
- Will *prioritize MRAs* according to environmental, health, and safety considerations; current and future planned resource use; and site attributes.

FOR MORE INFORMATION

Please contact the Cannon AFB Public Affairs Office:

27 SOW Public Affairs
110 E. Sextant, Suite 1150
Cannon AFB, NM 88103
Phone: 575-784-1110
Email: 27SOWPublicAffairs@cannon.af.mil

The Air Force developed the Comprehensive Site Evaluation (CSE) Phase I and Phase II to serve as the initial munitions response action of its Military Munitions Response Program (MMRP). The goal of the CSE is to obtain sufficient data to support decision-making with regard to effectively managing its munitions response areas (MRAs), while protecting human health and the environment. The CSE Phase I is analogous to a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Preliminary Assessment, and the CSE Phase II is analogous to a CERCLA Site Inspection.

The CSE is an inclusive approach that investigates explosive safety issues created by the potential presence of munitions and explosives of concern (MEC), as well as the environmental hazards posed by the potential presence of munitions constituents (MC).

The Air Force views the CSE as the first step in a performance-based, knowledge-driven approach for the Air Force MMRP. This approach focuses on achieving end results as opposed to meeting artificial milestones. The Air Force will continue to solicit stakeholder participation throughout the CSE process.

The Cannon Air Force Base (AFB) CSE Phase I Final Report was issued in December 2009. The CSE Phase II was initiated shortly thereafter. CSE Phase II activities at Cannon AFB include work plan preparation, visual surveying, X-ray fluorescence (XRF) sampling, MC sampling, report preparation, public participation support, and administrative record updates. Geophysical surveys are not being performed. The CSE Phase II field activities will be completed in March 2011.

For further information regarding Cannon AFB CSE Phase I and II activities, contact the 27th SOW Public Affairs Office at 575-784-1110.

CANNON AFB FORMER 1940s SKEET RANGE MUNITIONS RESPONSE AREA

Cannon AFB Military Munitions Response Program 1st FACT SHEET

ACRONYMS

- AFB: Air Force Base
- CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act
- CSE: Comprehensive Site Evaluation
- MC: Munitions Constituents
- MEC: Munitions and Explosives of Concern
- MMRP: Military Munitions Response Program
- MRA: Munitions Response Area
- MRSPP: Munitions Response Site Prioritization Protocol
- PAH: Polycyclic Aromatic Hydrocarbon
- XRF: X-ray Fluorescence

Visual Surveys and Observations

Visual surveys will be completed at the Former 1940s Skeet Range, located near the northeast corner of CAFB. The visual surveys will be completed to identify evidence of MEC as well as significant site features related to historical munitions activities or environmental characteristics. Survey transects will be spaced approximately 20 feet apart, with closer spaced transects near potential features of interest. Visual Observations will be completed prior to XRF sampling at the Former 1940s Skeet Range so that sample locations can be adjusted as necessary based on findings of the visual survey.

XRF Sampling

XRF sampling and analysis for lead will be completed at the Former 1940s Skeet Range at a frequency of approximately one XRF every 160-feet spacing in undeveloped areas for a total of approximately 40 XRF samples on CAFB property to define the extent of lead-contaminated soils.

The density of sampling may be adjusted based on observations in the field. The XRF sample results will be compared to the residential lead screening level of 400 parts per million. Twelve correlation samples will be collected and sent to an off-site laboratory for analysis.

Clay Target Constituent Sampling

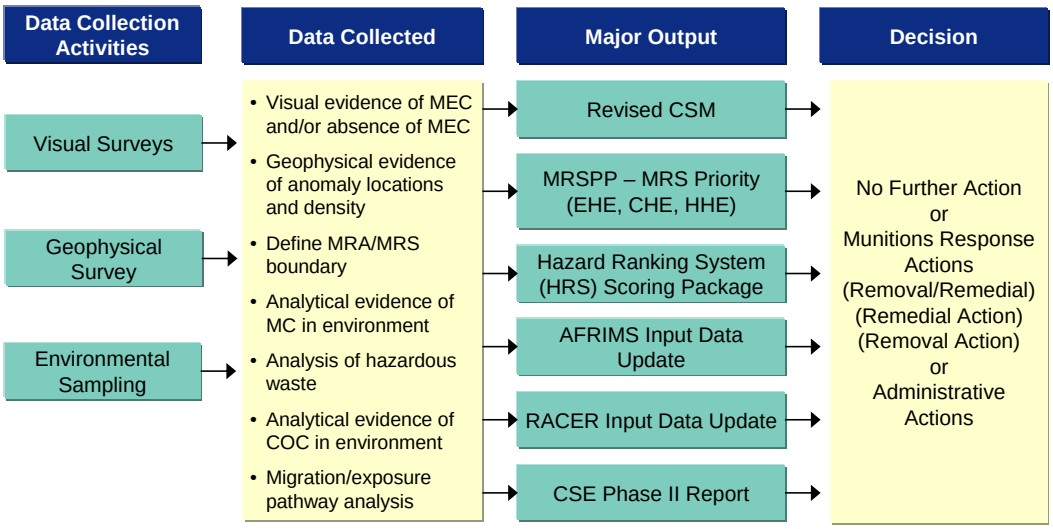
Surface soil may be sampled and analyzed for polycyclic aromatic hydrocarbons (PAH) from clay targets used at the Former 1940s Skeet Range. Samples will be collected for PAHs only in areas where clay target fragments are observed during the visual survey.

CSE Phase II Report

The CSE Phase II Report will include:

- Summaries of the MRAs;
- XRF and laboratory analytical sample results;
- Human Health and Ecological Risk Screening evaluations;
- Conceptual Site Models that document the potential hazards, pathways, and receptors;
- Munitions Response Site Prioritization Protocol (MRSPP) ratings to prioritize the MRAs for future actions;
- Data for cost estimating and other required program management functions; and
- Recommendations for further munitions response actions or closure under the Air Force MMRP.

A summary of the CSE Phase II process is presented below.



Cannon Air Force Base

FACT SHEET #2
DRAFT

Military Munitions Response Program Comprehensive Site Evaluation Phase II

September 2013

DATA COLLECTED FOR CSE PHASE II AT SHEPPARD AFB:

- Visual Survey Observations
- Lead Concentrations in MRA Soil by On-site XRF Analysis
- Munitions Constituent Concentrations in MRA Soil by Off-Site Analyses – Lead and PAH
- Background Soil Analyses - PAH

Introduction

Under the Military Munitions Response Program (MMRP), the Air Force completed a Comprehensive Site Evaluation (CSE) Phase I at Cannon Air Force Base (AFB), New Mexico, in 2009. This investigation indicated past military munitions activities took place at two locations on the installation, and munitions constituents (MC) were potentially present at one of these locations. This area was identified as former 1940s Skeet Range (TS835). Based on the CSE Phase I information and subsequent evaluation, a CSE Phase II investigation was performed at this Munitions Response Area [MRA (Figure 1)] in March 2011. The CSE Phase II process and the approach for the Cannon AFB investigation were presented in a February 2011 Fact Sheet, which is included in the CSE Phase II Report (Appendix M) and is available upon request.

CSE Phase II Investigation Results

The CSE Phase II field work consisted of a visual survey, and soil sampling and analysis for MC. The primary MCs that were expected to be present were lead (from shot) and polynuclear aromatic hydrocarbons (PAHs) (from coal tar binding material in clay targets).

Visual Survey

During the visual survey, the field team walked at a designated spacing across the MRA, searching for evidence of range use, including spent cartridges, shot, and clay target debris. Clay target fragments were observed at the MRA in areas of the ranges where most target fragments were expected to be present. These locations were documented using a hand-held Global Positioning System (GPS) unit.

Figure 1. TS835 at Cannon AFB Investigated under CSE Phase II

FOR MORE INFORMATION
Please contact the Cannon AFB Public Affairs Office:

27 SOW Public Affairs
110 E. Sextant, Suite 1150
Cannon AFB, NM 88103
Phone: 575-784-1110
Email: 27SOWPublicAffairs@cannon.af.mil

ACRONYMS:

AFB – Air Force Base

CSE – Comprehensive Site Evaluation

GPS – Global Positioning System

IRP – Installation Restoration Program

MC – Munitions Constituents

MMRP – Military Munitions Response Program

MRA – Munitions Response Area

MRSPP – Munitions Response Site Prioritization Protocol

NFA – No Further Action

PAH – Polynuclear Aromatic Hydrocarbon

XRF – X-Ray Fluorescence

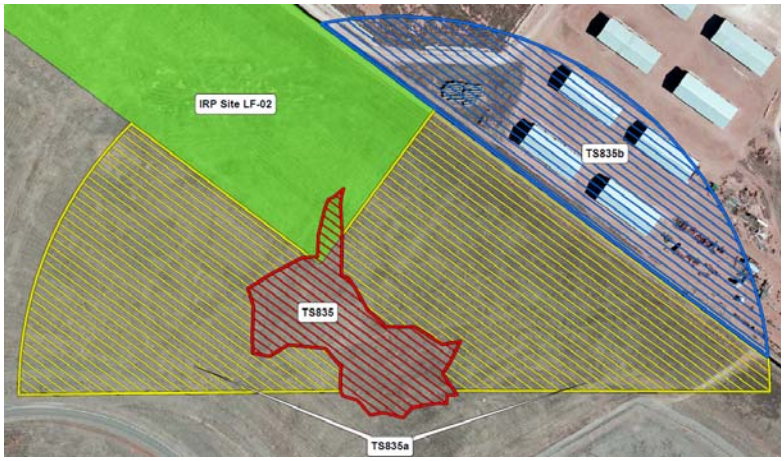
Sampling and Analysis for Munitions Constituents

Sampling at Cannon AFB was conducted at the MRA during the CSE Phase II field effort. No samples were collected from within MRA TS835 where it overlapped with the Installation Restoration Program (IRP) site LF-02 and no samples were collected form within the MRA where it fell outside of the base. Sampling included collection of soil samples from the surface to a depth of 1 foot. A portable X-ray fluorescence (XRF) instrument was used to analyze the samples for lead content; a subset of these samples was also submitted to a commercial off-site laboratory for lead analysis. Soil samples were also collected from the clay target fragment areas at the MRA and analyzed at the off-site laboratory for PAHs. Finally, surface soil samples were collected from a background area on Sheppard AFB and analyzed for PAHs.

Lead Results - Lead concentrations in all samples were low and below human health screening levels, indicating no unacceptable risk from former range activities.

PAH Results – Concentrations of PAHs were above background and human health screening levels in surface soil at several locations where clay target fragments were observed. Since the source of the elevated PAH concentrations in soil was identified as the clay target fragments at the MRA, the MRA was divided into three MRSs: TS835a represents the on-base area within the former skeet range not impacted by elevated PAH concentrations; TS835b represents the area within the former skeet range falling outside the base; and TS835 represents the area containing elevated concentrations of PAHs (Figure 2).

Figure 2. PAH-Impacted Portion of the TS835 in Red



Munitions Response Site Prioritization Protocol (MRSPP)

The CSE Phase II data from the investigations at the MRA was evaluated using the MRSPP to assess further munitions response actions. The data from the Cannon AFB CSE Phase II investigation were incorporated into the Air Force database tools used to consistently evaluate all MMRP sites. The MRSs TS835a and TS835b scored an 8, which is the lowest funding priority. This score is based on the use of only small arms and no explosive hazards at these MRAs, and MC concentrations that are below residential screening levels and similar to background concentrations. The PAH-impacted MRS TS835 scored a 4, due to the fact that several PAH compounds exceeded the USEPA Regional Screening Levels.

CSE Phase II Conclusions

No Further Action (NFA) is recommended for the portions of the former skeet ranges not impacted by elevated PAH concentrations (TS835a and TS835b) because there is no remaining evidence of munitions activities and concentrations of MCs are below residential screening levels. Further investigation and/or removal is recommended for the portion of the former skeet ranges currently impacted by elevated PAH concentrations (TS835).

Public Notice

Request for public document review for Cannon Air Force Base

Recently, the U.S. Air Force completed a Comprehensive Site Evaluation (CSE) Phase II at one former small arms firing range at Cannon Air Force Base (AFB), New Mexico. The Air Force developed the CSE process to serve as the initial munitions response action of its Military Munitions Response Program (referred to as "the MMRP"). The goal of the CSE is to obtain sufficient data to support Air Force decision-making with regards to effectively managing its munitions response sites, while protecting human health and the environment. Cannon AFB is located in northeastern New Mexico in Curry County, approximately 8 miles west of the city of Clovis, and 12 miles north of the city of Portales. Originally known as Portair Field, the installation was transferred to the Army Air Corps in 1942. Today, Cannon AFB is home to the Air Force's 27th Special Operations Wing.

Cannon AFB is one of many military installations throughout the United States that are being reviewed under the Department of Defense's MMRP. This program was developed to address historical sites known or suspected to contain unexploded ordnance, discarded military munitions, or munitions constituents. The CSE Phase II identified one site at Cannon AFB which was used for target training with small arms. Under the MMRP the Air Force must complete the Military Munitions Response Site Prioritization Protocol (referred to as "the Protocol"). The Protocol is used to assign priorities for any additional investigation or munitions removal that may be required, and it assigns a relative priority to each historical training area based on an assessment of the overall conditions at the site. The Protocol is not a risk assessment tool nor is it the sole mechanism used for making response decisions at sites. Generally, a site with a higher priority will be addressed before one with a lower priority; however, other factors, such as mission-driven requirements or community input may influence the Air Force sequencing decisions.

All munitions response sites investigated under the Cannon AFB CSE Phase II were reviewed under the Protocol and received moderate to low priority scores; however, you are encouraged to review and comment on the Protocol and sequencing processes used for Cannon AFB. You can get involved by providing comments in writing (via email or regular mail). You may also request a public meeting to discuss the results of the Protocol scoring at Cannon AFB. As members of the local community, you provide valuable insight into cultural, environmental, economic, or social factors that should be considered. The Air Force uses your input to understand any potential impacts and ensure a comprehensive decision making process is followed.

The evaluation criteria, including types of munitions that may be present, ease of access to the site and number of people living near the site, are available for public review from August 19, 2013 through September 18, 2013.. The Protocol is located in Appendix J of the Draft Final *Comprehensive Site Evaluation Phase II Report*, which is available for public review at the Clovis Carver Public Library, 701 North Main Street, Clovis, New Mexico.

To request more information please contact:

Cannon AFB Public Affairs

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Public Notice

Request for public document review for Cannon Air Force Base

Purpose
To notify the public of the opportunity to review the Munitions Response Site Prioritization Protocol (Protocol) that has been prepared for one site at Cannon Air Force Base (AFB). The Protocol is located in Appendix J of the Draft Final *Comprehensive Site Evaluation Phase II Report*, which is has been placed on file at the Clovis Carver Public Library, 701 North Main Street, Clovis, New Mexico. The Protocol is available for review from August 21, 2013 through September 20, 2013

Background Information
Recently, the U.S. Air Force completed a Comprehensive Site Evaluation (CSE) Phase II at one former small arms firing range at Cannon Air Force Base (AFB), New Mexico. The CSE is the initial response action under the Military Munitions Response Program (referred to as "the MMRP"). The goal of the CSE is to obtain sufficient data to determine how the former range was used, determine if any range related contamination is present, and to complete the Protocol.

The MMRP is a Department of Defense program developed to address historical sites known or suspected to contain unexploded ordnance, discarded military munitions, or munitions constituents. The site evaluated in the CSE Phase II was found to have a small area of munitions constituents related to skeet training. This contamination will be further investigated and cleaned up as part of the contract scheduled for award in the fall of 2013.

Under the MMRP the Air Force must complete the Protocol and provide the public an opportunity to review the scores. The Protocol is used to assign priorities for any additional Investigation or munitions removal that may be required. The score that is generated from the Protocol is used to assign a relative priority to each Air Force historical training area. The Protocol is not a risk assessment tool nor is it the sole mechanism used for making response decisions at sites. Generally, a site with a higher priority will be addressed before one with a lower priority; however, other factors, such as mission-driven requirements or community input may influence the Air Force sequencing decisions. The munitions response site investigated under the Cannon AFB CSE Phase II received a moderate to low priority score; however, this site has already been approved for funding in the fall of 2013. If you wish to review and comment on the Protocol score and sequencing processes, you may do so by providing comments in writing (via email or regular mail). You may also request a public meeting to discuss the results of the Protocol at Cannon AFB. As members of the local community, you provide valuable insight into cultural, environmental, economic, or social factors that should be considered. The Air Force uses your input to understand any potential impacts and ensure a comprehensive decision making process is followed.

The complete Protocol is available for public review from August 21, 2013 through September 20, 2013. The Protocol is located in Appendix J of the Draft Final *Comprehensive Site Evaluation Phase II Report*, which is on file at the Clovis Carver Public Library, 701 North Main Street, Clovis, New Mexico.

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