DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 49TH WING (ACC)
HOLLOMAN AIR FORCE BASE, NEW MEXICO

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Dear New Mexico Environment Department

Holloman Air Force Base is pleased to submit the Draft Accelerated Corrective Measures (ACM) Completion Report for SS-39 Missile Fuel Spill Area (SWMUs 165, 177, 179 and 181) for your review.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you have any questions, please contact Mr. Brent Hunt of our Asset Management Flight at (575) 572-5395.

Sincerely

A. DAVID BUDAK, GS-14, DAFC

Attachment:
Draft ACM Completion Report for SS-39 Missile Fuel Spill Area (SWMUs 165, 177, 179 and 181)

cc:

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ACCELERATED CORRECTIVE MEASURES COMPLETION REPORT SS-39 MISSILE FUEL SPILL AREA (SWMUs 165, 177, 179, AND 181) HOLLOMAN AIR FORCE BASE ALAMOGORDO, NEW MEXICO

Prepared for:

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ACRONYMS

ACC	Air Combat Command
ACM	Accelerated Corrective Measure
AMC	Air Materiel Command
AOC	Area of Concern
bgs	below ground surface
CCB	concrete collection basin
CHW	characteristically hazardous waste
COC	chemicals of concern
EPA	U.S. Environmental Protection Agency
ft	foot or feet
ft/day	feet per day
ft/ft	feet per foot
ft/year	feet per year
ft^2	square feet
HAFB	Holloman Air Force Base
HGL	HydroGeoLogic, Inc.
in.	inch(es)
LTM	Long Term Monitoring
LUC	Land Use Control
mg/kg	milligram per kilogram
NFA	No Further Action
NMED	New Mexico Environmental Department
NMWRRI	New Mexico Water Resources Research Institute
NOD	Notice of Deficiency
PCE	Tetrachloroethylene
PID	photoionization detector
QC	quality control
RCRA	Resource Conservation Recovery Act
RFI	RCRA Facility Investigation
SL	screening level
SSL	Soil Screening Levels

SOP	Standard Operating Procedure
SWMU	Solid Waste Management Unit
TCE	Trichloroethylene
TDS	total dissolved solids
Tetra Tech	Tetra Tech, Inc.
TPH	total petroleum hydrocarbons
UDMH	unsymmetrical dimethylhydrazine
EPA	United States Environmental Protection Agency
VI	vapor intrusion
VOC	Volatile Organic Compound

1.0 INTRODUCTION

This Accelerated Corrective Measures (ACM) Completion Report was prepared by Tetra Tech, Inc. (Tetra Tech) on behalf of Holloman Air Force Base (HAFB) for the SS-39 Missile Fuel Spill Area Solid Waste Management Units (SWMUs) 165, 177, 179, and 181 at HAFB, New Mexico. The initial ACM Work Plan (Tetra Tech, 2009) was being reviewed by the New Mexico Environmental Department (NMED) when additional ACM site investigation activities were conducted in November, 2010. An ACM Work Plan Addendum that included the results of 2010 ACM field investigation activities and that provided an up-to-date assessment of all site data with respect to the most recent risk-based criteria for the protection of human health and the environment was provided to NMED in December 2011. The ACM Work Plan Addendum (Tetra Tech, 2011b) was approved by NMED in February 2012. Upon approval, Tetra Tech implemented the remedial activities at SS-39 and has prepared this ACM Completion Report under contract to the U.S. Air Force Center for Engineering and the Environment, Contract No. FA4890-06-D-0009, Task Order No. 5002.

1.1 INSTALLATION BACKGROUND

HAFB is situated in south-central New Mexico, in the northwest-central part of Otero County. The Base is located approximately 75 miles northeast of El Paso, Texas, and 7 miles west of Alamogordo, New Mexico. The Base occupies about 50,000 acres in the northeast quarter of section Township 17 South, Range 8 East. Additional land extending northward is occupied by the White Sands Missile Range testing facilities. An installation location map is included as Figure 1-1.

Holloman AFB, formally Alamogordo Army Airfield, was initiated as a temporary facility during World War II, with construction commencing on 6 February 1942. Its status, mission, and Command have periodically changed over the years. Today, HAFB is under the Air Combat Command (ACC).

Prior to 1942, the property occupied by HAFB was undeveloped rangeland. The Alamogordo Army Airfield was established in 1942 and was deactivated in 1945. The facility was again reactivated in 1945 and was operated by the Air Materiel Command (AMC) until 1951. AMC tested pilot-less aircraft, guided missiles, and other equipment. The facility mission remained largely unchanged until 1971, although the facility identification changed several times during the 20-year span: Air Force Missile Test Center (1951 to 1952), Holloman Air Development Center (1952 to 1957), and Air Force Missile Test Center (1957 to 1971). The Tactical Air Command operated the facility from 1972 to 1992 and housed

the 49th Tactical Fighter Wing, 479th Tactical Training Wing, 833rd Air Division, and 4449th Mobile Support Squadron. In 1992, HAFB was realigned under the ACC where it operates today.

1.2 SS-39 MISSILE FUEL SPILL AREA

SS-39 is located in the central portion of HAFB along the Lost River Drainage Basin. The site is located along the northern slope of the Lost River Drainage Basin immediately south of Building 1176. The location of SS-39, with respect to HAFB, is shown on Figure 1-2.

1.2.1 Site Description

The area surrounding SS-39 is primarily undeveloped and moderately vegetated with salt cedars, shrubs, and grasses. The area immediately north of the site is relatively flat, and although SS-39 relatively flat, there is an overall site-wide southerly dip toward the Lost River Basin. The area in proximity to Building 1176 is heavily improved with the construction of the building and two asphalt paved vehicle lots along the east and west sides of the building. On the south and east sides of Building 1176, three concrete-tiled, 1-foot (ft) wide drainage troughs (SWMU 181, Drainage Trough) extend east, south, and southwestward from the corners of the building. Each drainage trough leads to separate sumps (SWMU 177, Drainage Sump), as shown on Figure 1-3. The eastern portion of SS-39 includes two drainage features that receive discharge of materials spilled at the Alpha launch pad located about 550 ft northeast of Building 1176. A propellant spill pipe discharges into a concrete basin (SWMU 169) located in a near ditch, and the oxidizer spill pipe discharges directly to a more distant ditch. Both ditches that receive the discharges flow southward toward the Lost River Basin that lies along the southern terminus of SS-39. Further to the northeast of Building 1176 lies the Alpha Launch Pad and Test Track. The launch pad contains a concrete collection basin (CCB) for sediment and debris (SWMU 165) that is included in SS-39.

1.2.2 Contamination History

SS-39 includes Building 1176 and associated drainage troughs and sumps and the Alpha launch pad that includes a concrete collection box for sediment, two spill discharge pipes (propellant and oxidizer), and a concrete discharge box at the end of the propellant pipe. Spilled oxidizers and fuels (propellants) were delivered to separate drains at the launch pad, diluted with water and flushed via the spill pipes to the Lost River Basin. In 1975, a catch basin was installed to collect the spilled liquid fuels. Oxidizer vent lines from the engines were also installed and designed to discharge into the catch basins. Since 1975, no propellants have been intentionally released to the open drains. Surface and groundwater samples were first collected from the Lost River in the vicinity of the test track in July of 1979.

Fueling activities for tests at the Alpha Test Track were completed on the launch pad before each sled launch. The fuels were brought on location by truck because no fuels were stored at the launch facility. Before sleds were subsequently removed from the track, the fuels were emptied from the sleds into the proper storage container (a process called de-tanking) and then the sleds were taken to Building 1176 where the remainder of the fuel was purged from the engines. Throughout the history of the test track, fuels have included at least the following: JP-4 (jet fuel); unsymmetrical dimethylhydrazine (UDMH); aniline; inhibited red fuming nitric acid; inhibited white fuming nitric acid; liquid oxygen; JPX (1:1 mixture of JP-4 and UDMH); dyes; solid rocket propellants; and other compounds. The drainage systems for the Alpha Pad and Building 1176 were designed to prevent accidents in the event of a fuel spill during the fueling and/or de-tanking activities.

The launch pad drainage system collected and drained spilled oxidizers and propellants separately. At the test track, fueling and de-tanking of oxidizers were all completed on the east half of the track and the same was done for propellants on the west half of the track. In the event of a spill, the propellants and/or oxidizers were collected in and released through separate drainage systems (i.e., spill pipes).

In addition to these fuels, solvents such as trichloroethylene (TCE) were commonly used for sled maintenance in Building 1176. The management practices of these chemicals at Building 1176 were not extensively reviewed; however, interviews with past employees suggest that the washrack and drainage trenches could have received wastes.

1.3 SCOPE AND OBJECTIVE

This document provides a summary of the site field activities that were implemented per the ACM Work Plan Addendum (Tetra Tech, 2011b) for contaminated soil and an analysis of the observations and laboratory results of confirmation samples collected to support the conclusion that soil cleanup has been achieved. The accelerated remedial strategy was based on the previous site investigation results that were supplemented by the 2010 ACM site investigation (Tetra Tech, 2011b) to address data gaps and to delineate the nature and extent of contamination. This report a) describes the field activities conducted to address the areas targeted for ACM soil cleanup, b) contains a comparison of the ACM soil confirmation sample results to the current risk-based screening levels (SLs) for pathways of concern at the site, and c) identifies remedial measures for soils that were completed and describes actions to prevent exposure to contaminated groundwater in order to achieve site closure in accordance with anticipated future land use. As documented in the following sections, a Corrective Action Complete with Controls that includes unrestricted land use for

soils and land use controls (LUCs) to prevent risk via vapor intrusion (VI) from the groundwater plume is proposed.

1.4 REPORT ORGANIZATION

This completion report is organized into four sections. Section 1 is the introduction; Section 2 presents the site specific environmental setting of the SS-39; Section 3 identifies the ACM soil cleanup activities and provides the post-cleanup data evaluation; Section 4 and provides the plan and rationale for the site closure strategy; and Section 5 provides the references cited in this work plan.

Appendices are included which provide the ACM site cleanup field logbook records (Appendix A) and confirmation sample laboratory analytical results along with data validation review checklists (Appendix B). Analytical data tables summarizing the validated laboratory results for all analyses are provided in Appendix C. The results of selected soil samples analyzed for TCLP to assess the potential for characteristic hazardous waste (i.e., waste profile samples) are provided in Appendix D. Waste disposal manifests for all soils, sediment, and debris removed from the site are provided in Appendix E.

2.0 SITE-SPECIFIC ENVIRONMENTAL SETTING

The environmental setting information in the following subsections is reproduced primarily from the Supplemental Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) Report prepared by HydroGeoLogic, Inc. (HGL) for SS-39 (HGL, 2007) unless cited otherwise.

2.1 DEMOGRAPHICS

Alamogordo is the county seat of Otero County and the only town of appreciable size within 30 to 50 miles of the Base. The population of Alamogordo was 23,535 in 1975 and has since grown to approximately 35,000 (2000 census). The economy of Alamogordo depends largely upon HAFB and other military installations in the area. Approximately 5,500 people live at HAFB.

2.2 CLIMATE

The climate in the Tularosa Basin is arid with low annual rainfall and low relative humidity. The surrounding mountain ranges greatly influence the local weather. They modify approaching weather systems and provide orographic lifting which produces summer thunderstorms.

Holloman AFB receives most of its total annual rainfall from thunderstorm activity from May through October. Winter is generally dry and is characterized by clear skies and erratic snowfall. The period from March through May is characterized by strong southerly wind flow and periods of blowing dust and sand. Mean annual precipitation is 7.9 in. The mean annual lake evaporation rate, commonly used as an estimate of the mean annual evapotranspiration rate, is approximately 67 in. per year. As presented by Huff in the 49th Annual New Mexico Water Conference Proceedings (New Mexico Water Resources Research Institute [NMWRRI], 2005), approximately 30,000 acre-ft/year of groundwater left the Tularosa basin through evapotranspiration under 1995 conditions.

2.3 TOPOGRAPHY

SS-39 is located on the northern slope of the Lost River Drainage Basin. The site has an overall moderately southward dipping slope towards the Lost River Drainage Basin. Moderately to steeply incised swales and gullies cut into the slope east, west, and immediately downgradient of Building 1176. At the base of the slope, the topography becomes flat with a very slight southerly dip towards the center of the Lost River drainage basin. Steeply incised rills and drainage swales are present throughout the central portion of the slope, trending in a north-south orientation toward the Lost River drainage basin. Vegetation in the central portion of the slope consists of salt cedars, shrubs, grasses, and cacti. Near the

base of the slope, vegetation primarily consists of grass and shrubs until the edge of the Lost River Drainage Basin, after which no vegetation is present. The edge of the basin typically marks the high water level within the drainage basin during and slightly after heavy rainstorms. An unpaved service road parallels the basin edge providing access to the lower portion of the site.

2.4 SURFACE WATER

No surface water bodies are present within SS-39. During heavy rain events and the rainy season, surface water runoff collects within the Lost River Drainage Basin. Numerous swales and gullies emanate from and cross SS-39.

2.5 GEOLOGY

Site-specific geologic information was obtained from lithologic data collected during previous subsurface investigations and from the Supplemental RFI (HGL, 2007). Based on lithologic logging activities, the soils underlying Building 1176 and SS-39 are composed primarily of well-sorted, fine-grained sand. To the west, in the vicinity of MW39-02, two 8 ft sequences of silt separated by a 2 ft thick sand lens were encountered to approximately 18 ft below ground surface (bgs). North of Building 1176, in the vicinity of MW39-01, an 8 ft thick sequence of silty sand was encountered at the surface. Both the silt and silty sand units appear to interfinger the sand unit. Within the Lost River Drainage Basin, sands with clay and interbedded clay lenses were encountered at the surface to approximately 6 ft bgs.

2.6 HYDROGEOLOGY

Groundwater occurs beneath SS-39 in a shallow unconfined aquifer. The groundwater elevation varies across the site based on topography with depths to groundwater ranging from 18 ft bgs at the top of the northern slope to less than 0.5 ft bgs in the Lost River Drainage Basin to the south. Groundwater potentiometric surface maps generated from water level data have historically showed a southern flow direction, toward the Lost River Basin. Based on an average site hydraulic conductivity of 1.91 ft/day from well tests, an observed hydraulic gradient of 0.0047 ft/ft [2003 Long Term Monitoring (LTM) event], and an estimated porosity of 30 percent for the sandy soil, the linear groundwater flow velocity across SS-39 was estimated to be 0.029 ft/day, or 11 ft/year.

3.0 ACCELERATED CORRECTIVE MEASURES

The following sections present the ACM soil cleanup activities that were conducted at SS-39 between March 26 and May 14, 2012. The goal of the soil cleanup was to address the chemicals and pathways of concern for contaminated soil that had been identified in the ACM Work Plan Addendum to support the site closure strategy of Corrective Action Complete with Controls. The soil cleanup activities were conducted at the following six locations/facilities at SS-39 for targeted chemicals of concern (COCs):

- Sumps (SWMU 177) and drainage troughs (SWMU 181) associated with Building 1176
  - Sump 1 to the southwest of the building – volatile organic compounds (VOCs)
  - Sump 2 to the south of the building – VOCs, total petroleum hydrocarbons (TPH), chromium, and lead
  - Sump 3 to the east of the building – VOCs, TPH, arsenic
- Propellant Discharge Box (SWMU 179) and drainage area adjacent to the box
  - TPH, arsenic, lead inside the box
  - Methylene chloride, TPH, arsenic, lead outside the box
- Oxidizer spill pipe discharge area
  - Methylene chloride, arsenic
- CCB (SWMU 167) at the Alpha launch pad
  - lead

Corrective measures for groundwater contamination are presented in Section 4.

3.1 EXCAVATION OF CONTAMINATED SOIL

Soils that were identified in the ACM Work Plan Addendum as containing chemical contaminants at concentrations exceeding the cleanup levels, which were based on NMED Residential Soil Screening Levels (SSLs) and/or the calculated VI SSLs, were excavated and transported off-site to a permitted disposal facility. The following sections describe the methodologies and procedures used to remediate contaminated soil associated with SS-39.

3.1.1 Excavation Areas

The perimeter of each target excavation area within SS-39 is shown on Figures 3-1 and 3-2; these figures were presented in the ACM Work Plan Addendum. There were a total of six separate locations where soil and/or sediment was removed. The excavation limits shown on Figures 3-1 and 3-2 were generalized

areas that encompassed the residential SSL exceedances at SS-39, as presented in the ACM Work Plan Addendum. The final areas and volumes of soil that were removed at each location was based upon locations and depths of historical samples showing contamination; field observations of structure dimensions (e.g., total depth of sumps), staining, odors, or changing soil properties; and field measurements of soil sample organic vapors [using a photoionization detector (PID)] in areas were organic contamination was known or suspected. Also, hand auger borings were used to collect additional soil samples along the drainage ditch below the oxidizer spill pipe discharge area to delineate the extent of contamination down the drainage feature.

3.1.2 Excavation Methodology

Powered excavation equipment and hand tools were required to remove soil and sediment, to dig out and remove the concrete sumps, and to clean out drainage troughs and sediment trap boxes. These activities were accomplished using a Case Model 310 backhoe equipped with a 1.5 or 2-ft wide backhoe bucket and a front-end loader bucket. Removal of soil/sediment form the Propellant Pipe Discharge Box (SWMU 179) was accomplished using the backhoe and by hand using a shovel; removal from the Concrete Drainage Box (SWMU 167) was accomplished entirely by hand using a shovel. The maximum depth of excavation was approximately 12 ft bgs at the sumps along the south side of Building 1176, and the largest lateral dimension of the excavations approximately 170 ft along the length of the drainage ditch below the oxidizer spill pipe discharge. At all locations, clean soil was stockpiled immediately adjacent to the excavation and used for backfilling. Known or suspected contaminated soil from around or within the sumps, from the propellant pipe discharge box, and from the test track CCB were stockpiled (on plastic if wet) before being loaded in trucks; soils suspected of being characteristically hazardous were directly loaded into roll off boxes at the site. Soil contaminated with low concentrations of arsenic excavated from the oxidizer spill pipe drainage area were stockpiled along the top bank of the ditch and then scrapped up and loaded into trucks. Significant groundwater was not encountered in the excavations, nor did significant rainfall occur; therefore contaminated soil from excavations was not required to be stockpiled and drained before disposal. However, sediment from inside the propellant pipe discharge box had a high water content (but minimal free drainage) and was placed directly on plastic and allowed to air dry before being placed into a roll off box.

3.1.3 Potential Characteristic Hazardous Waste

Historical sample analytical results suggested that soils at some locations and depths could be characteristically hazardous waste (CHW) based on their potential to leach chemicals at concentrations greater than TCLP limits. These soils were identified by comparing all historical sample results to a soil concentration based on 20 times the TCLP allowable concentration in leachate. These soils were

identified at Sump 1 (10 ft bgs), Sump 2 (8 to 15 ft bgs), propellant pipe discharge box and exterior soil (0-2 ft bgs), soil near the oxidizer spill pipe discharge (0-2 ft bgs), and sediment in the CCB. All of the soil excavated from these locations and depth intervals were loaded into roll off boxes. Each roll off box was subsequently sampled and analyzed for TCLP metals, volatiles, semi volatiles, cyanide, sulfide, TPH, ignitability, and pH.

3.1.4 Excavation Delineation and Confirmation Sampling

The determination of when the excavations were complete was dictated by visual observation, field screening of excavated soil (e.g. PID), and knowledge of the analytical results from the pre-excavation sample locations (i.e., all existing sample results). Discolored soil that also emanated an observable odor was only observed within the propellant pipe discharge box and in the bottom two feet of Sump 2 (that was located directly south of Building 1176). Darker colored soil (not attributed to staining) that contained identifiable debris was observed as shallow sediment lying in the drainage ditch below the oxidizer spill pipe discharge area. PID measurements in soil above ambient background were only observed at Sumps 1 and 2 (south of Building 1176). Collectively, these observations were used to determine the limits of excavation and signal the collection of confirmation soil samples, as discussed in the following sections.

Post-excavation confirmation samples were collected from the side walls and the bottom of each excavation, with the exception of the CCB at the Alpha Test Track (SWMU 167). The procedures detailed in HAFB Standard Operating Procedure (SOP)-1 for sample preparation and documentation were followed. All samples were prepared, documented, handled, and shipped in accordance with this SOP. The samples were selectively analyzed per the work plan for VOCs, TPH, and metals (arsenic, chromium, and lead only) depending on the excavation-specific remediation rationale (i.e., based on COCs that had been shown to exceed criteria at each excavation location).

Due to safety concerns, soil samples from excavations greater than 4 ft depth were collected directly from the bucket of the backhoe. For these samples, the sampling technician directed the equipment operator where to collect the soil sample and observed the sample collection to verify the soil in the bucket was representative of the location and depth of soil to be characterized. This method of sample retrieval was required only for Sumps 1 and 2.

3.1.5 Backfilling and Site Restoration

Once the post-excavation inspection determined that contaminated soils had been successfully removed, and confirmation samples were collected, each excavation area was backfilled and re-graded to establish continuity with the natural slope of the surrounding area. Clean soils removed and stockpiled during the excavation were used as backfill. Additionally, clean backfill was brought to the site by the subcontractor and some was obtained from the HAFB borrow pit. All backfill was compacted using the backhoe bucket and the surface graded to blend with the surrounding site features. In addition, portions of Sumps 1, 2, and 3 concrete surface covers and of the sumps themselves that were clean and broken up were used as backfill, or as riprap along the surface of the reclaimed areas to disperse runoff and prevent erosion.

3.1.6 Demobilization

After completion of all activities described in this ACM Work Plan Addendum, all heavy equipment, machinery, and tools used to perform the work were inspected and decontaminated to remove any potentially contaminated soil. Each item was thoroughly inspected to ensure that all potential contamination was removed. Due to the dryness of the materials handled and the dry ambient weather, only hand tools (shovels and brushes) were used to remove the small amounts of dry, adhered soils from the equipment.

3.2 EXCAVATION RESULTS

This section presents the results of the excavation activities for each remediated area at SS-39. The general locations and target areas for each excavation are shown on Figures 3-1 and 3-2. A description of each location and the field-measured dimensions, depths and volumes of soil/sediment that were excavated are summarized in Table 3-1. Details for each remediated area are provided below.

3.2.1 Sump 1

Sump 1 (SWMU 177) was located approximately 80 ft southwest of Building 1176 at the end of the drainage trough (SWMU 181) that leaves the southwest corner of the building (see Figure 3-1). Sediment in the drainage trough leading to Sump 1 was removed using a shovel on March 26, 2012. The excavation at this sump began by using the backhoe to uncover the top of the sump on March 26, 2012. Once the top of the concrete sump was exposed, it was observed that well MW39-02 was not in the center of the sump as was historically reported; it was also observed that the diameter of the sump was 3.5 ft and not 8 ft as indicated by historical information. Historical soil sample data showed that only soil at 7.5 to 12 ft bgs from a boring reported to have been placed within this sump exceeded the SSLs for VI. The evaluation of potentially CHW indicted that leachate from soil at 10 to 12 ft bgs might exceed TCLP

criteria. Step out soil samples around the perimeter of this sump showed no exceedances of SSLs and no potential CHW.

Excavation of Sump 1 began by removal of soil around the eastern and southern margins of the sump. Excavated soil to a depth of about 7 ft bgs was stockpiled and field screened using the PID. PID readings above site ambient background (0.0 ppm) were not observed and no staining or odors were noted; this soil was segregated as clean backfill. At about 7 ft bgs, the excavated soil was segregated as VOC-contaminated; this soil was subsequently loaded into a truck for transport to the disposal facility. At 10 ft bgs, the excavated soil was segregated as potentially CHW and was placed into roll off box number 1 (RB-01). The sump was found to be 8 ft in depth and was removed in one piece; a concrete pad of about 8-inches thickness below the sump was also removed. The sump was broken open using a hydraulic hammer and the contents were observed to be predominantly aggregate with silty sand that showed no staining, odors, and no PID readings; this material was used as backfill. No water was observed in the excavation, but soils at the bottom were somewhat darker in color suggesting an increase in moisture content.

The surface dimensions of the excavation, at the widest limits, were 7.5 ft by 15 ft and the maximum depth was 12 ft bgs; the southern wall of the excavation sloped steeply inward towards the bottom. The approximate dimensions and layout of the excavation are shown on Figure 3-3. From this information it was estimated that a total of approximately 32 yards of soil were excavated around Sump 1, of which 7 yards were segregated as contaminated and/or potential CHW.

All soil excavated around and below the sump was light yellowish or reddish brown to white in color, had a fine to very fine grained silt to silty sand texture, and was low in moisture content. No visual or olfactory signs of soil contamination were observed during the excavation at Sump 1. PID screening of the worker's breathing zone and of the excavated soil pile showed 0.0 ppm readings. The PID reading from the last bucket of soil excavated from directly below the sump at a depth of 12 ft bgs showed a PID reading of 0.6 ppm (see Table 3-2). All soil samples that were field screened for head space showed PID reading below 50 ppm that was stipulated in the work plan as a field-indicator of VOC-contaminated soil. As a result, excavation was halted and confirmation soil samples were collected. Three confirmation soil samples were collected form the Sump 1 excavation: one side wall sample at 8 ft bgs on the south wall (SS39-Sump1-SW08); one side wall sample at 11 ft bgs on the south wall (SS39-Sump1-SW11); and one bottom sample at 12 ft bgs (SS39-Sump1-FL12). The analytical results are summarized in Table 3-3 and shown on Figure 3-3. The results for all samples were below the residential SSLs for direct exposure and for VI.

3.2.2 Sump 2

Sump 2 (SWMU 177) was located approximately 60 ft south of Building 1176 at the end of the drainage trough (SWMU 181) that leaves the southeast corner of the building (see Figure 3-1). Sediment in the drainage trough leading to Sump 2 was removed using a shovel on March 26, 2012. The excavation at this sump began by using the backhoe to uncover the top of the sump on March 26, 2012. Once the top of the concrete sump was exposed, it was observed that the diameter of the sump was 3.5 ft and not 8 ft as indicated by historical information. Historical soil sample data from a boring reported to have been installed within this sump and from borings around the perimeter of the sump showed that soil at 3 to 5 ft bgs and 8 to 17 ft bgs exceeded the SSLs for direct exposure and/or VI. The evaluation of potentially CHW indicted that leachate from soil at 8 to 17 ft bgs might exceed TCLP criteria.

Excavation of Sump 2 began by removal of a thin concrete cap, and removal of soil several feet outward around the sump perimeter and to the south outward from the sump. Excavated soil to a depth of about 3 ft bgs was stockpiled and field screened using the PID. PID readings above site background (0.0 ppm) were not observed and no staining or odors were noted; this soil was segregated as clean backfill. Soil from 3 to 5 ft bgs was segregated as VOC-contaminated; this soil was subsequently loaded into a truck for transport to the disposal facility. Below 5 ft, soil samples were head-space tested at each 2-ft interval with the PID (see Table 3-2) and all samples were below 50 ppm; this soil was segregated as clean backfill. At 8 ft bgs, the excavated soil was segregated as potentially CHW and was placed into roll off box number 1 (RB-01). The sump was found to be approximately 10 ft in depth and mostly full of sediment. A ramp was constructed in the southern excavation wall and the sump was removed in one piece. As the sump was stabilized near the top of the excavated ramp, the concrete split lengthwise to reveal a soil-like filling that was much darker in color than native surrounding soil. An odor was immediately noted downwind of the sump and a PID reading of 3.1 ppm was observed in the breathing zone; all workers were instructed to locate upwind of the sump. The two halves of the broken sump were displaced using the backhoe and revealed dark brown sediment from about 1 ft to 8 ft below the top of the sump; sediment-like material from about 8 ft to 10 ft depth in the sump was very dark brown to black in color, emanated a strong odor, and contained multiple pieces of debris that appeared to be 3-inch diameter, ring-shaped gaskets or seals. Samples of the sediment from the upper and lower layers of material in the sump were field screening for headspace using the PID. The upper dark brown sediment showed a PID reading of 0.9 ppm; the lower very dark material showed a PID reading of 546 ppm (see Table 3-2). All sediment from the interior of the sump was immediately placed in RB-01.

After the sump was removed from the excavation, soil removal continued below the sump depth of 10 ft bgs. Soil below the sump did not show visual or olfactory signs of contamination. Soil samples

were collected at approximately 1-ft depth intervals and head space readings were measured with the PID (see Table 3-2). All soil below the sump was placed into RB-01 as potential CHW. The sample from 11.5 ft bgs showed a PID reading of 141.5 ppm, greater than 50 ppm that was stipulated in the work plan as a field-indicator of VOC-contaminated soil. At 12 ft bgs, the head space was below 50 ppm and soils at the bottom were somewhat darker in color suggesting an increase in moisture content. Based on historical depth to groundwater readings for the area near Building 1176, the darkening of soil color at 12 ft bgs was interpreted to indicate that the capillary zone resting on the water table had been reached. Excavation was halted based on the decrease in PID readings and intersection of the water table.

The surface dimensions of the excavation, at the widest limits, were 13 ft by 16 ft and the maximum depth was 12 ft bgs; the southern wall of the excavation sloped steeply inward towards the bottom. The approximate dimensions and layout of the excavation are shown on Figure 3-4. From this information it was estimated that a total of approximately 54 yards of soil were excavated around Sump 2, of which 11 yards were segregated as contaminated and/or potential CHW.

All soil excavated around and below the sump was light yellowish or reddish brown to white in color, had a fine to very fine grained silt to silty sand texture, and was low in moisture content. At the completion of soil removal, no visual or olfactory signs of soil contamination were observed in the excavation at Sump 2. The PID reading from the last bucket of soil excavated from directly below the sump at a depth of 12 ft bgs was 23.4 ppm (see Table 3-2), below the field-screen criteria of 50 ppm. It was also surmised that the excavation had reached the local water table and that the excavation of soil with low-concentrations of VOCs in the zone of groundwater fluctuation would provide little additional benefit to site cleanup. As a result, excavation was halted and confirmation soil samples were collected. Three confirmation soil samples were collected form the Sump 2 excavation: one side wall sample at 5 ft bgs on the south wall (SS39-Sump2-SW05); one side wall sample at 11 ft bgs on the south wall (SS39-Sump2-SW11); and one bottom sample at 12 ft bgs (SS39-Sump2-FL12). The analytical results are summarized in Table 3-3 and shown on Figure 3-4.

The results for all samples were below the residential SSLs for direct exposure; however, all three samples exceeded the VI SSL for tetrachloroethylene (PCE). As shown by the data, the 0.0143 milligram per kilogram (mg/kg) PCE result for the sample at 5 ft bgs (4 to 5 ft interval) only slightly exceeded the SSL of 0.013 mg/kg. The deeper sample from 11 ft bgs (10 to 12 ft interval) exceeded, but was the same order of magnitude as the VI SSL (0.069 mg/kg versus 0.013 mg/kg). The bottom sample from 12 ft bgs (12 to 12.5 ft interval) exceeded the PCE VI SSL by two orders of magnitude (1.61 mg/kg versus 0.013 mg/kg) and slightly exceeded the VI SSL for TCE. As discussed above, the samples from 11 and 12 ft bgs depths were collected from the approximate water table depth and likely within the zone of

groundwater fluctuation. The area of Sump 2 at SS-39 is known to overlie the VOC plume in groundwater. Therefore, exceedances of the VI SSLs for VOCs in these samples collected in proximity to the water table are attributed to the groundwater plume. Because Sump 2 overlies the groundwater plume, this location will be included in the proposed LUC area for groundwater to ensure that VI risks to current and future site users are mitigated.

3.2.3 Sump 3

Sump 3 (SWMU 177) was located approximately 155 ft east of Building 1176 at the end of the drainage trough (SWMU 181) that leaves the northeast corner of the building (see Figure 3-1). Sediment in the drainage trough leading to Sump 3 was removed using a shovel on March 26, 2012. The excavation at this sump began on March 26, 2012. It was observed that that the diameter of the sump was 3.5 ft and not 8 ft as indicated by historical information. Historical soil sample data showed that only shallow soil at 0 to 2 ft bgs from borings reported to have been placed within and adjacent to this sump exceeded the SSLs for direct exposure and VI. The evaluation of potentially CHW indicted that leachate from soil at 0 to 2 ft bgs might exceed TCLP criteria. Soil samples from a soil boring at the bottom of the slope below Sump 3 showed no exceedances of SSLs and no potential CHW.

Excavation of Sump 3 began by removal of a thin layer of concrete around the sump perimeter and soil downslope from the eastern margin of the sump. Excavated soil to a depth of about 2 ft bgs was stockpiled and field screened using the PID based on historical detections of TPH. PID readings above site background (0.0 ppm) were not observed and no staining or odors were noted; however, based on historical data this soil was segregated as contaminated and potential CHW. The upper margins of the concrete sump (approximately 10-12 inches) were broken off using the backhoe. The excavation was extended to a depth of about 6 ft along the southeastern margin of the sump to determine its total depth, but the bottom of the sump was not encountered. Because the sump was filled with a hard compacted material with a 0.0 ppm PID reading (aggregate or concrete below an interior of depth of about 3.5 ft), therefore assumed to be very heavy, and located on steeply sloping topography, a decision was made to abandon the sump in place after removing contaminated soil around the exterior.

The surface dimensions of the excavation, at the widest limits, were 8 ft by 11 ft and the maximum depth was 2 ft bgs; the excavation sloped to the east mimicking the local topography. The approximate dimensions and layout of the excavation are shown on Figure 3-5. From this information it was estimated that a total of approximately 6.5 yards of soil were excavated around Sump 3, of which 6.5 yards were segregated as contaminated and potential CHW, and loaded into RB-02.

All soil excavated around the sump was light yellowish or reddish brown to white in color, had a fine to very fine grained silt to silty sand texture, and was low in moisture content. No visual or olfactory signs of soil contamination were observed during the excavation at Sump 3. PID screening of the worker's breathing zone and of the excavated soil pile showed 0.0 ppm readings (see Table 3-2). All soil samples that were field screened for head space showed a PID reading below 50 ppm that was stipulated in the work plan as a field-indicator of VOC-contaminated soil. As a result, excavation was halted and confirmation soil samples were collected. Three confirmation soil samples were collected form the Sump 3 excavation: one side wall sample at 0 to 2 ft bgs on the south wall (SS39-Sump1-SW01A); one side wall sample at 0 to 2 ft bgs on the east wall (SS39-Sump3-SW01B); and one bottom sample near the sump at 2 to 2.5 ft bgs (SS39-Sump3-FL02). The analytical results are summarized in Table 3-3 and shown on Figure 3-5. The results for all samples were below the residential SSLs for direct exposure and for VI.

3.2.4 Propellant Discharge Box

The propellant discharge box (PDB) area (SWMU 179) is located approximately 325 ft northeast of Building 1176 near the southern edge of the east-west roadway where the discharge pipe from the Alpha launch pad daylights into an open-top, concrete discharge box (see Figure 3-2). The box is surrounded by fencing and is approximately 8 ft by 10 ft with an interior depth of approximately 6 ft. There is a slot in the southern wall that allows liquid discharge and retention of sediment inside the box. Sediment in the discharge box was up to 2 ft thick and was mostly removed using the backhoe bucket on March 26, 2012; because the sediment had a high water content, but negligible gravity drainage, the material was staged on plastic sheeting near the discharge box to allow air drying. Residual sediment removal was completed using a shovel. Historical soil sample data showed that sediment within the discharge box exceeded the residential SSL for direct exposure. Soil/sediment immediately outside the box in the drainage ditch exceeded residential SSLs for direct exposure and VI to a depth of 2 ft bgs. The evaluation of potentially CHW indicted that leachate from soil inside and immediately outside the box might exceed TCLP criteria. Soil samples further down the drainage below the box showed no exceedances of SSLs and no potential CHW.

Excavation of the PDB area began by removal of sediment within the box and then removal of soil/sediment in the drainage immediately downstream from the box. Because of the presence of a cavity beneath the downstream bottom edge of the box, clean gravel was brought to the site and placed in the opening in an attempt to provide support and stabilization during the work effort. All excavated material was handled as contaminated and as potential CHW and was placed in RB-03.

The surface dimensions of the excavation outside the box were 9 ft by 8 ft by 2 ft bgs and the dimensions of sediment in the box were approximately 8 ft by 10 ft by 2 ft. The approximate dimensions and layout of the excavation are shown on Figure 3-6. From this information it was estimated that a total of approximately 11.3 yards of soil were excavated at the PDB area, of which 11.3 yards were segregated as contaminated and potential CHW.

Sediment from within the box was very moist to wet, and was darker in color than native soil after air drying; the texture of this material was fine to very fine grained. Some olfactory signs of contamination were observed (e.g., sewage odor) during the excavation but PID screening of the worker's breathing zone and of the excavated material showed 0.0 ppm readings. Sediment and soil from outside the box was light yellowish or reddish brown to white in color, had a fine to very fine grained silt to silty sand texture, was low in moisture content, and contained some organic plant debris at the surface, with no visual or olfactory signs of contamination. As a result, excavation was halted at the exterior dimensions cited above when it appeared that disturbed material in proximity to the box had been removed and confirmation soil samples were collected. Three confirmation soil samples were collected form the PDB area excavation: one side wall sample at 0 to 2 ft bgs on the southwest wall (SS39-PDB-SW01A); one side wall sample at 0 to 2 ft bgs on the southeast wall (SS39-PDB-SW01B); and one bottom sample at 2 to 2.5 ft bgs (SS39-PDB-FL02). The analytical results are summarized in Table 3-4 and shown on Figure 3-6. The results for all samples were below the residential SSLs for direct exposure and for VI.

3.2.5 Oxidizer Spill Pipe Discharge Area

The oxidizer spill pipe discharge (OXD) area (SWMU 179) is located approximately 550 ft east-northeast of Building 1176 near the southern edge of the east-west roadway where the oxidizer discharge pipe from the Alpha launch pad daylights into a drainage ditch (see Figure 3-2). The bottom of the ditch is approximately 6 ft below surrounding grade at this location, and the drainage runs to the southwest toward the Lost River Basin. Well MW39-04 is located in the ditch approximately 35 ft downgradient of the pipe discharge. Historical soil sample data showed that sediment within the ditch near the pipe exceeded the residential SSLs for direct exposure (2 to 4 ft bgs) and VI (0 to 2 ft bgs). The evaluation of potentially CHW indicted that leachate from the target soil might exceed TCLP criteria. Soil samples from borings further down the drainage below the pipe discharge showed no exceedances of SSLs and no potential CHW.

Excavation of the OXD area was conducted in three phases; each phase removed additional sediment further along the downgradient axis of the ditch. Because the primary COC (arsenic) could not be readily detected in the field, the first two phases of excavation were conducted based on historical sample data and visual observation of potential contamination (e.g., staining, debris) to determine the limits of

excavation. Prior to the third phase, a series of hand auger borings were installed and sediment samples were collected and analyzed for arsenic to delineate the extent of impacts down the ditch and this information was used to define the limit of excavation. Based on the known site history, observations of debris associated with contaminated sediment intervals, and the relative low concentrations of arsenic found in undisturbed, natural soils (i.e., Phase 1 and 2 confirmation samples), the site model for contaminant release and distribution was conceptualized as follows:

- Liquids discharged from the spill pipe contained arsenic and/or debris within the discharge contained materials that subsequently leached arsenic into sediment in the ditch.
- Periodic discharges and/or rainfall distributed the debris and/or leachate some distance down the axis of the ditch which acted to distribute the contamination in the sediment.
- Undisturbed, natural soil deposits along the sides and bottom of the ditch were not directly exposed to high concentrations of arsenic and uptake or migration of arsenic into the soil was minimal.
- Because the debris observed in the contaminated sediment was often not observed in the lowest or upper-most layers of sediment, it appears that the release of arsenic was associated with a period of historical events. Furthermore, the bottom of the ditch was somewhat buffered from direct exposure to the highest concentrations of contamination.

Details and results from the three phases of excavation at the OXD are described below.

Phase 1 Excavation

Phase 1 excavation began on March 28, 2012. The surface dimensions of the overall shallow excavation were 11 ft width by 18 ft length (down ditch) by 2 ft bgs; a smaller target area of deeper excavation with dimensions of 1.5 ft width by 6 ft length by 4 ft bgs was conducted approximately perpendicular to the axis of the ditch approximately 10 ft south (downgradient) of the pipe discharge to address deeper contamination. The approximate dimensions and layout of the Phase 1 excavation are shown on Figure 3-7. From this information it was estimated that a total of approximately 15.4 yards of soil were excavated at the OXD area, of which 15.4 yards were segregated as contaminated and potential CHW. All excavated material was placed in RB-04.

Sediment and soil from the excavation were predominantly light yellowish or reddish brown to white in color, had a fine to very fine grained silt to silty sand texture, was low in moisture content, and contained a low percentage of organic plant debris and occasional non-organic (e.g., wire) debris in the upper 2 ft with no staining or olfactory signs of contamination. As a result, excavation was halted at the exterior

dimensions cited above when it appeared that disturbed material in proximity to the box had been removed and confirmation soil samples were collected. Three confirmation soil samples were collected form the OXD area excavation: one side wall sample at 0 to 2 ft bgs on the south wall of the shallow excavation area (SS39-OXD-SW01); one side wall sample at 2 to 4 ft bgs on the south wall of the deeper excavation area (SS39-OXD-SW03); and one bottom sample at 2 to 2.5 ft bgs (SS39-OXD-FL02) near the center of the shallow excavation. The analytical results are summarized in Table 3-5 and shown on Figure 3-7. The results for the shallow side wall and bottom samples were below the residential SSLs for direct exposure and for VI. The results for the deeper side wall sample (2 to 4 ft bgs) showed an exceedance of the residential SSL for arsenic at 2 to 4 ft bgs.

Phase 2 Excavation

Based on the historical and Phase 1 confirmation sample results, it was deduced that shallow soil in the ditch (0 to 2 ft bgs) did not exceed the residential SSL for arsenic; the target for the Phase 2 excavation was identified to be sediment in the ditch from 2 to 4 ft bgs. Phase 2 excavation began on April 19, 2012. The initial excavation removed clean surface soil from an area of 10 ft width by 22 ft length (down ditch) by 2 ft bgs. Subsequently, soil from 2 to 4 ft bgs within the excavation area was removed and segregated as contaminated. Based on the observed concentrations of arsenic this soil was not considered as potential CHW. The contaminated soil was staged on top of the bank on the east side of the ditch, then subsequently scrapped and loaded into trucks for disposal. The approximate dimensions and layout of the Phase 2 excavation are shown on Figure 3-7. The initial excavation length was initially terminated approximately 3 ft upstream of the concrete well pad for well MW39-04 in order to avoid disturbance of the well. However, the observation of abundant debris (wire, plastic) and darker coloration of sediment in the south wall of the excavation led to the decision to continue the excavation down the ditch axis up to the well pad and laterally across the ditch where debris and dark sediment was observed. From this information it was estimated that a total of approximately 34.8 yards of soil were excavated at the OXD area, of which 18.5 yards were segregated as contaminated. All excavated contaminated material was placed in trucks and transported to a licensed, off-base disposal facility (see Section 3.3.2).

The upper two feet of sediment from the excavation were predominantly light yellowish or reddish brown in color, had a fine to very fine grained silt to silty sand texture, was low in moisture content, contained a low percentage of organic plant debris, with no visual or olfactory signs of contamination. Sediment from the 2 to 4 ft bgs excavation were light to moderate brown in color, had a fine to very fine grained silt to silty sand texture, was low in moisture content, contained a low percentage of organic plant debris, but also contained frequent non-organic debris (e.g., wire; small, hard, black semi-angular pieces; plastic; burlap) distributed throughout the interval. However, soil below about 4 ft bgs and along the excavation

side walls was predominantly light yellowish or reddish brown to white in color, had a fine to very fine grained silt to silty sand texture, was low in moisture content, and appeared to be undisturbed (more compact and dense than sediment); this material was used to identify the vertical and lateral limits of the excavation.

The Phase 2 excavation was terminated at well MW39-04 and confirmation soil samples were collected. A total of six sidewall and four bottom confirmation soil samples were collected form the OXD area excavation with the following samples submitted first for analysis (remaining samples were held for analysis pending initial results): one side wall sample at 2 to 4 ft bgs on the east wall of the excavation area (SS39-OXD-SW03B); one bottom sample at 4 to 4.5 ft bgs (SS39-OXD-FL04B) near the center of the excavation; one side wall sample at 2 to 4 ft bgs on the south wall of the excavation area (SS39-OXD-SW03F); and one bottom sample at 4 to 4.5 ft bgs (SS39-OXD-FL04D) at the south wall of the excavation. The analytical results are summarized in Table 3-5 and shown on Figure 3-7. The results for the side wall and bottom samples near the center of the excavation and the bottom sample along the south wall of the excavation were below the residential SSLs for direct exposure to arsenic. The results for the side wall sample along the south (most downgradient wall) of the excavation showed an exceedance of the residential SSL for arsenic at 2 to 4 ft bgs. These sample results demonstrated that the undisturbed soils along the lateral sidewalls and bottom of the excavation did not exceed the SSL for arsenic and that sediment containing debris (south wall) did exceed the SSL; therefore, additional sample analyses from this phase of excavation were not performed. The small amount of contaminated soil beneath the concrete well pad at monitoring well MW39-04, along the up- and down-gradient axis of the ditch (estimated to be 6 yards), was not removed in order to prevent damage to the well.

In addition to the confirmation samples, a hand auger was used at the end of Phase 2 to collect a subsurface soil sample 5 ft directly downgradient from well MW39-04 along the ditch axis. This sample (SS39-OXD-HA01) was collected from the interval of 2 to 4 ft bgs in which debris was encountered and brought to the surface with the hand auger. The sample results shown in Table 3-6 demonstrated that sediment in the ditch downgradient of the well also contained arsenic at concentrations that exceeded the residential SSL for direct exposure.

Phase 3 Excavation

Information from the Phase 1 and 2 excavations and confirmation samples was used to support planning to complete the cleanup of the OXD area. The critical information is summarized as follows:

- Undisturbed soils along the side walls and bottom of the ditch contained not detected or low concentrations of arsenic that did not exceed the residential SSL; therefore these soils could be used to delineate the vertical and lateral limits of excavation.
- Sediment that was darker in color than undisturbed soils and that contained debris was likely to contain concentrations of arsenic greater than the residential SSL.
- The contaminated sediment appeared to be shallower in the ditch sediment profile in the downgradient direction based on color and debris elevation (as observed on the south wall of the Phase 2 excavation.

Prior to the start of Phase 3, a series of hand auger borings were installed down the axis of the ditch and samples were collected from a target depth of 1.5 to 3.5 ft bgs. These samples were analyzed for arsenic to delineate the length of the ditch containing sediment that exceeded the residential SSL for arsenic. The first of these borings, HA02, was placed 20 ft downgradient from well MW39-04; the second boring at 30 ft; the third boring at 40 ft; the forth boring at 60 ft; and so forth until the last boring was located 180 ft downgradient from the well. A total of 10 hand auger borings were installed and sampled (including HA01). The hand auger data are summarized in Table 3-6 and the locations and sample results (table inset on figure) are shown on Figure 3-7. The data show that arsenic in soil greater than the residential SSL extended approximately 135 ft downgradient from well MW39-04 (i.e., between HA08 and HA09).

Phase 3 excavation began on May 14, 2012. The excavation was conducted to remove all sediment in the ditch from the surface to a depth of 4 ft bgs, or less pending visual evidence that clean, undisturbed soil had been reached. Laterally, the width of the excavation was extended to incorporate the dark colored sediment along the ditch side walls. Based on the interpolation of the hand auger data, the excavation was scheduled to terminate between HA08 and HA09, at approximately 135 ft downgradient from well MW39-04. These excavation goals were achieved with a total length of 137 ft and a depth beginning at 4 ft bgs and rising slightly downgradient to about 3.5 ft bgs. The width of the excavation varied from about 7 to 9 ft. Because the concentrations of arsenic in the hand auger soil samples analyzed at the laboratory were less than 20 times TCLP leachate criteria, the sediment was not considered as potential CHW. The excavated sediment was staged on top of the bank on the east side of the ditch, then subsequently scrapped and loaded into trucks for disposal. The approximate dimensions and layout of the Phase 3 excavation are shown on Figure 3-7. From this information it was estimated that a total of approximately 132 yards of soil were excavated during Phase 3 at the OXD area, of which 132 yards were segregated as contaminated. All excavated material was placed in trucks and transported to a licensed, off-base disposal facility (see Section 3.3.2).

The excavated sediment was typically light to medium brown in color, had a fine to very fine grained silt to silty sand texture, was low in moisture content, and contained a low percentage of organic plant debris. The sediment frequently contained non-organic debris (e.g., wire; small, hard, black semi-angular pieces; plastic; burlap) distributed throughout the interval to approximately 50 ft downgradient of well MW39-04. As the excavation progressed down the ditch, the sediment appeared lighter in color and debris became infrequent. As before, soil below about 3.5 to 4 ft bgs and along the excavation side walls was predominantly light yellowish or reddish brown to white in color, had a fine to very fine grained silt to silty sand texture, was low in moisture content, and appeared to be undisturbed native soil (more compact and dense than sediment).

Six confirmation soil samples were collected form the Phase 3 OXD area excavation: three side wall samples at 2 to 4 ft bgs on the east and west walls of the excavation area (SS39-OXD-SW03 G, H, and I); and three bottom samples at 4 to 4.5 ft and 3 to 3.5 ft bgs near the northern, central, and southern limits of the excavation (SS39-OXD-FL04E and F, and SS39-OXD-FL03G). The analytical results are summarized in Table 3-5 and shown on Figure 3-7.

The results for the side wall and bottom samples were below the residential SSLs for direct exposure to arsenic with the exception of the confirmation samples at the downgradient (i.e., southwestern) limit of the excavation. These sidewall and bottom samples contained 4.9 and 5.2 mg/kg, respectively, of arsenic compared to the risk-based SSL for direct exposure of 3.9 mg/kg. From the hand auger data, some variation in arsenic concentration was observed in this area, but the overall trend for arsenic concentration was decreasing down the ditch (see HA07 through HA10 results) and samples from HA09 and HA10 were below the SSL. It is also noted that arsenic concentrations in subsurface soil as high as 5.8 mg/kg were observed in the HAFB background data set, although five samples from the combined soil data set with concentrations between 4.7 and 5.8 mg/kg were deemed to be statistical outliers. The marginal exceedance of the SSL in these two confirmation samples indicates that a localized, small volume of sediment may remain that contains a concentration of arsenic greater than the residential SSL. However, the removal of a total of 166 yards of contaminated sediment form the ditch and the preponderance of confirmation samples and downgradient hand auger samples with concentrations below the SSL indicates that the risk from exposure to sediment in the ditch (i.e., as an exposure unit) is unlikely to represent unacceptable risk to a current (industrial) or future (residential) site user.

3.2.6 Concrete Collection Basin

The CCB at the Alpha launch pad (SWMU 165) is located to the northeast of Building 1176, just north of the east-west roadway, at the south end of the test track (see Figure 3-2). The CCB is a sediment trap

formed in the concrete structure at the end of the track that lies about 4 ft below surrounding grade. The excavation at this structure began by using the backhoe to remove a steel grating that covered the CCB. Historical sediment sample data showed that material in the CCB exceeded the SSL for direct exposure. The evaluation of potential CHW indicted that leachate from sediment might exceed TCLP criteria.

Excavation of CCB was conducted using hand tools. PID readings of the worker's breathing zone showed 0.0 ppm. The excavated sediment was dry, loose, silty to sandy in texture, and contained a high percentage of organics (what appeared to be plant debris). The sediment and debris showed no obvious staining or odors, and no PID readings above ambient. The material was segregated as contaminated and as potential CHW and placed in RB-03.

The surface dimensions of the CCB were approximately 1.5 ft by 12 ft by 1.5 ft depth and the structure was approximately two-thirds full of material. From this information it was estimated that a total of approximately 0.6 yards of sediment and debris were excavated from the CCB, of which 0.6 yards were segregated as contaminated and potential CHW.

All sediment and debris was removed from the CCB structure and confirmation samples were not applicable.

3.3 WASTE MANAGEMENT AND DISPOSAL

The excavation, transportation, and disposal of soil, sediment, and debris at site SS-39 was conducted to classify, characterize, handle, and manage the off-site disposal of wastes, while conducting work practices to minimize the volume of wastes generated at SS-39. The procedures were conducted in compliance with all Federal, State, and local regulations, as detailed below.

3.3.1 Waste Disposal Profile Analysis

Two types of waste were generated during the excavation activities conducted at SS-39 between March and May, 2012: contaminated waste (NMED special waste) and potentially CHW. The target waste for site remediation consisted of soils and sediments that had been sampled and had been shown to contain concentrations of VOCs, TPH, and/or metals greater than the NMED residential SSLs for direct exposure and/or greater than the calculated VI SSLs. Based on the existing soil analytical results, it was determined that much of this soil and sediment was not potentially CHW. This soil and sediment was deemed to be NMED special waste that was loaded onto trucks for transport to the disposal facility without further testing.

Based on the existing soil analytical results, it was determined that some soils or sediments contained contaminants that could leach concentrations greater than TCLP criteria (based on the 20 times rule), thus these soils and sediments were considered contaminated and potentially CHW. Waste that was suspected to be potentially CHW was directly loaded into roll off boxes at the site that were covered and appropriately labeled. Each roll off box was sampled (four composites from two locations and two depths within each roll off) and analyzed for TCLP VOCs, semi-volatile organic compounds, metals, cyanide, sulfide, ignitability, pH and for TPH. All of the TCLP samples (one composite sample from each of four roll off boxes) met all TCLP leachate and physical hazards criteria; therefore, all of the material in the roll off boxes was determined to be non-hazardous, NMED special waste. The TCLP data are summarized in a table provided in Appendix D.

3.3.2 Off-Site Transportation and Disposal

All excavated soils were transported directly to an approved off-site disposal facility, or were temporarily stored in covered roll off boxes, tested, and then transported to an approved off-site disposal facility. Three transportation contractors (Chemical Transportation Inc., Rhino Environmental Services Inc., and Gomez Trucking), each licensed in New Mexico to haul the generated waste, were subcontracted to provide transport to the disposal facility. Drivers were required to sign into the site (Visitors Log) and provide all applicable permits, certifications, and licenses for each vehicle upon entry to the site.

Trucks transporting wastes off-site were inspected at the point of loading before leaving the site. All loose or bulk soil was removed from the truck body, tires, chassis, axles, and other external portions of the truck bed and dump gate.

Trucks transporting wastes off-site were completely and tightly covered with a tarp to prevent wastes from falling or blowing out of the truck bed. The tarps were solid and free of holes, rips, tears, or other openings. All edges of tarps will be tightly secured to the sides of the truck beds. Dump gates were tightly closed and free of cracks, gaps or other openings.

3.3.3 Waste Disposal Manifests

Soils and sediment that were known to exceed the SSLs but not suspected to be potential CHW were loaded into trucks and directly transported as special waste to an off-base, licensed disposal facility. Copies of the analytical data results were provided to the disposal facility and permission to transport was received prior to transport. All such waste was transported under a completed waste manifest that was

signed by the HAFB representative. Copies of the waste manifests for this material are provided in Appendix E.

All of the material that was placed in the roll off boxes was analytically tested and determined to be non-hazardous waste. Subsequently, the analytical results were provided to the off-base, licensed disposal facility that accepted the waste as special waste and permission to transport was received prior to transport. All such waste was transported under a completed waste manifest that was signed by the HAFB representative. Copies of the waste manifests for this material are provided in Appendix E.

All waste materials were disposed at the Camino Real Landfill located in Sunland Park, New Mexico.

4.0 SITE CLOSURE

Site closure for SS-39 is based on a remedial strategy to achieve the following objectives:

- Cleanup of soil to meet residential SSLs; and
- Prevent risk via exposure to groundwater.

This section presents how the objectives for soil have been accomplished and how the objectives for groundwater will be implemented to achieve site closure, in accordance with the NMED-approved ACM Work Plan Addendum (Tetra Tech, 2011b).

4.1 SOIL CLEANUP

As documented in Chapters 1 through 3 of this report, all areas of contaminated soil that were identified in the ACM Work Plan Addendum have been excavated and the areas have been reclaimed. Removal of the contaminated materials and evaluation of the historical and ACM excavation confirmation sample data support the conclusion that no unacceptable current or future residential risk based on soil contamination exists at the site.

4.2 GROUNDWATER

A groundwater plume exists at the site in which contamination exceeds cleanup levels for tap water use and for VI from groundwater to indoor air. Currently, there is no groundwater use at SS-39. Because groundwater is classified as non-potable due to a high total dissolved solids (TDS) content, there is no reasonable expectation of current or future potential for use of groundwater as tap water. Therefore, the direct contact pathway for groundwater is incomplete (for current and future land use). However, the widespread presence of TCE (a volatile organic chemical) in the plume indicates that unacceptable risk would occur if a building is constructed and occupied near the TCE plume area.

Groundwater LTM has been conducted since 1995 at SS-39 and chemical concentration trends for the past 5 years indicate a relatively stable TCE plume as shown by concentration verse time plots provided in the ACM Work Plan Addendum (Tetra Tech, 2011b). In addition, it is likely that releases of TCE to the environment were active only in the past (as early as the 1950's) during the years when rocket motor maintenance activities were conducted at Building 1176 and discharges to and from the sumps occurred. Furthermore, the removal of contaminated soils associated with the three sumps (as discussed above) has provided additional insurance that continued leaching of contaminants from potential source areas has been abated. Collectively, the cessation of releases and the removal of contaminated soil, in conjunction with the

current plume configuration, suggest that releases of contaminants from the sumps (i.e., point sources) have been mitigated and that the plume will attenuate with slow migration toward the Lost River Basin. The absence of TCE daughter products (e.g., dichlorethene, vinyl chloride, and ethane) in the downgradient portion of the plume strongly suggests that reductive dechlorination, a significant biological mechanism of intrinsic TCE remediation at many sites, is not occurring at SS-39. Therefore, the conceptual model of the current groundwater contamination is represented by a long lived, slow moving, slow attenuating plume that currently exists in relative equilibrium with the local hydrogeology. Because of the non-potable groundwater classification, the relative stability of the plume, and the prohibition of any development activities in the Lost River Basin, the following actions were recommended in the ACM Work Plan Addendum (Tetra Tech, 2011b) to address groundwater contamination:

- Plume area within the Lost River Basin (approximately 3 acres) – No Further Action (NFA).
- Plume area upslope of the Lost River Basin (approximately 7 acres) – Implement LUCs to prevent use of groundwater and to prevent building construction near the plume unless VI prevention measures are approved and implemented.
- Implement groundwater LTM to demonstrate that the plume is delineated and attenuating.

The LUCs may be removed if future groundwater sampling demonstrates that the plume has naturally attenuated and meets the VI cleanup levels.

4.3 PERFORMANCE MONITORING

Soil cleanup actions were presented in Section 3 of this report. The areas identified for excavation in the ACM Work Plan Addendum have been remediated via excavation and waste manifests documenting the disposal of contaminated material have been provided. Confirmation samples were collected from the excavations; the soil analytical data have been assessed. As a result of soil remediation, it is concluded that no current or future unacceptable risks to residents exist from exposure to soil. Additional performance monitoring for soil at SS-39 is not recommended for site closure.

Performance monitoring for groundwater will consist of LTM monitoring of the TCE plume to demonstrate that the plume is attenuating. Currently there are 17 groundwater sample locations associated with SS-39 consisting of 12 permanent wells and 5 temporary well locations in the Lost River Basin. Sixteen of the 17 locations are planned for semiannual sampling under the ACM Work Plan Addendum (Tetra Tech, 2011b). Upgradient well MW39-01 has been historically free of contamination and it has not been sampled; well MW39-04 has historically been free of contamination but has been

frequently dry; and well MW39-03 has historically detected TCE at concentrations below the current SL, but has recently contained a root mat that has prevented sampling. To ensure that the southern limits of the TCE plume is delineated and monitored, additional temporary wells will be required in the Lost River Basin south of existing wells MW39-08 and MW39-11. Based on these site conditions, the following LTM sampling locations are recommended:

- Continue groundwater sampling at the current LTM sample locations with the exception of wells MW39-01, -03, and -04, for a total of 14 locations.
- Plume investigation should be conducted to identify two new temporary well locations (i.e. directly south of locations MW39-08 and -11) for future LTM sampling in the Lost River Basin. It is recommended that these sample points be located as far north as possible such that the current southern limit of the plume is identified. For the first LTM sample event, groundwater sampling using temporary bore holes may be required at several locations in order to identify the southern plume limits. For subsequent LTM events, it is assumed that two select locations can be used to meet the monitoring objectives of monitoring the southern plume perimeter.
- Because new contributions to the plume have ceased and contaminated soil has been removed, and because the groundwater velocity is low (10 ft/year or less) and recent chemical concentration trends appear to be stable, it is reasonable to conclude that the plume is relatively stable. On this basis, annual LTM sampling is recommended to identify trends in the groundwater plume. Once monitoring locations for the southern limit of the plume have been more accurately identified, five years of LTM monitoring is recommended to demonstrate that the plume is attenuating.
- The chemicals and pathways of concern for groundwater at SS-39 are VOCs that represent potential VI risk from groundwater to indoor air. LTM groundwater samples are recommended for analyses of VOCs and water quality parameters (pH, temperature, specific conductivity, TDS, oxidation-reduction potential).

Based on the recommendation for annual LTM sampling, LTM reports will likewise be submitted annually. Optimization of the well locations to be sampled may be proposed for consideration based on the accumulated sampling results.

4.4 REQUEST FOR CORRECTIVE ACTION COMPLETE

Completion of the remedial action for soils has been documented in this report. Additional actions for groundwater have been described and include LUCs to prevent exposure and LTM to track and document that groundwater will not pose future risks for site reuse. LTM reports will continue to be submitted to HAFB and NMED that will provide the analytical data to assess when the remedial objective of plume

attenuation has been achieved. Once these goals have been met, a request for Corrective Action Complete (CAC) status based on NMED Criterion 5 is recommended for SS-39:

> *The SWMU/area of concern (AOC) has been characterized or remediated in accordance with current applicable start or federal regulations, and the available data indicate that contaminants pose an acceptable level of risk under current and projected future land use.*

The CAC request will include documentation that a LUC to prevent construction of buildings near the TCE plume area, unless an approved method of VI prevention is included in the building design, has also been implemented.

The CAC request will be accompanied by a formal request to NMED for a Class 3 Permit Modification to transfer SS-39 from permit Appendix 4.A Table A (SWMUs/AOCs Requiring Corrective Action) to Appendix 4.A Table B (SWMUs/AOCs Not Requiring Corrective Action).

5.0 REFERENCES

HGL (HydroGeologic, Inc.), 2007. Supplemental RCRA Facility Investigation, DP-30/SD-33 (SWMU 113), SS-39 (SWMUS 165, 177, 179, AND 181), and SD-27 (SWMU 141), Holloman Air Force Base Alamogordo, New Mexico

NMAC (New Mexico Administrative Code) 20.6.20.3103. Standards for Ground Water of 10,000 milligrams per liter TDS Concentration or Less, Human Health Standards, Other Standards for Domestic Water Supply, and Standards for Irrigation Use.

NMWRRI (New Mexico Water Resources Research Institute), 2005. Proceedings, 49th Annual New Mexico Water Conference, Water Desalination and reuse Strategies for New Mexico.

Tetra Tech (Tetra Tech, Inc.), 2009. *SS-39 Missile Fuel Spill Area (SWMUs 165, 177, 179, and 181) Accelerated Corrective Measures Work Plan, Holloman Air Force Base, Alamogordo, New Mexico*, April.

Tetra Tech, 2011a. *Draft Long-Term Monitoring Report, July 2010 – January 2011 for DP-30/SD-33 (SWMU 113B), SD-27 (SWMU 141), and SS-39 (SWMUs 165, 167, 177, 179, and 181), Holloman Air Force Base, New Mexico*, September.

Tetra Tech, 2011b. *Accelerated Corrective Measures Work Plan Addendum, SS-39 Missile Fuel Spill Area (SWMUs 165, 177, 179, and 181) Holloman Air Force Base, Alamogordo, New Mexico*, December.

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TABLES

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Table 3-1
Summary of Soil Excavation Areas
SS-39, Holloman Air Force Base, New Mexico

Area	Location	COCs	Surface Dimensions (feet)	Maximum Depth (feet)	Total Soil Excavated (cu yd)	Total Soil Disposed as Contaminated (cu yd)
Sump 1 (SWMU 177)	Southwest of Bldg. 1176	VOCs	7.5 x 15	12	31.7	6.7
Sump 2 (SWMU 177)	South of Bldg. 1176	VOCs, TPH, chromium, lead	13 x 16	12	54	10.9
Sump 3 (SWMU 177)	East of Bldg. 1176	VOCs, TPH, arsenic	8 x 11	2	6.5	6.5
Propellant Discharge Box (SWMU 179)	Approx. 325 ft northeast of Bldg. 1176 near the southern edge of the east-west roadway	TPH, arsenic, lead inside the box; methylene chloride, TPH, arsenic, lead outside the box	In box: 8 x 10 Out box: 9 x 8	2	11.3	11.3
Oxidizer Spill Pipe discharge area	Approx. 550 ft east-northeast of Bldg. 1176 near the southern edge of the east-west	methylene chloride, arsenic	8 x 177	4	182	166
Concret Collection Box (SWMU 167)	On the Alpha launch pad	lead	1.5 x 12	1.5	0.6	0.6
TOTAS (including 15% expansion)					**329**	**232**

Table 3-2
Summary of Soil Field Screening with PID*
SS-39, Holloman Air Force Base, New Mexico

Location	Date	Time	Depth (ft)	PID (ppm)	Description
Sump 1	3/27/2012	930	1-8	0	soil, gravel removed from inside of sump
		930	1-8	0	interior concrete surface of broken up sump
		950	0-8	0	excavated soil pile
		1732	0-10	0	excavated soil pile
		1745	12	0.6	soil from last bucket of excavation below sump
Sump 2	3/27/2012	1350	5	0.6	soil on SE side of sump in excavation
		1402	7	1.3	soil on SE side of sump in excavation
		1417	9	1.1	soil on SE side of sump in excavation
		1530	1-8.5	0.9	soil removed from inside of sump
		1530	8.5-10	546	soil removed from inside of sump
		1620	10.5	25.6	soil below sump
		1620	11.5	141.5	soil below sump
		1620	12	234	soil below sump
		1710	12	3.4	soil from last bucket of excavation below sump
Sump 3	3/27/2012	1050	0-2	0	soil removed around sump
		1056	0-2	0	soil removed downslope of sump; floor and sidewalls of excavation pit
		1115	6	0	soil removed around SE side of sump
		1140	1	0	soil removed from inside of sump

* - Samples screened using headspace technique.

Table 3-3
Excavation Confirmation Soil Samples - Sumps 1, 2, and 3 (SWMUs 177 and 181)
SS-39, Holloman Air Force Base, New Mexico

			Area:	SS-39		SS-39		SS-39		SS-39		SS-39	
			SubArea:	Sumps		Sumps		Sumps		Sumps		Sumps	
			Sample Date:	3/28/2012		3/28/2012		3/28/2012		3/28/2012		3/28/2012	
			SampleID:	SS39-SUMP1-FL12		SS39-SUMP1-SW11		SS39-SUMP1-SW08		SS39-SUMP2-FL12		SS39-SUMP2-SW11	
			Depth (ft bgs):	12 to 12.5		10 to 12		7 to 9		12 to 12.5		10 to 12	
			QCType	N		N		N		N		N	
Test Group	Parameter	SSL[1]	VI [2]	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
Hydrocarbons	TPH C10-C28	1000	n/a							70		23	
Hydrocarbons	TPH-GRO (C6-C10)	n/a	n/a							7.1	U	7.9	U
Metals, Total	Chromium	117000	n/a							14.7		4.5	
Metals, Total	Lead	400	n/a							4	J	12.3	
VOCs	Methylene chloride	409	0.254	0.013	U	0.014	U	0.015	U	0.012	U	0.012	U
VOCs	Tetrachloroethene	7.02	0.013	0.0067	U	0.0069	U	0.0073	U	**1.61**		**0.069**	
VOCs	Trichloroethene	8.77	0.00114	0.0067	U	0.0069	U	0.0073	U	**0.0016**	**J**	0.0065	U

Table 3-3
Excavation Confirmation Soil Samples - Sumps 1, 2, and 3 (SWMUs 177 and 181)
SS-39, Holloman Air Force Base, New Mexico

			Area:	SS-39		SS-39		SS-39		SS-39	
			SubArea:	Sumps		Sumps		Sumps		Sumps	
			Sample Date:	3/28/2012		3/28/2012		3/28/2012		3/28/2012	
			SampleID:	SS39-SUMP2-SW05		SS39-SUMP3-FL02		SS39-SUMP3-SW01A		SS39-SUMP3-SW01B	
			Depth (ft bgs):	4 to 6		2 to 2.5		0 to 2		0 to 2	
			QCType	N		N		N		N	
Test Group	Parameter	SSL[1]	VI[2]	Result	Qual	Result	Qual	Result	Qual	Result	Qual
Hydrocarbons	TPH C10-C28	1000	n/a	14.1		45.3		39.8		18.2	
Hydrocarbons	TPH-GRO (C6-C10)	n/a	n/a	6.8	U	8.2	U	7.8	U	4.67	J
Metals, Total	Chromium	117000	n/a	6.6							
Metals, Total	Lead	400	n/a	7.2	J						
VOCs	Methylene chloride	409	0.254	0.012	U	0.014	U	0.015	U	0.015	U
VOCs	Tetrachloroethene	7.02	0.013	**0.0143**		0.0068	U	0.0074	U	0.0074	U
VOCs	Trichloroethene	8.77	0.00114	0.0062	U	0.0068	U	0.0074	U	0.0074	U

Notes:
All units are mg/kg
Data Screening Levels:
[1] NMED 2012 Table A-1 Residential SSLs
[2] Vapor Intrusion 10^{-5} calculated risk level
n/a - not applicable
Data Qualifiers:
B - (Metals) Analyte detected between method detection limit and reporting limit; quantity
J - Estimated quantity
U - Analyte not detected above reporting detection limit that is shown

Red indicates > Residential SSLs for direct contac

Yellow shade indicates > 10^{-5} VI risk level for indoor air.

Table 3-4
Excavation Confirmation Soil Samples - Propellant Pipe Discharge Box (SWMU 179)
SS-39, Holloman Air Force Base, New Mexico

			Area:	SS-39		SS-39		SS-39		SS-39		SS-39	
			SubArea:	Propellant Discharge Box		Propellant Discharge Box		Propellant Discharge Box		Propellant Discharge Box		Propellant Discharge Box	
			Sample Date:	3/28/2012		3/28/2012		3/28/2012		3/29/2012		3/29/2012	
			SampleID:	SS39-PDB-FL02		SS39-PDB-SW01A		SS39-PDB-SW01B		SS39-FD01-032912		SS39-PDB-SW01B-032912	
			Depth (ft bgs):	2 to 2.5		0 to 2		0 to 2		0 to 2		0 to 2	
			QCType	N		N		N		FD		N	
Test Group	Parameter	SSL[1]	VI [2]	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
Hydrocarbons	TPH C10-C28	1000	n/a	9.21	J	4.63	J	10	U	10	U	10	U
Metals, Total	Lead	400	n/a	31.8		11.8	J	9.5	J	4.9	J	10.3	J
VOCs	Methylene chloride	409	0.254	0.013	U	0.013	U	0.013	U	0.012	U	0.014	U

Notes:
All units are mg/kg
Data Screening Levels:
[1] NMED 2012 Table A-1 Residential SSLs
[2] Vapor Intrusion 10^{-5} calculated risk level
n/a - not applicable
Data Qualifiers:
B - (Metals) Analyte detected between method detection limit and reporting limit; quantity estimated.
J - Estimated quantity
U - Analyte not detected above reporting detection limit that is shown

Red indicates > Residential SSLs for direct contact

Yellow shade indicates > 10^{-5} VI risk level for indoor air.

Table 3-5
Excavation Confirmation Soil Samples - Oxidizer Spill Pipe Discharge Area
SS-39, Holloman Air Force Base, New Mexico

			Area:	SS-39		SS-39		SS-39		SS-39		SS-39	
			SubArea:	Oxidizer Spill Pipe		Oxidizer Spill Pipe		Oxidizer Spill Pipe		Oxidizer Spill Pipe		Oxidizer Spill Pipe	
			Sample Date:	3/28/2012		3/28/2012		3/28/2012		4/19/2012		4/19/2012	
			SampleID:	SS39-OXD-FL02		SS39-OXD-SW03		SS39-OXD-SW01		SS39-OXD-FL04A		SS39-OXD-FL04B	
			Depth (ft bgs):	2 to 2.5		2 to 4		0 to 2		4 to 4.5		4 to 4.5	
			QCType	N		N		N		N		N	
			Work Phase	Phase 1		Phase 1		Phase 1		Phase 2		Phase 2	
Test Group	Parameter	SSL[1]	VI[2]	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
Metals, Total	Arsenic	3.9	n/a	1.4	U	**25.1**		1.6	U	na		0.62	J
VOCs	Methylene chloride	409	0.254	0.013	U	0.013	U	0.012	U	na		na	

Table 3-5
Excavation Confirmation Soil Samples - Oxidizer Spill Pipe Discharge Area
SS-39, Holloman Air Force Base, New Mexico

			Area:	SS-39		SS-39		SS-39		SS-39		SS-39	
			SubArea:	Oxidizer Spill Pipe		Oxidizer Spill Pipe		Oxidizer Spill Pipe		Oxidizer Spill Pipe		Oxidizer Spill Pipe	
			Sample Date:	4/19/2012		4/19/2012		4/19/2012		4/19/2012		4/19/2012	
			SampleID:	SS39-OXD-FL04C		SS39-OXD-SW03A		SS39-OXD-SW03B		SS39-OXD-SW03C		SS39-OXD-SW03D	
			Depth (ft bgs):	4 to 4.5		2 to 4		2 to 4		2 to 4		2 to 4	
			QCType	N		N		N		N		N	
			Work Phase	Phase 2		Phase 2		Phase 2		Phase 2		Phase 2	
Test Group	Parameter	SSL[1]	VI[2]	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
Metals, Total	Arsenic	3.9	n/a	na		na		0.74		na		na	
VOCs	Methylene chloride	409	0.254	na		na		na		na		na	

Table 3-5
Excavation Confirmation Soil Samples - Oxidizer Spill Pipe Discharge Area
SS-39, Holloman Air Force Base, New Mexico

			Area:	SS-39		SS-39		SS-39		SS-39		SS-39	
			SubArea:	Oxidizer Spill Pipe		Oxidizer Spill Pipe		Oxidizer Spill Pipe		Oxidizer Spill Pipe		Oxidizer Spill Pipe	
			Sample Date:	4/19/2012		4/19/2012		4/19/2012		5/14/2012		5/14/2012	
			SampleID:	SS39-OXD-SW03E		SS39-OXD-FL04D		SS39-OXD-SW03F		SS39-OXD-FL04E		SS39-OXD-SW03G	
			Depth (ft bgs):	2 to 4		4 to 4.5		2 to 4		4 to 4.5		2 to 4	
			QCType	N		N		N		N		N	
			Work Phase	Phase 2		Phase 2		Phase 2		Phase 3		Phase 3	
Test Group	Parameter	SSL[1]	VI[2]	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
Metals, Total	Arsenic	3.9	n/a	na		0.83		**17.1**		1.7		1.9	
VOCs	Methylene chloride	409	0.254	na		na		na		na		na	

Table 3-5
Excavation Confirmation Soil Samples - Oxidizer Spill Pipe Discharge Area
SS-39, Holloman Air Force Base, New Mexico

			Area:	SS-39		SS-39		SS-39		SS-39	
			SubArea:	Oxidizer Spill Pipe		Oxidizer Spill Pipe		Oxidizer Spill Pipe		Oxidizer Spill Pipe	
			Sample Date:	5/14/2012		5/14/2012		5/14/2012		5/14/2012	
			SampleID:	SS39-OXD-FL04F		SS39-OXD-SW03H		SS39-OXD-FL03G		SS39-OXD-SW03I	
			Depth (ft bgs):	4 to 4.5		2 to 4		3 to 3.5		2 to 4	
			QCType	N		N		N		N	
			Work Phase	Phase 3		Phase 3		Phase 3		Phase 3	
Test Group	Parameter	SSL[1]	VI [2]	Result	Qual	Result	Qual	Result	Qual	Result	Qual
Metals, Total	Arsenic	3.9	n/a	1.4		3.6		**5.2**		**4.9**	
VOCs	Methylene chloride	409	0.254	na		na		na		na	

Notes:
All units are mg/kg
Data Screening Levels:
[1] NMED 2012 Table A-1 Residential SSLs
[2] Vapor Intrusion 10^{-5} calculated risk level
na - not analyzed
Data Qualifiers:
B - (Metals) Analyte detected between method detection limit and reporting limit; quantity estimated.
J - Estimated quantity
U - Analyte not detected above reporting detection limit that is shown
Red indicates > Residential SSLs for direct contact
Yellow shade indicates > 10^{-5} VI risk level for indoor air.

Table 3-6
Pre-Excavation Arsenic Delineation Soil Samples - Oxidizer Spill Pipe Discharge Area
SS-39, Holloman Air Force Base, New Mexico

			Area:	SS-39		SS-39		SS-39		SS-39		SS-39	
			SubArea:	Oxidizer Spill Pipe		Oxidizer Spill Pipe		Oxidizer Spill Pipe		Oxidizer Spill Pipe		Oxidizer Spill Pipe	
			Sample Date:	4/19/2012		5/3/2012		5/3/2012		5/3/2012		5/3/2012	
			SampleID:	SS39-OXD-HA01		SS39-OXD-HA02		SS39-OXD-HA03		SS39-OXD-HA04		SS39-OXD-HA05	
			Depth (ft bgs):	2 to 4		1.5 to 3.5		1.5 to 3.5		1.5 to 3.5		1.5 to 3.5	
			QCType	N		N		N		N		N	
Test Group	Parameter	SSL[1]	VI [2]	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
Metals, Total	Arsenic	3.9	n/a	**13.4**		**7.2**		**12.4**		**9**		**10.7**	

Table 3-6
Pre-Excavation Arsenic Delineation Soil Samples - Oxidizer Spill Pipe Discharge Area
SS-39, Holloman Air Force Base, New Mexico

			Area:	SS-39		SS-39		SS-39		SS-39		SS-39	
			SubArea:	Oxidizer Spill Pipe		Oxidizer Spill Pipe		Oxidizer Spill Pipe		Oxidizer Spill Pipe		Oxidizer Spill Pipe	
			Sample Date:	5/3/2012		5/3/2012		5/3/2012		5/3/2012		5/3/2012	
			SampleID:	SS39-OXD-HA06		SS39-OXD-HA07		SS39-OXD-HA08		SS39-OXD-HA09		SS39-OXD-HA10	
			Depth (ft bgs):	1.5 to 3.5		1.5 to 3.5		1.5 to 3.5		1.5 to 3.5		1.5 to 3.5	
			QCType	N		N		N		N		N	
Test Group	Parameter	SSL[1]	VI [2]	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
Metals, Total	Arsenic	3.9	n/a	**12.6**		3		**5.3**		2.4		1.1	

Notes:
All units are mg/kg
Data Screening Levels:
[1] NMED 2012 Table A-1 Residential SSLs
[2] Vapor Intrusion 10^{-5} calculated risk level
n/a - not applicable
Data Qualifiers:
B - (Metals) Analyte detected between method detection limit and reporting limit; quantity estimated.
J - Estimated quantity
U - Analyte not detected above reporting detection limit that is shown
Red indicates > Residential SSLs for direct

FIGURES

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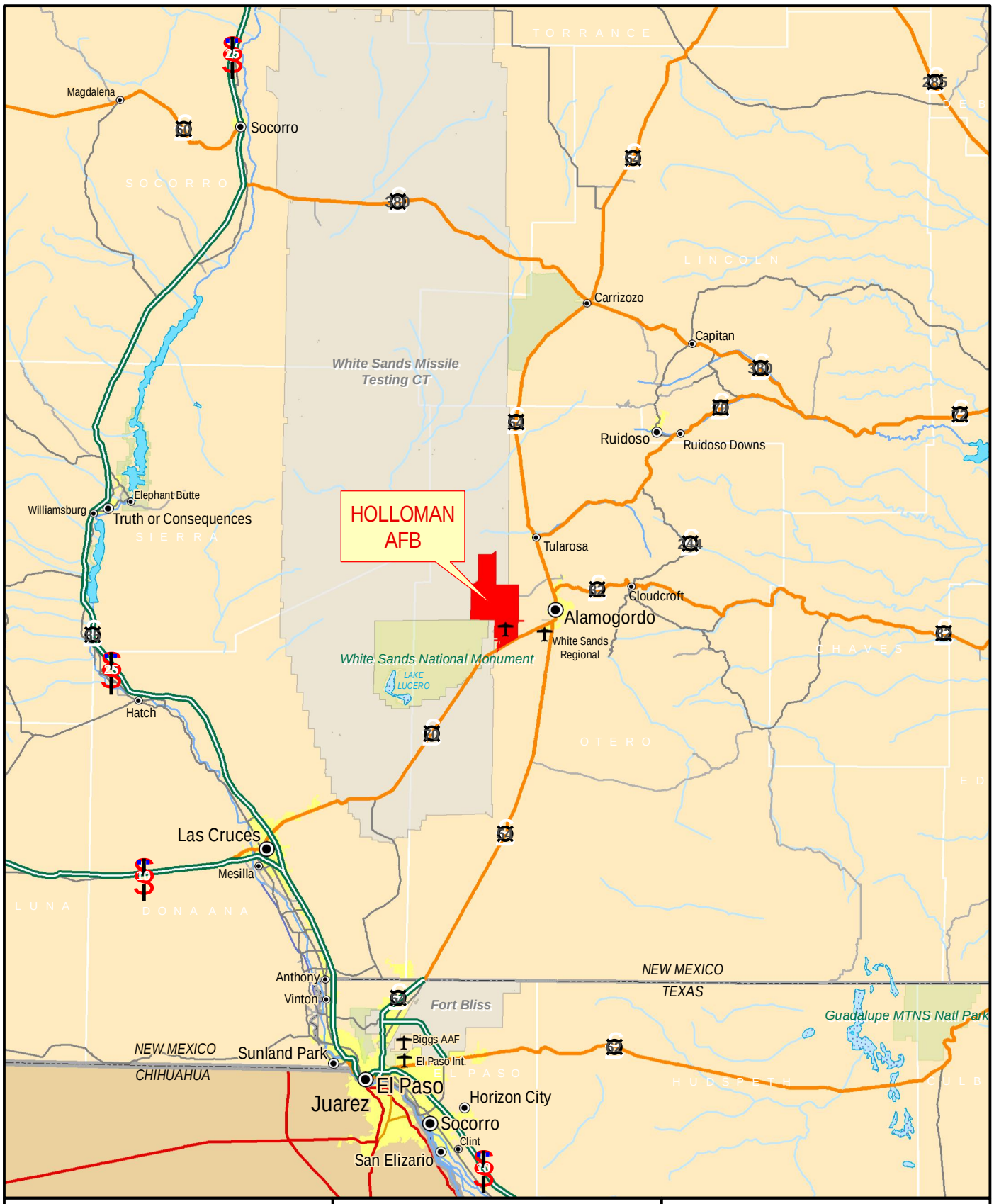


File: K:\GIS\Holloman\SS-39_ACM WorkPlan
Fig1-1_HAFB LocMap.mxd
Accelerated Corrective Measures Completion Report
Revised: 07/30/2012
Map Source: Holloman AFB
State Plane Coordinate System, NAD83, NM Central, US Feet

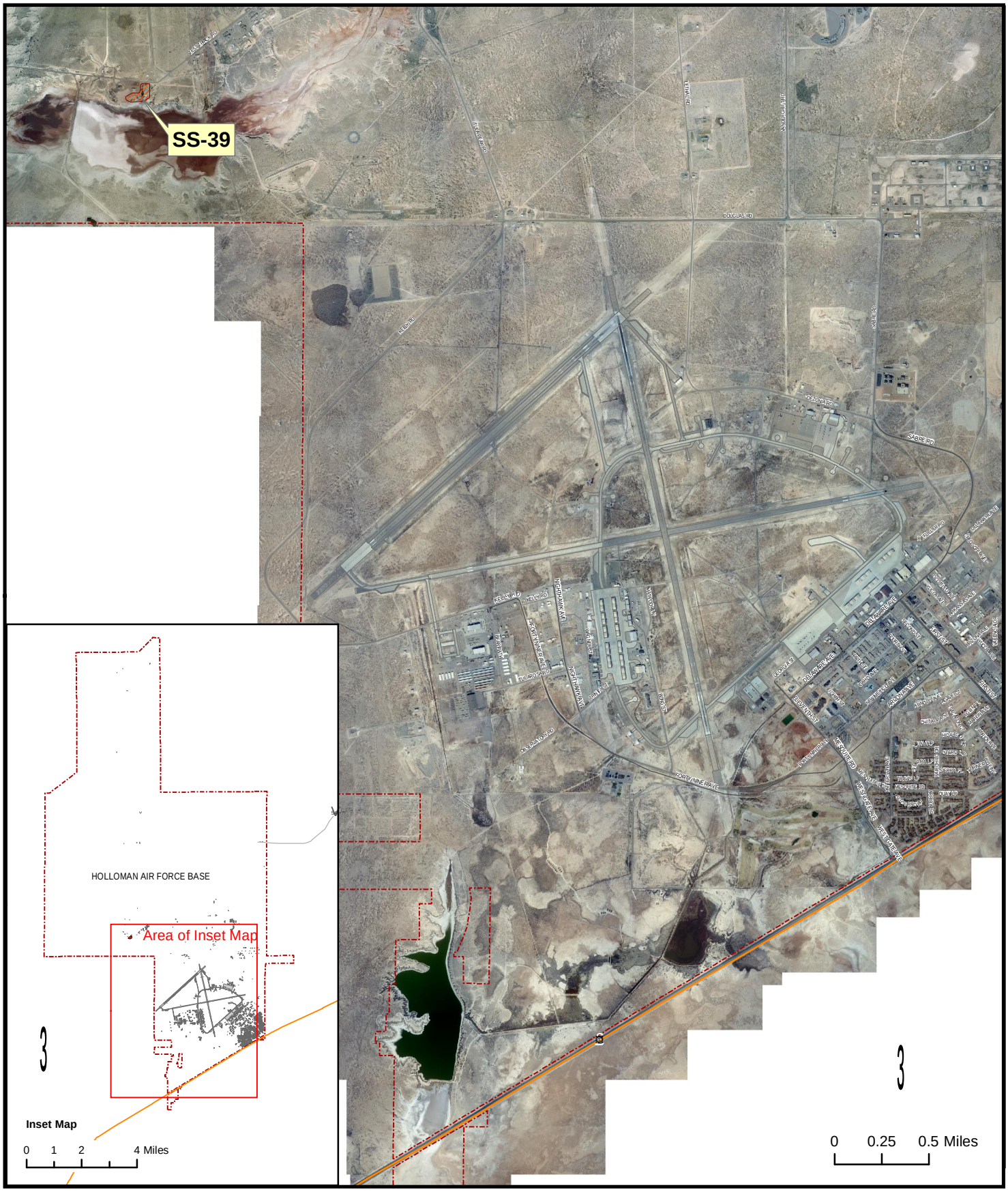
TETRA TECH
OAK RIDGE, TN

3

0 10 20 40
Miles

FIGURE 1-1

HOLLOMAN AIR FORCE BASE
INSTALLATION LOCATION
ALAMAGORDO, NEW MEXICO



File: K:\GIS\Holloman\SS-39_ACM WorkPlan\Fig1-2_SS-39 LocMap.mxd
Accelerated Corrective Measures Completion Report
Revised: 07/30/2012
Map Source: Holloman AFB
State Plane Coordinate System, NAD83, NM Central, US Feet

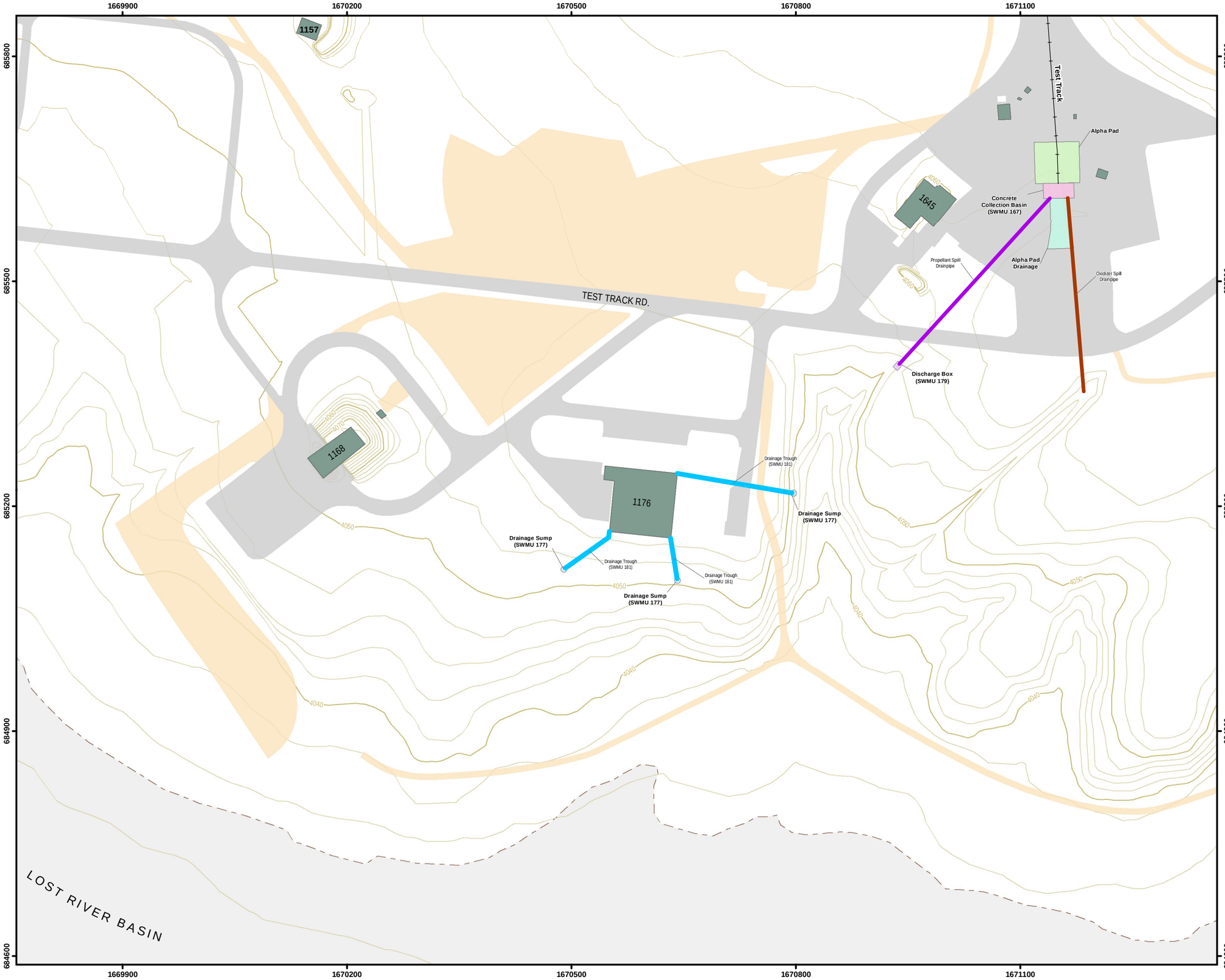
TETRA TECH
OAK RIDGE, TN

LEGEND

- HIGHWAY
- AIRFIELD
- BASE BOUNDARY
- SS-39 SITE

FIGURE 1-2

SS-39 LOCATION
AT HOLLOMAN AIR FORCE BASE



FILE: K:\GIS\Holloman\SS-39_ACM WorkPlan\
Fig1-3_SS-39 Site Features.mxd
REVISED: 07/30/2012
SOURCE: TETRA TECH

ALL COORDINATES PROJECTED IN NEW MEXICO STATE PLANE, CENTRAL ZONE FIPS 3002 IN FEET, AND THE HORIZONTAL DATUM IS NAD83 ADJUSTMENT OF 1996. THE VERTICAL REFERENCE DATUM IS NAVD88.

LEGEND

- Drainage Trough (SWMU 181)
- Oxidizer Spill Drainpipe
- Propellant Spill Drainpipe
- Alpha Pad
- Alpha Pad Drainage
- Concrete Collection Basin (SWMU 167)
- Discharge Box (SWMU 179)
- Drainage Sump (SWMU 177)
- HOLLOMAN AFB BUILDING
- ROAD/PARKING (PAVED)
- ROAD/PARKING (UNPAVED)
- TEST TRACK
- INDEX CONTOUR (10')
- INTERVAL CONTOUR (2')
- WETLAND AREA

3

0 60 120 240
FEET

ACCELERATED CORRECTIVE MEASURES
COMPLETION REPORT
HOLLOMAN AIR FORCE BASE
ALAMOGORDO, NEW MEXICO

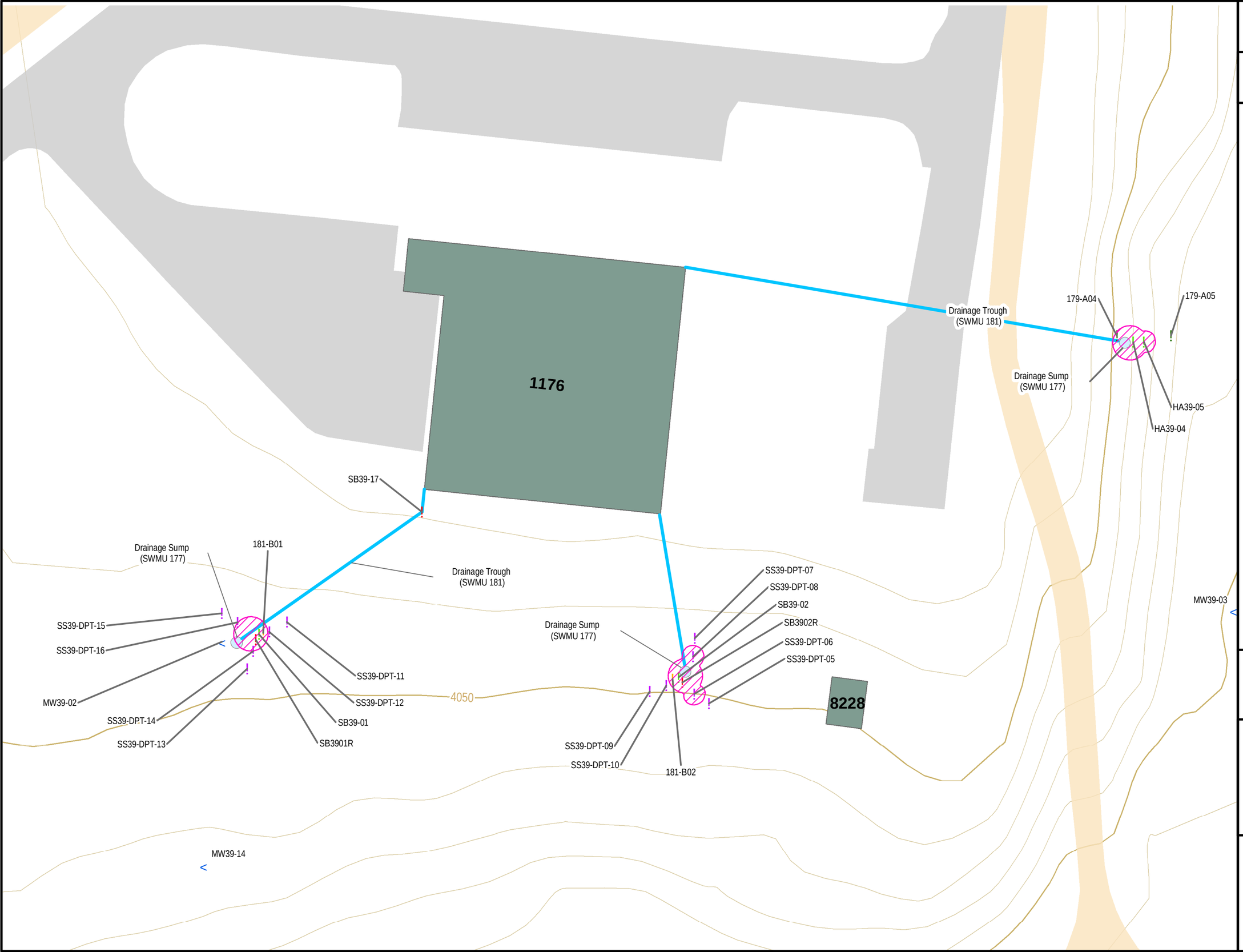
TETRA TECH
OAK RIDGE, TENNESSEE

FIGURE 1-3

SS-39 SITE FEATURES

GIS FILENAME: K:\GIS\Holloman\SS-39_ACM WorkPlan\Fig3-1_SS-39 SL Contam_SWMU177.mxd
DATE: 07-31-2012
SOURCE: TETRA TECH

ALL COORDINATES PROJECTED IN NEW MEXICO STATE PLANE, CENTRAL ZONE FIPS 3002 IN FEET, AND THE HORIZONTAL DATUM IS NAD83 ADJUSTMENT OF 1996. THE VERTICAL REFERENCE DATUM IS NAVD88.



LEGEND

- Proposed Soil Excavation
- Soil Sample: PHASE I (1991)
- Soil Sample: PHASE II (1993)
- Soil Sample: Supp. RFI (1994)
- Soil Sample: Supp. RFI (2006)
- Soil Sample: ACM (2010)
- Monitoring Well
- Drainage Trough (SWMU 181)
- Drainage Sump (SWMU 177)
- HOLLOMAN AFB BUILDING
- ROAD/PARKING (PAVED)
- ROAD/PARKING (UNPAVED)
- INDEX CONTOUR (10')
- INTERVAL CONTOUR (2')

Note:
1) Monitoring well locations shown for reference.

3

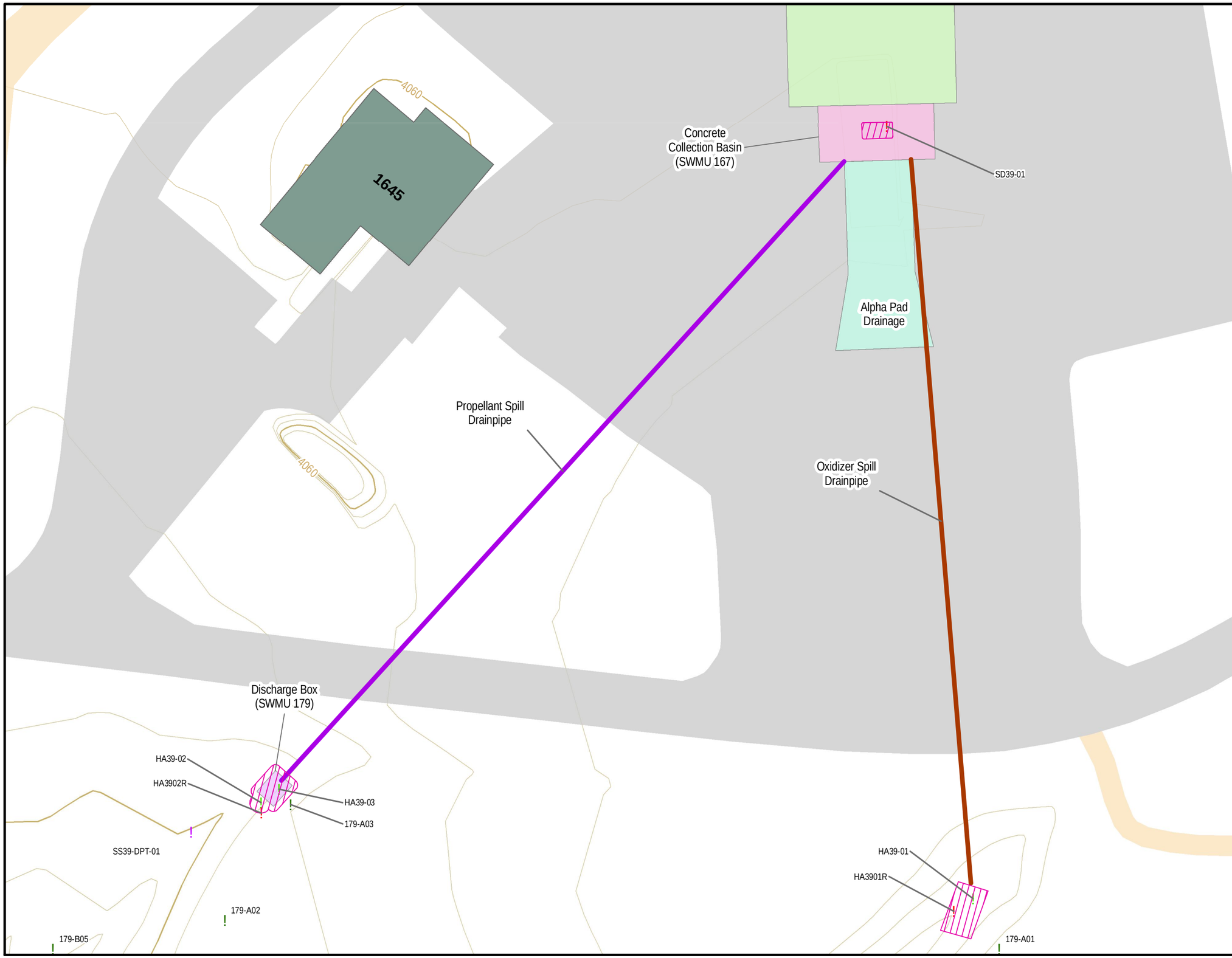
0 25 50
FEET

ACCELERATED CORRECTIVE MEASURES
COMPLETION REPORT
HOLLOMAN AIR FORCE BASE
ALAMOGORDO, NEW MEXICO

TETRA TECH
OAK RIDGE, TENNESSEE

FIGURE 3-1

AREAS OF SOIL CONTAMINATION
(SWMU 177 SUMPS)



GIS FILENAME: K:\GIS\Holloman\SS-39_ACM WorkPlan\Fig3-2_SS-39 SL Contam_SWMU167_179.mxd
DATE: 07-31-2012
SOURCE: TETRA TECH

ALL COORDINATES PROJECTED IN NEW MEXICO STATE PLANE, CENTRAL ZONE FIPS 3002 IN FEET, AND THE HORIZONTAL DATUM IS NAD83 ADJUSTMENT OF 1996. THE VERTICAL REFERENCE DATUM IS NAVD88.

LEGEND

- Proposed Soil Excavation
- Soil Sample: PHASE I (1991)
- Soil Sample: PHASE II (1993)
- Soil Sample: Supp. RFI (1994)
- Soil Sample: Supp. RFI (2006)
- Soil Sample: ACM (2010)
- Monitoring Well
- Oxidizer Spill Drainpipe
- Propellant Spill Drainpipe
- Alpha Pad
- Alpha Pad Drainage
- Concrete Collection Basin (SWMU 167)
- Discharge Box (SWMU 179)
- HOLLOMAN AFB BUILDING
- ROAD/PARKING (PAVED)
- ROAD/PARKING (UNPAVED)
- INDEX CONTOUR (10')
- INTERVAL CONTOUR (2')

Note:
1) Monitoring well locations shown for reference.

3

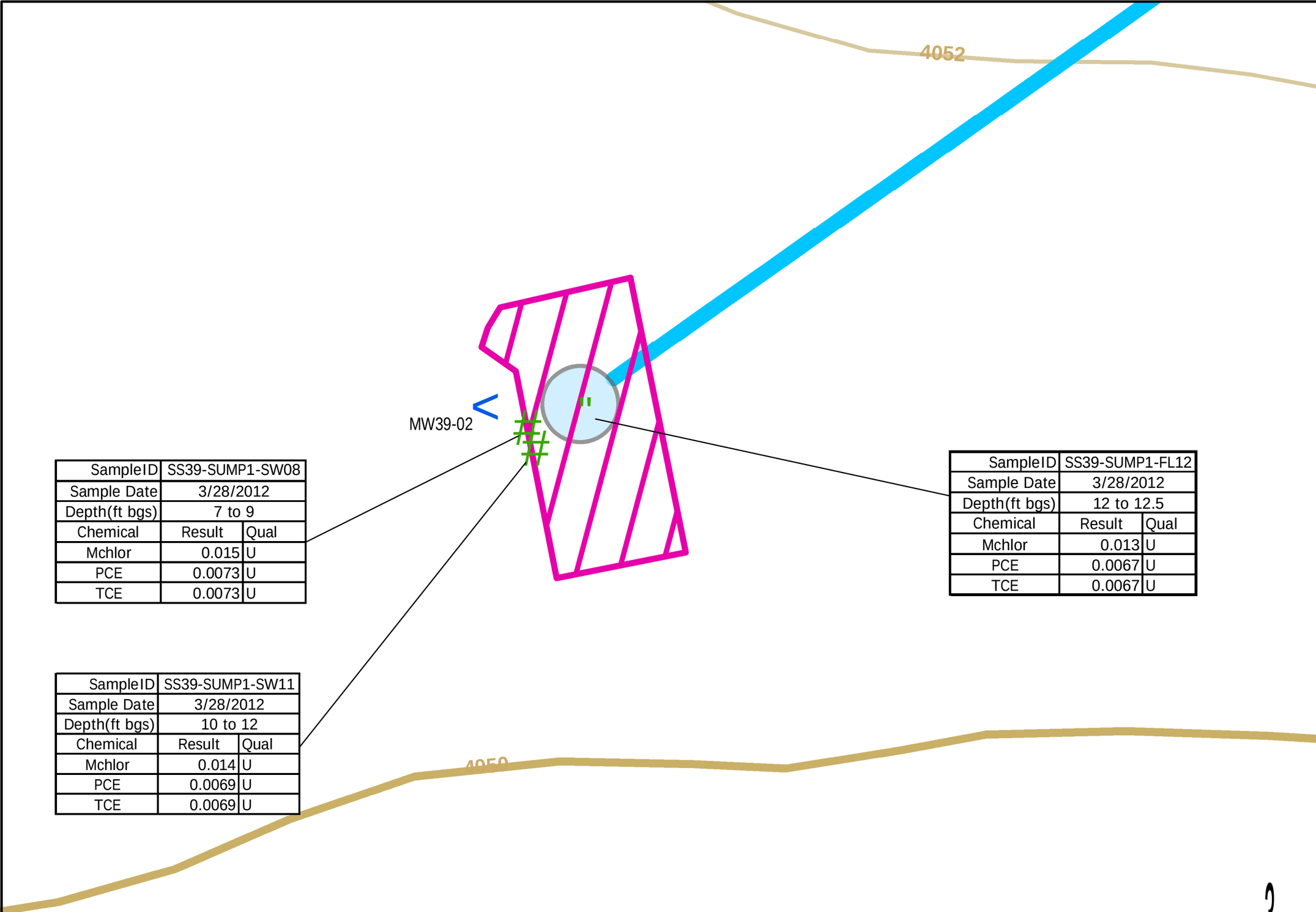
0 25 50
FEET

ACCELERATED CORRECTIVE MEASURES
COMPLETION REPORT
HOLLOMAN AIR FORCE BASE
ALAMOGORDO, NEW MEXICO

TETRA TECH
OAK RIDGE, TENNESSEE

FIGURE 3-2

AREAS OF SOIL CONTAMINATION
(SWMU 167 and SWMU 179)



SampleID	SS39-SUMP1-SW08	
Sample Date	3/28/2012	
Depth(ft bgs)	7 to 9	
Chemical	Result	Qual
Mchlor	0.015	U
PCE	0.0073	U
TCE	0.0073	U

SampleID	SS39-SUMP1-SW11	
Sample Date	3/28/2012	
Depth(ft bgs)	10 to 12	
Chemical	Result	Qual
Mchlor	0.014	U
PCE	0.0069	U
TCE	0.0069	U

SampleID	SS39-SUMP1-FL12	
Sample Date	3/28/2012	
Depth(ft bgs)	12 to 12.5	
Chemical	Result	Qual
Mchlor	0.013	U
PCE	0.0067	U
TCE	0.0067	U

3

GIS FILENAME: K:\GIS\Holloman\SS-39_ACM WorkPlan\Fig4-4_SS-39 SL Contam_SWMU177.mxd
DATE: 07-30-2012
SOURCE: TETRA TECH

PROJECTED IN NEW MEXICO STATE PLANE, CENTRAL ZONE FIPS 3002 IN FEET, AND THE HORIZONTAL DATUM IS NAD83.

LEGEND

- EXCEEDS SSL
- BELOW SSLs
- SOIL EXCAVATED
- SIDE WALL CONFIRMATION SAMPLE
- FLOOR CONFIRMATION SAMPLE
- MONITORING WELL
- PHASE 1 EXCAVATION
- DRAINAGE SUMP (SWMU 177)
- DRAINAGE TROUGH (SWMU 181)
- HOLLOMAN AFB BUILDING
- ROAD/PARKING (PAVED)
- ROAD/PARKING (UNPAVED)
- INDEX CONTOUR (10')
- INTERVAL CONTOUR (2')

Notes:
1) Monitoring well locations shown for reference.
2) Results: U = not detected, J = estimated.
3) SSL = Soil Screening Level.
4) Values in RED exceed the Direct Contact Residential SSL. Values highlighted YELLOW exceed the Vapor Intrusion Residential SSL.

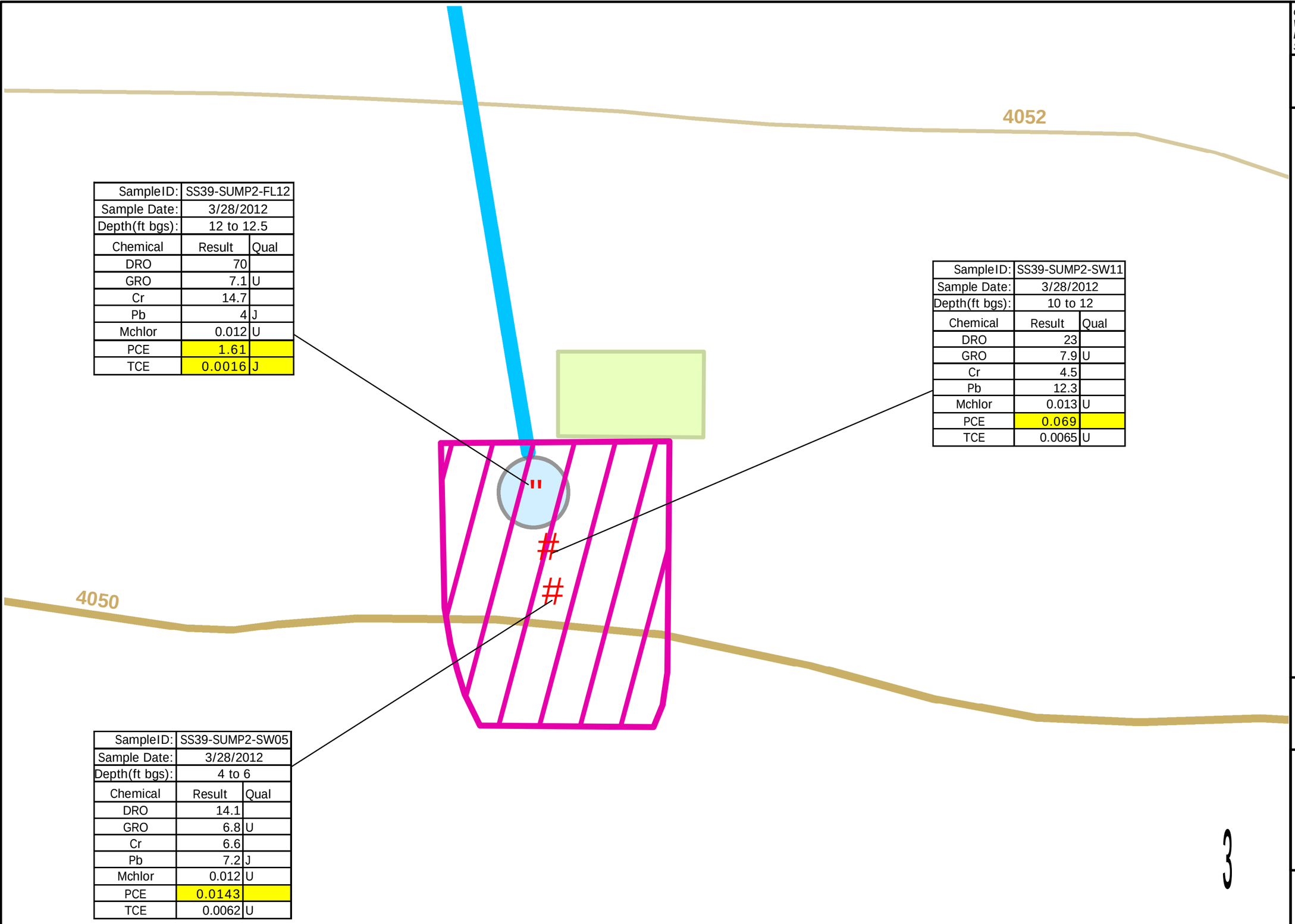
Chemical	Abbr.	Residential SSLs	
		Direct Contact	Vapor Intrusion
Organics, mg/kg			
Methylene Chloride	Mchlor	409	0.254
Tetrachloroethene	PCE	7.02	0.013
Trichloroethene	TCE	8.77	0.00114

0 2.5 5
Feet

ACCELERATED CORRECTIVE MEASURES
COMPLETION REPORT
HOLLOMAN AIR FORCE BASE
ALAMOGORDO, NEW MEXICO

TETRA TECH
OAK RIDGE, TENNESSEE

FIGURE 3-3
SUMP 1 (SWMU 177)
EXCAVATION AREA AND
CONFIRMATION SAMPLES



SampleID:	SS39-SUMP2-FL12	
Sample Date:	3/28/2012	
Depth(ft bgs):	12 to 12.5	
Chemical	Result	Qual
DRO	70	
GRO	7.1	U
Cr	14.7	
Pb	4	J
Mchlor	0.012	U
PCE	1.61	
TCE	0.0016	J

SampleID:	SS39-SUMP2-SW11	
Sample Date:	3/28/2012	
Depth(ft bgs):	10 to 12	
Chemical	Result	Qual
DRO	23	
GRO	7.9	U
Cr	4.5	
Pb	12.3	
Mchlor	0.013	U
PCE	0.069	
TCE	0.0065	U

SampleID:	SS39-SUMP2-SW05	
Sample Date:	3/28/2012	
Depth(ft bgs):	4 to 6	
Chemical	Result	Qual
DRO	14.1	
GRO	6.8	U
Cr	6.6	
Pb	7.2	J
Mchlor	0.012	U
PCE	0.0143	
TCE	0.0062	U

GIS FILENAME: K:\GIS\Holloman\SS-39_ACM WorkPlan\Fig4-4_SS-39 SL Contam_SWMU177.mxd
DATE: 07-30-2012
SOURCE: TETRA TECH

PROJECTED IN NEW MEXICO STATE PLANE, CENTRAL ZONE FIPS 3002 IN FEET, AND THE HORIZONTAL DATUM IS NAD83.

LEGEND

- ABOVE SSL
- BELOW SSLs
- SOIL EXCAVATED
- SIDE WALL CONFIRMATION SAMPLE
- FLOOR CONFIRMATION SAMPLE
- PHASE I EXCAVATION
- CONCRETE PAD (APPROX)
- DRAINAGE SUMP (SWMU 177)
- DRAINAGE TROUGH(SWMU 181)
- HOLLOMAN AFB BUILDING
- INDEX CONTOUR (10')
- INTERVAL CONTOUR (2')

Notes:
1) Results: U = not detected, J = estimated.
2) SSL = Soil Screening Level.
3) Values in RED exceed the Direct Contact Residential SSL. Values highlighted YELLOW exceed the Vapor Intrusion Residential SSL.

Chemical	Abbr.	Residential SSLs	
		Direct Contact	Vapor Intrusion
Organics, mg/kg			
Methylene Chloride	Mchlor	409	0.254
Tetrachloroethene	PCE	7.02	0.013
Trichloroethene	TCE	8.77	0.00114
TPH-DRO (C10-C28)	DRO	1000	--
TPH-GRO (C6-C10)	GRO	--	--
Metals, mg/kg			
Chromium	Cr	117000	--
Lead	Pb	400	--

ACCELERATED CORRECTIVE MEASURES
COMPLETION REPORT
HOLLOMAN AIR FORCE BASE
ALAMOGORDO, NEW MEXICO

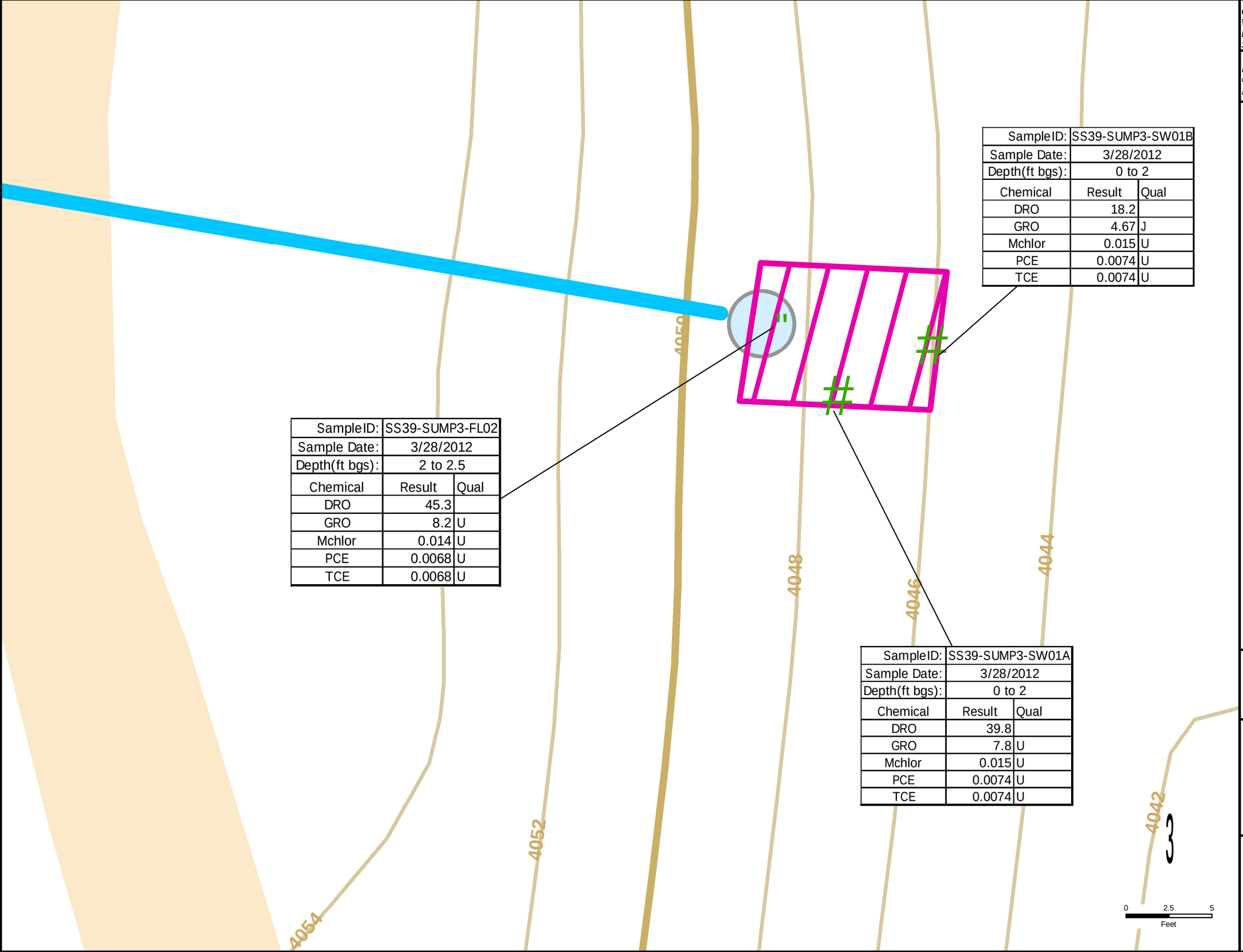
TETRA TECH
OAK RIDGE, TENNESSEE

3

FIGURE 3-4
SUMP 2 (SWMU 177)
EXCAVATION AREA AND
CONFIRMATION SAMPLES

GIS FILENAME: K:\GIS\Holloman\SS-39_ACM WorkPlan\Fig4-4_SS-39 SL Contam_SWMU177.mxd
DATE: 07-30-2012
SOURCE: TETRA TECH

PROJECTED IN NEW MEXICO STATE PLANE, CENTRAL ZONE FIPS 3002 IN FEET, AND THE HORIZONTAL DATUM IS NAD83.



SampleID:	SS39-SUMP3-SW01B	
Sample Date:	3/28/2012	
Depth(ft bgs):	0 to 2	
Chemical	Result	Qual
DRO	18.2	
GRO	4.67	J
Mchlor	0.015	U
PCE	0.0074	U
TCE	0.0074	U

SampleID:	SS39-SUMP3-FL02	
Sample Date:	3/28/2012	
Depth(ft bgs):	2 to 2.5	
Chemical	Result	Qual
DRO	45.3	
GRO	8.2	U
Mchlor	0.014	U
PCE	0.0068	U
TCE	0.0068	U

SampleID:	SS39-SUMP3-SW01A	
Sample Date:	3/28/2012	
Depth(ft bgs):	0 to 2	
Chemical	Result	Qual
DRO	39.8	
GRO	7.8	U
Mchlor	0.015	U
PCE	0.0074	U
TCE	0.0074	U

LEGEND

- EXCEEDS SSL
- BELOW SSLs
- SOIL EXCAVATED
- SIDE WALL CONFIRMATION SAMPLE
- FLOOR CONFIRMATION SAMPLE
- PHASE I EXCAVATION
- DRAINAGE SUMP (SWMU 177)
- DRAINAGE TROUGH (SWMU 181)
- HOLLOMAN AFB BUILDING
- ROAD/PARKING (PAVED)
- ROAD/PARKING (UNPAVED)
- INDEX CONTOUR (10')
- INTERVAL CONTOUR (2')

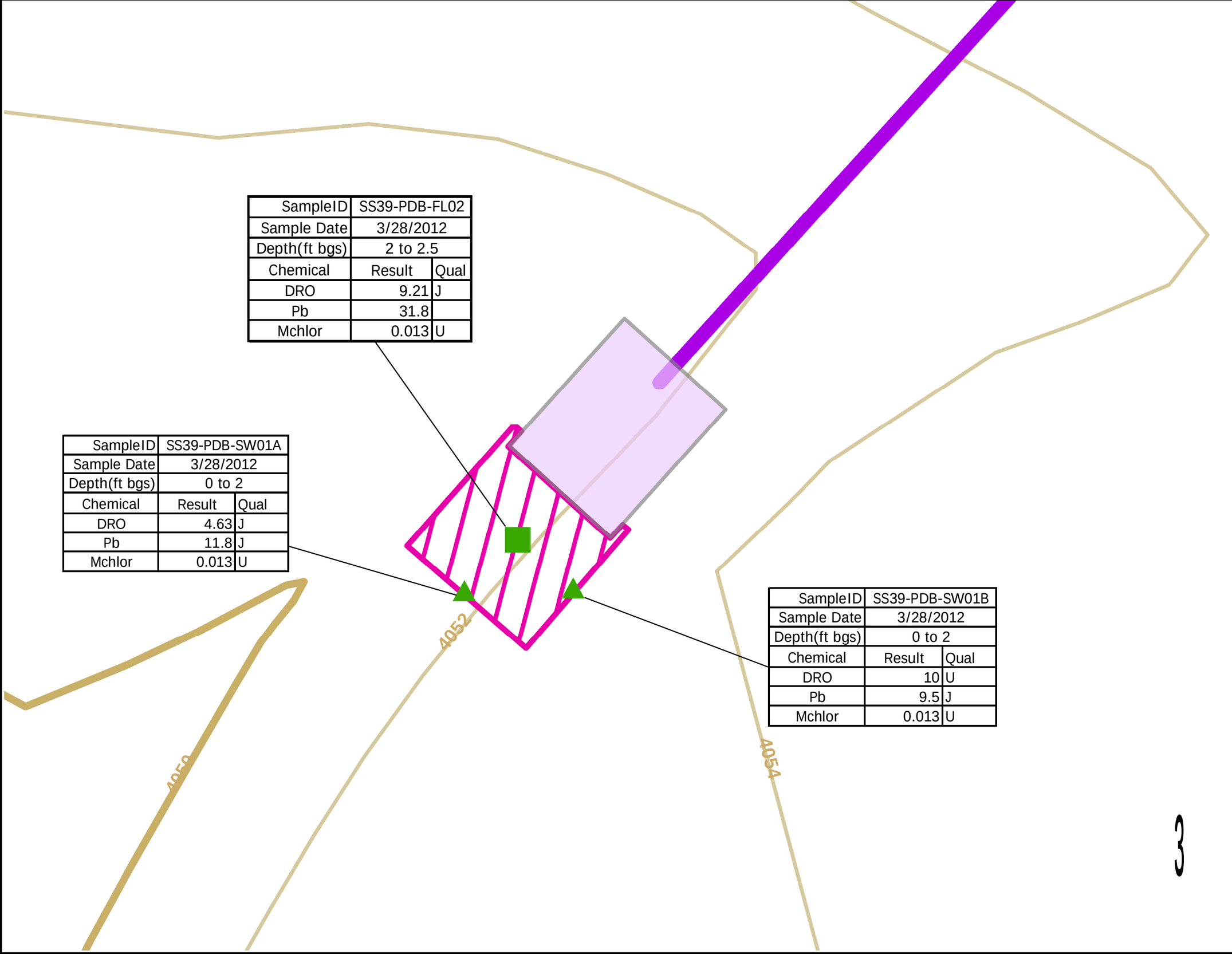
Notes:
1) Results: U = not detected, J = estimated.
2) SSL = Soil Screening Level.
3) Values in RED exceed the Direct Contact Residential SSL. Values highlighted YELLOW exceed the Vapor Intrusion Residential SSL.

Chemical	Abbr.	Residential SSLs	
		Direct Contact	Vapor Intrusion
Organics, mg/kg			
Methylene Chloride	Mchlor	409	0.254
Tetrachloroethene	PCE	7.02	0.013
Trichloroethene	TCE	8.77	0.00114
TPH-DRO (C10-C28)	DRO	1000	--
TPH-GRO (C6-C10)	GRO	--	--

ACCELERATED CORRECTIVE MEASURES
COMPLETION REPORT
HOLLOMAN AIR FORCE BASE
ALAMOGORDO, NEW MEXICO

TETRA TECH
OAK RIDGE, TENNESSEE

FIGURE 3-5
SUMP 3 (SWMU 177)
EXCAVATION AREA AND
CONFIRMATION SAMPLES



SampleID	SS39-PDB-FL02	
Sample Date	3/28/2012	
Depth(ft bgs)	2 to 2.5	
Chemical	Result	Qual
DRO	9.21	J
Pb	31.8	
Mchlor	0.013	U

SampleID	SS39-PDB-SW01A	
Sample Date	3/28/2012	
Depth(ft bgs)	0 to 2	
Chemical	Result	Qual
DRO	4.63	J
Pb	11.8	J
Mchlor	0.013	U

SampleID	SS39-PDB-SW01B	
Sample Date	3/28/2012	
Depth(ft bgs)	0 to 2	
Chemical	Result	Qual
DRO	10	U
Pb	9.5	J
Mchlor	0.013	U

3

GIS FILENAME: K:\GIS\Holloman\SS-39_ACM WorkPlan\Fig4-4_SS-39 SL Contam_SWMU177.mxd
DATE: 07-30-2012
SOURCE: TETRA TECH

PROJECTED IN NEW MEXICO STATE PLANE, CENTRAL ZONE FIPS 3002 IN FEET, AND THE HORIZONTAL DATUM IS NAD83.

LEGEND

- EXCEEDS SSL
- BELOW SSLs
- SOIL EXCAVATED
- SIDE WALL CONFIRMATION SAMPLE
- FLOOR CONFIRMATION SAMPLE
- PHASE I EXCAVATION
- DISCHARGE BOX (SWMU 179)
- PROPELLANT SPILL DRAINPIPE
- HOLLOMAN AFB BUILDING
- INDEX CONTOUR (10')
- INTERVAL CONTOUR (2')

Notes:
1) All sediment removed from inside discharge box.
2) Results: U = not detected, J = estimated.
3) SSL = Soil Screening Level.
4) Values in RED exceed the Direct Contact Residential SSL. Values highlighted YELLOW exceed the Vapor Intrusion Residential SSL.

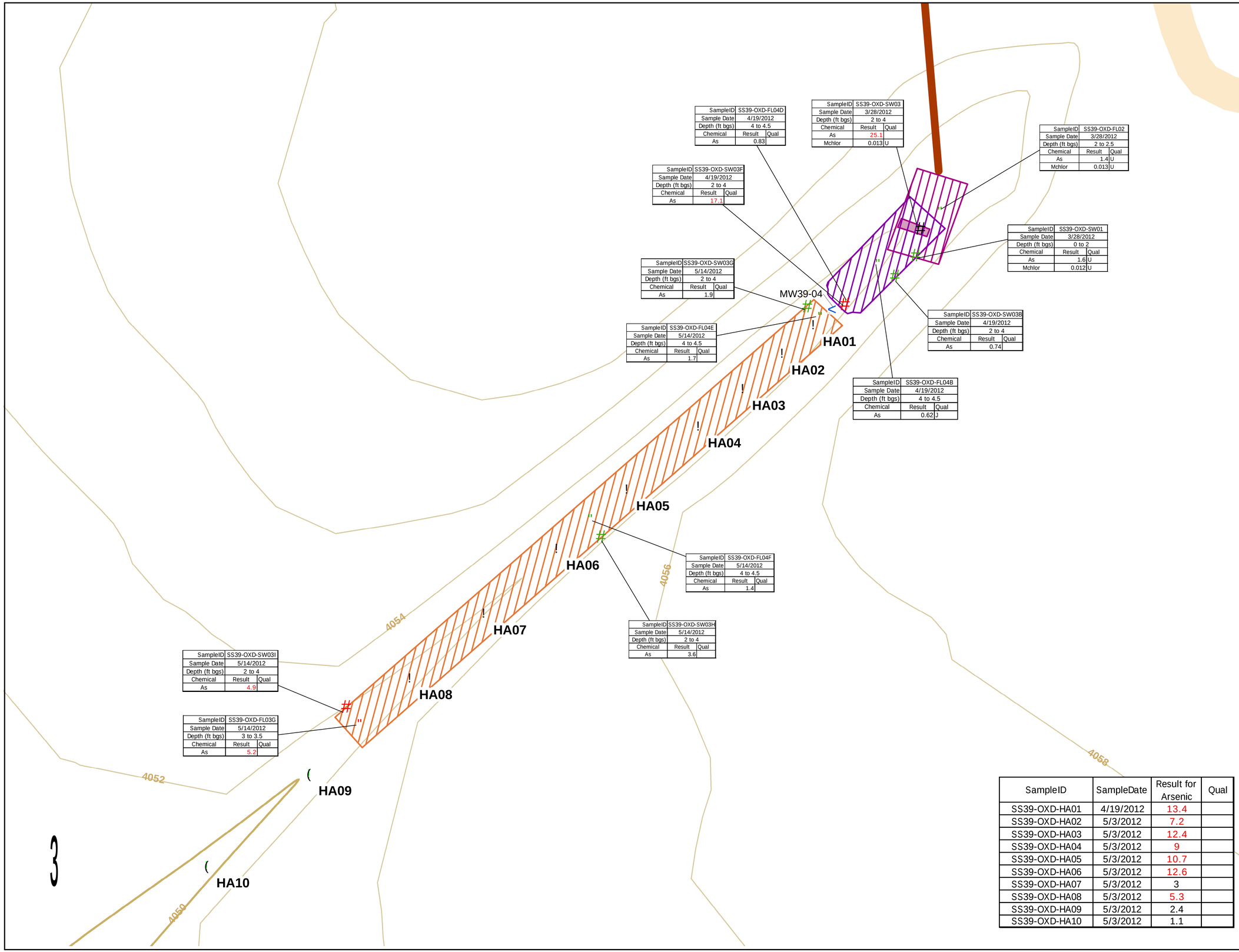
Chemical	Abbr.	Residential SSLs	
		Direct Contact	Vapor Intrusion
Organics, mg/kg			
Methylene Chloride	Mchlor	409	0.254
TPH-DRO (C10-C28)	DRO	1000	--
Metals, mg/kg			
Lead	Pb	400	--

0 2.5 5
Feet

ACCELERATED CORRECTIVE MEASURES
COMPLETION REPORT
HOLLOMAN AIR FORCE BASE
ALAMOGORDO, NEW MEXICO

TETRA TECH
OAK RIDGE, TENNESSEE

FIGURE 3-6
PROPELLANT DISCHARGE BOX
(SWMU 179)
EXCAVATION AREA AND
CONFIRMATION SAMPLES



SampleID	SS39-OXD-FL04D	
Sample Date	4/19/2012	
Depth (ft bgs)	4 to 4.5	
Chemical	Result	Qual
As	0.83	

SampleID	SS39-OXD-SW03	
Sample Date	3/28/2012	
Depth (ft bgs)	2 to 4	
Chemical	Result	Qual
As	25.1	
Mchlor	0.013	U

SampleID	SS39-OXD-FL02	
Sample Date	3/28/2012	
Depth (ft bgs)	2 to 2.5	
Chemical	Result	Qual
As	1.4	U
Mchlor	0.013	U

SampleID	SS39-OXD-SW03F	
Sample Date	4/19/2012	
Depth (ft bgs)	2 to 4	
Chemical	Result	Qual
As	17.1	

SampleID	SS39-OXD-SW01	
Sample Date	3/28/2012	
Depth (ft bgs)	0 to 2	
Chemical	Result	Qual
As	1.6	U
Mchlor	0.012	U

SampleID	SS39-OXD-SW03G	
Sample Date	5/14/2012	
Depth (ft bgs)	2 to 4	
Chemical	Result	Qual
As	1.9	

SampleID	SS39-OXD-SW03B	
Sample Date	4/19/2012	
Depth (ft bgs)	2 to 4	
Chemical	Result	Qual
As	0.74	

SampleID	SS39-OXD-FL04E	
Sample Date	5/14/2012	
Depth (ft bgs)	4 to 4.5	
Chemical	Result	Qual
As	1.7	

SampleID	SS39-OXD-FL04B	
Sample Date	4/19/2012	
Depth (ft bgs)	4 to 4.5	
Chemical	Result	Qual
As	0.62	J

SampleID	SS39-OXD-FL04F	
Sample Date	5/14/2012	
Depth (ft bgs)	4 to 4.5	
Chemical	Result	Qual
As	1.4	

SampleID	SS39-OXD-SW03H	
Sample Date	5/14/2012	
Depth (ft bgs)	2 to 4	
Chemical	Result	Qual
As	3.6	

SampleID	SS39-OXD-SW03I	
Sample Date	5/14/2012	
Depth (ft bgs)	2 to 4	
Chemical	Result	Qual
As	4.9	

SampleID	SS39-OXD-FL03G	
Sample Date	5/14/2012	
Depth (ft bgs)	3 to 3.5	
Chemical	Result	Qual
As	5.2	

SampleID	SampleDate	Result for Arsenic	Qual
SS39-OXD-HA01	4/19/2012	13.4	
SS39-OXD-HA02	5/3/2012	7.2	
SS39-OXD-HA03	5/3/2012	12.4	
SS39-OXD-HA04	5/3/2012	9	
SS39-OXD-HA05	5/3/2012	10.7	
SS39-OXD-HA06	5/3/2012	12.6	
SS39-OXD-HA07	5/3/2012	3	
SS39-OXD-HA08	5/3/2012	5.3	
SS39-OXD-HA09	5/3/2012	2.4	
SS39-OXD-HA10	5/3/2012	1.1	

GIS FILENAME: K:\GIS\Holloman\SS-39_ACM WorkPlan\ Fig4-5_SS-39 SL Contam_SWMU167_179.mxd
DATE: 07-30-2012
SOURCE: TETRA TECH

ALL COORDINATES PROJECTED IN NEW MEXICO STATE PLANE, CENTRAL ZONE FIPS 3002 IN FEET, AND THE HORIZONTAL DATUM IS NAD83 ADJUSTMENT OF 1996. THE VERTICAL REFERENCE DATUM IS NAVD88.

LEGEND

- EXCEEDS SSL
- BELOW SSLs
- SOIL EXCAVATED
- HAND AUGER SOIL SAMPLE
- FLOOR CONFIRMATION SAMPLE
- SIDE WALL CONFIRMATION SAMPLE
- PHASE I EXCAVATION (0 - 2 ft)
- PHASE I EXCAVATION (2 - 4 ft)
- PHASE II EXCAVATION
- PHASE III EXCAVATION
- MONITORING WELL
- OXIDIZER SPILL DRAINPIPE
- ROAD/PARKING (PAVED)
- ROAD/PARKING (UNPAVED)
- INDEX CONTOUR (10')
- INTERVAL CONTOUR (2')

Notes:
1) Monitoring well locations shown for reference.
2) Results: U = not detected, J = estimated, B = analyte detected between method detection limit and reporting limit; quantity estimated.
3) SSL = Soil Screening Level.
4) Values in RED exceed the Direct Contact Residential SSL. Values highlighted YELLOW exceed the Vapor Intrusion Residential SSL.

Chemical	Abbr.	Residential SSLs	
		Direct Contact	Vapor Intrusion
Organics, mg/kg			
Methylene Chloride	Mchlor	409	0.254
Metals, mg/kg			
Arsenic	As	3.9	--

0 20 40
Feet

ACCELERATED CORRECTIVE MEASURES
COMPLETION REPORT
HOLLOMAN AIR FORCE BASE
ALAMOGORDO, NEW MEXICO

TETRA TECH
OAK RIDGE, TENNESSEE

FIGURE 3-7
OXIDIZER DISCHARGE SPILL PIPE EXCAVATION AREAS AND CONFIRMATION SAMPLES

APPENDIX A

FIELD LOGBOOK RECORDS

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Composition

Holloman AFB
Site SS-39 Soil Excavation

March 2012

100 Sheets • 200 Pages • Wide Ruled
9 3/4 x 7 1/2 in. • 24.7 x 19.0 cm

NORCOM
Tools For Knowledge

SS-39 3-26-12

0745 DANNY WARD FROM TETRA TECH ARRIVES AT VISITOR CENTER TO GET NEW BADGE WITH ESCORT AUTHORITY FOR HAFB.

0845 D. WARD ARRIVES AT FIELD TRAILOR AND LOADS FIELD EQUIPMENT

0930 RHYNO CALLS D. WARD FOR ESCORT TO SS-39

1030 D. WARD AND RHYNO ARRIVE AT SS-39 AND STAGE EQUIPMENT

1110 D. WARD GIVES SITE SAFETY BRIEF AND GOES OVER HASP FOR RHYNO EMPLOYEES. D. WARD THEN CONDUCTS EQUIPMENT INSPECTIONS.

1200 D. WARD DEPARTS SS-39 FOR LUNCH

1220 D. WARD PICKS UP DIG PERMIT FROM DAVID SCRUGGS

1300 D. WARD ARRIVES BACK AT SS-39.

1305 RHYNO BEGINS TAKING DOWN THE FENCE IN FRONT OF DISCHARGE BOX, WHILE ALSO SHOVELING OUT TROUGHS.

1330 RHYNO STARTS USING THE BACK-HOE TO SCRAPE SEDIMENT OUT OF DISCHARGE BOX. SEDIMENT IS APPROX. 2 FT. DEEP AND HEAVILY SATURATED.

1400 RHYNO STARTS FILLING CAVITY IN FRONT OF DISCHARGE BOX WITH CRUSHED FILL TO STABILIZE BOX.

1430 CONTINUE USING BACK-HOE TO SCRAPE SEDIMENT OUT OF DISCHARGE BOX. SEDIMENT IN BOX A PUDDING-LIKE CONSISTANCY. STAGING ON PLASTIC SOUTH WEST OF DISCHARGE BOX TO DRY SEDIMENT.

1515 RHYNO BEGINS SCRAPING TOP SOIL OFF AROUND SOUTHWEST SUMP AS AN INVESTIGATORY PROCESS TO DETERMINE SIZE OF

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SUMP, AND DETERMINE IF THE WELL IS IN THE SUMP OR OUTSIDE OF THE SUMP.

1550 ALLAN I. AND PURSHOTAM I. ARRIVE AT SS-39

1600 ALLAN AND PURSHOTAM WALK SITE SS-39 TO CHECK ON STATUS OF WORK.

1620 ALLAN AND PURSHOTAM AGREE SUMP IS AN APPROX DIAMETER OF 3.5 FEET AND THE MONITORING WELL IS NOT IN SUMP. DECISION MADE NOT TO ABANDON WELL AND TRY TO SAVE IT. CONTINUE EXCAVATING AROUND SUMP TO DETERMINE DEPTH.

1700 SUMP IS DETERMINED TO BE 8 FEET DEEP BY APPROX 3.5 FEET IN DIAMETER, MADE OF REINFORCED CONCRETE. SHOVEL ON BACK HOE CANNOT BREAK IT UP. BACK-HOE CREATES RAMP TO LAY SUMP OVER AND DRAG IT OUT OF THE EXCAVATION.

1730 RAMP IS CREATED AND BACK-HOE IS ABLE TO LAY SUMP OVER.

1800 BACKHOE IS ABLE TO POLL SUMP OUT OF EXCAVATION.

1815 FENCING PLACED AROUND EXCAVATION AREA FOR SAFETY, AND SITE IS CLOSED FOR THE DAY.

1820 PURSHOTAM LEAVES SS-39

1850 DANNY AND ALLAN AND REMO LEAVE SITE SS-39 FOR DAY.

1910 DANNY AND ALLAN ARRIVE AT FIELD TRAILER AND INVENTORY EQUIPMENT, UNLOAD TRUCK.

1930 ALLAN AND DANNY LEAVE HAFB.

3/26/12

SS-39 3~~B~~(A)/27/12

Danny Ward, Tetra Tech, meets Rhino crew at SS-39 site. Conduct H&S tailgate meeting. Rhino crew preps hydraulic hammer to use to break up concrete sumps. Hydraulic oil spills from line onto paved surface west of Bldg. 1176 – Rhino crew immediately cleans up spill with dry clean soil, sweeps up material, and bags it for proper disposal.

Goals today are to continue excavate of sumps at Bldg. 1176 and clean out of sediment/soil from other discharge/collection features per Work Plan.

Mini Rae 3000 and 2000 model PIDs w/ 11.7 eV bulbs on site for field screening soils. Both PIDs were charged overnight and calibrated using 100 ppm isobutylene at Tt field trailer this am.
See Field Meter Calibration logs
MR 3000 PID serial no. 592-905177 (Pine Env. #17143)
MR2000 PID serial no.
We will use MR3000 PID unless noted otherwise

Weather: clear, light breeze from west, ~60°F
low humidity

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0810 Purshotam and Allan, TL arrive on site. Review H&S topics. Discuss excavate plans w/ Rhino. Because all 3 sumps are 4' diameter, less soil removal required than originally planned.

0840 Purshotam + Allan call Bridget Brown, TL, to discuss putting broken up concrete from sumps back in excavation as fill. Rhino reports not an issue for them if not contaminated. Allan reports that soil sample data, visuals, smell/odor, and PID will be used. If no indication of contamination, concrete will be used as fill

0850 Bucksroad arr at site: PID = 0.0 ppm
Purshotam + Danny leave site to get camera permit and escort roll off box delivery

0910 Begin clean soil removal to 3' bgs at south sump. 3-5' soil is contaminated and will be taken to landfill as non-haz based on 2010 soil data. Observe that South Sump is 4' dia. like SW sump.

0930 Concrete sump from SW location broken up. PID of concrete and internal ~~clouds~~ soils shows 0.0 ppm (AG) 3/27/12
No staining or odor, soil looks like sandy-gravel fill in sump. Can use as clean backfill.

3/27/12

0935 Backhoe at E. sump, removing concrete

0945 Roll off boxes arrive; Danny W. and Purshotam back on site

0950 PID breathing zone at all 3 sumps = 0.0 ppm
" for exposed soil " " " " = 0.0 ppm

0952 Concrete removed from E. Sump location

1040 2 Roll offs set up for potential characteristic haz. waste soils; 2 more will be delivered, min. of 3 needed for 3 waste streams.
Purshotam and Danny leave site

1050 Removing 0-2' bgs soil around E. sump, placing on plastic for later loading; breaking concrete removed around E. sump. PID of B.Z. = 0.0 ppm
PID of soil and concrete = 0.0 ppm

1056 0-2' bgs of contaminated soil removed around outside of E. sump, excavation area ~ 8'x11' (11' downslope, 8' wide), PID of excavated soil, sidwalls, and bottom = 0.0 ppm, B.Z. = 0.0 ppm

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1105 Removing deeper soil around E. sump to attemp sump removal; checking soil w/ PID, if < 50 ppm will leave soil in hole

1115 Soil removed to 6' bgs on SE side of E. sump, PID = 0.0 ppm, no staining or odor, bottom of sump not seen @ 6'
Because sump is likely 8' deep, full of soil, and located on slope, can not safely access w/ equipment to remove sump, and too heavy to lift out to remove. Decide to hand excavate soil inside sump to min. of 2' feet ~~above~~ below (cl) 3/30/12 starting sediment level, and deeper if possible, but will leave sump in place

1140 Have removed ~1' soil from inside E. sump, PID of soil and B.Z. = 0.0 ppm
Other Rhino crew is lining roll off near discharge box and will start loading 'dried' soil removed from inside box yesterday (staged on plastic) into roll off (note: separate waste stream and roll off from 3 sumps).

1205 Rhino ~~crew~~ backhoe operator breaks for lunch; rest of crew removing metal (cl) grate over test track sump to access sediment for clean out

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1310 Purushotam + Danny return to site

1330 Complete sediment clean out at test track sediment sump.
Complete soil removal inside E. sump to ~ 3.5 feet below starting level, hit concrete or compacted gravel that can not be dug out with shovel; will stop at this depth and collect confirmation samples.

1340 Begin soil removal again around ~~SW~~ South sump exterior, first remove 3-5' around SE circumference and treat as contaminated soil for special waste disposal; will now use PID at ~2' intervals to decide clean or dirty; will treat soil at 10' and below as contaminated based on soil sample results.

1350 PID @ 5' = 0.6 ppm (bag samples for headspace)

1402 PID @ 7' = 1.3 ppm

1417 PID @ 9' = 1.1 ppm

1430 Soil cleaned out around South Sump, sump ≈ 10' bottom depth, dig ramp along SE side of excavation with plan to pull sump whole, out of pit; sump is loose.

1513 Pull South Sump over to ramp location, concrete splits ~ in half along vertical crack, soil inside is very dark

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1513 continued.

Notice odor downwind, get PID = 3.1 ppm briefly downwind, but stronger breeze dissapates odor and PID returns to 0.0 ppm, everyone instructed to stand/work upwind of sump; backhoe operator B.Z. PID = 0.0 ppm

Approx 10' of sump pulled up sidewall ramp keeping most of dark soil inside

1530 Bag samples of soil from inside sump, dark brown soil from ~1' to ~8.5' depth has PID = 0.9 ppm, black soil from ~8.5' to 10' depth has PID = 546 ppm and strong odor; removing all soil from inside sump and placing in roll off box

1552 Have scrapped all loose soil from inside of sump concrete wall; now use broom and simple green cleaner to 'decon' inside of concrete wall catching all runoff with soil to be placed in roll off box.

1620 Continuing to load contaminated soil that was inside sump and immediately below sump bottom at ~10' bgs

Soil sample in bag @ ~10.5', below sump, PID = 25.6 ppm

Check workers B.Z. PID = 0.0 ppm

Soil sample in bag @ ~~12.5~~ 11.5', below sump, PID = 141.5 ppm

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Soil sample " " " 12', below sump, PID = 23.4 ppm

Since PID < 50 ppm, will stop excavation below sump and stop loading soil into roll off.

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1650 Removing (9) 3/30/12 ~~Cleaning~~ soil from outside of sump from 10-12' bgs, stockpile to load as special waste to landfill

1710 Area outside sump cleaned up, soil removed to about 12' bgs, last bucket PID = 3.4 ppm, will stop excavation at South Sump; area fenced off for tonight.

1717 Move to SW Sump to remove soil below sump, target to depth of 12' bgs, soil will go in roll off box. Remove concrete plug from basal area of sump at ~8-9' bgs; removal soil directly below concrete plug and stockpile for loading into roll off box

1732 At 10' bgs, below sump, no staining or odor, no water, PID over soil pile and B.Z. = 0.0 ppm

1745 At 12' bgs, below sump, PID from last bucket = 0.6 ppm Will stop digging at SW sump. Soil loaded into Roll Off box

1810 All excavations protected w/ fencing; leave site, go to field trailer to unload and prep for tomorrow

1845 leave HAFB

Allan Jenkins 3/30/12

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3/28/12

0715 D. Ward and Allan Jenkins arrive at field trailer to load truck with sampling equipment and calibrate PID's.

0735 Arrive at SS-39 and conduct Daily Tailgate w/ Rhino. Everyone on site signs daily site log. Danny from TT and Danny from Rhino walk site to discuss where to drop clean fill from borrow pit, and where to drop roll-offs later that day.

0810 Allan and Danny prepare to take Samples at Sump 1 (Southwest Sump from Bld. 1176).

0910 Confirmation soil samples collected at Sump-1, VOCs + moisture; bottom sample below sump at 12' bgs: SS39-Sump1-FL12; side wall on south side at 11' bgs: SS39-Sump1-SW11; sidewall on south at 8' bgs: SS39-sump1-SW08 Sump-1 located SW of Bldg 1176.

0955 ~~1055~~ Confirmation soil samples collected at Sump 2 located South of Bldg. 1176; VOCs, TPH (GRO, DRO), metals (Cr, Pb); bottom sample below sump at 12' bgs: SS39-Sump2-FL12; sidewall on south side at 11' bgs: SS39-Sump2-SW11; side wall on south side at 5' bgs: SS39-Sump2-SW05

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Note: PID site background + B.Z. = 0.0 ppm at both sump locations sampled.

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1010 Note that soil samples were collected from Sumps 1 and 2 using Rhino backhoe to retrieve material at TL specified depths and locations; samples collected out of bucket. Sump 1 excavate area ~ 7.5' (W) x 15' (L) x 12' (D) (max), and Sump 2 excavate area ~ 13' (W) x 16' (L) x 12' (D) (max).

1014 Rhino crew is removing TCLP soil from plastic at Sump 3, east of Bldg. 1176 and placing into Roll Off Box #2 staged E of Bldg. 1176 (i.e., RBO2). Note that soils from sumps 1+2 placed in roll off box yesterday (3/27/12) were put into Roll Off Box #1 (RBO1) staged south of Bldg. 1176.

1032 Sumps 1 and 2 have been partially back filled. Broken clean concrete from sumps and caps overlying sumps at grade were placed into excavation. Care was taken to avoid creating any cavaties. Material compacted by pounding with backhoe bucket. Clean, excavated soil also used as back fill at each sump.

1110 Danny and Purshotam leave site to show Rhino crew clean borrow soil pit location, Rhino will bring clean backfill back to SS-39 to complete excavation reclamation

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1120 Confirmation soil samples collected at Sump 3 located E of Bldg 1176; VOCs, TPH (GRO + DRO), and metals (As only); bottom sample at 2' below original concrete cap around sump: 5539-Sump3-FL02, sample collected adjacent to outside wall of inplace sump on E side; sidewall sample on S side at 1' bgs: 5539-Sump3-SW01A; sidewall sample on E side at 1' bgs: 5539-Sump3-SW01B

1200 Allan and Purshotam leave site for lunch, Danny stays on site to oversee Rhino soil backfill staging

1305 Allan at office trailer preping confirmation soil samples from sumps 1, 2, and 3 for FedX. Purshotam returns to trailer to assist shipping prep.

1447 Samples picked up by FedX, Air bill #899626056430

1220 FIRST LOAD OF CLEAN FILL ARRIVES FROM BORROW PIT. CLEAN FILL UNLOADED BY BELLY-DUMP ON SOUTH SIDE OF BUILDING 1176. RHINO ALSO CONTINUES TO LOAD ROLL-OFF BOX 02 (RB-02) WITH SOIL EXCAVATED FROM THE EAST SUMP.

1300 SECOND TRUCK OF CLEAN FILL ARRIVES. STAGED WITH FIRST LOAD. RHINO UNLOADS BACK-HOE AND BEGINS FILLING-IN 2 SUMPS SOUTH OF BLD. 1176.

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1425 MOVE BACK-HOE TO START EXCAVATION AT OXIDIZER DRAIN PIPE. BEGIN EXCAVATION.

1530 ALLAN AND PURSHOTAM ARRIVE BACK ON SITE. ALLAN AND DANNY MEASURE EXCAVATION. EXCAVATION COMPLETE. SOIL WAS PUT INTO RB-04.

1600 BEGIN EXCAVATING/DIGGING OUT LEFT OVER SEDIMENT FROM DISCHARGE BOX USING BACK-HOE.

1610 BACK-HOE FINISHES DISCHARGE BOX. RHYNO STARTS SHOVELING OUT REMAINING SEDIMENT.

1743 Backhoe completes soil removal outside of discharge box, area 9'X8'X2' removed, sediment in and soil outside discharge box placed in RB03 stagged near location.

1700 ~~1820~~ Confirmation soil samples collected at Oxidizer Pipe Discharge (OXD) location; VOCs + metal (As); bottom sample from middle of excavation at 2' bgs: SS39-OXD-FL02; side wall sample on south side at 1' bgs: SS39-OXD-SW01; and side wall sample on south side at 3' bgs: SS39-OXD-SW03. Excavation area was 18'X11'X2' with a target deeper area at 10' south of pipe of 6'X1.5'X4' where As was found in deeper soil sample.

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~~1710 Rhino crew continuing~~ (AA) 3/28/12

1820 Confirmation soil samples colleted at Propellant Pipe Discharge Box (PDB); VOCs + TPH (GRO+DRO), and metals (As, Pb); bottom sample from middle of excavation at 2' bgs: SS39-PDB-FL02; side wall sample on south side at 1' bgs: SS39-PDB-SW01A; and side wall sample on east side at 1' bgs: SS39-PDB-SW01B. Excavation area outside of discharge box on downstream side was 9'x8'x2'. Sediment inside box was found to be almost 2' thick.

1830 All leave work site; Danny + Allan take samples to field office and place in refridgerator. All samples labeled.

1900 Danny + Allan leave HAFB.

Allan Jenkins 3/30/12

3/29/12

0730 DANNY WARD ARRIVES AT FIELD TRAILOR TO LOAD TRUCK AND DROP OFF ICE FOR SAMPLES.

0800 D. WARD ARRIVES ON SITE SS-39 AND HAS DAILY TAILGATE MEETING WITH RHYNO EMPLOYEES. ALL PRESENT SIGN SITE LOG.

0810 D. WARD CALIBRATES BOTH PID'S AND RECORDS ON CALIBRATION LOG.

0815 RHYNO BEGINS PACKING DOWN SOIL COVERING SUMPS AROUND BLDG. 1176 AND PLACES RIP-RAP (BROKEN CONCRETE) ON TOP OF SUMPS TO ASSIST WITH EROSION CONTROL.

0915 RHYNO STARTS BACKFILLING OXIDIZER DRAIN PIPE EXCAVATION AREA. ONE EMPLOYEE FILL'S IN DISCHARGE BOX EXCAVATION WITH CRUSHED-FILL.

010 ALLAN T. AND PURSHOTAM ARRIVE ON SITE. ALLAN ASSISTS WITH SUPERVISING RHYNO AND PURSHOTAM LEAVES HOLLOMAN AFB FOR EL PASO.

1045 ALLAN BEGINS TAKING TCLP SAMPLE FROM RB-01. FOR THE TCLP, A COMPOSITE SAMPLE WILL BE TAKEN. FOUR SAMPLES ARE TAKEN FROM RB-01, 2 SAMPLES FROM 1 FOOT DEPTH, AND 2 SAMPLES FROM 3 FOOT DEPTH. EACH SAMPLE TAKEN AT A DIFFERENT LOCATION, AND STORED IN ZIP-LOCK BAGS.

1055 SAMPLES TAKEN FROM RB-03 FOR TCLP. SAMPLES COLLECTED

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SAME AS PREVIOUS TCLP SAMPLE FROM RB-01.

105 TCLP SAMPLE TAKEN FROM RB-04. SAMPLE COLLECTED ~~SAME AS~~ USING METHOD USED FOR RB-01 AND RB-03.

1125 TCLP samples taken from RB02, same procedure as above.

1140 ALLAN T. DEPARTS SS-39 TO GO TO FIELD TRAILER TO DROP OFF SAMPLES. D. WARD STAYS AT SS-39 TO OBSERVE RHINO.

1150 RHINO STARTS LOADING EQUIPMENT TO LEAVE SS-39.

220 ALLAN J. ARRIVES BACK ON SITE AT SS-39

222 Allan J. begins collection of Field Duplicate (FD), matrix spike (MS), and matrix spike duplicate (MSD) at sample location SS39-PDB-SW01B. Forgot to collect FD and MS/MSD samples yesterday at this location, but access to sample location still available.

1250 Confirmation soil samples FD, MS, and MSD collected at SS39-PDB-SW01B; VOCs, TPH (GRO, DRO), and metals (As, Pb). Three full sets of sample containers collected: SS39-FD01, SS39-MS01, SS39-MSD01 (+date)
Note: All samples immediately put on ice following collection in cooler during all sampling activities. Only sampling tool used was stainless steel spoon

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cont. that was deconned between sample locations using DI water / Alconox wash / DI water / wipe dry w/ clean paper towel. New nitrile gloves were donned by by sampler at each sample location and depth.

Four identical Roll Off boxes were used to containerize potentially characteristic haz. waste; box outside dimensions are: 6'5" W x 16' L x 4'3" H. All boxes have covers (reinforced fabric) with support bars. Summary of material put in boxes:
RB01 (south of Bldg 1776): only soil from South sump and 75% of SW sump soil
RB02 (east of Bldg 1776): only soil from E sump and 25% of SW sump soil
RB03 (near PDB): only soil/sediment from w/i discharge box and immediately outside in Drainage
RB03 (near OXD): only soil/sediment excavated from drainage immediately below pipe outfall.

% of fullness for roll offs:
RB01 ~ 75%, RB02 ~ 25-50%, RB03 ~ 50-75%, and RB04 ~ 75%

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1320 Rhino crew has completed all work; all equipment loaded; all roll off boxes covered; Rhino and TetraTech crews leave SS-39; Rhino leaves HAFB.

1330 Allan and Danny at field office prepping samples for FedX. Sending out all OXD and PDB soil samples collected afternoon of 3/28/12 and FD, MS/MSD samples collected today.

1515 Allan and Danny leave HAFB to take sample cooler to FedX drop off in Alamagordo

1550 Sample cooler droped at FedX.
Break for dinner.

1710 Allan and Danny back at office trailer. Load equipment to sample roll off boxes for soil TPH - Did not collect these samples earlier.

1740 Begin sampling at RB01. Using decorned hand auger to take samples for TPH, three samples composited from each roll off box at ~ 1-2 depth.

1900 Completed TPH soil sample collection at RB01, -02, -03, and -04 (in order). All boxes covered. Allan + Danny go to field office to prep samples.

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2005 Allan and Danny complete sample prep for shipping tomorrow - samples include TCLP samples from the 4 roll off boxes.
Also have MiniRae 2000 and 3000 PIDs packed and ready for shipment.

2020 Allan and Danny leave HAFB.

3/30/12

0800 Allan and Danny at field office. Get placards from David Roz. to put on roll off boxes. Go out to site SS-39

0845 Placards placed on each roll off box. Site work completed. Allan and Danny leave SS-39.
Return to office to pack last samples from yesterday in cooler for shipping. Also returning shipping PIDs.

0915 Allan and Danny leave HAFB, head to FedX in Alamagordo to drop off shipments

0950 Samples and PID delivered to FedX drop off.
Leave Alamagordo for El Paso.

Allan Jenkins 3/30/12

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4/19/12

1000 Allan Jenkins & Purshotam Juriasingani arrive at HAFB; on site to conduct soil excavation at SS-39 at oxidizer spill pipe discharge area for arsenic based on previous confirmation soil sample that exceeded.
Stop by David Scruggs office and pick up signed waste manifests for soil in existing roll off boxes (all non hazardous), and manifest for new excavation today.

1030 At field office trailer picking up sample bottles shipped from lab and field equip. Review plan for excavation area/depth and sample collection.

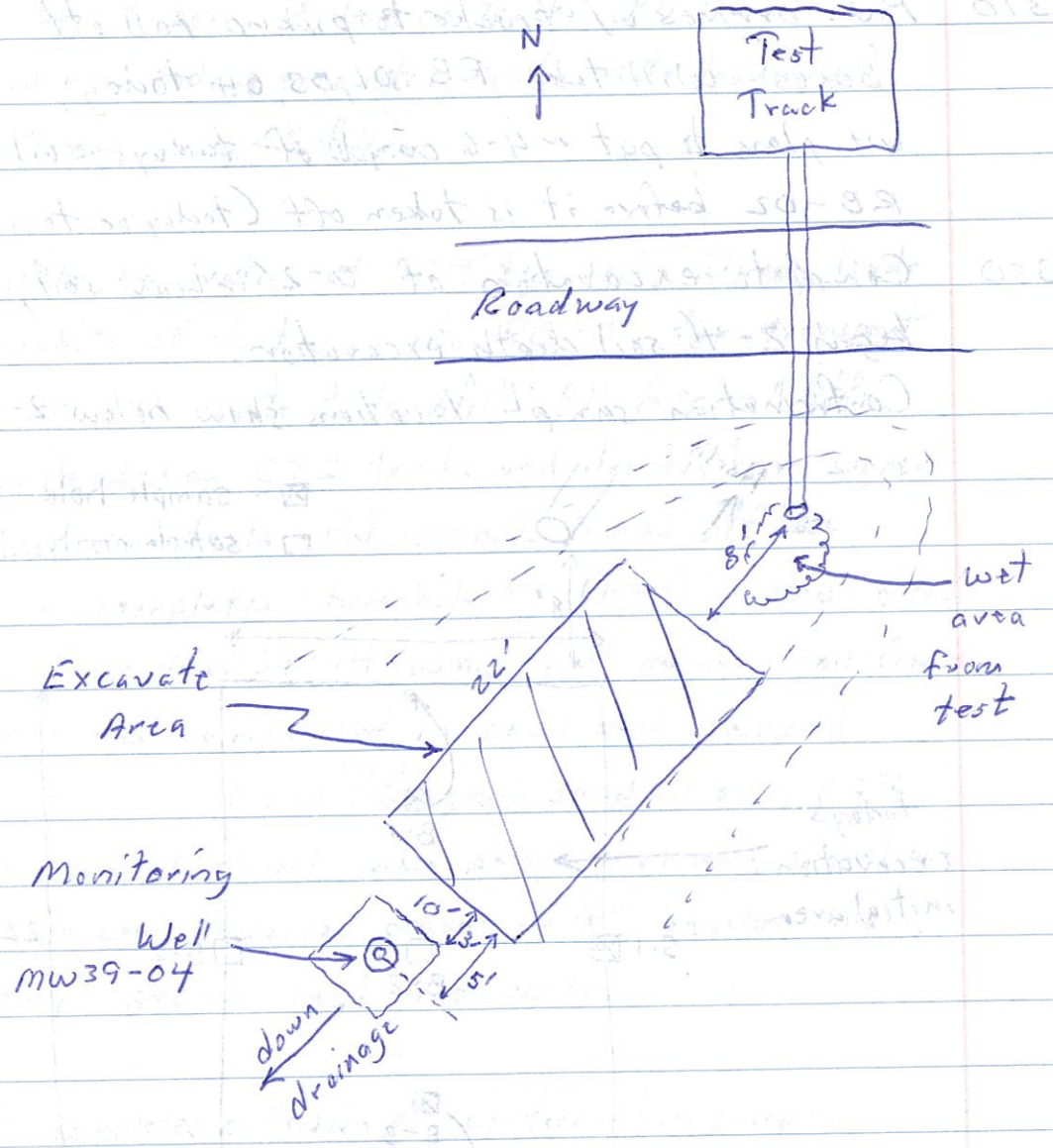
1150 Meet Danny Herrera from Rhino at contractor gate. Allan rides to SS39 with Danny, P.J. waits at gate for roll off box pickup truck to escort to SS39.

1225 Off load front end loader, CAT 310E, and A.J. conducts equipment inspection (see form).

1245 Complete Daily tailgate H&S review w/ Rhino

1255 Mark off and discuss excavation area w/ Danny; begin removal of 0-2' clean soil; see drawing below for excavation location and dimensions.

4/19/12



See next page for figure showing sample collection locations.

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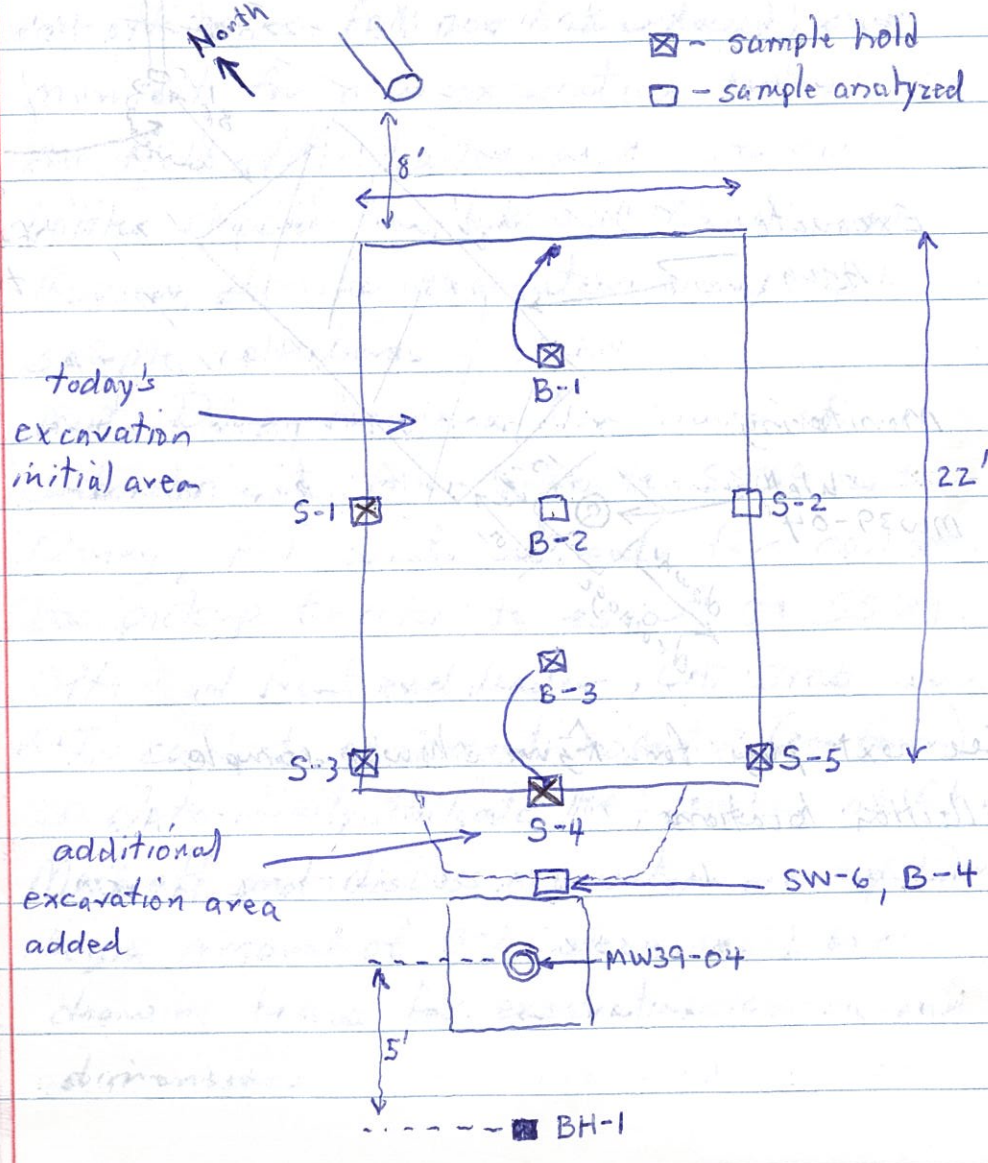
1310 P.J. arrives w/ trucks to pickup roll off boxes. Will take RB-01, 03, 04 today; we plan to put ~4-6 cu.yds. of todays soil in RB-02 before it is taken off (today or tom).

1350 Complete excavation of 0-2' clean soil, begin 2-4' soil depth excavation.
Confirmation sample locations show below 2-4' bgs:



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1410 All roll off boxes loaded on trucks; RB-03 off loaded near todays excavation to facilitate loading of additional (only ~½ full).

1450 Complete excavation of 2-4' bgs soil; Danny loads 5 buckets of dirty soil into RB-02 for transport as non haz. waste to landfill. All four roll offs now loaded on CTI trucks and drivers have signed waste manifests; P.J. escorts trucks off base

1455 Allan completes bore hole #1 (BH-1) 5' down ditch from well MW39-04 using hand auger, soil from 2-4' bgs composited in bowl and sampled for As. Soil was very fine grain sand w/ silt, ~5% well rounded gravel, also debris including styrofoam pieces and numerous small (< ⅛") angular, black, shiny "grains" that break easily

1545 A.J. completes collection of confirmation samples B-1, B-2, B-3, S-1 thru S-5; ask Danny to attempt more excavation on down ditch wall, 2-4' bgs along axis of ditch where some debris is visible, close to well pad as possible

1555 Additional excavation down ditch axis to well MW39-04 completed, wire, burlap bag debris observed.

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4/19/12

1610 ~~1515~~ A.J. completes collection of additional sidewall and bottom samples (B-4, SW-6) in additional excavation area

A.J. back at SS-39 after escorting roll off box trucks off base

1640 ~~1610~~ Danny finishes backfilling all excavated areas; have him move down ditch from well MW39-04 and dig at ~ 15' south and 42' south of well, debris observed at ~ 2-3' depth along axis of ditch at both location; debris includes wire, rotted material like burlap, old belting (?)

Confirmation sample map/lab ID key below:

Samples from bottom of excavation, all @ 4' bgs –

B-1 = SS39-0XD-FL04A (1515)

B-2 = " " -FL04B (1520)

B-3 = " " -FL04C (1525)

B-4 = " " -FL04D (1555)

Samples from lower sidwalls, all 2-4' bgs –

~~SW~~ S1 = SS39-0XD-#SW03A (1528)

S2 = " " SW03B (1532)

S3 = " " SW03C (1537)

S4 = " " SW03D (1541)

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S5 = SS39-OXD-SW03E (~~1645~~ 1545)
S6 = " " SW03F (1605)
Sample from BH-1 at 2-4' bgs -
BH-1 = SS39-OXD-HA01 (1450)

1710 Danny has backhoe loaded and secured on trailer. He says he has 12 cu. yds. of soil in his dump truck; he has waste manifest for non haz. disposal. All leave SS-39, Danny leaves HAFB

1725 A.J. and P.J. at field trailer preparing samples for shipping tomorrow. All samples have been labeled and placed in refridgerator for tonight.

1845 A.J. and P.J leave HAFB

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5/14/12

0905 Allen Jenkins and Purshotam Juriasingani at Tetra Tech office trailer at HAFB. Scope of work is to extend soil excavation ~135 down ditch line from MW-04 at site SS-39. Soil samples show Arsenic in ditch sediment > Res. SSL for sediment. Rhino will excavate soil and transport to non-haz. landfill offsite. Load field supplies for collecting soil confirmation samples.

0930 Arrive at SS-39 and meet Danny Herveva of Rhino, backhoe operator, Backhoe is CAT backhoe w/ 2' bucket and loader. Conduct equipment inspection - all operating properly. Discuss excavation plan to remove arsenic-contaminated sediment along center-line of ditch. Review Activity hazards: Struck by, Slips/Trips/Falls, weather (storms in area), avoid dust. Purshotam goes to talk w/ SS39 site manager

0950 Purshotam returns to site, advised of storms in area, but can work for now. Can't work Tue am until 8 or 9 am due to test track activity.

5/14/12

1003 Danny begins clearing Salt Cedar trees from ditch. Begins soil excavation near well MW39-4.

1015 Heavy rain, hail, thunder at site - stop work; all leave in TT vehicle to go escort hauling trucks from contractors gate. Stop by David Scruggs office to get waste manifests.

1120 Back at SS39 w/ 2 - 20 cuyd haul trucks (belly dumps); rain has stopped, partly cloudy w/ light breeze; re-start soil excavation

1130 Third belly dump truck from Rhino arrives at site w/ load of clean backfill to dump; will then haul soil to landfill

1140 Goal for excavation is to remove sediment in ditch that contains visible debris or that is darker color than underlying "white - light tan" in-place soil. Previous sampling showed in-place soil to be clean. Dig ~ 3.5' depth along centerline of ditch near MW39-4 to get down to lighter soil; much debris observed (wire, styrofoam, unidentified pieces of material) in darker excavated soil, no obvious odor

5/14/12

1200 Danny pauses excavation, begins loading haul truck

1215 Complete loading first belly dump truck from Rhino subcontractor; begin excavate moresoil from ditch; begin loading second belly dump truck. Excavated soil is damp based on gloved-hand squeeze test - no visible water, will not hold together as soil ball (low cohesion), ie, rainfall has not made soil wet, no issue for hauling.

1250 2nd belly dump truck of Gomez Trucking loaded, all load sheets and manifests signed, Purshotam escorts 2 loaded trucks off base, destination is Camino Real landfill.

1255 Danny removing more Salt Cedar trees from ditchline, begins soil excavation again

1400 Purshotam returns to site, break for lunch at site

1435 Resume soil excavation in ditch, at approximately 65 ft south of well MW39-4, typically ~3.5'-4' depth to reach light sand at bottom, width varies from ~7 to 9'

1355 Excavation completed to 137 ft down ditch from well MW39-4, Danny begins accumulating excavated soil stockpile for loadout tomorrow am

1605 Mark off locations for confirmation soil samples, will collected bottom/sidewall pairs at following

5/14/12

distances from MW39-4: 5', 70', and 135'
Collect samples using deconned SS spoons + bowls at each location.

1638 Danny H. leaves site for today

1644 Completed soil confirmation sample collection, all samples labeled and placed in cooler on ice.
Following samples ~~well~~ (09) 5/14/12 were collected:

1615 SS39-0XD-FL04E @ 5' south of well, 4' depth on floor of excavation

1617 SS39-0XD-SW03G @ 6' south of well, on west side wall, 2-3 ft depth

1622 SS39-0XD-FL04F @ 70' south of well, 4' depth on floor of excavation

1624 SS39-0XD-SW03H @ 71' south of well, on ~~west~~ east (09) 5/14/12 side wall, 2-3 ft depth

1635 SS39-0XD-FL03G @ 135' south of well, 3' depth on floor of excavation

1637 SS39-0XD-SW03I @ 136' south of well, on west side wall, 2-3 ft depth

Note that south end of excavation was less deep, average ~3' depth and natural soil had more reddish color beginning ~80' south of well due to higher moisture content, became 'whitish' when dried.

(30)

5/14/12

1655 Work completed, Allan + Purshotaman leave SS39, go to field trailer to store samples

1735 Samples prepped and in refridgerator, will ship tomorrow to lab
Allan + Purshotam leave HAFB

Allan Jenkins 5/14/12

5/15/12

0900 Allan and Purshotam meet Danny H. (Rhino) at contractors gate. Allan + Danny go to SS-39. Purshotam waits to escort haul trucks from Gomez Trucking

0928 Allan + Danny at SS 39. Review H+S for today and check out equipment. Fix (reposition) rubber gromit around hyd hose on bucket to prevent hose damage

0950 Gustavo w/ Rhino arrives with 20 cuyd belly dump truck with backfill for excavation

1005 Danny begins clean up of ~~each~~ east bank of ditch near 5/15/12 (69) well MW39-4 where soil was excavated and stockpiled yesterday before being loaded and hauled out. Gustavo drops load of clean back near well MW39-4 with yesterdays backfill load.

1016 Danny begins filling Rhino belly dump w/ excavated soil for haul off to Camino Real

1027 Truck filled, waiting for Purshotam to come w/ waste manifest; Purshotam says Gomez trucks just arrived, coming thru gate check point

1055 Manifest signed, Purshotam on site, Rhino truck (Gustavo) leaves SS-39 for landfill, begin filling Gomez Trucking haul trucks

(32)

5/15/12

1132 Both Gomez trucks fully loaded, Purshotam escorts them off base. Danny begins side ditch removal of brush remmanents, then begins backfilling and contouring of ditch.

1230 ~~Purshotam returns to~~ (29) 12/15/12 Backfilling completed, begin contouring and loading last of excavated soil into Rhino's 14 cuyd dump that Danny is driving; Purshotam returns to site

1325 Site reclamation and loading completed. Purshotam leaves to get last waste manifest signed by Base personnel for Danny's last load of excavated soil, 12 cu.yds.

1400 Equipment loaded and secured, Allan and Danny leave SS-39 to meet Purshotam at Contractor's gate to get manifest

1420 Danny, Allan, Purshotam leave HAFB

APPENDIX B

LABORATORY REPORTS AND DATA REVIEW CHECKLISTS

(Provided on CD)

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Southeast ACCUTEST LABORATORIES

04/09/12

Technical Report for

Tetra Tech, Inc

Holloman AFB; Alamogordo, NM

SS39

Accutest Job Number: F91608

Sampling Date: 03/28/12

Report to:

Tetra Tech
800 Oak Ridge Tpk Suite A600
Oak Ridge, TN 37830
Purshotam.Juriasingani@tetratech.com

ATTN: Purshotam Juriasingani

Total number of pages in report: **175**

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Harry Behzadi, Ph.D.
Laboratory Director

Client Service contact: Sue Bell 407-425-6700

Certifications: FL (E83510), LA (03051), KS (E-10327), IA (366), IL (200063), NC (573), NJ (FL002), SC (96038001) DoD ELAP (L-A-B L2229), CA (04226CA), TX (T104704404), AK, AR, GA, KY, MA, NV, OK, UT, VA, WA, WI

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Test results relate only to samples analyzed.

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Sample Summary

Tetra Tech, Inc

Job No: F91608

Holloman AFB; Alamogordo, NM
Project No: SS39

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
F91608-1	03/28/12	08:46	AJ	03/29/12	SO	Soil	SS39-SUMP1-FL12
F91608-2	03/28/12	08:54	AJ	03/29/12	SO	Soil	SS39-SUMP1-SW11
F91608-3	03/28/12	09:00	AJ	03/29/12	SO	Soil	SS39-SUMP1-SW08
F91608-4	03/28/12	09:22	AJ	03/29/12	SO	Soil	SS39-SUMP2-FL12
F91608-5	03/28/12	09:35	AJ	03/29/12	SO	Soil	SS39-SUMP2-SW11
F91608-6	03/28/12	09:46	AJ	03/29/12	SO	Soil	SS39-SUMP2-SW05
F91608-7	03/28/12	10:46	AJ	03/29/12	SO	Soil	SS39-SUMP3-FL02
F91608-8	03/28/12	10:57	AJ	03/29/12	SO	Soil	SS39-SUMP3-SW01A
F91608-9	03/28/12	11:08	AJ	03/29/12	SO	Soil	SS39-SUMP3-SW01B
F91608-10	03/28/12	13:27	AJ	03/29/12	SO	Trip Blank Soil	SS39-TB-032812-1

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Tetra Tech, Inc **Job** F91608

Site: Holloman AFB; Alamogordo, NM **Report Date** 4/6/2012 1:52:53 PM

9 Samples and 1 Trip Blank were collected on 03/28/2012 and were received at Accutest SE on 03/29/2012 properly preserved, at 3.2 Deg. C and intact. These Samples received an Accutest job number of F91608. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GCMS By Method SW846 8260B

Matrix: SO **Batch ID:** VH2785

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) F91608-1MS, F91608-1MSD were used as the QC samples indicated.

Matrix Spike Recovery(s) for 1,3,5-Trimethylbenzene, 1-Chlorohexane, 2,2-Dichloropropane, Benzyl Chloride, Ethyl methacrylate, Ethylbenzene, Hexachlorobutadiene, Hexane, n-Butylbenzene, n-Propylbenzene, p-Isopropyltoluene, sec-Butylbenzene, tert-Butylbenzene are outside control limits. Probable cause is due to matrix interference.

Matrix Spike Duplicate Recovery(s) for 1,1-Dichloropropene, 1-Chlorohexane, 2,2-Dichloropropane, Benzyl Chloride, Ethyl methacrylate, Ethylbenzene, Hexachlorobutadiene, Hexane, n-Butylbenzene, p-Isopropyltoluene, sec-Butylbenzene are outside control limits. Probable cause is due to matrix interference.

F91608-4 for Methylene chloride: Suspected laboratory contaminant.

Matrix: SO **Batch ID:** VH2786

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) F91658-9MS, F91658-9MSD were used as the QC samples indicated.

Volatiles by GC By Method SW846 8015C

Matrix: SO **Batch ID:** GQR2917

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) F91632-2MS, F91632-2MSD, F91632-3DUP were used as the QC samples indicated.

Extractables by GC By Method SW846 8015C

Matrix: SO **Batch ID:** OP41182

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) F91630-7MS, F91630-7MSD were used as the QC samples indicated.

Matrix Spike Recovery(s)/Matrix Spike Duplicate Recovery(s) for TPH (C10-C28) are outside control limits. Outside control limits due to high level in sample relative to spike amount. For method performance in a clean matrix, refer to Blank Spike.

OP41182- MS/MSD: Spike recovery indicates possible sample non-homogeneity.

F91608-6 for TPH (C10-C28): Petroleum hydrocarbon pattern extends beyond C28.

F91608-7 for TPH (C10-C28): Petroleum hydrocarbon pattern extends beyond C28.

F91608-8 for TPH (C10-C28): Petroleum hydrocarbon pattern extends beyond C28.

F91608-9 for TPH (C10-C28): Petroleum hydrocarbon pattern extends beyond C28.

Metals By Method SW846 6010C

Matrix: SO **Batch ID:** MP22524

All samples were digested within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) F91658-6DUP, F91658-6MS, F91658-6MSD, F91658-6PS, F91658-6SDL, F91658-9PS, F91658-9SDL were used as the QC samples for metals.

RPD(s) for Serial Dilution for Chromium, Lead are outside control limits for sample MP22524-SD1, MP22524-SD2. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

MP22524-PS1 for Lead: Spike recovery indicates matrix interference and/or outside control limits due to high level in sample relative to spike amount.

MP22524-PS2 for Lead: Spike recovery indicates matrix interference and/or outside control limits due to high level in sample relative to spike amount.

F91608-4 for Chromium: Elevated reporting limit(s) due to matrix interference.

F91608-4 for Lead: Elevated reporting limit(s) due to matrix interference.

F91608-5 for Chromium: Elevated reporting limit(s) due to matrix interference.

F91608-5 for Lead: Elevated reporting limit(s) due to matrix interference.

F91608-6 for Chromium: Elevated reporting limit(s) due to matrix interference.

F91608-6 for Lead: Elevated reporting limit(s) due to matrix interference.

F91608-7 for Arsenic: Elevated reporting limit(s) due to matrix interference.

F91608-8 for Arsenic: Elevated reporting limit(s) due to matrix interference.

F91608-9 for Arsenic: Elevated reporting limit(s) due to matrix interference.

Wet Chemistry By Method SM19 2540G

Matrix: SO **Batch ID:** GN49176

Sample F91658-6DUP was used as the QC sample for Solids, Percent.

Matrix: SO **Batch ID:** GN49179

Sample F91726-8DUP was used as the QC sample for Solids, Percent.

Accutest Laboratories Southeast (ALSE) certifies that this report meets the project requirements for analytical data produced for the samples as received at ALSE and as stated on the COC. ALSE certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the ALSE Quality Manual except as noted above. This report is to be used in its entirety. ALSE is not responsible for any assumptions of data quality if partial data packages are used.

Narrative prepared by:

_____ Date: April 06, 2012

Kim Benham, Client Services (signature on file)

Southeast ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	SS39-SUMP1-FL12		
Lab Sample ID:	F91608-1	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/29/12
Method:	SW846 8260B	**Percent Solids:**	88.2
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H0075120.D	1	03/29/12	EP	n/a	n/a	VH2785
Run #2							

	Initial Weight
Run #1	4.20 g
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	67	27	ug/kg	
75-05-8	Acetonitrile	ND	67	24	ug/kg	
107-02-8	Acrolein	ND	34	15	ug/kg	
107-13-1	Acrylonitrile	ND	34	15	ug/kg	
107-05-1	Allyl chloride	ND	34	6.7	ug/kg	
71-43-2	Benzene	ND	6.7	2.0	ug/kg	
100-44-7	Benzyl Chloride	ND	6.7	2.0	ug/kg	
108-86-1	Bromobenzene	ND	6.7	1.9	ug/kg	
74-97-5	Bromochloromethane	ND	6.7	1.9	ug/kg	
75-27-4	Bromodichloromethane	ND	6.7	1.5	ug/kg	
75-25-2	Bromoform	ND	6.7	2.0	ug/kg	
104-51-8	n-Butylbenzene	ND	6.7	1.8	ug/kg	
135-98-8	sec-Butylbenzene	ND	6.7	2.2	ug/kg	
98-06-6	tert-Butylbenzene	ND	6.7	1.6	ug/kg	
108-90-7	Chlorobenzene	ND	6.7	1.3	ug/kg	
75-00-3	Chloroethane	ND	6.7	2.7	ug/kg	
67-66-3	Chloroform	ND	6.7	1.6	ug/kg	
544-10-5	1-Chlorohexane	ND	6.7	1.9	ug/kg	
95-49-8	o-Chlorotoluene	ND	6.7	1.6	ug/kg	
106-43-4	p-Chlorotoluene	ND	6.7	1.6	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	34	13	ug/kg	
75-15-0	Carbon disulfide	ND	6.7	2.7	ug/kg	
56-23-5	Carbon tetrachloride	ND	6.7	2.4	ug/kg	
75-34-3	1,1-Dichloroethane	ND	6.7	1.5	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	6.7	1.9	ug/kg	
563-58-6	1,1-Dichloropropene	ND	6.7	1.8	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	6.7	3.1	ug/kg	
106-93-4	1,2-Dibromoethane	ND	6.7	1.3	ug/kg	
107-06-2	1,2-Dichloroethane	ND	6.7	1.3	ug/kg	
78-87-5	1,2-Dichloropropane	ND	6.7	1.6	ug/kg	
142-28-9	1,3-Dichloropropane	ND	6.7	1.3	ug/kg	
594-20-7	2,2-Dichloropropane	ND	6.7	1.9	ug/kg	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-SUMP1-FL12		
Lab Sample ID:	F91608-1	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/29/12
Method:	SW846 8260B	**Percent Solids:**	88.2
Project:	Holloman AFB; Alamogordo, NM		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
124-48-1	Dibromochloromethane	ND	6.7	1.3	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	6.7	2.0	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	6.7	2.0	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	6.7	1.3	ug/kg	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	34	6.7	ug/kg	
541-73-1	m-Dichlorobenzene	ND	6.7	1.6	ug/kg	
95-50-1	o-Dichlorobenzene	ND	6.7	1.5	ug/kg	
106-46-7	p-Dichlorobenzene	ND	6.7	1.5	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	6.7	2.0	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	6.7	1.5	ug/kg	
100-41-4	Ethylbenzene	ND	6.7	1.3	ug/kg	
97-63-2	Ethyl methacrylate	ND	34	6.7	ug/kg	
76-13-1	Freon 113	ND	6.7	2.3	ug/kg	
591-78-6	2-Hexanone	ND	34	7.3	ug/kg	
87-68-3	Hexachlorobutadiene	ND	6.7	2.7	ug/kg	
110-54-3	Hexane	ND	6.7	2.6	ug/kg	
98-82-8	Isopropylbenzene	ND	6.7	1.5	ug/kg	
99-87-6	p-Isopropyltoluene	ND	6.7	1.6	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	34	7.4	ug/kg	
126-98-7	Methacrylonitrile	ND	34	12	ug/kg	
74-83-9	Methyl bromide	ND	6.7	2.7	ug/kg	
74-87-3	Methyl chloride	ND	6.7	2.7	ug/kg	
74-88-4	Methyl iodide	ND	13	1.5	ug/kg	
80-62-6	Methyl methacrylate	ND	6.7	2.4	ug/kg	
74-95-3	Methylene bromide	ND	6.7	2.0	ug/kg	
75-09-2	Methylene chloride	ND	13	6.2	ug/kg	
78-93-3	Methyl ethyl ketone	ND	34	8.2	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	6.7	2.7	ug/kg	
91-20-3	Naphthalene	ND	6.7	2.7	ug/kg	
76-01-7	Pentachloroethane	ND	34	6.7	ug/kg	
107-12-0	Propionitrile	ND	67	21	ug/kg	
103-65-1	n-Propylbenzene	ND	6.7	1.9	ug/kg	
100-42-5	Styrene	ND	6.7	3.5	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	6.7	1.3	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	6.7	1.5	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	6.7	1.6	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	6.7	1.5	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	6.7	1.3	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	6.7	2.3	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	6.7	1.6	ug/kg	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-SUMP1-FL12		
Lab Sample ID:	F91608-1	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/29/12
Method:	SW846 8260B	**Percent Solids:**	88.2
Project:	Holloman AFB; Alamogordo, NM		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-63-6	1,2,4-Trimethylbenzene	ND	6.7	1.5	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	6.7	1.8	ug/kg	
127-18-4	Tetrachloroethylene	ND	6.7	1.3	ug/kg	
108-88-3	Toluene	ND	6.7	1.6	ug/kg	
79-01-6	Trichloroethylene	ND	6.7	1.6	ug/kg	
75-69-4	Trichlorofluoromethane	ND	6.7	2.7	ug/kg	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	34	6.7	ug/kg	
75-01-4	Vinyl chloride	ND	6.7	2.0	ug/kg	
108-05-4	Vinyl Acetate	ND	34	19	ug/kg	
	m,p-Xylene	ND	13	3.0	ug/kg	
95-47-6	o-Xylene	ND	6.7	1.3	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		80-121%
2037-26-5	Toluene-D8	98%		71-130%
460-00-4	4-Bromofluorobenzene	100%		59-148%
17060-07-0	1,2-Dichloroethane-D4	95%		77-123%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-SUMP1-SW11		
Lab Sample ID:	F91608-2	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/29/12
Method:	SW846 8260B	**Percent Solids:**	89.8
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H0075121.D	1	03/29/12	EP	n/a	n/a	VH2785
Run #2							

	Initial Weight
Run #1	4.04 g
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	69	28	ug/kg	
75-05-8	Acetonitrile	ND	69	25	ug/kg	
107-02-8	Acrolein	ND	34	15	ug/kg	
107-13-1	Acrylonitrile	ND	34	16	ug/kg	
107-05-1	Allyl chloride	ND	34	6.9	ug/kg	
71-43-2	Benzene	ND	6.9	2.1	ug/kg	
100-44-7	Benzyl Chloride	ND	6.9	2.1	ug/kg	
108-86-1	Bromobenzene	ND	6.9	1.9	ug/kg	
74-97-5	Bromochloromethane	ND	6.9	1.9	ug/kg	
75-27-4	Bromodichloromethane	ND	6.9	1.5	ug/kg	
75-25-2	Bromoform	ND	6.9	2.1	ug/kg	
104-51-8	n-Butylbenzene	ND	6.9	1.8	ug/kg	
135-98-8	sec-Butylbenzene	ND	6.9	2.2	ug/kg	
98-06-6	tert-Butylbenzene	ND	6.9	1.7	ug/kg	
108-90-7	Chlorobenzene	ND	6.9	1.4	ug/kg	
75-00-3	Chloroethane	ND	6.9	2.8	ug/kg	
67-66-3	Chloroform	ND	6.9	1.7	ug/kg	
544-10-5	1-Chlorohexane	ND	6.9	1.9	ug/kg	
95-49-8	o-Chlorotoluene	ND	6.9	1.7	ug/kg	
106-43-4	p-Chlorotoluene	ND	6.9	1.7	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	34	14	ug/kg	
75-15-0	Carbon disulfide	ND	6.9	2.8	ug/kg	
56-23-5	Carbon tetrachloride	ND	6.9	2.5	ug/kg	
75-34-3	1,1-Dichloroethane	ND	6.9	1.5	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	6.9	1.9	ug/kg	
563-58-6	1,1-Dichloropropene	ND	6.9	1.8	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	6.9	3.2	ug/kg	
106-93-4	1,2-Dibromoethane	ND	6.9	1.4	ug/kg	
107-06-2	1,2-Dichloroethane	ND	6.9	1.4	ug/kg	
78-87-5	1,2-Dichloropropane	ND	6.9	1.7	ug/kg	
142-28-9	1,3-Dichloropropane	ND	6.9	1.4	ug/kg	
594-20-7	2,2-Dichloropropane	ND	6.9	1.9	ug/kg	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-SUMP1-SW11		
Lab Sample ID:	F91608-2	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/29/12
Method:	SW846 8260B	**Percent Solids:**	89.8
Project:	Holloman AFB; Alamogordo, NM		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
124-48-1	Dibromochloromethane	ND	6.9	1.4	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	6.9	2.1	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	6.9	2.1	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	6.9	1.4	ug/kg	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	34	6.9	ug/kg	
541-73-1	m-Dichlorobenzene	ND	6.9	1.7	ug/kg	
95-50-1	o-Dichlorobenzene	ND	6.9	1.5	ug/kg	
106-46-7	p-Dichlorobenzene	ND	6.9	1.5	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	6.9	2.1	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	6.9	1.5	ug/kg	
100-41-4	Ethylbenzene	ND	6.9	1.4	ug/kg	
97-63-2	Ethyl methacrylate	ND	34	6.9	ug/kg	
76-13-1	Freon 113	ND	6.9	2.3	ug/kg	
591-78-6	2-Hexanone	ND	34	7.4	ug/kg	
87-68-3	Hexachlorobutadiene	ND	6.9	2.8	ug/kg	
110-54-3	Hexane	ND	6.9	2.6	ug/kg	
98-82-8	Isopropylbenzene	ND	6.9	1.5	ug/kg	
99-87-6	p-Isopropyltoluene	ND	6.9	1.7	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	34	7.6	ug/kg	
126-98-7	Methacrylonitrile	ND	34	13	ug/kg	
74-83-9	Methyl bromide	ND	6.9	2.8	ug/kg	
74-87-3	Methyl chloride	ND	6.9	2.8	ug/kg	
74-88-4	Methyl iodide	ND	14	1.5	ug/kg	
80-62-6	Methyl methacrylate	ND	6.9	2.5	ug/kg	
74-95-3	Methylene bromide	ND	6.9	2.1	ug/kg	
75-09-2	Methylene chloride	7.7	14	6.3	ug/kg	J
78-93-3	Methyl ethyl ketone	ND	34	8.4	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	6.9	2.8	ug/kg	
91-20-3	Naphthalene	ND	6.9	2.8	ug/kg	
76-01-7	Pentachloroethane	ND	34	6.9	ug/kg	
107-12-0	Propionitrile	ND	69	22	ug/kg	
103-65-1	n-Propylbenzene	ND	6.9	1.9	ug/kg	
100-42-5	Styrene	ND	6.9	3.6	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	6.9	1.4	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	6.9	1.5	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	6.9	1.7	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	6.9	1.5	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	6.9	1.4	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	6.9	2.3	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	6.9	1.7	ug/kg	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-SUMP1-SW11		
Lab Sample ID:	F91608-2	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/29/12
Method:	SW846 8260B	**Percent Solids:**	89.8
Project:	Holloman AFB; Alamogordo, NM		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-63-6	1,2,4-Trimethylbenzene	ND	6.9	1.5	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	6.9	1.8	ug/kg	
127-18-4	Tetrachloroethylene	ND	6.9	1.4	ug/kg	
108-88-3	Toluene	ND	6.9	1.7	ug/kg	
79-01-6	Trichloroethylene	ND	6.9	1.7	ug/kg	
75-69-4	Trichlorofluoromethane	ND	6.9	2.8	ug/kg	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	34	6.9	ug/kg	
75-01-4	Vinyl chloride	ND	6.9	2.1	ug/kg	
108-05-4	Vinyl Acetate	ND	34	19	ug/kg	
	m,p-Xylene	ND	14	3.0	ug/kg	
95-47-6	o-Xylene	ND	6.9	1.4	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		80-121%
2037-26-5	Toluene-D8	99%		71-130%
460-00-4	4-Bromofluorobenzene	96%		59-148%
17060-07-0	1,2-Dichloroethane-D4	98%		77-123%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-SUMP1-SW08		
Lab Sample ID:	F91608-3	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/29/12
Method:	SW846 8260B	**Percent Solids:**	83.1
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H0075122.D	1	03/29/12	EP	n/a	n/a	VH2785
Run #2							

	Initial Weight
Run #1	4.12 g
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	73	29	ug/kg	
75-05-8	Acetonitrile	ND	73	26	ug/kg	
107-02-8	Acrolein	ND	37	16	ug/kg	
107-13-1	Acrylonitrile	ND	37	17	ug/kg	
107-05-1	Allyl chloride	ND	37	7.3	ug/kg	
71-43-2	Benzene	ND	7.3	2.2	ug/kg	
100-44-7	Benzyl Chloride	ND	7.3	2.2	ug/kg	
108-86-1	Bromobenzene	ND	7.3	2.0	ug/kg	
74-97-5	Bromochloromethane	ND	7.3	2.0	ug/kg	
75-27-4	Bromodichloromethane	ND	7.3	1.6	ug/kg	
75-25-2	Bromoform	ND	7.3	2.2	ug/kg	
104-51-8	n-Butylbenzene	ND	7.3	1.9	ug/kg	
135-98-8	sec-Butylbenzene	ND	7.3	2.3	ug/kg	
98-06-6	tert-Butylbenzene	ND	7.3	1.8	ug/kg	
108-90-7	Chlorobenzene	ND	7.3	1.5	ug/kg	
75-00-3	Chloroethane	ND	7.3	2.9	ug/kg	
67-66-3	Chloroform	ND	7.3	1.8	ug/kg	
544-10-5	1-Chlorohexane	ND	7.3	2.0	ug/kg	
95-49-8	o-Chlorotoluene	ND	7.3	1.8	ug/kg	
106-43-4	p-Chlorotoluene	ND	7.3	1.8	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	37	15	ug/kg	
75-15-0	Carbon disulfide	ND	7.3	2.9	ug/kg	
56-23-5	Carbon tetrachloride	ND	7.3	2.6	ug/kg	
75-34-3	1,1-Dichloroethane	ND	7.3	1.6	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	7.3	2.0	ug/kg	
563-58-6	1,1-Dichloropropene	ND	7.3	1.9	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	7.3	3.4	ug/kg	
106-93-4	1,2-Dibromoethane	ND	7.3	1.5	ug/kg	
107-06-2	1,2-Dichloroethane	ND	7.3	1.5	ug/kg	
78-87-5	1,2-Dichloropropane	ND	7.3	1.8	ug/kg	
142-28-9	1,3-Dichloropropane	ND	7.3	1.5	ug/kg	
594-20-7	2,2-Dichloropropane	ND	7.3	2.0	ug/kg	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-SUMP1-SW08		
Lab Sample ID:	F91608-3	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/29/12
Method:	SW846 8260B	**Percent Solids:**	83.1
Project:	Holloman AFB; Alamogordo, NM		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
124-48-1	Dibromochloromethane	ND	7.3	1.5	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	7.3	2.2	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	7.3	2.2	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	7.3	1.5	ug/kg	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	37	7.3	ug/kg	
541-73-1	m-Dichlorobenzene	ND	7.3	1.8	ug/kg	
95-50-1	o-Dichlorobenzene	ND	7.3	1.6	ug/kg	
106-46-7	p-Dichlorobenzene	ND	7.3	1.6	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	7.3	2.2	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	7.3	1.6	ug/kg	
100-41-4	Ethylbenzene	ND	7.3	1.5	ug/kg	
97-63-2	Ethyl methacrylate	ND	37	7.3	ug/kg	
76-13-1	Freon 113	ND	7.3	2.5	ug/kg	
591-78-6	2-Hexanone	ND	37	7.9	ug/kg	
87-68-3	Hexachlorobutadiene	ND	7.3	2.9	ug/kg	
110-54-3	Hexane	ND	7.3	2.8	ug/kg	
98-82-8	Isopropylbenzene	ND	7.3	1.6	ug/kg	
99-87-6	p-Isopropyltoluene	ND	7.3	1.8	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	37	8.0	ug/kg	
126-98-7	Methacrylonitrile	ND	37	13	ug/kg	
74-83-9	Methyl bromide	ND	7.3	2.9	ug/kg	
74-87-3	Methyl chloride	ND	7.3	2.9	ug/kg	
74-88-4	Methyl iodide	ND	15	1.6	ug/kg	
80-62-6	Methyl methacrylate	ND	7.3	2.6	ug/kg	
74-95-3	Methylene bromide	ND	7.3	2.2	ug/kg	
75-09-2	Methylene chloride	8.5	15	6.7	ug/kg	J
78-93-3	Methyl ethyl ketone	ND	37	8.9	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	7.3	2.9	ug/kg	
91-20-3	Naphthalene	ND	7.3	2.9	ug/kg	
76-01-7	Pentachloroethane	ND	37	7.3	ug/kg	
107-12-0	Propionitrile	ND	73	23	ug/kg	
103-65-1	n-Propylbenzene	ND	7.3	2.0	ug/kg	
100-42-5	Styrene	ND	7.3	3.8	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	7.3	1.5	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	7.3	1.6	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	7.3	1.8	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	7.3	1.6	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	7.3	1.5	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	7.3	2.5	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	7.3	1.8	ug/kg	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-SUMP1-SW08		
Lab Sample ID:	F91608-3	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/29/12
Method:	SW846 8260B	**Percent Solids:**	83.1
Project:	Holloman AFB; Alamogordo, NM		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-63-6	1,2,4-Trimethylbenzene	ND	7.3	1.6	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	7.3	1.9	ug/kg	
127-18-4	Tetrachloroethylene	ND	7.3	1.5	ug/kg	
108-88-3	Toluene	ND	7.3	1.8	ug/kg	
79-01-6	Trichloroethylene	ND	7.3	1.8	ug/kg	
75-69-4	Trichlorofluoromethane	ND	7.3	2.9	ug/kg	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	37	7.3	ug/kg	
75-01-4	Vinyl chloride	ND	7.3	2.2	ug/kg	
108-05-4	Vinyl Acetate	ND	37	20	ug/kg	
	m,p-Xylene	ND	15	3.2	ug/kg	
95-47-6	o-Xylene	ND	7.3	1.5	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		80-121%
2037-26-5	Toluene-D8	97%		71-130%
460-00-4	4-Bromofluorobenzene	93%		59-148%
17060-07-0	1,2-Dichloroethane-D4	107%		77-123%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-SUMP2-FL12		
Lab Sample ID:	F91608-4	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/29/12
Method:	SW846 8260B	**Percent Solids:**	82.3
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H0075123.D	1	03/29/12	EP	n/a	n/a	VH2785
Run #2	H0075139.D	1	03/30/12	EP	n/a	n/a	VH2786

	Initial Weight	Methanol Aliquot
Run #1	5.23 g	
Run #2	4.49 g	100 ul

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	58	23	ug/kg	
75-05-8	Acetonitrile	ND	58	21	ug/kg	
107-02-8	Acrolein	ND	29	13	ug/kg	
107-13-1	Acrylonitrile	ND	29	13	ug/kg	
107-05-1	Allyl chloride	ND	29	5.8	ug/kg	
71-43-2	Benzene	ND	5.8	1.7	ug/kg	
100-44-7	Benzyl Chloride	ND	5.8	1.7	ug/kg	
108-86-1	Bromobenzene	ND	5.8	1.6	ug/kg	
74-97-5	Bromochloromethane	ND	5.8	1.6	ug/kg	
75-27-4	Bromodichloromethane	ND	5.8	1.3	ug/kg	
75-25-2	Bromoform	ND	5.8	1.7	ug/kg	
104-51-8	n-Butylbenzene	ND	5.8	1.5	ug/kg	
135-98-8	sec-Butylbenzene	ND	5.8	1.9	ug/kg	
98-06-6	tert-Butylbenzene	ND	5.8	1.4	ug/kg	
108-90-7	Chlorobenzene	ND	5.8	1.2	ug/kg	
75-00-3	Chloroethane	ND	5.8	2.3	ug/kg	
67-66-3	Chloroform	ND	5.8	1.4	ug/kg	
544-10-5	1-Chlorohexane	ND	5.8	1.6	ug/kg	
95-49-8	o-Chlorotoluene	ND	5.8	1.4	ug/kg	
106-43-4	p-Chlorotoluene	ND	5.8	1.4	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	29	12	ug/kg	
75-15-0	Carbon disulfide	ND	5.8	2.3	ug/kg	
56-23-5	Carbon tetrachloride	ND	5.8	2.1	ug/kg	
75-34-3	1,1-Dichloroethane	ND	5.8	1.3	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	5.8	1.6	ug/kg	
563-58-6	1,1-Dichloropropene	ND	5.8	1.5	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.8	2.7	ug/kg	
106-93-4	1,2-Dibromoethane	ND	5.8	1.2	ug/kg	
107-06-2	1,2-Dichloroethane	ND	5.8	1.2	ug/kg	
78-87-5	1,2-Dichloropropane	ND	5.8	1.4	ug/kg	
142-28-9	1,3-Dichloropropane	ND	5.8	1.2	ug/kg	
594-20-7	2,2-Dichloropropane	ND	5.8	1.6	ug/kg	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-SUMP2-FL12		
Lab Sample ID:	F91608-4	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/29/12
Method:	SW846 8260B	**Percent Solids:**	82.3
Project:	Holloman AFB; Alamogordo, NM		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
124-48-1	Dibromochloromethane	ND	5.8	1.2	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	5.8	1.7	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	5.8	1.7	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	5.8	1.2	ug/kg	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	29	5.8	ug/kg	
541-73-1	m-Dichlorobenzene	ND	5.8	1.4	ug/kg	
95-50-1	o-Dichlorobenzene	ND	5.8	1.3	ug/kg	
106-46-7	p-Dichlorobenzene	ND	5.8	1.3	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	5.8	1.7	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	5.8	1.3	ug/kg	
100-41-4	Ethylbenzene	ND	5.8	1.2	ug/kg	
97-63-2	Ethyl methacrylate	ND	29	5.8	ug/kg	
76-13-1	Freon 113	ND	5.8	2.0	ug/kg	
591-78-6	2-Hexanone	ND	29	6.3	ug/kg	
87-68-3	Hexachlorobutadiene	ND	5.8	2.3	ug/kg	
110-54-3	Hexane	ND	5.8	2.2	ug/kg	
98-82-8	Isopropylbenzene	ND	5.8	1.3	ug/kg	
99-87-6	p-Isopropyltoluene	ND	5.8	1.4	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	29	6.4	ug/kg	
126-98-7	Methacrylonitrile	ND	29	11	ug/kg	
74-83-9	Methyl bromide	ND	5.8	2.3	ug/kg	
74-87-3	Methyl chloride	ND	5.8	2.3	ug/kg	
74-88-4	Methyl iodide	ND	12	1.3	ug/kg	
80-62-6	Methyl methacrylate	ND	5.8	2.1	ug/kg	
74-95-3	Methylene bromide	ND	5.8	1.7	ug/kg	
75-09-2	Methylene chloride [a]	5.5	12	5.3	ug/kg	J
78-93-3	Methyl ethyl ketone	ND	29	7.1	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.8	2.3	ug/kg	
91-20-3	Naphthalene	ND	5.8	2.3	ug/kg	
76-01-7	Pentachloroethane	ND	29	5.8	ug/kg	
107-12-0	Propionitrile	ND	58	18	ug/kg	
103-65-1	n-Propylbenzene	ND	5.8	1.6	ug/kg	
100-42-5	Styrene	ND	5.8	3.0	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.8	1.2	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	5.8	1.3	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	5.8	1.4	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	5.8	1.3	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	5.8	1.2	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	5.8	2.0	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.8	1.4	ug/kg	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-SUMP2-FL12		
Lab Sample ID:	F91608-4	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/29/12
Method:	SW846 8260B	**Percent Solids:**	82.3
Project:	Holloman AFB; Alamogordo, NM		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-63-6	1,2,4-Trimethylbenzene	ND	5.8	1.3	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.8	1.5	ug/kg	
127-18-4	Tetrachloroethylene	1610 [b]	390	78	ug/kg	
108-88-3	Toluene	ND	5.8	1.4	ug/kg	
79-01-6	Trichloroethylene	1.6	5.8	1.4	ug/kg	J
75-69-4	Trichlorofluoromethane	ND	5.8	2.3	ug/kg	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	29	5.8	ug/kg	
75-01-4	Vinyl chloride	ND	5.8	1.7	ug/kg	
108-05-4	Vinyl Acetate	ND	29	16	ug/kg	
	m,p-Xylene	ND	12	2.6	ug/kg	
95-47-6	o-Xylene	ND	5.8	1.2	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	93%	90%	80-121%
2037-26-5	Toluene-D8	97%	97%	71-130%
460-00-4	4-Bromofluorobenzene	97%	99%	59-148%
17060-07-0	1,2-Dichloroethane-D4	100%	99%	77-123%

(a) Suspected laboratory contaminant.
(b) Result is from Run# 2

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-SUMP2-FL12		
Lab Sample ID:	F91608-4	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/29/12
Method:	SW846 8015C	**Percent Solids:**	82.3
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR067293.D	1	04/03/12	CP	n/a	n/a	GQR2917
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.02 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	7.1	3.6	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	88%		56-136%
98-08-8	aaa-Trifluorotoluene	85%		61-121%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-SUMP2-FL12		
Lab Sample ID:	F91608-4	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/29/12
Method:	SW846 8015C SW846 3550C	**Percent Solids:**	82.3
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZF48820.D	1	04/04/12	FEA	03/30/12	OP41182	GZF1869
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	70.0	10	4.0	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	77%		49-108%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-SUMP2-FL12		
Lab Sample ID:	F91608-4	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/29/12
		Percent Solids:	82.3
Project:	Holloman AFB; Alamogordo, NM		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium [a]	14.7	3.9	0.39	mg/kg	10	04/03/12	04/04/12	DM	SW846 6010C [1]	SW846 3050B [2]
Lead [a]	4.0 B	7.9	0.39	mg/kg	10	04/03/12	04/04/12	DM	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA9692
(2) Prep QC Batch: MP22524

(a) Elevated reporting limit(s) due to matrix interference.

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	SS39-SUMP2-SW11		
Lab Sample ID:	F91608-5	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/29/12
Method:	SW846 8260B	**Percent Solids:**	82.8
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H0075124.D	1	03/29/12	EP	n/a	n/a	VH2785
Run #2							

	Initial Weight
Run #1	4.65 g
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	65	26	ug/kg	
75-05-8	Acetonitrile	ND	65	23	ug/kg	
107-02-8	Acrolein	ND	32	14	ug/kg	
107-13-1	Acrylonitrile	ND	32	15	ug/kg	
107-05-1	Allyl chloride	ND	32	6.5	ug/kg	
71-43-2	Benzene	ND	6.5	1.9	ug/kg	
100-44-7	Benzyl Chloride	ND	6.5	1.9	ug/kg	
108-86-1	Bromobenzene	ND	6.5	1.8	ug/kg	
74-97-5	Bromochloromethane	ND	6.5	1.8	ug/kg	
75-27-4	Bromodichloromethane	ND	6.5	1.4	ug/kg	
75-25-2	Bromoform	ND	6.5	1.9	ug/kg	
104-51-8	n-Butylbenzene	ND	6.5	1.7	ug/kg	
135-98-8	sec-Butylbenzene	ND	6.5	2.1	ug/kg	
98-06-6	tert-Butylbenzene	ND	6.5	1.6	ug/kg	
108-90-7	Chlorobenzene	ND	6.5	1.3	ug/kg	
75-00-3	Chloroethane	ND	6.5	2.6	ug/kg	
67-66-3	Chloroform	ND	6.5	1.6	ug/kg	
544-10-5	1-Chlorohexane	ND	6.5	1.8	ug/kg	
95-49-8	o-Chlorotoluene	ND	6.5	1.6	ug/kg	
106-43-4	p-Chlorotoluene	ND	6.5	1.6	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	32	13	ug/kg	
75-15-0	Carbon disulfide	ND	6.5	2.6	ug/kg	
56-23-5	Carbon tetrachloride	ND	6.5	2.3	ug/kg	
75-34-3	1,1-Dichloroethane	ND	6.5	1.4	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	6.5	1.8	ug/kg	
563-58-6	1,1-Dichloropropene	ND	6.5	1.7	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	6.5	3.0	ug/kg	
106-93-4	1,2-Dibromoethane	ND	6.5	1.3	ug/kg	
107-06-2	1,2-Dichloroethane	ND	6.5	1.3	ug/kg	
78-87-5	1,2-Dichloropropane	ND	6.5	1.6	ug/kg	
142-28-9	1,3-Dichloropropane	ND	6.5	1.3	ug/kg	
594-20-7	2,2-Dichloropropane	ND	6.5	1.8	ug/kg	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-SUMP2-SW11		
Lab Sample ID:	F91608-5	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/29/12
Method:	SW846 8260B	**Percent Solids:**	82.8
Project:	Holloman AFB; Alamogordo, NM		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
124-48-1	Dibromochloromethane	ND	6.5	1.3	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	6.5	1.9	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	6.5	1.9	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	6.5	1.3	ug/kg	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	32	6.5	ug/kg	
541-73-1	m-Dichlorobenzene	ND	6.5	1.6	ug/kg	
95-50-1	o-Dichlorobenzene	ND	6.5	1.4	ug/kg	
106-46-7	p-Dichlorobenzene	ND	6.5	1.4	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	6.5	1.9	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	6.5	1.4	ug/kg	
100-41-4	Ethylbenzene	ND	6.5	1.3	ug/kg	
97-63-2	Ethyl methacrylate	ND	32	6.5	ug/kg	
76-13-1	Freon 113	ND	6.5	2.2	ug/kg	
591-78-6	2-Hexanone	ND	32	7.0	ug/kg	
87-68-3	Hexachlorobutadiene	ND	6.5	2.6	ug/kg	
110-54-3	Hexane	ND	6.5	2.5	ug/kg	
98-82-8	Isopropylbenzene	ND	6.5	1.4	ug/kg	
99-87-6	p-Isopropyltoluene	ND	6.5	1.6	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	32	7.1	ug/kg	
126-98-7	Methacrylonitrile	ND	32	12	ug/kg	
74-83-9	Methyl bromide	ND	6.5	2.6	ug/kg	
74-87-3	Methyl chloride	ND	6.5	2.6	ug/kg	
74-88-4	Methyl iodide	ND	13	1.4	ug/kg	
80-62-6	Methyl methacrylate	ND	6.5	2.3	ug/kg	
74-95-3	Methylene bromide	ND	6.5	1.9	ug/kg	
75-09-2	Methylene chloride	8.7	13	6.0	ug/kg	J
78-93-3	Methyl ethyl ketone	ND	32	7.9	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	6.5	2.6	ug/kg	
91-20-3	Naphthalene	ND	6.5	2.6	ug/kg	
76-01-7	Pentachloroethane	ND	32	6.5	ug/kg	
107-12-0	Propionitrile	ND	65	21	ug/kg	
103-65-1	n-Propylbenzene	ND	6.5	1.8	ug/kg	
100-42-5	Styrene	ND	6.5	3.4	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	6.5	1.3	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	6.5	1.4	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	6.5	1.6	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	6.5	1.4	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	6.5	1.3	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	6.5	2.2	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	6.5	1.6	ug/kg	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-SUMP2-SW11		
Lab Sample ID:	F91608-5	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/29/12
Method:	SW846 8260B	**Percent Solids:**	82.8
Project:	Holloman AFB; Alamogordo, NM		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-63-6	1,2,4-Trimethylbenzene	ND	6.5	1.4	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	6.5	1.7	ug/kg	
127-18-4	Tetrachloroethylene	69.0	6.5	1.3	ug/kg	
108-88-3	Toluene	ND	6.5	1.6	ug/kg	
79-01-6	Trichloroethylene	ND	6.5	1.6	ug/kg	
75-69-4	Trichlorofluoromethane	ND	6.5	2.6	ug/kg	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	32	6.5	ug/kg	
75-01-4	Vinyl chloride	ND	6.5	1.9	ug/kg	
108-05-4	Vinyl Acetate	ND	32	18	ug/kg	
	m,p-Xylene	ND	13	2.9	ug/kg	
95-47-6	o-Xylene	ND	6.5	1.3	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		80-121%
2037-26-5	Toluene-D8	95%		71-130%
460-00-4	4-Bromofluorobenzene	97%		59-148%
17060-07-0	1,2-Dichloroethane-D4	98%		77-123%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-SUMP2-SW11		
Lab Sample ID:	F91608-5	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/29/12
Method:	SW846 8015C	**Percent Solids:**	82.8
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR067294.D	1	04/03/12	CP	n/a	n/a	GQR2917
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.42 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	7.9	3.9	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	92%		56-136%
98-08-8	aaa-Trifluorotoluene	86%		61-121%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-SUMP2-SW11		
Lab Sample ID:	F91608-5	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/29/12
Method:	SW846 8015C SW846 3550C	**Percent Solids:**	82.8
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZF48821.D	1	04/04/12	FEA	03/30/12	OP41182	GZF1869
Run #2							

	Initial Weight	Final Volume
Run #1	30.3 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	23.0	10	4.0	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	71%		49-108%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-SUMP2-SW11		
Lab Sample ID:	F91608-5	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/29/12
		Percent Solids:	82.8
Project:	Holloman AFB; Alamogordo, NM		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium [a]	4.5	3.9	0.39	mg/kg	10	04/03/12	04/04/12	DM	SW846 6010C [1]	SW846 3050B [2]
Lead [a]	12.3	7.9	0.39	mg/kg	10	04/03/12	04/04/12	DM	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA9692
(2) Prep QC Batch: MP22524

(a) Elevated reporting limit(s) due to matrix interference.

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	SS39-SUMP2-SW05		
Lab Sample ID:	F91608-6	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/29/12
Method:	SW846 8260B	**Percent Solids:**	83.2
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H0075125.D	1	03/29/12	EP	n/a	n/a	VH2785
Run #2							

	Initial Weight
Run #1	4.86 g
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	62	25	ug/kg	
75-05-8	Acetonitrile	ND	62	22	ug/kg	
107-02-8	Acrolein	ND	31	14	ug/kg	
107-13-1	Acrylonitrile	ND	31	14	ug/kg	
107-05-1	Allyl chloride	ND	31	6.2	ug/kg	
71-43-2	Benzene	ND	6.2	1.9	ug/kg	
100-44-7	Benzyl Chloride	ND	6.2	1.9	ug/kg	
108-86-1	Bromobenzene	ND	6.2	1.7	ug/kg	
74-97-5	Bromochloromethane	ND	6.2	1.7	ug/kg	
75-27-4	Bromodichloromethane	ND	6.2	1.4	ug/kg	
75-25-2	Bromoform	ND	6.2	1.9	ug/kg	
104-51-8	n-Butylbenzene	ND	6.2	1.6	ug/kg	
135-98-8	sec-Butylbenzene	ND	6.2	2.0	ug/kg	
98-06-6	tert-Butylbenzene	ND	6.2	1.5	ug/kg	
108-90-7	Chlorobenzene	ND	6.2	1.2	ug/kg	
75-00-3	Chloroethane	ND	6.2	2.5	ug/kg	
67-66-3	Chloroform	ND	6.2	1.5	ug/kg	
544-10-5	1-Chlorohexane	ND	6.2	1.7	ug/kg	
95-49-8	o-Chlorotoluene	ND	6.2	1.5	ug/kg	
106-43-4	p-Chlorotoluene	ND	6.2	1.5	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	31	12	ug/kg	
75-15-0	Carbon disulfide	ND	6.2	2.5	ug/kg	
56-23-5	Carbon tetrachloride	ND	6.2	2.2	ug/kg	
75-34-3	1,1-Dichloroethane	ND	6.2	1.4	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	6.2	1.7	ug/kg	
563-58-6	1,1-Dichloropropene	ND	6.2	1.6	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	6.2	2.8	ug/kg	
106-93-4	1,2-Dibromoethane	ND	6.2	1.2	ug/kg	
107-06-2	1,2-Dichloroethane	ND	6.2	1.2	ug/kg	
78-87-5	1,2-Dichloropropane	ND	6.2	1.5	ug/kg	
142-28-9	1,3-Dichloropropane	ND	6.2	1.2	ug/kg	
594-20-7	2,2-Dichloropropane	ND	6.2	1.7	ug/kg	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-SUMP2-SW05		
Lab Sample ID:	F91608-6	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/29/12
Method:	SW846 8260B	**Percent Solids:**	83.2
Project:	Holloman AFB; Alamogordo, NM		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
124-48-1	Dibromochloromethane	ND	6.2	1.2	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	6.2	1.9	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	6.2	1.9	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	6.2	1.2	ug/kg	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	31	6.2	ug/kg	
541-73-1	m-Dichlorobenzene	ND	6.2	1.5	ug/kg	
95-50-1	o-Dichlorobenzene	ND	6.2	1.4	ug/kg	
106-46-7	p-Dichlorobenzene	ND	6.2	1.4	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	6.2	1.9	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	6.2	1.4	ug/kg	
100-41-4	Ethylbenzene	ND	6.2	1.2	ug/kg	
97-63-2	Ethyl methacrylate	ND	31	6.2	ug/kg	
76-13-1	Freon 113	ND	6.2	2.1	ug/kg	
591-78-6	2-Hexanone	ND	31	6.7	ug/kg	
87-68-3	Hexachlorobutadiene	ND	6.2	2.5	ug/kg	
110-54-3	Hexane	ND	6.2	2.3	ug/kg	
98-82-8	Isopropylbenzene	ND	6.2	1.4	ug/kg	
99-87-6	p-Isopropyltoluene	ND	6.2	1.5	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	31	6.8	ug/kg	
126-98-7	Methacrylonitrile	ND	31	11	ug/kg	
74-83-9	Methyl bromide	ND	6.2	2.5	ug/kg	
74-87-3	Methyl chloride	ND	6.2	2.5	ug/kg	
74-88-4	Methyl iodide	ND	12	1.4	ug/kg	
80-62-6	Methyl methacrylate	ND	6.2	2.2	ug/kg	
74-95-3	Methylene bromide	ND	6.2	1.9	ug/kg	
75-09-2	Methylene chloride	6.7	12	5.7	ug/kg	J
78-93-3	Methyl ethyl ketone	ND	31	7.5	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	6.2	2.5	ug/kg	
91-20-3	Naphthalene	ND	6.2	2.5	ug/kg	
76-01-7	Pentachloroethane	ND	31	6.2	ug/kg	
107-12-0	Propionitrile	ND	62	20	ug/kg	
103-65-1	n-Propylbenzene	ND	6.2	1.7	ug/kg	
100-42-5	Styrene	ND	6.2	3.2	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	6.2	1.2	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	6.2	1.4	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	6.2	1.5	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	6.2	1.4	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	6.2	1.2	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	6.2	2.1	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	6.2	1.5	ug/kg	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-SUMP2-SW05		
Lab Sample ID:	F91608-6	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/29/12
Method:	SW846 8260B	**Percent Solids:**	83.2
Project:	Holloman AFB; Alamogordo, NM		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-63-6	1,2,4-Trimethylbenzene	ND	6.2	1.4	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	6.2	1.6	ug/kg	
127-18-4	Tetrachloroethylene	14.3	6.2	1.2	ug/kg	
108-88-3	Toluene	ND	6.2	1.5	ug/kg	
79-01-6	Trichloroethylene	ND	6.2	1.5	ug/kg	
75-69-4	Trichlorofluoromethane	ND	6.2	2.5	ug/kg	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	31	6.2	ug/kg	
75-01-4	Vinyl chloride	ND	6.2	1.9	ug/kg	
108-05-4	Vinyl Acetate	ND	31	17	ug/kg	
	m,p-Xylene	ND	12	2.7	ug/kg	
95-47-6	o-Xylene	ND	6.2	1.2	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		80-121%
2037-26-5	Toluene-D8	95%		71-130%
460-00-4	4-Bromofluorobenzene	95%		59-148%
17060-07-0	1,2-Dichloroethane-D4	99%		77-123%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-SUMP2-SW05		
Lab Sample ID:	F91608-6	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/29/12
Method:	SW846 8015C	**Percent Solids:**	83.2
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR067295.D	1	04/03/12	CP	n/a	n/a	GQR2917
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.18 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	6.8	3.4	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	94%		56-136%
98-08-8	aaa-Trifluorotoluene	87%		61-121%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-SUMP2-SW05		
Lab Sample ID:	F91608-6	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/29/12
Method:	SW846 8015C SW846 3550C	**Percent Solids:**	83.2
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZF48822.D	1	04/04/12	FEA	03/30/12	OP41182	GZF1869
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28) [a]	14.1	10	4.0	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	85%		49-108%

(a) Petroleum hydrocarbon pattern extends beyond C28.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-SUMP2-SW05		
Lab Sample ID:	F91608-6	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/29/12
		Percent Solids:	83.2
Project:	Holloman AFB; Alamogordo, NM		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium [a]	6.6	4.9	0.49	mg/kg	10	04/03/12	04/04/12	DM	SW846 6010C [1]	SW846 3050B [2]
Lead [a]	7.2 B	9.9	0.49	mg/kg	10	04/03/12	04/04/12	DM	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA9692
(2) Prep QC Batch: MP22524

(a) Elevated reporting limit(s) due to matrix interference.

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	SS39-SUMP3-FL02		
Lab Sample ID:	F91608-7	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/29/12
Method:	SW846 8260B	**Percent Solids:**	82.7
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H0075126.D	1	03/29/12	EP	n/a	n/a	VH2785
Run #2							

	Initial Weight
Run #1	4.43 g
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	68	27	ug/kg	
75-05-8	Acetonitrile	ND	68	25	ug/kg	
107-02-8	Acrolein	ND	34	15	ug/kg	
107-13-1	Acrylonitrile	ND	34	16	ug/kg	
107-05-1	Allyl chloride	ND	34	6.8	ug/kg	
71-43-2	Benzene	ND	6.8	2.0	ug/kg	
100-44-7	Benzyl Chloride	ND	6.8	2.0	ug/kg	
108-86-1	Bromobenzene	ND	6.8	1.9	ug/kg	
74-97-5	Bromochloromethane	ND	6.8	1.9	ug/kg	
75-27-4	Bromodichloromethane	ND	6.8	1.5	ug/kg	
75-25-2	Bromoform	ND	6.8	2.0	ug/kg	
104-51-8	n-Butylbenzene	ND	6.8	1.8	ug/kg	
135-98-8	sec-Butylbenzene	ND	6.8	2.2	ug/kg	
98-06-6	tert-Butylbenzene	ND	6.8	1.6	ug/kg	
108-90-7	Chlorobenzene	ND	6.8	1.4	ug/kg	
75-00-3	Chloroethane	ND	6.8	2.7	ug/kg	
67-66-3	Chloroform	ND	6.8	1.6	ug/kg	
544-10-5	1-Chlorohexane	ND	6.8	1.9	ug/kg	
95-49-8	o-Chlorotoluene	ND	6.8	1.6	ug/kg	
106-43-4	p-Chlorotoluene	ND	6.8	1.6	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	34	14	ug/kg	
75-15-0	Carbon disulfide	ND	6.8	2.7	ug/kg	
56-23-5	Carbon tetrachloride	ND	6.8	2.5	ug/kg	
75-34-3	1,1-Dichloroethane	ND	6.8	1.5	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	6.8	1.9	ug/kg	
563-58-6	1,1-Dichloropropene	ND	6.8	1.8	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	6.8	3.1	ug/kg	
106-93-4	1,2-Dibromoethane	ND	6.8	1.4	ug/kg	
107-06-2	1,2-Dichloroethane	ND	6.8	1.4	ug/kg	
78-87-5	1,2-Dichloropropane	ND	6.8	1.6	ug/kg	
142-28-9	1,3-Dichloropropane	ND	6.8	1.4	ug/kg	
594-20-7	2,2-Dichloropropane	ND	6.8	1.9	ug/kg	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-SUMP3-FL02		
Lab Sample ID:	F91608-7	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/29/12
Method:	SW846 8260B	**Percent Solids:**	82.7
Project:	Holloman AFB; Alamogordo, NM		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
124-48-1	Dibromochloromethane	ND	6.8	1.4	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	6.8	2.0	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	6.8	2.0	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	6.8	1.4	ug/kg	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	34	6.8	ug/kg	
541-73-1	m-Dichlorobenzene	ND	6.8	1.6	ug/kg	
95-50-1	o-Dichlorobenzene	ND	6.8	1.5	ug/kg	
106-46-7	p-Dichlorobenzene	ND	6.8	1.5	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	6.8	2.0	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	6.8	1.5	ug/kg	
100-41-4	Ethylbenzene	ND	6.8	1.4	ug/kg	
97-63-2	Ethyl methacrylate	ND	34	6.8	ug/kg	
76-13-1	Freon 113	ND	6.8	2.3	ug/kg	
591-78-6	2-Hexanone	ND	34	7.4	ug/kg	
87-68-3	Hexachlorobutadiene	ND	6.8	2.7	ug/kg	
110-54-3	Hexane	ND	6.8	2.6	ug/kg	
98-82-8	Isopropylbenzene	ND	6.8	1.5	ug/kg	
99-87-6	p-Isopropyltoluene	ND	6.8	1.6	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	34	7.5	ug/kg	
126-98-7	Methacrylonitrile	ND	34	13	ug/kg	
74-83-9	Methyl bromide	ND	6.8	2.7	ug/kg	
74-87-3	Methyl chloride	ND	6.8	2.7	ug/kg	
74-88-4	Methyl iodide	ND	14	1.5	ug/kg	
80-62-6	Methyl methacrylate	ND	6.8	2.5	ug/kg	
74-95-3	Methylene bromide	ND	6.8	2.0	ug/kg	
75-09-2	Methylene chloride	ND	14	6.3	ug/kg	
78-93-3	Methyl ethyl ketone	ND	34	8.3	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	6.8	2.7	ug/kg	
91-20-3	Naphthalene	ND	6.8	2.7	ug/kg	
76-01-7	Pentachloroethane	ND	34	6.8	ug/kg	
107-12-0	Propionitrile	ND	68	22	ug/kg	
103-65-1	n-Propylbenzene	ND	6.8	1.9	ug/kg	
100-42-5	Styrene	ND	6.8	3.5	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	6.8	1.4	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	6.8	1.5	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	6.8	1.6	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	6.8	1.5	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	6.8	1.4	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	6.8	2.3	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	6.8	1.6	ug/kg	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-SUMP3-FL02		
Lab Sample ID:	F91608-7	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/29/12
Method:	SW846 8260B	**Percent Solids:**	82.7
Project:	Holloman AFB; Alamogordo, NM		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-63-6	1,2,4-Trimethylbenzene	ND	6.8	1.5	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	6.8	1.8	ug/kg	
127-18-4	Tetrachloroethylene	ND	6.8	1.4	ug/kg	
108-88-3	Toluene	ND	6.8	1.6	ug/kg	
79-01-6	Trichloroethylene	ND	6.8	1.6	ug/kg	
75-69-4	Trichlorofluoromethane	ND	6.8	2.7	ug/kg	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	34	6.8	ug/kg	
75-01-4	Vinyl chloride	ND	6.8	2.0	ug/kg	
108-05-4	Vinyl Acetate	ND	34	19	ug/kg	
	m,p-Xylene	ND	14	3.0	ug/kg	
95-47-6	o-Xylene	ND	6.8	1.4	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		80-121%
2037-26-5	Toluene-D8	91%		71-130%
460-00-4	4-Bromofluorobenzene	97%		59-148%
17060-07-0	1,2-Dichloroethane-D4	104%		77-123%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-SUMP3-FL02		
Lab Sample ID:	F91608-7	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/29/12
Method:	SW846 8015C	**Percent Solids:**	82.7
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR067298.D	1	04/03/12	CP	n/a	n/a	GQR2917
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.25 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	8.2	4.1	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	100%		56-136%
98-08-8	aaa-Trifluorotoluene	88%		61-121%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-SUMP3-FL02		
Lab Sample ID:	F91608-7	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/29/12
Method:	SW846 8015C SW846 3550C	**Percent Solids:**	82.7
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZF48848.D	1	04/04/12	FEA	03/30/12	OP41182	GZF1869
Run #2							

	Initial Weight	Final Volume
Run #1	30.5 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28) [a]	45.3	9.9	4.0	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	76%		49-108%

(a) Petroleum hydrocarbon pattern extends beyond C28.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-SUMP3-FL02		
Lab Sample ID:	F91608-7	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/29/12
		Percent Solids:	82.7
Project:	Holloman AFB; Alamogordo, NM		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic [a]	1.1 U	5.7	1.1	mg/kg	10	04/03/12	04/04/12	DM	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA9692
(2) Prep QC Batch: MP22524

(a) Elevated reporting limit(s) due to matrix interference.

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	SS39-SUMP3-SW01A		
Lab Sample ID:	F91608-8	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/29/12
Method:	SW846 8260B	**Percent Solids:**	83.4
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H0075127.D	1	03/29/12	EP	n/a	n/a	VH2785
Run #2							

	Initial Weight
Run #1	4.04 g
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	74	30	ug/kg	
75-05-8	Acetonitrile	ND	74	27	ug/kg	
107-02-8	Acrolein	ND	37	16	ug/kg	
107-13-1	Acrylonitrile	ND	37	17	ug/kg	
107-05-1	Allyl chloride	ND	37	7.4	ug/kg	
71-43-2	Benzene	ND	7.4	2.2	ug/kg	
100-44-7	Benzyl Chloride	ND	7.4	2.2	ug/kg	
108-86-1	Bromobenzene	ND	7.4	2.1	ug/kg	
74-97-5	Bromochloromethane	ND	7.4	2.1	ug/kg	
75-27-4	Bromodichloromethane	ND	7.4	1.6	ug/kg	
75-25-2	Bromoform	ND	7.4	2.2	ug/kg	
104-51-8	n-Butylbenzene	ND	7.4	1.9	ug/kg	
135-98-8	sec-Butylbenzene	ND	7.4	2.4	ug/kg	
98-06-6	tert-Butylbenzene	ND	7.4	1.8	ug/kg	
108-90-7	Chlorobenzene	ND	7.4	1.5	ug/kg	
75-00-3	Chloroethane	ND	7.4	3.0	ug/kg	
67-66-3	Chloroform	ND	7.4	1.8	ug/kg	
544-10-5	1-Chlorohexane	ND	7.4	2.1	ug/kg	
95-49-8	o-Chlorotoluene	ND	7.4	1.8	ug/kg	
106-43-4	p-Chlorotoluene	ND	7.4	1.8	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	37	15	ug/kg	
75-15-0	Carbon disulfide	ND	7.4	3.0	ug/kg	
56-23-5	Carbon tetrachloride	ND	7.4	2.7	ug/kg	
75-34-3	1,1-Dichloroethane	ND	7.4	1.6	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	7.4	2.1	ug/kg	
563-58-6	1,1-Dichloropropene	ND	7.4	1.9	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	7.4	3.4	ug/kg	
106-93-4	1,2-Dibromoethane	ND	7.4	1.5	ug/kg	
107-06-2	1,2-Dichloroethane	ND	7.4	1.5	ug/kg	
78-87-5	1,2-Dichloropropane	ND	7.4	1.8	ug/kg	
142-28-9	1,3-Dichloropropane	ND	7.4	1.5	ug/kg	
594-20-7	2,2-Dichloropropane	ND	7.4	2.1	ug/kg	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-SUMP3-SW01A		
Lab Sample ID:	F91608-8	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/29/12
Method:	SW846 8260B	**Percent Solids:**	83.4
Project:	Holloman AFB; Alamogordo, NM		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
124-48-1	Dibromochloromethane	ND	7.4	1.5	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	7.4	2.2	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	7.4	2.2	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	7.4	1.5	ug/kg	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	37	7.4	ug/kg	
541-73-1	m-Dichlorobenzene	ND	7.4	1.8	ug/kg	
95-50-1	o-Dichlorobenzene	ND	7.4	1.6	ug/kg	
106-46-7	p-Dichlorobenzene	ND	7.4	1.6	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	7.4	2.2	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	7.4	1.6	ug/kg	
100-41-4	Ethylbenzene	ND	7.4	1.5	ug/kg	
97-63-2	Ethyl methacrylate	ND	37	7.4	ug/kg	
76-13-1	Freon 113	ND	7.4	2.5	ug/kg	
591-78-6	2-Hexanone	ND	37	8.0	ug/kg	
87-68-3	Hexachlorobutadiene	ND	7.4	3.0	ug/kg	
110-54-3	Hexane	ND	7.4	2.8	ug/kg	
98-82-8	Isopropylbenzene	ND	7.4	1.6	ug/kg	
99-87-6	p-Isopropyltoluene	ND	7.4	1.8	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	37	8.2	ug/kg	
126-98-7	Methacrylonitrile	ND	37	14	ug/kg	
74-83-9	Methyl bromide	ND	7.4	3.0	ug/kg	
74-87-3	Methyl chloride	ND	7.4	3.0	ug/kg	
74-88-4	Methyl iodide	ND	15	1.6	ug/kg	
80-62-6	Methyl methacrylate	ND	7.4	2.7	ug/kg	
74-95-3	Methylene bromide	ND	7.4	2.2	ug/kg	
75-09-2	Methylene chloride	ND	15	6.8	ug/kg	
78-93-3	Methyl ethyl ketone	ND	37	9.1	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	7.4	3.0	ug/kg	
91-20-3	Naphthalene	ND	7.4	3.0	ug/kg	
76-01-7	Pentachloroethane	ND	37	7.4	ug/kg	
107-12-0	Propionitrile	ND	74	24	ug/kg	
103-65-1	n-Propylbenzene	ND	7.4	2.1	ug/kg	
100-42-5	Styrene	ND	7.4	3.9	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	7.4	1.5	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	7.4	1.6	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	7.4	1.8	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	7.4	1.6	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	7.4	1.5	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	7.4	2.5	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	7.4	1.8	ug/kg	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-SUMP3-SW01A		
Lab Sample ID:	F91608-8	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/29/12
Method:	SW846 8260B	**Percent Solids:**	83.4
Project:	Holloman AFB; Alamogordo, NM		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-63-6	1,2,4-Trimethylbenzene	ND	7.4	1.6	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	7.4	1.9	ug/kg	
127-18-4	Tetrachloroethylene	ND	7.4	1.5	ug/kg	
108-88-3	Toluene	ND	7.4	1.8	ug/kg	
79-01-6	Trichloroethylene	ND	7.4	1.8	ug/kg	
75-69-4	Trichlorofluoromethane	ND	7.4	3.0	ug/kg	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	37	7.4	ug/kg	
75-01-4	Vinyl chloride	ND	7.4	2.2	ug/kg	
108-05-4	Vinyl Acetate	ND	37	21	ug/kg	
	m,p-Xylene	ND	15	3.3	ug/kg	
95-47-6	o-Xylene	ND	7.4	1.5	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		80-121%
2037-26-5	Toluene-D8	96%		71-130%
460-00-4	4-Bromofluorobenzene	106%		59-148%
17060-07-0	1,2-Dichloroethane-D4	102%		77-123%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-SUMP3-SW01A		
Lab Sample ID:	F91608-8	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/29/12
Method:	SW846 8015C	**Percent Solids:**	83.4
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR067299.D	1	04/03/12	CP	n/a	n/a	GQR2917
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.39 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	7.8	3.9	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	97%		56-136%
98-08-8	aaa-Trifluorotoluene	86%		61-121%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-SUMP3-SW01A		
Lab Sample ID:	F91608-8	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/29/12
Method:	SW846 8015C SW846 3550C	**Percent Solids:**	83.4
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZF48849.D	1	04/04/12	FEA	03/30/12	OP41182	GZF1869
Run #2							

	Initial Weight	Final Volume
Run #1	30.2 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28) [a]	39.8	9.9	4.0	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	85%		49-108%

(a) Petroleum hydrocarbon pattern extends beyond C28.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-SUMP3-SW01A		
Lab Sample ID:	F91608-8	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/29/12
		Percent Solids:	83.4
Project:	Holloman AFB; Alamogordo, NM		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic [a]	1.1 U	5.5	1.1	mg/kg	10	04/03/12	04/04/12	DM	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA9692
(2) Prep QC Batch: MP22524

(a) Elevated reporting limit(s) due to matrix interference.

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	SS39-SUMP3-SW01B		
Lab Sample ID:	F91608-9	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/29/12
Method:	SW846 8260B	**Percent Solids:**	82.8
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H0075128.D	1	03/29/12	EP	n/a	n/a	VH2785
Run #2							

	Initial Weight
Run #1	4.07 g
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	74	30	ug/kg	
75-05-8	Acetonitrile	ND	74	27	ug/kg	
107-02-8	Acrolein	ND	37	16	ug/kg	
107-13-1	Acrylonitrile	ND	37	17	ug/kg	
107-05-1	Allyl chloride	ND	37	7.4	ug/kg	
71-43-2	Benzene	ND	7.4	2.2	ug/kg	
100-44-7	Benzyl Chloride	ND	7.4	2.2	ug/kg	
108-86-1	Bromobenzene	ND	7.4	2.1	ug/kg	
74-97-5	Bromochloromethane	ND	7.4	2.1	ug/kg	
75-27-4	Bromodichloromethane	ND	7.4	1.6	ug/kg	
75-25-2	Bromoform	ND	7.4	2.2	ug/kg	
104-51-8	n-Butylbenzene	ND	7.4	1.9	ug/kg	
135-98-8	sec-Butylbenzene	ND	7.4	2.4	ug/kg	
98-06-6	tert-Butylbenzene	ND	7.4	1.8	ug/kg	
108-90-7	Chlorobenzene	ND	7.4	1.5	ug/kg	
75-00-3	Chloroethane	ND	7.4	3.0	ug/kg	
67-66-3	Chloroform	ND	7.4	1.8	ug/kg	
544-10-5	1-Chlorohexane	ND	7.4	2.1	ug/kg	
95-49-8	o-Chlorotoluene	ND	7.4	1.8	ug/kg	
106-43-4	p-Chlorotoluene	ND	7.4	1.8	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	37	15	ug/kg	
75-15-0	Carbon disulfide	ND	7.4	3.0	ug/kg	
56-23-5	Carbon tetrachloride	ND	7.4	2.7	ug/kg	
75-34-3	1,1-Dichloroethane	ND	7.4	1.6	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	7.4	2.1	ug/kg	
563-58-6	1,1-Dichloropropene	ND	7.4	1.9	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	7.4	3.4	ug/kg	
106-93-4	1,2-Dibromoethane	ND	7.4	1.5	ug/kg	
107-06-2	1,2-Dichloroethane	ND	7.4	1.5	ug/kg	
78-87-5	1,2-Dichloropropane	ND	7.4	1.8	ug/kg	
142-28-9	1,3-Dichloropropane	ND	7.4	1.5	ug/kg	
594-20-7	2,2-Dichloropropane	ND	7.4	2.1	ug/kg	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-SUMP3-SW01B		
Lab Sample ID:	F91608-9	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/29/12
Method:	SW846 8260B	**Percent Solids:**	82.8
Project:	Holloman AFB; Alamogordo, NM		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
124-48-1	Dibromochloromethane	ND	7.4	1.5	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	7.4	2.2	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	7.4	2.2	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	7.4	1.5	ug/kg	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	37	7.4	ug/kg	
541-73-1	m-Dichlorobenzene	ND	7.4	1.8	ug/kg	
95-50-1	o-Dichlorobenzene	ND	7.4	1.6	ug/kg	
106-46-7	p-Dichlorobenzene	ND	7.4	1.6	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	7.4	2.2	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	7.4	1.6	ug/kg	
100-41-4	Ethylbenzene	ND	7.4	1.5	ug/kg	
97-63-2	Ethyl methacrylate	ND	37	7.4	ug/kg	
76-13-1	Freon 113	ND	7.4	2.5	ug/kg	
591-78-6	2-Hexanone	ND	37	8.0	ug/kg	
87-68-3	Hexachlorobutadiene	ND	7.4	3.0	ug/kg	
110-54-3	Hexane	ND	7.4	2.8	ug/kg	
98-82-8	Isopropylbenzene	ND	7.4	1.6	ug/kg	
99-87-6	p-Isopropyltoluene	ND	7.4	1.8	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	37	8.2	ug/kg	
126-98-7	Methacrylonitrile	ND	37	14	ug/kg	
74-83-9	Methyl bromide	ND	7.4	3.0	ug/kg	
74-87-3	Methyl chloride	ND	7.4	3.0	ug/kg	
74-88-4	Methyl iodide	ND	15	1.6	ug/kg	
80-62-6	Methyl methacrylate	ND	7.4	2.7	ug/kg	
74-95-3	Methylene bromide	ND	7.4	2.2	ug/kg	
75-09-2	Methylene chloride	ND	15	6.8	ug/kg	
78-93-3	Methyl ethyl ketone	ND	37	9.1	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	7.4	3.0	ug/kg	
91-20-3	Naphthalene	ND	7.4	3.0	ug/kg	
76-01-7	Pentachloroethane	ND	37	7.4	ug/kg	
107-12-0	Propionitrile	ND	74	24	ug/kg	
103-65-1	n-Propylbenzene	ND	7.4	2.1	ug/kg	
100-42-5	Styrene	ND	7.4	3.9	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	7.4	1.5	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	7.4	1.6	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	7.4	1.8	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	7.4	1.6	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	7.4	1.5	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	7.4	2.5	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	7.4	1.8	ug/kg	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-SUMP3-SW01B		
Lab Sample ID:	F91608-9	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/29/12
Method:	SW846 8260B	**Percent Solids:**	82.8
Project:	Holloman AFB; Alamogordo, NM		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-63-6	1,2,4-Trimethylbenzene	ND	7.4	1.6	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	7.4	1.9	ug/kg	
127-18-4	Tetrachloroethylene	ND	7.4	1.5	ug/kg	
108-88-3	Toluene	ND	7.4	1.8	ug/kg	
79-01-6	Trichloroethylene	ND	7.4	1.8	ug/kg	
75-69-4	Trichlorofluoromethane	ND	7.4	3.0	ug/kg	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	37	7.4	ug/kg	
75-01-4	Vinyl chloride	ND	7.4	2.2	ug/kg	
108-05-4	Vinyl Acetate	ND	37	21	ug/kg	
	m,p-Xylene	ND	15	3.3	ug/kg	
95-47-6	o-Xylene	ND	7.4	1.5	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		80-121%
2037-26-5	Toluene-D8	93%		71-130%
460-00-4	4-Bromofluorobenzene	93%		59-148%
17060-07-0	1,2-Dichloroethane-D4	103%		77-123%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-SUMP3-SW01B		
Lab Sample ID:	F91608-9	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/29/12
Method:	SW846 8015C	**Percent Solids:**	82.8
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR067300.D	1	04/03/12	CP	n/a	n/a	GQR2917
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.49 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	4.67	7.8	3.9	mg/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	107%		56-136%
98-08-8	aaa-Trifluorotoluene	86%		61-121%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-SUMP3-SW01B		
Lab Sample ID:	F91608-9	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/29/12
Method:	SW846 8015C SW846 3550C	**Percent Solids:**	82.8
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZF48850.D	1	04/04/12	FEA	03/30/12	OP41182	GZF1869
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28) [a]	18.2	10	4.0	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	85%		49-108%

(a) Petroleum hydrocarbon pattern extends beyond C28.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-SUMP3-SW01B		
Lab Sample ID:	F91608-9	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/29/12
		Percent Solids:	82.8
Project:	Holloman AFB; Alamogordo, NM		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic [a]	1.2 U	5.9	1.2	mg/kg	10	04/03/12	04/04/12	DM	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA9692
(2) Prep QC Batch: MP22524

(a) Elevated reporting limit(s) due to matrix interference.

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	SS39-TB-032812-1		
Lab Sample ID:	F91608-10	**Date Sampled:**	03/28/12
Matrix:	SO - Trip Blank Soil	**Date Received:**	03/29/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H0075129.D	1	03/29/12	EP	n/a	n/a	VH2785
Run #2							

	Initial Weight
Run #1	5.00 g
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	50	20	ug/kg	
75-05-8	Acetonitrile	ND	50	18	ug/kg	
107-02-8	Acrolein	ND	25	11	ug/kg	
107-13-1	Acrylonitrile	ND	25	11	ug/kg	
107-05-1	Allyl chloride	ND	25	5.0	ug/kg	
71-43-2	Benzene	ND	5.0	1.5	ug/kg	
100-44-7	Benzyl Chloride	ND	5.0	1.5	ug/kg	
108-86-1	Bromobenzene	ND	5.0	1.4	ug/kg	
74-97-5	Bromochloromethane	ND	5.0	1.4	ug/kg	
75-27-4	Bromodichloromethane	ND	5.0	1.1	ug/kg	
75-25-2	Bromoform	ND	5.0	1.5	ug/kg	
104-51-8	n-Butylbenzene	ND	5.0	1.3	ug/kg	
135-98-8	sec-Butylbenzene	ND	5.0	1.6	ug/kg	
98-06-6	tert-Butylbenzene	ND	5.0	1.2	ug/kg	
108-90-7	Chlorobenzene	ND	5.0	1.0	ug/kg	
75-00-3	Chloroethane	ND	5.0	2.0	ug/kg	
67-66-3	Chloroform	ND	5.0	1.2	ug/kg	
544-10-5	1-Chlorohexane	ND	5.0	1.4	ug/kg	
95-49-8	o-Chlorotoluene	ND	5.0	1.2	ug/kg	
106-43-4	p-Chlorotoluene	ND	5.0	1.2	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	25	10	ug/kg	
75-15-0	Carbon disulfide	ND	5.0	2.0	ug/kg	
56-23-5	Carbon tetrachloride	ND	5.0	1.8	ug/kg	
75-34-3	1,1-Dichloroethane	ND	5.0	1.1	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	5.0	1.4	ug/kg	
563-58-6	1,1-Dichloropropene	ND	5.0	1.3	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	2.3	ug/kg	
106-93-4	1,2-Dibromoethane	ND	5.0	1.0	ug/kg	
107-06-2	1,2-Dichloroethane	ND	5.0	1.0	ug/kg	
78-87-5	1,2-Dichloropropane	ND	5.0	1.2	ug/kg	
142-28-9	1,3-Dichloropropane	ND	5.0	1.0	ug/kg	
594-20-7	2,2-Dichloropropane	ND	5.0	1.4	ug/kg	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-TB-032812-1		
Lab Sample ID:	F91608-10	**Date Sampled:**	03/28/12
Matrix:	SO - Trip Blank Soil	**Date Received:**	03/29/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; Alamogordo, NM		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
124-48-1	Dibromochloromethane	ND	5.0	1.0	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	5.0	1.5	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	5.0	1.5	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	5.0	1.0	ug/kg	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	25	5.0	ug/kg	
541-73-1	m-Dichlorobenzene	ND	5.0	1.2	ug/kg	
95-50-1	o-Dichlorobenzene	ND	5.0	1.1	ug/kg	
106-46-7	p-Dichlorobenzene	ND	5.0	1.1	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	5.0	1.5	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	5.0	1.1	ug/kg	
100-41-4	Ethylbenzene	ND	5.0	1.0	ug/kg	
97-63-2	Ethyl methacrylate	ND	25	5.0	ug/kg	
76-13-1	Freon 113	ND	5.0	1.7	ug/kg	
591-78-6	2-Hexanone	ND	25	5.4	ug/kg	
87-68-3	Hexachlorobutadiene	ND	5.0	2.0	ug/kg	
110-54-3	Hexane	ND	5.0	1.9	ug/kg	
98-82-8	Isopropylbenzene	ND	5.0	1.1	ug/kg	
99-87-6	p-Isopropyltoluene	ND	5.0	1.2	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	25	5.5	ug/kg	
126-98-7	Methacrylonitrile	ND	25	9.2	ug/kg	
74-83-9	Methyl bromide	ND	5.0	2.0	ug/kg	
74-87-3	Methyl chloride	ND	5.0	2.0	ug/kg	
74-88-4	Methyl iodide	ND	10	1.1	ug/kg	
80-62-6	Methyl methacrylate	ND	5.0	1.8	ug/kg	
74-95-3	Methylene bromide	ND	5.0	1.5	ug/kg	
75-09-2	Methylene chloride	12.8	10	4.6	ug/kg	
78-93-3	Methyl ethyl ketone	ND	25	6.1	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.0	2.0	ug/kg	
91-20-3	Naphthalene	ND	5.0	2.0	ug/kg	
76-01-7	Pentachloroethane	ND	25	5.0	ug/kg	
107-12-0	Propionitrile	ND	50	16	ug/kg	
103-65-1	n-Propylbenzene	ND	5.0	1.4	ug/kg	
100-42-5	Styrene	ND	5.0	2.6	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	1.0	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	5.0	1.1	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	5.0	1.2	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	5.0	1.1	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	1.0	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	5.0	1.7	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.2	ug/kg	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-TB-032812-1		
Lab Sample ID:	F91608-10	**Date Sampled:**	03/28/12
Matrix:	SO - Trip Blank Soil	**Date Received:**	03/29/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; Alamogordo, NM		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	1.1	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	1.3	ug/kg	
127-18-4	Tetrachloroethylene	ND	5.0	1.0	ug/kg	
108-88-3	Toluene	ND	5.0	1.2	ug/kg	
79-01-6	Trichloroethylene	ND	5.0	1.2	ug/kg	
75-69-4	Trichlorofluoromethane	ND	5.0	2.0	ug/kg	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	25	5.0	ug/kg	
75-01-4	Vinyl chloride	ND	5.0	1.5	ug/kg	
108-05-4	Vinyl Acetate	ND	25	14	ug/kg	
	m,p-Xylene	ND	10	2.2	ug/kg	
95-47-6	o-Xylene	ND	5.0	1.0	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		80-121%
2037-26-5	Toluene-D8	94%		71-130%
460-00-4	4-Bromofluorobenzene	98%		59-148%
17060-07-0	1,2-Dichloroethane-D4	101%		77-123%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Southeast ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Certification Exceptions
- Certification Exceptions (NM)
- Chain of Custody

Accutest Laboratories Southeast
Chain of Custody

ACCUTEST LABORATORIES

4405 Vineland Road, Suite C-15 Orlando, Fl 32811
TEL. 407-425-6700 • FAX: 407-425-0707
www.accutest.com

F91608
Accutest JOB #

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Accutest Quote #

SKIFF#

Client / Reporting Information

Company Name: Accutest Laboratories
Address: 4405 Vineland Rd, C-15
City: Orlando State: FL Zip: 32811
Project Contact: Maureen McMyler E-mail:
Phone#: 865-220-4700
Sampler(s) Name(s) (Printed): Allan Jenkins

Project Information

Project Name: Excavation Confirmation, SS39
Street:
City: Holloman AFB State: NM
Project #: 865-556-8662 cellphone AJ
Fax #: 865-566-7736 cellphone Danny W.
Client Purchase Order #:

Accutest Sample #	Field ID / Point of Collection	Collection Date	Collection Time	Sampled By	Matrix	Total # of Bottles	Other	None	ZnOAc	NaOH	HNO3	H2SO4	NaOH+ZnAc	DI Water	MeOH	VOCs 5035/8260B	TPH GRO 5035/8015B	TPH DRO 8015 mod.	As - RCRA metal	Cr - RCRA metal	Pb - RCRA metal	Moisture Content					
1	SS39-Sump1-FL12	3/29/12	0846	AJ	Soil	4			✓						✓	X						X					
2	SS39-Sump1-SW11		0854			4			✓						✓	X						X					
3	SS39-Sump1-SW08		0900			4			✓						✓	X						X					
4	SS39-Sump2-FL12		0922			6			✓						✓	X	X	X		X	X						
5	SS39-Sump2-SW11		0935			6			✓						✓	X	X	X		X	X						
6	SS39-Sump2-SW05		0946			6			✓						✓	X	X	X		X	X						
7	SS39-Sump3-FL02		1046			6			✓						✓	X	X	X	X								
8	SS39-Sump3-SW01A		1057			6			✓						✓	X	X	X	X								
9	SS39-Sump3-SW01B		1108			6			✓						✓	X	X	X	X								
10	SS39-TB-032812-1		1327		H_2O																						

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL - Sludge; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe

LAB USE ONLY

TURNAROUND TIME (Business Days)

Approved By: / Rush Code

- [x] 10 Days Standard
- [ ] 7 Day RUSH
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [ ] OTHER

Emergency or Rush T/A Data Available VIA Email or Lablink

Data Deliverable Information

- [ ] COMMERCIAL "A" (RESULTS ONLY)
- [ ] COMMERCIAL "B" (RESULTS PLUS QC)
- [ ] REDT1 (EPA LEVEL 3)
- [ ] FULT1 (EPA LEVEL 4)
- [ ] EDD'S

Comments / Remarks

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished by:	Date Time:	Received By:
1 Allan Jenkins	3/29/12 2:40p	2 FX	3 FX 03-29-12	0900	4 [illegible]
Relinquished by: 5	Date Time:	Received By: 6	Relinquished by: 7	Date Time:	Received By: 8

Lab Use Only: Custody Seal in Place: Y N Temp Blank Provided: Y N Preserved where Applicable: Y N Total # of Coolers: Cooler Temperature (s) Celsius: 3.2

4.1 4

F91608: Chain of Custody
Page 1 of 2

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: F91608 CLIENT: Tetra Tech PROJECT: Excavation 5539

DATE/TIME RECEIVED: 03-29-12 0900 {MM/DD/YY 24:00} NIMBER OF COOLERS RECEIVED: 1

METHOD OF DELIVERY: (FEDEX) UPS ACCUTEST COURIER GREYHOUND DELIVERY OTHER

AIRBILL NUMBERS: 8996 2605 6430

COOLER INFORMATION

- [ ] CUSTODY SEAL NOT PRESENT OR NOT INTACT
- [ ] CHAIN OF CUSTODY NOT RECEIVED (COC)
- [ ] ANALYSIS REQUESTED IS UNCLEAR OR MISSING
- [ ] SAMPLE DATES OR TIMES UNCLEAR OR MISSING
- [ ] TEMPERATURE CRITERIA NOT MET
- [ ] WET ICE PRESENT

TRIP BLANK INFORMATION

- [x] TRIP BLANK PROVIDED
- [ ] TRIP BLANK NOT PROVIDED
- [ ] TRIP BLANK NOT ON COC
- [x] TRIP BLANK INTACT
- [ ] TRIP BLANK NOT INTACT
- [ ] RECEIVED WATER TRIP BLANK
- [x] RECEIVED SOIL TRIP BLANK

MISC. INFORMATION

NUMBER OF ENCORES ? 25-GRAM_____ 5-GRAM_____

NUMBER OF 5035 FIELD KITS ? 15 1/13 1

NUMBER OF LAB FILTERED METALS ? _____

TEMPERATURE INFORMATION

- [ ] IR THERM ID 1 CORR. FACTOR -0.2
- [ ] OBSERVED TEMPS: 3.4
- [ ] CORRECTED TEMPS: 3.2

SAMPLE INFORMATION

- [ ] SAMPLE LABELS PRESENT ON ALL BOTTLES
- [ ] INCORRECT NUMBER OF CONTAINERS USED
- [ ] SAMPLE RECEIVED IMPROPERLY PRESERVED
- [ ] INSUFFICIENT VOLUME FOR ANALYSIS
- [ ] DATES/TIMES ON COC DO NOT MATCH SAMPLE LABEL
- [ ] ID'S ON COC DO NOT MATCH LABEL
- [ ] VOC VIALS HAVE HEADSPACE (MACRO BUBBLES)
- [ ] BOTTLES RECEIVED BUT ANALYSIS NOT REQUESTED
- [ ] NO BOTTLES RECEIVED FOR ANALYSIS REQUESTED
- [ ] UNCLEAR FILTERING OR COMPOSITING INSTRUCTIONS
- [ ] SAMPLE CONTAINER(S) RECEIVED BROKEN
- [ ] % SOLIDS JAR NOT RECEIVED
- [ ] 5035 FIELD KIT FROZEN WITHIN 48 HOUR'S
- [ ] RESIDUAL CHLORINE PRESENT

{APPICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS}

SUMMARY OF COMMENTS:

TECHNICIAN SIGNATURE/DATE [signature] 03-29-12 REVIEWER SIGNATURE/DATE [signature] 03-29-12

NF 12/10

receipt confirmation 122910.xls

4.1

4

F91608: Chain of Custody

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Southeast ACCUTEST LABORATORIES

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (BFB)
- Internal Standard Area Summaries
- Surrogate Recovery Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VH2785-MB	H0075119.D	1	03/29/12	EP	n/a	n/a	VH2785

The QC reported here applies to the following samples: **Method:** SW846 8260B

F91608-1, F91608-2, F91608-3, F91608-4, F91608-5, F91608-6, F91608-7, F91608-8, F91608-9, F91608-10

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	50	20	ug/kg	
75-05-8	Acetonitrile	ND	50	18	ug/kg	
107-02-8	Acrolein	ND	25	11	ug/kg	
107-13-1	Acrylonitrile	ND	25	11	ug/kg	
107-05-1	Allyl chloride	ND	25	5.0	ug/kg	
71-43-2	Benzene	ND	5.0	1.5	ug/kg	
100-44-7	Benzyl Chloride	ND	5.0	1.5	ug/kg	
108-86-1	Bromobenzene	ND	5.0	1.4	ug/kg	
74-97-5	Bromochloromethane	ND	5.0	1.4	ug/kg	
75-27-4	Bromodichloromethane	ND	5.0	1.1	ug/kg	
75-25-2	Bromoform	ND	5.0	1.5	ug/kg	
104-51-8	n-Butylbenzene	ND	5.0	1.3	ug/kg	
135-98-8	sec-Butylbenzene	ND	5.0	1.6	ug/kg	
98-06-6	tert-Butylbenzene	ND	5.0	1.2	ug/kg	
108-90-7	Chlorobenzene	ND	5.0	1.0	ug/kg	
75-00-3	Chloroethane	ND	5.0	2.0	ug/kg	
67-66-3	Chloroform	ND	5.0	1.2	ug/kg	
544-10-5	1-Chlorohexane	ND	5.0	1.4	ug/kg	
95-49-8	o-Chlorotoluene	ND	5.0	1.2	ug/kg	
106-43-4	p-Chlorotoluene	ND	5.0	1.2	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	25	10	ug/kg	
75-15-0	Carbon disulfide	ND	5.0	2.0	ug/kg	
56-23-5	Carbon tetrachloride	ND	5.0	1.8	ug/kg	
75-34-3	1,1-Dichloroethane	ND	5.0	1.1	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	5.0	1.4	ug/kg	
563-58-6	1,1-Dichloropropene	ND	5.0	1.3	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	2.3	ug/kg	
106-93-4	1,2-Dibromoethane	ND	5.0	1.0	ug/kg	
107-06-2	1,2-Dichloroethane	ND	5.0	1.0	ug/kg	
78-87-5	1,2-Dichloropropane	ND	5.0	1.2	ug/kg	
142-28-9	1,3-Dichloropropane	ND	5.0	1.0	ug/kg	
594-20-7	2,2-Dichloropropane	ND	5.0	1.4	ug/kg	
124-48-1	Dibromochloromethane	ND	5.0	1.0	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	5.0	1.5	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	5.0	1.5	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	5.0	1.0	ug/kg	

Method Blank Summary

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VH2785-MB	H0075119.D	1	03/29/12	EP	n/a	n/a	VH2785

The QC reported here applies to the following samples: **Method:** SW846 8260B

F91608-1, F91608-2, F91608-3, F91608-4, F91608-5, F91608-6, F91608-7, F91608-8, F91608-9, F91608-10

CAS No.	Compound	Result	RL	MDL	Units	Q
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	25	5.0	ug/kg	
541-73-1	m-Dichlorobenzene	ND	5.0	1.2	ug/kg	
95-50-1	o-Dichlorobenzene	ND	5.0	1.1	ug/kg	
106-46-7	p-Dichlorobenzene	ND	5.0	1.1	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	5.0	1.5	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	5.0	1.1	ug/kg	
100-41-4	Ethylbenzene	ND	5.0	1.0	ug/kg	
97-63-2	Ethyl methacrylate	ND	25	5.0	ug/kg	
76-13-1	Freon 113	ND	5.0	1.7	ug/kg	
591-78-6	2-Hexanone	ND	25	5.4	ug/kg	
87-68-3	Hexachlorobutadiene	ND	5.0	2.0	ug/kg	
110-54-3	Hexane	ND	5.0	1.9	ug/kg	
98-82-8	Isopropylbenzene	ND	5.0	1.1	ug/kg	
99-87-6	p-Isopropyltoluene	ND	5.0	1.2	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	25	5.5	ug/kg	
126-98-7	Methacrylonitrile	ND	25	9.2	ug/kg	
74-83-9	Methyl bromide	ND	5.0	2.0	ug/kg	
74-87-3	Methyl chloride	ND	5.0	2.0	ug/kg	
74-88-4	Methyl iodide	ND	10	1.1	ug/kg	
80-62-6	Methyl methacrylate	ND	5.0	1.8	ug/kg	
74-95-3	Methylene bromide	ND	5.0	1.5	ug/kg	
75-09-2	Methylene chloride	ND	10	4.6	ug/kg	
78-93-3	Methyl ethyl ketone	ND	25	6.1	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.0	2.0	ug/kg	
91-20-3	Naphthalene	ND	5.0	2.0	ug/kg	
76-01-7	Pentachloroethane	ND	25	5.0	ug/kg	
107-12-0	Propionitrile	ND	50	16	ug/kg	
103-65-1	n-Propylbenzene	ND	5.0	1.4	ug/kg	
100-42-5	Styrene	ND	5.0	2.6	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	1.0	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	5.0	1.1	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	5.0	1.2	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	5.0	1.1	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	1.0	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	5.0	1.7	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.2	ug/kg	

Method Blank Summary

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VH2785-MB	H0075119.D	1	03/29/12	EP	n/a	n/a	VH2785

The QC reported here applies to the following samples: **Method:** SW846 8260B

F91608-1, F91608-2, F91608-3, F91608-4, F91608-5, F91608-6, F91608-7, F91608-8, F91608-9, F91608-10

CAS No.	Compound	Result	RL	MDL	Units	Q
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	1.1	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	1.3	ug/kg	
127-18-4	Tetrachloroethylene	ND	5.0	1.0	ug/kg	
108-88-3	Toluene	ND	5.0	1.2	ug/kg	
79-01-6	Trichloroethylene	ND	5.0	1.2	ug/kg	
75-69-4	Trichlorofluoromethane	ND	5.0	2.0	ug/kg	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	25	5.0	ug/kg	
75-01-4	Vinyl chloride	ND	5.0	1.5	ug/kg	
108-05-4	Vinyl Acetate	ND	25	14	ug/kg	
	m,p-Xylene	ND	10	2.2	ug/kg	
95-47-6	o-Xylene	ND	5.0	1.0	ug/kg	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	97%	80-121%
2037-26-5	Toluene-D8	96%	71-130%
460-00-4	4-Bromofluorobenzene	98%	59-148%
17060-07-0	1,2-Dichloroethane-D4	96%	77-123%

Method Blank Summary

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VH2786-MB	H0075138.D	1	03/30/12	EP	n/a	n/a	VH2786

The QC reported here applies to the following samples: **Method:** SW846 8260B

F91608-4

CAS No.	Compound	Result	RL	MDL	Units	Q
127-18-4	Tetrachloroethylene	ND	5.0	1.0	ug/kg	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	95%	80-121%
2037-26-5	Toluene-D8	99%	71-130%
460-00-4	4-Bromofluorobenzene	97%	59-148%
17060-07-0	1,2-Dichloroethane-D4	95%	77-123%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/kg	

Blank Spike Summary

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VH2785-BS	H0075118.D	1	03/29/12	EP	n/a	n/a	VH2785

The QC reported here applies to the following samples: **Method:** SW846 8260B

F91608-1, F91608-2, F91608-3, F91608-4, F91608-5, F91608-6, F91608-7, F91608-8, F91608-9, F91608-10

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
67-64-1	Acetone	250	250	100	61-144
75-05-8	Acetonitrile	500	439	88	59-139
107-02-8	Acrolein	250	327	131	27-156
107-13-1	Acrylonitrile	250	247	99	55-144
107-05-1	Allyl chloride	50	53.1	106	41-152
71-43-2	Benzene	50	49.5	99	78-130
100-44-7	Benzyl Chloride	50	40.0	80	74-130
108-86-1	Bromobenzene	50	50.1	100	78-123
74-97-5	Bromochloromethane	50	47.9	96	72-122
75-27-4	Bromodichloromethane	50	51.3	103	73-122
75-25-2	Bromoform	50	42.1	84	70-139
104-51-8	n-Butylbenzene	50	50.1	100	80-138
135-98-8	sec-Butylbenzene	50	50.4	101	82-132
98-06-6	tert-Butylbenzene	50	49.4	99	79-130
108-90-7	Chlorobenzene	50	49.4	99	83-122
75-00-3	Chloroethane	50	49.2	98	61-153
67-66-3	Chloroform	50	49.0	98	79-129
544-10-5	1-Chlorohexane	50	49.0	98	85-137
95-49-8	o-Chlorotoluene	50	49.3	99	77-123
106-43-4	p-Chlorotoluene	50	51.1	102	78-129
110-75-8	2-Chloroethyl vinyl ether	250	202	81	52-142
75-15-0	Carbon disulfide	50	47.2	94	61-142
56-23-5	Carbon tetrachloride	50	49.4	99	79-135
75-34-3	1,1-Dichloroethane	50	50.7	101	77-132
75-35-4	1,1-Dichloroethylene	50	48.5	97	66-132
563-58-6	1,1-Dichloropropene	50	49.7	99	81-133
96-12-8	1,2-Dibromo-3-chloropropane	50	47.0	94	67-129
106-93-4	1,2-Dibromoethane	50	49.0	98	77-126
107-06-2	1,2-Dichloroethane	50	48.8	98	78-129
78-87-5	1,2-Dichloropropane	50	49.2	98	74-127
142-28-9	1,3-Dichloropropane	50	48.1	96	78-118
594-20-7	2,2-Dichloropropane	50	51.9	104	80-137
124-48-1	Dibromochloromethane	50	50.9	102	78-117
75-71-8	Dichlorodifluoromethane	50	47.7	95	35-162
156-59-2	cis-1,2-Dichloroethylene	50	49.4	99	74-123
10061-01-5	cis-1,3-Dichloropropene	50	52.2	104	79-130

Blank Spike Summary

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VH2785-BS	H0075118.D	1	03/29/12	EP	n/a	n/a	VH2785

The QC reported here applies to the following samples: **Method:** SW846 8260B

F91608-1, F91608-2, F91608-3, F91608-4, F91608-5, F91608-6, F91608-7, F91608-8, F91608-9, F91608-10

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
1476-11-5	cis-1,4-Dichloro-2-Butene	50	50.1	100	71-126
541-73-1	m-Dichlorobenzene	50	49.4	99	82-126
95-50-1	o-Dichlorobenzene	50	49.5	99	83-123
106-46-7	p-Dichlorobenzene	50	48.8	98	84-124
156-60-5	trans-1,2-Dichloroethylene	50	47.5	95	77-129
10061-02-6	trans-1,3-Dichloropropene	50	54.7	109	87-131
100-41-4	Ethylbenzene	50	48.1	96	82-124
97-63-2	Ethyl methacrylate	50	44.6	89	78-118
76-13-1	Freon 113	50	43.0	86	62-147
591-78-6	2-Hexanone	250	255	102	67-130
87-68-3	Hexachlorobutadiene	50	50.2	100	77-150
110-54-3	Hexane	50	44.1	88	65-147
98-82-8	Isopropylbenzene	50	57.3	115	82-133
99-87-6	p-Isopropyltoluene	50	51.6	103	82-132
108-10-1	4-Methyl-2-pentanone	250	216	86	69-125
126-98-7	Methacrylonitrile	500	522	104	70-138
74-83-9	Methyl bromide	50	54.1	108	60-146
74-87-3	Methyl chloride	50	53.4	107	58-163
74-88-4	Methyl iodide	50	46.7	93	66-128
80-62-6	Methyl methacrylate	50	51.3	103	73-125
74-95-3	Methylene bromide	50	50.7	101	75-128
75-09-2	Methylene chloride	50	53.6	107	62-140
78-93-3	Methyl ethyl ketone	250	272	109	66-134
1634-04-4	Methyl Tert Butyl Ether	50	48.3	97	70-131
91-20-3	Naphthalene	50	49.6	99	59-143
76-01-7	Pentachloroethane	50	63.2	126	64-156
107-12-0	Propionitrile	500	476	95	73-133
103-65-1	n-Propylbenzene	50	50.9	102	78-129
100-42-5	Styrene	50	50.0	100	79-123
630-20-6	1,1,1,2-Tetrachloroethane	50	50.2	100	81-121
71-55-6	1,1,1-Trichloroethane	50	48.8	98	80-133
79-34-5	1,1,2,2-Tetrachloroethane	50	47.1	94	70-128
79-00-5	1,1,2-Trichloroethane	50	50.2	100	76-118
87-61-6	1,2,3-Trichlorobenzene	50	50.8	102	78-136
96-18-4	1,2,3-Trichloropropane	50	46.9	94	74-125
120-82-1	1,2,4-Trichlorobenzene	50	53.5	107	82-137

Blank Spike Summary

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VH2785-BS	H0075118.D	1	03/29/12	EP	n/a	n/a	VH2785

The QC reported here applies to the following samples: **Method:** SW846 8260B

F91608-1, F91608-2, F91608-3, F91608-4, F91608-5, F91608-6, F91608-7, F91608-8, F91608-9, F91608-10

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
95-63-6	1,2,4-Trimethylbenzene	50	50.2	100	77-129
108-67-8	1,3,5-Trimethylbenzene	50	48.9	98	79-129
127-18-4	Tetrachloroethylene	50	48.5	97	79-132
108-88-3	Toluene	50	47.9	96	80-123
79-01-6	Trichloroethylene	50	51.0	102	78-132
75-69-4	Trichlorofluoromethane	50	52.5	105	67-149
110-57-6	Trans-1,4-Dichloro-2-Butene	50	48.2	96	74-138
75-01-4	Vinyl chloride	50	53.7	107	60-145
108-05-4	Vinyl Acetate	250	317	127	25-164
	m,p-Xylene	100	100	100	82-128
95-47-6	o-Xylene	50	50.7	101	82-126

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	94%	80-121%
2037-26-5	Toluene-D8	95%	71-130%
460-00-4	4-Bromofluorobenzene	95%	59-148%
17060-07-0	1,2-Dichloroethane-D4	92%	77-123%

Blank Spike Summary

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VH2786-BS	H0075137.D	1	03/30/12	EP	n/a	n/a	VH2786

The QC reported here applies to the following samples: **Method:** SW846 8260B

F91608-4

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
127-18-4	Tetrachloroethylene	50	53.7	107	79-132

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	95%	80-121%
2037-26-5	Toluene-D8	96%	71-130%
460-00-4	4-Bromofluorobenzene	96%	59-148%
17060-07-0	1,2-Dichloroethane-D4	95%	77-123%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F91608-1MS	H0075130.D	1	03/29/12	EP	n/a	n/a	VH2785
F91608-1MSD	H0075131.D	1	03/29/12	EP	n/a	n/a	VH2785
F91608-1	H0075120.D	1	03/29/12	EP	n/a	n/a	VH2785

The QC reported here applies to the following samples: **Method:** SW846 8260B

F91608-1, F91608-2, F91608-3, F91608-4, F91608-5, F91608-6, F91608-7, F91608-8, F91608-9, F91608-10

CAS No.	Compound	F91608-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		283	220	78	211	75	4	61-144/29
75-05-8	Acetonitrile	ND		567	407	72	400	71	2	59-139/30
107-02-8	Acrolein	ND		283	240	85	236	83	2	27-156/39
107-13-1	Acrylonitrile	ND		283	252	89	249	88	1	55-144/24
107-05-1	Allyl chloride	ND		56.7	47.2	83	46.8	83	1	41-152/24
71-43-2	Benzene	ND		56.7	47.9	84	47.9	85	0	78-130/25
100-44-7	Benzyl Chloride	ND		56.7	34.2	60*	34.6	61*	1	74-130/28
108-86-1	Bromobenzene	ND		56.7	48.0	85	51.9	92	8	78-123/30
74-97-5	Bromochloromethane	ND		56.7	52.5	93	54.7	97	4	72-122/23
75-27-4	Bromodichloromethane	ND		56.7	54.4	96	53.3	94	2	73-122/25
75-25-2	Bromoform	ND		56.7	45.2	80	46.2	82	2	70-139/26
104-51-8	n-Butylbenzene	ND		56.7	40.2	71*	42.6	75*	6	80-138/31
135-98-8	sec-Butylbenzene	ND		56.7	40.3	71*	44.5	79*	10	82-132/29
98-06-6	tert-Butylbenzene	ND		56.7	41.7	74*	45.8	81	9	79-130/29
108-90-7	Chlorobenzene	ND		56.7	48.9	86	50.1	89	2	83-122/23
75-00-3	Chloroethane	ND		56.7	49.3	87	48.5	86	2	61-153/31
67-66-3	Chloroform	ND		56.7	51.9	92	50.7	90	2	79-129/27
544-10-5	1-Chlorohexane	ND		56.7	38.0	67*	40.6	72*	7	85-137/29
95-49-8	o-Chlorotoluene	ND		56.7	44.0	78	48.0	85	9	77-123/31
106-43-4	p-Chlorotoluene	ND		56.7	45.6	80	48.7	86	7	78-129/29
110-75-8	2-Chloroethyl vinyl ether	ND		283	215	76	215	76	0	52-142/25
75-15-0	Carbon disulfide	ND		56.7	42.8	75	42.2	75	1	61-142/27
56-23-5	Carbon tetrachloride	ND		56.7	45.4	80	45.7	81	1	79-135/29
75-34-3	1,1-Dichloroethane	ND		56.7	49.6	87	48.5	86	2	77-132/26
75-35-4	1,1-Dichloroethylene	ND		56.7	42.6	75	44.1	78	3	66-132/27
563-58-6	1,1-Dichloropropene	ND		56.7	45.8	81	45.4	80*	1	81-133/26
96-12-8	1,2-Dibromo-3-chloropropane	ND		56.7	49.4	87	52.8	93	7	67-129/29
106-93-4	1,2-Dibromoethane	ND		56.7	52.6	93	52.6	93	0	77-126/24
107-06-2	1,2-Dichloroethane	ND		56.7	53.4	94	53.3	94	0	78-129/24
78-87-5	1,2-Dichloropropane	ND		56.7	50.8	90	49.6	88	2	74-127/27
142-28-9	1,3-Dichloropropane	ND		56.7	51.1	90	52.0	92	2	78-118/26
594-20-7	2,2-Dichloropropane	ND		56.7	43.9	77*	43.8	77*	0	80-137/28
124-48-1	Dibromochloromethane	ND		56.7	55.7	98	53.8	95	3	78-117/27
75-71-8	Dichlorodifluoromethane	ND		56.7	40.6	72	41.6	74	2	35-162/30
156-59-2	cis-1,2-Dichloroethylene	ND		56.7	50.2	89	50.8	90	1	74-123/26
10061-01-5	cis-1,3-Dichloropropene	ND		56.7	53.1	94	54.1	96	2	79-130/23

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F91608-1MS	H0075130.D	1	03/29/12	EP	n/a	n/a	VH2785
F91608-1MSD	H0075131.D	1	03/29/12	EP	n/a	n/a	VH2785
F91608-1	H0075120.D	1	03/29/12	EP	n/a	n/a	VH2785

The QC reported here applies to the following samples: **Method:** SW846 8260B

F91608-1, F91608-2, F91608-3, F91608-4, F91608-5, F91608-6, F91608-7, F91608-8, F91608-9, F91608-10

CAS No.	Compound	F91608-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
1476-11-5	cis-1,4-Dichloro-2-Butene	ND		56.7	46.3	82	51.6	91	11	71-126/28
541-73-1	m-Dichlorobenzene	ND		56.7	46.5	82	48.4	86	4	82-126/29
95-50-1	o-Dichlorobenzene	ND		56.7	48.2	85	51.3	91	6	83-123/28
106-46-7	p-Dichlorobenzene	ND		56.7	47.4	84	47.4	84	0	84-124/28
156-60-5	trans-1,2-Dichloroethylene	ND		56.7	43.9	77	43.5	77	1	77-129/27
10061-02-6	trans-1,3-Dichloropropene	ND		56.7	57.0	101	56.3	100	1	87-131/27
100-41-4	Ethylbenzene	ND		56.7	45.3	80*	46.1	81*	2	82-124/25
97-63-2	Ethyl methacrylate	ND		56.7	39.7	70*	43.7	77*	10	78-118/30
76-13-1	Freon 113	ND		56.7	36.9	65	36.8	65	0	62-147/29
591-78-6	2-Hexanone	ND		283	213	75	215	76	1	67-130/29
87-68-3	Hexachlorobutadiene	ND		56.7	37.3	66*	38.5	68*	3	77-150/36
110-54-3	Hexane	ND		56.7	32.8	58*	34.6	61*	5	65-147/27
98-82-8	Isopropylbenzene	ND		56.7	51.2	90	52.8	93	3	82-133/27
99-87-6	p-Isopropyltoluene	ND		56.7	42.7	75*	45.7	81*	7	82-132/29
108-10-1	4-Methyl-2-pentanone	ND		283	216	76	228	81	5	69-125/24
126-98-7	Methacrylonitrile	ND		567	534	94	537	95	1	70-138/22
74-83-9	Methyl bromide	ND		56.7	56.0	99	55.6	98	1	60-146/31
74-87-3	Methyl chloride	ND		56.7	48.9	86	50.2	89	3	58-163/26
74-88-4	Methyl iodide	ND		56.7	46.0	81	47.1	83	2	66-128/27
80-62-6	Methyl methacrylate	ND		56.7	60.7	107	54.4	96	11	73-125/24
74-95-3	Methylene bromide	ND		56.7	56.4	99	53.0	94	6	75-128/26
75-09-2	Methylene chloride	ND		56.7	54.5	96	58.2	103	7	62-140/25
78-93-3	Methyl ethyl ketone	ND		283	255	90	250	88	2	66-134/23
1634-04-4	Methyl Tert Butyl Ether	ND		56.7	51.5	91	53.1	94	3	70-131/25
91-20-3	Naphthalene	ND		56.7	48.1	85	50.4	89	5	59-143/31
76-01-7	Pentachloroethane	ND		56.7	55.1	97	59.9	106	8	64-156/37
107-12-0	Propionitrile	ND		567	482	85	467	83	3	73-133/23
103-65-1	n-Propylbenzene	ND		56.7	43.2	76*	47.3	84	9	78-129/29
100-42-5	Styrene	ND		56.7	49.6	87	51.6	91	4	79-123/28
630-20-6	1,1,1,2-Tetrachloroethane	ND		56.7	54.2	96	52.1	92	4	81-121/25
71-55-6	1,1,1-Trichloroethane	ND		56.7	46.6	82	47.7	84	2	80-133/27
79-34-5	1,1,2,2-Tetrachloroethane	ND		56.7	48.4	85	52.8	93	9	70-128/30
79-00-5	1,1,2-Trichloroethane	ND		56.7	52.5	93	51.9	92	1	76-118/28
87-61-6	1,2,3-Trichlorobenzene	ND		56.7	45.0	79	47.7	84	6	78-136/34
96-18-4	1,2,3-Trichloropropane	ND		56.7	49.1	87	55.1	97	12	74-125/30
120-82-1	1,2,4-Trichlorobenzene	ND		56.7	49.1	87	47.4	84	4	82-137/32

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F91608-1MS	H0075130.D	1	03/29/12	EP	n/a	n/a	VH2785
F91608-1MSD	H0075131.D	1	03/29/12	EP	n/a	n/a	VH2785
F91608-1	H0075120.D	1	03/29/12	EP	n/a	n/a	VH2785

The QC reported here applies to the following samples: **Method:** SW846 8260B

F91608-1, F91608-2, F91608-3, F91608-4, F91608-5, F91608-6, F91608-7, F91608-8, F91608-9, F91608-10

CAS No.	Compound	F91608-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
95-63-6	1,2,4-Trimethylbenzene	ND		56.7	44.8	79	47.7	84	6	77-129/29
108-67-8	1,3,5-Trimethylbenzene	ND		56.7	42.9	76*	46.1	81	7	79-129/31
127-18-4	Tetrachloroethylene	ND		56.7	50.6	89	50.2	89	1	79-132/27
108-88-3	Toluene	ND		56.7	46.1	81	47.9	85	4	80-123/26
79-01-6	Trichloroethylene	ND		56.7	48.9	86	49.9	88	2	78-132/28
75-69-4	Trichlorofluoromethane	ND		56.7	47.7	84	47.0	83	1	67-149/29
110-57-6	Trans-1,4-Dichloro-2-Butene	ND		56.7	48.2	85	49.9	88	3	74-138/30
75-01-4	Vinyl chloride	ND		56.7	45.8	81	46.4	82	1	60-145/29
108-05-4	Vinyl Acetate	ND		283	176	62	212	75	19	25-164/35
	m,p-Xylene	ND		113	94.6	83	96.1	85	2	82-128/25
95-47-6	o-Xylene	ND		56.7	48.9	86	49.8	88	2	82-126/25

CAS No.	Surrogate Recoveries	MS	MSD	F91608-1	Limits
1868-53-7	Dibromofluoromethane	103%	96%	95%	80-121%
2037-26-5	Toluene-D8	95%	96%	98%	71-130%
460-00-4	4-Bromofluorobenzene	91%	95%	100%	59-148%
17060-07-0	1,2-Dichloroethane-D4	101%	95%	95%	77-123%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F91658-9MS	H0075154.D	1	03/30/12	EP	n/a	n/a	VH2786
F91658-9MSD	H0075155.D	1	03/30/12	EP	n/a	n/a	VH2786
F91658-9 [a]	H0075170.D	1	04/02/12	EP	n/a	n/a	VH2786

The QC reported here applies to the following samples: **Method:** SW846 8260B

F91608-4

CAS No.	Compound	F91658-9 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
127-18-4	Tetrachloroethylene	ND		74.3	79.1	107	75.7	113	4	79-132/27

CAS No.	Surrogate Recoveries	MS	MSD	F91658-9	Limits
1868-53-7	Dibromofluoromethane	97%	98%	96%	80-121%
2037-26-5	Toluene-D8	97%	98%	96%	71-130%
460-00-4	4-Bromofluorobenzene	98%	94%	97%	59-148%
17060-07-0	1,2-Dichloroethane-D4	91%	93%	95%	77-123%

(a) Confirmation run.

Instrument Performance Check (BFB)

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VH2785-BFB
Lab File ID: H0075108.D
Instrument ID: GCMSH
Injection Date: 03/29/12
Injection Time: 08:05

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	49192	20.0		Pass
75	30.0 - 60.0% of mass 95	123650	50.4		Pass
95	Base peak, 100% relative abundance	245440	100.0		Pass
96	5.0 - 9.0% of mass 95	13843	5.64		Pass
173	Less than 2.0% of mass 174	1489	0.61	(0.70) [a]	Pass
174	50.0 - 100.0% of mass 95	211840	86.3		Pass
175	5.0 - 9.0% of mass 174	14212	5.79	(6.71) [a]	Pass
176	95.0 - 101.0% of mass 174	211306	86.1	(99.7) [a]	Pass
177	5.0 - 9.0% of mass 176	14804	6.03	(7.01) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VH2785-IC2785	H0075109.D	03/29/12	08:41	00:36	Initial cal 1
VH2785-IC2785	H0075110.D	03/29/12	09:07	01:02	Initial cal 2
VH2785-IC2785	H0075111.D	03/29/12	09:32	01:27	Initial cal 3
VH2785-IC2785	H0075112.D	03/29/12	09:57	01:52	Initial cal 4
VH2785-ICC2785	H0075113.D	03/29/12	10:22	02:17	Initial cal 5
VH2785-IC2785	H0075114.D	03/29/12	10:47	02:42	Initial cal 6
VH2785-IC2785	H0075115.D	03/29/12	11:12	03:07	Initial cal 7
VH2785-ICV2785	H0075118.D	03/29/12	14:01	05:56	Initial cal verification 4
VH2785-BS	H0075118.D	03/29/12	14:01	05:56	Blank Spike
VH2785-MB	H0075119.D	03/29/12	14:41	06:36	Method Blank
F91608-1	H0075120.D	03/29/12	15:10	07:05	SS39-SUMP1-FL12
F91608-2	H0075121.D	03/29/12	15:35	07:30	SS39-SUMP1-SW11
F91608-3	H0075122.D	03/29/12	16:00	07:55	SS39-SUMP1-SW08
F91608-4	H0075123.D	03/29/12	16:25	08:20	SS39-SUMP2-FL12
F91608-5	H0075124.D	03/29/12	16:50	08:45	SS39-SUMP2-SW11
F91608-6	H0075125.D	03/29/12	17:15	09:10	SS39-SUMP2-SW05
F91608-7	H0075126.D	03/29/12	17:41	09:36	SS39-SUMP3-FL02
F91608-8	H0075127.D	03/29/12	18:06	10:01	SS39-SUMP3-SW01A
F91608-9	H0075128.D	03/29/12	18:31	10:26	SS39-SUMP3-SW01B
F91608-10	H0075129.D	03/29/12	18:56	10:51	SS39-TB-032812-1
F91608-1MS	H0075130.D	03/29/12	19:21	11:16	Matrix Spike
F91608-1MSD	H0075131.D	03/29/12	19:46	11:41	Matrix Spike Duplicate

Instrument Performance Check (BFB)

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VH2786-BFB
Lab File ID: H0075135.D
Instrument ID: GCMSH
Injection Date: 03/30/12
Injection Time: 08:05

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	159744	19.3		Pass
75	30.0 - 60.0% of mass 95	392832	47.6		Pass
95	Base peak, 100% relative abundance	825941	100.0		Pass
96	5.0 - 9.0% of mass 95	53421	6.47		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 100.0% of mass 95	717418	86.9		Pass
175	5.0 - 9.0% of mass 174	52578	6.37	(7.33) [a]	Pass
176	95.0 - 101.0% of mass 174	696298	84.3	(97.1) [a]	Pass
177	5.0 - 9.0% of mass 176	41544	5.03	(5.97) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VH2786-CC2785	H0075136.D	03/30/12	08:31	00:26	Continuing cal 4
VH2786-BS	H0075137.D	03/30/12	09:07	01:02	Blank Spike
VH2786-MB	H0075138.D	03/30/12	09:32	01:27	Method Blank
F91608-4	H0075139.D	03/30/12	09:57	01:52	SS39-SUMP2-FL12
ZZZZZZ	H0075140.D	03/30/12	10:22	02:17	(unrelated sample)
ZZZZZZ	H0075141.D	03/30/12	10:47	02:42	(unrelated sample)
ZZZZZZ	H0075142.D	03/30/12	11:12	03:07	(unrelated sample)
ZZZZZZ	H0075143.D	03/30/12	11:38	03:33	(unrelated sample)
ZZZZZZ	H0075144.D	03/30/12	12:03	03:58	(unrelated sample)
ZZZZZZ	H0075145.D	03/30/12	12:28	04:23	(unrelated sample)
ZZZZZZ	H0075147.D	03/30/12	13:18	05:13	(unrelated sample)
ZZZZZZ	H0075148.D	03/30/12	13:43	05:38	(unrelated sample)
ZZZZZZ	H0075149.D	03/30/12	14:09	06:04	(unrelated sample)
ZZZZZZ	H0075150.D	03/30/12	14:34	06:29	(unrelated sample)
ZZZZZZ	H0075151.D	03/30/12	14:59	06:54	(unrelated sample)
F91658-6	H0075152.D	03/30/12	15:24	07:19	(used for QC only; not part of job F91608)
ZZZZZZ	H0075153.D	03/30/12	15:49	07:44	(unrelated sample)
F91658-9MS	H0075154.D	03/30/12	16:14	08:09	Matrix Spike
F91658-9MSD	H0075155.D	03/30/12	16:40	08:35	Matrix Spike Duplicate
ZZZZZZ	H0075156.D	03/30/12	17:05	09:00	(unrelated sample)
ZZZZZZ	H0075157.D	03/30/12	17:30	09:25	(unrelated sample)

Volatile Internal Standard Area Summary

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Check Std:	VH2785-ICC2785	**Injection Date:**	03/29/12
Lab File ID:	H0075113.D	**Injection Time:**	10:22
Instrument ID:	GCMSH	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
Initial Cal [a]	1661437	10.16	1239051	13.36	681367	15.78	169374	7.33
Check Std [b]	1661437	10.16	1239051	13.36	681367	15.78	169374	7.33
Upper Limit [c]	3322874	10.66	2478102	13.86	1362734	16.28	338748	7.83
Lower Limit [d]	830719	9.66	619526	12.86	340684	15.28	84687	6.83

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
VH2785-BS	1681601	10.17	1265682	13.36	680960	15.79	139155	7.34
VH2785-MB	1581596	10.17	1165445	13.36	561798	15.79	156740	7.34
F91608-1	1559612	10.17	1136563	13.36	553433	15.79	159905	7.34
F91608-2	1579121	10.17	1142348	13.36	566672	15.79	151834	7.35
F91608-3	1539814	10.17	1147379	13.36	588915	15.79	165179	7.34
F91608-4	1563537	10.17	1131732	13.37	545918	15.79	150022	7.34
F91608-5	1560446	10.17	1209123	13.36	585831	15.79	145980	7.36
F91608-6	1647773	10.17	1195072	13.37	600819	15.80	158726	7.34
F91608-7	1596587	10.17	1210486	13.37	597529	15.79	157202	7.35
F91608-8	1521306	10.17	1104602	13.37	480602	15.79	160095	7.35
F91608-9	1530542	10.17	1172125	13.36	588663	15.79	136863	7.35
F91608-10	1477022	10.17	1114756	13.36	537396	15.79	127197	7.35
F91608-1MS	1626783	10.17	1259136	13.37	707019	15.79	141961	7.34
F91608-1MSD	1646992	10.17	1244748	13.36	662424	15.79	152836	7.34

IS 1 = Fluorobenzene
IS 2 = Chlorobenzene-D5
IS 3 = 1,4-Dichlorobenzene-d4
IS 4 = Tert Butyl Alcohol-D10

(a) Initial Cal is: VH2785-ICC2785 H0075113.D 03/29/12 10:22
(b) Check Std Limit = -50 to + 100% of initial cal area.
(c) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.
(d) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Volatile Internal Standard Area Summary

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Check Std:	VH2786-CC2785	**Injection Date:**	03/30/12
Lab File ID:	H0075136.D	**Injection Time:**	08:31
Instrument ID:	GCMSH	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
Initial Cal [a]	1661437	10.16	1239051	13.36	681367	15.78	169374	7.33
Check Std [b]	1617473	10.17	1242825	13.36	707503	15.79	153665	7.34
Upper Limit [c]	3234946	10.67	2485650	13.86	1415006	16.29	307330	7.84
Lower Limit [d]	808737	9.67	621413	12.86	353752	15.29	76833	6.84

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
VH2786-BS	1627231	10.16	1227859	13.35	681065	15.78	189907	7.35
VH2786-MB	1588756	10.16	1142917	13.36	548685	15.78	145966	7.34
F91608-4	1552027	10.16	1181496	13.35	602030	15.78	133008	7.36
ZZZZZZ	1604223	10.17	1213708	13.36	614793	15.79	230191	7.33
ZZZZZZ	1584481	10.17	1223024	13.35	677297	15.79	272288	7.34
ZZZZZZ	1720872	10.16	1278318	13.36	667323	15.79	172872	7.35
ZZZZZZ	1772891	10.16	1301263	13.35	718363	15.79	206649	7.35
ZZZZZZ	1717623	10.17	1298529	13.35	703806	15.79	190318	7.34
ZZZZZZ	1746214	10.17	1354227	13.36	688603	15.79	209308	7.33
ZZZZZZ	1684627	10.17	1243512	13.35	629982	15.79	170580	7.34
ZZZZZZ	1597823	10.17	1131695	13.36	510539	15.79	179937	7.34
ZZZZZZ	1617511	10.16	1145516	13.36	535822	15.79	160325	7.35
ZZZZZZ	1650492	10.17	1201588	13.37	567550	15.79	135791	7.35
ZZZZZZ	1591697	10.17	1178715	13.37	566459	15.79	165166	7.34
F91658-6	1615730	10.17	1166578	13.36	541797	15.79	166796	7.35
ZZZZZZ	1561040	10.18	1149801	13.36	605510	15.80	146328	7.35
F91658-9MS	1634808	10.17	1224101	13.37	634497	15.80	154379	7.34
F91658-9MSD	1645808	10.17	1230536	13.36	672383	15.79	160004	7.35
ZZZZZZ	1617988	10.18	1148368	13.37	585524	15.80	159560	7.35
ZZZZZZ	1531328	10.18	1016608	13.37	387619	15.80	139413	7.34

IS 1 = Fluorobenzene
IS 2 = Chlorobenzene-D5
IS 3 = 1,4-Dichlorobenzene-d4
IS 4 = Tert Butyl Alcohol-D10

(a) Initial Cal is: VH2785-ICC2785 H0075113.D 03/29/12 10:22
(b) Check Std Limit = -50 to + 100% of initial cal area.
(c) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.
(d) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Volatile Surrogate Recovery Summary

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Method: SW846 8260B **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
F91608-1	H0075120.D	95.0	98.0	100.0	95.0
F91608-2	H0075121.D	96.0	99.0	96.0	98.0
F91608-3	H0075122.D	98.0	97.0	93.0	107.0
F91608-4	H0075139.D	90.0	97.0	99.0	99.0
F91608-4	H0075123.D	93.0	97.0	97.0	100.0
F91608-5	H0075124.D	99.0	95.0	97.0	98.0
F91608-6	H0075125.D	99.0	95.0	95.0	99.0
F91608-7	H0075126.D	99.0	91.0	97.0	104.0
F91608-8	H0075127.D	98.0	96.0	106.0	102.0
F91608-9	H0075128.D	97.0	93.0	93.0	103.0
F91608-10	H0075129.D	99.0	94.0	98.0	101.0
F91608-1MS	H0075130.D	103.0	95.0	91.0	101.0
F91608-1MSD	H0075131.D	96.0	96.0	95.0	95.0
F91658-9MS	H0075154.D	97.0	97.0	98.0	91.0
F91658-9MSD	H0075155.D	98.0	98.0	94.0	93.0
VH2785-BS	H0075118.D	94.0	95.0	95.0	92.0
VH2785-MB	H0075119.D	97.0	96.0	98.0	96.0
VH2786-BS	H0075137.D	95.0	96.0	96.0	95.0
VH2786-MB	H0075138.D	95.0	99.0	97.0	95.0

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	80-121%
S2 = Toluene-D8	71-130%
S3 = 4-Bromofluorobenzene	59-148%
S4 = 1,2-Dichloroethane-D4	77-123%

Initial Calibration Summary

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VH2785-ICC2785
Lab FileID: H0075113.D

Response Factor Report MSVOA3

Method : C:\MSDCHEM\1\METHODS\032912APP9-H.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Thu Mar 29 14:35:59 2012
Response via : Initial Calibration

Calibration Files
1 =H0075109.D 2 =H0075110.D 3 =H0075111.D 4 =H0075112.D
5 =H0075113.D 6 =H0075114.D 7 =H0075115.D

Compound	1	2	3	4	5	6	7	Avg	%RSD
1) I Fluorobenzene	----------ISTD----------								
2) Dichlorodifluorom	0.294	0.295	0.277	0.260	0.247	0.243	0.248	0.266	8.39
3)P Chloromethane	0.362	0.350	0.361	0.354	0.321	0.329	0.347	0.346	4.50
4)C Vinyl Chloride	0.309	0.308	0.299	0.297	0.268	0.270	0.275	0.289	6.15
5) Bromomethane	0.199	0.193	0.174	0.178	0.161			0.181	8.35
6) Chloroethane	0.192	0.161	0.159	0.167	0.149	0.149	0.151	0.161	9.45
7) Trichlorofluorome	0.358	0.323	0.346	0.327	0.287	0.283	0.293	0.317	9.36
8) Ethyl Ether	0.256	0.284	0.297	0.298	0.290	0.295	0.304	0.289	5.49
9) 1,2-Dichlorotrifl	0.439	0.391	0.392	0.392	0.362	0.361	0.369	0.387	6.99
10)C 1,1-Dichloroethen	0.496	0.456	0.452	0.455	0.423	0.442	0.460	0.455	4.85
11) Freon 113	0.303	0.274	0.281	0.265	0.252	0.251	0.261	0.270	6.82
12) Carbon Disulfide	0.886	0.825	0.860	0.891	0.832	0.842	0.892	0.861	3.37
13) Iodomethane	0.526	0.505	0.503	0.541	0.488	0.495	0.511	0.510	3.54
14) Allyl chloride	0.475	0.437	0.492	0.499	0.484	0.498	0.526	0.487	5.58
---- Linear regr., Force(0,0) ---- Coefficient = 0.9981									
Response Ratio = 0.00000 + 0.51091 *A									
15) Methylene Chlorid	0.725	0.578	0.548	0.497	0.452	0.456	0.467	0.532	18.39
---- Linear regr., Force(0,0) ---- Coefficient = 0.9992									
Response Ratio = 0.00000 + 0.46318 *A									
16) Acetone	0.216	0.212	0.225	0.225	0.221	0.218	0.231	0.221	2.88
17) Methyl acetate	0.297	0.309	0.334	0.332	0.353			0.325	6.87
18) trans-1,2-Dichlor	0.516	0.490	0.496	0.510	0.463	0.470	0.497	0.492	3.95
19) Hexane	0.258	0.236	0.254	0.233	0.212	0.218	0.237	0.235	7.23
20) Methyl Tert Butyl	0.864	0.882	0.975	0.990	0.990	0.996	1.062	0.965	7.19
21) Acetonitrile	0.022	0.025	0.027	0.025	0.031	0.031	0.033	0.028	14.44
---- Linear regr., Force(0,0) ---- Coefficient = 0.9970									
Response Ratio = 0.00000 + 0.03171 *A									
22) Di-isopropyl ethe	1.181	1.194	1.269	1.336	1.295	1.341	1.429	1.292	6.73
23) Chloroprene	0.514	0.510	0.520	0.560	0.509	0.532	0.559	0.529	4.18
24)P 1,1-Dichloroethan	0.576	0.584	0.612	0.621	0.570	0.561	0.597	0.589	3.76
25) Acrylonitrile	0.091	0.093	0.108	0.108	0.111	0.112	0.122	0.107	10.15
26) ETBE	1.014	1.118	1.168	1.234	1.215	1.225	1.321	1.185	8.27
27) Vinyl acetate	0.364	0.389	0.449	0.464	0.447	0.428	0.443	0.426	8.57
---- Linear regr., Force(0,0) ---- Coefficient = 0.9991									
Response Ratio = 0.00000 + 0.43975 *A									
28) cis-1,2-Dichloroe	0.316	0.348	0.352	0.350	0.323	0.327	0.334	0.336	4.21
29) 2,2-Dichloropropa	0.344	0.288	0.323	0.324	0.280	0.268	0.269	0.299	10.16
30) Bromochloromethan	0.181	0.174	0.185	0.176	0.168	0.162	0.162	0.172	5.17
31) Cyclohexane	0.571	0.517	0.521	0.513	0.500	0.492	0.523	0.520	4.92
32)C Chloroform	0.597	0.607	0.588	0.610	0.560	0.549	0.565	0.582	4.16
33) Ethyl acetate	0.033	0.034	0.038	0.038	0.037	0.037	0.039	0.037	6.05
34) Tetrahydrofuran	0.155	0.162	0.184	0.173	0.171	0.173	0.180	0.171	5.78

Initial Calibration Summary

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VH2785-ICC2785
Lab FileID: H0075113.D

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             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9991
               Response Ratio = 0.00000 + 0.17626 *A

35)S Dibromofluorometh 0.238 0.260 0.269 0.243 0.269 0.272 0.274 0.261   5.52
36)  Carbon Tetrachlor 0.389 0.388 0.382 0.391 0.357 0.355 0.359 0.374   4.45
37)  1,1,1-Trichloroet 0.480 0.421 0.428 0.434 0.399 0.395 0.400 0.422   7.01
38)  2-Butanone        0.041 0.044 0.049 0.047 0.051 0.048 0.052 0.048   8.08
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9979
               Response Ratio = 0.00000 + 0.05058 *A

39)  1,1-Dichloroprope 0.411 0.415 0.410 0.436 0.381 0.385 0.392 0.404   4.80
40)  Propionitrile     0.033 0.035 0.044 0.043 0.044 0.043 0.047 0.041  12.88
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9976
               Response Ratio = 0.00000 + 0.04527 *A

41)  Methacrylonitrile 0.179 0.199 0.227 0.226 0.230 0.227 0.230 0.217   9.16
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9999
               Response Ratio = 0.00000 + 0.22871 *A

42)  Benzene           1.301 1.274 1.247 1.278 1.173 1.171 1.207 1.236   4.24
43)  TAME              0.859 0.972 0.991 1.042 1.028 1.005 1.057 0.994   6.66
44)S 1,2-Dichloroethan 0.315 0.343 0.364 0.302 0.358 0.357 0.349 0.341   6.87
45)  1,2-Dichloroethan 0.525 0.518 0.506 0.517 0.506 0.496 0.518 0.512   1.95
46)  Trichloroethene   0.307 0.294 0.299 0.318 0.309 0.305 0.311 0.306   2.56
47)  Methylcyclohexane 0.462 0.471 0.461 0.473 0.458 0.441 0.471 0.462   2.39
48)  Dibromomethane    0.168 0.178 0.191 0.196 0.196 0.191 0.200 0.189   6.03
49)C 1,2-Dichloropropa 0.313 0.324 0.336 0.343 0.329 0.332 0.343 0.332   3.24
50)  Bromodichlorometh 0.377 0.393 0.412 0.453 0.444 0.450 0.470 0.428   8.11
51)  Methyl methacryla 0.205 0.232 0.285 0.298 0.303 0.313 0.354 0.284  17.71
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9928
               Response Ratio = 0.00000 + 0.33253 *A

52)  2-Chloroethyl vin 0.092 0.094 0.117 0.126 0.135 0.139       0.117  17.25
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9996
               Response Ratio = 0.00000 + 0.13654 *A

53)  cis-1,3-Dichlorop 0.434 0.468 0.498 0.555 0.544 0.561 0.583 0.520  10.54

54) I   Chlorobenzene-d5      ----------------ISTD---------------------
55)S Toluene-d8        1.373 1.351 1.353 1.312 1.395 1.432 1.413 1.376   3.00
56)C Toluene           1.853 1.762 1.775 1.834 1.696 1.735 1.769 1.775   3.05
57)  2-Nitropropane    0.093 0.106 0.132 0.143 0.152 0.153 0.163 0.135  19.24
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9985
               Response Ratio = 0.00000 + 0.15753 *A

58)  4-Methyl-2-pentan 0.447 0.461 0.545 0.565 0.590 0.588 0.567 0.538  11.01
59)  trans-1,3-Dichlor 0.501 0.525 0.585 0.643 0.640 0.646 0.674 0.602  11.07
60)  Tetrachloroethene 0.527 0.478 0.488 0.510 0.460 0.488 0.498 0.493   4.43
61)  Ethyl methacrylat 0.386 0.427 0.505 0.561 0.573 0.592 0.638 0.526  17.38
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9972
               Response Ratio = 0.00000 + 0.61229 *A

62)  1,1,2-Trichloroet 0.293 0.299 0.332 0.318 0.318 0.318 0.328 0.315   4.59
63)  Dibromochlorometh 0.369 0.353 0.397 0.444 0.433 0.455 0.470 0.417  10.74
64)  1,3-Dichloropropa 0.689 0.649 0.690 0.709 0.670 0.680 0.711 0.685   3.18
65)  1,2-Dibromoethane 0.339 0.350 0.380 0.380 0.377 0.383 0.403 0.373   5.81
66)  2-hexanone        0.306 0.325 0.410 0.439 0.450 0.458 0.477 0.409  16.42
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9992
               Response Ratio = 0.00000 + 0.46576 *A
```

Initial Calibration Summary

Job Number: F91608 **Sample:** VH2785-ICC2785
Account: TETTNOAK Tetra Tech, Inc **Lab FileID:** H0075113.D
Project: Holloman AFB; Alamogordo, NM

```
 67)  1-Chlorohexane    0.518 0.535 0.563 0.592 0.553 0.546 0.566 0.553   4.28
 68)C Ethylbenzene      2.113 2.026 2.009 2.114 1.937 1.945 2.000 2.021   3.53
 69)P Chlorobenzene     1.174 1.167 1.163 1.230 1.113 1.120 1.136 1.158   3.43
 70)  1,1,1,2-Tetrachlo 0.396 0.403 0.419 0.449 0.413 0.418 0.428 0.418   4.14
 71)  m,p-Xylene        1.617 1.606 1.679 1.748 1.589 1.569 1.436 1.606   6.02
 72)  o-Xylene          1.480 1.549 1.653 1.792 1.668 1.678 1.690 1.644   6.16
 73)  Styrene           1.012 1.122 1.259 1.324 1.239 1.258 1.271 1.212   8.88
 74)P Bromoform         0.183 0.218 0.268 0.287 0.321 0.330 0.352 0.280  22.04
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9977
               Response Ratio = 0.00000 + 0.33855 *A

 75)  Isopropylbenzene  1.407 1.455 1.536 1.686 1.547 1.564 1.596 1.542   5.92
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9993
               Response Ratio = 0.00000 + 1.58214 *A


 76) I   1,4-Dichlorobenzene-d ----------------ISTD---------------------
 77)S 4-Bromofluorobenz 0.869 0.863 0.902 0.872 0.907 0.927 0.934 0.896   3.21
 78)  cis-1,4-Dichloro- 0.191 0.207 0.271 0.273 0.276 0.288 0.319 0.261  17.43
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9944
               Response Ratio = 0.00000 + 0.30228 *A

 79)  n-Propylbenzene   3.957 3.894 4.149 4.319 3.889 3.958 3.966 4.019   3.93
 80)  Bromobenzene      0.979 1.021 1.050 1.055 0.957 0.945 0.956 0.995   4.67
 81)P 1,1,2,2-Tetrachlo 0.934 0.839 0.939 0.939 0.928 0.915 0.976 0.924   4.53
 82)  1,3,5-Trimethylbe 3.035 2.994 3.036 3.326 3.007 2.994 3.075 3.067   3.85
 83)  2-Chlorotoluene   3.121 3.059 3.064 3.227 2.864 2.877 2.984 3.028   4.31
 84)  trans-1,4-Dichlor 0.254 0.235 0.286 0.312 0.324 0.321 0.352 0.298  13.89
 85)  1,2,3-Trichloropr 0.251 0.273 0.251 0.253 0.241 0.240 0.256 0.252   4.32
 86)  Cyclohexanone     0.025 0.034 0.029 0.030 0.031 0.031 0.034 0.031  10.06
 87)  4-Chlorotoluene   2.659 2.610 2.783 2.907 2.658 2.666 2.814 2.728   3.95
 88)  tert-Butylbenzene 1.920 1.863 1.897 1.946 1.736 1.726 1.807 1.842   4.76
 89)  1,2,4-Trimethylbe 2.789 2.989 3.151 3.327 3.041 3.025 3.166 3.070   5.49
 90)  Pentachloroethane 0.490 0.486 0.503 0.519 0.499 0.497 0.495 0.498   2.14
 91)  sec-Butylbenzene  3.470 3.470 3.596 3.641 3.347 3.395 3.532 3.493   3.00
 92)  4-Isopropyltoluen 2.703 2.640 2.889 3.005 2.721 2.679 2.849 2.784   4.78
 93)  1,3-Dichlorobenze 1.827 1.847 1.796 1.905 1.708 1.714 1.795 1.799   3.92
 94)  1,4-Dichlorobenze 1.891 1.907 1.887 1.929 1.747 1.741 1.815 1.845   4.21
 95)  n-Butylbenzene    1.355 1.465 1.534 1.596 1.432 1.456 1.529 1.481   5.32
 96)  Benzyl Chloride   0.161 0.214 0.260 0.313 0.332             0.256  27.51
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9995
               Response Ratio = 0.00000 + 0.32472 *A

 97)  1,2-Dichlorobenze 1.754 1.668 1.703 1.772 1.639 1.662 1.747 1.707   3.05
 98)  1,2-Dibromo-3-Chl 0.123 0.124 0.149 0.146 0.161 0.161 0.173 0.148  12.94
 99)  Hexachlorobutadie 0.821 0.751 0.782 0.806 0.664 0.661 0.702 0.741   8.92
100)  1,2,4-Trichlorobe 1.047 1.059 1.171 1.237 1.138 1.185 1.227 1.152   6.54
101)  Naphthalene       1.828 1.968 2.258 2.372 2.337 2.361 2.541 2.238  11.20
102)  1,2,3-Trichlorobe 0.944 1.017 1.093 1.160 1.038 1.077 1.111 1.063   6.60

103) I   Tert Butyl Alcohol-d1 ----------------ISTD---------------------
104)  Ethanol           0.167 0.173 0.152 0.152 0.179 0.185 0.161 0.167   7.68
105)  Acrolein          0.814 0.695 0.666 0.700 0.763 0.727 0.749 0.731   6.77
106)  Tert Butyl Alcoho 1.648 1.510 1.670 1.699 1.781 1.840 1.784 1.704   6.46
107)  Isobutyl alcohol  0.428 0.337 0.391 0.425 0.457 0.479 0.477 0.428  11.85
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9993
               Response Ratio = 0.00000 + 0.47228 *A

108)  Tert Amyl Alcohol 1.066 1.104 1.184 1.351 1.465 1.492 1.520 1.312  14.64
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9996
```

Initial Calibration Summary

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VH2785-ICC2785
Lab FileID: H0075113.D

```
                Response Ratio = 0.00000 + 1.49628 *A

109)  1,4-Dioxane       0.187 0.169 0.161 0.166 0.164 0.177 0.163 0.170   5.51
 ---------------------------------------------------------------------------
 (#) = Out of Range

           032912APP9-H.M        Fri Mar 30 08:03:46 2012
```

Initial Calibration Verification

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VH2785-ICV2785
Lab FileID: H0075118.D

Evaluate Continuing Calibration Report

Data File : H:\1\DATA\032912\H0075118.D Vial: 10
Acq On : 29 Mar 2012 2:01 pm Operator: ericp
Sample : ICV2785-4,BS Inst : MSVOA3
Misc : ms20511,vh2785,5.00,,,,, Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\032912APP9-H.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Thu Mar 29 14:35:59 2012
Response via : Multiple Level Calibration

Min. RRF : 0.001 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	Fluorobenzene	1.000	1.000	0.0	100	0.02	10.17
2		Dichlorodifluoromethane	0.266	0.254	4.5	98	0.02	4.19
3	P	Chloromethane	0.346	0.370	-6.9	105	0.03	4.59
4	C	Vinyl Chloride	0.289	0.311	-7.6	105	0.03	4.80
5		Bromomethane	0.181	0.196	-8.3	111	0.02	5.44
6		Chloroethane	0.161	0.159	1.2	95	0.03	5.61
7		Trichlorofluoromethane	0.317	0.332	-4.7	102	0.02	5.95
8		Ethyl Ether	0.289	0.281	2.8	95	0.02	6.33
9		1,2-Dichlorotrifluoroetha	0.387	0.333	14.0	86	0.02	6.40
10	C	1,1-Dichloroethene	0.455	0.441	3.1	97	0.02	6.73
11		Freon 113	0.270	0.232	14.1	88	0.02	6.66
12		Carbon Disulfide	0.861	0.812	5.7	92	0.02	7.11
13		Iodomethane	0.510	0.476	6.7	89	0.02	7.02
		----------	Amount	Calc.	%Drift		----------	
14		Allyl chloride	50.000	53.099	-6.2	109	0.02	7.23
15		Methylene Chloride	50.000	53.645	-7.3	100	0.02	7.43
		----------	AvgRF	CCRF	%Dev		----------	
16		Acetone	0.221	0.221	0.0	99	0.02	6.84
17		Methyl acetate	0.325	0.271	16.6	82	0.00	7.20
18		trans-1,2-Dichloroethene	0.492	0.467	5.1	92	0.02	7.72
19		Hexane	0.235	0.207	11.9	89	0.02	7.91
20		Methyl Tert Butyl Ether	0.965	0.933	3.3	95	0.00	7.64
		----------	Amount	Calc.	%Drift		----------	
21		Acetonitrile	500.000	438.511	12.3	110	0.02	7.31
		----------	AvgRF	CCRF	%Dev		----------	
22		Di-isopropyl ether	1.292	1.258	2.6	95	0.02	8.16
23		Chloroprene	0.529	0.532	-0.6	95	0.02	8.34
24	P	1,1-Dichloroethane	0.589	0.597	-1.4	97	0.02	8.28
25		Acrylonitrile	0.107	0.105	1.9	98	0.02	7.80
26		ETBE	1.185	1.151	2.9	94	0.00	8.57
		----------	Amount	Calc.	%Drift		----------	
27		Vinyl acetate	250.000	316.838	-26.7#	121	0.00	8.22
		----------	AvgRF	CCRF	%Dev		----------	
28		cis-1,2-Dichloroethene	0.336	0.332	1.2	95	0.00	8.95
29		2,2-Dichloropropane	0.299	0.311	-4.0	96	0.00	8.92
30		Bromochloromethane	0.172	0.165	4.1	94	0.02	9.24

Initial Calibration Verification

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VH2785-ICV2785
Lab FileID: H0075118.D

31		Cyclohexane	0.520	0.481	7.5	94	0.00	9.49
32	C	Chloroform	0.582	0.570	2.1	94	0.00	9.26
33		Ethyl acetate	0.037	0.032	13.5	86	0.00	8.88
		----------	Amount	Calc.	%Drift		----------	
34		Tetrahydrofuran	50.000	49.690	0.6	102	0.00	9.22
		----------	AvgRF	CCRF	%Dev		----------	
35	S	Dibromofluoromethane	0.261	0.246	5.7	102	0.02	9.46
36		Carbon Tetrachloride	0.374	0.370	1.1	95	0.00	9.63
37		1,1,1-Trichloroethane	0.422	0.412	2.4	96	0.02	9.48
		----------	Amount	Calc.	%Drift		----------	
38		2-Butanone	250.000	271.714	-8.7	116	0.02	8.92
		----------	AvgRF	CCRF	%Dev		----------	
39		1,1-Dichloropropene	0.404	0.402	0.5	93	0.02	9.65
		----------	Amount	Calc.	%Drift		----------	
40		Propionitrile	500.000	476.278	4.7	100	0.02	9.08
41		Methacrylonitrile	500.000	522.246	-4.4	106	0.00	9.21
		----------	AvgRF	CCRF	%Dev		----------	
42		Benzene	1.236	1.224	1.0	96	0.02	9.88
43		TAME	0.994	1.006	-1.2	97	0.02	9.87
44	S	1,2-Dichloroethane-d4	0.341	0.315	7.6	105	0.02	9.87
45		1,2-Dichloroethane	0.512	0.500	2.3	97	0.02	9.96
46		Trichloroethene	0.306	0.312	-2.0	99	0.00	10.54
47		Methylcyclohexane	0.462	0.433	6.3	92	0.00	10.70
48		Dibromomethane	0.189	0.191	-1.1	98	0.02	10.99
49	C	1,2-Dichloropropane	0.332	0.326	1.8	95	0.00	10.84
50		Bromodichloromethane	0.428	0.439	-2.6	97	0.00	11.09
		----------	Amount	Calc.	%Drift		----------	
51		Methyl methacrylate	50.000	51.281	-2.6	115	0.02	10.80
52		2-Chloroethyl vinyl ether	250.000	202.408	19.0	88	0.02	11.33
		----------	AvgRF	CCRF	%Dev		----------	
53		cis-1,3-Dichloropropene	0.520	0.543	-4.4	98	0.00	11.55
54	I	Chlorobenzene-d5	1.000	1.000	0.0	102	0.00	13.36
55	S	Toluene-d8	1.376	1.312	4.7	102	0.02	11.80
56	C	Toluene	1.775	1.701	4.2	94	0.00	11.87
		----------	Amount	Calc.	%Drift		----------	
57		2-Nitropropane	250.000	203.908	18.4	92	0.02	11.38
		----------	AvgRF	CCRF	%Dev		----------	
58		4-Methyl-2-pentanone	0.538	0.464	13.8	83	0.02	11.63
59		trans-1,3-Dichloropropene	0.602	0.658	-9.3	104	0.02	12.13
60		Tetrachloroethene	0.493	0.478	3.0	95	0.00	12.44
		----------	Amount	Calc.	%Drift		----------	
61		Ethyl methacrylate	50.000	44.621	10.8	99	0.00	12.05
		----------	AvgRF	CCRF	%Dev		----------	
62		1,1,2-Trichloroethane	0.315	0.317	-0.6	101	0.00	12.33
63		Dibromochloromethane	0.417	0.425	-1.9	97	0.00	12.77
64		1,3-Dichloropropane	0.685	0.659	3.8	95	0.00	12.53
65		1,2-Dibromoethane	0.373	0.366	1.9	98	0.02	12.94

Initial Calibration Verification

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VH2785-ICV2785
Lab FileID: H0075118.D

			Amount	Calc.	%Drift			
66		2-hexanone	250.000	254.596	-1.8	110	0.00	12.48

			AvgRF	CCRF	%Dev			
67		1-Chlorohexane	0.553	0.543	1.8	93	0.00	13.23
68	C	Ethylbenzene	2.021	1.944	3.8	94	0.02	13.41
69	P	Chlorobenzene	1.158	1.143	1.3	95	0.00	13.39
70		1,1,1,2-Tetrachloroethane	0.418	0.420	-0.5	95	0.02	13.45
71		m,p-Xylene	1.606	1.610	-0.2	94	0.00	13.52
72		o-Xylene	1.644	1.668	-1.5	95	0.00	13.97
73		Styrene	1.212	1.212	0.0	93	0.00	13.99

			Amount	Calc.	%Drift			
74	P	Bromoform	50.000	42.077	15.8	101	0.00	14.28
75		Isopropylbenzene	50.000	57.257	-14.5	109	0.02	14.31

			AvgRF	CCRF	%Dev			
76	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	101	0.00	15.79
77	S	4-Bromofluorobenzene	0.896	0.856	4.5	99	0.00	14.57

			Amount	Calc.	%Drift			
78		cis-1,4-Dichloro-2-butene	50.000	50.112	-0.2	112	0.00	14.45

			AvgRF	CCRF	%Dev			
79		n-Propylbenzene	4.019	4.094	-1.9	96	0.00	14.73
80		Bromobenzene	0.995	0.996	-0.1	96	0.00	14.76
81	P	1,1,2,2-Tetrachloroethane	0.924	0.870	5.8	94	0.00	14.68
82		1,3,5-Trimethylbenzene	3.067	3.001	2.2	91	0.02	14.90
83		2-Chlorotoluene	3.028	2.984	1.5	94	0.02	14.92
84		trans-1,4-Dichloro-2-Bute	0.298	0.287	3.7	93	0.02	14.74
85		1,2,3-Trichloropropane	0.252	0.236	6.3	94	0.02	14.78
86		Cyclohexanone	0.031	0.027	12.9	91	0.02	14.56
87		4-Chlorotoluene	2.728	2.787	-2.2	97	0.00	15.03
88		tert-Butylbenzene	1.842	1.820	1.2	95	0.02	15.26
89		1,2,4-Trimethylbenzene	3.070	3.083	-0.4	94	0.00	15.31
90		Pentachloroethane	0.498	0.629	-26.3#	123	0.00	15.37
91		sec-Butylbenzene	3.493	3.520	-0.8	98	0.00	15.48
92		4-Isopropyltoluene	2.784	2.872	-3.2	97	0.00	15.60
93		1,3-Dichlorobenzene	1.799	1.776	1.3	94	0.00	15.72
94		1,4-Dichlorobenzene	1.845	1.800	2.4	94	0.02	15.82
95		n-Butylbenzene	1.481	1.485	-0.3	94	0.00	16.03

			Amount	Calc.	%Drift			
96		Benzyl Chloride	50.000	40.048	19.9	84	0.02	15.94

			AvgRF	CCRF	%Dev			
97		1,2-Dichlorobenzene	1.707	1.690	1.0	97	0.00	16.23
98		1,2-Dibromo-3-Chloropropa	0.148	0.139	6.1	96	0.00	17.06
99		Hexachlorobutadiene	0.741	0.744	-0.4	93	0.00	18.02
100		1,2,4-Trichlorobenzene	1.152	1.233	-7.0	101	0.00	17.94
101		Naphthalene	2.238	2.222	0.7	95	0.00	18.28
102		1,2,3-Trichlorobenzene	1.063	1.080	-1.6	94	0.00	18.57
103	I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	80	0.02	7.34
104		Ethanol	0.167	0.206	-23.4#	108	0.03	6.23
105		Acrolein	0.731	0.956	-30.8#	109	0.00	6.64
106		Tert Butyl Alcohol	1.704	2.006	-17.7	94	0.00	7.44

Initial Calibration Verification

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VH2785-ICV2785
Lab FileID: H0075118.D

		Amount	Calc.	%Drift			
107	Isobutyl alcohol	1000.000	1116.395	-11.6	99	0.00	9.64
108	Tert Amyl Alcohol	500.000	535.860	-7.2	95	0.00	9.74

		AvgRF	CCRF	%Dev			
109	1,4-Dioxane	0.170	0.193	-13.5	93	0.02	10.92

(#) = Out of Range SPCC's out = 0 CCC's out = 0
H0075112.D 032912APP9-H.M Fri Mar 30 08:04:51 2012

Continuing Calibration Summary

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VH2786-CC2785
Lab FileID: H0075136.D

Evaluate Continuing Calibration Report

Data File : H:\1\DATA\033012\H0075136.D Vial: 1
Acq On : 30 Mar 2012 8:31 am Operator: ericp
Sample : CC2785-4 Inst : MSVOA3
Misc : ms20511,vh2786,5.00,,,,, Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\032912APP9-H.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Thu Mar 29 14:35:59 2012
Response via : Multiple Level Calibration

Min. RRF : 0.001 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	Fluorobenzene	1.000	1.000	0.0	97	0.02	10.17
2		Dichlorodifluoromethane	0.266	0.307	-15.4	114	0.02	4.19
3	P	Chloromethane	0.346	0.359	-3.8	98	0.02	4.58
4	C	Vinyl Chloride	0.289	0.326	-12.8	106	0.03	4.80
5		Bromomethane	0.181	0.197	-8.8	107	0.02	5.44
6		Chloroethane	0.161	0.180	-11.8	104	0.02	5.60
7		Trichlorofluoromethane	0.317	0.365	-15.1	108	0.03	5.96
8		Ethyl Ether	0.289	0.302	-4.5	98	0.02	6.33
9		1,2-Dichlorotrifluoroetha	0.387	0.421	-8.8	104	0.03	6.41
10	C	1,1-Dichloroethene	0.455	0.497	-9.2	106	0.02	6.73
11		Freon 113	0.270	0.306	-13.3	111	0.02	6.66
12		Carbon Disulfide	0.861	0.943	-9.5	102	0.02	7.11
13		Iodomethane	0.510	0.542	-6.3	97	0.02	7.02
		----------	Amount	Calc.	%Drift		----------	
14		Allyl chloride	50.000	49.927	0.1	99	0.02	7.23
15		Methylene Chloride	50.000	52.093	-4.2	94	0.02	7.43
		----------	AvgRF	CCRF	%Dev		----------	
16		Acetone	0.221	0.247	-11.8	106	0.00	6.83
17		Methyl acetate	0.325	0.314	3.4	91	0.00	7.21
18		trans-1,2-Dichloroethene	0.492	0.510	-3.7	97	0.02	7.72
19		Hexane	0.235	0.260	-10.6	108	0.02	7.91
20		Methyl Tert Butyl Ether	0.965	1.030	-6.7	101	0.00	7.64
		----------	Amount	Calc.	%Drift		----------	
21		Acetonitrile	500.000	443.625	11.3	107	0.02	7.31
		----------	AvgRF	CCRF	%Dev		----------	
22		Di-isopropyl ether	1.292	1.310	-1.4	95	0.02	8.16
23		Chloroprene	0.529	0.592	-11.9	102	0.02	8.34
24	P	1,1-Dichloroethane	0.589	0.639	-8.5	99	0.02	8.28
25		Acrylonitrile	0.107	0.113	-5.6	102	0.00	7.79
26		ETBE	1.185	1.238	-4.5	97	0.00	8.57
		----------	Amount	Calc.	%Drift		----------	
27		Vinyl acetate	250.000	268.565	-7.4	98	0.00	8.22
		----------	AvgRF	CCRF	%Dev		----------	
28		cis-1,2-Dichloroethene	0.336	0.371	-10.4	103	0.00	8.95
29		2,2-Dichloropropane	0.299	0.340	-13.7	101	0.02	8.93
30		Bromochloromethane	0.172	0.192	-11.6	105	0.00	9.23

Continuing Calibration Summary

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VH2786-CC2785
Lab FileID: H0075136.D

31		Cyclohexane	0.520	0.566	-8.8	107	0.00	9.49
32	C	Chloroform	0.582	0.619	-6.4	98	0.00	9.26
33		Ethyl acetate	0.037	0.038	-2.7	98	0.02	8.89
			Amount	Calc.	%Drift			
34		Tetrahydrofuran	50.000	50.163	-0.3	99	0.02	9.23
			AvgRF	CCRF	%Dev			
35	S	Dibromofluoromethane	0.261	0.249	4.6	99	0.02	9.46
36		Carbon Tetrachloride	0.374	0.443	-18.4	109	0.02	9.64
37		1,1,1-Trichloroethane	0.422	0.489	-15.9	109	0.02	9.48
			Amount	Calc.	%Drift			
38		2-Butanone	250.000	271.766	-8.7	112	0.02	8.92
			AvgRF	CCRF	%Dev			
39		1,1-Dichloropropene	0.404	0.466	-15.3	103	0.02	9.65
			Amount	Calc.	%Drift			
40		Propionitrile	500.000	465.722	6.9	94	0.02	9.08
41		Methacrylonitrile	500.000	498.084	0.4	97	0.00	9.21
			AvgRF	CCRF	%Dev			
42		Benzene	1.236	1.309	-5.9	99	0.02	9.88
43		TAME	0.994	1.076	-8.2	100	0.02	9.87
44	S	1,2-Dichloroethane-d4	0.341	0.326	4.4	104	0.02	9.87
45		1,2-Dichloroethane	0.512	0.561	-9.6	105	0.00	9.95
46		Trichloroethene	0.306	0.338	-10.5	103	0.00	10.54
47		Methylcyclohexane	0.462	0.517	-11.9	106	0.00	10.70
48		Dibromomethane	0.189	0.205	-8.5	101	0.00	10.98
49	C	1,2-Dichloropropane	0.332	0.339	-2.1	95	0.00	10.84
50		Bromodichloromethane	0.428	0.476	-11.2	101	0.00	11.09
			Amount	Calc.	%Drift			
51		Methyl methacrylate	50.000	46.671	6.7	101	0.00	10.79
52		2-Chloroethyl vinyl ether	250.000	245.720	1.7	103	0.02	11.33
			AvgRF	CCRF	%Dev			
53		cis-1,3-Dichloropropene	0.520	0.584	-12.3	102	0.00	11.55
54	I	Chlorobenzene-d5	1.000	1.000	0.0	100	0.00	13.36
55	S	Toluene-d8	1.376	1.310	4.8	100	0.00	11.79
56	C	Toluene	1.775	1.838	-3.5	100	0.00	11.87
			Amount	Calc.	%Drift			
57		2-Nitropropane	250.000	237.327	5.1	105	0.00	11.37
			AvgRF	CCRF	%Dev			
58		4-Methyl-2-pentanone	0.538	0.557	-3.5	98	0.00	11.62
59		trans-1,3-Dichloropropene	0.602	0.641	-6.5	100	0.00	12.12
60		Tetrachloroethene	0.493	0.539	-9.3	105	0.00	12.44
			Amount	Calc.	%Drift			
61		Ethyl methacrylate	50.000	45.000	10.0	98	0.00	12.05
			AvgRF	CCRF	%Dev			
62		1,1,2-Trichloroethane	0.315	0.325	-3.2	102	0.00	12.33
63		Dibromochloromethane	0.417	0.453	-8.6	102	0.00	12.77
64		1,3-Dichloropropane	0.685	0.713	-4.1	101	0.00	12.53
65		1,2-Dibromoethane	0.373	0.381	-2.1	100	0.00	12.93

Continuing Calibration Summary

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VH2786-CC2785
Lab FileID: H0075136.D

			Amount	Calc.	%Drift			
66		2-hexanone	250.000	242.694	2.9	103	0.00	12.48

			AvgRF	CCRF	%Dev			
67		1-Chlorohexane	0.553	0.614	-11.0	104	0.00	13.23
68	C	Ethylbenzene	2.021	2.149	-6.3	102	0.02	13.42
69	P	Chlorobenzene	1.158	1.235	-6.6	100	0.00	13.39
70		1,1,1,2-Tetrachloroethane	0.418	0.461	-10.3	103	0.02	13.45
71		m,p-Xylene	1.606	1.731	-7.8	99	0.00	13.52
72		o-Xylene	1.644	1.799	-9.4	100	0.00	13.97
73		Styrene	1.212	1.334	-10.1	101	0.00	13.99

			Amount	Calc.	%Drift			
74	P	Bromoform	50.000	47.587	4.8	112	0.00	14.28
75		Isopropylbenzene	50.000	54.755	-9.5	103	0.00	14.30

			AvgRF	CCRF	%Dev			
76	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	105	0.00	15.79
77	S	4-Bromofluorobenzene	0.896	0.814	9.2	98	0.00	14.57

			Amount	Calc.	%Drift			
78		cis-1,4-Dichloro-2-butene	50.000	44.103	11.8	103	0.00	14.45

			AvgRF	CCRF	%Dev			
79		n-Propylbenzene	4.019	4.313	-7.3	105	0.00	14.73
80		Bromobenzene	0.995	1.030	-3.5	103	0.00	14.76
81	P	1,1,2,2-Tetrachloroethane	0.924	0.898	2.8	101	0.00	14.68
82		1,3,5-Trimethylbenzene	3.067	3.218	-4.9	102	0.00	14.89
83		2-Chlorotoluene	3.028	3.129	-3.3	102	0.02	14.92
84		trans-1,4-Dichloro-2-Bute	0.298	0.321	-7.7	108	0.00	14.73
85		1,2,3-Trichloropropane	0.252	0.265	-5.2	110	0.00	14.77
86		Cyclohexanone	0.031	0.029	6.5	102	0.02	14.56
87		4-Chlorotoluene	2.728	2.815	-3.2	102	0.00	15.03
88		tert-Butylbenzene	1.842	1.845	-0.2	100	0.00	15.25
89		1,2,4-Trimethylbenzene	3.070	3.258	-6.1	103	0.00	15.31
90		Pentachloroethane	0.498	0.513	-3.0	104	0.00	15.37
91		sec-Butylbenzene	3.493	3.699	-5.9	107	0.00	15.48
92		4-Isopropyltoluene	2.784	2.993	-7.5	105	0.00	15.60
93		1,3-Dichlorobenzene	1.799	1.853	-3.0	102	0.00	15.72
94		1,4-Dichlorobenzene	1.845	1.908	-3.4	104	0.02	15.82
95		n-Butylbenzene	1.481	1.612	-8.8	106	0.00	16.03

			Amount	Calc.	%Drift			
96		Benzyl Chloride	50.000	49.315	1.4	108	0.00	15.93

			AvgRF	CCRF	%Dev			
97		1,2-Dichlorobenzene	1.707	1.790	-4.9	106	0.00	16.23
98		1,2-Dibromo-3-Chloropropa	0.148	0.148	0.0	106	0.00	17.06
99		Hexachlorobutadiene	0.741	0.753	-1.6	98	0.00	18.02
100		1,2,4-Trichlorobenzene	1.152	1.239	-7.6	105	0.00	17.94
101		Naphthalene	2.238	2.350	-5.0	104	0.00	18.28
102		1,2,3-Trichlorobenzene	1.063	1.139	-7.1	103	0.00	18.57
103	I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	88	0.02	7.34
104		Ethanol	0.167	0.174	-4.2	101	0.03	6.23
105		Acrolein	0.731	0.753	-3.0	95	0.02	6.65
106		Tert Butyl Alcohol	1.704	1.880	-10.3	98	0.00	7.44

Continuing Calibration Summary

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VH2786-CC2785
Lab FileID: H0075136.D

		Amount	Calc.	%Drift			
107	Isobutyl alcohol	1000.000	929.967	7.0	91	0.00	9.64
108	Tert Amyl Alcohol	500.000	494.728	1.1	97	0.00	9.74

		AvgRF	CCRF	%Dev			
109	1,4-Dioxane	0.170	0.182	-7.1	97	0.02	10.92

(#) = Out of Range
H0075112.D 032912APP9-H.M

SPCC's out = 0 CCC's out = 0
Mon Apr 02 07:41:36 2012

Southeast ACCUTEST LABORATORIES

GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries
- GC Surrogate Retention Time Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GQR2917-MB	QR067277.D	1	04/03/12	CP	n/a	n/a	GQR2917

The QC reported here applies to the following samples: **Method:** SW846 8015C

F91608-4, F91608-5, F91608-6, F91608-7, F91608-8, F91608-9

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	5.0	2.5	mg/kg	

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	86%	56-136%
98-08-8	aaa-Trifluorotoluene	86%	61-121%

Blank Spike Summary

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GQR2917-BS	QR067276.D	1	04/03/12	CP	n/a	n/a	GQR2917

The QC reported here applies to the following samples: **Method:** SW846 8015C

F91608-4, F91608-5, F91608-6, F91608-7, F91608-8, F91608-9

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	20	21.3	107	74-121

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	93%	56-136%
98-08-8	aaa-Trifluorotoluene	89%	61-121%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F91632-2MS	QR067302.D	1	04/03/12	CP	n/a	n/a	GQR2917
F91632-2MSD	QR067303.D	1	04/03/12	CP	n/a	n/a	GQR2917
F91632-2	QR067278.D	1	04/03/12	CP	n/a	n/a	GQR2917

The QC reported here applies to the following samples: **Method:** SW846 8015C

F91608-4, F91608-5, F91608-6, F91608-7, F91608-8, F91608-9

CAS No.	Compound	F91632-2 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND		25.8	25.9	101	25.5	99	2	74-121/17

CAS No.	Surrogate Recoveries	MS	MSD	F91632-2	Limits
460-00-4	4-Bromofluorobenzene	95%	97%	86%	56-136%
98-08-8	aaa-Trifluorotoluene	86%	88%	86%	61-121%

Duplicate Summary

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F91632-3DUP	QR067301.D	1	04/03/12	CP	n/a	n/a	GQR2917
F91632-3	QR067279.D	1	04/03/12	CP	n/a	n/a	GQR2917

The QC reported here applies to the following samples: **Method:** SW846 8015C

F91608-4, F91608-5, F91608-6, F91608-7, F91608-8, F91608-9

CAS No.	Compound	F91632-3 mg/kg	Q	DUP mg/kg	Q	RPD	Limits
	TPH-GRO (C6-C10)	ND		ND		nc	17

CAS No.	Surrogate Recoveries	DUP	F91632-3	Limits
460-00-4	4-Bromofluorobenzene	94%	88%	56-136%
98-08-8	aaa-Trifluorotoluene	85%	87%	61-121%

Volatile Surrogate Recovery Summary

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Method: SW846 8015C **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S2 [a]
F91608-4	QR067293.D	88.0	85.0
F91608-5	QR067294.D	92.0	86.0
F91608-6	QR067295.D	94.0	87.0
F91608-7	QR067298.D	100.0	88.0
F91608-8	QR067299.D	97.0	86.0
F91608-9	QR067300.D	107.0	86.0
F91632-2MS	QR067302.D	95.0	86.0
F91632-2MSD	QR067303.D	97.0	88.0
F91632-3DUP	QR067301.D	94.0	85.0
GQR2917-BS	QR067276.D	93.0	89.0
GQR2917-MB	QR067277.D	86.0	86.0

Surrogate Compounds	Recovery Limits
S1 = 4-Bromofluorobenzene	56-136%
S2 = aaa-Trifluorotoluene	61-121%

(a) Recovery from GC signal #2

GC Surrogate Retention Time Summary

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Check Std:	GQR2917-CC2910	**Injection Date:**	04/03/12
Lab File ID:	QR067275.D	**Injection Time:**	09:07
Instrument ID:	GCQR	**Method:**	SW846 8015C

	S1 [a] RT	S2 [a] RT
Check Std	15.07	11.20

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S2 [a] RT
GQR2917-BS	QR067276.D	04/03/12	09:34	15.07	11.20
GQR2917-MB	QR067277.D	04/03/12	10:02	15.07	11.19
F91632-2	QR067278.D	04/03/12	10:30	15.07	11.20
F91632-3	QR067279.D	04/03/12	10:58	15.07	11.20
ZZZZZZ	QR067280.D	04/03/12	11:26	15.07	11.19
ZZZZZZ	QR067281.D	04/03/12	11:54	15.07	11.20
ZZZZZZ	QR067282.D	04/03/12	12:22	15.07	11.19
ZZZZZZ	QR067283.D	04/03/12	12:49	15.07	11.20
ZZZZZZ	QR067284.D	04/03/12	13:17	15.06	11.19
ZZZZZZ	QR067285.D	04/03/12	13:45	15.07	11.19

Surrogate Compounds

S1 = 4-Bromofluorobenzene
S2 = aaa-Trifluorotoluene

(a) Retention time from GC signal #2

GC Surrogate Retention Time Summary

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Check Std:	GQR2917-CC2910	**Injection Date:**	04/03/12
Lab File ID:	QR067286.D	**Injection Time:**	14:13
Instrument ID:	GCQR	**Method:**	SW846 8015C

	S1 [a] RT	S2 [a] RT
Check Std	15.07	11.20

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S2 [a] RT
ZZZZZZ	QR067288.D	04/03/12	15:09	15.08	11.20
ZZZZZZ	QR067289.D	04/03/12	15:37	15.07	11.20
ZZZZZZ	QR067290.D	04/03/12	16:05	15.08	11.20
ZZZZZZ	QR067291.D	04/03/12	16:33	15.08	11.19
F91608-4	QR067293.D	04/03/12	17:29	15.07	11.20
F91608-5	QR067294.D	04/03/12	17:57	15.07	11.20
F91608-6	QR067295.D	04/03/12	18:25	15.07	11.20

Surrogate Compounds

S1 = 4-Bromofluorobenzene
S2 = aaa-Trifluorotoluene

(a) Retention time from GC signal #2

GC Surrogate Retention Time Summary

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Check Std:	GQR2917-CC2910	**Injection Date:**	04/03/12
Lab File ID:	QR067296.D	**Injection Time:**	18:54
Instrument ID:	GCQR	**Method:**	SW846 8015C

	S1 [a] RT	S1 [b] RT	S2 [a] RT	S2 [b] RT
Check Std	15.07	15.07	11.20	11.20

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT	S2 [a] RT	S2 [b] RT
F91608-7	QR067298.D	04/03/12	19:50		15.07		11.20
F91608-8	QR067299.D	04/03/12	20:18		15.07		11.20
F91608-9	QR067300.D	04/03/12	20:46		15.08		11.19
F91632-3DUP	QR067301.D	04/03/12	21:14		15.07		11.20
F91632-2MS	QR067302.D	04/03/12	21:42		15.07		11.20
F91632-2MSD	QR067303.D	04/03/12	22:10		15.07		11.19
GQR2917-ECC2910	QR067304.D	04/03/12	22:37	15.07	15.07	11.19	11.19

Surrogate Compounds

S1 = 4-Bromofluorobenzene
S2 = aaa-Trifluorotoluene

(a) Retention time from GC signal #1
(b) Retention time from GC signal #2

Initial Calibration Summary

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: GQR2910-ICC2910
Lab FileID: QR067156.D

Response Factor Report VOA3

Method : C:\HPCHEM\1\METHODS\GROML.M (Chemstation Integrator)
Title : SW846 8015 TPH by GC-FID
Last Update : Tue Mar 27 14:24:35 2012
Response via : Initial Calibration

Calibration Files
1 =QR067154.D 2 =QR067155.D 3 =QR067153.D 4 =QR067156.D
5 =QR067157.D 6 =QR067158.D

Compound	1	2	3	4	5	6	Avg	%RSD
1) S a,a,a-TFT	6.609	6.280	6.810	6.258	6.065	5.742	6.294 E2	6.05
2) S BFB	1.592	1.560	1.653	1.576	1.589	1.510	1.580 E3	2.94
Signal #2								
4) S a,a,a-TFT #2	2.982	2.810	3.020	2.802	2.745	2.600	2.827 E4	5.49
5) S BFB #2	1.875	1.845	1.951	1.904	1.907	1.838	1.887 E4	2.28
6) H TPH-GRO (C6-C10)	2.711	2.535	2.466	2.471	2.373	2.416	2.495 E4	4.78

(#) = Out of Range

GROML.M Wed Mar 28 11:43:45 2012

Initial Calibration Verification

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: GQR2910-ICV2910
Lab FileID: QR067159.D

Evaluate Continuing Calibration Report

```
Signal #1 : C:\HPCHEM\1\DATA\032712\QR067159.D\FID1B.CH  Vial: 12
Signal #2 : C:\HPCHEM\1\DATA\032712\QR067159.D\FID2A.CH
Acq On    : 27 Mar 2012   2:20 pm                    Operator: CARLENEP
Sample    : ICV2910-3                                Inst    : VOA3
Misc      : gc13491,gqr2910,5.00,,100,5.0,,soil      Multiplr: 1.00
IntFile Signal #1: PID.E        IntFile Signal #2: events2.e

Method       : C:\HPCHEM\1\METHODS\GROML.M (Chemstation Integrator)
Title        : SW846 8015 TPH by GC-FID
Last Update  : Tue Mar 27 14:24:35 2012
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
Max. RRF Dev :  20%     Max. Rel. Area : 150%
```

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1 S	a,a,a-TFT	50.000	50.283	-0.6	93	-0.02	11.12-11.32
2 S	BFB	50.000	49.224	1.6	94	0.00	14.97-15.17
*****	Signal #2 *****						
4 S	a,a,a-TFT #2	50.000	51.814	-3.6	97	-0.02	11.12-11.32
5 S	BFB #2	50.000	50.582	-1.2	98	0.00	14.98-15.18
6 H	TPH-GRO (C6-C10)	400.000	433.612	-8.4	110	0.00	7.52-16.19

(#) = Out of Range SPCC's out = 0 CCC's out = 0
QR067153.D GROML.M Wed Mar 28 11:43:31 2012

Continuing Calibration Summary

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: GQR2917-CC2910
Lab FileID: QR067275.D

```
                    Evaluate Continuing Calibration Report

 Signal #1 : C:\HPCHEM\1\DATA\040212\QR067275.D\FID1B.CH  Vial: 35
 Signal #2 : C:\HPCHEM\1\DATA\040212\QR067275.D\FID2A.CH
 Acq On    :  3 Apr 2012   9:07 am                    Operator: CARLENEP
 Sample    : CC2910-3                                 Inst    : VOA3
 Misc      : gc13509,gqr2917,5.00,,100,5.0,,soil      Multiplr: 1.00
 IntFile Signal #1: PID.E        IntFile Signal #2: events2.e

 Method       : C:\HPCHEM\1\METHODS\GROML.M (Chemstation Integrator)
 Title        : SW846 8015 TPH by GC-FID
 Last Update  : Tue Mar 27 14:24:35 2012
 Response via : Multiple Level Calibration

 Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
 Max. RRF Dev :  20%     Max. Rel. Area : 150%

        Compound                Amount  Calc.    %Drift Area% Dev(min)RT Window
 ---------------------------------------------------------------------------
 1 S   a,a,a-TFT               50.000  43.494     13.0   80  -0.02   11.12-11.32
 2 S   BFB                     50.000  46.002      8.0   88   0.00   14.97-15.17

*****  Signal #2   *****

 4 S   a,a,a-TFT #2            50.000  46.058      7.9   86  -0.02   11.12-11.32
 5  S  BFB #2                  50.000  46.771      6.5   90   0.00   14.98-15.18
 6 H   TPH-GRO (C6-C10)       400.000 385.941      3.5   98   0.00    7.52-16.19
---------------------------------------------------------------------------
---------------------------------------------------------------------------

   (#) = Out of Range              SPCC's out = 0  CCC's out = 0
    QR067153.D GROML.M          Wed Apr 04 10:22:51 2012
```

6.7.3

6

Continuing Calibration Summary

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: GQR2917-CC2910
Lab FileID: QR067286.D

```
                    Evaluate Continuing Calibration Report

 Signal #1 : C:\HPCHEM\1\DATA\040212\QR067286.D\FID1B.CH  Vial: 46
 Signal #2 : C:\HPCHEM\1\DATA\040212\QR067286.D\FID2A.CH
 Acq On    :  3 Apr 2012   2:13 pm                    Operator: CARLENEP
 Sample    : CC2910-3                                 Inst    : VOA3
 Misc      : gc13509,gqr2917,5.00,,100,5.0,,soil      Multiplr: 1.00
 IntFile Signal #1: PID.E        IntFile Signal #2: events2.e

 Method       : C:\HPCHEM\1\METHODS\GROML.M (Chemstation Integrator)
 Title        : SW846 8015 TPH by GC-FID
 Last Update  : Tue Mar 27 14:24:35 2012
 Response via : Multiple Level Calibration

 Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
 Max. RRF Dev :  20%     Max. Rel. Area : 150%

        Compound                Amount  Calc.    %Drift Area% Dev(min)RT Window
 ---------------------------------------------------------------------------
 1 S   a,a,a-TFT               50.000  42.374     15.3   78  -0.02   11.12-11.32
 2 S   BFB                     50.000  44.609     10.8   85   0.00   14.97-15.17

*****  Signal #2   *****

 4 S   a,a,a-TFT #2            50.000  45.523      9.0   85  -0.02   11.12-11.32
 5  S  BFB #2                  50.000  45.472      9.1   88   0.00   14.98-15.18
 6 H   TPH-GRO (C6-C10)       400.000 412.442     -3.1  104   0.00    7.52-16.19
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------

   (#) = Out of Range              SPCC's out = 0  CCC's out = 0
    QR067153.D GROML.M          Wed Apr 04 10:22:54 2012
```

6.7.4

6

Continuing Calibration Summary

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: GQR2917-CC2910
Lab FileID: QR067296.D

```
                    Evaluate Continuing Calibration Report

 Signal #1 : C:\HPCHEM\1\DATA\040212\QR067296.D\FID1B.CH  Vial: 5
 Signal #2 : C:\HPCHEM\1\DATA\040212\QR067296.D\FID2A.CH
 Acq On    :  3 Apr 2012   6:54 pm                    Operator: CARLENEP
 Sample    : CC2910-3                                 Inst    : VOA3
 Misc      : gc13509,gqr2917,5.00,,100,5.0,,soil      Multiplr: 1.00
 IntFile Signal #1: PID.E        IntFile Signal #2: events2.e

 Method       : C:\HPCHEM\1\METHODS\GROML.M (Chemstation Integrator)
 Title        : SW846 8015 TPH by GC-FID
 Last Update  : Tue Mar 27 14:24:35 2012
 Response via : Multiple Level Calibration

 Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
 Max. RRF Dev :  20%     Max. Rel. Area : 150%

        Compound                Amount  Calc.    %Drift Area% Dev(min)RT Window
 ---------------------------------------------------------------------------
 1 S   a,a,a-TFT               50.000  40.579     18.8   75  -0.02   11.12-11.32
 2 S   BFB                     50.000  45.415      9.2   87   0.00   14.97-15.17

*****  Signal #2   *****

 4 S   a,a,a-TFT #2            50.000  43.131     13.7   81  -0.02   11.12-11.32
 5  S  BFB #2                  50.000  46.445      7.1   90   0.00   14.98-15.18
 6 H   TPH-GRO (C6-C10)       400.000 375.028      6.2   95   0.00    7.52-16.19
---------------------------------------------------------------------------
---------------------------------------------------------------------------

   (#) = Out of Range              SPCC's out = 0  CCC's out = 0
    QR067153.D GROML.M          Wed Apr 04 10:22:55 2012
```

Continuing Calibration Summary

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: GQR2917-ECC2910
Lab FileID: QR067304.D

```
                    Evaluate Continuing Calibration Report

 Signal #1 : C:\HPCHEM\1\DATA\040212\QR067304.D\FID1B.CH  Vial: 13
 Signal #2 : C:\HPCHEM\1\DATA\040212\QR067304.D\FID2A.CH
 Acq On    :  3 Apr 2012  10:37 pm                    Operator: CARLENEP
 Sample    : ECC2910-3                                Inst    : VOA3
 Misc      : gc13509,gqr2917,5.00,,100,5.0,,soil      Multiplr: 1.00
 IntFile Signal #1: PID.E        IntFile Signal #2: events2.e

 Method       : C:\HPCHEM\1\METHODS\GROML.M (Chemstation Integrator)
 Title        : SW846 8015 TPH by GC-FID
 Last Update  : Tue Mar 27 14:24:35 2012
 Response via : Multiple Level Calibration

 Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
 Max. RRF Dev :  20%     Max. Rel. Area : 150%

        Compound                Amount  Calc.    %Drift Area% Dev(min)RT Window
 ---------------------------------------------------------------------------
 1 S   a,a,a-TFT               50.000  41.133     17.7   76  -0.03   11.12-11.32
 2 S   BFB                     50.000  46.563      6.9   89   0.00   14.97-15.17

*****  Signal #2   *****

 4 S   a,a,a-TFT #2            50.000  44.731     10.5   84  -0.02   11.12-11.32
 5  S  BFB #2                  50.000  47.554      4.9   92   0.00   14.98-15.18
 6 H   TPH-GRO (C6-C10)       400.000 402.069     -0.5  102   0.00    7.52-16.19
---------------------------------------------------------------------------
---------------------------------------------------------------------------

   (#) = Out of Range              SPCC's out = 0  CCC's out = 0
    QR067153.D GROML.M          Wed Apr 04 10:22:57 2012
```

Southeast ACCUTEST LABORATORIES

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries
- GC Surrogate Retention Time Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP41182-MB	ZF48807.D	1	04/04/12	FEA	03/30/12	OP41182	GZF1869

The QC reported here applies to the following samples: **Method:** SW846 8015C

F91608-4, F91608-5, F91608-6, F91608-7, F91608-8, F91608-9

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	ND	8.3	3.3	mg/kg	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	90%	49-108%

Blank Spike Summary

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP41182-BS	ZF48806.D	1	04/04/12	FEA	03/30/12	OP41182	GZF1869

The QC reported here applies to the following samples: **Method:** SW846 8015C

F91608-4, F91608-5, F91608-6, F91608-7, F91608-8, F91608-9

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH (C10-C28)	33.3	23.9	72	60-107

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	80%	49-108%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP41182-MS [a]	ZF48844.D	10	04/04/12	FEA	03/30/12	OP41182	GZF1869
OP41182-MSD [a]	ZF48845.D	10	04/04/12	FEA	03/30/12	OP41182	GZF1869
F91630-7	ZF48809.D	1	04/04/12	FEA	03/30/12	OP41182	GZF1869

The QC reported here applies to the following samples: **Method:** SW846 8015C

F91608-4, F91608-5, F91608-6, F91608-7, F91608-8, F91608-9

CAS No.	Compound	F91630-7 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH (C10-C28)	146		39.3	472	829* [b]	377	593* [b]	22	60-107/36

CAS No.	Surrogate Recoveries	MS	MSD	F91630-7	Limits
84-15-1	o-Terphenyl	81%	80%	75%	49-108%

(a) Spike recovery indicates possible sample nonhomogeneity.
(b) Outside control limits due to high level in sample relative to spike amount.

Semivolatile Surrogate Recovery Summary

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Method: SW846 8015C **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]
F91608-4	ZF48820.D	77.0
F91608-5	ZF48821.D	71.0
F91608-6	ZF48822.D	85.0
F91608-7	ZF48848.D	76.0
F91608-8	ZF48849.D	85.0
F91608-9	ZF48850.D	85.0
OP41182-BS	ZF48806.D	80.0
OP41182-MB	ZF48807.D	90.0
OP41182-MS	ZF48844.D	81.0
OP41182-MSD	ZF48845.D	80.0

Surrogate Compounds	Recovery Limits
S1 = o-Terphenyl	49-108%

(a) Recovery from GC signal #1

GC Surrogate Retention Time Summary

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Check Std:	GZF1869-CC1855	**Injection Date:**	04/03/12
Lab File ID:	ZF48791.D	**Injection Time:**	20:01
Instrument ID:	GCZF	**Method:**	SW846 8015C

	S1 [a] **RT**
Check Std	6.70

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
ZZZZZZ	ZF48793.D	04/03/12	20:43	6.70
ZZZZZZ	ZF48794.D	04/03/12	21:03	6.70
GZF1869-RT	ZF48803.D	04/04/12	00:10	6.70

Surrogate Compounds

S1 = o-Terphenyl

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Check Std:	GZF1869-CC1855	**Injection Date:**	04/04/12
Lab File ID:	ZF48804.D	**Injection Time:**	00:31
Instrument ID:	GCZF	**Method:**	SW846 8015C

	S1 [a] **RT**
Check Std	6.70

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
OP41182-BS	ZF48806.D	04/04/12	01:13	6.70
OP41182-MB	ZF48807.D	04/04/12	01:33	6.70
ZZZZZZ	ZF48808.D	04/04/12	01:54	6.70
F91630-7	ZF48809.D	04/04/12	02:15	6.71
ZZZZZZ	ZF48814.D	04/04/12	03:58	6.70
ZZZZZZ	ZF48815.D	04/04/12	04:19	6.70

Surrogate Compounds

S1 = o-Terphenyl

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Check Std:	GZF1869-CC1855	**Injection Date:**	04/04/12
Lab File ID:	ZF48816.D	**Injection Time:**	04:40
Instrument ID:	GCZF	**Method:**	SW846 8015C

	S1 [a] **RT**
Check Std	6.70

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
ZZZZZZ	ZF48818.D	04/04/12	05:21	6.70
ZZZZZZ	ZF48819.D	04/04/12	05:42	6.70
F91608-4	ZF48820.D	04/04/12	06:02	6.70
F91608-5	ZF48821.D	04/04/12	06:23	6.70
F91608-6	ZF48822.D	04/04/12	06:44	6.70
GZF1869-RT	ZF48826.D	04/04/12	08:11	6.70

Surrogate Compounds

S1 = o-Terphenyl

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Check Std:	GZF1869-CC1855	**Injection Date:**	04/04/12
Lab File ID:	ZF48839.D	**Injection Time:**	12:57
Instrument ID:	GCZF	**Method:**	SW846 8015C

	S1 [a] **RT**
Check Std	6.70

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
ZZZZZZ	ZF48841.D	04/04/12	13:39	6.70
ZZZZZZ	ZF48842.D	04/04/12	14:00	6.70
ZZZZZZ	ZF48843.D	04/04/12	14:20	6.70
OP41182-MS	ZF48844.D	04/04/12	14:41	6.70
OP41182-MSD	ZF48845.D	04/04/12	15:02	6.70
ZZZZZZ	ZF48846.D	04/04/12	15:23	6.70
ZZZZZZ	ZF48847.D	04/04/12	15:44	0.00
F91608-7	ZF48848.D	04/04/12	16:05	6.71
F91608-8	ZF48849.D	04/04/12	16:26	6.70
F91608-9	ZF48850.D	04/04/12	16:47	6.70
GZF1869-ECC1855	ZF48851.D	04/04/12	17:08	6.71

Surrogate Compounds

S1 = o-Terphenyl

(a) Retention time from GC signal #1

Initial Calibration Summary

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: GZF1855-ICC1855
Lab FileID: ZF48248.D

Response Factor Report FID 3

```
Method       : C:\HPCHEM\1\METHODS\F_DRO.M (Chemstation Integrator)
Title        : TPH by SW846 8015C
Last Update  : Wed Mar 07 16:08:34 2012
Response via : Initial Calibration

Calibration Files
200 =ZF48246.D   500 =ZF48247.D   1000=ZF48248.D   2000=ZF48249.D
3000   =ZF48250.D    4000   =ZF48251.D
```

Compound	200	500	1000	2000	3000	4000	Avg	%RSD
1) S O-TERPHENYL	1.391	1.340	1.332	1.281	1.275	1.358	1.329 E4	3.37
2) H TPH (C10-C28)	1.354	1.176	1.174	1.161	1.157	1.233	1.209 E4	6.28

(#) = Out of Range

F_DRO.M Wed Mar 07 16:13:19 2012

7.6.1

7

Initial Calibration Verification

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: GZF1855-ICV1855
Lab FileID: ZF48252.D

Evaluate Continuing Calibration Report

```
Data File : C:\HPCHEM\1\DATA\0307DRO\ZF48252.D          Vial: 8
Acq On    :  7 Mar 2012   3:14 pm                   Operator: ENOCA
Sample    : ICV1855-1000                            Inst    : FID 3
Misc      : op40808,gzf1855,1000,,,1,1,WATER        Multiplr: 1.00
IntFile   : EVENTS.E

Method       : C:\HPCHEM\1\METHODS\F_DRO.M (Chemstation Integrator)
Title        : TPH by SW846 8015C
Last Update  : Wed Mar 07 16:08:34 2012
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%     Max. Rel. Area : 150%

       Compound                Amount  Calc.    %Drift Area% Dev(min)RT Window
 ---------------------------------------------------------------------------
 1 S   O-TERPHENYL                        ----------NA----------
 2 H   TPH (C10-C28)          1000.000 900.870      9.9   93   0.00    3.41- 9.09
---------------------------------------------------------------------------
---------------------------------------------------------------------------

   (#) = Out of Range               SPCC's out = 0  CCC's out = 0
    ZF48248.D  F_DRO.M          Wed Mar 07 16:13:01 2012
```

7.6.2

7

Continuing Calibration Summary

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: GZF1869-CC1855
Lab FileID: ZF48791.D

Evaluate Continuing Calibration Report

```
Data File : C:\HPCHEM\1\DATA\0403DRO\ZF48791.D          Vial: 2
Acq On    :  3 Apr 2012   8:01 pm                   Operator: ENOCA
Sample    : CC1855-1000                             Inst    : FID 3
Misc      : op41200,gzf1869,29.9,,,1,1,soil         Multiplr: 1.00
IntFile   : EVENTS.E

Method       : C:\HPCHEM\1\METHODS\F_DRO.M (Chemstation Integrator)
Title        : TPH by SW846 8015C
Last Update  : Tue Apr 03 14:34:02 2012
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%     Max. Rel. Area : 150%
```

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1 S	O-TERPHENYL	25.000	22.772	8.9	91	0.00	6.60- 6.80
2 H	TPH (C10-C28)	1000.000	892.565	10.7	92	0.00	3.46- 9.05

(#) = Out of Range SPCC's out = 0 CCC's out = 0
ZF48248.D F_DRO.M Thu Apr 05 10:46:03 2012

7.6.3

7

Continuing Calibration Summary

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: GZF1869-CC1855
Lab FileID: ZF48804.D

Evaluate Continuing Calibration Report

```
Data File : C:\HPCHEM\1\DATA\0403DRO\ZF48804.D          Vial: 25
Acq On    :  4 Apr 2012  12:31 am                   Operator: ENOCA
Sample    : CC1855-1000                             Inst    : FID 3
Misc      : op41200,gzf1869,30.0,,,1,1,soil         Multiplr: 1.00
IntFile   : EVENTS.E

Method       : C:\HPCHEM\1\METHODS\F_DRO.M (Chemstation Integrator)
Title        : TPH by SW846 8015C
Last Update  : Tue Apr 03 14:34:02 2012
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%     Max. Rel. Area : 150%
```

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1 S	O-TERPHENYL	25.000	22.446	10.2	90	0.00	6.60- 6.80
2 H	TPH (C10-C28)	1000.000	882.557	11.7	91	0.00	3.46- 9.05

(#) = Out of Range SPCC's out = 0 CCC's out = 0
ZF48248.D F_DRO.M Thu Apr 05 10:46:03 2012

7.6.4

7

Continuing Calibration Summary

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: GZF1869-CC1855
Lab FileID: ZF48816.D

Evaluate Continuing Calibration Report

```
Data File : C:\HPCHEM\1\DATA\0403DRO\ZF48816.D          Vial: 37
Acq On    :  4 Apr 2012   4:40 am                   Operator: ENOCA
Sample    : CC1855-1000                             Inst    : FID 3
Misc      : op41182,gzf1869,30.2,,,1,1,soil         Multiplr: 1.00
IntFile   : EVENTS.E

Method       : C:\HPCHEM\1\METHODS\F_DRO.M (Chemstation Integrator)
Title        : TPH by SW846 8015C
Last Update  : Tue Apr 03 14:34:02 2012
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%     Max. Rel. Area : 150%
```

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1 S	O-TERPHENYL	25.000	23.587	5.7	94	0.00	6.60- 6.80
2 H	TPH (C10-C28)	1000.000	921.607	7.8	95	0.00	3.46- 9.05

(#) = Out of Range SPCC's out = 0 CCC's out = 0
ZF48248.D F_DRO.M Thu Apr 05 10:46:04 2012

7.6.5

7

Continuing Calibration Summary

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: GZF1869-CC1855
Lab FileID: ZF48827.D

Evaluate Continuing Calibration Report

```
Data File : C:\HPCHEM\1\DATA\0403DRO\ZF48827.D          Vial: 48
Acq On    :  4 Apr 2012   8:31 am                   Operator: ENOCA
Sample    : CC1855-2000                             Inst    : FID 3
Misc      : op41182,gzf1869,30.0,,,1,1,soil         Multiplr: 1.00
IntFile   : EVENTS.E

Method       : C:\HPCHEM\1\METHODS\F_DRO.M (Chemstation Integrator)
Title        : TPH by SW846 8015C
Last Update  : Tue Apr 03 14:34:02 2012
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%     Max. Rel. Area : 150%
```

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1 S	O-TERPHENYL	50.000	45.891	8.2	95	0.00	6.60- 6.80
2 H	TPH (C10-C28)	2000.000	1803.946	9.8	94	0.00	3.46- 9.05

(#) = Out of Range SPCC's out = 0 CCC's out = 0
ZF48249.D F_DRO.M Thu Apr 05 10:46:50 2012

7.6.6

7

Continuing Calibration Summary

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: GZF1869-CC1855
Lab FileID: ZF48839.D

```
                    Evaluate Continuing Calibration Report

 Data File : C:\HPCHEM\1\DATA\0403DRO\ZF48839.D          Vial: 60
 Acq On    :  4 Apr 2012  12:57 pm                   Operator: ENOCA
 Sample    : CC1855-1000                             Inst    : FID 3
 Misc      : op41200,gzf1869,30.3,,,1,1,soil         Multiplr: 1.00
 IntFile   : EVENTS.E

 Method       : C:\HPCHEM\1\METHODS\F_DRO.M (Chemstation Integrator)
 Title        : TPH by SW846 8015C
 Last Update  : Tue Apr 03 14:34:02 2012
 Response via : Multiple Level Calibration

 Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
 Max. RRF Dev :  20%     Max. Rel. Area : 150%

        Compound                Amount  Calc.    %Drift Area% Dev(min)RT Window
 ---------------------------------------------------------------------------
 1 S   O-TERPHENYL             25.000  26.019     -4.1  104   0.00    6.60- 6.80
 2 H   TPH (C10-C28)          1000.000 991.193      0.9  102   0.00    3.46- 9.05
---------------------------------------------------------------------------
---------------------------------------------------------------------------

   (#) = Out of Range               SPCC's out = 0  CCC's out = 0
    ZF48248.D  F_DRO.M          Thu Apr 05 10:46:04 2012
```

7.6.7

7

Continuing Calibration Summary

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: GZF1869-ECC1855
Lab FileID: ZF48851.D

Evaluate Continuing Calibration Report

```
Data File : C:\HPCHEM\1\DATA\0403DRO\ZF48851.D          Vial: 72
Acq On    :  4 Apr 2012   5:08 pm                   Operator: ENOCA
Sample    : ECC1855-2000                            Inst    : FID 3
Misc      : op41182,gzf1869,30.0,,,1,1,soil         Multiplr: 1.00
IntFile   : EVENTS.E

Method       : C:\HPCHEM\1\METHODS\F_DRO.M (Chemstation Integrator)
Title        : TPH by SW846 8015C
Last Update  : Tue Apr 03 14:34:02 2012
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%     Max. Rel. Area : 150%
```

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1 S	O-TERPHENYL	50.000	51.824	-3.6	108	0.00	6.60- 6.80
2 H	TPH (C10-C28)	2000.000	2013.563	-0.7	105	0.00	3.46- 9.05

(#) = Out of Range SPCC's out = 0 CCC's out = 0
ZF48249.D F_DRO.M Thu Apr 05 10:46:51 2012

7.6.8

7

Southeast ACCUTEST LABORATORIES

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Instrument Runlogs
- Initial and Continuing Calibration Blanks
- Initial and Continuing Calibration Checks
- High and Low Check Standards
- Interfering Element Check Standards
- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F91608
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB040412M1.ICP Date Analyzed: 04/04/12 Methods: SW846 6010C
Analyst: DM Run ID: MA9692
Parameters: As,Cr,Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
07:58	MA9692-STD1	1		STDB
08:02	MA9692-STD2	1		STDC
08:05	MA9692-STD3	1		STDD
08:13	MA9692-STD4	1		STDA
08:17	MA9692-HSTD1	1		
08:21	MA9692-ICV1	1		
08:27	MA9692-ICB1	1		
08:32	MA9692-CRIA1	1		
08:36	MA9692-CRIA2	1		
08:43	MA9692-ICSA1	1		
08:49	MA9692-ICSAB1	1		
08:53	MA9692-CCV1	1		
08:59	MA9692-CCB1	1		
09:02	ZZZZZZ	2		
09:07	ZZZZZZ	2		
09:11	ZZZZZZ	4		
09:15	ZZZZZZ	1		
09:20	ZZZZZZ	1		
09:24	ZZZZZZ	1		
09:28	ZZZZZZ	1		
09:32	ZZZZZZ	1		
09:37	ZZZZZZ	1		
09:42	ZZZZZZ	1		
09:46	MA9692-CCV2	1		
09:50	MA9692-CCB2	1		
09:54	ZZZZZZ	1		
09:58	ZZZZZZ	1		
10:03	ZZZZZZ	4		
10:07	ZZZZZZ	1		
10:12	F91629-15	1		(sample used for QC only; not part of login F91608)
10:16	MP22523-D1	1		
10:21	MP22523-S1	1		
10:25	MP22523-S2	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F91608
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB040412M1.ICP Date Analyzed: 04/04/12 Methods: SW846 6010C
Analyst: DM Run ID: MA9692
Parameters: As,Cr,Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
10:29	MP22523-PS1	1		
10:34	MP22523-SD1	5		
10:38	MA9692-CCV3	1		
10:42	MA9692-CCB3	1		
10:46	ZZZZZZ	4		
10:50	ZZZZZZ	10		
10:54	F91658-6	20		(sample used for QC only; not part of login F91608)
10:59	MP22524-D1	20		
11:03	MP22524-S1	20		
11:07	MP22524-S2	20		
11:11	MP22524-PS1	20		
11:16	MP22524-SD1	100		
11:24	MP22524-D2	10		
11:28	MA9692-CCV4	1		
11:33	MA9692-CCB4	1		
11:37	MP22524-S3	10		
11:41	MP22524-S4	10		
11:45	MP22524-PS2	10		
11:50	MP22524-SD2	50		
11:54	ZZZZZZ	20		
11:58	ZZZZZZ	10		
12:02	ZZZZZZ	20		
12:07	ZZZZZZ	20		
12:11	ZZZZZZ	20		
12:15	ZZZZZZ	20		
12:20	MA9692-CCV5	1		
12:24	MA9692-CCB5	1		
12:28	F91608-4	10		
12:33	F91608-5	10		
12:37	F91608-6	10		
12:41	F91608-7	10		
12:46	F91608-8	10		
12:50	F91608-9	10		

----------> Last reportable sample/prep for job F91608

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F91608
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB040412M1.ICP Date Analyzed: 04/04/12 Methods: SW846 6010C
Analyst: DM Run ID: MA9692
Parameters: As,Cr,Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
12:54	ZZZZZZ	1		
12:59	ZZZZZZ	1		
13:08	ZZZZZZ	1		
13:13	MA9692-CCV6	1		
13:17	MA9692-CCB6	1		
13:21	ZZZZZZ	1		
13:25	ZZZZZZ	1		
13:30	ZZZZZZ	1		
13:34	ZZZZZZ	1		
13:38	MP22527-MB1	1		
13:42	MP22527-B1	1		
13:46	F91740-1	1		(sample used for QC only; not part of login F91608)
13:50	MP22527-D1	1		
13:55	MP22527-SD1	5		
13:59	MP22527-PS1	1		
14:03	MA9692-CCV7	1		
14:07	MA9692-CCB7	1		
14:11	MP22527-S1	1		
14:16	MP22527-S2	1		
14:20	ZZZZZZ	1		
14:24	ZZZZZZ	1		
14:28	ZZZZZZ	1		
14:32	MP22528-MB1	1		
14:36	MP22528-B1	1		
14:40	F91774-1	1		(sample used for QC only; not part of login F91608)
14:45	MP22528-D1	1		
14:49	MP22528-SD1	5		
14:53	MA9692-CCV8	1		
14:57	MA9692-CCB8	1		
15:01	MP22528-PS1	1		
15:05	MP22528-S1	1		
15:09	MP22528-S2	1		
15:14	ZZZZZZ	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F91608
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB040412M1.ICP Date Analyzed: 04/04/12 Methods: SW846 6010C
Analyst: DM Run ID: MA9692
Parameters: As,Cr,Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
15:18	ZZZZZZ	1		
15:22	ZZZZZZ	1		
15:26	ZZZZZZ	1		
15:30	ZZZZZZ	1		
15:34	ZZZZZZ	1		
15:38	ZZZZZZ	1		
15:43	MA9692-CCV9	1		
15:47	MA9692-CCB9	1		
15:51	ZZZZZZ	1		
15:55	ZZZZZZ	1		
15:59	ZZZZZZ	1		
16:03	ZZZZZZ	1		
16:08	ZZZZZZ	1		
16:12	ZZZZZZ	1		
16:17	ZZZZZZ	1		
16:21	ZZZZZZ	1		
16:25	ZZZZZZ	1		
16:30	ZZZZZZ	1		
16:34	MA9692-CCV10	1		
16:38	MA9692-CCB10	1		
16:42	ZZZZZZ	1		
16:46	ZZZZZZ	1		
16:51	MA9692-CRIA3	1		
16:55	MA9692-ICSA2	1		
16:59	MA9692-ICSAB2	1		
17:04	MA9692-CCV11	1		
17:08	MA9692-CCB11	1		

----------> Last reportable CCB for job F91608
Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: F91608
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB040412M1.ICP Date Analyzed: 04/04/12 Methods: SW846 6010C
Analyst: DM Run ID: MA9692
Parameters: As,Cr,Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
07:58	MA9692-STD1	5781	49781	10118	2865
08:02	MA9692-STD2	5551	47624	9992	2582
08:05	MA9692-STD3	5414	47050	10055	2382
08:13	MA9692-STD4	5879	51013	10209	3147
08:17	MA9692-HSTD1	5310	47003	10019	2370
08:21	MA9692-ICV1	5529	48404	10095	2582
08:27	MA9692-ICB1	5844 R	51146 R	10192 R	3143 R
08:32	MA9692-CRIA1	5727	50181	10208	2956
08:36	MA9692-CRIA2	5742			
08:43	MA9692-ICSA1	5087	43090	9838	2272
08:49	MA9692-ICSAB1	4994	42678	9723	2218
08:53	MA9692-CCV1	5484	47641	10032	2573
08:59	MA9692-CCB1	5831	50466	10098	3113
09:02	ZZZZZZ	5612	48495	10075	2766
09:07	ZZZZZZ	5477	47627	9981	2659
09:11	ZZZZZZ	5784	49396	10280	2740
09:15	ZZZZZZ	5290	45440	9873	2516
09:20	ZZZZZZ	5428	47405	10031	2635
09:24	ZZZZZZ	5202	45572	9795	2480
09:28	ZZZZZZ	5537	48128	9952	2688
09:32	ZZZZZZ	5282	45682	9837	2477
09:37	ZZZZZZ	5177	45405	9730	2466
09:42	ZZZZZZ	5435	47656	9917	2662
09:46	MA9692-CCV2	5501	47964	9868	2568
09:50	MA9692-CCB2	5920	51882	10164	3160
09:54	ZZZZZZ	5399	47018	9979	2534
09:58	ZZZZZZ	5309	46205	9830	2546
10:03	ZZZZZZ	5542	48884	9982	2765
10:07	ZZZZZZ	5204	45369	9782	2494
10:12	F91629-15	5629	49282	10148	2721
10:16	MP22523-D1	5561	48431	9963	2696
10:21	MP22523-S1	5492	47901	10015	2576
10:25	MP22523-S2	5553	48173	10038	2571

INTERNAL STANDARD SUMMARY

Login Number: F91608
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB040412M1.ICP Date Analyzed: 04/04/12 Methods: SW846 6010C
Analyst: DM Run ID: MA9692
Parameters: As,Cr,Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
10:29	MP22523-PS1	5602	48909	10051	2667
10:34	MP22523-SD1	5773	50745	10083	2947
10:38	MA9692-CCV3	5467	48295	9849	2565
10:42	MA9692-CCB3	5887	51966	10220	3159
10:46	ZZZZZZ	5657	49699	10068	2799
10:50	ZZZZZZ	5798	50963	10152	3006
10:54	F91658-6	5454	47065	9863	2671
10:59	MP22524-D1	5520	48477	10064	2703
11:03	MP22524-S1	5518	48535	9967	2690
11:07	MP22524-S2	5472	48547	9850	2691
11:11	MP22524-PS1	5475	48443	9939	2668
11:16	MP22524-SD1	5770	50840	10087	2955
11:24	MP22524-D2	5271	46567	9766	2503
11:28	MA9692-CCV4	5539	48937	9900	2582
11:33	MA9692-CCB4	5874	51785	10077	3134
11:37	MP22524-S3	5393	47790	9856	2540
11:41	MP22524-S4	5209	46669	9784	2462
11:45	MP22524-PS2	5334	47808	9881	2549
11:50	MP22524-SD2	5624	50511	10094	2859
11:54	ZZZZZZ	5332	48181	9914	2608
11:58	ZZZZZZ	5221	47205	9721	2528
12:02	ZZZZZZ	5448	49111	10048	2674
12:07	ZZZZZZ	5423	48741	9960	2638
12:11	ZZZZZZ	5364	48473	9871	2636
12:15	ZZZZZZ	5361	48788	9941	2653
12:20	MA9692-CCV5	5477	49414	9965	2580
12:24	MA9692-CCB5	5748	52147	10110	3116
12:28	F91608-4	5150	47292	9875	2484
12:33	F91608-5	5061	46822	9736	2461
12:37	F91608-6	5124	47234	9739	2493
12:41	F91608-7	5221	47992	9874	2540
12:46	F91608-8	5271	48138	9810	2568
12:50	F91608-9	5175	47560	9760	2543

INTERNAL STANDARD SUMMARY

Login Number: F91608
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB040412M1.ICP Date Analyzed: 04/04/12 Methods: SW846 6010C
Analyst: DM Run ID: MA9692
Parameters: As,Cr,Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
12:54	ZZZZZZ	7448 !	66736 !	14332 !	2231
12:59	ZZZZZZ	8752 !	78647 !	16568 !	2289
13:08	ZZZZZZ	8216 !	74388 !	15288 !	2362
13:13	MA9692-CCV6	5444	50109	9730	2597
13:17	MA9692-CCB6	5657	52584	9811	3142
13:21	ZZZZZZ	5562	51955	9913	2693
13:25	ZZZZZZ	5627	52428	9833	2998
13:30	ZZZZZZ	5742	53154	10012	3037
13:34	ZZZZZZ	5596	51507	9939	2891
13:38	MP22527-MB1	5680	52958	9890	3166
13:42	MP22527-B1	5482	50036	9747	2742
13:46	F91740-1	5309	48687	9718	2662
13:50	MP22527-D1	5376	48550	9652	2685
13:55	MP22527-SD1	5531	50464	9608	2926
13:59	MP22527-PS1	5326	48320	9559	2618
14:03	MA9692-CCV7	5511	49401	9656	2586
14:07	MA9692-CCB7	5744	51413	9669	3114
14:11	MP22527-S1	5364	47836	9532	2536
14:16	MP22527-S2	5447	48307	9719	2552
14:20	ZZZZZZ	5626	50331	9789	2823
14:24	ZZZZZZ	5742	51565	9716	3056
14:28	ZZZZZZ	5480	49580	9728	2774
14:32	MP22528-MB1	5857	53042	9876	3173
14:36	MP22528-B1	5586	50073	9657	2742
14:40	F91774-1	6442	57355	11546	2573
14:45	MP22528-D1	6510	57767	11580	2524
14:49	MP22528-SD1	5865	52356	10044	2850
14:53	MA9692-CCV8	5533	49121	9605	2579
14:57	MA9692-CCB8	5822	51721	9610	3122
15:01	MP22528-PS1	6484	56905	11357	2547
15:05	MP22528-S1	6487	56901	11533	2461
15:09	MP22528-S2	6895	60133	12301	2343
15:14	ZZZZZZ	5895	51857	9628	3110

INTERNAL STANDARD SUMMARY

Login Number: F91608
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB040412M1.ICP Date Analyzed: 04/04/12 Methods: SW846 6010C
Analyst: DM Run ID: MA9692
Parameters: As,Cr,Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
15:18	ZZZZZZ	6172	54599	10345	2985
15:22	ZZZZZZ	6301	55024	10527	2899
15:26	ZZZZZZ	5942	52345	9815	3095
15:30	ZZZZZZ	5849	51684	9650	3060
15:34	ZZZZZZ	5846	51630	9653	3094
15:38	ZZZZZZ	5824	50793	9630	2959
15:43	MA9692-CCV9	5546	48194	9315	2558
15:47	MA9692-CCB9	5839	51100	9535	3108
15:51	ZZZZZZ	5915	51827	9875	2969
15:55	ZZZZZZ	5902	51701	9782	2966
15:59	ZZZZZZ	5983	52236	9913	2998
16:03	ZZZZZZ	5806	50404	10417	2412
16:08	ZZZZZZ	5844	51570	10281	2545
16:12	ZZZZZZ	5990	51289	10534	2239
16:17	ZZZZZZ	6250	53722	10784	2446
16:21	ZZZZZZ	5874	51079	10449	2242
16:25	ZZZZZZ	5943	51821	10619	2233
16:30	ZZZZZZ	6138	53096	10670	2273
16:34	MA9692-CCV10	5594	48440	9191	2569
16:38	MA9692-CCB10	5832	50687	9267	3111
16:42	ZZZZZZ	5463	47262	10001	2019
16:46	ZZZZZZ	6310	54711	11235	2127
16:51	MA9692-CRIA3	5779	50291	9293	2936
16:55	MA9692-ICSA2	5058	42746	8786	2250
16:59	MA9692-ICSAB2	5046	43015	8723	2221
17:04	MA9692-CCV11	5537	48122	9052	2565
17:08	MA9692-CCB11	5907	51050	9111	3113

R = Reference for ISTD limits. ! = Outside limits.

LEGEND:

Istd#	Parameter	Limits
Istd#1	Yttrium (2243)	60-125 %
Istd#2	Yttrium (3600)	60-125 %
Istd#3	Yttrium (3710)	60-125 %
Istd#4	Indium	60-125 %

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F91608
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB040412M1.ICP Date Analyzed: 04/04/12 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA9692 Units: ug/l

Time:			08:27		08:59		09:50		10:42	
Sample ID:			ICB1		CCB1		CCB2		CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	24	anr							
Antimony	6.0	1								
Arsenic	10	1	0.20	<10	0.20	<10	-0.30	<10	0.20	<10
Barium	200	4	anr							
Beryllium	4.0	.1								
Cadmium	5.0	.1	anr							
Calcium	1000	50	anr							
Chromium	10	1	-0.20	<10	-0.30	<10	0.10	<10	0.10	<10
Cobalt	50	1								
Copper	25	1	anr							
Iron	300	23	anr							
Lead	5.0	1	-0.10	<5.0	-0.40	<5.0	1.0	<5.0	1.3	<5.0
Magnesium	5000	50	anr							
Manganese	15	1	anr							
Molybdenum	50	1								
Nickel	40	1								
Potassium	10000	50								
Selenium	10	2	anr							
Silver	10	1	anr							
Sodium	10000	850	anr							
Strontium	10	1								
Thallium	10	1.5								
Tin	50	1								
Titanium	10	1								
Vanadium	50	1								
Zinc	20	1	anr							

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F91608
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB040412M1.ICP Date Analyzed: 04/04/12 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA9692 Units: ug/l

Time:			11:33		12:24		13:17		14:07	
Sample ID:			CCB4		CCB5		CCB6		CCB7	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	24	anr							
Antimony	6.0	1								
Arsenic	10	1	0.0	<10	0.10	<10	-0.40	<10	0.10	<10
Barium	200	4	anr							
Beryllium	4.0	.1								
Cadmium	5.0	.1	anr							
Calcium	1000	50	anr							
Chromium	10	1	0.10	<10	0.10	<10	-0.20	<10	0.0	<10
Cobalt	50	1								
Copper	25	1	anr							
Iron	300	23	anr							
Lead	5.0	1	1.1	<5.0	1.2	<5.0	1.5	<5.0	1.4	<5.0
Magnesium	5000	50	anr							
Manganese	15	1	anr							
Molybdenum	50	1								
Nickel	40	1								
Potassium	10000	50								
Selenium	10	2	anr							
Silver	10	1	anr							
Sodium	10000	850	anr							
Strontium	10	1								
Thallium	10	1.5								
Tin	50	1								
Titanium	10	1								
Vanadium	50	1								
Zinc	20	1	anr							

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F91608
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB040412M1.ICP Date Analyzed: 04/04/12 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA9692 Units: ug/l

Time:			14:57		15:47		16:38		17:08	
Sample ID:			CCB8		CCB9		CCB10		CCB11	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	24	anr							
Antimony	6.0	1								
Arsenic	10	1	-0.20	<10	-0.10	<10	0.20	<10	-0.20	<10
Barium	200	4	anr							
Beryllium	4.0	.1								
Cadmium	5.0	.1	anr							
Calcium	1000	50	anr							
Chromium	10	1	-0.10	<10	-0.10	<10	-0.20	<10	-0.10	<10
Cobalt	50	1								
Copper	25	1	anr							
Iron	300	23	anr							
Lead	5.0	1	1.8	<5.0	1.5	<5.0	1.7	<5.0	1.2	<5.0
Magnesium	5000	50	anr							
Manganese	15	1	anr							
Molybdenum	50	1								
Nickel	40	1								
Potassium	10000	50								
Selenium	10	2	anr							
Silver	10	1	anr							
Sodium	10000	850	anr							
Strontium	10	1								
Thallium	10	1.5								
Tin	50	1								
Titanium	10	1								
Vanadium	50	1								
Zinc	20	1	anr							

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F91608
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB040412M1.ICP Date Analyzed: 04/04/12 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA9692 Units: ug/l

Time:		08:21			08:53			09:46	
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony									
Arsenic	2000	1970	98.5	2000	2010	100.5	2000	2010	100.5
Barium	anr								
Beryllium									
Cadmium	anr								
Calcium	anr								
Chromium	2000	2000	100.0	2000	2030	101.5	2000	2010	100.5
Cobalt									
Copper	anr								
Iron	anr								
Lead	2000	1910	95.5	2000	1950	97.5	2000	1970	98.5
Magnesium	anr								
Manganese	anr								
Molybdenum									
Nickel									
Potassium									
Selenium	anr								
Silver	anr								
Sodium	anr								
Strontium									
Thallium									
Tin									
Titanium									
Vanadium									
Zinc	anr								

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F91608
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB040412M1.ICP Date Analyzed: 04/04/12 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA9692 Units: ug/l

Time:		10:38			11:28			12:20	
Sample ID:	CCV	CCV3		CCV	CCV4		CCV	CCV5	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony									
Arsenic	2000	2030	101.5	2000	2020	101.0	2000	2040	102.0
Barium	anr								
Beryllium									
Cadmium	anr								
Calcium	anr								
Chromium	2000	2020	101.0	2000	1990	99.5	2000	1980	99.0
Cobalt									
Copper	anr								
Iron	anr								
Lead	2000	1970	98.5	2000	1970	98.5	2000	1930	96.5
Magnesium	anr								
Manganese	anr								
Molybdenum									
Nickel									
Potassium									
Selenium	anr								
Silver	anr								
Sodium	anr								
Strontium									
Thallium									
Tin									
Titanium									
Vanadium									
Zinc	anr								

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F91608
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB040412M1.ICP Date Analyzed: 04/04/12 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA9692 Units: ug/l

Time:		13:13			14:03			14:53	
Sample ID:	CCV	CCV6		CCV	CCV7		CCV	CCV8	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony									
Arsenic	2000	2060	103.0	2000	2040	102.0	2000	2020	101.0
Barium	anr								
Beryllium									
Cadmium	anr								
Calcium	anr								
Chromium	2000	1990	99.5	2000	1980	99.0	2000	1980	99.0
Cobalt									
Copper	anr								
Iron	anr								
Lead	2000	1920	96.0	2000	1950	97.5	2000	1960	98.0
Magnesium	anr								
Manganese	anr								
Molybdenum									
Nickel									
Potassium									
Selenium	anr								
Silver	anr								
Sodium	anr								
Strontium									
Thallium									
Tin									
Titanium									
Vanadium									
Zinc	anr								

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F91608
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB040412M1.ICP Date Analyzed: 04/04/12 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA9692 Units: ug/l

Time:		15:43			16:34			17:04	
Sample ID:	CCV	CCV9		CCV	CCV10		CCV	CCV11	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony									
Arsenic	2000	2020	101.0	2000	2000	100.0	2000	2010	100.5
Barium	anr								
Beryllium									
Cadmium	anr								
Calcium	anr								
Chromium	2000	2000	100.0	2000	1980	99.0	2000	2000	100.0
Cobalt									
Copper	anr								
Iron	anr								
Lead	2000	1990	99.5	2000	1990	99.5	2000	1980	99.0
Magnesium	anr								
Manganese	anr								
Molybdenum									
Nickel									
Potassium									
Selenium	anr								
Silver	anr								
Sodium	anr								
Strontium									
Thallium									
Tin									
Titanium									
Vanadium									
Zinc	anr								

(*) Outside of QC limits
(anr) Analyte not requested

HIGH STANDARD CHECK SUMMARY

Login Number: F91608
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB040412M1.ICP Date Analyzed: 04/04/12 Methods: SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA9692 Units: ug/l

Time:		08:17	
Sample ID:	HSTD	HSTD1	
Metal	True	Results	% Rec
Aluminum	anr		
Antimony			
Arsenic	4000	4010	100.3
Barium	anr		
Beryllium			
Cadmium	anr		
Calcium	anr		
Chromium	4000	3930	98.3
Cobalt			
Copper	anr		
Iron	anr		
Lead	4000	3960	99.0
Magnesium	anr		
Manganese	anr		
Molybdenum			
Nickel			
Potassium			
Selenium	anr		
Silver	anr		
Sodium	anr		
Strontium			
Thallium			
Tin			
Titanium			
Vanadium			
Zinc	anr		

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: F91608
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB040412M1.ICP Date Analyzed: 04/04/12 Methods: SW846 6010C
QC Limits: CRI 70-130% CRIA 70-130% Run ID: MA9692 Units: ug/l

Time:			08:32		08:36		16:51	
Sample ID:	CRI	CRIA	CRIA1		CRIA2		CRIA3	
Metal	True	True	Results	% Rec	Results	% Rec	Results	% Rec
Aluminum	400	200	anr					
Antimony	10	5.0						
Arsenic	20	10	9.8	98.0			9.8	98.0
Barium	400	200	anr					
Beryllium	10	5.0						
Cadmium	10	5.0	anr					
Calcium	2000	1000	anr					
Chromium	20	10	10.4	104.0			9.8	98.0
Cobalt	100	50						
Copper	50	25	anr					
Iron	600	300	anr					
Lead	10	5.0	4.9	98.0			6.6	130.0
Magnesium	10000	5000	anr					
Manganese	30	15	anr					
Molybdenum	100	50						
Nickel	80	40						
Potassium	20000	10000						
Selenium	20	10	anr					
Silver	20	10	anr					
Sodium	20000	10000	anr					
Strontium	20	10						
Thallium	20	10						
Tin	100	50						
Titanium	20	10						
Vanadium	100	50						
Zinc	40	20	anr					

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: F91608
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB040412M1.ICP Date Analyzed: 04/04/12 Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery Run ID: MA9692 Units: ug/l

Time:			08:43		08:49	
Sample ID:	ICSA	ICSAB	ICSA1		ICSAB1	
Metal	True	True	Results	% Rec	Results	% Rec
Aluminum	500000	500000	496000	99.2	505000	101.0
Antimony		1000	1.0		1010	101.0
Arsenic		1000	0.0		1020	102.0
Barium		500	1.1		524	104.8
Beryllium		500	0.0		490	98.0
Cadmium		1000	0.0		969	96.9
Calcium	500000	500000	465000	93.0	469000	93.8
Chromium		500	0.0		518	103.6
Cobalt		500	-0.20		481	96.2
Copper		500	0.0		568	113.6
Iron	200000	200000	185000	92.5	187000	93.5
Lead		1000	0.10		935	93.5
Magnesium	500000	500000	499000	99.8	498000	99.6
Manganese		500	-0.60		493	98.6
Molybdenum		1000	-0.40		953	95.3
Nickel		1000	-0.70		930	93.0
Potassium			103		23.0	
Selenium		1000	0.0		1010	101.0
Silver		1000	0.30		1080	108.0
Sodium			59.4		51.5	
Strontium		1000	0.10		1010	101.0
Thallium		1000	-0.30		945	94.5
Tin		1000	0.30		875	87.5
Titanium		1000	0.40		1000	100.0
Vanadium		500	0.50		502	100.4
Zinc		1000	0.10		905	90.5

(*) Outside of QC limits
(anr) Analyte not requested

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F91608
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA040512M1.ICP Date Analyzed: 04/05/12 Methods: SW846 6010C
Analyst: DM Run ID: MA9694
Parameters: As,Cr,Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
07:01	MA9694-STD1	1		STDA
07:05	MA9694-STD2	1		STDB
07:08	MA9694-STD3	1		STDC
07:12	MA9694-STD4	1		STDD
07:15	MA9694-HSTD1	1		
07:19	MA9694-ICV1	1		
07:24	MA9694-ICB1	1		
07:28	MA9694-CRIA1	1		
07:36	MA9694-ICSA1	1		
07:48	MA9694-ICSAB1	1		
07:53	MA9694-CCV1	1		
07:58	MA9694-CCB1	1		
08:02	MP22529-MB1	1		
08:14	MP22529-B1	1		
08:18	F91788-2	1		(sample used for QC only; not part of login F91608)
08:23	MP22529-D1	1		
08:27	MP22529-SD1	5		
08:32	MP22529-PS2	1		
08:36	MP22529-S1	1		
08:40	MP22529-S2	1		
08:44	ZZZZZZ	1		
08:49	ZZZZZZ	1		
08:53	MA9694-CCV2	1		
08:57	MA9694-CCB2	1		
09:28	F91658-9	10		(sample used for QC only; not part of login F91608)
09:32	ZZZZZZ	2		
09:37	ZZZZZZ	4		
09:41	ZZZZZZ	4		
09:45	MA9694-CCV3	1		
09:49	MA9694-CCB3	1		
09:54	ZZZZZZ	4		
09:58	ZZZZZZ	4		
10:07	ZZZZZZ	4		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F91608
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA040512M1.ICP Date Analyzed: 04/05/12 Methods: SW846 6010C
Analyst: DM Run ID: MA9694
Parameters: As,Cr,Pb

	Time	Sample Description	Dilution Factor	PS Recov	Comments
	10:16	ZZZZZZ	5		
	10:20	MP22524-MB1	1		
	10:25	MP22524-B1	1		
---------->	Last reportable sample/prep for job F91608				
	10:29	MP22530-MB1	1		
	10:33	MP22530-B1	1		
	10:38	MA9694-CCV4	1		
	10:42	MA9694-CCB4	1		
	10:46	F91742-1	1		(sample used for QC only; not part of login F91608)
	10:51	MP22530-D1	1		
	10:55	MP22530-SD1	5		
	11:00	MP22530-S1	1		
	11:04	MP22530-S2	1		
	11:08	F91742-2	1		(sample used for QC only; not part of login F91608)
	11:13	ZZZZZZ	1		
	11:17	ZZZZZZ	1		
	11:22	ZZZZZZ	1		
	11:26	MP22530-D2	1		
	11:31	MA9694-CCV5	1		
	11:35	MA9694-CCB5	1		
	11:40	MP22530-MB2	1		
	11:44	MP22530-B2	1		
	11:49	MP22530-MB3	1		
	11:53	MP22530-B3	1		
	11:57	MP22531-MB1	1		
	12:02	MP22531-B1	1		
	12:06	F91771-1	1		(sample used for QC only; not part of login F91608)
	12:11	MP22531-D1	1		
	12:15	MP22531-SD1	5		
	12:19	MP22531-PS1	1		
	12:24	MA9694-CCV6	1		
	12:28	MA9694-CCB6	1		
	12:32	MP22531-S1	1		
	12:37	MP22531-S2	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F91608
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA040512M1.ICP Date Analyzed: 04/05/12 Methods: SW846 6010C
Analyst: DM Run ID: MA9694
Parameters: As,Cr,Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
12:41	ZZZZZZ	1		
12:45	ZZZZZZ	1		
12:50	ZZZZZZ	1		
12:54	ZZZZZZ	1		
12:59	ZZZZZZ	1		
13:03	ZZZZZZ	1		
13:07	ZZZZZZ	1		
13:12	ZZZZZZ	1		
13:16	MA9694-CCV7	1		
13:20	MA9694-CCB7	1		
13:25	ZZZZZZ	1		
13:29	ZZZZZZ	1		
13:34	ZZZZZZ	1		
13:38	ZZZZZZ	1		
13:43	ZZZZZZ	1		
13:47	ZZZZZZ	1		
13:51	ZZZZZZ	1		
13:56	ZZZZZZ	1		
14:00	ZZZZZZ	1		
14:05	ZZZZZZ	1		
14:09	MA9694-CCV8	1		
14:13	MA9694-CCB8	1		
14:18	ZZZZZZ	1		
14:22	MP22532-MB1	1		
14:27	MP22532-B1	1		
14:31	F91663-1	1		(sample used for QC only; not part of login F91608)
14:35	MP22532-D1	1		
14:40	MP22532-SD1	5		
14:44	MP22532-PS1	1		
14:48	MP22532-S1	1		
14:53	MP22532-S2	1		
14:57	ZZZZZZ	1		
15:01	MA9694-CCV9	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F91608
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA040512M1.ICP Date Analyzed: 04/05/12 Methods: SW846 6010C
Analyst: DM Run ID: MA9694
Parameters: As,Cr,Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
15:05	MA9694-CCB9	1		
15:10	ZZZZZZ	1		
15:14	ZZZZZZ	1		
15:19	ZZZZZZ	1		
15:23	ZZZZZZ	1		
15:28	ZZZZZZ	1		
15:32	ZZZZZZ	1		
15:36	ZZZZZZ	1		
15:41	ZZZZZZ	1		
15:54	MA9694-CCV10	1		
15:58	MA9694-CCB10	1		
16:03	ZZZZZZ	1		
16:07	ZZZZZZ	1		
16:12	ZZZZZZ	1		
16:16	ZZZZZZ	1		
16:20	ZZZZZZ	1		
16:25	ZZZZZZ	1		
16:29	ZZZZZZ	1		
16:34	ZZZZZZ	1		
16:38	MP22535-MB1	1		
16:43	MP22535-B1	1		
16:47	MA9694-CCV11	1		
16:51	MA9694-CCB11	1		
16:55	F91812-1	1		(sample used for QC only; not part of login F91608)
17:00	MP22535-D1	1		
17:04	MP22535-SD1	5		
17:09	MP22535-PS1	1		
17:13	MP22535-S1	1		
17:17	MP22535-S2	1		
17:21	ZZZZZZ	1		
17:25	ZZZZZZ	1		
17:30	ZZZZZZ	1		
17:34	ZZZZZZ	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F91608
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA040512M1.ICP Date Analyzed: 04/05/12 Methods: SW846 6010C
Analyst: DM Run ID: MA9694
Parameters: As,Cr,Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
17:39	MA9694-CCV12	1		
17:43	MA9694-CCB12	1		
17:47	ZZZZZZ	1		
17:52	ZZZZZZ	1		
17:56	ZZZZZZ	1		
18:00	ZZZZZZ	5		
18:05	ZZZZZZ	1		
18:09	ZZZZZZ	1		
18:14	ZZZZZZ	1		
18:18	ZZZZZZ	1		
18:22	MP22538-MB1	1		
18:27	MP22538-B1	1		
18:31	MA9694-CCV13	1		
18:35	MA9694-CCB13	1		
18:40	F91848-1	1		(sample used for QC only; not part of login F91608)
18:44	MP22538-D1	1		
18:49	MP22538-SD1	5		
18:53	MP22538-PS1	1		
18:57	MP22538-S1	1		
19:02	MP22538-S2	1		
19:06	ZZZZZZ	1		
19:10	ZZZZZZ	1		
19:15	ZZZZZZ	1		
19:19	ZZZZZZ	1		
19:24	MA9694-CCV14	1		
19:28	MA9694-CCB14	1		
19:32	ZZZZZZ	1		
19:37	ZZZZZZ	1		
19:41	ZZZZZZ	1		
19:46	ZZZZZZ	1		
19:50	ZZZZZZ	1		
19:55	ZZZZZZ	1		
19:59	ZZZZZZ	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F91608
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA040512M1.ICP Date Analyzed: 04/05/12 Methods: SW846 6010C
Analyst: DM Run ID: MA9694
Parameters: As,Cr,Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
20:04	ZZZZZZ	1		
20:08	ZZZZZZ	1		
20:13	ZZZZZZ	1		
20:17	MA9694-CCV15	1		
20:21	MA9694-CCB15	1		
20:26	ZZZZZZ	1		
20:30	ZZZZZZ	1		
20:35	MA9694-CRIA2	1		
20:39	MA9694-ICSA2	1		
20:43	MA9694-ICSAB2	1		
20:48	MA9694-CCV16	1		
20:52	MA9694-CCB16	1		

----------> Last reportable CCB for job F91608
Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: F91608
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA040512M1.ICP Date Analyzed: 04/05/12 Methods: SW846 6010C
Analyst: DM Run ID: MA9694
Parameters: As,Cr,Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
07:01	MA9694-STD1	1814	13110	2865	968
07:05	MA9694-STD2	1773	12825	2784	885
07:08	MA9694-STD3	1700	12590	2744	796
07:12	MA9694-STD4	1634	12207	2686	731
07:15	MA9694-HSTD1	1630	12209	2668	730
07:19	MA9694-ICV1	1685	12473	2732	793
07:24	MA9694-ICB1	1813 R	13077 R	2807 R	967 R
07:28	MA9694-CRIA1	1765	12749	2747	909
07:36	MA9694-ICSA1	1530	11456	2551	677
07:48	MA9694-ICSAB1	1565	11718	2580	682
07:53	MA9694-CCV1	1715	12674	2650	801
07:58	MA9694-CCB1	1822	13035	2719	966
08:02	MP22529-MB1	1845	13447	2820	992
08:14	MP22529-B1	1822	13367	2814	879
08:18	F91788-2	1852	13626	2833	962
08:23	MP22529-D1	1833	13463	2785	951
08:27	MP22529-SD1	1827	13276	2742	965
08:32	MP22529-PS2	1819	13427	2791	914
08:36	MP22529-S1	1775	13162	2760	846
08:40	MP22529-S2	1780	13147	2731	851
08:44	ZZZZZZ	6786	49749	10308	940
08:49	ZZZZZZ	1805	13364	2767	894
08:53	MA9694-CCV2	1728	12864	2660	804
08:57	MA9694-CCB2	1827	13220	2713	972
09:28	F91658-9	1642	12380	2671	762
09:32	ZZZZZZ	2059	15426	3185	733
09:37	ZZZZZZ	2085	15413	3143	810
09:41	ZZZZZZ	1787	13340	2725	878
09:45	MA9694-CCV3	1764	13050	2656	821
09:49	MA9694-CCB3	1853	13412	2697	981
09:54	ZZZZZZ	2047	15082	3019	824
09:58	ZZZZZZ	1771	13307	2798	753
10:07	ZZZZZZ	1783	13298	2751	796

INTERNAL STANDARD SUMMARY

Login Number: F91608
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA040512M1.ICP Date Analyzed: 04/05/12 Methods: SW846 6010C
Analyst: DM Run ID: MA9694
Parameters: As,Cr,Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
10:16	ZZZZZZ	1763	13211	2712	807
10:20	MP22524-MB1	1805	13206	2537	958
10:25	MP22524-B1	1753	12864	2524	847
10:29	MP22530-MB1	1846	13428	2654	978
10:33	MP22530-B1	1786	13270	2650	853
10:38	MA9694-CCV4	1757	13023	2592	815
10:42	MA9694-CCB4	1847	13395	2650	983
10:46	F91742-1	1715	12770	2662	809
10:51	MP22530-D1	1726	12825	2678	810
10:55	MP22530-SD1	1788	13159	2653	897
11:00	MP22530-S1	1715	12861	2661	777
11:04	MP22530-S2	1711	12833	2612	772
11:08	F91742-2	1678	12556	2608	789
11:13	ZZZZZZ	1723	12788	2656	839
11:17	ZZZZZZ	1716	12776	2628	833
11:22	ZZZZZZ	1697	12620	2624	811
11:26	MP22530-D2	1677	12540	2629	791
11:31	MA9694-CCV5	1759	13138	2626	813
11:35	MA9694-CCB5	1852	13416	2643	983
11:40	MP22530-MB2	1709	12710	2643	829
11:44	MP22530-B2	1716	12787	2637	790
11:49	MP22530-MB3	1738	12930	2668	842
11:53	MP22530-B3	1723	12768	2629	794
11:57	MP22531-MB1	1848	13520	2666	981
12:02	MP22531-B1	1780	13211	2617	854
12:06	F91771-1	1807	13279	2620	923
12:11	MP22531-D1	1803	13268	2642	924
12:15	MP22531-SD1	1858	13603	2704	971
12:19	MP22531-PS1	1804	13335	2622	890
12:24	MA9694-CCV6	1774	13135	2624	820
12:28	MA9694-CCB6	1864	13526	2690	988
12:32	MP22531-S1	1766	13130	2604	838
12:37	MP22531-S2	1765	13029	2596	835

INTERNAL STANDARD SUMMARY

Login Number: F91608
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA040512M1.ICP Date Analyzed: 04/05/12 Methods: SW846 6010C
Analyst: DM Run ID: MA9694
Parameters: As,Cr,Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
12:41	ZZZZZZ	1770	13101	2632	905
12:45	ZZZZZZ	1750	13030	2645	887
12:50	ZZZZZZ	1800	13317	2659	915
12:54	ZZZZZZ	1805	13259	2647	931
12:59	ZZZZZZ	1794	13253	2656	911
13:03	ZZZZZZ	1791	13194	2666	900
13:07	ZZZZZZ	1796	13203	2637	927
13:12	ZZZZZZ	1729	12881	2621	872
13:16	MA9694-CCV7	1758	12992	2625	821
13:20	MA9694-CCB7	1846	13266	2673	987
13:25	ZZZZZZ	1779	13143	2642	914
13:29	ZZZZZZ	1760	12966	2630	906
13:34	ZZZZZZ	1828	13278	2640	942
13:38	ZZZZZZ	1807	13221	2635	926
13:43	ZZZZZZ	2053	14887	2916	794
13:47	ZZZZZZ	1784	13108	2635	871
13:51	ZZZZZZ	1745	12986	2638	878
13:56	ZZZZZZ	1719	12826	2615	856
14:00	ZZZZZZ	1719	12806	2630	861
14:05	ZZZZZZ	1712	12697	2610	861
14:09	MA9694-CCV8	1754	13040	2631	819
14:13	MA9694-CCB8	1843	13389	2669	984
14:18	ZZZZZZ	1782	13048	2621	898
14:22	MP22532-MB1	1837	13309	2665	985
14:27	MP22532-B1	1770	13006	2638	857
14:31	F91663-1	1706	12621	2602	841
14:35	MP22532-D1	1701	12589	2610	841
14:40	MP22532-SD1	1798	13149	2661	927
14:44	MP22532-PS1	1701	12678	2593	825
14:48	MP22532-S1	1705	12638	2591	799
14:53	MP22532-S2	1699	12546	2585	803
14:57	ZZZZZZ	1734	12829	2631	888
15:01	MA9694-CCV9	1737	12830	2630	818

INTERNAL STANDARD SUMMARY

Login Number: F91608
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA040512M1.ICP Date Analyzed: 04/05/12 Methods: SW846 6010C
Analyst: DM Run ID: MA9694
Parameters: As,Cr,Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
15:05	MA9694-CCB9	1826	13104	2661	985
15:10	ZZZZZZ	1732	12694	2616	882
15:14	ZZZZZZ	1736	12826	2610	879
15:19	ZZZZZZ	1728	12768	2585	869
15:23	ZZZZZZ	1724	12723	2593	869
15:28	ZZZZZZ	1699	12579	2618	846
15:32	ZZZZZZ	1648	12297	2575	797
15:36	ZZZZZZ	1667	12357	2576	819
15:41	ZZZZZZ	1653	12372	2569	812
15:54	MA9694-CCV10	1732	12776	2579	814
15:58	MA9694-CCB10	1823	13160	2648	984
16:03	ZZZZZZ	1672	12490	2565	819
16:07	ZZZZZZ	1677	12515	2584	822
16:12	ZZZZZZ	1680	12537	2601	843
16:16	ZZZZZZ	1772	13106	2631	931
16:20	ZZZZZZ	1816	13236	2630	968
16:25	ZZZZZZ	1805	13115	2630	963
16:29	ZZZZZZ	1813	13108	2640	970
16:34	ZZZZZZ	1697	12620	2581	854
16:38	MP22535-MB1	1782	12951	2525	958
16:43	MP22535-B1	1734	12746	2557	855
16:47	MA9694-CCV11	1742	12874	2607	819
16:51	MA9694-CCB11	1829	13242	2647	982
16:55	F91812-1	2281	16666	3294	796
17:00	MP22535-D1	2462	17927	3573	818
17:04	MP22535-SD1	1941	14105	2801	908
17:09	MP22535-PS1	2278	16761	3312	787
17:13	MP22535-S1	2180	15949	3188	793
17:17	MP22535-S2	2430	17794	3574	766
17:21	ZZZZZZ	1886	14659	2910	778
17:25	ZZZZZZ	2060	15967	3134	803
17:30	ZZZZZZ	1865	14345	2779	805
17:34	ZZZZZZ	1845	13460	2572	965

INTERNAL STANDARD SUMMARY

Login Number: F91608
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA040512M1.ICP Date Analyzed: 04/05/12 Methods: SW846 6010C
Analyst: DM Run ID: MA9694
Parameters: As,Cr,Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
17:39	MA9694-CCV12	1764	13126	2613	823
17:43	MA9694-CCB12	1847	13496	2625	982
17:47	ZZZZZZ	1820	13256	2534	900
17:52	ZZZZZZ	1769	12995	2516	845
17:56	ZZZZZZ	1810	13273	2544	897
18:00	ZZZZZZ	1603	12215	2560	632
18:05	ZZZZZZ	2847 !	21623 !	4270 !	727
18:09	ZZZZZZ	2705 !	20612 !	3977 !	721
18:14	ZZZZZZ	2517 !	18971 !	3581 !	772
18:18	ZZZZZZ	1853	13998	2643	803
18:22	MP22538-MB1	1843	13615	2575	1011
18:27	MP22538-B1	1757	13197	2521	856
18:31	MA9694-CCV13	1714	12880	2456	808
18:35	MA9694-CCB13	1816	13304	2512	980
18:40	F91848-1	1785	13333	2546	938
18:44	MP22538-D1	1787	13222	2512	939
18:49	MP22538-SD1	1809	13379	2499	966
18:53	MP22538-PS1	1773	13274	2523	899
18:57	MP22538-S1	1745	13200	2497	835
19:02	MP22538-S2	1751	13111	2485	836
19:06	ZZZZZZ	1803	13419	2532	946
19:10	ZZZZZZ	1826	13653	2572	933
19:15	ZZZZZZ	1859	13829	2613	918
19:19	ZZZZZZ	1862	13889	2616	941
19:24	MA9694-CCV14	1718	13005	2456	803
19:28	MA9694-CCB14	1817	13423	2509	976
19:32	ZZZZZZ	1861	13856	2633	942
19:37	ZZZZZZ	1817	13550	2543	949
19:41	ZZZZZZ	1840	13662	2597	908
19:46	ZZZZZZ	1799	13226	2516	959
19:50	ZZZZZZ	1832	13514	2575	954
19:55	ZZZZZZ	1868	13886	2631	932
19:59	ZZZZZZ	1828	13462	2529	946

INTERNAL STANDARD SUMMARY

Login Number: F91608
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA040512M1.ICP Date Analyzed: 04/05/12 Methods: SW846 6010C
Analyst: DM Run ID: MA9694
Parameters: As,Cr,Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
20:04	ZZZZZZ	1793	13195	2530	938
20:08	ZZZZZZ	1797	13358	2517	941
20:13	ZZZZZZ	1950	14446	2680	950
20:17	MA9694-CCV15	1715	12854	2450	811
20:21	MA9694-CCB15	1813	13322	2494	977
20:26	ZZZZZZ	1887	14145	2648	899
20:30	ZZZZZZ	1706	12871	2475	876
20:35	MA9694-CRIA2	1785	13191	2513	924
20:39	MA9694-ICSA2	1546	11829	2280	688
20:43	MA9694-ICSAB2	1545	11787	2237	682
20:48	MA9694-CCV16	1717	12830	2375	811
20:52	MA9694-CCB16	1811	13310	2426	977

R = Reference for ISTD limits. ! = Outside limits.

LEGEND:

Istd#	Parameter	Limits
Istd#1	Yttrium (2243)	60-125 %
Istd#2	Yttrium (3600)	60-125 %
Istd#3	Yttrium (3710)	60-125 %
Istd#4	Indium	60-125 %

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F91608
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA040512M1.ICP Date Analyzed: 04/05/12 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA9694 Units: ug/l

Time:			07:24		07:58		08:57		09:49	
Sample ID:			ICB1		CCB1		CCB2		CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	20	anr							
Antimony	6.0	1	anr							
Arsenic	10	1	1.9	<10	0.80	<10	-0.40	<10	1.3	<10
Barium	200	1	anr							
Beryllium	4.0	.1	anr							
Cadmium	5.0	.1	anr							
Calcium	1000	50	anr							
Chromium	10	1	0.30	<10	0.60	<10	0.30	<10	0.10	<10
Cobalt	50	1								
Copper	25	1	anr							
Iron	300	34	anr							
Lead	5.0	1	0.70	<5.0	0.20	<5.0	0.0	<5.0	0.80	<5.0
Magnesium	5000	50	anr							
Manganese	15	1	anr							
Molybdenum	50	1	anr							
Nickel	40	1	anr							
Potassium	10000	50	anr							
Selenium	10	2	anr							
Silver	10	1	anr							
Sodium	10000	750	anr							
Strontium	10	1								
Thallium	10	1	anr							
Tin	50	1								
Titanium	10	1.1								
Vanadium	50	1								
Zinc	20	1	anr							

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F91608
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA040512M1.ICP Date Analyzed: 04/05/12 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA9694 Units: ug/l

Time:			10:42		11:35		12:28		13:20	
Sample ID:			CCB4		CCB5		CCB6		CCB7	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	20	anr							
Antimony	6.0	1	anr							
Arsenic	10	1	0.20	<10	0.70	<10	0.70	<10	0.30	<10
Barium	200	1	anr							
Beryllium	4.0	.1	anr							
Cadmium	5.0	.1	anr							
Calcium	1000	50	anr							
Chromium	10	1	-0.20	<10	0.50	<10	-0.20	<10	0.30	<10
Cobalt	50	1								
Copper	25	1	anr							
Iron	300	34	anr							
Lead	5.0	1	1.0	<5.0	1.1	<5.0	0.20	<5.0	0.20	<5.0
Magnesium	5000	50	anr							
Manganese	15	1	anr							
Molybdenum	50	1	anr							
Nickel	40	1	anr							
Potassium	10000	50	anr							
Selenium	10	2	anr							
Silver	10	1	anr							
Sodium	10000	750	anr							
Strontium	10	1								
Thallium	10	1	anr							
Tin	50	1								
Titanium	10	1.1								
Vanadium	50	1								
Zinc	20	1	anr							

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F91608
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA040512M1.ICP Date Analyzed: 04/05/12 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA9694 Units: ug/l

Time:			14:13		15:05		15:58		16:51	
Sample ID:			CCB8		CCB9		CCB10		CCB11	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	20	anr							
Antimony	6.0	1	anr							
Arsenic	10	1	-0.30	<10	0.50	<10	0.50	<10	1.2	<10
Barium	200	1	anr							
Beryllium	4.0	.1	anr							
Cadmium	5.0	.1	anr							
Calcium	1000	50	anr							
Chromium	10	1	0.60	<10	0.10	<10	-0.10	<10	-0.10	<10
Cobalt	50	1								
Copper	25	1	anr							
Iron	300	34	anr							
Lead	5.0	1	0.40	<5.0	0.40	<5.0	0.40	<5.0	0.60	<5.0
Magnesium	5000	50	anr							
Manganese	15	1	anr							
Molybdenum	50	1	anr							
Nickel	40	1	anr							
Potassium	10000	50	anr							
Selenium	10	2	anr							
Silver	10	1	anr							
Sodium	10000	750	anr							
Strontium	10	1								
Thallium	10	1	anr							
Tin	50	1								
Titanium	10	1.1								
Vanadium	50	1								
Zinc	20	1	anr							

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F91608
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA040512M1.ICP Date Analyzed: 04/05/12 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA9694 Units: ug/l

Time:			17:43		18:35		19:28		20:21	
Sample ID:			CCB12		CCB13		CCB14		CCB15	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	20	anr							
Antimony	6.0	1	anr							
Arsenic	10	1	0.80	<10	-0.30	<10	0.0	<10	-0.60	<10
Barium	200	1	anr							
Beryllium	4.0	.1	anr							
Cadmium	5.0	.1	anr							
Calcium	1000	50	anr							
Chromium	10	1	0.20	<10	-0.30	<10	-0.20	<10	0.0	<10
Cobalt	50	1								
Copper	25	1	anr							
Iron	300	34	anr							
Lead	5.0	1	0.90	<5.0	0.80	<5.0	0.20	<5.0	1.1	<5.0
Magnesium	5000	50	anr							
Manganese	15	1	anr							
Molybdenum	50	1	anr							
Nickel	40	1	anr							
Potassium	10000	50	anr							
Selenium	10	2	anr							
Silver	10	1	anr							
Sodium	10000	750	anr							
Strontium	10	1								
Thallium	10	1	anr							
Tin	50	1								
Titanium	10	1.1								
Vanadium	50	1								
Zinc	20	1	anr							

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F91608
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA040512M1.ICP Date Analyzed: 04/05/12 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA9694 Units: ug/l

Time:			20:52	
Sample ID:			CCB16	
Metal	RL	IDL	raw	final
Aluminum	200	20	anr	
Antimony	6.0	1	anr	
Arsenic	10	1	-0.20	<10
Barium	200	1	anr	
Beryllium	4.0	.1	anr	
Cadmium	5.0	.1	anr	
Calcium	1000	50	anr	
Chromium	10	1	0.30	<10
Cobalt	50	1		
Copper	25	1	anr	
Iron	300	34	anr	
Lead	5.0	1	0.50	<5.0
Magnesium	5000	50	anr	
Manganese	15	1	anr	
Molybdenum	50	1	anr	
Nickel	40	1	anr	
Potassium	10000	50	anr	
Selenium	10	2	anr	
Silver	10	1	anr	
Sodium	10000	750	anr	
Strontium	10	1		
Thallium	10	1	anr	
Tin	50	1		
Titanium	10	1.1		
Vanadium	50	1		
Zinc	20	1	anr	

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F91608
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA040512M1.ICP Date Analyzed: 04/05/12 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA9694 Units: ug/l

Time:		07:19			07:53			08:53	
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	2000	1970	98.5	2000	1990	99.5	2000	1990	99.5
Barium	anr								
Beryllium	anr								
Cadmium	anr								
Calcium	anr								
Chromium	2000	2040	102.0	2000	2020	101.0	2000	2010	100.5
Cobalt									
Copper	anr								
Iron	anr								
Lead	2000	1950	97.5	2000	1990	99.5	2000	1990	99.5
Magnesium	anr								
Manganese	anr								
Molybdenum	anr								
Nickel	anr								
Potassium	anr								
Selenium	anr								
Silver	anr								
Sodium	anr								
Strontium									
Thallium	anr								
Tin									
Titanium									
Vanadium									
Zinc	anr								

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F91608
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA040512M1.ICP Date Analyzed: 04/05/12 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA9694 Units: ug/l

Time:		09:45			10:38			11:31	
Sample ID:	CCV	CCV3		CCV	CCV4		CCV	CCV5	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	2000	1970	98.5	2000	1990	99.5	2000	1980	99.0
Barium	anr								
Beryllium	anr								
Cadmium	anr								
Calcium	anr								
Chromium	2000	2020	101.0	2000	2020	101.0	2000	1990	99.5
Cobalt									
Copper	anr								
Iron	anr								
Lead	2000	1990	99.5	2000	2000	100.0	2000	1990	99.5
Magnesium	anr								
Manganese	anr								
Molybdenum	anr								
Nickel	anr								
Potassium	anr								
Selenium	anr								
Silver	anr								
Sodium	anr								
Strontium									
Thallium	anr								
Tin									
Titanium									
Vanadium									
Zinc	anr								

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F91608
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA040512M1.ICP Date Analyzed: 04/05/12 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA9694 Units: ug/l

Time:		12:24			13:16			14:09	
Sample ID:	CCV	CCV6		CCV	CCV7		CCV	CCV8	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	2000	1970	98.5	2000	1990	99.5	2000	1990	99.5
Barium	anr								
Beryllium	anr								
Cadmium	anr								
Calcium	anr								
Chromium	2000	2000	100.0	2000	2030	101.5	2000	2020	101.0
Cobalt									
Copper	anr								
Iron	anr								
Lead	2000	1980	99.0	2000	1990	99.5	2000	1980	99.0
Magnesium	anr								
Manganese	anr								
Molybdenum	anr								
Nickel	anr								
Potassium	anr								
Selenium	anr								
Silver	anr								
Sodium	anr								
Strontium									
Thallium	anr								
Tin									
Titanium									
Vanadium									
Zinc	anr								

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F91608
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA040512M1.ICP Date Analyzed: 04/05/12 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA9694 Units: ug/l

Time:		15:01			15:54			16:47	
Sample ID:	CCV	CCV9		CCV	CCV10		CCV	CCV11	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	2000	2010	100.5	2000	2000	100.0	2000	2010	100.5
Barium	anr								
Beryllium	anr								
Cadmium	anr								
Calcium	anr								
Chromium	2000	2060	103.0	2000	2060	103.0	2000	2070	103.5
Cobalt									
Copper	anr								
Iron	anr								
Lead	2000	1990	99.5	2000	1990	99.5	2000	1990	99.5
Magnesium	anr								
Manganese	anr								
Molybdenum	anr								
Nickel	anr								
Potassium	anr								
Selenium	anr								
Silver	anr								
Sodium	anr								
Strontium									
Thallium	anr								
Tin									
Titanium									
Vanadium									
Zinc	anr								

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F91608
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA040512M1.ICP Date Analyzed: 04/05/12 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA9694 Units: ug/l

Time:		17:39			18:31			19:24	
Sample ID:	CCV	CCV12		CCV	CCV13		CCV	CCV14	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	2000	2000	100.0	2000	2030	101.5	2000	2010	100.5
Barium	anr								
Beryllium	anr								
Cadmium	anr								
Calcium	anr								
Chromium	2000	2010	100.5	2000	2000	100.0	2000	1970	98.5
Cobalt									
Copper	anr								
Iron	anr								
Lead	2000	1990	99.5	2000	1990	99.5	2000	1980	99.0
Magnesium	anr								
Manganese	anr								
Molybdenum	anr								
Nickel	anr								
Potassium	anr								
Selenium	anr								
Silver	anr								
Sodium	anr								
Strontium									
Thallium	anr								
Tin									
Titanium									
Vanadium									
Zinc	anr								

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F91608
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA040512M1.ICP Date Analyzed: 04/05/12 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA9694 Units: ug/l

Time:		20:17			20:48	
Sample ID:	CCV	CCV15		CCV	CCV16	
Metal	True	Results	% Rec	True	Results	% Rec
Aluminum	anr					
Antimony	anr					
Arsenic	2000	2020	101.0	2000	2020	101.0
Barium	anr					
Beryllium	anr					
Cadmium	anr					
Calcium	anr					
Chromium	2000	2020	101.0	2000	2030	101.5
Cobalt						
Copper	anr					
Iron	anr					
Lead	2000	1970	98.5	2000	1980	99.0
Magnesium	anr					
Manganese	anr					
Molybdenum	anr					
Nickel	anr					
Potassium	anr					
Selenium	anr					
Silver	anr					
Sodium	anr					
Strontium						
Thallium	anr					
Tin						
Titanium						
Vanadium						
Zinc	anr					

(*) Outside of QC limits
(anr) Analyte not requested

HIGH STANDARD CHECK SUMMARY

Login Number: F91608
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA040512M1.ICP Date Analyzed: 04/05/12 Methods: SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA9694 Units: ug/l

Time:		07:15	
Sample ID:	HSTD	HSTD1	
Metal	True	Results	% Rec
Aluminum	anr		
Antimony	anr		
Arsenic	4000	4000	100.0
Barium	anr		
Beryllium	anr		
Cadmium	anr		
Calcium	anr		
Chromium	4000	3970	99.3
Cobalt			
Copper	anr		
Iron	anr		
Lead	4000	4010	100.3
Magnesium	anr		
Manganese	anr		
Molybdenum	anr		
Nickel	anr		
Potassium	anr		
Selenium	anr		
Silver	anr		
Sodium	anr		
Strontium			
Thallium	anr		
Tin			
Titanium			
Vanadium			
Zinc	anr		

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: F91608
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA040512M1.ICP Date Analyzed: 04/05/12 Methods: SW846 6010C
QC Limits: CRI 70-130% CRIA 70-130% Run ID: MA9694 Units: ug/l

Time:			07:28		20:35	
Sample ID:	CRI	CRIA	CRIA1		CRIA2	
Metal	True	True	Results	% Rec	Results	% Rec
Aluminum	400	200	anr			
Antimony	10	5.0	anr			
Arsenic	20	10	10.5	105.0	10.4	104.0
Barium	400	200	anr			
Beryllium	10	5.0	anr			
Cadmium	10	5.0	anr			
Calcium	2000	1000	anr			
Chromium	20	10	9.8	98.0	10.2	102.0
Cobalt	100	50				
Copper	50	25	anr			
Iron	600	300	anr			
Lead	10	5.0	5.3	106.0	5.2	104.0
Magnesium	10000	5000	anr			
Manganese	30	15	anr			
Molybdenum	100	50	anr			
Nickel	80	40	anr			
Potassium	20000	10000	anr			
Selenium	20	10	anr			
Silver	20	10	anr			
Sodium	20000	10000	anr			
Strontium	20	10				
Thallium	20	10	anr			
Tin	100	50				
Titanium	20	10				
Vanadium	100	50				
Zinc	40	20	anr			

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: F91608
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA040512M1.ICP Date Analyzed: 04/05/12 Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery Run ID: MA9694 Units: ug/l

Time:			07:36		07:48		20:39		20:43	
Sample ID:	ICSA	ICSAB	ICSA1		ICSAB1		ICSA2		ICSAB2	
Metal	True	True	Results	% Rec	Results	% Rec	Results	% Rec	Results	% Rec
Aluminum	500000	500000	505000	101.0	497000	99.4	510000	102.0	513000	102.6
Antimony		1000	-0.80		997	99.7	-1.8		1000	100.0
Arsenic		1000	0.0		1000	100.0	-2.4		1010	101.0
Barium		500	0.70		536	107.2	0.80		557	111.4
Beryllium		500	-0.10		500	100.0	-0.10		481	96.2
Cadmium		1000	0.0		945	94.5	3.0		930	93.0
Calcium	500000	500000	489000	97.8	495000	99.0	460000	92.0	454000	90.8
Chromium		500	0.70		511	102.2	0.20		492	98.4
Cobalt		500	0.10		468	93.6	-0.10		457	91.4
Copper		500	0.0		557	111.4	-1.3		554	110.8
Iron	200000	200000	196000	98.0	196000	98.0	175000	87.5	175000	87.5
Lead		1000	0.0		950	95.0	5.6		933	93.3
Magnesium	500000	500000	532000	106.4	531000	106.2	492000	98.4	487000	97.4
Manganese		500	-0.20		503	100.6	-0.30		480	96.0
Molybdenum		1000	0.0		938	93.8	-0.10		926	92.6
Nickel		1000	0.0		916	91.6	0.30		900	90.0
Potassium			15.0		-59		50.6		19.8	
Selenium		1000	0.0		1000	100.0	3.7		1010	101.0
Silver		1000	0.80		1070	107.0	0.20		1030	103.0
Sodium			68.3		63.7		89.0		93.1	
Strontium		1000	0.30		1010	101.0	0.60		1050	105.0
Thallium		1000	-0.20		936	93.6	0.70		918	91.8
Tin		1000	1.8		853	85.3	1.4		838	83.8
Titanium		1000	1.0		982	98.2	0.90		960	96.0
Vanadium		500	0.0		490	98.0	0.70		483	96.6
Zinc		1000	-0.30		911	91.1	-0.50		885	88.5

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: F91608
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

QC Batch ID: MP22524
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 04/03/12

Metal	RL	IDL	MDL	MB raw	final
Aluminum	10	1	1.2		
Antimony	1.0	.05	.1		
Arsenic	0.50	.05	.1	-0.090	<0.50
Barium	10	.05	.5		
Beryllium	0.25	.005	.05		
Cadmium	0.20	.005	.05		
Calcium	250	2.5	5		
Chromium	0.50	.05	.05	0.0050	<0.50
Cobalt	2.5	.05	.05		
Copper	1.3	.05	.1		
Iron	15	1.7	1.7		
Lead	1.0	.05	.05	0.015	<1.0
Magnesium	250	2.5	5		
Manganese	0.75	.05	.05		
Molybdenum	2.5	.05	.05		
Nickel	2.0	.05	.05		
Potassium	500	2.5	25		
Selenium	1.0	.1	.2		
Silver	0.50	.05	.05		
Sodium	500	38	55		
Strontium	0.50	.05	.05		
Thallium	0.50	.05	.13		
Tin	2.5	.05	.05		
Titanium	0.50	.055	.1		
Vanadium	2.5	.05	.05		
Zinc	1.0	.05	.25		

Associated samples MP22524: F91608-4, F91608-5, F91608-6, F91608-7, F91608-8, F91608-9

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F91608
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

QC Batch ID: MP22524
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date:			04/03/12						04/03/12	
Metal	F91658-6 Original	DUP	RPD	QC Limits	F91658-6 Original	MS	Spikelot MPFLICP1	% Rec	QC Limits
Aluminum									
Antimony									
Arsenic	0.0	0.0 (a)	NC	0-20	0.0	125 (a)	122	102.8	80-120
Barium	anr								
Beryllium									
Cadmium	anr								
Calcium									
Chromium	4.4	3.6 (a)	20.0	0-20	4.4	16.5 (a)	12.2	99.5	80-120
Cobalt									
Copper									
Iron									
Lead	9.5	8.2 (a)	14.7	0-20	9.5	37.6 (a)	30.4	92.4	80-120
Magnesium									
Manganese									
Molybdenum									
Nickel									
Potassium									
Selenium	anr								
Silver	anr								
Sodium									
Strontium									
Thallium									
Tin									
Titanium									
Vanadium									
Zinc									

Associated samples MP22524: F91608-4, F91608-5, F91608-6, F91608-7, F91608-8, F91608-9

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Elevated reporting limit(s) due to matrix interference.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F91608
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

QC Batch ID: MP22524
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 04/03/12

Metal	F91658-6 Original	MSD	Spikelot MPFLICP1	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	0.0	124 (a)	122	101.9	0.8	20
Barium	anr					
Beryllium						
Cadmium	anr					
Calcium						
Chromium	4.4	16.3 (a)	12.2	97.8	1.2	20
Cobalt						
Copper						
Iron						
Lead	9.5	38.6 (a)	30.4	95.7	2.6	20
Magnesium						
Manganese						
Molybdenum						
Nickel						
Potassium						
Selenium	anr					
Silver	anr					
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Vanadium						
Zinc						

Associated samples MP22524: F91608-4, F91608-5, F91608-6, F91608-7, F91608-8, F91608-9

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Elevated reporting limit(s) due to matrix interference.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: F91608
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

QC Batch ID: MP22524
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 04/03/12

Metal	BSP Result	Spikelot MPFLICP1	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	90.7	100	90.7	80-120
Barium	anr			
Beryllium				
Cadmium	anr			
Calcium				
Chromium	9.8	10	98.0	80-120
Cobalt				
Copper				
Iron				
Lead	22.1	25	88.4	80-120
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium	anr			
Silver	anr			
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP22524: F91608-4, F91608-5, F91608-6, F91608-7, F91608-8, F91608-9

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: F91608
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

QC Batch ID: MP22524
Matrix Type: SOLID

Methods: SW846 6010C
Units: ug/l

Prep Date:			04/03/12				04/03/12	
Metal	F91658-6 Original	SDL	20:100%DIF	QC Limits	F91658-9 Original	SDL	10:50%DIF	QC Limits
Aluminum								
Antimony								
Arsenic	0.00	0.00	NC	0-10	0.00	0.00	NC	0-10
Barium	anr							
Beryllium								
Cadmium	anr							
Calcium								
Chromium	87.0	0.00	100.0(a)	0-10	72.0	66.7	7.4	0-10
Cobalt								
Copper								
Iron								
Lead	190	137	28.0 (a)	0-10	190	156	17.9 (a)	0-10
Magnesium								
Manganese								
Molybdenum								
Nickel								
Potassium								
Selenium	anr							
Silver	anr							
Sodium								
Strontium								
Thallium								
Tin								
Titanium								
Vanadium								
Zinc								

Associated samples MP22524: F91608-4, F91608-5, F91608-6, F91608-7, F91608-8, F91608-9

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

POST DIGESTATE SPIKE SUMMARY

Login Number: F91608
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

QC Batch ID: MP22524
Matrix Type: SOLID

Methods: SW846 6010C
Units: ug/l

Prep Date: 04/03/12

Metal	Sample ml	Final ml	F91658-6 Raw	Corr.**	PS ug/l	Spike ml	Spike ug/ml	Spike ug/l	% Rec	QC Limits
Aluminum										
Antimony										
Arsenic	9.8	10	0	0	117.5	0.2	5	100	117.5	80-120
Barium										
Beryllium										
Cadmium										
Calcium										
Chromium	9.8	10	87	85.26	134.1	0.2	2.5	50	97.7	80-120
Cobalt										
Copper										
Iron										
Lead	9.8	10	189.6	185.808	246.4	0.2	2.5	50	121.2*(a	80-120
Magnesium										
Manganese										
Molybdenum										
Nickel										
Potassium										
Selenium										
Silver										
Sodium										
Strontium										
Thallium										
Tin										
Titanium										
Vanadium										
Zinc										

Associated samples MP22524: F91608-4, F91608-5, F91608-6, F91608-7, F91608-8, F91608-9

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested
(a) Spike recovery indicates matrix interference and/or outside control limits due to high level in sample relative to spike amount.

POST DIGESTATE SPIKE SUMMARY

Login Number: F91608
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

QC Batch ID: MP22524
Matrix Type: SOLID

Methods: SW846 6010C
Units: ug/l

Prep Date: 04/03/12

Metal	Sample ml	Final ml	F91658-9 Raw	Corr.**	PS ug/l	Spike ml	Spike ug/ml	Spike ug/l	% Rec	QC Limits
Aluminum										
Antimony										
Arsenic	9.8	10	0	0	118.5	0.2	5	100	118.5	80-120
Barium										
Beryllium										
Cadmium										
Calcium										
Chromium	9.8	10	72	70.56	117.6	0.2	2.5	50	94.1	80-120
Cobalt										
Copper										
Iron										
Lead	9.8	10	190.3	186.494	252.9	0.2	2.5	50	132.8*(a	80-120
Magnesium										
Manganese										
Molybdenum										
Nickel										
Potassium										
Selenium										
Silver										
Sodium										
Strontium										
Thallium										
Tin										
Titanium										
Vanadium										
Zinc										

Associated samples MP22524: F91608-4, F91608-5, F91608-6, F91608-7, F91608-8, F91608-9

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested
(a) Spike recovery indicates matrix interference and/or outside control limits due to high level in sample relative to spike amount.

Southeast ACCUTEST LABORATORIES

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Percent Solids Raw Data Summary

Percent Solids Raw Data Summary

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: F91608-1 **Analyzed:** 03-APR-12 by AA **Method:** SM19 2540G
ClientID: SS39-SUMP1-FL12

Wet Weight (Total)	7.7	g
Tare Weight	1.03	g
Dry Weight (Total)	6.91	g
Solids, Percent	88.2	%

Sample: F91608-2 **Analyzed:** 03-APR-12 by AA **Method:** SM19 2540G
ClientID: SS39-SUMP1-SW11

Wet Weight (Total)	7.34	g
Tare Weight	.99	g
Dry Weight (Total)	6.69	g
Solids, Percent	89.8	%

Sample: F91608-3 **Analyzed:** 03-APR-12 by AA **Method:** SM19 2540G
ClientID: SS39-SUMP1-SW08

Wet Weight (Total)	7.33	g
Tare Weight	1	g
Dry Weight (Total)	6.26	g
Solids, Percent	83.1	%

Sample: F91608-4 **Analyzed:** 03-APR-12 by AA **Method:** SM19 2540G
ClientID: SS39-SUMP2-FL12

Wet Weight (Total)	7.45	g
Tare Weight	1	g
Dry Weight (Total)	6.31	g
Solids, Percent	82.3	%

Sample: F91608-5 **Analyzed:** 03-APR-12 by AA **Method:** SM19 2540G
ClientID: SS39-SUMP2-SW11

Wet Weight (Total)	7.15	g
Tare Weight	.99	g
Dry Weight (Total)	6.09	g
Solids, Percent	82.8	%

Sample: F91608-6 **Analyzed:** 03-APR-12 by AA **Method:** SM19 2540G
ClientID: SS39-SUMP2-SW05

Wet Weight (Total)	7.22	g
Tare Weight	1.04	g
Dry Weight (Total)	6.18	g
Solids, Percent	83.2	%

Percent Solids Raw Data Summary

Job Number: F91608
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: F91608-7 **Analyzed:** 03-APR-12 by AA **Method:** SM19 2540G
ClientID: SS39-SUMP3-FL02

Wet Weight (Total)	7.17	g
Tare Weight	1.03	g
Dry Weight (Total)	6.11	g
Solids, Percent	82.7	%

Sample: F91608-8 **Analyzed:** 03-APR-12 by AA **Method:** SM19 2540G
ClientID: SS39-SUMP3-SW01A

Wet Weight (Total)	7.35	g
Tare Weight	1.04	g
Dry Weight (Total)	6.3	g
Solids, Percent	83.4	%

Sample: F91608-9 **Analyzed:** 03-APR-12 by AA **Method:** SM19 2540G
ClientID: SS39-SUMP3-SW01B

Wet Weight (Total)	7.52	g
Tare Weight	.99	g
Dry Weight (Total)	6.4	g
Solids, Percent	82.8	%

Southeast ACCUTEST LABORATORIES

Reissue #1
09/21/12

Technical Report for

Tetra Tech, Inc

Holloman AFB; Alamogordo, NM

Accutest Job Number: F91658

Sampling Dates: 03/28/12 - 03/29/12

Report to:

Tetra Tech

Purshotam.Juriasingani@tetratech.com
valerie.bogle@tetratech.com
ATTN: Purshotam Juriasingani

Total number of pages in report: **194**

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Harry Behzadi, Ph.D.
Laboratory Director

Client Service contact: Sue Bell 407-425-6700

Certifications: FL (E83510), LA (03051), KS (E-10327), IA (366), IL (200063), NC (573), NJ (FL002), SC (96038001) DoD ELAP (L-A-B L2229), CA (04226CA), TX (T104704404), AK, AR, GA, KY, MA, NV, OK, UT, VA, WA, WI

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Test results relate only to samples analyzed.

Accutest Laboratories is the sole authority for authorizing edits or modifications to this document. Unauthorized modification of this report is strictly prohibited.

September 20, 2012

Valerie Bogle
Tetra Tech
800 Oak Ridge Turnpike
A 600
Oak Ridge, TN 37838

RE: Accutest job F91658 Reissue

Dear Ms. Bogle,

The final report for job number F91658 has been edited to reflect requested corrections. These edits have been incorporated into the revised report.

Confirmation run and associated QC updated for F91658-9 VOCs.

Accutest apologies for any inconvenience this may have caused. Please feel free to contact us if we can be of further assistance.

Sincerely,

Accutest Laboratories, SE

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Accutest Laboratories

Sample Summary

Tetra Tech, Inc

Holloman AFB; Alamogordo, NM

Job No: F91658

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
F91658-1	03/28/12	16:40	AJ	03/30/12	SO	Soil	SS39-OXD-FL02
F91658-2	03/28/12	16:50	AJ	03/30/12	SO	Soil	SS39-OXD-SW03
F91658-3	03/28/12	16:55	AJ	03/30/12	SO	Soil	SS39-OXD-SW01
F91658-4	03/28/12	17:52	AJ	03/30/12	SO	Soil	SS39-PDB-FL02
F91658-5	03/28/12	18:00	AJ	03/30/12	SO	Soil	SS39-PDB-SW01A
F91658-6	03/28/12	18:08	AJ	03/30/12	SO	Soil	SS39-PDB-SW01B
F91658-6D	03/28/12	18:08	AJ	03/30/12	SO	Soil Dup/MSD	SS39-PDB-SW01B
F91658-6S	03/28/12	18:08	AJ	03/30/12	SO	Soil Matrix Spike	SS39-PDB-SW01B
F91658-7	03/29/12	12:23	AJ	03/30/12	SO	Soil	SS39-FD01-032912
F91658-8	03/29/12	00:00	AJ	03/30/12	SO	Trip Blank Soil	SS39-TB02-032912
F91658-9	03/29/12	12:23	AJ	03/30/12	SO	Soil	SS39-PDB-SW01B-032912
F91658-9D	03/29/12	12:23	AJ	03/30/12	SO	Soil Dup/MSD	SS39-PDB-SW01B-032912
F91658-9S	03/29/12	12:23	AJ	03/30/12	SO	Soil Matrix Spike	SS39-PDB-SW01B-032912

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Tetra Tech, Inc **Job** F91658

Site: Holloman AFB; Alamogordo, NM **Report Date** 4/13/2012 11:09:09 AM

8 Samples and 1 Trip Blank were collected on 03/28/2012 and 03/29/2012 and were received at Accutest SE on 03/30/2012 properly preserved, at 3 Deg. C and intact. These Samples received an Accutest job number of F91658. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GCMS By Method SW846 8260B

Matrix: SO **Batch ID:** VH2786

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) F91658-9MS was used as the QC samples indicated.

Matrix Spike Recovery(s) for 1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene, Benzyl Chloride, Ethyl methacrylate, Hexachlorobutadiene, Vinyl Acetate are outside control limits. Probable cause is due to matrix interference. For method performance in a clean matrix, refer to Blank Spike.

F91658-9: Confirmation run.

F91658-3 for Methylene chloride: Suspected laboratory contaminant.

F91658-6 for Methylene chloride: Suspected laboratory contaminant.

F91658-8 for Methylene chloride: Suspected laboratory contaminant.

Matrix: SO **Batch ID:** VH2787

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) F91658-9MS, F91658-9MSD were used as the QC samples indicated.

Blank Spike Recovery(s) for Methyl methacrylate are outside control limits. Recovery biased high, but sample was ND.

Matrix Spike Recovery(s) for 1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene, Ethyl methacrylate, Hexachlorobutadiene, Methyl methacrylate are outside control limits. Probable cause is due to matrix interference.

Matrix Spike Duplicate Recovery(s) for 1,1,1,2-Tetrachloroethane, 1,1,1-Trichloroethane, 1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene, 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, 1-Chlorohexane, Benzyl Chloride, Bromobenzene, Carbon tetrachloride, Chlorobenzene, Ethyl methacrylate, Ethylbenzene, Hexachlorobutadiene, Hexane, Isopropylbenzene, m,p-Xylene, m-Dichlorobenzene, Methyl methacrylate, n-Butylbenzene, n-Propylbenzene, o-Chlorotoluene, o-Dichlorobenzene, o-Xylene, p-Chlorotoluene, p-Dichlorobenzene, p-Isopropyltoluene, sec-Butylbenzene, Styrene, tert-Butylbenzene, Tetrachloroethylene, Toluene, trans-1,2-Dichloroethylene are outside control limits. Probable cause due

RPD(s) for MSD for 1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene, 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, 1-Chlorohexane, Chlorobenzene, Ethylbenzene, Hexachlorobutadiene, Isopropylbenzene, m,p-Xylene, m-Dichlorobenzene, n-Butylbenzene, n-Propylbenzene, o-Chlorotoluene, o-Dichlorobenzene, p-Chlorotoluene, p-Dichlorobenzene, p-Isopropyltoluene, sec-Butylbenzene, tert-Butylbenzene are outside control limits for sample F91658-9MSD. Probable cause is due to sample non-homogeneity.

F91658-9 for Methyl methacrylate: Associated BS recovery outside control limits.

F91658-9 for Methylene chloride: Suspected laboratory contaminant.

Volatiles by GC By Method SW846 8015C

Matrix: SO **Batch ID:** GQR2918

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) F91658-9MS, F91658-9MSD were used as the QC samples indicated.

Extractables by GC By Method SW846 8015C

Matrix: SO **Batch ID:** OP41200

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) F91658-6MS, F91658-6MSD were used as the QC samples indicated.

F91658-4, F91658-5 for TPH (C10-C28): Petroleum hydrocarbon pattern extends beyond C28.

Matrix: SO **Batch ID:** OP41221

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) F91658-9MS, F91658-9MSD were used as the QC samples indicated.

Metals By Method SW846 6010C

Matrix: SO **Batch ID:** MP22524

All samples were digested within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) F91658-6MS, F91658-6MSD, F91658-6DUP, F91658-6PS, F91658-6SDL, F91658-9MS, F91658-9MSD, F91658-9DUP, F91658-9PS, F91658-9SDL, were used as the QC samples for metals.

RPD(s) for MSD for Arsenic, Lead are outside control limits for sample MP22524-S4. High RPD due to possible sample non-homogeneity.

RPD(s) for Serial Dilution for Lead are outside control limits for sample MP22524-SD1, MP22524-SD2. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

MP22524-PS1 for Lead: Spike recovery indicates matrix interference and/or outside control limits due to high level in sample relative to spike amount.

MP22524-PS2 for Lead: Spike recovery indicates matrix interference and/or outside control limits due to high level in sample relative to spike amount.

F91658-1 for Arsenic: Elevated reporting limit(s) due to matrix interference.

F91658-2 for Arsenic: Elevated reporting limit(s) due to matrix interference.

F91658-3 for Arsenic: Elevated reporting limit(s) due to matrix interference.

F91658-4 for Arsenic: Elevated reporting limit(s) due to matrix interference.

F91658-4 for Lead: Elevated reporting limit(s) due to matrix interference.

F91658-5 for Arsenic: Elevated reporting limit(s) due to matrix interference.

F91658-5 for Lead: Elevated reporting limit(s) due to matrix interference.

F91658-6 for Arsenic: Elevated reporting limit(s) due to matrix interference.

F91658-6 for Lead: Elevated reporting limit(s) due to matrix interference.

F91658-9 for Arsenic: Elevated reporting limit(s) due to matrix interference.

F91658-9 for Lead: Elevated reporting limit(s) due to matrix interference.

F91658-7 for Arsenic: Elevated reporting limit(s) due to matrix interference.

F91658-7 for Lead: Elevated reporting limit(s) due to matrix interference.

Wet Chemistry By Method SM19 2540G

Matrix: SO **Batch ID:** GN49176

Sample(s) F91658-6DUP, F91658-9DUP were used as the QC sample for Solids, Percent.

Accutest Laboratories Southeast (ALSE) certifies that this report meets the project requirements for analytical data produced for the samples as received at ALSE and as stated on the COC. ALSE certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the ALSE Quality Manual except as noted above. This report is to be used in its entirety. ALSE is not responsible for any assumptions of data quality if partial data packages are used.

Narrative prepared by:

_____ Date: April 13, 2012

Kim Benham, Client Services (signature on file)

Summary of Hits

Job Number: F91658
Account: Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM
Collected: 03/28/12 thru 03/29/12

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
F91658-1	**SS39-OXD-FL02**					
No hits reported in this sample.						
F91658-2	**SS39-OXD-SW03**					
Arsenic [a]		25.1	5.2	1.0	mg/kg	SW846 6010C
F91658-3	**SS39-OXD-SW01**					
Methylene chloride [b]		8.4 J	12	5.4	ug/kg	SW846 8260B
F91658-4	**SS39-PDB-FL02**					
TPH (C10-C28) [c]		9.21 J	9.6	3.8	mg/kg	SW846 8015C
Lead [a]		31.8	16	0.78	mg/kg	SW846 6010C
F91658-5	**SS39-PDB-SW01A**					
TPH (C10-C28) [c]		4.63 J	9.8	3.9	mg/kg	SW846 8015C
Lead [a]		11.8 B	16	0.82	mg/kg	SW846 6010C
F91658-6	**SS39-PDB-SW01B**					
Methylene chloride [b]		6.3 J	13	6.1	ug/kg	SW846 8260B
Lead [a]		9.5 B	20	1.0	mg/kg	SW846 6010C
F91658-7	**SS39-FD01-032912**					
Lead [a]		4.9 B	17	0.86	mg/kg	SW846 6010C
F91658-8	**SS39-TB02-032912**					
Methylene chloride [b]		5.4 J	10	4.6	ug/kg	SW846 8260B
F91658-9	**SS39-PDB-SW01B-032912**					
Methylene chloride [b]		11.1 J	14	6.3	ug/kg	SW846 8260B
Lead [a]		10.3 B	11	0.54	mg/kg	SW846 6010C

(a) Elevated reporting limit(s) due to matrix interference.
(b) Suspected laboratory contaminant.
(c) Petroleum hydrocarbon pattern extends beyond C28.

Southeast ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	SS39-OXD-FL02		
Lab Sample ID:	F91658-1	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/30/12
Method:	SW846 8260B	**Percent Solids:**	88.0
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H0075147.D	1	03/30/12	EP	n/a	n/a	VH2786
Run #2							

	Initial Weight
Run #1	4.47 g
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	64	25	ug/kg	
75-05-8	Acetonitrile	ND	64	23	ug/kg	
107-02-8	Acrolein	ND	32	14	ug/kg	
107-13-1	Acrylonitrile	ND	32	14	ug/kg	
107-05-1	Allyl chloride	ND	32	6.4	ug/kg	
71-43-2	Benzene	ND	6.4	1.9	ug/kg	
100-44-7	Benzyl Chloride	ND	6.4	1.9	ug/kg	
108-86-1	Bromobenzene	ND	6.4	1.8	ug/kg	
74-97-5	Bromochloromethane	ND	6.4	1.8	ug/kg	
75-27-4	Bromodichloromethane	ND	6.4	1.4	ug/kg	
75-25-2	Bromoform	ND	6.4	1.9	ug/kg	
104-51-8	n-Butylbenzene	ND	6.4	1.7	ug/kg	
135-98-8	sec-Butylbenzene	ND	6.4	2.0	ug/kg	
98-06-6	tert-Butylbenzene	ND	6.4	1.5	ug/kg	
108-90-7	Chlorobenzene	ND	6.4	1.3	ug/kg	
75-00-3	Chloroethane	ND	6.4	2.5	ug/kg	
67-66-3	Chloroform	ND	6.4	1.5	ug/kg	
544-10-5	1-Chlorohexane	ND	6.4	1.8	ug/kg	
95-49-8	o-Chlorotoluene	ND	6.4	1.5	ug/kg	
106-43-4	p-Chlorotoluene	ND	6.4	1.5	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	32	13	ug/kg	
75-15-0	Carbon disulfide	ND	6.4	2.5	ug/kg	
56-23-5	Carbon tetrachloride	ND	6.4	2.3	ug/kg	
75-34-3	1,1-Dichloroethane	ND	6.4	1.4	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	6.4	1.8	ug/kg	
563-58-6	1,1-Dichloropropene	ND	6.4	1.7	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	6.4	2.9	ug/kg	
106-93-4	1,2-Dibromoethane	ND	6.4	1.3	ug/kg	
107-06-2	1,2-Dichloroethane	ND	6.4	1.3	ug/kg	
78-87-5	1,2-Dichloropropane	ND	6.4	1.5	ug/kg	
142-28-9	1,3-Dichloropropane	ND	6.4	1.3	ug/kg	
594-20-7	2,2-Dichloropropane	ND	6.4	1.8	ug/kg	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-OXD-FL02		
Lab Sample ID:	F91658-1	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/30/12
Method:	SW846 8260B	**Percent Solids:**	88.0
Project:	Holloman AFB; Alamogordo, NM		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
124-48-1	Dibromochloromethane	ND	6.4	1.3	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	6.4	1.9	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	6.4	1.9	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	6.4	1.3	ug/kg	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	32	6.4	ug/kg	
541-73-1	m-Dichlorobenzene	ND	6.4	1.5	ug/kg	
95-50-1	o-Dichlorobenzene	ND	6.4	1.4	ug/kg	
106-46-7	p-Dichlorobenzene	ND	6.4	1.4	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	6.4	1.9	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	6.4	1.4	ug/kg	
100-41-4	Ethylbenzene	ND	6.4	1.3	ug/kg	
97-63-2	Ethyl methacrylate	ND	32	6.4	ug/kg	
76-13-1	Freon 113	ND	6.4	2.2	ug/kg	
591-78-6	2-Hexanone	ND	32	6.9	ug/kg	
87-68-3	Hexachlorobutadiene	ND	6.4	2.5	ug/kg	
110-54-3	Hexane	ND	6.4	2.4	ug/kg	
98-82-8	Isopropylbenzene	ND	6.4	1.4	ug/kg	
99-87-6	p-Isopropyltoluene	ND	6.4	1.5	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	32	7.0	ug/kg	
126-98-7	Methacrylonitrile	ND	32	12	ug/kg	
74-83-9	Methyl bromide	ND	6.4	2.5	ug/kg	
74-87-3	Methyl chloride	ND	6.4	2.5	ug/kg	
74-88-4	Methyl iodide	ND	13	1.4	ug/kg	
80-62-6	Methyl methacrylate	ND	6.4	2.3	ug/kg	
74-95-3	Methylene bromide	ND	6.4	1.9	ug/kg	
75-09-2	Methylene chloride	ND	13	5.8	ug/kg	
78-93-3	Methyl ethyl ketone	ND	32	7.8	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	6.4	2.5	ug/kg	
91-20-3	Naphthalene	ND	6.4	2.5	ug/kg	
76-01-7	Pentachloroethane	ND	32	6.4	ug/kg	
107-12-0	Propionitrile	ND	64	20	ug/kg	
103-65-1	n-Propylbenzene	ND	6.4	1.8	ug/kg	
100-42-5	Styrene	ND	6.4	3.3	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	6.4	1.3	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	6.4	1.4	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	6.4	1.5	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	6.4	1.4	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	6.4	1.3	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	6.4	2.2	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	6.4	1.5	ug/kg	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-OXD-FL02		
Lab Sample ID:	F91658-1	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/30/12
Method:	SW846 8260B	**Percent Solids:**	88.0
Project:	Holloman AFB; Alamogordo, NM		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-63-6	1,2,4-Trimethylbenzene	ND	6.4	1.4	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	6.4	1.7	ug/kg	
127-18-4	Tetrachloroethylene	ND	6.4	1.3	ug/kg	
108-88-3	Toluene	ND	6.4	1.5	ug/kg	
79-01-6	Trichloroethylene	ND	6.4	1.5	ug/kg	
75-69-4	Trichlorofluoromethane	ND	6.4	2.5	ug/kg	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	32	6.4	ug/kg	
75-01-4	Vinyl chloride	ND	6.4	1.9	ug/kg	
108-05-4	Vinyl Acetate	ND	32	18	ug/kg	
	m,p-Xylene	ND	13	2.8	ug/kg	
95-47-6	o-Xylene	ND	6.4	1.3	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	92%		80-121%
2037-26-5	Toluene-D8	96%		71-130%
460-00-4	4-Bromofluorobenzene	91%		59-148%
17060-07-0	1,2-Dichloroethane-D4	99%		77-123%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-OXD-FL02		
Lab Sample ID:	F91658-1	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/30/12
		Percent Solids:	88.0
Project:	Holloman AFB; Alamogordo, NM		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic [a]	1.4 U	7.1	1.4	mg/kg	20	04/03/12	04/04/12	DM	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA9692
(2) Prep QC Batch: MP22524

(a) Elevated reporting limit(s) due to matrix interference.

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	SS39-OXD-SW03		
Lab Sample ID:	F91658-2	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/30/12
Method:	SW846 8260B	**Percent Solids:**	87.4
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H0075148.D	1	03/30/12	EP	n/a	n/a	VH2786
Run #2							

	Initial Weight
Run #1	4.26 g
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	67	27	ug/kg	
75-05-8	Acetonitrile	ND	67	24	ug/kg	
107-02-8	Acrolein	ND	34	15	ug/kg	
107-13-1	Acrylonitrile	ND	34	15	ug/kg	
107-05-1	Allyl chloride	ND	34	6.7	ug/kg	
71-43-2	Benzene	ND	6.7	2.0	ug/kg	
100-44-7	Benzyl Chloride	ND	6.7	2.0	ug/kg	
108-86-1	Bromobenzene	ND	6.7	1.9	ug/kg	
74-97-5	Bromochloromethane	ND	6.7	1.9	ug/kg	
75-27-4	Bromodichloromethane	ND	6.7	1.5	ug/kg	
75-25-2	Bromoform	ND	6.7	2.0	ug/kg	
104-51-8	n-Butylbenzene	ND	6.7	1.7	ug/kg	
135-98-8	sec-Butylbenzene	ND	6.7	2.1	ug/kg	
98-06-6	tert-Butylbenzene	ND	6.7	1.6	ug/kg	
108-90-7	Chlorobenzene	ND	6.7	1.3	ug/kg	
75-00-3	Chloroethane	ND	6.7	2.7	ug/kg	
67-66-3	Chloroform	ND	6.7	1.6	ug/kg	
544-10-5	1-Chlorohexane	ND	6.7	1.9	ug/kg	
95-49-8	o-Chlorotoluene	ND	6.7	1.6	ug/kg	
106-43-4	p-Chlorotoluene	ND	6.7	1.6	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	34	13	ug/kg	
75-15-0	Carbon disulfide	ND	6.7	2.7	ug/kg	
56-23-5	Carbon tetrachloride	ND	6.7	2.4	ug/kg	
75-34-3	1,1-Dichloroethane	ND	6.7	1.5	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	6.7	1.9	ug/kg	
563-58-6	1,1-Dichloropropene	ND	6.7	1.7	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	6.7	3.1	ug/kg	
106-93-4	1,2-Dibromoethane	ND	6.7	1.3	ug/kg	
107-06-2	1,2-Dichloroethane	ND	6.7	1.3	ug/kg	
78-87-5	1,2-Dichloropropane	ND	6.7	1.6	ug/kg	
142-28-9	1,3-Dichloropropane	ND	6.7	1.3	ug/kg	
594-20-7	2,2-Dichloropropane	ND	6.7	1.9	ug/kg	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-OXD-SW03		
Lab Sample ID:	F91658-2	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/30/12
Method:	SW846 8260B	**Percent Solids:**	87.4
Project:	Holloman AFB; Alamogordo, NM		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
124-48-1	Dibromochloromethane	ND	6.7	1.3	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	6.7	2.0	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	6.7	2.0	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	6.7	1.3	ug/kg	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	34	6.7	ug/kg	
541-73-1	m-Dichlorobenzene	ND	6.7	1.6	ug/kg	
95-50-1	o-Dichlorobenzene	ND	6.7	1.5	ug/kg	
106-46-7	p-Dichlorobenzene	ND	6.7	1.5	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	6.7	2.0	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	6.7	1.5	ug/kg	
100-41-4	Ethylbenzene	ND	6.7	1.3	ug/kg	
97-63-2	Ethyl methacrylate	ND	34	6.7	ug/kg	
76-13-1	Freon 113	ND	6.7	2.3	ug/kg	
591-78-6	2-Hexanone	ND	34	7.3	ug/kg	
87-68-3	Hexachlorobutadiene	ND	6.7	2.7	ug/kg	
110-54-3	Hexane	ND	6.7	2.6	ug/kg	
98-82-8	Isopropylbenzene	ND	6.7	1.5	ug/kg	
99-87-6	p-Isopropyltoluene	ND	6.7	1.6	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	34	7.4	ug/kg	
126-98-7	Methacrylonitrile	ND	34	12	ug/kg	
74-83-9	Methyl bromide	ND	6.7	2.7	ug/kg	
74-87-3	Methyl chloride	ND	6.7	2.7	ug/kg	
74-88-4	Methyl iodide	ND	13	1.5	ug/kg	
80-62-6	Methyl methacrylate	ND	6.7	2.4	ug/kg	
74-95-3	Methylene bromide	ND	6.7	2.0	ug/kg	
75-09-2	Methylene chloride	ND	13	6.2	ug/kg	
78-93-3	Methyl ethyl ketone	ND	34	8.2	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	6.7	2.7	ug/kg	
91-20-3	Naphthalene	ND	6.7	2.7	ug/kg	
76-01-7	Pentachloroethane	ND	34	6.7	ug/kg	
107-12-0	Propionitrile	ND	67	21	ug/kg	
103-65-1	n-Propylbenzene	ND	6.7	1.9	ug/kg	
100-42-5	Styrene	ND	6.7	3.5	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	6.7	1.3	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	6.7	1.5	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	6.7	1.6	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	6.7	1.5	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	6.7	1.3	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	6.7	2.3	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	6.7	1.6	ug/kg	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-OXD-SW03		
Lab Sample ID:	F91658-2	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/30/12
Method:	SW846 8260B	**Percent Solids:**	87.4
Project:	Holloman AFB; Alamogordo, NM		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-63-6	1,2,4-Trimethylbenzene	ND	6.7	1.5	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	6.7	1.7	ug/kg	
127-18-4	Tetrachloroethylene	ND	6.7	1.3	ug/kg	
108-88-3	Toluene	ND	6.7	1.6	ug/kg	
79-01-6	Trichloroethylene	ND	6.7	1.6	ug/kg	
75-69-4	Trichlorofluoromethane	ND	6.7	2.7	ug/kg	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	34	6.7	ug/kg	
75-01-4	Vinyl chloride	ND	6.7	2.0	ug/kg	
108-05-4	Vinyl Acetate	ND	34	19	ug/kg	
	m,p-Xylene	ND	13	3.0	ug/kg	
95-47-6	o-Xylene	ND	6.7	1.3	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	93%		80-121%
2037-26-5	Toluene-D8	99%		71-130%
460-00-4	4-Bromofluorobenzene	99%		59-148%
17060-07-0	1,2-Dichloroethane-D4	97%		77-123%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-OXD-SW03		
Lab Sample ID:	F91658-2	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/30/12
		Percent Solids:	87.4
Project:	Holloman AFB; Alamogordo, NM		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic [a]	25.1	5.2	1.0	mg/kg	10	04/03/12	04/04/12	DM	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA9692
(2) Prep QC Batch: MP22524

(a) Elevated reporting limit(s) due to matrix interference.

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	SS39-OXD-SW01		
Lab Sample ID:	F91658-3	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/30/12
Method:	SW846 8260B	**Percent Solids:**	88.4
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H0075149.D	1	03/30/12	EP	n/a	n/a	VH2786
Run #2							

	Initial Weight
Run #1	4.85 g
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	58	23	ug/kg	
75-05-8	Acetonitrile	ND	58	21	ug/kg	
107-02-8	Acrolein	ND	29	13	ug/kg	
107-13-1	Acrylonitrile	ND	29	13	ug/kg	
107-05-1	Allyl chloride	ND	29	5.8	ug/kg	
71-43-2	Benzene	ND	5.8	1.7	ug/kg	
100-44-7	Benzyl Chloride	ND	5.8	1.7	ug/kg	
108-86-1	Bromobenzene	ND	5.8	1.6	ug/kg	
74-97-5	Bromochloromethane	ND	5.8	1.6	ug/kg	
75-27-4	Bromodichloromethane	ND	5.8	1.3	ug/kg	
75-25-2	Bromoform	ND	5.8	1.7	ug/kg	
104-51-8	n-Butylbenzene	ND	5.8	1.5	ug/kg	
135-98-8	sec-Butylbenzene	ND	5.8	1.9	ug/kg	
98-06-6	tert-Butylbenzene	ND	5.8	1.4	ug/kg	
108-90-7	Chlorobenzene	ND	5.8	1.2	ug/kg	
75-00-3	Chloroethane	ND	5.8	2.3	ug/kg	
67-66-3	Chloroform	ND	5.8	1.4	ug/kg	
544-10-5	1-Chlorohexane	ND	5.8	1.6	ug/kg	
95-49-8	o-Chlorotoluene	ND	5.8	1.4	ug/kg	
106-43-4	p-Chlorotoluene	ND	5.8	1.4	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	29	12	ug/kg	
75-15-0	Carbon disulfide	ND	5.8	2.3	ug/kg	
56-23-5	Carbon tetrachloride	ND	5.8	2.1	ug/kg	
75-34-3	1,1-Dichloroethane	ND	5.8	1.3	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	5.8	1.6	ug/kg	
563-58-6	1,1-Dichloropropene	ND	5.8	1.5	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.8	2.7	ug/kg	
106-93-4	1,2-Dibromoethane	ND	5.8	1.2	ug/kg	
107-06-2	1,2-Dichloroethane	ND	5.8	1.2	ug/kg	
78-87-5	1,2-Dichloropropane	ND	5.8	1.4	ug/kg	
142-28-9	1,3-Dichloropropane	ND	5.8	1.2	ug/kg	
594-20-7	2,2-Dichloropropane	ND	5.8	1.6	ug/kg	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-OXD-SW01		
Lab Sample ID:	F91658-3	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/30/12
Method:	SW846 8260B	**Percent Solids:**	88.4
Project:	Holloman AFB; Alamogordo, NM		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
124-48-1	Dibromochloromethane	ND	5.8	1.2	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	5.8	1.7	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	5.8	1.7	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	5.8	1.2	ug/kg	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	29	5.8	ug/kg	
541-73-1	m-Dichlorobenzene	ND	5.8	1.4	ug/kg	
95-50-1	o-Dichlorobenzene	ND	5.8	1.3	ug/kg	
106-46-7	p-Dichlorobenzene	ND	5.8	1.3	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	5.8	1.7	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	5.8	1.3	ug/kg	
100-41-4	Ethylbenzene	ND	5.8	1.2	ug/kg	
97-63-2	Ethyl methacrylate	ND	29	5.8	ug/kg	
76-13-1	Freon 113	ND	5.8	2.0	ug/kg	
591-78-6	2-Hexanone	ND	29	6.3	ug/kg	
87-68-3	Hexachlorobutadiene	ND	5.8	2.3	ug/kg	
110-54-3	Hexane	ND	5.8	2.2	ug/kg	
98-82-8	Isopropylbenzene	ND	5.8	1.3	ug/kg	
99-87-6	p-Isopropyltoluene	ND	5.8	1.4	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	29	6.4	ug/kg	
126-98-7	Methacrylonitrile	ND	29	11	ug/kg	
74-83-9	Methyl bromide	ND	5.8	2.3	ug/kg	
74-87-3	Methyl chloride	ND	5.8	2.3	ug/kg	
74-88-4	Methyl iodide	ND	12	1.3	ug/kg	
80-62-6	Methyl methacrylate	ND	5.8	2.1	ug/kg	
74-95-3	Methylene bromide	ND	5.8	1.7	ug/kg	
75-09-2	Methylene chloride [a]	8.4	12	5.4	ug/kg	J
78-93-3	Methyl ethyl ketone	ND	29	7.1	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.8	2.3	ug/kg	
91-20-3	Naphthalene	ND	5.8	2.3	ug/kg	
76-01-7	Pentachloroethane	ND	29	5.8	ug/kg	
107-12-0	Propionitrile	ND	58	19	ug/kg	
103-65-1	n-Propylbenzene	ND	5.8	1.6	ug/kg	
100-42-5	Styrene	ND	5.8	3.0	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.8	1.2	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	5.8	1.3	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	5.8	1.4	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	5.8	1.3	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	5.8	1.2	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	5.8	2.0	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.8	1.4	ug/kg	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-OXD-SW01		
Lab Sample ID:	F91658-3	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/30/12
Method:	SW846 8260B	**Percent Solids:**	88.4
Project:	Holloman AFB; Alamogordo, NM		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-63-6	1,2,4-Trimethylbenzene	ND	5.8	1.3	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.8	1.5	ug/kg	
127-18-4	Tetrachloroethylene	ND	5.8	1.2	ug/kg	
108-88-3	Toluene	ND	5.8	1.4	ug/kg	
79-01-6	Trichloroethylene	ND	5.8	1.4	ug/kg	
75-69-4	Trichlorofluoromethane	ND	5.8	2.3	ug/kg	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	29	5.8	ug/kg	
75-01-4	Vinyl chloride	ND	5.8	1.7	ug/kg	
108-05-4	Vinyl Acetate	ND	29	16	ug/kg	
	m,p-Xylene	ND	12	2.6	ug/kg	
95-47-6	o-Xylene	ND	5.8	1.2	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	91%		80-121%
2037-26-5	Toluene-D8	98%		71-130%
460-00-4	4-Bromofluorobenzene	101%		59-148%
17060-07-0	1,2-Dichloroethane-D4	95%		77-123%

(a) Suspected laboratory contaminant.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-OXD-SW01		
Lab Sample ID:	F91658-3	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/30/12
		Percent Solids:	88.4
Project:	Holloman AFB; Alamogordo, NM		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic [a]	1.6 U	8.0	1.6	mg/kg	20	04/03/12	04/04/12	DM	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA9692
(2) Prep QC Batch: MP22524

(a) Elevated reporting limit(s) due to matrix interference.

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	SS39-PDB-FL02		
Lab Sample ID:	F91658-4	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/30/12
Method:	SW846 8260B	**Percent Solids:**	86.3
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H0075150.D	1	03/30/12	EP	n/a	n/a	VH2786
Run #2							

	Initial Weight
Run #1	4.36 g
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	66	27	ug/kg	
75-05-8	Acetonitrile	ND	66	24	ug/kg	
107-02-8	Acrolein	ND	33	15	ug/kg	
107-13-1	Acrylonitrile	ND	33	15	ug/kg	
107-05-1	Allyl chloride	ND	33	6.6	ug/kg	
71-43-2	Benzene	ND	6.6	2.0	ug/kg	
100-44-7	Benzyl Chloride	ND	6.6	2.0	ug/kg	
108-86-1	Bromobenzene	ND	6.6	1.9	ug/kg	
74-97-5	Bromochloromethane	ND	6.6	1.9	ug/kg	
75-27-4	Bromodichloromethane	ND	6.6	1.5	ug/kg	
75-25-2	Bromoform	ND	6.6	2.0	ug/kg	
104-51-8	n-Butylbenzene	ND	6.6	1.7	ug/kg	
135-98-8	sec-Butylbenzene	ND	6.6	2.1	ug/kg	
98-06-6	tert-Butylbenzene	ND	6.6	1.6	ug/kg	
108-90-7	Chlorobenzene	ND	6.6	1.3	ug/kg	
75-00-3	Chloroethane	ND	6.6	2.7	ug/kg	
67-66-3	Chloroform	ND	6.6	1.6	ug/kg	
544-10-5	1-Chlorohexane	ND	6.6	1.9	ug/kg	
95-49-8	o-Chlorotoluene	ND	6.6	1.6	ug/kg	
106-43-4	p-Chlorotoluene	ND	6.6	1.6	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	33	13	ug/kg	
75-15-0	Carbon disulfide	ND	6.6	2.7	ug/kg	
56-23-5	Carbon tetrachloride	ND	6.6	2.4	ug/kg	
75-34-3	1,1-Dichloroethane	ND	6.6	1.5	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	6.6	1.9	ug/kg	
563-58-6	1,1-Dichloropropene	ND	6.6	1.7	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	6.6	3.1	ug/kg	
106-93-4	1,2-Dibromoethane	ND	6.6	1.3	ug/kg	
107-06-2	1,2-Dichloroethane	ND	6.6	1.3	ug/kg	
78-87-5	1,2-Dichloropropane	ND	6.6	1.6	ug/kg	
142-28-9	1,3-Dichloropropane	ND	6.6	1.3	ug/kg	
594-20-7	2,2-Dichloropropane	ND	6.6	1.9	ug/kg	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-PDB-FL02		
Lab Sample ID:	F91658-4	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/30/12
Method:	SW846 8260B	**Percent Solids:**	86.3
Project:	Holloman AFB; Alamogordo, NM		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
124-48-1	Dibromochloromethane	ND	6.6	1.3	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	6.6	2.0	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	6.6	2.0	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	6.6	1.3	ug/kg	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	33	6.6	ug/kg	
541-73-1	m-Dichlorobenzene	ND	6.6	1.6	ug/kg	
95-50-1	o-Dichlorobenzene	ND	6.6	1.5	ug/kg	
106-46-7	p-Dichlorobenzene	ND	6.6	1.5	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	6.6	2.0	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	6.6	1.5	ug/kg	
100-41-4	Ethylbenzene	ND	6.6	1.3	ug/kg	
97-63-2	Ethyl methacrylate	ND	33	6.6	ug/kg	
76-13-1	Freon 113	ND	6.6	2.3	ug/kg	
591-78-6	2-Hexanone	ND	33	7.2	ug/kg	
87-68-3	Hexachlorobutadiene	ND	6.6	2.7	ug/kg	
110-54-3	Hexane	ND	6.6	2.5	ug/kg	
98-82-8	Isopropylbenzene	ND	6.6	1.5	ug/kg	
99-87-6	p-Isopropyltoluene	ND	6.6	1.6	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	33	7.3	ug/kg	
126-98-7	Methacrylonitrile	ND	33	12	ug/kg	
74-83-9	Methyl bromide	ND	6.6	2.7	ug/kg	
74-87-3	Methyl chloride	ND	6.6	2.7	ug/kg	
74-88-4	Methyl iodide	ND	13	1.5	ug/kg	
80-62-6	Methyl methacrylate	ND	6.6	2.4	ug/kg	
74-95-3	Methylene bromide	ND	6.6	2.0	ug/kg	
75-09-2	Methylene chloride	ND	13	6.1	ug/kg	
78-93-3	Methyl ethyl ketone	ND	33	8.1	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	6.6	2.7	ug/kg	
91-20-3	Naphthalene	ND	6.6	2.7	ug/kg	
76-01-7	Pentachloroethane	ND	33	6.6	ug/kg	
107-12-0	Propionitrile	ND	66	21	ug/kg	
103-65-1	n-Propylbenzene	ND	6.6	1.9	ug/kg	
100-42-5	Styrene	ND	6.6	3.5	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	6.6	1.3	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	6.6	1.5	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	6.6	1.6	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	6.6	1.5	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	6.6	1.3	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	6.6	2.3	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	6.6	1.6	ug/kg	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-PDB-FL02		
Lab Sample ID:	F91658-4	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/30/12
Method:	SW846 8260B	**Percent Solids:**	86.3
Project:	Holloman AFB; Alamogordo, NM		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-63-6	1,2,4-Trimethylbenzene	ND	6.6	1.5	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	6.6	1.7	ug/kg	
127-18-4	Tetrachloroethylene	ND	6.6	1.3	ug/kg	
108-88-3	Toluene	ND	6.6	1.6	ug/kg	
79-01-6	Trichloroethylene	ND	6.6	1.6	ug/kg	
75-69-4	Trichlorofluoromethane	ND	6.6	2.7	ug/kg	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	33	6.6	ug/kg	
75-01-4	Vinyl chloride	ND	6.6	2.0	ug/kg	
108-05-4	Vinyl Acetate	ND	33	18	ug/kg	
	m,p-Xylene	ND	13	2.9	ug/kg	
95-47-6	o-Xylene	ND	6.6	1.3	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	94%		80-121%
2037-26-5	Toluene-D8	97%		71-130%
460-00-4	4-Bromofluorobenzene	97%		59-148%
17060-07-0	1,2-Dichloroethane-D4	96%		77-123%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-PDB-FL02		
Lab Sample ID:	F91658-4	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/30/12
Method:	SW846 8015C	**Percent Solids:**	86.3
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR067310.D	1	04/04/12	CP	n/a	n/a	GQR2918
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.71 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	6.9	3.5	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	91%		56-136%
98-08-8	aaa-Trifluorotoluene	84%		61-121%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-PDB-FL02		
Lab Sample ID:	F91658-4	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/30/12
Method:	SW846 8015C SW846 3550C	**Percent Solids:**	86.3
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZF48835.D	1	04/04/12	FEA	04/02/12	OP41200	GZF1869
Run #2							

	Initial Weight	Final Volume
Run #1	30.2 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28) [a]	9.21	9.6	3.8	mg/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	73%		49-108%

(a) Petroleum hydrocarbon pattern extends beyond C28.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-PDB-FL02		
Lab Sample ID:	F91658-4	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/30/12
		Percent Solids:	86.3
Project:	Holloman AFB; Alamogordo, NM		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic [a]	1.6 U	7.8	1.6	mg/kg	20	04/03/12	04/04/12	DM	SW846 6010C [1]	SW846 3050B [2]
Lead [a]	31.8	16	0.78	mg/kg	20	04/03/12	04/04/12	DM	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA9692
(2) Prep QC Batch: MP22524

(a) Elevated reporting limit(s) due to matrix interference.

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	SS39-PDB-SW01A		
Lab Sample ID:	F91658-5	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/30/12
Method:	SW846 8260B	**Percent Solids:**	84.5
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H0075151.D	1	03/30/12	EP	n/a	n/a	VH2786
Run #2							

	Initial Weight
Run #1	4.47 g
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	66	26	ug/kg	
75-05-8	Acetonitrile	ND	66	24	ug/kg	
107-02-8	Acrolein	ND	33	15	ug/kg	
107-13-1	Acrylonitrile	ND	33	15	ug/kg	
107-05-1	Allyl chloride	ND	33	6.6	ug/kg	
71-43-2	Benzene	ND	6.6	2.0	ug/kg	
100-44-7	Benzyl Chloride	ND	6.6	2.0	ug/kg	
108-86-1	Bromobenzene	ND	6.6	1.9	ug/kg	
74-97-5	Bromochloromethane	ND	6.6	1.9	ug/kg	
75-27-4	Bromodichloromethane	ND	6.6	1.5	ug/kg	
75-25-2	Bromoform	ND	6.6	2.0	ug/kg	
104-51-8	n-Butylbenzene	ND	6.6	1.7	ug/kg	
135-98-8	sec-Butylbenzene	ND	6.6	2.1	ug/kg	
98-06-6	tert-Butylbenzene	ND	6.6	1.6	ug/kg	
108-90-7	Chlorobenzene	ND	6.6	1.3	ug/kg	
75-00-3	Chloroethane	ND	6.6	2.6	ug/kg	
67-66-3	Chloroform	ND	6.6	1.6	ug/kg	
544-10-5	1-Chlorohexane	ND	6.6	1.9	ug/kg	
95-49-8	o-Chlorotoluene	ND	6.6	1.6	ug/kg	
106-43-4	p-Chlorotoluene	ND	6.6	1.6	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	33	13	ug/kg	
75-15-0	Carbon disulfide	ND	6.6	2.6	ug/kg	
56-23-5	Carbon tetrachloride	ND	6.6	2.4	ug/kg	
75-34-3	1,1-Dichloroethane	ND	6.6	1.5	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	6.6	1.9	ug/kg	
563-58-6	1,1-Dichloropropene	ND	6.6	1.7	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	6.6	3.0	ug/kg	
106-93-4	1,2-Dibromoethane	ND	6.6	1.3	ug/kg	
107-06-2	1,2-Dichloroethane	ND	6.6	1.3	ug/kg	
78-87-5	1,2-Dichloropropane	ND	6.6	1.6	ug/kg	
142-28-9	1,3-Dichloropropane	ND	6.6	1.3	ug/kg	
594-20-7	2,2-Dichloropropane	ND	6.6	1.9	ug/kg	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-PDB-SW01A		
Lab Sample ID:	F91658-5	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/30/12
Method:	SW846 8260B	**Percent Solids:**	84.5
Project:	Holloman AFB; Alamogordo, NM		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
124-48-1	Dibromochloromethane	ND	6.6	1.3	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	6.6	2.0	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	6.6	2.0	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	6.6	1.3	ug/kg	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	33	6.6	ug/kg	
541-73-1	m-Dichlorobenzene	ND	6.6	1.6	ug/kg	
95-50-1	o-Dichlorobenzene	ND	6.6	1.5	ug/kg	
106-46-7	p-Dichlorobenzene	ND	6.6	1.5	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	6.6	2.0	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	6.6	1.5	ug/kg	
100-41-4	Ethylbenzene	ND	6.6	1.3	ug/kg	
97-63-2	Ethyl methacrylate	ND	33	6.6	ug/kg	
76-13-1	Freon 113	ND	6.6	2.3	ug/kg	
591-78-6	2-Hexanone	ND	33	7.1	ug/kg	
87-68-3	Hexachlorobutadiene	ND	6.6	2.6	ug/kg	
110-54-3	Hexane	ND	6.6	2.5	ug/kg	
98-82-8	Isopropylbenzene	ND	6.6	1.5	ug/kg	
99-87-6	p-Isopropyltoluene	ND	6.6	1.6	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	33	7.3	ug/kg	
126-98-7	Methacrylonitrile	ND	33	12	ug/kg	
74-83-9	Methyl bromide	ND	6.6	2.6	ug/kg	
74-87-3	Methyl chloride	ND	6.6	2.6	ug/kg	
74-88-4	Methyl iodide	ND	13	1.5	ug/kg	
80-62-6	Methyl methacrylate	ND	6.6	2.4	ug/kg	
74-95-3	Methylene bromide	ND	6.6	2.0	ug/kg	
75-09-2	Methylene chloride	ND	13	6.1	ug/kg	
78-93-3	Methyl ethyl ketone	ND	33	8.1	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	6.6	2.6	ug/kg	
91-20-3	Naphthalene	ND	6.6	2.6	ug/kg	
76-01-7	Pentachloroethane	ND	33	6.6	ug/kg	
107-12-0	Propionitrile	ND	66	21	ug/kg	
103-65-1	n-Propylbenzene	ND	6.6	1.9	ug/kg	
100-42-5	Styrene	ND	6.6	3.4	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	6.6	1.3	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	6.6	1.5	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	6.6	1.6	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	6.6	1.5	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	6.6	1.3	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	6.6	2.3	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	6.6	1.6	ug/kg	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-PDB-SW01A		
Lab Sample ID:	F91658-5	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/30/12
Method:	SW846 8260B	**Percent Solids:**	84.5
Project:	Holloman AFB; Alamogordo, NM		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-63-6	1,2,4-Trimethylbenzene	ND	6.6	1.5	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	6.6	1.7	ug/kg	
127-18-4	Tetrachloroethylene	ND	6.6	1.3	ug/kg	
108-88-3	Toluene	ND	6.6	1.6	ug/kg	
79-01-6	Trichloroethylene	ND	6.6	1.6	ug/kg	
75-69-4	Trichlorofluoromethane	ND	6.6	2.6	ug/kg	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	33	6.6	ug/kg	
75-01-4	Vinyl chloride	ND	6.6	2.0	ug/kg	
108-05-4	Vinyl Acetate	ND	33	18	ug/kg	
	m,p-Xylene	ND	13	2.9	ug/kg	
95-47-6	o-Xylene	ND	6.6	1.3	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		80-121%
2037-26-5	Toluene-D8	97%		71-130%
460-00-4	4-Bromofluorobenzene	97%		59-148%
17060-07-0	1,2-Dichloroethane-D4	100%		77-123%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-PDB-SW01A		
Lab Sample ID:	F91658-5	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/30/12
Method:	SW846 8015C	**Percent Solids:**	84.5
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR067311.D	1	04/04/12	CP	n/a	n/a	GQR2918
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.22 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	6.6	3.3	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	95%		56-136%
98-08-8	aaa-Trifluorotoluene	87%		61-121%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-PDB-SW01A		
Lab Sample ID:	F91658-5	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/30/12
Method:	SW846 8015C SW846 3550C	**Percent Solids:**	84.5
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZF48841.D	1	04/04/12	FEA	04/02/12	OP41200	GZF1869
Run #2							

	Initial Weight	Final Volume
Run #1	30.2 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28) [a]	4.63	9.8	3.9	mg/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	80%		49-108%

(a) Petroleum hydrocarbon pattern extends beyond C28.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-PDB-SW01A		
Lab Sample ID:	F91658-5	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/30/12
		Percent Solids:	84.5
Project:	Holloman AFB; Alamogordo, NM		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic [a]	1.6 U	8.2	1.6	mg/kg	20	04/03/12	04/04/12	DM	SW846 6010C [1]	SW846 3050B [2]
Lead [a]	11.8 B	16	0.82	mg/kg	20	04/03/12	04/04/12	DM	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA9692
(2) Prep QC Batch: MP22524

(a) Elevated reporting limit(s) due to matrix interference.

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	SS39-PDB-SW01B		
Lab Sample ID:	F91658-6	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/30/12
Method:	SW846 8260B	**Percent Solids:**	82.2
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H0075152.D	1	03/30/12	EP	n/a	n/a	VH2786
Run #2							

	Initial Weight
Run #1	4.61 g
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	66	26	ug/kg	
75-05-8	Acetonitrile	ND	66	24	ug/kg	
107-02-8	Acrolein	ND	33	15	ug/kg	
107-13-1	Acrylonitrile	ND	33	15	ug/kg	
107-05-1	Allyl chloride	ND	33	6.6	ug/kg	
71-43-2	Benzene	ND	6.6	2.0	ug/kg	
100-44-7	Benzyl Chloride	ND	6.6	2.0	ug/kg	
108-86-1	Bromobenzene	ND	6.6	1.8	ug/kg	
74-97-5	Bromochloromethane	ND	6.6	1.8	ug/kg	
75-27-4	Bromodichloromethane	ND	6.6	1.5	ug/kg	
75-25-2	Bromoform	ND	6.6	2.0	ug/kg	
104-51-8	n-Butylbenzene	ND	6.6	1.7	ug/kg	
135-98-8	sec-Butylbenzene	ND	6.6	2.1	ug/kg	
98-06-6	tert-Butylbenzene	ND	6.6	1.6	ug/kg	
108-90-7	Chlorobenzene	ND	6.6	1.3	ug/kg	
75-00-3	Chloroethane	ND	6.6	2.6	ug/kg	
67-66-3	Chloroform	ND	6.6	1.6	ug/kg	
544-10-5	1-Chlorohexane	ND	6.6	1.8	ug/kg	
95-49-8	o-Chlorotoluene	ND	6.6	1.6	ug/kg	
106-43-4	p-Chlorotoluene	ND	6.6	1.6	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	33	13	ug/kg	
75-15-0	Carbon disulfide	ND	6.6	2.6	ug/kg	
56-23-5	Carbon tetrachloride	ND	6.6	2.4	ug/kg	
75-34-3	1,1-Dichloroethane	ND	6.6	1.5	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	6.6	1.8	ug/kg	
563-58-6	1,1-Dichloropropene	ND	6.6	1.7	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	6.6	3.0	ug/kg	
106-93-4	1,2-Dibromoethane	ND	6.6	1.3	ug/kg	
107-06-2	1,2-Dichloroethane	ND	6.6	1.3	ug/kg	
78-87-5	1,2-Dichloropropane	ND	6.6	1.6	ug/kg	
142-28-9	1,3-Dichloropropane	ND	6.6	1.3	ug/kg	
594-20-7	2,2-Dichloropropane	ND	6.6	1.8	ug/kg	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-PDB-SW01B		
Lab Sample ID:	F91658-6	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/30/12
Method:	SW846 8260B	**Percent Solids:**	82.2
Project:	Holloman AFB; Alamogordo, NM		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
124-48-1	Dibromochloromethane	ND	6.6	1.3	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	6.6	2.0	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	6.6	2.0	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	6.6	1.3	ug/kg	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	33	6.6	ug/kg	
541-73-1	m-Dichlorobenzene	ND	6.6	1.6	ug/kg	
95-50-1	o-Dichlorobenzene	ND	6.6	1.5	ug/kg	
106-46-7	p-Dichlorobenzene	ND	6.6	1.5	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	6.6	2.0	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	6.6	1.5	ug/kg	
100-41-4	Ethylbenzene	ND	6.6	1.3	ug/kg	
97-63-2	Ethyl methacrylate	ND	33	6.6	ug/kg	
76-13-1	Freon 113	ND	6.6	2.2	ug/kg	
591-78-6	2-Hexanone	ND	33	7.1	ug/kg	
87-68-3	Hexachlorobutadiene	ND	6.6	2.6	ug/kg	
110-54-3	Hexane	ND	6.6	2.5	ug/kg	
98-82-8	Isopropylbenzene	ND	6.6	1.5	ug/kg	
99-87-6	p-Isopropyltoluene	ND	6.6	1.6	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	33	7.3	ug/kg	
126-98-7	Methacrylonitrile	ND	33	12	ug/kg	
74-83-9	Methyl bromide	ND	6.6	2.6	ug/kg	
74-87-3	Methyl chloride	ND	6.6	2.6	ug/kg	
74-88-4	Methyl iodide	ND	13	1.5	ug/kg	
80-62-6	Methyl methacrylate	ND	6.6	2.4	ug/kg	
74-95-3	Methylene bromide	ND	6.6	2.0	ug/kg	
75-09-2	Methylene chloride [a]	6.3	13	6.1	ug/kg	J
78-93-3	Methyl ethyl ketone	ND	33	8.0	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	6.6	2.6	ug/kg	
91-20-3	Naphthalene	ND	6.6	2.6	ug/kg	
76-01-7	Pentachloroethane	ND	33	6.6	ug/kg	
107-12-0	Propionitrile	ND	66	21	ug/kg	
103-65-1	n-Propylbenzene	ND	6.6	1.8	ug/kg	
100-42-5	Styrene	ND	6.6	3.4	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	6.6	1.3	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	6.6	1.5	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	6.6	1.6	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	6.6	1.5	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	6.6	1.3	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	6.6	2.2	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	6.6	1.6	ug/kg	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-PDB-SW01B		
Lab Sample ID:	F91658-6	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/30/12
Method:	SW846 8260B	**Percent Solids:**	82.2
Project:	Holloman AFB; Alamogordo, NM		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-63-6	1,2,4-Trimethylbenzene	ND	6.6	1.5	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	6.6	1.7	ug/kg	
127-18-4	Tetrachloroethylene	ND	6.6	1.3	ug/kg	
108-88-3	Toluene	ND	6.6	1.6	ug/kg	
79-01-6	Trichloroethylene	ND	6.6	1.6	ug/kg	
75-69-4	Trichlorofluoromethane	ND	6.6	2.6	ug/kg	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	33	6.6	ug/kg	
75-01-4	Vinyl chloride	ND	6.6	2.0	ug/kg	
108-05-4	Vinyl Acetate	ND	33	18	ug/kg	
	m,p-Xylene	ND	13	2.9	ug/kg	
95-47-6	o-Xylene	ND	6.6	1.3	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		80-121%
2037-26-5	Toluene-D8	96%		71-130%
460-00-4	4-Bromofluorobenzene	97%		59-148%
17060-07-0	1,2-Dichloroethane-D4	97%		77-123%

(a) Suspected laboratory contaminant.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-PDB-SW01B		
Lab Sample ID:	F91658-6	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/30/12
Method:	SW846 8015C	**Percent Solids:**	82.2
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR067312.D	1	04/04/12	CP	n/a	n/a	GQR2918
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.93 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	7.3	3.6	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	95%		56-136%
98-08-8	aaa-Trifluorotoluene	86%		61-121%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-PDB-SW01B		
Lab Sample ID:	F91658-6	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/30/12
Method:	SW846 8015C SW846 3550C	**Percent Solids:**	82.2
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZF48836.D	1	04/04/12	FEA	04/02/12	OP41200	GZF1869
Run #2							

	Initial Weight	Final Volume
Run #1	30.2 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	ND	10	4.0	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	79%		49-108%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-PDB-SW01B		
Lab Sample ID:	F91658-6	**Date Sampled:**	03/28/12
Matrix:	SO - Soil	**Date Received:**	03/30/12
		Percent Solids:	82.2
Project:	Holloman AFB; Alamogordo, NM		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic [a]	2.0 U	10	2.0	mg/kg	20	04/03/12	04/04/12	DM	SW846 6010C [1]	SW846 3050B [2]
Lead [a]	9.5 B	20	1.0	mg/kg	20	04/03/12	04/04/12	DM	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA9692
(2) Prep QC Batch: MP22524

(a) Elevated reporting limit(s) due to matrix interference.

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	SS39-FD01-032912		
Lab Sample ID:	F91658-7	**Date Sampled:**	03/29/12
Matrix:	SO - Soil	**Date Received:**	03/30/12
Method:	SW846 8260B	**Percent Solids:**	82.3
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H0075153.D	1	03/30/12	EP	n/a	n/a	VH2786
Run #2							

	Initial Weight
Run #1	4.87 g
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	62	25	ug/kg	
75-05-8	Acetonitrile	ND	62	22	ug/kg	
107-02-8	Acrolein	ND	31	14	ug/kg	
107-13-1	Acrylonitrile	ND	31	14	ug/kg	
107-05-1	Allyl chloride	ND	31	6.2	ug/kg	
71-43-2	Benzene	ND	6.2	1.9	ug/kg	
100-44-7	Benzyl Chloride	ND	6.2	1.9	ug/kg	
108-86-1	Bromobenzene	ND	6.2	1.7	ug/kg	
74-97-5	Bromochloromethane	ND	6.2	1.7	ug/kg	
75-27-4	Bromodichloromethane	ND	6.2	1.4	ug/kg	
75-25-2	Bromoform	ND	6.2	1.9	ug/kg	
104-51-8	n-Butylbenzene	ND	6.2	1.6	ug/kg	
135-98-8	sec-Butylbenzene	ND	6.2	2.0	ug/kg	
98-06-6	tert-Butylbenzene	ND	6.2	1.5	ug/kg	
108-90-7	Chlorobenzene	ND	6.2	1.2	ug/kg	
75-00-3	Chloroethane	ND	6.2	2.5	ug/kg	
67-66-3	Chloroform	ND	6.2	1.5	ug/kg	
544-10-5	1-Chlorohexane	ND	6.2	1.7	ug/kg	
95-49-8	o-Chlorotoluene	ND	6.2	1.5	ug/kg	
106-43-4	p-Chlorotoluene	ND	6.2	1.5	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	31	12	ug/kg	
75-15-0	Carbon disulfide	ND	6.2	2.5	ug/kg	
56-23-5	Carbon tetrachloride	ND	6.2	2.2	ug/kg	
75-34-3	1,1-Dichloroethane	ND	6.2	1.4	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	6.2	1.7	ug/kg	
563-58-6	1,1-Dichloropropene	ND	6.2	1.6	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	6.2	2.9	ug/kg	
106-93-4	1,2-Dibromoethane	ND	6.2	1.2	ug/kg	
107-06-2	1,2-Dichloroethane	ND	6.2	1.2	ug/kg	
78-87-5	1,2-Dichloropropane	ND	6.2	1.5	ug/kg	
142-28-9	1,3-Dichloropropane	ND	6.2	1.2	ug/kg	
594-20-7	2,2-Dichloropropane	ND	6.2	1.7	ug/kg	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-FD01-032912		
Lab Sample ID:	F91658-7	**Date Sampled:**	03/29/12
Matrix:	SO - Soil	**Date Received:**	03/30/12
Method:	SW846 8260B	**Percent Solids:**	82.3
Project:	Holloman AFB; Alamogordo, NM		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
124-48-1	Dibromochloromethane	ND	6.2	1.2	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	6.2	1.9	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	6.2	1.9	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	6.2	1.2	ug/kg	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	31	6.2	ug/kg	
541-73-1	m-Dichlorobenzene	ND	6.2	1.5	ug/kg	
95-50-1	o-Dichlorobenzene	ND	6.2	1.4	ug/kg	
106-46-7	p-Dichlorobenzene	ND	6.2	1.4	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	6.2	1.9	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	6.2	1.4	ug/kg	
100-41-4	Ethylbenzene	ND	6.2	1.2	ug/kg	
97-63-2	Ethyl methacrylate	ND	31	6.2	ug/kg	
76-13-1	Freon 113	ND	6.2	2.1	ug/kg	
591-78-6	2-Hexanone	ND	31	6.7	ug/kg	
87-68-3	Hexachlorobutadiene	ND	6.2	2.5	ug/kg	
110-54-3	Hexane	ND	6.2	2.4	ug/kg	
98-82-8	Isopropylbenzene	ND	6.2	1.4	ug/kg	
99-87-6	p-Isopropyltoluene	ND	6.2	1.5	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	31	6.9	ug/kg	
126-98-7	Methacrylonitrile	ND	31	11	ug/kg	
74-83-9	Methyl bromide	ND	6.2	2.5	ug/kg	
74-87-3	Methyl chloride	ND	6.2	2.5	ug/kg	
74-88-4	Methyl iodide	ND	12	1.4	ug/kg	
80-62-6	Methyl methacrylate	ND	6.2	2.2	ug/kg	
74-95-3	Methylene bromide	ND	6.2	1.9	ug/kg	
75-09-2	Methylene chloride	ND	12	5.7	ug/kg	
78-93-3	Methyl ethyl ketone	ND	31	7.6	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	6.2	2.5	ug/kg	
91-20-3	Naphthalene	ND	6.2	2.5	ug/kg	
76-01-7	Pentachloroethane	ND	31	6.2	ug/kg	
107-12-0	Propionitrile	ND	62	20	ug/kg	
103-65-1	n-Propylbenzene	ND	6.2	1.7	ug/kg	
100-42-5	Styrene	ND	6.2	3.2	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	6.2	1.2	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	6.2	1.4	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	6.2	1.5	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	6.2	1.4	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	6.2	1.2	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	6.2	2.1	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	6.2	1.5	ug/kg	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-FD01-032912		
Lab Sample ID:	F91658-7	**Date Sampled:**	03/29/12
Matrix:	SO - Soil	**Date Received:**	03/30/12
Method:	SW846 8260B	**Percent Solids:**	82.3
Project:	Holloman AFB; Alamogordo, NM		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-63-6	1,2,4-Trimethylbenzene	ND	6.2	1.4	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	6.2	1.6	ug/kg	
127-18-4	Tetrachloroethylene	ND	6.2	1.2	ug/kg	
108-88-3	Toluene	ND	6.2	1.5	ug/kg	
79-01-6	Trichloroethylene	ND	6.2	1.5	ug/kg	
75-69-4	Trichlorofluoromethane	ND	6.2	2.5	ug/kg	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	31	6.2	ug/kg	
75-01-4	Vinyl chloride	ND	6.2	1.9	ug/kg	
108-05-4	Vinyl Acetate	ND	31	17	ug/kg	
	m,p-Xylene	ND	12	2.7	ug/kg	
95-47-6	o-Xylene	ND	6.2	1.2	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		80-121%
2037-26-5	Toluene-D8	99%		71-130%
460-00-4	4-Bromofluorobenzene	92%		59-148%
17060-07-0	1,2-Dichloroethane-D4	104%		77-123%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-FD01-032912		
Lab Sample ID:	F91658-7	**Date Sampled:**	03/29/12
Matrix:	SO - Soil	**Date Received:**	03/30/12
Method:	SW846 8015C	**Percent Solids:**	82.3
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR067313.D	1	04/04/12	CP	n/a	n/a	GQR2918
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	3.80 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	9.1	4.5	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	95%		56-136%
98-08-8	aaa-Trifluorotoluene	86%		61-121%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-FD01-032912		
Lab Sample ID:	F91658-7	**Date Sampled:**	03/29/12
Matrix:	SO - Soil	**Date Received:**	03/30/12
Method:	SW846 8015C SW846 3550C	**Percent Solids:**	82.3
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZF48842.D	1	04/04/12	FEA	04/02/12	OP41200	GZF1869
Run #2							

	Initial Weight	Final Volume
Run #1	30.0 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	ND	10	4.1	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	89%		49-108%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-FD01-032912		
Lab Sample ID:	F91658-7	**Date Sampled:**	03/29/12
Matrix:	SO - Soil	**Date Received:**	03/30/12
		Percent Solids:	82.3
Project:	Holloman AFB; Alamogordo, NM		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic [a]	1.7 U	8.6	1.7	mg/kg	20	04/03/12	04/04/12	DM	SW846 6010C [1]	SW846 3050B [2]
Lead [a]	4.9 B	17	0.86	mg/kg	20	04/03/12	04/04/12	DM	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA9692
(2) Prep QC Batch: MP22524

(a) Elevated reporting limit(s) due to matrix interference.

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	SS39-TB02-032912		
Lab Sample ID:	F91658-8	**Date Sampled:**	03/29/12
Matrix:	SO - Trip Blank Soil	**Date Received:**	03/30/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H0075156.D	1	03/30/12	EP	n/a	n/a	VH2786
Run #2							

	Initial Weight
Run #1	5.00 g
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	50	20	ug/kg	
75-05-8	Acetonitrile	ND	50	18	ug/kg	
107-02-8	Acrolein	ND	25	11	ug/kg	
107-13-1	Acrylonitrile	ND	25	11	ug/kg	
107-05-1	Allyl chloride	ND	25	5.0	ug/kg	
71-43-2	Benzene	ND	5.0	1.5	ug/kg	
100-44-7	Benzyl Chloride	ND	5.0	1.5	ug/kg	
108-86-1	Bromobenzene	ND	5.0	1.4	ug/kg	
74-97-5	Bromochloromethane	ND	5.0	1.4	ug/kg	
75-27-4	Bromodichloromethane	ND	5.0	1.1	ug/kg	
75-25-2	Bromoform	ND	5.0	1.5	ug/kg	
104-51-8	n-Butylbenzene	ND	5.0	1.3	ug/kg	
135-98-8	sec-Butylbenzene	ND	5.0	1.6	ug/kg	
98-06-6	tert-Butylbenzene	ND	5.0	1.2	ug/kg	
108-90-7	Chlorobenzene	ND	5.0	1.0	ug/kg	
75-00-3	Chloroethane	ND	5.0	2.0	ug/kg	
67-66-3	Chloroform	ND	5.0	1.2	ug/kg	
544-10-5	1-Chlorohexane	ND	5.0	1.4	ug/kg	
95-49-8	o-Chlorotoluene	ND	5.0	1.2	ug/kg	
106-43-4	p-Chlorotoluene	ND	5.0	1.2	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	25	10	ug/kg	
75-15-0	Carbon disulfide	ND	5.0	2.0	ug/kg	
56-23-5	Carbon tetrachloride	ND	5.0	1.8	ug/kg	
75-34-3	1,1-Dichloroethane	ND	5.0	1.1	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	5.0	1.4	ug/kg	
563-58-6	1,1-Dichloropropene	ND	5.0	1.3	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	2.3	ug/kg	
106-93-4	1,2-Dibromoethane	ND	5.0	1.0	ug/kg	
107-06-2	1,2-Dichloroethane	ND	5.0	1.0	ug/kg	
78-87-5	1,2-Dichloropropane	ND	5.0	1.2	ug/kg	
142-28-9	1,3-Dichloropropane	ND	5.0	1.0	ug/kg	
594-20-7	2,2-Dichloropropane	ND	5.0	1.4	ug/kg	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-TB02-032912		
Lab Sample ID:	F91658-8	**Date Sampled:**	03/29/12
Matrix:	SO - Trip Blank Soil	**Date Received:**	03/30/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; Alamogordo, NM		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
124-48-1	Dibromochloromethane	ND	5.0	1.0	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	5.0	1.5	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	5.0	1.5	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	5.0	1.0	ug/kg	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	25	5.0	ug/kg	
541-73-1	m-Dichlorobenzene	ND	5.0	1.2	ug/kg	
95-50-1	o-Dichlorobenzene	ND	5.0	1.1	ug/kg	
106-46-7	p-Dichlorobenzene	ND	5.0	1.1	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	5.0	1.5	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	5.0	1.1	ug/kg	
100-41-4	Ethylbenzene	ND	5.0	1.0	ug/kg	
97-63-2	Ethyl methacrylate	ND	25	5.0	ug/kg	
76-13-1	Freon 113	ND	5.0	1.7	ug/kg	
591-78-6	2-Hexanone	ND	25	5.4	ug/kg	
87-68-3	Hexachlorobutadiene	ND	5.0	2.0	ug/kg	
110-54-3	Hexane	ND	5.0	1.9	ug/kg	
98-82-8	Isopropylbenzene	ND	5.0	1.1	ug/kg	
99-87-6	p-Isopropyltoluene	ND	5.0	1.2	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	25	5.5	ug/kg	
126-98-7	Methacrylonitrile	ND	25	9.2	ug/kg	
74-83-9	Methyl bromide	ND	5.0	2.0	ug/kg	
74-87-3	Methyl chloride	ND	5.0	2.0	ug/kg	
74-88-4	Methyl iodide	ND	10	1.1	ug/kg	
80-62-6	Methyl methacrylate	ND	5.0	1.8	ug/kg	
74-95-3	Methylene bromide	ND	5.0	1.5	ug/kg	
75-09-2	Methylene chloride [a]	5.4	10	4.6	ug/kg	J
78-93-3	Methyl ethyl ketone	ND	25	6.1	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.0	2.0	ug/kg	
91-20-3	Naphthalene	ND	5.0	2.0	ug/kg	
76-01-7	Pentachloroethane	ND	25	5.0	ug/kg	
107-12-0	Propionitrile	ND	50	16	ug/kg	
103-65-1	n-Propylbenzene	ND	5.0	1.4	ug/kg	
100-42-5	Styrene	ND	5.0	2.6	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	1.0	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	5.0	1.1	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	5.0	1.2	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	5.0	1.1	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	1.0	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	5.0	1.7	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.2	ug/kg	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-TB02-032912		
Lab Sample ID:	F91658-8	**Date Sampled:**	03/29/12
Matrix:	SO - Trip Blank Soil	**Date Received:**	03/30/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; Alamogordo, NM		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	1.1	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	1.3	ug/kg	
127-18-4	Tetrachloroethylene	ND	5.0	1.0	ug/kg	
108-88-3	Toluene	ND	5.0	1.2	ug/kg	
79-01-6	Trichloroethylene	ND	5.0	1.2	ug/kg	
75-69-4	Trichlorofluoromethane	ND	5.0	2.0	ug/kg	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	25	5.0	ug/kg	
75-01-4	Vinyl chloride	ND	5.0	1.5	ug/kg	
108-05-4	Vinyl Acetate	ND	25	14	ug/kg	
	m,p-Xylene	ND	10	2.2	ug/kg	
95-47-6	o-Xylene	ND	5.0	1.0	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	93%		80-121%
2037-26-5	Toluene-D8	99%		71-130%
460-00-4	4-Bromofluorobenzene	95%		59-148%
17060-07-0	1,2-Dichloroethane-D4	99%		77-123%

(a) Suspected laboratory contaminant.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-TB02-032912		
Lab Sample ID:	F91658-8	**Date Sampled:**	03/29/12
Matrix:	SO - Trip Blank Soil	**Date Received:**	03/30/12
Method:	SW846 8015C	**Percent Solids:**	n/a
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR067314.D	1	04/04/12	CP	n/a	n/a	GQR2918
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.00 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	5.0	2.5	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	94%		56-136%
98-08-8	aaa-Trifluorotoluene	87%		61-121%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-PDB-SW01B-032912		
Lab Sample ID:	F91658-9	**Date Sampled:**	03/29/12
Matrix:	SO - Soil	**Date Received:**	03/30/12
Method:	SW846 8260B	**Percent Solids:**	81.9
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H0075170.D	1	04/02/12	EP	n/a	n/a	VH2787
Run #2 [a]	H0075170.D	1	04/02/12	EP	n/a	n/a	VH2786

	Initial Weight
Run #1	4.47 g
Run #2	4.47 g

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	68	27	ug/kg	
75-05-8	Acetonitrile	ND	68	25	ug/kg	
107-02-8	Acrolein	ND	34	15	ug/kg	
107-13-1	Acrylonitrile	ND	34	16	ug/kg	
107-05-1	Allyl chloride	ND	34	6.8	ug/kg	
71-43-2	Benzene	ND	6.8	2.0	ug/kg	
100-44-7	Benzyl Chloride	ND	6.8	2.0	ug/kg	
108-86-1	Bromobenzene	ND	6.8	1.9	ug/kg	
74-97-5	Bromochloromethane	ND	6.8	1.9	ug/kg	
75-27-4	Bromodichloromethane	ND	6.8	1.5	ug/kg	
75-25-2	Bromoform	ND	6.8	2.0	ug/kg	
104-51-8	n-Butylbenzene	ND	6.8	1.8	ug/kg	
135-98-8	sec-Butylbenzene	ND	6.8	2.2	ug/kg	
98-06-6	tert-Butylbenzene	ND	6.8	1.6	ug/kg	
108-90-7	Chlorobenzene	ND	6.8	1.4	ug/kg	
75-00-3	Chloroethane	ND	6.8	2.7	ug/kg	
67-66-3	Chloroform	ND	6.8	1.6	ug/kg	
544-10-5	1-Chlorohexane	ND	6.8	1.9	ug/kg	
95-49-8	o-Chlorotoluene	ND	6.8	1.6	ug/kg	
106-43-4	p-Chlorotoluene	ND	6.8	1.6	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	34	14	ug/kg	
75-15-0	Carbon disulfide	ND	6.8	2.7	ug/kg	
56-23-5	Carbon tetrachloride	ND	6.8	2.5	ug/kg	
75-34-3	1,1-Dichloroethane	ND	6.8	1.5	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	6.8	1.9	ug/kg	
563-58-6	1,1-Dichloropropene	ND	6.8	1.8	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	6.8	3.1	ug/kg	
106-93-4	1,2-Dibromoethane	ND	6.8	1.4	ug/kg	
107-06-2	1,2-Dichloroethane	ND	6.8	1.4	ug/kg	
78-87-5	1,2-Dichloropropane	ND	6.8	1.6	ug/kg	
142-28-9	1,3-Dichloropropane	ND	6.8	1.4	ug/kg	
594-20-7	2,2-Dichloropropane	ND	6.8	1.9	ug/kg	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-PDB-SW01B-032912		
Lab Sample ID:	F91658-9	**Date Sampled:**	03/29/12
Matrix:	SO - Soil	**Date Received:**	03/30/12
Method:	SW846 8260B	**Percent Solids:**	81.9
Project:	Holloman AFB; Alamogordo, NM		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
124-48-1	Dibromochloromethane	ND	6.8	1.4	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	6.8	2.0	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	6.8	2.0	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	6.8	1.4	ug/kg	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	34	6.8	ug/kg	
541-73-1	m-Dichlorobenzene	ND	6.8	1.6	ug/kg	
95-50-1	o-Dichlorobenzene	ND	6.8	1.5	ug/kg	
106-46-7	p-Dichlorobenzene	ND	6.8	1.5	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	6.8	2.0	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	6.8	1.5	ug/kg	
100-41-4	Ethylbenzene	ND	6.8	1.4	ug/kg	
97-63-2	Ethyl methacrylate	ND	34	6.8	ug/kg	
76-13-1	Freon 113	ND	6.8	2.3	ug/kg	
591-78-6	2-Hexanone	ND	34	7.4	ug/kg	
87-68-3	Hexachlorobutadiene	ND	6.8	2.7	ug/kg	
110-54-3	Hexane	ND	6.8	2.6	ug/kg	
98-82-8	Isopropylbenzene	ND	6.8	1.5	ug/kg	
99-87-6	p-Isopropyltoluene	ND	6.8	1.6	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	34	7.5	ug/kg	
126-98-7	Methacrylonitrile	ND	34	13	ug/kg	
74-83-9	Methyl bromide	ND	6.8	2.7	ug/kg	
74-87-3	Methyl chloride	ND	6.8	2.7	ug/kg	
74-88-4	Methyl iodide	ND	14	1.5	ug/kg	
80-62-6	Methyl methacrylate [b]	ND	6.8	2.5	ug/kg	
74-95-3	Methylene bromide	ND	6.8	2.0	ug/kg	
75-09-2	Methylene chloride [c]	11.1	14	6.3	ug/kg	J
78-93-3	Methyl ethyl ketone	ND	34	8.3	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	6.8	2.7	ug/kg	
91-20-3	Naphthalene	ND	6.8	2.7	ug/kg	
76-01-7	Pentachloroethane	ND	34	6.8	ug/kg	
107-12-0	Propionitrile	ND	68	22	ug/kg	
103-65-1	n-Propylbenzene	ND	6.8	1.9	ug/kg	
100-42-5	Styrene	ND	6.8	3.6	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	6.8	1.4	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	6.8	1.5	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	6.8	1.6	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	6.8	1.5	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	6.8	1.4	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	6.8	2.3	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	6.8	1.6	ug/kg	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-PDB-SW01B-032912		
Lab Sample ID:	F91658-9	**Date Sampled:**	03/29/12
Matrix:	SO - Soil	**Date Received:**	03/30/12
Method:	SW846 8260B	**Percent Solids:**	81.9
Project:	Holloman AFB; Alamogordo, NM		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-63-6	1,2,4-Trimethylbenzene	ND	6.8	1.5	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	6.8	1.8	ug/kg	
127-18-4	Tetrachloroethylene	ND	6.8	1.4	ug/kg	
108-88-3	Toluene	ND	6.8	1.6	ug/kg	
79-01-6	Trichloroethylene	ND	6.8	1.6	ug/kg	
75-69-4	Trichlorofluoromethane	ND	6.8	2.7	ug/kg	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	34	6.8	ug/kg	
75-01-4	Vinyl chloride	ND	6.8	2.0	ug/kg	
108-05-4	Vinyl Acetate	ND	34	19	ug/kg	
	m,p-Xylene	ND	14	3.0	ug/kg	
95-47-6	o-Xylene	ND	6.8	1.4	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%	96%	80-121%
2037-26-5	Toluene-D8	96%	96%	71-130%
460-00-4	4-Bromofluorobenzene	97%	97%	59-148%
17060-07-0	1,2-Dichloroethane-D4	95%	95%	77-123%

(a) Confirmation run.
(b) Associated BS recovery outside control limits.
(c) Suspected laboratory contaminant.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-PDB-SW01B-032912		
Lab Sample ID:	F91658-9	**Date Sampled:**	03/29/12
Matrix:	SO - Soil	**Date Received:**	03/30/12
Method:	SW846 8015C	**Percent Solids:**	81.9
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR067315.D	1	04/04/12	CP	n/a	n/a	GQR2918
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.27 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	8.3	4.1	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	95%		56-136%
98-08-8	aaa-Trifluorotoluene	85%		61-121%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-PDB-SW01B-032912		
Lab Sample ID:	F91658-9	**Date Sampled:**	03/29/12
Matrix:	SO - Soil	**Date Received:**	03/30/12
Method:	SW846 8015C SW846 3550C	**Percent Solids:**	81.9
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	YY28750.D	1	04/03/12	SJL	04/03/12	OP41221	GYY1061
Run #2							

	Initial Weight	Final Volume
Run #1	29.9 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	ND	10	4.1	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	90%		49-108%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-PDB-SW01B-032912		
Lab Sample ID:	F91658-9	**Date Sampled:**	03/29/12
Matrix:	SO - Soil	**Date Received:**	03/30/12
		Percent Solids:	81.9
Project:	Holloman AFB; Alamogordo, NM		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic [a]	1.1 U	5.4	1.1	mg/kg	10	04/03/12	04/05/12	DM	SW846 6010C [1]	SW846 3050B [2]
Lead [a]	10.3 B	11	0.54	mg/kg	10	04/03/12	04/05/12	DM	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA9694
(2) Prep QC Batch: MP22524

(a) Elevated reporting limit(s) due to matrix interference.

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Southeast ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Certification Exceptions
- Certification Exceptions (NM)
- Chain of Custody

Accutest Laboratories Southeast
Chain of Custody

ACCUTEST LABORATORIES

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www.accutest.com

F91658

Accutest JOB # PAGE 1 OF 1

Accutest Quote # SKIFF#

Client / Reporting Information

Company Name: Tetra Tech Inc
Address: 800 Oak Ridge Tpk, A-600
City: Oak Ridge State: TN Zip: 37771
Project Contact: Maureen McMyler E-mail:
Phone#: 865-220-4700
Sampler(s) Name(s) (Printed): Allan Jenkins

Project Information

Project Name: Excavation Confirmation, SS39
Street:
City: Holloman AFB State: NM
Project #: 865-556-8662 cell phone Allan J.
Fax #: 865-566-7736 cell phone Danny W.
Client Purchase Order #:

Analytical Information / Matrix Codes

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL - Sludge; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe

Accutest Sample #	Field ID / Point of Collection	Collection Date	Collection Time	Sampled By:	Matrix	Total # of Bottles	Container Information: OTHER	NONE	HCl	NaOH	HNO3	H2SO4	NaOH+ZnAc	DI WATER	MeOH	VOC, 5035/8260B	TPH GRO 5035/8015B	TPH DRO 8015 mod.	As - RCRA metal	Pb - RCRA metal					Matrix Spike	Matrix Spike Dup	LAB USE ONLY
1	SS39-OXD-FL02	3/28/12	1640	AJ	Soil	4								✓	✓	X			X								1
2	SS39-OXD-SW03	↓	1650	↓	↓	4								✓	✓	X			X								2
3	SS39-OXD-SW01		1655			4								✓	✓	X			X								3
4	SS39-PDB-FL02		1752			6								✓	✓	X	X	X	X	X							4
5	SS39-PDB-SW01A		1800			6								✓	✓	X	X	X	X	X							5
6	SS39-PDB-SW01B	↓	1808			6								✓	✓	X	X	X	X	X							6
7	SS39-FD01-032912	3/29/12	1223			6								✓	✓	X	X	X	X	X							7
8	SS39-MS01-032912		1227			6								✓	✓	X	X	X	X	X					X		6
9	SS39-MSD01-032912	↓	1244	↓	↓	6								✓	✓	X	X	X	X	X						X	6
10	SS39-TB02-032912	3/25/12	1500	↓	H2O	3								✓	✓	X	X										8

TURNAROUND TIME (Business Days)

Approved By: / Rush Code

- [x] 10 Days Standard
- [ ] 7 Day RUSH
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [ ] OTHER

Emergency or Rush T/A Data Available VIA Email or Lablink

Data Deliverable Information

- [ ] COMMERCIAL "A" (RESULTS ONLY)
- [ ] COMMERCIAL "B" (RESULTS PLUS QC)
- [ ] REDT1 (EPA LEVEL 3)
- [ ] FULT1 (EPA LEVEL 4)
- [ ] EDD'S

Comments / Remarks

Acc. Sample # 8 and 9 to be used for Matrix Spike/Matrix Spike Dup analysis

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished by:	Date Time:	Received By:
1 Allan Jenkins	3/29/12 1520	2 FX	3 FX 03-30-12	0900	03-30-12 900 R Willis
Relinquished by: 5	Date Time:	Received By: 6	Relinquished by: 7	Date Time:	Received By: 8

Lab Use Only: Custody Seal in Place: Y N Temp Blank Provided: Y N Preserved where Applicable: Y N Total # of Coolers: Cooler Temperature (s) Celsius: 3.0

F91658: Chain of Custody
Page 1 of 5

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: F91658 CLIENT: TetraTech PROJECT: Holloman AFB

DATE/TIME RECEIVED: 03-30-12 0900 {MM/DD/YY 24:00} NIMBER OF COOLERS RECEIVED: 1

METHOD OF DELIVERY: (FEDEX) UPS ACCUTEST COURIER GREYHOUND DELIVERY OTHER

AIRBILL NUMBERS: 8996 2605 5526

COOLER INFORMATION

- [ ] CUSTODY SEAL NOT PRESENT OR NOT INTACT
- [ ] CHAIN OF CUSTODY NOT RECEIVED (COC)
- [ ] ANALYSIS REQUESTED IS UNCLEAR OR MISSING
- [ ] SAMPLE DATES OR TIMES UNCLEAR OR MISSING
- [ ] TEMPERATURE CRITERIA NOT MET
- [ ] WET ICE PRESENT

TRIP BLANK INFORMATION

- [x] TRIP BLANK PROVIDED
- [ ] TRIP BLANK NOT PROVIDED
- [ ] TRIP BLANK NOT ON COC
- [x] TRIP BLANK INTACT
- [ ] TRIP BLANK NOT INTACT
- [x] RECEIVED WATER TRIP BLANK
- [ ] RECEIVED SOIL TRIP BLANK

MISC. INFORMATION

NUMBER OF ENCORES ? 25-GRAM _____ 5-GRAM _____

NUMBER OF 5035 FIELD KITS ? 15 1 +/B

NUMBER OF LAB FILTERED METALS ? _____

TEMPERATURE INFORMATION

- [ ] IR THERM ID 1 CORR. FACTOR -0.2
- [ ] OBSERVED TEMPS: 3.2
- [ ] CORRECTED TEMPS: 3.0

SAMPLE INFORMATION

- [ ] SAMPLE LABELS PRESENT ON ALL BOTTLES
- [ ] INCORRECT NUMBER OF CONTAINERS USED
- [ ] SAMPLE RECEIVED IMPROPERLY PRESERVED
- [ ] INSUFFICIENT VOLUME FOR ANALYSIS
- [ ] DATES/TIMES ON COC DO NOT MATCH SAMPLE LABEL
- [ ] ID'S ON COC DO NOT MATCH LABEL
- [ ] VOC VIALS HAVE HEADSPACE (MACRO BUBBLES)
- [ ] BOTTLES RECEIVED BUT ANALYSIS NOT REQUESTED
- [ ] NO BOTTLES RECEIVED FOR ANALYSIS REQUESTED
- [ ] UNCLEAR FILTERING OR COMPOSITING INSTRUCTIONS
- [ ] SAMPLE CONTAINER(S) RECEIVED BROKEN
- [ ] % SOLIDS JAR NOT RECEIVED
- [ ] 5035 FIELD KIT FROZEN WITHIN 48 HOUR'S
- [ ] RESIDUAL CHLORINE PRESENT

{APPICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS}

SUMMARY OF COMMENTS: _____

TECHNICIAN SIGNATURE/DATE R Willen 03-30-12 REVIEWER SIGNATURE/DATE 3.30.12

NF 12/10 receipt confirmation 122910.xls

5.1 5

F91658: Chain of Custody

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Accutest Laboratories Southeast
Chain of Custody

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www.accutest.com

Accutest JOB # F91658 PAGE 1 OF 1

Accutest Quote # | SKIFF#

Client / Reporting Information

Company Name: TetraTech Inc
Address: 800 Oak Ridge Tpk, A-600
City: Oak Ridge State: TN Zip: 37771
Project Contact: Maureen McMyler Email:
Phone#: 865-220-4700
Sampler(s) Name(s) (Printed): Allan Jenkins

Project Information

Project Name: Excavation Confirmation, SS39
Street:
City: Holloman AFB State: NM
Project #: 865-556-8662 cell phone Allen J.
Fax #: 865-566-7736 cell phone Danny W.
Client Purchase Order #:

Analytical Information

Accutest Sample #	Field ID / Point of Collection	Date	Time	Sampled By	Matrix	Total # of Bottles	VOC, 5035/8260B	TPH GRO 5035/8015B	TPH DRO 8015 mod.	As - RCRA metal	Pb - RCRA metal	Matrix Spike/MSD	Matrix Spike Dup	LAB USE ONLY
1	SS39-OXD-FL02	3/28/12	1440	AJ	Soil	4	X			X				
2	SS39-OXD-SW03		1650			4	X			X				
3	SS39-OXD-SW01		1655			4	X			X				
4	SS39-PDB-FL02		1752			6	X	X	X	X	X			
5	SS39-PDB-SW01A		1800			6	X	X	X	X	X			
6	SS39-PDB-SW01B		1808			6	X	X	X	X	X			
7	SS39-FD01-032912	3/29/12	1223			6	X	X	X	X	X			
8	SS39-MS01-032912		1222	1223		6	X	X	X	X	X	X		
9	SS39-MSD01-032912		1224	1223		6	X	X	X	X	X		X	
10	SS39-TB02-032912	3/29/12	1500		H_2O	3	X	X						
9	SS39-PDB-SW01B-032912													

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL - Sludge; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe

TURNAROUND TIME (Business Days)

Approved By: / Rush Code

- [x] 10 Days Standard
- [ ] 7 Day RUSH
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [ ] OTHER

Emergency or Rush T/A Data Available VIA Email or Lablink

Data Deliverable Information

- [ ] COMMERCIAL "A" (RESULTS ONLY)
- [ ] COMMERCIAL "B" (RESULTS PLUS QC)
- [ ] REDT1 (EPA LEVEL 3)
- [ ] FULT1 (EPA LEVEL 4)
- [ ] EDD'S

Comments / Remarks

Acc. Sample # 8 ~~and 9~~ to be used for Matrix Spike/Matrix Spike Dup analysis

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished by:	Date Time:	Received By:
1 Allan Jenkins	3/29/12 1520	2 FP	3 FK 03-30-12	0900	03-30-12 9:00 LUSE
Relinquished By:	Date Time:	Received By:	Relinquished by:	Date Time:	Received By:
5		6	7		8

Lab Use Only: Custody Seal In Place: Y N Temp Blank Provided: Y N Preserved where Applicable: Y N Total # of Coolers: Cooler Temperature (s) Celsius: 3.0

03/30/2012 12:52 4074258787 ACCUTEST LAB SE PAGE 01/02

5.1 5

F91658: Chain of Custody
Page 3 of 5

Job Change Order: F91658_4/2/2012

Requested Date:	4/2/2012	**Received Date:**	3/30/2012
Account Name:	Tetra Tech, Inc	**Due Date:**	4/13/2012
Project Description:	Holloman AFB; Alamogordo, NM	**Deliverable:**	REDT1
CSR:	SB	**TAT (Days):**	14

Sample #:
F91658-6

Change: Per Valerie B. at Tetra Tech via e-mail, this is the parent sample for the MS/MSD noted on the COC.

SS39-PDB-SW01B

Above Changes Valerie B. at Tetra Tech **Date:** 4/2/2012

To Client: This Change Order is confirmation of the revisions, previously discussed with the Accutest Client Service Representative.

Page 1 of 1

Job Change Order: F91658_4/4/2012

Requested Date:	4/4/2012	**Received Date:**	3/30/2012
Account Name:	Tetra Tech, Inc	**Due Date:**	4/13/2012
Project Description:	Holloman AFB; Alamogordo, NM	**Deliverable:**	REDT1
CSR:	SB	**TAT (Days):**	14

Sample #: F91658-9 — **Change:** Per Maureen M. at Tetra Tech via e-mail, sample ID is: SS39-PDB-SW01B-032912 collected 1223 03.29.12 (using bottles labeled SS39-MSD01-032912)

SS39-PDB-SW01B

Sample #: F91658-9D, S — **Change:** Per Maureen M. at Tetra Tech via e-mail, use bottles labeled SS39-MS01-032912 for MS/MSD on SS39-PDB-SW01B-032912.

SS39-PDB-SW01B

Above Changes Maureen M. at Tetra Tech **Date:** 4/4/2012

To Client: This Change Order is confirmation of the revisions, previously discussed with the Accutest Client Service Representative.

Page 1 of 1

Southeast ACCUTEST LABORATORIES

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (BFB)
- Internal Standard Area Summaries
- Surrogate Recovery Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VH2786-MB	H0075138.D	1	03/30/12	EP	n/a	n/a	VH2786

The QC reported here applies to the following samples: **Method:** SW846 8260B

F91658-1, F91658-2, F91658-3, F91658-4, F91658-5, F91658-6, F91658-7, F91658-8

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	50	20	ug/kg	
75-05-8	Acetonitrile	ND	50	18	ug/kg	
107-02-8	Acrolein	ND	25	11	ug/kg	
107-13-1	Acrylonitrile	ND	25	11	ug/kg	
107-05-1	Allyl chloride	ND	25	5.0	ug/kg	
71-43-2	Benzene	ND	5.0	1.5	ug/kg	
100-44-7	Benzyl Chloride	ND	5.0	1.5	ug/kg	
108-86-1	Bromobenzene	ND	5.0	1.4	ug/kg	
74-97-5	Bromochloromethane	ND	5.0	1.4	ug/kg	
75-27-4	Bromodichloromethane	ND	5.0	1.1	ug/kg	
75-25-2	Bromoform	ND	5.0	1.5	ug/kg	
104-51-8	n-Butylbenzene	ND	5.0	1.3	ug/kg	
135-98-8	sec-Butylbenzene	ND	5.0	1.6	ug/kg	
98-06-6	tert-Butylbenzene	ND	5.0	1.2	ug/kg	
108-90-7	Chlorobenzene	ND	5.0	1.0	ug/kg	
75-00-3	Chloroethane	ND	5.0	2.0	ug/kg	
67-66-3	Chloroform	ND	5.0	1.2	ug/kg	
544-10-5	1-Chlorohexane	ND	5.0	1.4	ug/kg	
95-49-8	o-Chlorotoluene	ND	5.0	1.2	ug/kg	
106-43-4	p-Chlorotoluene	ND	5.0	1.2	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	25	10	ug/kg	
75-15-0	Carbon disulfide	ND	5.0	2.0	ug/kg	
56-23-5	Carbon tetrachloride	ND	5.0	1.8	ug/kg	
75-34-3	1,1-Dichloroethane	ND	5.0	1.1	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	5.0	1.4	ug/kg	
563-58-6	1,1-Dichloropropene	ND	5.0	1.3	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	2.3	ug/kg	
106-93-4	1,2-Dibromoethane	ND	5.0	1.0	ug/kg	
107-06-2	1,2-Dichloroethane	ND	5.0	1.0	ug/kg	
78-87-5	1,2-Dichloropropane	ND	5.0	1.2	ug/kg	
142-28-9	1,3-Dichloropropane	ND	5.0	1.0	ug/kg	
594-20-7	2,2-Dichloropropane	ND	5.0	1.4	ug/kg	
124-48-1	Dibromochloromethane	ND	5.0	1.0	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	5.0	1.5	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	5.0	1.5	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	5.0	1.0	ug/kg	

Method Blank Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VH2786-MB	H0075138.D	1	03/30/12	EP	n/a	n/a	VH2786

The QC reported here applies to the following samples: **Method:** SW846 8260B

F91658-1, F91658-2, F91658-3, F91658-4, F91658-5, F91658-6, F91658-7, F91658-8

CAS No.	Compound	Result	RL	MDL	Units	Q
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	25	5.0	ug/kg	
541-73-1	m-Dichlorobenzene	ND	5.0	1.2	ug/kg	
95-50-1	o-Dichlorobenzene	ND	5.0	1.1	ug/kg	
106-46-7	p-Dichlorobenzene	ND	5.0	1.1	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	5.0	1.5	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	5.0	1.1	ug/kg	
100-41-4	Ethylbenzene	ND	5.0	1.0	ug/kg	
97-63-2	Ethyl methacrylate	ND	25	5.0	ug/kg	
76-13-1	Freon 113	ND	5.0	1.7	ug/kg	
591-78-6	2-Hexanone	ND	25	5.4	ug/kg	
87-68-3	Hexachlorobutadiene	ND	5.0	2.0	ug/kg	
110-54-3	Hexane	ND	5.0	1.9	ug/kg	
98-82-8	Isopropylbenzene	ND	5.0	1.1	ug/kg	
99-87-6	p-Isopropyltoluene	ND	5.0	1.2	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	25	5.5	ug/kg	
126-98-7	Methacrylonitrile	ND	25	9.2	ug/kg	
74-83-9	Methyl bromide	ND	5.0	2.0	ug/kg	
74-87-3	Methyl chloride	ND	5.0	2.0	ug/kg	
74-88-4	Methyl iodide	ND	10	1.1	ug/kg	
80-62-6	Methyl methacrylate	ND	5.0	1.8	ug/kg	
74-95-3	Methylene bromide	ND	5.0	1.5	ug/kg	
75-09-2	Methylene chloride	ND	10	4.6	ug/kg	
78-93-3	Methyl ethyl ketone	ND	25	6.1	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.0	2.0	ug/kg	
91-20-3	Naphthalene	ND	5.0	2.0	ug/kg	
76-01-7	Pentachloroethane	ND	25	5.0	ug/kg	
107-12-0	Propionitrile	ND	50	16	ug/kg	
103-65-1	n-Propylbenzene	ND	5.0	1.4	ug/kg	
100-42-5	Styrene	ND	5.0	2.6	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	1.0	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	5.0	1.1	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	5.0	1.2	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	5.0	1.1	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	1.0	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	5.0	1.7	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.2	ug/kg	

Method Blank Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VH2786-MB	H0075138.D	1	03/30/12	EP	n/a	n/a	VH2786

The QC reported here applies to the following samples: **Method:** SW846 8260B

F91658-1, F91658-2, F91658-3, F91658-4, F91658-5, F91658-6, F91658-7, F91658-8

CAS No.	Compound	Result	RL	MDL	Units	Q
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	1.1	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	1.3	ug/kg	
127-18-4	Tetrachloroethylene	ND	5.0	1.0	ug/kg	
108-88-3	Toluene	ND	5.0	1.2	ug/kg	
79-01-6	Trichloroethylene	ND	5.0	1.2	ug/kg	
75-69-4	Trichlorofluoromethane	ND	5.0	2.0	ug/kg	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	25	5.0	ug/kg	
75-01-4	Vinyl chloride	ND	5.0	1.5	ug/kg	
108-05-4	Vinyl Acetate	ND	25	14	ug/kg	
	m,p-Xylene	ND	10	2.2	ug/kg	
95-47-6	o-Xylene	ND	5.0	1.0	ug/kg	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	95%	80-121%
2037-26-5	Toluene-D8	99%	71-130%
460-00-4	4-Bromofluorobenzene	97%	59-148%
17060-07-0	1,2-Dichloroethane-D4	95%	77-123%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/kg	

Method Blank Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VH2787-MB	H0075165.D	1	04/02/12	EP	n/a	n/a	VH2787

The QC reported here applies to the following samples: **Method:** SW846 8260B

F91658-9

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	50	20	ug/kg	
75-05-8	Acetonitrile	ND	50	18	ug/kg	
107-02-8	Acrolein	ND	25	11	ug/kg	
107-13-1	Acrylonitrile	ND	25	11	ug/kg	
107-05-1	Allyl chloride	ND	25	5.0	ug/kg	
71-43-2	Benzene	ND	5.0	1.5	ug/kg	
100-44-7	Benzyl Chloride	ND	5.0	1.5	ug/kg	
108-86-1	Bromobenzene	ND	5.0	1.4	ug/kg	
74-97-5	Bromochloromethane	ND	5.0	1.4	ug/kg	
75-27-4	Bromodichloromethane	ND	5.0	1.1	ug/kg	
75-25-2	Bromoform	ND	5.0	1.5	ug/kg	
104-51-8	n-Butylbenzene	ND	5.0	1.3	ug/kg	
135-98-8	sec-Butylbenzene	ND	5.0	1.6	ug/kg	
98-06-6	tert-Butylbenzene	ND	5.0	1.2	ug/kg	
108-90-7	Chlorobenzene	ND	5.0	1.0	ug/kg	
75-00-3	Chloroethane	ND	5.0	2.0	ug/kg	
67-66-3	Chloroform	ND	5.0	1.2	ug/kg	
544-10-5	1-Chlorohexane	ND	5.0	1.4	ug/kg	
95-49-8	o-Chlorotoluene	ND	5.0	1.2	ug/kg	
106-43-4	p-Chlorotoluene	ND	5.0	1.2	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	25	10	ug/kg	
75-15-0	Carbon disulfide	ND	5.0	2.0	ug/kg	
56-23-5	Carbon tetrachloride	ND	5.0	1.8	ug/kg	
75-34-3	1,1-Dichloroethane	ND	5.0	1.1	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	5.0	1.4	ug/kg	
563-58-6	1,1-Dichloropropene	ND	5.0	1.3	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	2.3	ug/kg	
106-93-4	1,2-Dibromoethane	ND	5.0	1.0	ug/kg	
107-06-2	1,2-Dichloroethane	ND	5.0	1.0	ug/kg	
78-87-5	1,2-Dichloropropane	ND	5.0	1.2	ug/kg	
142-28-9	1,3-Dichloropropane	ND	5.0	1.0	ug/kg	
594-20-7	2,2-Dichloropropane	ND	5.0	1.4	ug/kg	
124-48-1	Dibromochloromethane	ND	5.0	1.0	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	5.0	1.5	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	5.0	1.5	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	5.0	1.0	ug/kg	

Method Blank Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VH2787-MB	H0075165.D	1	04/02/12	EP	n/a	n/a	VH2787

The QC reported here applies to the following samples: **Method:** SW846 8260B

F91658-9

CAS No.	Compound	Result	RL	MDL	Units	Q
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	25	5.0	ug/kg	
541-73-1	m-Dichlorobenzene	ND	5.0	1.2	ug/kg	
95-50-1	o-Dichlorobenzene	ND	5.0	1.1	ug/kg	
106-46-7	p-Dichlorobenzene	ND	5.0	1.1	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	5.0	1.5	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	5.0	1.1	ug/kg	
100-41-4	Ethylbenzene	ND	5.0	1.0	ug/kg	
97-63-2	Ethyl methacrylate	ND	25	5.0	ug/kg	
76-13-1	Freon 113	ND	5.0	1.7	ug/kg	
591-78-6	2-Hexanone	ND	25	5.4	ug/kg	
87-68-3	Hexachlorobutadiene	ND	5.0	2.0	ug/kg	
110-54-3	Hexane	ND	5.0	1.9	ug/kg	
98-82-8	Isopropylbenzene	ND	5.0	1.1	ug/kg	
99-87-6	p-Isopropyltoluene	ND	5.0	1.2	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	25	5.5	ug/kg	
126-98-7	Methacrylonitrile	ND	25	9.2	ug/kg	
74-83-9	Methyl bromide	ND	5.0	2.0	ug/kg	
74-87-3	Methyl chloride	ND	5.0	2.0	ug/kg	
74-88-4	Methyl iodide	ND	10	1.1	ug/kg	
80-62-6	Methyl methacrylate	ND	5.0	1.8	ug/kg	
74-95-3	Methylene bromide	ND	5.0	1.5	ug/kg	
75-09-2	Methylene chloride	ND	10	4.6	ug/kg	
78-93-3	Methyl ethyl ketone	ND	25	6.1	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.0	2.0	ug/kg	
91-20-3	Naphthalene	ND	5.0	2.0	ug/kg	
76-01-7	Pentachloroethane	ND	25	5.0	ug/kg	
107-12-0	Propionitrile	ND	50	16	ug/kg	
103-65-1	n-Propylbenzene	ND	5.0	1.4	ug/kg	
100-42-5	Styrene	ND	5.0	2.6	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	1.0	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	5.0	1.1	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	5.0	1.2	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	5.0	1.1	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	1.0	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	5.0	1.7	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.2	ug/kg	

Method Blank Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VH2787-MB	H0075165.D	1	04/02/12	EP	n/a	n/a	VH2787

The QC reported here applies to the following samples: **Method:** SW846 8260B

F91658-9

CAS No.	Compound	Result	RL	MDL	Units	Q
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	1.1	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	1.3	ug/kg	
127-18-4	Tetrachloroethylene	ND	5.0	1.0	ug/kg	
108-88-3	Toluene	ND	5.0	1.2	ug/kg	
79-01-6	Trichloroethylene	ND	5.0	1.2	ug/kg	
75-69-4	Trichlorofluoromethane	ND	5.0	2.0	ug/kg	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	25	5.0	ug/kg	
75-01-4	Vinyl chloride	ND	5.0	1.5	ug/kg	
108-05-4	Vinyl Acetate	ND	25	14	ug/kg	
	m,p-Xylene	ND	10	2.2	ug/kg	
95-47-6	o-Xylene	ND	5.0	1.0	ug/kg	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	92%	80-121%
2037-26-5	Toluene-D8	98%	71-130%
460-00-4	4-Bromofluorobenzene	98%	59-148%
17060-07-0	1,2-Dichloroethane-D4	95%	77-123%

Blank Spike Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VH2786-BS [a]	H0075137.D	1	03/30/12	EP	n/a	n/a	VH2786

The QC reported here applies to the following samples: **Method:** SW846 8260B

F91658-1, F91658-2, F91658-3, F91658-4, F91658-5, F91658-6, F91658-7, F91658-8

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
67-64-1	Acetone	250	271	108	61-144
75-05-8	Acetonitrile	500	477	95	59-139
107-02-8	Acrolein	250	247	99	27-156
107-13-1	Acrylonitrile	250	258	103	55-144
107-05-1	Allyl chloride	50	54.8	110	41-152
71-43-2	Benzene	50	52.1	104	78-130
100-44-7	Benzyl Chloride	50	41.9	84	74-130
108-86-1	Bromobenzene	50	52.0	104	78-123
74-97-5	Bromochloromethane	50	54.9	110	72-122
75-27-4	Bromodichloromethane	50	56.0	112	73-122
75-25-2	Bromoform	50	49.9	100	70-139
104-51-8	n-Butylbenzene	50	47.3	95	80-138
135-98-8	sec-Butylbenzene	50	51.1	102	82-132
98-06-6	tert-Butylbenzene	50	50.9	102	79-130
108-90-7	Chlorobenzene	50	53.6	107	83-122
75-00-3	Chloroethane	50	54.6	109	61-153
67-66-3	Chloroform	50	52.6	105	79-129
544-10-5	1-Chlorohexane	50	46.9	94	85-137
95-49-8	o-Chlorotoluene	50	49.2	98	77-123
106-43-4	p-Chlorotoluene	50	51.2	102	78-129
110-75-8	2-Chloroethyl vinyl ether	250	228	91	52-142
75-15-0	Carbon disulfide	50	48.2	96	61-142
56-23-5	Carbon tetrachloride	50	51.2	102	79-135
75-34-3	1,1-Dichloroethane	50	52.8	106	77-132
75-35-4	1,1-Dichloroethylene	50	50.1	100	66-132
563-58-6	1,1-Dichloropropene	50	50.9	102	81-133
96-12-8	1,2-Dibromo-3-chloropropane	50	52.8	106	67-129
106-93-4	1,2-Dibromoethane	50	54.7	109	77-126
107-06-2	1,2-Dichloroethane	50	54.3	109	78-129
78-87-5	1,2-Dichloropropane	50	51.2	102	74-127
142-28-9	1,3-Dichloropropane	50	54.4	109	78-118
594-20-7	2,2-Dichloropropane	50	50.8	102	80-137
124-48-1	Dibromochloromethane	50	56.2	112	78-117
75-71-8	Dichlorodifluoromethane	50	58.3	117	35-162
156-59-2	cis-1,2-Dichloroethylene	50	53.4	107	74-123
10061-01-5	cis-1,3-Dichloropropene	50	55.2	110	79-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VH2786-BS [a]	H0075137.D	1	03/30/12	EP	n/a	n/a	VH2786

The QC reported here applies to the following samples: **Method:** SW846 8260B

F91658-1, F91658-2, F91658-3, F91658-4, F91658-5, F91658-6, F91658-7, F91658-8

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
1476-11-5	cis-1,4-Dichloro-2-Butene	50	53.5	107	71-126
541-73-1	m-Dichlorobenzene	50	50.5	101	82-126
95-50-1	o-Dichlorobenzene	50	52.0	104	83-123
106-46-7	p-Dichlorobenzene	50	49.0	98	84-124
156-60-5	trans-1,2-Dichloroethylene	50	47.3	95	77-129
10061-02-6	trans-1,3-Dichloropropene	50	59.9	120	87-131
100-41-4	Ethylbenzene	50	51.1	102	82-124
97-63-2	Ethyl methacrylate	50	48.8	98	78-118
76-13-1	Freon 113	50	48.2	96	62-147
591-78-6	2-Hexanone	250	237	95	67-130
87-68-3	Hexachlorobutadiene	50	50.2	100	77-150
110-54-3	Hexane	50	47.5	95	65-147
98-82-8	Isopropylbenzene	50	59.7	119	82-133
99-87-6	p-Isopropyltoluene	50	50.9	102	82-132
108-10-1	4-Methyl-2-pentanone	250	241	96	69-125
126-98-7	Methacrylonitrile	500	582	116	70-138
74-83-9	Methyl bromide	50	60.7	121	60-146
74-87-3	Methyl chloride	50	56.4	113	58-163
74-88-4	Methyl iodide	50	49.8	100	66-128
80-62-6	Methyl methacrylate	50	54.7	109	73-125
74-95-3	Methylene bromide	50	54.8	110	75-128
75-09-2	Methylene chloride	50	54.0	108	62-140
78-93-3	Methyl ethyl ketone	250	292	117	66-134
1634-04-4	Methyl Tert Butyl Ether	50	53.4	107	70-131
91-20-3	Naphthalene	50	55.8	112	59-143
76-01-7	Pentachloroethane	50	65.1	130	64-156
107-12-0	Propionitrile	500	517	103	73-133
103-65-1	n-Propylbenzene	50	49.8	100	78-129
100-42-5	Styrene	50	55.2	110	79-123
630-20-6	1,1,1,2-Tetrachloroethane	50	56.0	112	81-121
71-55-6	1,1,1-Trichloroethane	50	52.5	105	80-133
79-34-5	1,1,2,2-Tetrachloroethane	50	54.9	110	70-128
79-00-5	1,1,2-Trichloroethane	50	52.9	106	76-118
87-61-6	1,2,3-Trichlorobenzene	50	51.8	104	78-136
96-18-4	1,2,3-Trichloropropane	50	56.6	113	74-125
120-82-1	1,2,4-Trichlorobenzene	50	49.4	99	82-137

* = Outside of Control Limits.

Blank Spike Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VH2786-BS [a]	H0075137.D	1	03/30/12	EP	n/a	n/a	VH2786

The QC reported here applies to the following samples: **Method:** SW846 8260B

F91658-1, F91658-2, F91658-3, F91658-4, F91658-5, F91658-6, F91658-7, F91658-8

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
95-63-6	1,2,4-Trimethylbenzene	50	49.9	100	77-129
108-67-8	1,3,5-Trimethylbenzene	50	48.7	97	79-129
127-18-4	Tetrachloroethylene	50	53.7	107	79-132
108-88-3	Toluene	50	51.0	102	80-123
79-01-6	Trichloroethylene	50	52.3	105	78-132
75-69-4	Trichlorofluoromethane	50	59.8	120	67-149
110-57-6	Trans-1,4-Dichloro-2-Butene	50	54.4	109	74-138
75-01-4	Vinyl chloride	50	55.2	110	60-145
108-05-4	Vinyl Acetate	250	309	124	25-164
	m,p-Xylene	100	105	105	82-128
95-47-6	o-Xylene	50	53.8	108	82-126

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	95%	80-121%
2037-26-5	Toluene-D8	96%	71-130%
460-00-4	4-Bromofluorobenzene	96%	59-148%
17060-07-0	1,2-Dichloroethane-D4	95%	77-123%

(a) No MSD available for this run.

* = Outside of Control Limits.

Blank Spike Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VH2787-BS	H0075164.D	1	04/02/12	EP	n/a	n/a	VH2787

The QC reported here applies to the following samples: **Method:** SW846 8260B

F91658-9

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
67-64-1	Acetone	250	297	119	61-144
75-05-8	Acetonitrile	500	525	105	59-139
107-02-8	Acrolein	250	243	97	27-156
107-13-1	Acrylonitrile	250	289	116	55-144
107-05-1	Allyl chloride	50	59.3	119	41-152
71-43-2	Benzene	50	52.3	105	78-130
100-44-7	Benzyl Chloride	50	43.1	86	74-130
108-86-1	Bromobenzene	50	50.7	101	78-123
74-97-5	Bromochloromethane	50	53.5	107	72-122
75-27-4	Bromodichloromethane	50	56.9	114	73-122
75-25-2	Bromoform	50	47.5	95	70-139
104-51-8	n-Butylbenzene	50	51.2	102	80-138
135-98-8	sec-Butylbenzene	50	52.0	104	82-132
98-06-6	tert-Butylbenzene	50	50.9	102	79-130
108-90-7	Chlorobenzene	50	52.6	105	83-122
75-00-3	Chloroethane	50	51.9	104	61-153
67-66-3	Chloroform	50	53.0	106	79-129
544-10-5	1-Chlorohexane	50	52.4	105	85-137
95-49-8	o-Chlorotoluene	50	49.9	100	77-123
106-43-4	p-Chlorotoluene	50	52.0	104	78-129
110-75-8	2-Chloroethyl vinyl ether	250	212	85	52-142
75-15-0	Carbon disulfide	50	51.3	103	61-142
56-23-5	Carbon tetrachloride	50	52.3	105	79-135
75-34-3	1,1-Dichloroethane	50	55.1	110	77-132
75-35-4	1,1-Dichloroethylene	50	53.7	107	66-132
563-58-6	1,1-Dichloropropene	50	53.6	107	81-133
96-12-8	1,2-Dibromo-3-chloropropane	50	49.7	99	67-129
106-93-4	1,2-Dibromoethane	50	53.4	107	77-126
107-06-2	1,2-Dichloroethane	50	52.9	106	78-129
78-87-5	1,2-Dichloropropane	50	55.2	110	74-127
142-28-9	1,3-Dichloropropane	50	52.7	105	78-118
594-20-7	2,2-Dichloropropane	50	52.2	104	80-137
124-48-1	Dibromochloromethane	50	56.1	112	78-117
75-71-8	Dichlorodifluoromethane	50	58.2	116	35-162
156-59-2	cis-1,2-Dichloroethylene	50	52.7	105	74-123
10061-01-5	cis-1,3-Dichloropropene	50	58.6	117	79-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VH2787-BS	H0075164.D	1	04/02/12	EP	n/a	n/a	VH2787

The QC reported here applies to the following samples: **Method:** SW846 8260B

F91658-9

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
1476-11-5	cis-1,4-Dichloro-2-Butene	50	52.7	105	71-126
541-73-1	m-Dichlorobenzene	50	50.4	101	82-126
95-50-1	o-Dichlorobenzene	50	51.7	103	83-123
106-46-7	p-Dichlorobenzene	50	49.5	99	84-124
156-60-5	trans-1,2-Dichloroethylene	50	50.9	102	77-129
10061-02-6	trans-1,3-Dichloropropene	50	60.8	122	87-131
100-41-4	Ethylbenzene	50	51.0	102	82-124
97-63-2	Ethyl methacrylate	50	44.9	90	78-118
76-13-1	Freon 113	50	49.4	99	62-147
591-78-6	2-Hexanone	250	306	122	67-130
87-68-3	Hexachlorobutadiene	50	51.1	102	77-150
110-54-3	Hexane	50	51.0	102	65-147
98-82-8	Isopropylbenzene	50	62.3	125	82-133
99-87-6	p-Isopropyltoluene	50	51.9	104	82-132
108-10-1	4-Methyl-2-pentanone	250	242	97	69-125
126-98-7	Methacrylonitrile	500	596	119	70-138
74-83-9	Methyl bromide	50	57.5	115	60-146
74-87-3	Methyl chloride	50	59.1	118	58-163
74-88-4	Methyl iodide	50	51.1	102	66-128
80-62-6	Methyl methacrylate	50	66.3	133*	73-125
74-95-3	Methylene bromide	50	54.7	109	75-128
75-09-2	Methylene chloride	50	53.3	107	62-140
78-93-3	Methyl ethyl ketone	250	321	128	66-134
1634-04-4	Methyl Tert Butyl Ether	50	54.6	109	70-131
91-20-3	Naphthalene	50	50.8	102	59-143
76-01-7	Pentachloroethane	50	62.9	126	64-156
107-12-0	Propionitrile	500	517	103	73-133
103-65-1	n-Propylbenzene	50	51.9	104	78-129
100-42-5	Styrene	50	54.3	109	79-123
630-20-6	1,1,1,2-Tetrachloroethane	50	55.3	111	81-121
71-55-6	1,1,1-Trichloroethane	50	51.7	103	80-133
79-34-5	1,1,2,2-Tetrachloroethane	50	51.0	102	70-128
79-00-5	1,1,2-Trichloroethane	50	54.8	110	76-118
87-61-6	1,2,3-Trichlorobenzene	50	49.0	98	78-136
96-18-4	1,2,3-Trichloropropane	50	49.3	99	74-125
120-82-1	1,2,4-Trichlorobenzene	50	50.4	101	82-137

* = Outside of Control Limits.

Blank Spike Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VH2787-BS	H0075164.D	1	04/02/12	EP	n/a	n/a	VH2787

The QC reported here applies to the following samples: **Method:** SW846 8260B

F91658-9

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
95-63-6	1,2,4-Trimethylbenzene	50	50.7	101	77-129
108-67-8	1,3,5-Trimethylbenzene	50	49.1	98	79-129
127-18-4	Tetrachloroethylene	50	59.8	120	79-132
108-88-3	Toluene	50	51.2	102	80-123
79-01-6	Trichloroethylene	50	56.2	112	78-132
75-69-4	Trichlorofluoromethane	50	58.8	118	67-149
110-57-6	Trans-1,4-Dichloro-2-Butene	50	52.3	105	74-138
75-01-4	Vinyl chloride	50	56.5	113	60-145
108-05-4	Vinyl Acetate	250	264	106	25-164
	m,p-Xylene	100	105	105	82-128
95-47-6	o-Xylene	50	54.9	110	82-126

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	91%	80-121%
2037-26-5	Toluene-D8	94%	71-130%
460-00-4	4-Bromofluorobenzene	92%	59-148%
17060-07-0	1,2-Dichloroethane-D4	90%	77-123%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F91658-9MS	H0075155.D	1	03/30/12	EP	n/a	n/a	VH2786
F91658-9 [a]	H0075170.D	1	04/02/12	EP	n/a	n/a	VH2786

The QC reported here applies to the following samples: **Method:** SW846 8260B

F91658-1, F91658-2, F91658-3, F91658-4, F91658-5, F91658-6, F91658-7, F91658-8

CAS No.	Compound	F91658-9 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Limits
67-64-1	Acetone	ND		335	373	111	61-144
75-05-8	Acetonitrile	ND		669	600	90	59-139
107-02-8	Acrolein	ND		335	168	50	27-156
107-13-1	Acrylonitrile	ND		335	335	100	55-144
107-05-1	Allyl chloride	ND		66.9	66.8	100	41-152
71-43-2	Benzene	ND		66.9	65.5	98	78-130
100-44-7	Benzyl Chloride	ND		66.9	45.6	68*	74-130
108-86-1	Bromobenzene	ND		66.9	62.7	94	78-123
74-97-5	Bromochloromethane	ND		66.9	69.0	103	72-122
75-27-4	Bromodichloromethane	ND		66.9	70.2	105	73-122
75-25-2	Bromoform	ND		66.9	59.0	88	70-139
104-51-8	n-Butylbenzene	ND		66.9	61.9	92	80-138
135-98-8	sec-Butylbenzene	ND		66.9	64.2	96	82-132
98-06-6	tert-Butylbenzene	ND		66.9	61.5	92	79-130
108-90-7	Chlorobenzene	ND		66.9	67.0	100	83-122
75-00-3	Chloroethane	ND		66.9	64.1	96	61-153
67-66-3	Chloroform	ND		66.9	65.8	98	79-129
544-10-5	1-Chlorohexane	ND		66.9	61.2	91	85-137
95-49-8	o-Chlorotoluene	ND		66.9	62.4	93	77-123
106-43-4	p-Chlorotoluene	ND		66.9	66.1	99	78-129
110-75-8	2-Chloroethyl vinyl ether	ND		335	282	84	52-142
75-15-0	Carbon disulfide	ND		66.9	60.5	90	61-142
56-23-5	Carbon tetrachloride	ND		66.9	64.6	97	79-135
75-34-3	1,1-Dichloroethane	ND		66.9	68.3	102	77-132
75-35-4	1,1-Dichloroethylene	ND		66.9	66.2	99	66-132
563-58-6	1,1-Dichloropropene	ND		66.9	68.6	102	81-133
96-12-8	1,2-Dibromo-3-chloropropane	ND		66.9	56.4	84	67-129
106-93-4	1,2-Dibromoethane	ND		66.9	68.3	102	77-126
107-06-2	1,2-Dichloroethane	ND		66.9	65.3	98	78-129
78-87-5	1,2-Dichloropropane	ND		66.9	66.6	99	74-127
142-28-9	1,3-Dichloropropane	ND		66.9	66.7	100	78-118
594-20-7	2,2-Dichloropropane	ND		66.9	63.5	95	80-137
124-48-1	Dibromochloromethane	ND		66.9	68.9	103	78-117
75-71-8	Dichlorodifluoromethane	ND		66.9	64.6	97	35-162
156-59-2	cis-1,2-Dichloroethylene	ND		66.9	66.8	100	74-123
10061-01-5	cis-1,3-Dichloropropene	ND		66.9	68.9	103	79-130

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F91658-9MS	H0075155.D	1	03/30/12	EP	n/a	n/a	VH2786
F91658-9 [a]	H0075170.D	1	04/02/12	EP	n/a	n/a	VH2786

The QC reported here applies to the following samples: **Method:** SW846 8260B

F91658-1, F91658-2, F91658-3, F91658-4, F91658-5, F91658-6, F91658-7, F91658-8

CAS No.	Compound	F91658-9 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Limits
1476-11-5	cis-1,4-Dichloro-2-Butene	ND		66.9	57.1	85	71-126
541-73-1	m-Dichlorobenzene	ND		66.9	60.4	90	82-126
95-50-1	o-Dichlorobenzene	ND		66.9	61.1	91	83-123
106-46-7	p-Dichlorobenzene	ND		66.9	61.4	92	84-124
156-60-5	trans-1,2-Dichloroethylene	ND		66.9	63.2	94	77-129
10061-02-6	trans-1,3-Dichloropropene	ND		66.9	73.6	110	87-131
100-41-4	Ethylbenzene	ND		66.9	65.2	97	82-124
97-63-2	Ethyl methacrylate	ND		66.9	36.9	55*	78-118
76-13-1	Freon 113	ND		66.9	56.7	85	62-147
591-78-6	2-Hexanone	ND		335	369	110	67-130
87-68-3	Hexachlorobutadiene	ND		66.9	50.6	76*	77-150
110-54-3	Hexane	ND		66.9	57.0	85	65-147
98-82-8	Isopropylbenzene	ND		66.9	75.6	113	82-133
99-87-6	p-Isopropyltoluene	ND		66.9	65.3	98	82-132
108-10-1	4-Methyl-2-pentanone	ND		335	315	94	69-125
126-98-7	Methacrylonitrile	ND		669	624	93	70-138
74-83-9	Methyl bromide	ND		66.9	69.5	104	60-146
74-87-3	Methyl chloride	ND		66.9	71.2	106	58-163
74-88-4	Methyl iodide	ND		66.9	58.7	88	66-128
80-62-6	Methyl methacrylate	ND		66.9	82.0	122	73-125
74-95-3	Methylene bromide	ND		66.9	69.5	104	75-128
75-09-2	Methylene chloride	11.1	J	66.9	71.6	90	62-140
78-93-3	Methyl ethyl ketone	ND		335	402	120	66-134
1634-04-4	Methyl Tert Butyl Ether	ND		66.9	68.5	102	70-131
91-20-3	Naphthalene	ND		66.9	53.4	80	59-143
76-01-7	Pentachloroethane	ND		66.9	67.7	101	64-156
107-12-0	Propionitrile	ND		669	641	96	73-133
103-65-1	n-Propylbenzene	ND		66.9	65.4	98	78-129
100-42-5	Styrene	ND		66.9	66.1	99	79-123
630-20-6	1,1,1,2-Tetrachloroethane	ND		66.9	68.9	103	81-121
71-55-6	1,1,1-Trichloroethane	ND		66.9	64.9	97	80-133
79-34-5	1,1,2,2-Tetrachloroethane	ND		66.9	62.2	93	70-128
79-00-5	1,1,2-Trichloroethane	ND		66.9	66.5	99	76-118
87-61-6	1,2,3-Trichlorobenzene	ND		66.9	48.8	73*	78-136
96-18-4	1,2,3-Trichloropropane	ND		66.9	65.6	98	74-125
120-82-1	1,2,4-Trichlorobenzene	ND		66.9	53.9	81*	82-137

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F91658-9MS	H0075155.D	1	03/30/12	EP	n/a	n/a	VH2786
F91658-9 [a]	H0075170.D	1	04/02/12	EP	n/a	n/a	VH2786

The QC reported here applies to the following samples: **Method:** SW846 8260B

F91658-1, F91658-2, F91658-3, F91658-4, F91658-5, F91658-6, F91658-7, F91658-8

CAS No.	Compound	F91658-9 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Limits
95-63-6	1,2,4-Trimethylbenzene	ND		66.9	63.4	95	77-129
108-67-8	1,3,5-Trimethylbenzene	ND		66.9	61.8	92	79-129
127-18-4	Tetrachloroethylene	ND		66.9	75.7	113	79-132
108-88-3	Toluene	ND		66.9	66.1	99	80-123
79-01-6	Trichloroethylene	ND		66.9	69.4	104	78-132
75-69-4	Trichlorofluoromethane	ND		66.9	68.8	103	67-149
110-57-6	Trans-1,4-Dichloro-2-Butene	ND		66.9	61.1	91	74-138
75-01-4	Vinyl chloride	ND		66.9	69.9	104	60-145
108-05-4	Vinyl Acetate	ND		335	53.7	16*	25-164
	m,p-Xylene	ND		134	136	102	82-128
95-47-6	o-Xylene	ND		66.9	67.4	101	82-126

CAS No.	Surrogate Recoveries	MS	F91658-9	Limits
1868-53-7	Dibromofluoromethane	98%	96%	80-121%
2037-26-5	Toluene-D8	98%	96%	71-130%
460-00-4	4-Bromofluorobenzene	94%	97%	59-148%
17060-07-0	1,2-Dichloroethane-D4	93%	95%	77-123%

(a) Confirmation run.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F91658-9MS	H0075171.D	1	04/02/12	EP	n/a	n/a	VH2787
F91658-9MSD	H0075172.D	1	04/02/12	EP	n/a	n/a	VH2787
F91658-9	H0075170.D	1	04/02/12	EP	n/a	n/a	VH2787

The QC reported here applies to the following samples: **Method:** SW846 8260B

F91658-9

CAS No.	Compound	F91658-9 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		310	352	114	352	114	0	61-144/29
75-05-8	Acetonitrile	ND		619	636	103	536	87	17	59-139/30
107-02-8	Acrolein	ND		310	234	76	164	53	35	27-156/39
107-13-1	Acrylonitrile	ND		310	315	102	310	100	2	55-144/24
107-05-1	Allyl chloride	ND		61.9	61.9	100	54.1	87	13	41-152/24
71-43-2	Benzene	ND		61.9	60.9	98	53.0	86	14	78-130/25
100-44-7	Benzyl Chloride	ND		61.9	47.4	77	41.2	67*	14	74-130/28
108-86-1	Bromobenzene	ND		61.9	61.7	100	46.3	75*	29	78-123/30
74-97-5	Bromochloromethane	ND		61.9	62.1	100	58.7	95	6	72-122/23
75-27-4	Bromodichloromethane	ND		61.9	64.7	104	54.9	89	16	73-122/25
75-25-2	Bromoform	ND		61.9	53.2	86	44.7	72	17	70-139/26
104-51-8	n-Butylbenzene	ND		61.9	52.1	84	29.8	48*	54*	80-138/31
135-98-8	sec-Butylbenzene	ND		61.9	56.3	91	33.9	55*	50*	82-132/29
98-06-6	tert-Butylbenzene	ND		61.9	55.8	90	36.1	58*	43*	79-130/29
108-90-7	Chlorobenzene	ND		61.9	60.0	97	47.1	76*	24*	83-122/23
75-00-3	Chloroethane	ND		61.9	58.8	95	52.1	84	12	61-153/31
67-66-3	Chloroform	ND		61.9	61.7	100	52.8	85	16	79-129/27
544-10-5	1-Chlorohexane	ND		61.9	52.9	85	35.0	57*	41*	85-137/29
95-49-8	o-Chlorotoluene	ND		61.9	58.6	95	41.1	66*	35*	77-123/31
106-43-4	p-Chlorotoluene	ND		61.9	60.9	98	41.9	68*	37*	78-129/29
110-75-8	2-Chloroethyl vinyl ether	ND		310	248	80	241	78	3	52-142/25
75-15-0	Carbon disulfide	ND		61.9	56.1	91	47.8	77	16	61-142/27
56-23-5	Carbon tetrachloride	ND		61.9	58.8	95	48.5	78*	19	79-135/29
75-34-3	1,1-Dichloroethane	ND		61.9	61.4	99	52.1	84	16	77-132/26
75-35-4	1,1-Dichloroethylene	ND		61.9	57.9	94	51.1	83	12	66-132/27
563-58-6	1,1-Dichloropropene	ND		61.9	61.0	99	51.5	83	17	81-133/26
96-12-8	1,2-Dibromo-3-chloropropane	ND		61.9	56.2	91	53.7	87	5	67-129/29
106-93-4	1,2-Dibromoethane	ND		61.9	60.9	98	53.7	87	13	77-126/24
107-06-2	1,2-Dichloroethane	ND		61.9	63.9	103	55.6	90	14	78-129/24
78-87-5	1,2-Dichloropropane	ND		61.9	61.5	99	56.4	91	9	74-127/27
142-28-9	1,3-Dichloropropane	ND		61.9	61.4	99	51.7	83	17	78-118/26
594-20-7	2,2-Dichloropropane	ND		61.9	62.6	101	50.2	81	22	80-137/28
124-48-1	Dibromochloromethane	ND		61.9	61.7	100	54.3	88	13	78-117/27
75-71-8	Dichlorodifluoromethane	ND		61.9	57.8	93	48.2	78	18	35-162/30
156-59-2	cis-1,2-Dichloroethylene	ND		61.9	62.6	101	54.2	88	14	74-123/26
10061-01-5	cis-1,3-Dichloropropene	ND		61.9	62.9	102	55.6	90	12	79-130/23

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F91658-9MS	H0075171.D	1	04/02/12	EP	n/a	n/a	VH2787
F91658-9MSD	H0075172.D	1	04/02/12	EP	n/a	n/a	VH2787
F91658-9	H0075170.D	1	04/02/12	EP	n/a	n/a	VH2787

The QC reported here applies to the following samples: **Method:** SW846 8260B

F91658-9

CAS No.	Compound	F91658-9 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
1476-11-5	cis-1,4-Dichloro-2-Butene	ND		61.9	60.0	97	51.2	83	16	71-126/28
541-73-1	m-Dichlorobenzene	ND		61.9	58.8	95	39.8	64*	39*	82-126/29
95-50-1	o-Dichlorobenzene	ND		61.9	56.5	91	40.6	66*	33*	83-123/28
106-46-7	p-Dichlorobenzene	ND		61.9	56.4	91	39.2	63*	36*	84-124/28
156-60-5	trans-1,2-Dichloroethylene	ND		61.9	57.2	92	46.9	76*	20	77-129/27
10061-02-6	trans-1,3-Dichloropropene	ND		61.9	67.0	108	56.9	92	16	87-131/27
100-41-4	Ethylbenzene	ND		61.9	57.1	92	42.9	69*	28*	82-124/25
97-63-2	Ethyl methacrylate	ND		61.9	38.7	63*	31.5	51*	21	78-118/30
76-13-1	Freon 113	ND		61.9	51.0	82	41.1	66	21	62-147/29
591-78-6	2-Hexanone	ND		310	332	107	310	100	7	67-130/29
87-68-3	Hexachlorobutadiene	ND		61.9	39.0	63*	21.9	35*	56*	77-150/36
110-54-3	Hexane	ND		61.9	46.7	75	37.5	61*	22	65-147/27
98-82-8	Isopropylbenzene	ND		61.9	65.9	106	47.2	76*	33*	82-133/27
99-87-6	p-Isopropyltoluene	ND		61.9	57.3	93	35.2	57*	48*	82-132/29
108-10-1	4-Methyl-2-pentanone	ND		310	271	88	267	86	1	69-125/24
126-98-7	Methacrylonitrile	ND		619	616	99	565	91	9	70-138/22
74-83-9	Methyl bromide	ND		61.9	66.1	107	54.5	88	19	60-146/31
74-87-3	Methyl chloride	ND		61.9	64.1	104	54.3	88	17	58-163/26
74-88-4	Methyl iodide	ND		61.9	56.4	91	49.3	80	13	66-128/27
80-62-6	Methyl methacrylate	ND		61.9	81.0	131*	81.0	131*	0	73-125/24
74-95-3	Methylene bromide	ND		61.9	64.9	105	59.5	96	9	75-128/26
75-09-2	Methylene chloride	11.1	J	61.9	62.0	82	60.7	80	2	62-140/25
78-93-3	Methyl ethyl ketone	ND		310	380	123	371	120	2	66-134/23
1634-04-4	Methyl Tert Butyl Ether	ND		61.9	60.5	98	57.7	93	5	70-131/25
91-20-3	Naphthalene	ND		61.9	45.6	74	37.5	61	19	59-143/31
76-01-7	Pentachloroethane	ND		61.9	79.0	128	57.3	93	32	64-156/37
107-12-0	Propionitrile	ND		619	604	98	571	92	6	73-133/23
103-65-1	n-Propylbenzene	ND		61.9	60.0	97	40.0	65*	40*	78-129/29
100-42-5	Styrene	ND		61.9	61.2	99	47.2	76*	26	79-123/28
630-20-6	1,1,1,2-Tetrachloroethane	ND		61.9	61.0	99	48.7	79*	22	81-121/25
71-55-6	1,1,1-Trichloroethane	ND		61.9	60.9	98	48.4	78*	23	80-133/27
79-34-5	1,1,2,2-Tetrachloroethane	ND		61.9	61.7	100	51.0	82	19	70-128/30
79-00-5	1,1,2-Trichloroethane	ND		61.9	60.1	97	53.8	87	11	76-118/28
87-61-6	1,2,3-Trichlorobenzene	ND		61.9	41.1	66*	26.5	43*	43*	78-136/34
96-18-4	1,2,3-Trichloropropane	ND		61.9	68.7	111	54.7	88	23	74-125/30
120-82-1	1,2,4-Trichlorobenzene	ND		61.9	45.6	74*	28.2	46*	47*	82-137/32

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F91658-9MS	H0075171.D	1	04/02/12	EP	n/a	n/a	VH2787
F91658-9MSD	H0075172.D	1	04/02/12	EP	n/a	n/a	VH2787
F91658-9	H0075170.D	1	04/02/12	EP	n/a	n/a	VH2787

The QC reported here applies to the following samples: **Method:** SW846 8260B

F91658-9

CAS No.	Compound	F91658-9 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
95-63-6	1,2,4-Trimethylbenzene	ND		61.9	58.6	95	39.3	63*	39*	77-129/29
108-67-8	1,3,5-Trimethylbenzene	ND		61.9	57.8	93	37.4	60*	43*	79-129/31
127-18-4	Tetrachloroethylene	ND		61.9	59.6	96	46.0	74*	26	79-132/27
108-88-3	Toluene	ND		61.9	58.4	94	46.0	74*	24	80-123/26
79-01-6	Trichloroethylene	ND		61.9	61.3	99	51.6	83	17	78-132/28
75-69-4	Trichlorofluoromethane	ND		61.9	66.5	107	52.3	84	24	67-149/29
110-57-6	Trans-1,4-Dichloro-2-Butene	ND		61.9	61.0	99	53.1	86	14	74-138/30
75-01-4	Vinyl chloride	ND		61.9	60.3	97	53.1	86	13	60-145/29
108-05-4	Vinyl Acetate	ND		310	89.7	29	78.3	25	14	25-164/35
	m,p-Xylene	ND		124	118	95	91.0	73*	26*	82-128/25
95-47-6	o-Xylene	ND		61.9	59.6	96	46.4	75*	25	82-126/25

CAS No.	Surrogate Recoveries	MS	MSD	F91658-9	Limits
1868-53-7	Dibromofluoromethane	98%	100%	96%	80-121%
2037-26-5	Toluene-D8	94%	92%	96%	71-130%
460-00-4	4-Bromofluorobenzene	100%	95%	97%	59-148%
17060-07-0	1,2-Dichloroethane-D4	97%	102%	95%	77-123%

* = Outside of Control Limits.

Instrument Performance Check (BFB)

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VH2785-BFB
Lab File ID: H0075108.D
Instrument ID: GCMSH
Injection Date: 03/29/12
Injection Time: 08:05

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	49192	20.0		Pass
75	30.0 - 60.0% of mass 95	123650	50.4		Pass
95	Base peak, 100% relative abundance	245440	100.0		Pass
96	5.0 - 9.0% of mass 95	13843	5.64		Pass
173	Less than 2.0% of mass 174	1489	0.61	(0.70) [a]	Pass
174	50.0 - 100.0% of mass 95	211840	86.3		Pass
175	5.0 - 9.0% of mass 174	14212	5.79	(6.71) [a]	Pass
176	95.0 - 101.0% of mass 174	211306	86.1	(99.7) [a]	Pass
177	5.0 - 9.0% of mass 176	14804	6.03	(7.01) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VH2785-IC2785	H0075109.D	03/29/12	08:41	00:36	Initial cal 1
VH2785-IC2785	H0075110.D	03/29/12	09:07	01:02	Initial cal 2
VH2785-IC2785	H0075111.D	03/29/12	09:32	01:27	Initial cal 3
VH2785-IC2785	H0075112.D	03/29/12	09:57	01:52	Initial cal 4
VH2785-ICC2785	H0075113.D	03/29/12	10:22	02:17	Initial cal 5
VH2785-IC2785	H0075114.D	03/29/12	10:47	02:42	Initial cal 6
VH2785-IC2785	H0075115.D	03/29/12	11:12	03:07	Initial cal 7
VH2785-ICV2785	H0075118.D	03/29/12	14:01	05:56	Initial cal verification 4
VH2785-BS	H0075118.D	03/29/12	14:01	05:56	Blank Spike
VH2785-MB	H0075119.D	03/29/12	14:41	06:36	Method Blank
F91608-1	H0075120.D	03/29/12	15:10	07:05	(used for QC only; not part of job F91658)
ZZZZZZ	H0075121.D	03/29/12	15:35	07:30	(unrelated sample)
ZZZZZZ	H0075122.D	03/29/12	16:00	07:55	(unrelated sample)
ZZZZZZ	H0075123.D	03/29/12	16:25	08:20	(unrelated sample)
ZZZZZZ	H0075124.D	03/29/12	16:50	08:45	(unrelated sample)
ZZZZZZ	H0075125.D	03/29/12	17:15	09:10	(unrelated sample)
ZZZZZZ	H0075126.D	03/29/12	17:41	09:36	(unrelated sample)
ZZZZZZ	H0075127.D	03/29/12	18:06	10:01	(unrelated sample)
ZZZZZZ	H0075128.D	03/29/12	18:31	10:26	(unrelated sample)
ZZZZZZ	H0075129.D	03/29/12	18:56	10:51	(unrelated sample)
F91608-1MS	H0075130.D	03/29/12	19:21	11:16	Matrix Spike
F91608-1MSD	H0075131.D	03/29/12	19:46	11:41	Matrix Spike Duplicate

Instrument Performance Check (BFB)

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VH2786-BFB
Lab File ID: H0075135.D
Instrument ID: GCMSH
Injection Date: 03/30/12
Injection Time: 08:05

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	159744	19.3		Pass
75	30.0 - 60.0% of mass 95	392832	47.6		Pass
95	Base peak, 100% relative abundance	825941	100.0		Pass
96	5.0 - 9.0% of mass 95	53421	6.47		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 100.0% of mass 95	717418	86.9		Pass
175	5.0 - 9.0% of mass 174	52578	6.37	(7.33) [a]	Pass
176	95.0 - 101.0% of mass 174	696298	84.3	(97.1) [a]	Pass
177	5.0 - 9.0% of mass 176	41544	5.03	(5.97) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VH2786-CC2785	H0075136.D	03/30/12	08:31	00:26	Continuing cal 4
VH2786-BS	H0075137.D	03/30/12	09:07	01:02	Blank Spike
VH2786-MB	H0075138.D	03/30/12	09:32	01:27	Method Blank
ZZZZZZ	H0075139.D	03/30/12	09:57	01:52	(unrelated sample)
ZZZZZZ	H0075140.D	03/30/12	10:22	02:17	(unrelated sample)
ZZZZZZ	H0075141.D	03/30/12	10:47	02:42	(unrelated sample)
ZZZZZZ	H0075142.D	03/30/12	11:12	03:07	(unrelated sample)
ZZZZZZ	H0075143.D	03/30/12	11:38	03:33	(unrelated sample)
ZZZZZZ	H0075144.D	03/30/12	12:03	03:58	(unrelated sample)
ZZZZZZ	H0075145.D	03/30/12	12:28	04:23	(unrelated sample)
F91658-1	H0075147.D	03/30/12	13:18	05:13	SS39-OXD-FL02
F91658-2	H0075148.D	03/30/12	13:43	05:38	SS39-OXD-SW03
F91658-3	H0075149.D	03/30/12	14:09	06:04	SS39-OXD-SW01
F91658-4	H0075150.D	03/30/12	14:34	06:29	SS39-PDB-FL02
F91658-5	H0075151.D	03/30/12	14:59	06:54	SS39-PDB-SW01A
F91658-6	H0075152.D	03/30/12	15:24	07:19	SS39-PDB-SW01B
F91658-7	H0075153.D	03/30/12	15:49	07:44	SS39-FD01-032912
F91658-9MS	H0075155.D	03/30/12	16:40	08:35	Matrix Spike
F91658-8	H0075156.D	03/30/12	17:05	09:00	SS39-TB02-032912
ZZZZZZ	H0075157.D	03/30/12	17:30	09:25	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VH2787-BFB
Lab File ID: H0075162.D
Instrument ID: GCMSH
Injection Date: 04/02/12
Injection Time: 09:41

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	136069	19.2		Pass
75	30.0 - 60.0% of mass 95	342570	48.4		Pass
95	Base peak, 100% relative abundance	707477	100.0		Pass
96	5.0 - 9.0% of mass 95	41250	5.83		Pass
173	Less than 2.0% of mass 174	1106	0.16	(0.19) [a]	Pass
174	50.0 - 100.0% of mass 95	597760	84.5		Pass
175	5.0 - 9.0% of mass 174	42429	6.00	(7.10) [a]	Pass
176	95.0 - 101.0% of mass 174	582357	82.3	(97.4) [a]	Pass
177	5.0 - 9.0% of mass 176	33666	4.76	(5.78) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VH2787-CC2785	H0075163.D	04/02/12	10:08	00:27	Continuing cal 4
VH2787-BS	H0075164.D	04/02/12	10:46	01:05	Blank Spike
VH2787-MB	H0075165.D	04/02/12	11:11	01:30	Method Blank
ZZZZZZ	H0075166.D	04/02/12	11:36	01:55	(unrelated sample)
ZZZZZZ	H0075167.D	04/02/12	12:01	02:20	(unrelated sample)
ZZZZZZ	H0075168.D	04/02/12	12:27	02:46	(unrelated sample)
ZZZZZZ	H0075169.D	04/02/12	12:52	03:11	(unrelated sample)
F91658-9	H0075170.D	04/02/12	13:28	03:47	SS39-PDB-SW01B-032912
F91658-9	H0075170.D	04/02/12	13:29	03:48	SS39-PDB-SW01B-032912
F91658-9MS	H0075171.D	04/02/12	13:53	04:12	Matrix Spike
F91658-9MSD	H0075172.D	04/02/12	14:18	04:37	Matrix Spike Duplicate

Volatile Internal Standard Area Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Check Std:	VH2786-CC2785	**Injection Date:**	03/30/12
Lab File ID:	H0075136.D	**Injection Time:**	08:31
Instrument ID:	GCMSH	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
Initial Cal [a]	1661437	10.16	1239051	13.36	681367	15.78	169374	7.33
Check Std [b]	1617473	10.17	1242825	13.36	707503	15.79	153665	7.34
Upper Limit [c]	3234946	10.67	2485650	13.86	1415006	16.29	307330	7.84
Lower Limit [d]	808737	9.67	621413	12.86	353752	15.29	76833	6.84

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
VH2786-BS [e]	1627231	10.16	1227859	13.35	681065	15.78	189907	7.35
VH2786-MB	1588756	10.16	1142917	13.36	548685	15.78	145966	7.34
ZZZZZZ	1552027	10.16	1181496	13.35	602030	15.78	133008	7.36
ZZZZZZ	1604223	10.17	1213708	13.36	614793	15.79	230191	7.33
ZZZZZZ	1584481	10.17	1223024	13.35	677297	15.79	272288	7.34
ZZZZZZ	1720872	10.16	1278318	13.36	667323	15.79	172872	7.35
ZZZZZZ	1772891	10.16	1301263	13.35	718363	15.79	206649	7.35
ZZZZZZ	1717623	10.17	1298529	13.35	703806	15.79	190318	7.34
ZZZZZZ	1746214	10.17	1354227	13.36	688603	15.79	209308	7.33
F91658-1	1684627	10.17	1243512	13.35	629982	15.79	170580	7.34
F91658-2	1597823	10.17	1131695	13.36	510539	15.79	179937	7.34
F91658-3	1617511	10.16	1145516	13.36	535822	15.79	160325	7.35
F91658-4	1650492	10.17	1201588	13.37	567550	15.79	135791	7.35
F91658-5	1591697	10.17	1178715	13.37	566459	15.79	165166	7.34
F91658-6	1615730	10.17	1166578	13.36	541797	15.79	166796	7.35
F91658-7	1561040	10.18	1149801	13.36	605510	15.80	146328	7.35
F91658-9MS	1645808	10.17	1230536	13.36	672383	15.79	160004	7.35
F91658-8	1617988	10.18	1148368	13.37	585524	15.80	159560	7.35
ZZZZZZ	1531328	10.18	1016608	13.37	387619	15.80	139413	7.34

IS 1 = Fluorobenzene
IS 2 = Chlorobenzene-D5
IS 3 = 1,4-Dichlorobenzene-d4
IS 4 = Tert Butyl Alcohol-D10

(a) Initial Cal is: VH2785-ICC2785 H0075113.D 03/29/12 10:22
(b) Check Std Limit = -50 to + 100% of initial cal area.
(c) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.
(d) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
(e) No MSD available for this run.

Volatile Internal Standard Area Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Check Std:	VH2787-CC2785	**Injection Date:**	04/02/12
Lab File ID:	H0075163.D	**Injection Time:**	10:08
Instrument ID:	GCMSH	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
Initial Cal [a]	1661437	10.16	1239051	13.36	681367	15.78	169374	7.33
Check Std [b]	1634390	10.17	1244749	13.37	688944	15.79	191402	7.34
Upper Limit [c]	3268780	10.67	2489498	13.87	1377888	16.29	382804	7.84
Lower Limit [d]	817195	9.67	622375	12.87	344472	15.29	95701	6.84

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
VH2787-BS	1655137	10.16	1263859	13.36	703009	15.78	176419	7.34
VH2787-MB	1657107	10.17	1201435	13.36	589438	15.79	149812	7.34
ZZZZZZ	1615760	10.17	1202061	13.36	581540	15.79	153564	7.35
ZZZZZZ	1642008	10.16	1194238	13.36	587077	15.79	174969	7.35
ZZZZZZ	1583962	10.17	1173374	13.36	570307	15.79	157324	7.35
ZZZZZZ	1591095	10.17	1161390	13.36	588066	15.79	149411	7.35
F91658-9	1524018	10.17	1120661	13.36	544929	15.79	126141	7.35
F91658-9 [e]	1524018	10.17	1120661	13.36	544929	15.79	126141	7.35
F91658-9MS	1613617	10.17	1266379	13.37	654074	15.79	123000	7.34
F91658-9MSD	1679540	10.17	1351504	13.37	726852	15.80	193486	7.34

IS 1 = Fluorobenzene
IS 2 = Chlorobenzene-D5
IS 3 = 1,4-Dichlorobenzene-d4
IS 4 = Tert Butyl Alcohol-D10

(a) Initial Cal is: VH2785-ICC2785 H0075113.D 03/29/12 10:22
(b) Check Std Limit = -50 to + 100% of initial cal area.
(c) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.
(d) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
(e) Confirmation run.

Volatile Surrogate Recovery Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Method: SW846 8260B **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
F91658-1	H0075147.D	92.0	96.0	91.0	99.0
F91658-2	H0075148.D	93.0	99.0	99.0	97.0
F91658-3	H0075149.D	91.0	98.0	101.0	95.0
F91658-4	H0075150.D	94.0	97.0	97.0	96.0
F91658-5	H0075151.D	95.0	97.0	97.0	100.0
F91658-6	H0075152.D	95.0	96.0	97.0	97.0
F91658-7	H0075153.D	96.0	99.0	92.0	104.0
F91658-8	H0075156.D	93.0	99.0	95.0	99.0
F91658-9	H0075170.D	96.0	96.0	97.0	95.0
F91658-9	H0075170.D	96.0	96.0	97.0	95.0
F91658-9MS	H0075171.D	98.0	94.0	100.0	97.0
F91658-9MS	H0075155.D	98.0	98.0	94.0	93.0
F91658-9MSD	H0075172.D	100.0	92.0	95.0	102.0
VH2786-BS	H0075137.D	95.0	96.0	96.0	95.0
VH2786-MB	H0075138.D	95.0	99.0	97.0	95.0
VH2787-BS	H0075164.D	91.0	94.0	92.0	90.0
VH2787-MB	H0075165.D	92.0	98.0	98.0	95.0

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	80-121%
S2 = Toluene-D8	71-130%
S3 = 4-Bromofluorobenzene	59-148%
S4 = 1,2-Dichloroethane-D4	77-123%

Initial Calibration Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VH2785-ICC2785
Lab FileID: H0075113.D

Response Factor Report MSVOA3

Method : C:\MSDCHEM\1\METHODS\032912APP9-H.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Thu Mar 29 14:35:59 2012
Response via : Initial Calibration

Calibration Files
1 =H0075109.D 2 =H0075110.D 3 =H0075111.D 4 =H0075112.D
5 =H0075113.D 6 =H0075114.D 7 =H0075115.D

Compound	1	2	3	4	5	6	7	Avg	%RSD
1) I Fluorobenzene	----------ISTD----------								
2) Dichlorodifluorom	0.294	0.295	0.277	0.260	0.247	0.243	0.248	0.266	8.39
3)P Chloromethane	0.362	0.350	0.361	0.354	0.321	0.329	0.347	0.346	4.50
4)C Vinyl Chloride	0.309	0.308	0.299	0.297	0.268	0.270	0.275	0.289	6.15
5) Bromomethane	0.199	0.193	0.174	0.178	0.161			0.181	8.35
6) Chloroethane	0.192	0.161	0.159	0.167	0.149	0.149	0.151	0.161	9.45
7) Trichlorofluorome	0.358	0.323	0.346	0.327	0.287	0.283	0.293	0.317	9.36
8) Ethyl Ether	0.256	0.284	0.297	0.298	0.290	0.295	0.304	0.289	5.49
9) 1,2-Dichlorotrifl	0.439	0.391	0.392	0.392	0.362	0.361	0.369	0.387	6.99
10)C 1,1-Dichloroethen	0.496	0.456	0.452	0.455	0.423	0.442	0.460	0.455	4.85
11) Freon 113	0.303	0.274	0.281	0.265	0.252	0.251	0.261	0.270	6.82
12) Carbon Disulfide	0.886	0.825	0.860	0.891	0.832	0.842	0.892	0.861	3.37
13) Iodomethane	0.526	0.505	0.503	0.541	0.488	0.495	0.511	0.510	3.54
14) Allyl chloride	0.475	0.437	0.492	0.499	0.484	0.498	0.526	0.487	5.58
---- Linear regr., Force(0,0) ---- Coefficient = 0.9981									
Response Ratio = 0.00000 + 0.51091 *A									
15) Methylene Chlorid	0.725	0.578	0.548	0.497	0.452	0.456	0.467	0.532	18.39
---- Linear regr., Force(0,0) ---- Coefficient = 0.9992									
Response Ratio = 0.00000 + 0.46318 *A									
16) Acetone	0.216	0.212	0.225	0.225	0.221	0.218	0.231	0.221	2.88
17) Methyl acetate	0.297	0.309	0.334	0.332	0.353			0.325	6.87
18) trans-1,2-Dichlor	0.516	0.490	0.496	0.510	0.463	0.470	0.497	0.492	3.95
19) Hexane	0.258	0.236	0.254	0.233	0.212	0.218	0.237	0.235	7.23
20) Methyl Tert Butyl	0.864	0.882	0.975	0.990	0.990	0.996	1.062	0.965	7.19
21) Acetonitrile	0.022	0.025	0.027	0.025	0.031	0.031	0.033	0.028	14.44
---- Linear regr., Force(0,0) ---- Coefficient = 0.9970									
Response Ratio = 0.00000 + 0.03171 *A									
22) Di-isopropyl ethe	1.181	1.194	1.269	1.336	1.295	1.341	1.429	1.292	6.73
23) Chloroprene	0.514	0.510	0.520	0.560	0.509	0.532	0.559	0.529	4.18
24)P 1,1-Dichloroethan	0.576	0.584	0.612	0.621	0.570	0.561	0.597	0.589	3.76
25) Acrylonitrile	0.091	0.093	0.108	0.108	0.111	0.112	0.122	0.107	10.15
26) ETBE	1.014	1.118	1.168	1.234	1.215	1.225	1.321	1.185	8.27
27) Vinyl acetate	0.364	0.389	0.449	0.464	0.447	0.428	0.443	0.426	8.57
---- Linear regr., Force(0,0) ---- Coefficient = 0.9991									
Response Ratio = 0.00000 + 0.43975 *A									
28) cis-1,2-Dichloroe	0.316	0.348	0.352	0.350	0.323	0.327	0.334	0.336	4.21
29) 2,2-Dichloropropa	0.344	0.288	0.323	0.324	0.280	0.268	0.269	0.299	10.16
30) Bromochloromethan	0.181	0.174	0.185	0.176	0.168	0.162	0.162	0.172	5.17
31) Cyclohexane	0.571	0.517	0.521	0.513	0.500	0.492	0.523	0.520	4.92
32)C Chloroform	0.597	0.607	0.588	0.610	0.560	0.549	0.565	0.582	4.16
33) Ethyl acetate	0.033	0.034	0.038	0.038	0.037	0.037	0.039	0.037	6.05
34) Tetrahydrofuran	0.155	0.162	0.184	0.173	0.171	0.173	0.180	0.171	5.78

Initial Calibration Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VH2785-ICC2785
Lab FileID: H0075113.D

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             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9991
               Response Ratio = 0.00000 + 0.17626 *A

35)S Dibromofluorometh 0.238 0.260 0.269 0.243 0.269 0.272 0.274 0.261   5.52
36)  Carbon Tetrachlor 0.389 0.388 0.382 0.391 0.357 0.355 0.359 0.374   4.45
37)  1,1,1-Trichloroet 0.480 0.421 0.428 0.434 0.399 0.395 0.400 0.422   7.01
38)  2-Butanone        0.041 0.044 0.049 0.047 0.051 0.048 0.052 0.048   8.08
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9979
               Response Ratio = 0.00000 + 0.05058 *A

39)  1,1-Dichloroprope 0.411 0.415 0.410 0.436 0.381 0.385 0.392 0.404   4.80
40)  Propionitrile     0.033 0.035 0.044 0.043 0.044 0.043 0.047 0.041  12.88
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9976
               Response Ratio = 0.00000 + 0.04527 *A

41)  Methacrylonitrile 0.179 0.199 0.227 0.226 0.230 0.227 0.230 0.217   9.16
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9999
               Response Ratio = 0.00000 + 0.22871 *A

42)  Benzene           1.301 1.274 1.247 1.278 1.173 1.171 1.207 1.236   4.24
43)  TAME              0.859 0.972 0.991 1.042 1.028 1.005 1.057 0.994   6.66
44)S 1,2-Dichloroethan 0.315 0.343 0.364 0.302 0.358 0.357 0.349 0.341   6.87
45)  1,2-Dichloroethan 0.525 0.518 0.506 0.517 0.506 0.496 0.518 0.512   1.95
46)  Trichloroethene   0.307 0.294 0.299 0.318 0.309 0.305 0.311 0.306   2.56
47)  Methylcyclohexane 0.462 0.471 0.461 0.473 0.458 0.441 0.471 0.462   2.39
48)  Dibromomethane    0.168 0.178 0.191 0.196 0.196 0.191 0.200 0.189   6.03
49)C 1,2-Dichloropropa 0.313 0.324 0.336 0.343 0.329 0.332 0.343 0.332   3.24
50)  Bromodichlorometh 0.377 0.393 0.412 0.453 0.444 0.450 0.470 0.428   8.11
51)  Methyl methacryla 0.205 0.232 0.285 0.298 0.303 0.313 0.354 0.284  17.71
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9928
               Response Ratio = 0.00000 + 0.33253 *A

52)  2-Chloroethyl vin 0.092 0.094 0.117 0.126 0.135 0.139       0.117  17.25
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9996
               Response Ratio = 0.00000 + 0.13654 *A

53)  cis-1,3-Dichlorop 0.434 0.468 0.498 0.555 0.544 0.561 0.583 0.520  10.54

54) I   Chlorobenzene-d5      ----------------ISTD---------------------
55)S Toluene-d8        1.373 1.351 1.353 1.312 1.395 1.432 1.413 1.376   3.00
56)C Toluene           1.853 1.762 1.775 1.834 1.696 1.735 1.769 1.775   3.05
57)  2-Nitropropane    0.093 0.106 0.132 0.143 0.152 0.153 0.163 0.135  19.24
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9985
               Response Ratio = 0.00000 + 0.15753 *A

58)  4-Methyl-2-pentan 0.447 0.461 0.545 0.565 0.590 0.588 0.567 0.538  11.01
59)  trans-1,3-Dichlor 0.501 0.525 0.585 0.643 0.640 0.646 0.674 0.602  11.07
60)  Tetrachloroethene 0.527 0.478 0.488 0.510 0.460 0.488 0.498 0.493   4.43
61)  Ethyl methacrylat 0.386 0.427 0.505 0.561 0.573 0.592 0.638 0.526  17.38
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9972
               Response Ratio = 0.00000 + 0.61229 *A

62)  1,1,2-Trichloroet 0.293 0.299 0.332 0.318 0.318 0.318 0.328 0.315   4.59
63)  Dibromochlorometh 0.369 0.353 0.397 0.444 0.433 0.455 0.470 0.417  10.74
64)  1,3-Dichloropropa 0.689 0.649 0.690 0.709 0.670 0.680 0.711 0.685   3.18
65)  1,2-Dibromoethane 0.339 0.350 0.380 0.380 0.377 0.383 0.403 0.373   5.81
66)  2-hexanone        0.306 0.325 0.410 0.439 0.450 0.458 0.477 0.409  16.42
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9992
               Response Ratio = 0.00000 + 0.46576 *A
```

Initial Calibration Summary

Job Number: F91658 **Sample:** VH2785-ICC2785
Account: TETTNOAK Tetra Tech, Inc **Lab FileID:** H0075113.D
Project: Holloman AFB; Alamogordo, NM

```
 67)  1-Chlorohexane    0.518 0.535 0.563 0.592 0.553 0.546 0.566 0.553   4.28
 68)C Ethylbenzene      2.113 2.026 2.009 2.114 1.937 1.945 2.000 2.021   3.53
 69)P Chlorobenzene     1.174 1.167 1.163 1.230 1.113 1.120 1.136 1.158   3.43
 70)  1,1,1,2-Tetrachlo 0.396 0.403 0.419 0.449 0.413 0.418 0.428 0.418   4.14
 71)  m,p-Xylene        1.617 1.606 1.679 1.748 1.589 1.569 1.436 1.606   6.02
 72)  o-Xylene          1.480 1.549 1.653 1.792 1.668 1.678 1.690 1.644   6.16
 73)  Styrene           1.012 1.122 1.259 1.324 1.239 1.258 1.271 1.212   8.88
 74)P Bromoform         0.183 0.218 0.268 0.287 0.321 0.330 0.352 0.280  22.04
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9977
               Response Ratio = 0.00000 + 0.33855 *A

 75)  Isopropylbenzene  1.407 1.455 1.536 1.686 1.547 1.564 1.596 1.542   5.92
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9993
               Response Ratio = 0.00000 + 1.58214 *A


 76) I   1,4-Dichlorobenzene-d ----------------ISTD---------------------
 77)S 4-Bromofluorobenz 0.869 0.863 0.902 0.872 0.907 0.927 0.934 0.896   3.21
 78)  cis-1,4-Dichloro- 0.191 0.207 0.271 0.273 0.276 0.288 0.319 0.261  17.43
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9944
               Response Ratio = 0.00000 + 0.30228 *A

 79)  n-Propylbenzene   3.957 3.894 4.149 4.319 3.889 3.958 3.966 4.019   3.93
 80)  Bromobenzene      0.979 1.021 1.050 1.055 0.957 0.945 0.956 0.995   4.67
 81)P 1,1,2,2-Tetrachlo 0.934 0.839 0.939 0.939 0.928 0.915 0.976 0.924   4.53
 82)  1,3,5-Trimethylbe 3.035 2.994 3.036 3.326 3.007 2.994 3.075 3.067   3.85
 83)  2-Chlorotoluene   3.121 3.059 3.064 3.227 2.864 2.877 2.984 3.028   4.31
 84)  trans-1,4-Dichlor 0.254 0.235 0.286 0.312 0.324 0.321 0.352 0.298  13.89
 85)  1,2,3-Trichloropr 0.251 0.273 0.251 0.253 0.241 0.240 0.256 0.252   4.32
 86)  Cyclohexanone     0.025 0.034 0.029 0.030 0.031 0.031 0.034 0.031  10.06
 87)  4-Chlorotoluene   2.659 2.610 2.783 2.907 2.658 2.666 2.814 2.728   3.95
 88)  tert-Butylbenzene 1.920 1.863 1.897 1.946 1.736 1.726 1.807 1.842   4.76
 89)  1,2,4-Trimethylbe 2.789 2.989 3.151 3.327 3.041 3.025 3.166 3.070   5.49
 90)  Pentachloroethane 0.490 0.486 0.503 0.519 0.499 0.497 0.495 0.498   2.14
 91)  sec-Butylbenzene  3.470 3.470 3.596 3.641 3.347 3.395 3.532 3.493   3.00
 92)  4-Isopropyltoluen 2.703 2.640 2.889 3.005 2.721 2.679 2.849 2.784   4.78
 93)  1,3-Dichlorobenze 1.827 1.847 1.796 1.905 1.708 1.714 1.795 1.799   3.92
 94)  1,4-Dichlorobenze 1.891 1.907 1.887 1.929 1.747 1.741 1.815 1.845   4.21
 95)  n-Butylbenzene    1.355 1.465 1.534 1.596 1.432 1.456 1.529 1.481   5.32
 96)  Benzyl Chloride   0.161 0.214 0.260 0.313 0.332             0.256  27.51
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9995
               Response Ratio = 0.00000 + 0.32472 *A

 97)  1,2-Dichlorobenze 1.754 1.668 1.703 1.772 1.639 1.662 1.747 1.707   3.05
 98)  1,2-Dibromo-3-Chl 0.123 0.124 0.149 0.146 0.161 0.161 0.173 0.148  12.94
 99)  Hexachlorobutadie 0.821 0.751 0.782 0.806 0.664 0.661 0.702 0.741   8.92
100)  1,2,4-Trichlorobe 1.047 1.059 1.171 1.237 1.138 1.185 1.227 1.152   6.54
101)  Naphthalene       1.828 1.968 2.258 2.372 2.337 2.361 2.541 2.238  11.20
102)  1,2,3-Trichlorobe 0.944 1.017 1.093 1.160 1.038 1.077 1.111 1.063   6.60

103) I   Tert Butyl Alcohol-d1 ----------------ISTD---------------------
104)  Ethanol           0.167 0.173 0.152 0.152 0.179 0.185 0.161 0.167   7.68
105)  Acrolein          0.814 0.695 0.666 0.700 0.763 0.727 0.749 0.731   6.77
106)  Tert Butyl Alcoho 1.648 1.510 1.670 1.699 1.781 1.840 1.784 1.704   6.46
107)  Isobutyl alcohol  0.428 0.337 0.391 0.425 0.457 0.479 0.477 0.428  11.85
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9993
               Response Ratio = 0.00000 + 0.47228 *A

108)  Tert Amyl Alcohol 1.066 1.104 1.184 1.351 1.465 1.492 1.520 1.312  14.64
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9996
```

Initial Calibration Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VH2785-ICC2785
Lab FileID: H0075113.D

```
                Response Ratio = 0.00000 + 1.49628 *A

109)  1,4-Dioxane       0.187 0.169 0.161 0.166 0.164 0.177 0.163 0.170   5.51
 ---------------------------------------------------------------------------
 (#) = Out of Range

           032912APP9-H.M        Fri Mar 30 08:03:46 2012
```

Initial Calibration Verification

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VH2785-ICV2785
Lab FileID: H0075118.D

Evaluate Continuing Calibration Report

```
Data File : H:\1\DATA\032912\H0075118.D                    Vial: 10
Acq On    : 29 Mar 2012   2:01 pm                     Operator: ericp
Sample    : ICV2785-4,BS                              Inst    : MSVOA3
Misc      : ms20511,vh2785,5.00,,,,,                  Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\MSDCHEM\1\METHODS\032912APP9-H.M (RTE Integrator)
Title        : SW-846 Method 5035A/8260B
Last Update  : Thu Mar 29 14:35:59 2012
Response via : Multiple Level Calibration

Min. RRF     :   0.001  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%     Max. Rel. Area : 200%
```

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	Fluorobenzene	1.000	1.000	0.0	100	0.02	10.17
2		Dichlorodifluoromethane	0.266	0.254	4.5	98	0.02	4.19
3	P	Chloromethane	0.346	0.370	-6.9	105	0.03	4.59
4	C	Vinyl Chloride	0.289	0.311	-7.6	105	0.03	4.80
5		Bromomethane	0.181	0.196	-8.3	111	0.02	5.44
6		Chloroethane	0.161	0.159	1.2	95	0.03	5.61
7		Trichlorofluoromethane	0.317	0.332	-4.7	102	0.02	5.95
8		Ethyl Ether	0.289	0.281	2.8	95	0.02	6.33
9		1,2-Dichlorotrifluoroetha	0.387	0.333	14.0	86	0.02	6.40
10	C	1,1-Dichloroethene	0.455	0.441	3.1	97	0.02	6.73
11		Freon 113	0.270	0.232	14.1	88	0.02	6.66
12		Carbon Disulfide	0.861	0.812	5.7	92	0.02	7.11
13		Iodomethane	0.510	0.476	6.7	89	0.02	7.02
		----------	Amount	Calc.	%Drift		----------	
14		Allyl chloride	50.000	53.099	-6.2	109	0.02	7.23
15		Methylene Chloride	50.000	53.645	-7.3	100	0.02	7.43
		----------	AvgRF	CCRF	%Dev		----------	
16		Acetone	0.221	0.221	0.0	99	0.02	6.84
17		Methyl acetate	0.325	0.271	16.6	82	0.00	7.20
18		trans-1,2-Dichloroethene	0.492	0.467	5.1	92	0.02	7.72
19		Hexane	0.235	0.207	11.9	89	0.02	7.91
20		Methyl Tert Butyl Ether	0.965	0.933	3.3	95	0.00	7.64
		----------	Amount	Calc.	%Drift		----------	
21		Acetonitrile	500.000	438.511	12.3	110	0.02	7.31
		----------	AvgRF	CCRF	%Dev		----------	
22		Di-isopropyl ether	1.292	1.258	2.6	95	0.02	8.16
23		Chloroprene	0.529	0.532	-0.6	95	0.02	8.34
24	P	1,1-Dichloroethane	0.589	0.597	-1.4	97	0.02	8.28
25		Acrylonitrile	0.107	0.105	1.9	98	0.02	7.80
26		ETBE	1.185	1.151	2.9	94	0.00	8.57
		----------	Amount	Calc.	%Drift		----------	
27		Vinyl acetate	250.000	316.838	-26.7#	121	0.00	8.22
		----------	AvgRF	CCRF	%Dev		----------	
28		cis-1,2-Dichloroethene	0.336	0.332	1.2	95	0.00	8.95
29		2,2-Dichloropropane	0.299	0.311	-4.0	96	0.00	8.92
30		Bromochloromethane	0.172	0.165	4.1	94	0.02	9.24

Initial Calibration Verification

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Account: TETTNOAK Tetra Tech, Inc
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Sample: VH2785-ICV2785
Lab FileID: H0075118.D

31		Cyclohexane	0.520	0.481	7.5	94	0.00	9.49
32	C	Chloroform	0.582	0.570	2.1	94	0.00	9.26
33		Ethyl acetate	0.037	0.032	13.5	86	0.00	8.88
			Amount	Calc.	%Drift			
34		Tetrahydrofuran	50.000	49.690	0.6	102	0.00	9.22
			AvgRF	CCRF	%Dev			
35	S	Dibromofluoromethane	0.261	0.246	5.7	102	0.02	9.46
36		Carbon Tetrachloride	0.374	0.370	1.1	95	0.00	9.63
37		1,1,1-Trichloroethane	0.422	0.412	2.4	96	0.02	9.48
			Amount	Calc.	%Drift			
38		2-Butanone	250.000	271.714	-8.7	116	0.02	8.92
			AvgRF	CCRF	%Dev			
39		1,1-Dichloropropene	0.404	0.402	0.5	93	0.02	9.65
			Amount	Calc.	%Drift			
40		Propionitrile	500.000	476.278	4.7	100	0.02	9.08
41		Methacrylonitrile	500.000	522.246	-4.4	106	0.00	9.21
			AvgRF	CCRF	%Dev			
42		Benzene	1.236	1.224	1.0	96	0.02	9.88
43		TAME	0.994	1.006	-1.2	97	0.02	9.87
44	S	1,2-Dichloroethane-d4	0.341	0.315	7.6	105	0.02	9.87
45		1,2-Dichloroethane	0.512	0.500	2.3	97	0.02	9.96
46		Trichloroethene	0.306	0.312	-2.0	99	0.00	10.54
47		Methylcyclohexane	0.462	0.433	6.3	92	0.00	10.70
48		Dibromomethane	0.189	0.191	-1.1	98	0.02	10.99
49	C	1,2-Dichloropropane	0.332	0.326	1.8	95	0.00	10.84
50		Bromodichloromethane	0.428	0.439	-2.6	97	0.00	11.09
			Amount	Calc.	%Drift			
51		Methyl methacrylate	50.000	51.281	-2.6	115	0.02	10.80
52		2-Chloroethyl vinyl ether	250.000	202.408	19.0	88	0.02	11.33
			AvgRF	CCRF	%Dev			
53		cis-1,3-Dichloropropene	0.520	0.543	-4.4	98	0.00	11.55
54	I	Chlorobenzene-d5	1.000	1.000	0.0	102	0.00	13.36
55	S	Toluene-d8	1.376	1.312	4.7	102	0.02	11.80
56	C	Toluene	1.775	1.701	4.2	94	0.00	11.87
			Amount	Calc.	%Drift			
57		2-Nitropropane	250.000	203.908	18.4	92	0.02	11.38
			AvgRF	CCRF	%Dev			
58		4-Methyl-2-pentanone	0.538	0.464	13.8	83	0.02	11.63
59		trans-1,3-Dichloropropene	0.602	0.658	-9.3	104	0.02	12.13
60		Tetrachloroethene	0.493	0.478	3.0	95	0.00	12.44
			Amount	Calc.	%Drift			
61		Ethyl methacrylate	50.000	44.621	10.8	99	0.00	12.05
			AvgRF	CCRF	%Dev			
62		1,1,2-Trichloroethane	0.315	0.317	-0.6	101	0.00	12.33
63		Dibromochloromethane	0.417	0.425	-1.9	97	0.00	12.77
64		1,3-Dichloropropane	0.685	0.659	3.8	95	0.00	12.53
65		1,2-Dibromoethane	0.373	0.366	1.9	98	0.02	12.94

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Lab FileID: H0075118.D

			Amount	Calc.	%Drift			
66		2-hexanone	250.000	254.596	-1.8	110	0.00	12.48

			AvgRF	CCRF	%Dev			
67		1-Chlorohexane	0.553	0.543	1.8	93	0.00	13.23
68	C	Ethylbenzene	2.021	1.944	3.8	94	0.02	13.41
69	P	Chlorobenzene	1.158	1.143	1.3	95	0.00	13.39
70		1,1,1,2-Tetrachloroethane	0.418	0.420	-0.5	95	0.02	13.45
71		m,p-Xylene	1.606	1.610	-0.2	94	0.00	13.52
72		o-Xylene	1.644	1.668	-1.5	95	0.00	13.97
73		Styrene	1.212	1.212	0.0	93	0.00	13.99

			Amount	Calc.	%Drift			
74	P	Bromoform	50.000	42.077	15.8	101	0.00	14.28
75		Isopropylbenzene	50.000	57.257	-14.5	109	0.02	14.31

			AvgRF	CCRF	%Dev			
76	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	101	0.00	15.79
77	S	4-Bromofluorobenzene	0.896	0.856	4.5	99	0.00	14.57

			Amount	Calc.	%Drift			
78		cis-1,4-Dichloro-2-butene	50.000	50.112	-0.2	112	0.00	14.45

			AvgRF	CCRF	%Dev			
79		n-Propylbenzene	4.019	4.094	-1.9	96	0.00	14.73
80		Bromobenzene	0.995	0.996	-0.1	96	0.00	14.76
81	P	1,1,2,2-Tetrachloroethane	0.924	0.870	5.8	94	0.00	14.68
82		1,3,5-Trimethylbenzene	3.067	3.001	2.2	91	0.02	14.90
83		2-Chlorotoluene	3.028	2.984	1.5	94	0.02	14.92
84		trans-1,4-Dichloro-2-Bute	0.298	0.287	3.7	93	0.02	14.74
85		1,2,3-Trichloropropane	0.252	0.236	6.3	94	0.02	14.78
86		Cyclohexanone	0.031	0.027	12.9	91	0.02	14.56
87		4-Chlorotoluene	2.728	2.787	-2.2	97	0.00	15.03
88		tert-Butylbenzene	1.842	1.820	1.2	95	0.02	15.26
89		1,2,4-Trimethylbenzene	3.070	3.083	-0.4	94	0.00	15.31
90		Pentachloroethane	0.498	0.629	-26.3#	123	0.00	15.37
91		sec-Butylbenzene	3.493	3.520	-0.8	98	0.00	15.48
92		4-Isopropyltoluene	2.784	2.872	-3.2	97	0.00	15.60
93		1,3-Dichlorobenzene	1.799	1.776	1.3	94	0.00	15.72
94		1,4-Dichlorobenzene	1.845	1.800	2.4	94	0.02	15.82
95		n-Butylbenzene	1.481	1.485	-0.3	94	0.00	16.03

			Amount	Calc.	%Drift			
96		Benzyl Chloride	50.000	40.048	19.9	84	0.02	15.94

			AvgRF	CCRF	%Dev			
97		1,2-Dichlorobenzene	1.707	1.690	1.0	97	0.00	16.23
98		1,2-Dibromo-3-Chloropropa	0.148	0.139	6.1	96	0.00	17.06
99		Hexachlorobutadiene	0.741	0.744	-0.4	93	0.00	18.02
100		1,2,4-Trichlorobenzene	1.152	1.233	-7.0	101	0.00	17.94
101		Naphthalene	2.238	2.222	0.7	95	0.00	18.28
102		1,2,3-Trichlorobenzene	1.063	1.080	-1.6	94	0.00	18.57
103	I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	80	0.02	7.34
104		Ethanol	0.167	0.206	-23.4#	108	0.03	6.23
105		Acrolein	0.731	0.956	-30.8#	109	0.00	6.64
106		Tert Butyl Alcohol	1.704	2.006	-17.7	94	0.00	7.44

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Lab FileID: H0075118.D

		Amount	Calc.	%Drift			
107	Isobutyl alcohol	1000.000	1116.395	-11.6	99	0.00	9.64
108	Tert Amyl Alcohol	500.000	535.860	-7.2	95	0.00	9.74

		AvgRF	CCRF	%Dev			
109	1,4-Dioxane	0.170	0.193	-13.5	93	0.02	10.92

(#) = Out of Range SPCC's out = 0 CCC's out = 0
H0075112.D 032912APP9-H.M Fri Mar 30 08:04:51 2012

Continuing Calibration Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VH2786-CC2785
Lab FileID: H0075136.D

Evaluate Continuing Calibration Report

Data File : H:\1\DATA\033012\H0075136.D Vial: 1
Acq On : 30 Mar 2012 8:31 am Operator: ericp
Sample : CC2785-4 Inst : MSVOA3
Misc : ms20511,vh2786,5.00,,,,, Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\032912APP9-H.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Thu Mar 29 14:35:59 2012
Response via : Multiple Level Calibration

Min. RRF : 0.001 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	Fluorobenzene	1.000	1.000	0.0	97	0.02	10.17
2		Dichlorodifluoromethane	0.266	0.307	-15.4	114	0.02	4.19
3	P	Chloromethane	0.346	0.359	-3.8	98	0.02	4.58
4	C	Vinyl Chloride	0.289	0.326	-12.8	106	0.03	4.80
5		Bromomethane	0.181	0.197	-8.8	107	0.02	5.44
6		Chloroethane	0.161	0.180	-11.8	104	0.02	5.60
7		Trichlorofluoromethane	0.317	0.365	-15.1	108	0.03	5.96
8		Ethyl Ether	0.289	0.302	-4.5	98	0.02	6.33
9		1,2-Dichlorotrifluoroetha	0.387	0.421	-8.8	104	0.03	6.41
10	C	1,1-Dichloroethene	0.455	0.497	-9.2	106	0.02	6.73
11		Freon 113	0.270	0.306	-13.3	111	0.02	6.66
12		Carbon Disulfide	0.861	0.943	-9.5	102	0.02	7.11
13		Iodomethane	0.510	0.542	-6.3	97	0.02	7.02
		----------	Amount	Calc.	%Drift		----------	
14		Allyl chloride	50.000	49.927	0.1	99	0.02	7.23
15		Methylene Chloride	50.000	52.093	-4.2	94	0.02	7.43
		----------	AvgRF	CCRF	%Dev		----------	
16		Acetone	0.221	0.247	-11.8	106	0.00	6.83
17		Methyl acetate	0.325	0.314	3.4	91	0.00	7.21
18		trans-1,2-Dichloroethene	0.492	0.510	-3.7	97	0.02	7.72
19		Hexane	0.235	0.260	-10.6	108	0.02	7.91
20		Methyl Tert Butyl Ether	0.965	1.030	-6.7	101	0.00	7.64
		----------	Amount	Calc.	%Drift		----------	
21		Acetonitrile	500.000	443.625	11.3	107	0.02	7.31
		----------	AvgRF	CCRF	%Dev		----------	
22		Di-isopropyl ether	1.292	1.310	-1.4	95	0.02	8.16
23		Chloroprene	0.529	0.592	-11.9	102	0.02	8.34
24	P	1,1-Dichloroethane	0.589	0.639	-8.5	99	0.02	8.28
25		Acrylonitrile	0.107	0.113	-5.6	102	0.00	7.79
26		ETBE	1.185	1.238	-4.5	97	0.00	8.57
		----------	Amount	Calc.	%Drift		----------	
27		Vinyl acetate	250.000	268.565	-7.4	98	0.00	8.22
		----------	AvgRF	CCRF	%Dev		----------	
28		cis-1,2-Dichloroethene	0.336	0.371	-10.4	103	0.00	8.95
29		2,2-Dichloropropane	0.299	0.340	-13.7	101	0.02	8.93
30		Bromochloromethane	0.172	0.192	-11.6	105	0.00	9.23

Continuing Calibration Summary

Job Number: F91658 **Sample:** VH2786-CC2785
Account: TETTNOAK Tetra Tech, Inc **Lab FileID:** H0075136.D
Project: Holloman AFB; Alamogordo, NM

31		Cyclohexane	0.520	0.566	-8.8	107	0.00	9.49
32	C	Chloroform	0.582	0.619	-6.4	98	0.00	9.26
33		Ethyl acetate	0.037	0.038	-2.7	98	0.02	8.89
			Amount	Calc.	%Drift			
34		Tetrahydrofuran	50.000	50.163	-0.3	99	0.02	9.23
			AvgRF	CCRF	%Dev			
35	S	Dibromofluoromethane	0.261	0.249	4.6	99	0.02	9.46
36		Carbon Tetrachloride	0.374	0.443	-18.4	109	0.02	9.64
37		1,1,1-Trichloroethane	0.422	0.489	-15.9	109	0.02	9.48
			Amount	Calc.	%Drift			
38		2-Butanone	250.000	271.766	-8.7	112	0.02	8.92
			AvgRF	CCRF	%Dev			
39		1,1-Dichloropropene	0.404	0.466	-15.3	103	0.02	9.65
			Amount	Calc.	%Drift			
40		Propionitrile	500.000	465.722	6.9	94	0.02	9.08
41		Methacrylonitrile	500.000	498.084	0.4	97	0.00	9.21
			AvgRF	CCRF	%Dev			
42		Benzene	1.236	1.309	-5.9	99	0.02	9.88
43		TAME	0.994	1.076	-8.2	100	0.02	9.87
44	S	1,2-Dichloroethane-d4	0.341	0.326	4.4	104	0.02	9.87
45		1,2-Dichloroethane	0.512	0.561	-9.6	105	0.00	9.95
46		Trichloroethene	0.306	0.338	-10.5	103	0.00	10.54
47		Methylcyclohexane	0.462	0.517	-11.9	106	0.00	10.70
48		Dibromomethane	0.189	0.205	-8.5	101	0.00	10.98
49	C	1,2-Dichloropropane	0.332	0.339	-2.1	95	0.00	10.84
50		Bromodichloromethane	0.428	0.476	-11.2	101	0.00	11.09
			Amount	Calc.	%Drift			
51		Methyl methacrylate	50.000	46.671	6.7	101	0.00	10.79
52		2-Chloroethyl vinyl ether	250.000	245.720	1.7	103	0.02	11.33
			AvgRF	CCRF	%Dev			
53		cis-1,3-Dichloropropene	0.520	0.584	-12.3	102	0.00	11.55
54	I	Chlorobenzene-d5	1.000	1.000	0.0	100	0.00	13.36
55	S	Toluene-d8	1.376	1.310	4.8	100	0.00	11.79
56	C	Toluene	1.775	1.838	-3.5	100	0.00	11.87
			Amount	Calc.	%Drift			
57		2-Nitropropane	250.000	237.327	5.1	105	0.00	11.37
			AvgRF	CCRF	%Dev			
58		4-Methyl-2-pentanone	0.538	0.557	-3.5	98	0.00	11.62
59		trans-1,3-Dichloropropene	0.602	0.641	-6.5	100	0.00	12.12
60		Tetrachloroethene	0.493	0.539	-9.3	105	0.00	12.44
			Amount	Calc.	%Drift			
61		Ethyl methacrylate	50.000	45.000	10.0	98	0.00	12.05
			AvgRF	CCRF	%Dev			
62		1,1,2-Trichloroethane	0.315	0.325	-3.2	102	0.00	12.33
63		Dibromochloromethane	0.417	0.453	-8.6	102	0.00	12.77
64		1,3-Dichloropropane	0.685	0.713	-4.1	101	0.00	12.53
65		1,2-Dibromoethane	0.373	0.381	-2.1	100	0.00	12.93

Continuing Calibration Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VH2786-CC2785
Lab FileID: H0075136.D

			Amount	Calc.	%Drift			
66		2-hexanone	250.000	242.694	2.9	103	0.00	12.48

			AvgRF	CCRF	%Dev			
67		1-Chlorohexane	0.553	0.614	-11.0	104	0.00	13.23
68	C	Ethylbenzene	2.021	2.149	-6.3	102	0.02	13.42
69	P	Chlorobenzene	1.158	1.235	-6.6	100	0.00	13.39
70		1,1,1,2-Tetrachloroethane	0.418	0.461	-10.3	103	0.02	13.45
71		m,p-Xylene	1.606	1.731	-7.8	99	0.00	13.52
72		o-Xylene	1.644	1.799	-9.4	100	0.00	13.97
73		Styrene	1.212	1.334	-10.1	101	0.00	13.99

			Amount	Calc.	%Drift			
74	P	Bromoform	50.000	47.587	4.8	112	0.00	14.28
75		Isopropylbenzene	50.000	54.755	-9.5	103	0.00	14.30

			AvgRF	CCRF	%Dev			
76	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	105	0.00	15.79
77	S	4-Bromofluorobenzene	0.896	0.814	9.2	98	0.00	14.57

			Amount	Calc.	%Drift			
78		cis-1,4-Dichloro-2-butene	50.000	44.103	11.8	103	0.00	14.45

			AvgRF	CCRF	%Dev			
79		n-Propylbenzene	4.019	4.313	-7.3	105	0.00	14.73
80		Bromobenzene	0.995	1.030	-3.5	103	0.00	14.76
81	P	1,1,2,2-Tetrachloroethane	0.924	0.898	2.8	101	0.00	14.68
82		1,3,5-Trimethylbenzene	3.067	3.218	-4.9	102	0.00	14.89
83		2-Chlorotoluene	3.028	3.129	-3.3	102	0.02	14.92
84		trans-1,4-Dichloro-2-Bute	0.298	0.321	-7.7	108	0.00	14.73
85		1,2,3-Trichloropropane	0.252	0.265	-5.2	110	0.00	14.77
86		Cyclohexanone	0.031	0.029	6.5	102	0.02	14.56
87		4-Chlorotoluene	2.728	2.815	-3.2	102	0.00	15.03
88		tert-Butylbenzene	1.842	1.845	-0.2	100	0.00	15.25
89		1,2,4-Trimethylbenzene	3.070	3.258	-6.1	103	0.00	15.31
90		Pentachloroethane	0.498	0.513	-3.0	104	0.00	15.37
91		sec-Butylbenzene	3.493	3.699	-5.9	107	0.00	15.48
92		4-Isopropyltoluene	2.784	2.993	-7.5	105	0.00	15.60
93		1,3-Dichlorobenzene	1.799	1.853	-3.0	102	0.00	15.72
94		1,4-Dichlorobenzene	1.845	1.908	-3.4	104	0.02	15.82
95		n-Butylbenzene	1.481	1.612	-8.8	106	0.00	16.03

			Amount	Calc.	%Drift			
96		Benzyl Chloride	50.000	49.315	1.4	108	0.00	15.93

			AvgRF	CCRF	%Dev			
97		1,2-Dichlorobenzene	1.707	1.790	-4.9	106	0.00	16.23
98		1,2-Dibromo-3-Chloropropa	0.148	0.148	0.0	106	0.00	17.06
99		Hexachlorobutadiene	0.741	0.753	-1.6	98	0.00	18.02
100		1,2,4-Trichlorobenzene	1.152	1.239	-7.6	105	0.00	17.94
101		Naphthalene	2.238	2.350	-5.0	104	0.00	18.28
102		1,2,3-Trichlorobenzene	1.063	1.139	-7.1	103	0.00	18.57
103	I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	88	0.02	7.34
104		Ethanol	0.167	0.174	-4.2	101	0.03	6.23
105		Acrolein	0.731	0.753	-3.0	95	0.02	6.65
106		Tert Butyl Alcohol	1.704	1.880	-10.3	98	0.00	7.44

Continuing Calibration Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VH2786-CC2785
Lab FileID: H0075136.D

		Amount	Calc.	%Drift			
107	Isobutyl alcohol	1000.000	929.967	7.0	91	0.00	9.64
108	Tert Amyl Alcohol	500.000	494.728	1.1	97	0.00	9.74

		AvgRF	CCRF	%Dev			
109	1,4-Dioxane	0.170	0.182	-7.1	97	0.02	10.92

(#) = Out of Range SPCC's out = 0 CCC's out = 0
H0075112.D 032912APP9-H.M Mon Apr 02 07:41:36 2012

Continuing Calibration Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VH2787-CC2785
Lab FileID: H0075163.D

Evaluate Continuing Calibration Report

Data File : H:\1\DATA\040212\H0075163.D Vial: 1
Acq On : 2 Apr 2012 10:08 am Operator: ericp
Sample : CC2785-4 Inst : MSVOA3
Misc : ms20511,vh2787,5.00,,,,, Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\032912APP9-H.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Thu Mar 29 14:35:59 2012
Response via : Multiple Level Calibration

Min. RRF : 0.001 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	Fluorobenzene	1.000	1.000	0.0	98	0.02	10.17
2		Dichlorodifluoromethane	0.266	0.283	-6.4	106	0.02	4.19
3	P	Chloromethane	0.346	0.383	-10.7	106	0.03	4.59
4	C	Vinyl Chloride	0.289	0.323	-11.8	106	0.03	4.80
5		Bromomethane	0.181	0.187	-3.3	103	0.02	5.44
6		Chloroethane	0.161	0.171	-6.2	100	0.03	5.61
7		Trichlorofluoromethane	0.317	0.320	-0.9	96	0.02	5.94
8		Ethyl Ether	0.289	0.317	-9.7	104	0.02	6.33
9		1,2-Dichlorotrifluoroetha	0.387	0.409	-5.7	102	0.04	6.42
10	C	1,1-Dichloroethene	0.455	0.460	-1.1	99	0.03	6.74
11		Freon 113	0.270	0.273	-1.1	100	0.02	6.66
12		Carbon Disulfide	0.861	0.928	-7.8	102	0.02	7.11
13		Iodomethane	0.510	0.529	-3.7	96	0.02	7.02
		----------	Amount	Calc.	%Drift		----------	
14		Allyl chloride	50.000	56.521	-13.0	113	0.02	7.23
15		Methylene Chloride	50.000	52.375	-4.8	95	0.02	7.43
		----------	AvgRF	CCRF	%Dev		----------	
16		Acetone	0.221	0.228	-3.2	99	0.02	6.84
17		Methyl acetate	0.325	0.365	-12.3	107	0.02	7.21
18		trans-1,2-Dichloroethene	0.492	0.502	-2.0	96	0.02	7.72
19		Hexane	0.235	0.240	-2.1	101	0.03	7.92
20		Methyl Tert Butyl Ether	0.965	1.073	-11.2	106	0.02	7.65
		----------	Amount	Calc.	%Drift		----------	
21		Acetonitrile	500.000	481.527	3.7	118	0.02	7.31
		----------	AvgRF	CCRF	%Dev		----------	
22		Di-isopropyl ether	1.292	1.415	-9.5	103	0.02	8.16
23		Chloroprene	0.529	0.591	-11.7	103	0.02	8.34
24	P	1,1-Dichloroethane	0.589	0.629	-6.8	99	0.02	8.28
25		Acrylonitrile	0.107	0.123	-15.0	112	0.02	7.79
26		ETBE	1.185	1.314	-10.9	104	0.02	8.58
		----------	Amount	Calc.	%Drift		----------	
27		Vinyl acetate	250.000	257.341	-2.9	95	0.02	8.23
		----------	AvgRF	CCRF	%Dev		----------	
28		cis-1,2-Dichloroethene	0.336	0.365	-8.6	102	0.02	8.96
29		2,2-Dichloropropane	0.299	0.312	-4.3	94	0.02	8.93
30		Bromochloromethane	0.172	0.185	-7.6	102	0.02	9.24

Continuing Calibration Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VH2787-CC2785
Lab FileID: H0075163.D

31		Cyclohexane	0.520	0.544	-4.6	103	0.02	9.50
32	C	Chloroform	0.582	0.600	-3.1	96	0.02	9.27
33		Ethyl acetate	0.037	0.042	-13.5	107	0.02	8.89
			Amount	Calc.	%Drift			
34		Tetrahydrofuran	50.000	55.597	-11.2	111	0.02	9.23
			AvgRF	CCRF	%Dev			
35	S	Dibromofluoromethane	0.261	0.245	6.1	98	0.02	9.46
36		Carbon Tetrachloride	0.374	0.387	-3.5	97	0.02	9.64
37		1,1,1-Trichloroethane	0.422	0.435	-3.1	98	0.02	9.48
			Amount	Calc.	%Drift			
38		2-Butanone	250.000	249.566	0.2	104	0.02	8.92
			AvgRF	CCRF	%Dev			
39		1,1-Dichloropropene	0.404	0.427	-5.7	96	0.02	9.64
			Amount	Calc.	%Drift			
40		Propionitrile	500.000	514.079	-2.8	105	0.03	9.09
41		Methacrylonitrile	500.000	554.378	-10.9	110	0.02	9.22
			AvgRF	CCRF	%Dev			
42		Benzene	1.236	1.298	-5.0	99	0.02	9.88
43		TAME	0.994	1.084	-9.1	102	0.02	9.87
44	S	1,2-Dichloroethane-d4	0.341	0.317	7.0	103	0.02	9.87
45		1,2-Dichloroethane	0.512	0.526	-2.7	99	0.02	9.96
46		Trichloroethene	0.306	0.327	-6.9	100	0.02	10.55
47		Methylcyclohexane	0.462	0.497	-7.6	103	0.00	10.70
48		Dibromomethane	0.189	0.213	-12.7	106	0.02	10.99
49	C	1,2-Dichloropropane	0.332	0.356	-7.2	101	0.02	10.85
50		Bromodichloromethane	0.428	0.469	-9.6	101	0.02	11.10
			Amount	Calc.	%Drift			
51		Methyl methacrylate	50.000	58.641	-17.3	128	0.02	10.80
52		2-Chloroethyl vinyl ether	250.000	241.959	3.2	102	0.02	11.33
			AvgRF	CCRF	%Dev			
53		cis-1,3-Dichloropropene	0.520	0.588	-13.1	103	0.02	11.55
54	I	Chlorobenzene-d5	1.000	1.000	0.0	100	0.02	13.37
55	S	Toluene-d8	1.376	1.326	3.6	101	0.02	11.80
56	C	Toluene	1.775	1.832	-3.2	100	0.00	11.87
			Amount	Calc.	%Drift			
57		2-Nitropropane	250.000	241.153	3.5	107	0.02	11.38
			AvgRF	CCRF	%Dev			
58		4-Methyl-2-pentanone	0.538	0.599	-11.3	106	0.02	11.63
59		trans-1,3-Dichloropropene	0.602	0.679	-12.8	106	0.02	12.13
60		Tetrachloroethene	0.493	0.521	-5.7	102	0.00	12.44
			Amount	Calc.	%Drift			
61		Ethyl methacrylate	50.000	47.566	4.9	104	0.02	12.06
			AvgRF	CCRF	%Dev			
62		1,1,2-Trichloroethane	0.315	0.331	-5.1	104	0.02	12.34
63		Dibromochloromethane	0.417	0.446	-7.0	100	0.02	12.77
64		1,3-Dichloropropane	0.685	0.730	-6.6	103	0.00	12.53
65		1,2-Dibromoethane	0.373	0.400	-7.2	105	0.02	12.94

Continuing Calibration Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VH2787-CC2785
Lab FileID: H0075163.D

			Amount	Calc.	%Drift			
66		2-hexanone	250.000	245.976	1.6	104	0.02	12.49

			AvgRF	CCRF	%Dev			
67		1-Chlorohexane	0.553	0.598	-8.1	101	0.00	13.23
68	C	Ethylbenzene	2.021	2.060	-1.9	98	0.02	13.41
69	P	Chlorobenzene	1.158	1.196	-3.3	97	0.02	13.39
70		1,1,1,2-Tetrachloroethane	0.418	0.427	-2.2	95	0.02	13.45
71		m,p-Xylene	1.606	1.711	-6.5	98	0.02	13.53
72		o-Xylene	1.644	1.747	-6.3	98	0.00	13.97
73		Styrene	1.212	1.311	-8.2	99	0.00	13.99

			Amount	Calc.	%Drift			
74	P	Bromoform	50.000	49.223	1.6	116	0.02	14.29
75		Isopropylbenzene	50.000	52.227	-4.5	98	0.02	14.31

			AvgRF	CCRF	%Dev			
76	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	102	0.00	15.79
77	S	4-Bromofluorobenzene	0.896	0.865	3.5	102	0.00	14.57

			Amount	Calc.	%Drift			
78		cis-1,4-Dichloro-2-butene	50.000	48.112	3.8	109	0.00	14.45

			AvgRF	CCRF	%Dev			
79		n-Propylbenzene	4.019	4.173	-3.8	99	0.00	14.73
80		Bromobenzene	0.995	1.014	-1.9	98	0.02	14.77
81	P	1,1,2,2-Tetrachloroethane	0.924	0.963	-4.2	105	0.00	14.68
82		1,3,5-Trimethylbenzene	3.067	3.137	-2.3	97	0.02	14.90
83		2-Chlorotoluene	3.028	3.050	-0.7	97	0.02	14.92
84		trans-1,4-Dichloro-2-Bute	0.298	0.326	-9.4	107	0.02	14.74
85		1,2,3-Trichloropropane	0.252	0.263	-4.4	106	0.02	14.78
86		Cyclohexanone	0.031	0.030	3.2	101	0.02	14.56
87		4-Chlorotoluene	2.728	2.776	-1.8	98	0.00	15.03
88		tert-Butylbenzene	1.842	1.846	-0.2	97	0.02	15.25
89		1,2,4-Trimethylbenzene	3.070	3.259	-6.2	100	0.00	15.31
90		Pentachloroethane	0.498	0.507	-1.8	100	0.00	15.37
91		sec-Butylbenzene	3.493	3.683	-5.4	104	0.00	15.48
92		4-Isopropyltoluene	2.784	2.886	-3.7	98	0.00	15.60
93		1,3-Dichlorobenzene	1.799	1.818	-1.1	98	0.00	15.72
94		1,4-Dichlorobenzene	1.845	1.844	0.1	98	0.02	15.82
95		n-Butylbenzene	1.481	1.574	-6.3	101	0.02	16.04

			Amount	Calc.	%Drift			
96		Benzyl Chloride	50.000	49.067	1.9	104	0.02	15.94

			AvgRF	CCRF	%Dev			
97		1,2-Dichlorobenzene	1.707	1.755	-2.8	101	0.00	16.23
98		1,2-Dibromo-3-Chloropropa	0.148	0.152	-2.7	107	0.00	17.06
99		Hexachlorobutadiene	0.741	0.767	-3.5	97	0.00	18.02
100		1,2,4-Trichlorobenzene	1.152	1.206	-4.7	100	0.02	17.95
101		Naphthalene	2.238	2.386	-6.6	103	0.00	18.28
102		1,2,3-Trichlorobenzene	1.063	1.110	-4.4	98	0.00	18.57
103	I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	110	0.02	7.34
104		Ethanol	0.167	0.150	10.2	108	0.03	6.23
105		Acrolein	0.731	0.627	14.2	98	0.02	6.65
106		Tert Butyl Alcohol	1.704	1.694	0.6	109	0.02	7.45

Continuing Calibration Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VH2787-CC2785
Lab FileID: H0075163.D

		Amount	Calc.	%Drift			
107	Isobutyl alcohol	1000.000	882.743	11.7	108	0.02	9.64
108	Tert Amyl Alcohol	500.000	439.217	12.2	107	0.02	9.75

		AvgRF	CCRF	%Dev			
109	1,4-Dioxane	0.170	0.157	7.6	104	0.02	10.91

(#) = Out of Range SPCC's out = 0 CCC's out = 0
H0075112.D 032912APP9-H.M Mon Apr 02 15:51:51 2012

6.8.4

6

Southeast ACCUTEST LABORATORIES

GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries
- GC Surrogate Retention Time Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GQR2918-MB	QR067309.D	1	04/04/12	CP	n/a	n/a	GQR2918

The QC reported here applies to the following samples: **Method:** SW846 8015C

F91658-4, F91658-5, F91658-6, F91658-7, F91658-8, F91658-9

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	5.0	2.5	mg/kg	

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	93%	56-136%
98-08-8	aaa-Trifluorotoluene	85%	61-121%

Blank Spike Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GQR2918-BS	QR067308.D	1	04/04/12	CP	n/a	n/a	GQR2918

The QC reported here applies to the following samples: **Method:** SW846 8015C

F91658-4, F91658-5, F91658-6, F91658-7, F91658-8, F91658-9

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	20	21.5	108	74-121

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	94%	56-136%
98-08-8	aaa-Trifluorotoluene	86%	61-121%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F91658-9MS	QR067316.D	1	04/04/12	CP	n/a	n/a	GQR2918
F91658-9MSD	QR067317.D	1	04/04/12	CP	n/a	n/a	GQR2918
F91658-9	QR067315.D	1	04/04/12	CP	n/a	n/a	GQR2918

The QC reported here applies to the following samples: **Method:** SW846 8015C

F91658-4, F91658-5, F91658-6, F91658-7, F91658-8, F91658-9

CAS No.	Compound	F91658-9 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND		33	33.9	103	32.6	99	4	74-121/17

CAS No.	Surrogate Recoveries	MS	MSD	F91658-9	Limits
460-00-4	4-Bromofluorobenzene	96%	98%	95%	56-136%
98-08-8	aaa-Trifluorotoluene	88%	90%	85%	61-121%

* = Outside of Control Limits.

Volatile Surrogate Recovery Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Method: SW846 8015C **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S2 [a]
F91658-4	QR067310.D	91.0	84.0
F91658-5	QR067311.D	95.0	87.0
F91658-6	QR067312.D	95.0	86.0
F91658-7	QR067313.D	95.0	86.0
F91658-8	QR067314.D	94.0	87.0
F91658-9	QR067315.D	95.0	85.0
F91658-9MS	QR067316.D	96.0	88.0
F91658-9MSD	QR067317.D	98.0	90.0
GQR2918-BS	QR067308.D	94.0	86.0
GQR2918-MB	QR067309.D	93.0	85.0

Surrogate Compounds	Recovery Limits
S1 = 4-Bromofluorobenzene	56-136%
S2 = aaa-Trifluorotoluene	61-121%

(a) Recovery from GC signal #2

GC Surrogate Retention Time Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Check Std:	GQR2918-CC2910	**Injection Date:**	04/04/12
Lab File ID:	QR067307.D	**Injection Time:**	00:01
Instrument ID:	GCQR	**Method:**	SW846 8015C

	S1 [a] RT	S1 [b] RT	S2 [a] RT	S2 [b] RT
Check Std	15.07	15.07	11.19	11.19

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT	S2 [a] RT	S2 [b] RT
GQR2918-BS	QR067308.D	04/04/12	00:29		15.07		11.19
GQR2918-MB	QR067309.D	04/04/12	00:57		15.07		11.19
F91658-4	QR067310.D	04/04/12	01:25		15.07		11.19
F91658-5	QR067311.D	04/04/12	01:53		15.07		11.19
F91658-6	QR067312.D	04/04/12	02:21		15.07		11.19
F91658-7	QR067313.D	04/04/12	02:49		15.07		11.19
F91658-8	QR067314.D	04/04/12	03:17		15.07		11.19
F91658-9	QR067315.D	04/04/12	03:45		15.07		11.19
F91658-9MS	QR067316.D	04/04/12	04:13		15.07		11.19
F91658-9MSD	QR067317.D	04/04/12	04:41		15.06		11.19
GQR2918-ECC2910	QR067318.D	04/04/12	05:09	15.07	15.07	11.20	11.20

Surrogate Compounds

S1 = 4-Bromofluorobenzene
S2 = aaa-Trifluorotoluene

(a) Retention time from GC signal #1
(b) Retention time from GC signal #2

Initial Calibration Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: GQR2910-ICC2910
Lab FileID: QR067156.D

Response Factor Report VOA3

Method : C:\HPCHEM\1\METHODS\GROML.M (Chemstation Integrator)
Title : SW846 8015 TPH by GC-FID
Last Update : Tue Mar 27 14:24:35 2012
Response via : Initial Calibration

Calibration Files
1 =QR067154.D 2 =QR067155.D 3 =QR067153.D 4 =QR067156.D
5 =QR067157.D 6 =QR067158.D

Compound	1	2	3	4	5	6	Avg	%RSD
1) S a,a,a-TFT	6.609	6.280	6.810	6.258	6.065	5.742	6.294 E2	6.05
2) S BFB	1.592	1.560	1.653	1.576	1.589	1.510	1.580 E3	2.94
Signal #2								
4) S a,a,a-TFT #2	2.982	2.810	3.020	2.802	2.745	2.600	2.827 E4	5.49
5) S BFB #2	1.875	1.845	1.951	1.904	1.907	1.838	1.887 E4	2.28
6) H TPH-GRO (C6-C10)	2.711	2.535	2.466	2.471	2.373	2.416	2.495 E4	4.78

(#) = Out of Range

GROML.M Wed Mar 28 11:43:45 2012

7.6.1

7

Initial Calibration Verification

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: GQR2910-ICV2910
Lab FileID: QR067159.D

Evaluate Continuing Calibration Report

```
Signal #1 : C:\HPCHEM\1\DATA\032712\QR067159.D\FID1B.CH  Vial: 12
Signal #2 : C:\HPCHEM\1\DATA\032712\QR067159.D\FID2A.CH
Acq On    : 27 Mar 2012   2:20 pm                    Operator: CARLENEP
Sample    : ICV2910-3                                Inst    : VOA3
Misc      : gc13491,gqr2910,5.00,,100,5.0,,soil      Multiplr: 1.00
IntFile Signal #1: PID.E        IntFile Signal #2: events2.e

Method       : C:\HPCHEM\1\METHODS\GROML.M (Chemstation Integrator)
Title        : SW846 8015 TPH by GC-FID
Last Update  : Tue Mar 27 14:24:35 2012
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
Max. RRF Dev :  20%     Max. Rel. Area : 150%
```

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1 S	a,a,a-TFT	50.000	50.283	-0.6	93	-0.02	11.12-11.32
2 S	BFB	50.000	49.224	1.6	94	0.00	14.97-15.17
*****	Signal #2 *****						
4 S	a,a,a-TFT #2	50.000	51.814	-3.6	97	-0.02	11.12-11.32
5 S	BFB #2	50.000	50.582	-1.2	98	0.00	14.98-15.18
6 H	TPH-GRO (C6-C10)	400.000	433.612	-8.4	110	0.00	7.52-16.19

(#) = Out of Range SPCC's out = 0 CCC's out = 0
QR067153.D GROML.M Wed Mar 28 11:43:31 2012

7.6.2

7

Continuing Calibration Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: GQR2918-CC2910
Lab FileID: QR067307.D

Evaluate Continuing Calibration Report

```
Signal #1 : C:\HPCHEM\1\DATA\040312\QR067307.D\FID1B.CH  Vial: 16
Signal #2 : C:\HPCHEM\1\DATA\040312\QR067307.D\FID2A.CH
Acq On    :  4 Apr 2012  12:01 am                    Operator: CARLENEP
Sample    : CC2910-3                                 Inst    : VOA3
Misc      : gc13520,gqr2918,5.00,,100,5.0,,soil      Multiplr: 1.00
IntFile Signal #1: PID.E        IntFile Signal #2: events2.e

Method       : C:\HPCHEM\1\METHODS\GROML.M (Chemstation Integrator)
Title        : SW846 8015 TPH by GC-FID
Last Update  : Tue Mar 27 14:24:35 2012
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
Max. RRF Dev :  20%     Max. Rel. Area : 150%
```

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1 S	a,a,a-TFT	50.000	41.417	17.2	77	-0.03	11.12-11.32
2 S	BFB	50.000	45.681	8.6	87	0.00	14.97-15.17
*****	Signal #2 *****						
4 S	a,a,a-TFT #2	50.000	44.326	11.3	83	-0.02	11.12-11.32
5 S	BFB #2	50.000	46.790	6.4	90	0.00	14.98-15.18
6 H	TPH-GRO (C6-C10)	400.000	386.662	3.3	98	0.00	7.52-16.19

(#) = Out of Range SPCC's out = 0 CCC's out = 0
QR067153.D GROML.M Wed Apr 04 11:19:11 2012

7.6.3

7

Continuing Calibration Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: GQR2918-ECC2910
Lab FileID: QR067318.D

```
                    Evaluate Continuing Calibration Report

 Signal #1 : C:\HPCHEM\1\DATA\040312\QR067318.D\FID1B.CH  Vial: 27
 Signal #2 : C:\HPCHEM\1\DATA\040312\QR067318.D\FID2A.CH
 Acq On    :  4 Apr 2012   5:09 am                    Operator: CARLENEP
 Sample    : ECC2910-3                                Inst    : VOA3
 Misc      : gc13520,gqr2918,5.00,,100,5.0,,soil      Multiplr: 1.00
 IntFile Signal #1: PID.E        IntFile Signal #2: events2.e

 Method       : C:\HPCHEM\1\METHODS\GROML.M (Chemstation Integrator)
 Title        : SW846 8015 TPH by GC-FID
 Last Update  : Tue Mar 27 14:24:35 2012
 Response via : Multiple Level Calibration

 Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
 Max. RRF Dev :  20%     Max. Rel. Area : 150%

        Compound                Amount  Calc.    %Drift Area% Dev(min)RT Window
 ---------------------------------------------------------------------------
 1 S   a,a,a-TFT               50.000  41.051     17.9   76  -0.02   11.12-11.32
 2 S   BFB                     50.000  46.076      7.8   88   0.00   14.97-15.17

*****  Signal #2   *****

 4 S   a,a,a-TFT #2            50.000  43.938     12.1   82  -0.02   11.12-11.32
 5  S  BFB #2                  50.000  47.116      5.8   91   0.00   14.98-15.18
 6 H   TPH-GRO (C6-C10)       400.000 401.216     -0.3  102   0.00    7.52-16.19
---------------------------------------------------------------------------
---------------------------------------------------------------------------

   (#) = Out of Range              SPCC's out = 0  CCC's out = 0
    QR067153.D GROML.M          Wed Apr 04 11:19:12 2012
```

Southeast ACCUTEST LABORATORIES

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries
- GC Surrogate Retention Time Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP41200-MB	ZF48782.D	1	04/03/12	FEA	04/02/12	OP41200	GZF1869

The QC reported here applies to the following samples: **Method:** SW846 8015C

F91658-4, F91658-5, F91658-6, F91658-7

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	ND	8.3	3.3	mg/kg	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	88%	49-108%

Method Blank Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP41221-MB	YY28747.D	1	04/03/12	SJL	04/03/12	OP41221	GYY1061

The QC reported here applies to the following samples: **Method:** SW846 8015C

F91658-9

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	ND	8.3	3.3	mg/kg	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	94%	49-108%

Blank Spike Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP41200-BS	ZF48781.D	1	04/03/12	FEA	04/02/12	OP41200	GZF1869

The QC reported here applies to the following samples: **Method:** SW846 8015C

F91658-4, F91658-5, F91658-6, F91658-7

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH (C10-C28)	33.3	26.3	79	60-107

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	85%	49-108%

8.2.1

8

* = Outside of Control Limits.

Blank Spike Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP41221-BS	YY28746.D	1	04/03/12	SJL	04/03/12	OP41221	GYY1061

The QC reported here applies to the following samples: **Method:** SW846 8015C

F91658-9

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH (C10-C28)	33.3	32.0	96	60-107

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	95%	49-108%

8.2.2

8

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP41200-MS	ZF48837.D	1	04/04/12	FEA	04/02/12	OP41200	GZF1869
OP41200-MSD	ZF48838.D	1	04/04/12	FEA	04/02/12	OP41200	GZF1869
F91658-6	ZF48836.D	1	04/04/12	FEA	04/02/12	OP41200	GZF1869

The QC reported here applies to the following samples: **Method:** SW846 8015C

F91658-4, F91658-5, F91658-6, F91658-7

CAS No.	Compound	F91658-6 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH (C10-C28)	ND		40.2	36.3	90	38.7	96	6	60-107/36

CAS No.	Surrogate Recoveries	MS	MSD	F91658-6	Limits
84-15-1	o-Terphenyl	86%	86%	79%	49-108%

8.3.1

8

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP41221-MS	YY28751.D	1	04/03/12	SJL	04/03/12	OP41221	GYY1061
OP41221-MSD	YY28752.D	1	04/03/12	SJL	04/03/12	OP41221	GYY1061
F91658-9	YY28750.D	1	04/03/12	SJL	04/03/12	OP41221	GYY1061

The QC reported here applies to the following samples: **Method:** SW846 8015C

F91658-9

CAS No.	Compound	F91658-9 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH (C10-C28)	ND		40.4	38.3	95	39.6	98	3	60-107/36

CAS No.	Surrogate Recoveries	MS	MSD	F91658-9	Limits
84-15-1	o-Terphenyl	90%	91%	90%	49-108%

* = Outside of Control Limits.

Semivolatile Surrogate Recovery Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Method: SW846 8015C **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]
F91658-4	ZF48835.D	73.0
F91658-5	ZF48841.D	80.0
F91658-6	ZF48836.D	79.0
F91658-7	ZF48842.D	89.0
F91658-9	YY28750.D	90.0
OP41200-BS	ZF48781.D	85.0
OP41200-MB	ZF48782.D	88.0
OP41200-MS	ZF48837.D	86.0
OP41200-MSD	ZF48838.D	86.0
OP41221-BS	YY28746.D	95.0
OP41221-MB	YY28747.D	94.0
OP41221-MS	YY28751.D	90.0
OP41221-MSD	YY28752.D	91.0

Surrogate Compounds	Recovery Limits
S1 = o-Terphenyl	49-108%

(a) Recovery from GC signal #1

GC Surrogate Retention Time Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Check Std:	GYY1061-CC1009	**Injection Date:**	04/03/12
Lab File ID:	YY28744.D	**Injection Time:**	15:45
Instrument ID:	GCYY	**Method:**	SW846 8015C

	S1 [a] **RT**
Check Std	6.17

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
OP41221-BS	YY28746.D	04/03/12	16:41	6.16
OP41221-MB	YY28747.D	04/03/12	17:09	6.16
ZZZZZZ	YY28749.D	04/03/12	18:04	0.00
F91658-9	YY28750.D	04/03/12	18:32	6.16
OP41221-MS	YY28751.D	04/03/12	19:00	6.16
OP41221-MSD	YY28752.D	04/03/12	19:27	6.16
ZZZZZZ	YY28753.D	04/03/12	19:55	6.17
ZZZZZZ	YY28754.D	04/03/12	20:23	6.16
ZZZZZZ	YY28755.D	04/03/12	20:50	6.16

Surrogate Compounds

S1 = o-Terphenyl

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Check Std:	GZF1869-CC1855	**Injection Date:**	04/03/12
Lab File ID:	ZF48779.D	**Injection Time:**	15:10
Instrument ID:	GCZF	**Method:**	SW846 8015C

	S1 [a] **RT**
Check Std	6.71

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
OP41200-BS	ZF48781.D	04/03/12	16:10	6.70
OP41200-MB	ZF48782.D	04/03/12	16:31	6.70
ZZZZZZ	ZF48786.D	04/03/12	18:17	6.70
ZZZZZZ	ZF48787.D	04/03/12	18:38	6.70
ZZZZZZ	ZF48790.D	04/03/12	19:40	6.70

Surrogate Compounds

S1 = o-Terphenyl

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Check Std:	GZF1869-CC1855	**Injection Date:**	04/04/12
Lab File ID:	ZF48816.D	**Injection Time:**	04:40
Instrument ID:	GCZF	**Method:**	SW846 8015C

	S1 [a] **RT**
Check Std	6.70

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
ZZZZZZ	ZF48818.D	04/04/12	05:21	6.70
ZZZZZZ	ZF48819.D	04/04/12	05:42	6.70
ZZZZZZ	ZF48820.D	04/04/12	06:02	6.70
ZZZZZZ	ZF48821.D	04/04/12	06:23	6.70
ZZZZZZ	ZF48822.D	04/04/12	06:44	6.70
GZF1869-RT	ZF48826.D	04/04/12	08:11	6.70

Surrogate Compounds

S1 = o-Terphenyl

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Check Std:	GZF1869-CC1855	**Injection Date:**	04/04/12
Lab File ID:	ZF48827.D	**Injection Time:**	08:31
Instrument ID:	GCZF	**Method:**	SW846 8015C

	S1 [a] **RT**
Check Std	6.70

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
ZZZZZZ	ZF48829.D	04/04/12	09:27	6.71
ZZZZZZ	ZF48830.D	04/04/12	09:48	6.70
ZZZZZZ	ZF48831.D	04/04/12	10:08	6.70
ZZZZZZ	ZF48832.D	04/04/12	10:31	6.70
ZZZZZZ	ZF48833.D	04/04/12	10:52	6.70
ZZZZZZ	ZF48834.D	04/04/12	11:12	6.70
F91658-4	ZF48835.D	04/04/12	11:33	6.70
F91658-6	ZF48836.D	04/04/12	11:54	6.70
OP41200-MS	ZF48837.D	04/04/12	12:15	6.70
OP41200-MSD	ZF48838.D	04/04/12	12:36	6.70

Surrogate Compounds

S1 = o-Terphenyl

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Check Std:	GZF1869-CC1855	**Injection Date:**	04/04/12
Lab File ID:	ZF48839.D	**Injection Time:**	12:57
Instrument ID:	GCZF	**Method:**	SW846 8015C

	S1 [a] **RT**
Check Std	6.70

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
F91658-5	ZF48841.D	04/04/12	13:39	6.70
F91658-7	ZF48842.D	04/04/12	14:00	6.70
ZZZZZZ	ZF48843.D	04/04/12	14:20	6.70
OP41182-MS	ZF48844.D	04/04/12	14:41	6.70
OP41182-MSD	ZF48845.D	04/04/12	15:02	6.70
ZZZZZZ	ZF48846.D	04/04/12	15:23	6.70
ZZZZZZ	ZF48847.D	04/04/12	15:44	0.00
ZZZZZZ	ZF48848.D	04/04/12	16:05	6.71
ZZZZZZ	ZF48849.D	04/04/12	16:26	6.70
ZZZZZZ	ZF48850.D	04/04/12	16:47	6.70
GZF1869-ECC1857	ZF48851.D	04/04/12	17:08	6.71

Surrogate Compounds

S1 = o-Terphenyl

(a) Retention time from GC signal #1

Initial Calibration Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: GYY1009-ICC1009
Lab FileID: YY27280.D

Response Factor Report FID 5

```
Method       : C:\MSDCHEM\2\METHODS\F_DRO.M (Chemstation Integrator)
Title        : TPH by SW846 8015C
Last Update  : Tue Jan 24 10:44:26 2012
Response via : Initial Calibration

Calibration Files
200 =YY27277.D   500 =YY27278.D   1000=YY27279.D   2000=YY27280.D
3000   =YY27281.D    4000   =YY27282.D
```

	Compound	200	500	1000	2000	3000	4000	Avg	%RSD
1) S	O-TERPHENYL	1.159	1.187	1.219	1.244	1.240	1.274	1.221 E5	3.43
2) H	TPH (C10-C28)	1.104	1.069	1.078	1.093	1.083	1.109	1.089 E5	1.42

(#) = Out of Range

F_DRO.M Tue Jan 24 12:40:49 2012

8.6.1

8

Initial Calibration Verification

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: GYY1009-ICV1009
Lab FileID: YY27283.D

```
                    Evaluate Continuing Calibration Report

 Data File : C:\MSDCHEM\2\DATA\0123DRO.S\YY27283.D        Vial: 9
 Acq On    : 1-23-12 02:56:38 PM                      Operator: steve
 Sample    : icv1009-1000                             Inst    : FID 5
 Misc      : op40224,gyy1009,30.0,,,1,1,soil          Multiplr: 1.00
 IntFile   : events.e

 Method       : C:\MSDCHEM\2\METHODS\F_DRO.M (Chemstation Integrator)
 Title        : TPH by SW846 8015C
 Last Update  : Tue Jan 24 10:44:26 2012
 Response via : Multiple Level Calibration

 Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
 Max. RRF Dev :  20%     Max. Rel. Area : 150%

        Compound                Amount  Calc.    %Drift Area% Dev(min)RT Window
 ---------------------------------------------------------------------------
 1 S   O-TERPHENYL                        ----------NA----------
 2 H   TPH (C10-C28)          1000.000 943.394      5.7   95   0.00    3.38- 8.75
-------------------------------------------------------------------------
-------------------------------------------------------------------------

   (#) = Out of Range               SPCC's out = 0  CCC's out = 0
    YY27279.D  F_DRO.M          Tue Jan 24 12:37:46 2012
```

8.6.2

8

Continuing Calibration Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: GYY1061-CC1009
Lab FileID: YY28744.D

```
                    Evaluate Continuing Calibration Report

 Data File : C:\MSDCHEM\2\DATA\0403DRO.S\YY28744.D        Vial: 3
 Acq On    : 4-3-12 03:45:52 PM                       Operator: steve
 Sample    : cc1009-2000                              Inst    : FID 5
 Misc      : op41221,gyy1061,30.0,,,1,1,soil          Multiplr: 1.00
 IntFile   : events.e

 Method       : C:\MSDCHEM\2\METHODS\F_DRO.M (Chemstation Integrator)
 Title        : TPH by SW846 8015C
 Last Update  : Mon Mar 26 15:40:24 2012
 Response via : Multiple Level Calibration

 Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
 Max. RRF Dev :  20%     Max. Rel. Area : 150%

        Compound                Amount  Calc.    %Drift Area% Dev(min)RT Window
 ---------------------------------------------------------------------------
 1 S   O-TERPHENYL             50.000  51.002     -2.0  100   0.00    6.14- 6.24
 2 H   TPH (C10-C28)          2000.000 2088.251     -4.4  104   0.00    3.16- 8.75
---------------------------------------------------------------------------
---------------------------------------------------------------------------

   (#) = Out of Range               SPCC's out = 0  CCC's out = 0
    YY27280.D  F_DRO.M          Thu Apr 05 15:30:30 2012
```

8.6.3

8

Continuing Calibration Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: GYY1061-CC1009
Lab FileID: YY28756.D

Evaluate Continuing Calibration Report

```
Data File : C:\MSDCHEM\2\DATA\0403DRO.S\YY28756.D        Vial: 3
Acq On    : 4-3-12 09:18:08 PM                       Operator: steve
Sample    : cc1009-2000                              Inst    : FID 5
Misc      : op41221,gyy1061,30.0,,,1,1,soil          Multiplr: 1.00
IntFile   : events.e

Method       : C:\MSDCHEM\2\METHODS\F_DRO.M (Chemstation Integrator)
Title        : TPH by SW846 8015C
Last Update  : Mon Mar 26 15:40:24 2012
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%     Max. Rel. Area : 150%
```

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1 S	O-TERPHENYL	50.000	55.332	-10.7	109	-0.01	6.14- 6.24
2 H	TPH (C10-C28)	2000.000	2158.229	-7.9	108	0.00	3.16- 8.75

(#) = Out of Range SPCC's out = 0 CCC's out = 0
YY27280.D F_DRO.M Thu Apr 05 15:30:31 2012

8.6.4

8

Initial Calibration Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: GZF1855-ICC1855
Lab FileID: ZF48248.D

Response Factor Report FID 3

Method : C:\HPCHEM\1\METHODS\F_DRO.M (Chemstation Integrator)
Title : TPH by SW846 8015C
Last Update : Wed Mar 07 16:08:34 2012
Response via : Initial Calibration

Calibration Files
200 =ZF48246.D 500 =ZF48247.D 1000=ZF48248.D 2000=ZF48249.D
3000 =ZF48250.D 4000 =ZF48251.D

Compound	200	500	1000	2000	3000	4000	Avg	%RSD
1) S O-TERPHENYL	1.391	1.340	1.332	1.281	1.275	1.358	1.329 E4	3.37
2) H TPH (C10-C28)	1.354	1.176	1.174	1.161	1.157	1.233	1.209 E4	6.28

(#) = Out of Range

F_DRO.M Wed Mar 07 16:13:19 2012

8.6.5

8

Initial Calibration Verification

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: GZF1855-ICV1855
Lab FileID: ZF48252.D

Evaluate Continuing Calibration Report

```
Data File : C:\HPCHEM\1\DATA\0307DRO\ZF48252.D          Vial: 8
Acq On    :  7 Mar 2012   3:14 pm                   Operator: ENOCA
Sample    : ICV1855-1000                            Inst    : FID 3
Misc      : op40808,gzf1855,1000,,,1,1,WATER        Multiplr: 1.00
IntFile   : EVENTS.E

Method       : C:\HPCHEM\1\METHODS\F_DRO.M (Chemstation Integrator)
Title        : TPH by SW846 8015C
Last Update  : Wed Mar 07 16:08:34 2012
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%     Max. Rel. Area : 150%
```

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1 S	O-TERPHENYL	----------	NA	----------			
2 H	TPH (C10-C28)	1000.000	900.870	9.9	93	0.00	3.41- 9.09

(#) = Out of Range SPCC's out = 0 CCC's out = 0
ZF48248.D F_DRO.M Wed Mar 07 16:13:01 2012

8.6.6

8

Continuing Calibration Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: GZF1869-CC1855
Lab FileID: ZF48779.D

Evaluate Continuing Calibration Report

```
Data File : C:\HPCHEM\1\DATA\0403DRO\ZF48779.D          Vial: 2
Acq On    :  3 Apr 2012   3:10 pm                   Operator: ENOCA
Sample    : cc1855-1000                             Inst    : FID 3
Misc      : op41200,gzf1869,30.0,,,1,1,soil         Multiplr: 1.00
IntFile   : EVENTS.E

Method       : C:\HPCHEM\1\METHODS\F_DRO.M (Chemstation Integrator)
Title        : TPH by SW846 8015C
Last Update  : Tue Apr 03 14:34:02 2012
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%     Max. Rel. Area : 150%
```

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1 S	O-TERPHENYL	25.000	22.578	9.7	90	0.00	6.60- 6.80
2 H	TPH (C10-C28)	1000.000	884.019	11.6	91	0.00	3.46- 9.05

(#) = Out of Range SPCC's out = 0 CCC's out = 0
ZF48248.D F_DRO.M Thu Apr 05 10:46:03 2012

8.6.7

8

Continuing Calibration Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: GZF1869-CC1855
Lab FileID: ZF48791.D

Evaluate Continuing Calibration Report

```
Data File : C:\HPCHEM\1\DATA\0403DRO\ZF48791.D          Vial: 2
Acq On    :  3 Apr 2012   8:01 pm                   Operator: ENOCA
Sample    : CC1855-1000                             Inst    : FID 3
Misc      : op41200,gzf1869,29.9,,,1,1,soil         Multiplr: 1.00
IntFile   : EVENTS.E

Method       : C:\HPCHEM\1\METHODS\F_DRO.M (Chemstation Integrator)
Title        : TPH by SW846 8015C
Last Update  : Tue Apr 03 14:34:02 2012
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%     Max. Rel. Area : 150%
```

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1 S	O-TERPHENYL	25.000	22.772	8.9	91	0.00	6.60- 6.80
2 H	TPH (C10-C28)	1000.000	892.565	10.7	92	0.00	3.46- 9.05

(#) = Out of Range SPCC's out = 0 CCC's out = 0
ZF48248.D F_DRO.M Thu Apr 05 10:46:03 2012

8.6.8

Continuing Calibration Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: GZF1869-CC1855
Lab FileID: ZF48816.D

Evaluate Continuing Calibration Report

```
Data File : C:\HPCHEM\1\DATA\0403DRO\ZF48816.D          Vial: 37
Acq On    :  4 Apr 2012   4:40 am                   Operator: ENOCA
Sample    : CC1855-1000                             Inst    : FID 3
Misc      : op41182,gzf1869,30.2,,,1,1,soil         Multiplr: 1.00
IntFile   : EVENTS.E

Method       : C:\HPCHEM\1\METHODS\F_DRO.M (Chemstation Integrator)
Title        : TPH by SW846 8015C
Last Update  : Tue Apr 03 14:34:02 2012
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%     Max. Rel. Area : 150%
```

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1 S	O-TERPHENYL	25.000	23.587	5.7	94	0.00	6.60- 6.80
2 H	TPH (C10-C28)	1000.000	921.607	7.8	95	0.00	3.46- 9.05

(#) = Out of Range SPCC's out = 0 CCC's out = 0
ZF48248.D F_DRO.M Thu Apr 05 10:46:04 2012

8.6.9

8

Continuing Calibration Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: GZF1869-CC1855
Lab FileID: ZF48827.D

```
                    Evaluate Continuing Calibration Report

 Data File : C:\HPCHEM\1\DATA\0403DRO\ZF48827.D          Vial: 48
 Acq On    :  4 Apr 2012   8:31 am                   Operator: ENOCA
 Sample    : CC1855-2000                             Inst    : FID 3
 Misc      : op41182,gzf1869,30.0,,,1,1,soil         Multiplr: 1.00
 IntFile   : EVENTS.E

 Method       : C:\HPCHEM\1\METHODS\F_DRO.M (Chemstation Integrator)
 Title        : TPH by SW846 8015C
 Last Update  : Tue Apr 03 14:34:02 2012
 Response via : Multiple Level Calibration

 Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
 Max. RRF Dev :  20%     Max. Rel. Area : 150%

        Compound                Amount  Calc.    %Drift Area% Dev(min)RT Window
 ---------------------------------------------------------------------------
 1 S   O-TERPHENYL             50.000  45.891      8.2   95   0.00    6.60- 6.80
 2 H   TPH (C10-C28)          2000.000 1803.946      9.8   94   0.00    3.46- 9.05
---------------------------------------------------------------------------
---------------------------------------------------------------------------

   (#) = Out of Range               SPCC's out = 0  CCC's out = 0
    ZF48249.D  F_DRO.M          Thu Apr 05 10:46:50 2012
```

8.6.10

8

Continuing Calibration Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: GZF1869-CC1855
Lab FileID: ZF48839.D

Evaluate Continuing Calibration Report

```
Data File : C:\HPCHEM\1\DATA\0403DRO\ZF48839.D          Vial: 60
Acq On    :  4 Apr 2012  12:57 pm                   Operator: ENOCA
Sample    : CC1855-1000                             Inst    : FID 3
Misc      : op41200,gzf1869,30.3,,,1,1,soil         Multiplr: 1.00
IntFile   : EVENTS.E

Method       : C:\HPCHEM\1\METHODS\F_DRO.M (Chemstation Integrator)
Title        : TPH by SW846 8015C
Last Update  : Tue Apr 03 14:34:02 2012
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%     Max. Rel. Area : 150%
```

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1 S	O-TERPHENYL	25.000	26.019	-4.1	104	0.00	6.60- 6.80
2 H	TPH (C10-C28)	1000.000	991.193	0.9	102	0.00	3.46- 9.05

(#) = Out of Range SPCC's out = 0 CCC's out = 0
ZF48248.D F_DRO.M Thu Apr 05 10:46:04 2012

8.6.11

8

Continuing Calibration Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: GZF1869-ECC1855
Lab FileID: ZF48851.D

Evaluate Continuing Calibration Report

```
Data File : C:\HPCHEM\1\DATA\0403DRO\ZF48851.D          Vial: 72
Acq On    :  4 Apr 2012   5:08 pm                   Operator: ENOCA
Sample    : ECC1855-2000                            Inst    : FID 3
Misc      : op41182,gzf1869,30.0,,,1,1,soil         Multiplr: 1.00
IntFile   : EVENTS.E

Method       : C:\HPCHEM\1\METHODS\F_DRO.M (Chemstation Integrator)
Title        : TPH by SW846 8015C
Last Update  : Tue Apr 03 14:34:02 2012
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%     Max. Rel. Area : 150%
```

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1 S	O-TERPHENYL	50.000	51.824	-3.6	108	0.00	6.60- 6.80
2 H	TPH (C10-C28)	2000.000	2013.563	-0.7	105	0.00	3.46- 9.05

(#) = Out of Range SPCC's out = 0 CCC's out = 0
ZF48249.D F_DRO.M Thu Apr 05 10:46:51 2012

8.6.12

8

Southeast ACCUTEST LABORATORIES

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Instrument Runlogs
- Initial and Continuing Calibration Blanks
- Initial and Continuing Calibration Checks
- High and Low Check Standards
- Interfering Element Check Standards
- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F91658
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB040412M1.ICP Date Analyzed: 04/04/12 Methods: SW846 6010C
Analyst: DM Run ID: MA9692
Parameters: As,Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
07:58	MA9692-STD1	1		STDB
08:02	MA9692-STD2	1		STDC
08:05	MA9692-STD3	1		STDD
08:13	MA9692-STD4	1		STDA
08:17	MA9692-HSTD1	1		
08:21	MA9692-ICV1	1		
08:27	MA9692-ICB1	1		
08:32	MA9692-CRIA1	1		
08:36	MA9692-CRIA2	1		
08:43	MA9692-ICSA1	1		
08:49	MA9692-ICSAB1	1		
08:53	MA9692-CCV1	1		
08:59	MA9692-CCB1	1		
09:02	ZZZZZZ	2		
09:07	ZZZZZZ	2		
09:11	ZZZZZZ	4		
09:15	ZZZZZZ	1		
09:20	ZZZZZZ	1		
09:24	ZZZZZZ	1		
09:28	ZZZZZZ	1		
09:32	ZZZZZZ	1		
09:37	ZZZZZZ	1		
09:42	ZZZZZZ	1		
09:46	MA9692-CCV2	1		
09:50	MA9692-CCB2	1		
09:54	ZZZZZZ	1		
09:58	ZZZZZZ	1		
10:03	ZZZZZZ	4		
10:07	ZZZZZZ	1		
10:12	F91629-15	1		(sample used for QC only; not part of login F91658)
10:16	MP22523-D1	1		
10:21	MP22523-S1	1		
10:25	MP22523-S2	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F91658
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB040412M1.ICP Date Analyzed: 04/04/12 Methods: SW846 6010C
Analyst: DM Run ID: MA9692
Parameters: As,Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
10:29	MP22523-PS1	1		
10:34	MP22523-SD1	5		
10:38	MA9692-CCV3	1		
10:42	MA9692-CCB3	1		
10:46	ZZZZZZ	4		
10:50	ZZZZZZ	10		
10:54	F91658-6	20		
10:59	MP22524-D1	20		
11:03	MP22524-S1	20		
11:07	MP22524-S2	20		
11:11	MP22524-PS1	20		
11:16	MP22524-SD1	100		
11:24	MP22524-D2	10		
11:28	MA9692-CCV4	1		
11:33	MA9692-CCB4	1		
11:37	MP22524-S3	10		
11:41	MP22524-S4	10		
11:45	MP22524-PS2	10		
11:50	MP22524-SD2	50		
11:54	F91658-1	20		
11:58	F91658-2	10		
12:02	F91658-3	20		
12:07	F91658-4	20		
12:11	F91658-5	20		
12:15	F91658-7	20		
----------> Last reportable sample/prep for job F91658				
12:20	MA9692-CCV5	1		
12:24	MA9692-CCB5	1		
12:28	ZZZZZZ	10		
12:33	ZZZZZZ	10		
12:37	ZZZZZZ	10		
12:41	ZZZZZZ	10		
12:46	ZZZZZZ	10		
12:50	ZZZZZZ	10		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F91658
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB040412M1.ICP Date Analyzed: 04/04/12 Methods: SW846 6010C
Analyst: DM Run ID: MA9692
Parameters: As,Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
12:54	ZZZZZZ	1		
12:59	ZZZZZZ	1		
13:08	ZZZZZZ	1		
13:13	MA9692-CCV6	1		
13:17	MA9692-CCB6	1		
13:21	ZZZZZZ	1		
13:25	ZZZZZZ	1		
13:30	ZZZZZZ	1		
13:34	ZZZZZZ	1		
13:38	MP22527-MB1	1		
13:42	MP22527-B1	1		
13:46	F91740-1	1		(sample used for QC only; not part of login F91658)
13:50	MP22527-D1	1		
13:55	MP22527-SD1	5		
13:59	MP22527-PS1	1		
14:03	MA9692-CCV7	1		
14:07	MA9692-CCB7	1		
14:11	MP22527-S1	1		
14:16	MP22527-S2	1		
14:20	ZZZZZZ	1		
14:24	ZZZZZZ	1		
14:28	ZZZZZZ	1		
14:32	MP22528-MB1	1		
14:36	MP22528-B1	1		
14:40	F91774-1	1		(sample used for QC only; not part of login F91658)
14:45	MP22528-D1	1		
14:49	MP22528-SD1	5		
14:53	MA9692-CCV8	1		
14:57	MA9692-CCB8	1		
15:01	MP22528-PS1	1		
15:05	MP22528-S1	1		
15:09	MP22528-S2	1		
15:14	ZZZZZZ	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F91658
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB040412M1.ICP Date Analyzed: 04/04/12 Methods: SW846 6010C
Analyst: DM Run ID: MA9692
Parameters: As,Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
15:18	ZZZZZZ	1		
15:22	ZZZZZZ	1		
15:26	ZZZZZZ	1		
15:30	ZZZZZZ	1		
15:34	ZZZZZZ	1		
15:38	ZZZZZZ	1		
15:43	MA9692-CCV9	1		
15:47	MA9692-CCB9	1		
15:51	ZZZZZZ	1		
15:55	ZZZZZZ	1		
15:59	ZZZZZZ	1		
16:03	ZZZZZZ	1		
16:08	ZZZZZZ	1		
16:12	ZZZZZZ	1		
16:17	ZZZZZZ	1		
16:21	ZZZZZZ	1		
16:25	ZZZZZZ	1		
16:30	ZZZZZZ	1		
16:34	MA9692-CCV10	1		
16:38	MA9692-CCB10	1		
16:42	ZZZZZZ	1		
16:46	ZZZZZZ	1		
16:51	MA9692-CRIA3	1		
16:55	MA9692-ICSA2	1		
16:59	MA9692-ICSAB2	1		
17:04	MA9692-CCV11	1		
17:08	MA9692-CCB11	1		

----------> Last reportable CCB for job F91658
Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: F91658
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB040412M1.ICP Date Analyzed: 04/04/12 Methods: SW846 6010C
Analyst: DM Run ID: MA9692
Parameters: As,Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
07:58	MA9692-STD1	5781	49781	10118	2865
08:02	MA9692-STD2	5551	47624	9992	2582
08:05	MA9692-STD3	5414	47050	10055	2382
08:13	MA9692-STD4	5879	51013	10209	3147
08:17	MA9692-HSTD1	5310	47003	10019	2370
08:21	MA9692-ICV1	5529	48404	10095	2582
08:27	MA9692-ICB1	5844 R	51146 R	10192 R	3143 R
08:32	MA9692-CRIA1	5727	50181	10208	2956
08:36	MA9692-CRIA2	5742			
08:43	MA9692-ICSA1	5087	43090	9838	2272
08:49	MA9692-ICSAB1	4994	42678	9723	2218
08:53	MA9692-CCV1	5484	47641	10032	2573
08:59	MA9692-CCB1	5831	50466	10098	3113
09:02	ZZZZZZ	5612	48495	10075	2766
09:07	ZZZZZZ	5477	47627	9981	2659
09:11	ZZZZZZ	5784	49396	10280	2740
09:15	ZZZZZZ	5290	45440	9873	2516
09:20	ZZZZZZ	5428	47405	10031	2635
09:24	ZZZZZZ	5202	45572	9795	2480
09:28	ZZZZZZ	5537	48128	9952	2688
09:32	ZZZZZZ	5282	45682	9837	2477
09:37	ZZZZZZ	5177	45405	9730	2466
09:42	ZZZZZZ	5435	47656	9917	2662
09:46	MA9692-CCV2	5501	47964	9868	2568
09:50	MA9692-CCB2	5920	51882	10164	3160
09:54	ZZZZZZ	5399	47018	9979	2534
09:58	ZZZZZZ	5309	46205	9830	2546
10:03	ZZZZZZ	5542	48884	9982	2765
10:07	ZZZZZZ	5204	45369	9782	2494
10:12	F91629-15	5629	49282	10148	2721
10:16	MP22523-D1	5561	48431	9963	2696
10:21	MP22523-S1	5492	47901	10015	2576
10:25	MP22523-S2	5553	48173	10038	2571

INTERNAL STANDARD SUMMARY

Login Number: F91658
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB040412M1.ICP Date Analyzed: 04/04/12 Methods: SW846 6010C
Analyst: DM Run ID: MA9692
Parameters: As,Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
10:29	MP22523-PS1	5602	48909	10051	2667
10:34	MP22523-SD1	5773	50745	10083	2947
10:38	MA9692-CCV3	5467	48295	9849	2565
10:42	MA9692-CCB3	5887	51966	10220	3159
10:46	ZZZZZZ	5657	49699	10068	2799
10:50	ZZZZZZ	5798	50963	10152	3006
10:54	F91658-6	5454	47065	9863	2671
10:59	MP22524-D1	5520	48477	10064	2703
11:03	MP22524-S1	5518	48535	9967	2690
11:07	MP22524-S2	5472	48547	9850	2691
11:11	MP22524-PS1	5475	48443	9939	2668
11:16	MP22524-SD1	5770	50840	10087	2955
11:24	MP22524-D2	5271	46567	9766	2503
11:28	MA9692-CCV4	5539	48937	9900	2582
11:33	MA9692-CCB4	5874	51785	10077	3134
11:37	MP22524-S3	5393	47790	9856	2540
11:41	MP22524-S4	5209	46669	9784	2462
11:45	MP22524-PS2	5334	47808	9881	2549
11:50	MP22524-SD2	5624	50511	10094	2859
11:54	F91658-1	5332	48181	9914	2608
11:58	F91658-2	5221	47205	9721	2528
12:02	F91658-3	5448	49111	10048	2674
12:07	F91658-4	5423	48741	9960	2638
12:11	F91658-5	5364	48473	9871	2636
12:15	F91658-7	5361	48788	9941	2653
12:20	MA9692-CCV5	5477	49414	9965	2580
12:24	MA9692-CCB5	5748	52147	10110	3116
12:28	ZZZZZZ	5150	47292	9875	2484
12:33	ZZZZZZ	5061	46822	9736	2461
12:37	ZZZZZZ	5124	47234	9739	2493
12:41	ZZZZZZ	5221	47992	9874	2540
12:46	ZZZZZZ	5271	48138	9810	2568
12:50	ZZZZZZ	5175	47560	9760	2543

INTERNAL STANDARD SUMMARY

Login Number: F91658
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB040412M1.ICP Date Analyzed: 04/04/12 Methods: SW846 6010C
Analyst: DM Run ID: MA9692
Parameters: As,Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
12:54	ZZZZZZ	7448 !	66736 !	14332 !	2231
12:59	ZZZZZZ	8752 !	78647 !	16568 !	2289
13:08	ZZZZZZ	8216 !	74388 !	15288 !	2362
13:13	MA9692-CCV6	5444	50109	9730	2597
13:17	MA9692-CCB6	5657	52584	9811	3142
13:21	ZZZZZZ	5562	51955	9913	2693
13:25	ZZZZZZ	5627	52428	9833	2998
13:30	ZZZZZZ	5742	53154	10012	3037
13:34	ZZZZZZ	5596	51507	9939	2891
13:38	MP22527-MB1	5680	52958	9890	3166
13:42	MP22527-B1	5482	50036	9747	2742
13:46	F91740-1	5309	48687	9718	2662
13:50	MP22527-D1	5376	48550	9652	2685
13:55	MP22527-SD1	5531	50464	9608	2926
13:59	MP22527-PS1	5326	48320	9559	2618
14:03	MA9692-CCV7	5511	49401	9656	2586
14:07	MA9692-CCB7	5744	51413	9669	3114
14:11	MP22527-S1	5364	47836	9532	2536
14:16	MP22527-S2	5447	48307	9719	2552
14:20	ZZZZZZ	5626	50331	9789	2823
14:24	ZZZZZZ	5742	51565	9716	3056
14:28	ZZZZZZ	5480	49580	9728	2774
14:32	MP22528-MB1	5857	53042	9876	3173
14:36	MP22528-B1	5586	50073	9657	2742
14:40	F91774-1	6442	57355	11546	2573
14:45	MP22528-D1	6510	57767	11580	2524
14:49	MP22528-SD1	5865	52356	10044	2850
14:53	MA9692-CCV8	5533	49121	9605	2579
14:57	MA9692-CCB8	5822	51721	9610	3122
15:01	MP22528-PS1	6484	56905	11357	2547
15:05	MP22528-S1	6487	56901	11533	2461
15:09	MP22528-S2	6895	60133	12301	2343
15:14	ZZZZZZ	5895	51857	9628	3110

INTERNAL STANDARD SUMMARY

Login Number: F91658
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB040412M1.ICP Date Analyzed: 04/04/12 Methods: SW846 6010C
Analyst: DM Run ID: MA9692
Parameters: As,Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
15:18	ZZZZZZ	6172	54599	10345	2985
15:22	ZZZZZZ	6301	55024	10527	2899
15:26	ZZZZZZ	5942	52345	9815	3095
15:30	ZZZZZZ	5849	51684	9650	3060
15:34	ZZZZZZ	5846	51630	9653	3094
15:38	ZZZZZZ	5824	50793	9630	2959
15:43	MA9692-CCV9	5546	48194	9315	2558
15:47	MA9692-CCB9	5839	51100	9535	3108
15:51	ZZZZZZ	5915	51827	9875	2969
15:55	ZZZZZZ	5902	51701	9782	2966
15:59	ZZZZZZ	5983	52236	9913	2998
16:03	ZZZZZZ	5806	50404	10417	2412
16:08	ZZZZZZ	5844	51570	10281	2545
16:12	ZZZZZZ	5990	51289	10534	2239
16:17	ZZZZZZ	6250	53722	10784	2446
16:21	ZZZZZZ	5874	51079	10449	2242
16:25	ZZZZZZ	5943	51821	10619	2233
16:30	ZZZZZZ	6138	53096	10670	2273
16:34	MA9692-CCV10	5594	48440	9191	2569
16:38	MA9692-CCB10	5832	50687	9267	3111
16:42	ZZZZZZ	5463	47262	10001	2019
16:46	ZZZZZZ	6310	54711	11235	2127
16:51	MA9692-CRIA3	5779	50291	9293	2936
16:55	MA9692-ICSA2	No results reported for the elements associated with this internal standard.			
16:59	MA9692-ICSAB2	No results reported for the elements associated with this internal standard.			
17:04	MA9692-CCV11	5537	48122	9052	2565
17:08	MA9692-CCB11	5907	51050	9111	3113

R = Reference for ISTD limits. ! = Outside limits.

LEGEND:

Istd#	Parameter	Limits
Istd#1	Yttrium (2243)	60-125 %
Istd#2	Yttrium (3600)	60-125 %
Istd#3	Yttrium (3710)	60-125 %
Istd#4	Indium	60-125 %

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F91658
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB040412M1.ICP Date Analyzed: 04/04/12 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA9692 Units: ug/l

Time:			08:27		08:59		09:50		10:42	
Sample ID:			ICB1		CCB1		CCB2		CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	24	anr							
Antimony	6.0	1								
Arsenic	10	1	0.20	<10	0.20	<10	-0.30	<10	0.20	<10
Barium	200	4	anr							
Beryllium	4.0	.1								
Cadmium	5.0	.1	anr							
Calcium	1000	50	anr							
Chromium	10	1	anr							
Cobalt	50	1								
Copper	25	1	anr							
Iron	300	23	anr							
Lead	5.0	1	-0.10	<5.0	-0.40	<5.0	1.0	<5.0	1.3	<5.0
Magnesium	5000	50	anr							
Manganese	15	1	anr							
Molybdenum	50	1								
Nickel	40	1								
Potassium	10000	50								
Selenium	10	2	anr							
Silver	10	1	anr							
Sodium	10000	850	anr							
Strontium	10	1								
Thallium	10	1.5								
Tin	50	1								
Titanium	10	1								
Vanadium	50	1								
Zinc	20	1	anr							

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F91658
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB040412M1.ICP Date Analyzed: 04/04/12 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA9692 Units: ug/l

Time:			11:33		12:24		13:17		14:07	
Sample ID:			CCB4		CCB5		CCB6		CCB7	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	24	anr							
Antimony	6.0	1								
Arsenic	10	1	0.0	<10	0.10	<10	-0.40	<10	0.10	<10
Barium	200	4	anr							
Beryllium	4.0	.1								
Cadmium	5.0	.1	anr							
Calcium	1000	50	anr							
Chromium	10	1	anr							
Cobalt	50	1								
Copper	25	1	anr							
Iron	300	23	anr							
Lead	5.0	1	1.1	<5.0	1.2	<5.0	1.5	<5.0	1.4	<5.0
Magnesium	5000	50	anr							
Manganese	15	1	anr							
Molybdenum	50	1								
Nickel	40	1								
Potassium	10000	50								
Selenium	10	2	anr							
Silver	10	1	anr							
Sodium	10000	850	anr							
Strontium	10	1								
Thallium	10	1.5								
Tin	50	1								
Titanium	10	1								
Vanadium	50	1								
Zinc	20	1	anr							

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F91658
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB040412M1.ICP Date Analyzed: 04/04/12 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA9692 Units: ug/l

Time:			14:57		15:47		16:38		17:08	
Sample ID:			CCB8		CCB9		CCB10		CCB11	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	24	anr							
Antimony	6.0	1								
Arsenic	10	1	-0.20	<10	-0.10	<10	0.20	<10	-0.20	<10
Barium	200	4	anr							
Beryllium	4.0	.1								
Cadmium	5.0	.1	anr							
Calcium	1000	50	anr							
Chromium	10	1	anr							
Cobalt	50	1								
Copper	25	1	anr							
Iron	300	23	anr							
Lead	5.0	1	1.8	<5.0	1.5	<5.0	1.7	<5.0	1.2	<5.0
Magnesium	5000	50	anr							
Manganese	15	1	anr							
Molybdenum	50	1								
Nickel	40	1								
Potassium	10000	50								
Selenium	10	2	anr							
Silver	10	1	anr							
Sodium	10000	850	anr							
Strontium	10	1								
Thallium	10	1.5								
Tin	50	1								
Titanium	10	1								
Vanadium	50	1								
Zinc	20	1	anr							

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F91658
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB040412M1.ICP Date Analyzed: 04/04/12 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA9692 Units: ug/l

Time:		08:21			08:53			09:46	
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony									
Arsenic	2000	1970	98.5	2000	2010	100.5	2000	2010	100.5
Barium	anr								
Beryllium									
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt									
Copper	anr								
Iron	anr								
Lead	2000	1910	95.5	2000	1950	97.5	2000	1970	98.5
Magnesium	anr								
Manganese	anr								
Molybdenum									
Nickel									
Potassium									
Selenium	anr								
Silver	anr								
Sodium	anr								
Strontium									
Thallium									
Tin									
Titanium									
Vanadium									
Zinc	anr								

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F91658
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB040412M1.ICP Date Analyzed: 04/04/12 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA9692 Units: ug/l

Time:		10:38			11:28			12:20	
Sample ID:	CCV	CCV3		CCV	CCV4		CCV	CCV5	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony									
Arsenic	2000	2030	101.5	2000	2020	101.0	2000	2040	102.0
Barium	anr								
Beryllium									
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt									
Copper	anr								
Iron	anr								
Lead	2000	1970	98.5	2000	1970	98.5	2000	1930	96.5
Magnesium	anr								
Manganese	anr								
Molybdenum									
Nickel									
Potassium									
Selenium	anr								
Silver	anr								
Sodium	anr								
Strontium									
Thallium									
Tin									
Titanium									
Vanadium									
Zinc	anr								

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F91658
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB040412M1.ICP Date Analyzed: 04/04/12 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA9692 Units: ug/l

Time:		13:13			14:03			14:53	
Sample ID:	CCV	CCV6		CCV	CCV7		CCV	CCV8	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony									
Arsenic	2000	2060	103.0	2000	2040	102.0	2000	2020	101.0
Barium	anr								
Beryllium									
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt									
Copper	anr								
Iron	anr								
Lead	2000	1920	96.0	2000	1950	97.5	2000	1960	98.0
Magnesium	anr								
Manganese	anr								
Molybdenum									
Nickel									
Potassium									
Selenium	anr								
Silver	anr								
Sodium	anr								
Strontium									
Thallium									
Tin									
Titanium									
Vanadium									
Zinc	anr								

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F91658
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB040412M1.ICP Date Analyzed: 04/04/12 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA9692 Units: ug/l

Time:		15:43			16:34			17:04	
Sample ID:	CCV	CCV9		CCV	CCV10		CCV	CCV11	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony									
Arsenic	2000	2020	101.0	2000	2000	100.0	2000	2010	100.5
Barium	anr								
Beryllium									
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt									
Copper	anr								
Iron	anr								
Lead	2000	1990	99.5	2000	1990	99.5	2000	1980	99.0
Magnesium	anr								
Manganese	anr								
Molybdenum									
Nickel									
Potassium									
Selenium	anr								
Silver	anr								
Sodium	anr								
Strontium									
Thallium									
Tin									
Titanium									
Vanadium									
Zinc	anr								

(*) Outside of QC limits
(anr) Analyte not requested

HIGH STANDARD CHECK SUMMARY

Login Number: F91658
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB040412M1.ICP Date Analyzed: 04/04/12 Methods: SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA9692 Units: ug/l

Time:		08:17	
Sample ID:	HSTD	HSTD1	
Metal	True	Results	% Rec
Aluminum	anr		
Antimony			
Arsenic	4000	4010	100.3
Barium	anr		
Beryllium			
Cadmium	anr		
Calcium	anr		
Chromium	anr		
Cobalt			
Copper	anr		
Iron	anr		
Lead	4000	3960	99.0
Magnesium	anr		
Manganese	anr		
Molybdenum			
Nickel			
Potassium			
Selenium	anr		
Silver	anr		
Sodium	anr		
Strontium			
Thallium			
Tin			
Titanium			
Vanadium			
Zinc	anr		

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: F91658
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB040412M1.ICP Date Analyzed: 04/04/12 Methods: SW846 6010C
QC Limits: CRI 70-130% CRIA 70-130% Run ID: MA9692 Units: ug/l

Time:			08:32		08:36		16:51	
Sample ID:	CRI	CRIA	CRIA1		CRIA2		CRIA3	
Metal	True	True	Results	% Rec	Results	% Rec	Results	% Rec
Aluminum	400	200	anr					
Antimony	10	5.0						
Arsenic	20	10	9.8	98.0			9.8	98.0
Barium	400	200	anr					
Beryllium	10	5.0						
Cadmium	10	5.0	anr					
Calcium	2000	1000	anr					
Chromium	20	10	anr					
Cobalt	100	50						
Copper	50	25	anr					
Iron	600	300	anr					
Lead	10	5.0	4.9	98.0			6.6	130.0
Magnesium	10000	5000	anr					
Manganese	30	15	anr					
Molybdenum	100	50						
Nickel	80	40						
Potassium	20000	10000						
Selenium	20	10	anr					
Silver	20	10	anr					
Sodium	20000	10000	anr					
Strontium	20	10						
Thallium	20	10						
Tin	100	50						
Titanium	20	10						
Vanadium	100	50						
Zinc	40	20	anr					

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: F91658
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB040412M1.ICP Date Analyzed: 04/04/12 Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery Run ID: MA9692 Units: ug/l

Time:			08:43		08:49	
Sample ID:	ICSA	ICSAB	ICSA1		ICSAB1	
Metal	True	True	Results	% Rec	Results	% Rec
Aluminum	500000	500000	496000	99.2	505000	101.0
Antimony		1000	1.0		1010	101.0
Arsenic		1000	0.0		1020	102.0
Barium		500	1.1		524	104.8
Beryllium		500	0.0		490	98.0
Cadmium		1000	0.0		969	96.9
Calcium	500000	500000	465000	93.0	469000	93.8
Chromium		500	0.0		518	103.6
Cobalt		500	-0.20		481	96.2
Copper		500	0.0		568	113.6
Iron	200000	200000	185000	92.5	187000	93.5
Lead		1000	0.10		935	93.5
Magnesium	500000	500000	499000	99.8	498000	99.6
Manganese		500	-0.60		493	98.6
Molybdenum		1000	-0.40		953	95.3
Nickel		1000	-0.70		930	93.0
Potassium			103		23.0	
Selenium		1000	0.0		1010	101.0
Silver		1000	0.30		1080	108.0
Sodium			59.4		51.5	
Strontium		1000	0.10		1010	101.0
Thallium		1000	-0.30		945	94.5
Tin		1000	0.30		875	87.5
Titanium		1000	0.40		1000	100.0
Vanadium		500	0.50		502	100.4
Zinc		1000	0.10		905	90.5

(*) Outside of QC limits
(anr) Analyte not requested

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F91658
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA040512M1.ICP Date Analyzed: 04/05/12 Methods: SW846 6010C
Analyst: DM Run ID: MA9694
Parameters: As,Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
07:01	MA9694-STD1	1		STDA
07:05	MA9694-STD2	1		STDB
07:08	MA9694-STD3	1		STDC
07:12	MA9694-STD4	1		STDD
07:15	MA9694-HSTD1	1		
07:19	MA9694-ICV1	1		
07:24	MA9694-ICB1	1		
07:28	MA9694-CRIA1	1		
07:36	MA9694-ICSA1	1		
07:48	MA9694-ICSAB1	1		
07:53	MA9694-CCV1	1		
07:58	MA9694-CCB1	1		
08:02	MP22529-MB1	1		
08:14	MP22529-B1	1		
08:18	F91788-2	1		(sample used for QC only; not part of login F91658)
08:23	MP22529-D1	1		
08:27	MP22529-SD1	5		
08:32	MP22529-PS2	1		
08:36	MP22529-S1	1		
08:40	MP22529-S2	1		
08:44	ZZZZZZ	1		
08:49	ZZZZZZ	1		
08:53	MA9694-CCV2	1		
08:57	MA9694-CCB2	1		
09:28	F91658-9	10		
09:32	ZZZZZZ	2		
09:37	ZZZZZZ	4		
09:41	ZZZZZZ	4		
09:45	MA9694-CCV3	1		
09:49	MA9694-CCB3	1		
09:54	ZZZZZZ	4		
09:58	ZZZZZZ	4		
10:07	ZZZZZZ	4		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F91658
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA040512M1.ICP Date Analyzed: 04/05/12 Methods: SW846 6010C
Analyst: DM Run ID: MA9694
Parameters: As,Pb

	Time	Sample Description	Dilution Factor	PS Recov	Comments
	10:16	ZZZZZZ	5		
	10:20	MP22524-MB1	1		
	10:25	MP22524-B1	1		
---------->	Last reportable sample/prep for job F91658				
	10:29	MP22530-MB1	1		
	10:33	MP22530-B1	1		
	10:38	MA9694-CCV4	1		
	10:42	MA9694-CCB4	1		
	10:46	F91742-1	1		(sample used for QC only; not part of login F91658)
	10:51	MP22530-D1	1		
	10:55	MP22530-SD1	5		
	11:00	MP22530-S1	1		
	11:04	MP22530-S2	1		
	11:08	F91742-2	1		(sample used for QC only; not part of login F91658)
	11:13	ZZZZZZ	1		
	11:17	ZZZZZZ	1		
	11:22	ZZZZZZ	1		
	11:26	MP22530-D2	1		
	11:31	MA9694-CCV5	1		
	11:35	MA9694-CCB5	1		
	11:40	MP22530-MB2	1		
	11:44	MP22530-B2	1		
	11:49	MP22530-MB3	1		
	11:53	MP22530-B3	1		
	11:57	MP22531-MB1	1		
	12:02	MP22531-B1	1		
	12:06	F91771-1	1		(sample used for QC only; not part of login F91658)
	12:11	MP22531-D1	1		
	12:15	MP22531-SD1	5		
	12:19	MP22531-PS1	1		
	12:24	MA9694-CCV6	1		
	12:28	MA9694-CCB6	1		
	12:32	MP22531-S1	1		
	12:37	MP22531-S2	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F91658
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA040512M1.ICP Date Analyzed: 04/05/12 Methods: SW846 6010C
Analyst: DM Run ID: MA9694
Parameters: As,Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
12:41	ZZZZZZ	1		
12:45	ZZZZZZ	1		
12:50	ZZZZZZ	1		
12:54	ZZZZZZ	1		
12:59	ZZZZZZ	1		
13:03	ZZZZZZ	1		
13:07	ZZZZZZ	1		
13:12	ZZZZZZ	1		
13:16	MA9694-CCV7	1		
13:20	MA9694-CCB7	1		
13:25	ZZZZZZ	1		
13:29	ZZZZZZ	1		
13:34	ZZZZZZ	1		
13:38	ZZZZZZ	1		
13:43	ZZZZZZ	1		
13:47	ZZZZZZ	1		
13:51	ZZZZZZ	1		
13:56	ZZZZZZ	1		
14:00	ZZZZZZ	1		
14:05	ZZZZZZ	1		
14:09	MA9694-CCV8	1		
14:13	MA9694-CCB8	1		
14:18	ZZZZZZ	1		
14:22	MP22532-MB1	1		
14:27	MP22532-B1	1		
14:31	F91663-1	1		(sample used for QC only; not part of login F91658)
14:35	MP22532-D1	1		
14:40	MP22532-SD1	5		
14:44	MP22532-PS1	1		
14:48	MP22532-S1	1		
14:53	MP22532-S2	1		
14:57	ZZZZZZ	1		
15:01	MA9694-CCV9	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F91658
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA040512M1.ICP Date Analyzed: 04/05/12 Methods: SW846 6010C
Analyst: DM Run ID: MA9694
Parameters: As,Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
15:05	MA9694-CCB9	1		
15:10	ZZZZZZ	1		
15:14	ZZZZZZ	1		
15:19	ZZZZZZ	1		
15:23	ZZZZZZ	1		
15:28	ZZZZZZ	1		
15:32	ZZZZZZ	1		
15:36	ZZZZZZ	1		
15:41	ZZZZZZ	1		
15:54	MA9694-CCV10	1		
15:58	MA9694-CCB10	1		
16:03	ZZZZZZ	1		
16:07	ZZZZZZ	1		
16:12	ZZZZZZ	1		
16:16	ZZZZZZ	1		
16:20	ZZZZZZ	1		
16:25	ZZZZZZ	1		
16:29	ZZZZZZ	1		
16:34	ZZZZZZ	1		
16:38	MP22535-MB1	1		
16:43	MP22535-B1	1		
16:47	MA9694-CCV11	1		
16:51	MA9694-CCB11	1		
16:55	F91812-1	1		(sample used for QC only; not part of login F91658)
17:00	MP22535-D1	1		
17:04	MP22535-SD1	5		
17:09	MP22535-PS1	1		
17:13	MP22535-S1	1		
17:17	MP22535-S2	1		
17:21	ZZZZZZ	1		
17:25	ZZZZZZ	1		
17:30	ZZZZZZ	1		
17:34	ZZZZZZ	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F91658
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA040512M1.ICP Date Analyzed: 04/05/12 Methods: SW846 6010C
Analyst: DM Run ID: MA9694
Parameters: As,Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
17:39	MA9694-CCV12	1		
17:43	MA9694-CCB12	1		
17:47	ZZZZZZ	1		
17:52	ZZZZZZ	1		
17:56	ZZZZZZ	1		
18:00	ZZZZZZ	5		
18:05	ZZZZZZ	1		
18:09	ZZZZZZ	1		
18:14	ZZZZZZ	1		
18:18	ZZZZZZ	1		
18:22	MP22538-MB1	1		
18:27	MP22538-B1	1		
18:31	MA9694-CCV13	1		
18:35	MA9694-CCB13	1		
18:40	F91848-1	1		(sample used for QC only; not part of login F91658)
18:44	MP22538-D1	1		
18:49	MP22538-SD1	5		
18:53	MP22538-PS1	1		
18:57	MP22538-S1	1		
19:02	MP22538-S2	1		
19:06	ZZZZZZ	1		
19:10	ZZZZZZ	1		
19:15	ZZZZZZ	1		
19:19	ZZZZZZ	1		
19:24	MA9694-CCV14	1		
19:28	MA9694-CCB14	1		
19:32	ZZZZZZ	1		
19:37	ZZZZZZ	1		
19:41	ZZZZZZ	1		
19:46	ZZZZZZ	1		
19:50	ZZZZZZ	1		
19:55	ZZZZZZ	1		
19:59	ZZZZZZ	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F91658
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA040512M1.ICP Date Analyzed: 04/05/12 Methods: SW846 6010C
Analyst: DM Run ID: MA9694
Parameters: As,Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
20:04	ZZZZZZ	1		
20:08	ZZZZZZ	1		
20:13	ZZZZZZ	1		
20:17	MA9694-CCV15	1		
20:21	MA9694-CCB15	1		
20:26	ZZZZZZ	1		
20:30	ZZZZZZ	1		
20:35	MA9694-CRIA2	1		
20:39	MA9694-ICSA2	1		
20:43	MA9694-ICSAB2	1		
20:48	MA9694-CCV16	1		
20:52	MA9694-CCB16	1		

----------> Last reportable CCB for job F91658
Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: F91658
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA040512M1.ICP Date Analyzed: 04/05/12 Methods: SW846 6010C
Analyst: DM Run ID: MA9694
Parameters: As,Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
07:01	MA9694-STD1	1814	13110	2865	968
07:05	MA9694-STD2	1773	12825	2784	885
07:08	MA9694-STD3	1700	12590	2744	796
07:12	MA9694-STD4	1634	12207	2686	731
07:15	MA9694-HSTD1	1630	12209	2668	730
07:19	MA9694-ICV1	1685	12473	2732	793
07:24	MA9694-ICB1	1813 R	13077 R	2807 R	967 R
07:28	MA9694-CRIA1	1765	12749	2747	909
07:36	MA9694-ICSA1	1530	11456	2551	677
07:48	MA9694-ICSAB1	1565	11718	2580	682
07:53	MA9694-CCV1	1715	12674	2650	801
07:58	MA9694-CCB1	1822	13035	2719	966
08:02	MP22529-MB1	1845	13447	2820	992
08:14	MP22529-B1	1822	13367	2814	879
08:18	F91788-2	1852	13626	2833	962
08:23	MP22529-D1	1833	13463	2785	951
08:27	MP22529-SD1	1827	13276	2742	965
08:32	MP22529-PS2	1819	13427	2791	914
08:36	MP22529-S1	1775	13162	2760	846
08:40	MP22529-S2	1780	13147	2731	851
08:44	ZZZZZZ	6786	49749	10308	940
08:49	ZZZZZZ	1805	13364	2767	894
08:53	MA9694-CCV2	1728	12864	2660	804
08:57	MA9694-CCB2	1827	13220	2713	972
09:28	F91658-9	1642	12380	2671	762
09:32	ZZZZZZ	2059	15426	3185	733
09:37	ZZZZZZ	2085	15413	3143	810
09:41	ZZZZZZ	1787	13340	2725	878
09:45	MA9694-CCV3	1764	13050	2656	821
09:49	MA9694-CCB3	1853	13412	2697	981
09:54	ZZZZZZ	2047	15082	3019	824
09:58	ZZZZZZ	1771	13307	2798	753
10:07	ZZZZZZ	1783	13298	2751	796

INTERNAL STANDARD SUMMARY

Login Number: F91658
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA040512M1.ICP Date Analyzed: 04/05/12 Methods: SW846 6010C
Analyst: DM Run ID: MA9694
Parameters: As,Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
10:16	ZZZZZZ	1763	13211	2712	807
10:20	MP22524-MB1	1805	13206	2537	958
10:25	MP22524-B1	1753	12864	2524	847
10:29	MP22530-MB1	1846	13428	2654	978
10:33	MP22530-B1	1786	13270	2650	853
10:38	MA9694-CCV4	1757	13023	2592	815
10:42	MA9694-CCB4	1847	13395	2650	983
10:46	F91742-1	1715	12770	2662	809
10:51	MP22530-D1	1726	12825	2678	810
10:55	MP22530-SD1	1788	13159	2653	897
11:00	MP22530-S1	1715	12861	2661	777
11:04	MP22530-S2	1711	12833	2612	772
11:08	F91742-2	1678	12556	2608	789
11:13	ZZZZZZ	1723	12788	2656	839
11:17	ZZZZZZ	1716	12776	2628	833
11:22	ZZZZZZ	1697	12620	2624	811
11:26	MP22530-D2	1677	12540	2629	791
11:31	MA9694-CCV5	1759	13138	2626	813
11:35	MA9694-CCB5	1852	13416	2643	983
11:40	MP22530-MB2	1709	12710	2643	829
11:44	MP22530-B2	1716	12787	2637	790
11:49	MP22530-MB3	1738	12930	2668	842
11:53	MP22530-B3	1723	12768	2629	794
11:57	MP22531-MB1	1848	13520	2666	981
12:02	MP22531-B1	1780	13211	2617	854
12:06	F91771-1	1807	13279	2620	923
12:11	MP22531-D1	1803	13268	2642	924
12:15	MP22531-SD1	1858	13603	2704	971
12:19	MP22531-PS1	1804	13335	2622	890
12:24	MA9694-CCV6	1774	13135	2624	820
12:28	MA9694-CCB6	1864	13526	2690	988
12:32	MP22531-S1	1766	13130	2604	838
12:37	MP22531-S2	1765	13029	2596	835

INTERNAL STANDARD SUMMARY

Login Number: F91658
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA040512M1.ICP Date Analyzed: 04/05/12 Methods: SW846 6010C
Analyst: DM Run ID: MA9694
Parameters: As,Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
12:41	ZZZZZZ	1770	13101	2632	905
12:45	ZZZZZZ	1750	13030	2645	887
12:50	ZZZZZZ	1800	13317	2659	915
12:54	ZZZZZZ	1805	13259	2647	931
12:59	ZZZZZZ	1794	13253	2656	911
13:03	ZZZZZZ	1791	13194	2666	900
13:07	ZZZZZZ	1796	13203	2637	927
13:12	ZZZZZZ	1729	12881	2621	872
13:16	MA9694-CCV7	1758	12992	2625	821
13:20	MA9694-CCB7	1846	13266	2673	987
13:25	ZZZZZZ	1779	13143	2642	914
13:29	ZZZZZZ	1760	12966	2630	906
13:34	ZZZZZZ	1828	13278	2640	942
13:38	ZZZZZZ	1807	13221	2635	926
13:43	ZZZZZZ	2053	14887	2916	794
13:47	ZZZZZZ	1784	13108	2635	871
13:51	ZZZZZZ	1745	12986	2638	878
13:56	ZZZZZZ	1719	12826	2615	856
14:00	ZZZZZZ	1719	12806	2630	861
14:05	ZZZZZZ	1712	12697	2610	861
14:09	MA9694-CCV8	1754	13040	2631	819
14:13	MA9694-CCB8	1843	13389	2669	984
14:18	ZZZZZZ	1782	13048	2621	898
14:22	MP22532-MB1	1837	13309	2665	985
14:27	MP22532-B1	1770	13006	2638	857
14:31	F91663-1	1706	12621	2602	841
14:35	MP22532-D1	1701	12589	2610	841
14:40	MP22532-SD1	1798	13149	2661	927
14:44	MP22532-PS1	1701	12678	2593	825
14:48	MP22532-S1	1705	12638	2591	799
14:53	MP22532-S2	1699	12546	2585	803
14:57	ZZZZZZ	1734	12829	2631	888
15:01	MA9694-CCV9	1737	12830	2630	818

INTERNAL STANDARD SUMMARY

Login Number: F91658
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA040512M1.ICP Date Analyzed: 04/05/12 Methods: SW846 6010C
Analyst: DM Run ID: MA9694
Parameters: As,Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
15:05	MA9694-CCB9	1826	13104	2661	985
15:10	ZZZZZZ	1732	12694	2616	882
15:14	ZZZZZZ	1736	12826	2610	879
15:19	ZZZZZZ	1728	12768	2585	869
15:23	ZZZZZZ	1724	12723	2593	869
15:28	ZZZZZZ	1699	12579	2618	846
15:32	ZZZZZZ	1648	12297	2575	797
15:36	ZZZZZZ	1667	12357	2576	819
15:41	ZZZZZZ	1653	12372	2569	812
15:54	MA9694-CCV10	1732	12776	2579	814
15:58	MA9694-CCB10	1823	13160	2648	984
16:03	ZZZZZZ	1672	12490	2565	819
16:07	ZZZZZZ	1677	12515	2584	822
16:12	ZZZZZZ	1680	12537	2601	843
16:16	ZZZZZZ	1772	13106	2631	931
16:20	ZZZZZZ	1816	13236	2630	968
16:25	ZZZZZZ	1805	13115	2630	963
16:29	ZZZZZZ	1813	13108	2640	970
16:34	ZZZZZZ	1697	12620	2581	854
16:38	MP22535-MB1	1782	12951	2525	958
16:43	MP22535-B1	1734	12746	2557	855
16:47	MA9694-CCV11	1742	12874	2607	819
16:51	MA9694-CCB11	1829	13242	2647	982
16:55	F91812-1	2281	16666	3294	796
17:00	MP22535-D1	2462	17927	3573	818
17:04	MP22535-SD1	1941	14105	2801	908
17:09	MP22535-PS1	2278	16761	3312	787
17:13	MP22535-S1	2180	15949	3188	793
17:17	MP22535-S2	2430	17794	3574	766
17:21	ZZZZZZ	1886	14659	2910	778
17:25	ZZZZZZ	2060	15967	3134	803
17:30	ZZZZZZ	1865	14345	2779	805
17:34	ZZZZZZ	1845	13460	2572	965

INTERNAL STANDARD SUMMARY

Login Number: F91658
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA040512M1.ICP Date Analyzed: 04/05/12 Methods: SW846 6010C
Analyst: DM Run ID: MA9694
Parameters: As,Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
17:39	MA9694-CCV12	1764	13126	2613	823
17:43	MA9694-CCB12	1847	13496	2625	982
17:47	ZZZZZZ	1820	13256	2534	900
17:52	ZZZZZZ	1769	12995	2516	845
17:56	ZZZZZZ	1810	13273	2544	897
18:00	ZZZZZZ	1603	12215	2560	632
18:05	ZZZZZZ	2847 !	21623 !	4270 !	727
18:09	ZZZZZZ	2705 !	20612 !	3977 !	721
18:14	ZZZZZZ	2517 !	18971 !	3581 !	772
18:18	ZZZZZZ	1853	13998	2643	803
18:22	MP22538-MB1	1843	13615	2575	1011
18:27	MP22538-B1	1757	13197	2521	856
18:31	MA9694-CCV13	1714	12880	2456	808
18:35	MA9694-CCB13	1816	13304	2512	980
18:40	F91848-1	1785	13333	2546	938
18:44	MP22538-D1	1787	13222	2512	939
18:49	MP22538-SD1	1809	13379	2499	966
18:53	MP22538-PS1	1773	13274	2523	899
18:57	MP22538-S1	1745	13200	2497	835
19:02	MP22538-S2	1751	13111	2485	836
19:06	ZZZZZZ	1803	13419	2532	946
19:10	ZZZZZZ	1826	13653	2572	933
19:15	ZZZZZZ	1859	13829	2613	918
19:19	ZZZZZZ	1862	13889	2616	941
19:24	MA9694-CCV14	1718	13005	2456	803
19:28	MA9694-CCB14	1817	13423	2509	976
19:32	ZZZZZZ	1861	13856	2633	942
19:37	ZZZZZZ	1817	13550	2543	949
19:41	ZZZZZZ	1840	13662	2597	908
19:46	ZZZZZZ	1799	13226	2516	959
19:50	ZZZZZZ	1832	13514	2575	954
19:55	ZZZZZZ	1868	13886	2631	932
19:59	ZZZZZZ	1828	13462	2529	946

INTERNAL STANDARD SUMMARY

Login Number: F91658
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA040512M1.ICP Date Analyzed: 04/05/12 Methods: SW846 6010C
Analyst: DM Run ID: MA9694
Parameters: As,Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
20:04	ZZZZZZ	1793	13195	2530	938
20:08	ZZZZZZ	1797	13358	2517	941
20:13	ZZZZZZ	1950	14446	2680	950
20:17	MA9694-CCV15	1715	12854	2450	811
20:21	MA9694-CCB15	1813	13322	2494	977
20:26	ZZZZZZ	1887	14145	2648	899
20:30	ZZZZZZ	1706	12871	2475	876
20:35	MA9694-CRIA2	1785	13191	2513	924
20:39	MA9694-ICSA2	1546	11829	2280	688
20:43	MA9694-ICSAB2	1545	11787	2237	682
20:48	MA9694-CCV16	1717	12830	2375	811
20:52	MA9694-CCB16	1811	13310	2426	977

R = Reference for ISTD limits. ! = Outside limits.

LEGEND:

Istd#	Parameter	Limits
Istd#1	Yttrium (2243)	60-125 %
Istd#2	Yttrium (3600)	60-125 %
Istd#3	Yttrium (3710)	60-125 %
Istd#4	Indium	60-125 %

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F91658
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA040512M1.ICP Date Analyzed: 04/05/12 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA9694 Units: ug/l

Time:			07:24		07:58		08:57		09:49	
Sample ID:			ICB1		CCB1		CCB2		CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	20	anr							
Antimony	6.0	1	anr							
Arsenic	10	1	1.9	<10	0.80	<10	-0.40	<10	1.3	<10
Barium	200	1	anr							
Beryllium	4.0	.1	anr							
Cadmium	5.0	.1	anr							
Calcium	1000	50	anr							
Chromium	10	1	anr							
Cobalt	50	1								
Copper	25	1	anr							
Iron	300	34	anr							
Lead	5.0	1	0.70	<5.0	0.20	<5.0	0.0	<5.0	0.80	<5.0
Magnesium	5000	50	anr							
Manganese	15	1	anr							
Molybdenum	50	1	anr							
Nickel	40	1	anr							
Potassium	10000	50	anr							
Selenium	10	2	anr							
Silver	10	1	anr							
Sodium	10000	750	anr							
Strontium	10	1								
Thallium	10	1	anr							
Tin	50	1								
Titanium	10	1.1								
Vanadium	50	1								
Zinc	20	1	anr							

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F91658
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA040512M1.ICP Date Analyzed: 04/05/12 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA9694 Units: ug/l

Time:			10:42		11:35		12:28		13:20	
Sample ID:			CCB4		CCB5		CCB6		CCB7	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	20	anr							
Antimony	6.0	1	anr							
Arsenic	10	1	0.20	<10	0.70	<10	0.70	<10	0.30	<10
Barium	200	1	anr							
Beryllium	4.0	.1	anr							
Cadmium	5.0	.1	anr							
Calcium	1000	50	anr							
Chromium	10	1	anr							
Cobalt	50	1								
Copper	25	1	anr							
Iron	300	34	anr							
Lead	5.0	1	1.0	<5.0	1.1	<5.0	0.20	<5.0	0.20	<5.0
Magnesium	5000	50	anr							
Manganese	15	1	anr							
Molybdenum	50	1	anr							
Nickel	40	1	anr							
Potassium	10000	50	anr							
Selenium	10	2	anr							
Silver	10	1	anr							
Sodium	10000	750	anr							
Strontium	10	1								
Thallium	10	1	anr							
Tin	50	1								
Titanium	10	1.1								
Vanadium	50	1								
Zinc	20	1	anr							

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F91658
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA040512M1.ICP Date Analyzed: 04/05/12 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA9694 Units: ug/l

Time:			14:13		15:05		15:58		16:51	
Sample ID:			CCB8		CCB9		CCB10		CCB11	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	20	anr							
Antimony	6.0	1	anr							
Arsenic	10	1	-0.30	<10	0.50	<10	0.50	<10	1.2	<10
Barium	200	1	anr							
Beryllium	4.0	.1	anr							
Cadmium	5.0	.1	anr							
Calcium	1000	50	anr							
Chromium	10	1	anr							
Cobalt	50	1								
Copper	25	1	anr							
Iron	300	34	anr							
Lead	5.0	1	0.40	<5.0	0.40	<5.0	0.40	<5.0	0.60	<5.0
Magnesium	5000	50	anr							
Manganese	15	1	anr							
Molybdenum	50	1	anr							
Nickel	40	1	anr							
Potassium	10000	50	anr							
Selenium	10	2	anr							
Silver	10	1	anr							
Sodium	10000	750	anr							
Strontium	10	1								
Thallium	10	1	anr							
Tin	50	1								
Titanium	10	1.1								
Vanadium	50	1								
Zinc	20	1	anr							

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F91658
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA040512M1.ICP Date Analyzed: 04/05/12 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA9694 Units: ug/l

Time:			17:43		18:35		19:28		20:21	
Sample ID:			CCB12		CCB13		CCB14		CCB15	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	20	anr							
Antimony	6.0	1	anr							
Arsenic	10	1	0.80	<10	-0.30	<10	0.0	<10	-0.60	<10
Barium	200	1	anr							
Beryllium	4.0	.1	anr							
Cadmium	5.0	.1	anr							
Calcium	1000	50	anr							
Chromium	10	1	anr							
Cobalt	50	1								
Copper	25	1	anr							
Iron	300	34	anr							
Lead	5.0	1	0.90	<5.0	0.80	<5.0	0.20	<5.0	1.1	<5.0
Magnesium	5000	50	anr							
Manganese	15	1	anr							
Molybdenum	50	1	anr							
Nickel	40	1	anr							
Potassium	10000	50	anr							
Selenium	10	2	anr							
Silver	10	1	anr							
Sodium	10000	750	anr							
Strontium	10	1								
Thallium	10	1	anr							
Tin	50	1								
Titanium	10	1.1								
Vanadium	50	1								
Zinc	20	1	anr							

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F91658
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA040512M1.ICP Date Analyzed: 04/05/12 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA9694 Units: ug/l

Time:			20:52	
Sample ID:			CCB16	
Metal	RL	IDL	raw	final
Aluminum	200	20	anr	
Antimony	6.0	1	anr	
Arsenic	10	1	-0.20	<10
Barium	200	1	anr	
Beryllium	4.0	.1	anr	
Cadmium	5.0	.1	anr	
Calcium	1000	50	anr	
Chromium	10	1	anr	
Cobalt	50	1		
Copper	25	1	anr	
Iron	300	34	anr	
Lead	5.0	1	0.50	<5.0
Magnesium	5000	50	anr	
Manganese	15	1	anr	
Molybdenum	50	1	anr	
Nickel	40	1	anr	
Potassium	10000	50	anr	
Selenium	10	2	anr	
Silver	10	1	anr	
Sodium	10000	750	anr	
Strontium	10	1		
Thallium	10	1	anr	
Tin	50	1		
Titanium	10	1.1		
Vanadium	50	1		
Zinc	20	1	anr	

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F91658
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA040512M1.ICP Date Analyzed: 04/05/12 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA9694 Units: ug/l

Time:		07:19			07:53			08:53	
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	2000	1970	98.5	2000	1990	99.5	2000	1990	99.5
Barium	anr								
Beryllium	anr								
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt									
Copper	anr								
Iron	anr								
Lead	2000	1950	97.5	2000	1990	99.5	2000	1990	99.5
Magnesium	anr								
Manganese	anr								
Molybdenum	anr								
Nickel	anr								
Potassium	anr								
Selenium	anr								
Silver	anr								
Sodium	anr								
Strontium									
Thallium	anr								
Tin									
Titanium									
Vanadium									
Zinc	anr								

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F91658
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA040512M1.ICP Date Analyzed: 04/05/12 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA9694 Units: ug/l

Time:		09:45			10:38			11:31	
Sample ID:	CCV	CCV3		CCV	CCV4		CCV	CCV5	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	2000	1970	98.5	2000	1990	99.5	2000	1980	99.0
Barium	anr								
Beryllium	anr								
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt									
Copper	anr								
Iron	anr								
Lead	2000	1990	99.5	2000	2000	100.0	2000	1990	99.5
Magnesium	anr								
Manganese	anr								
Molybdenum	anr								
Nickel	anr								
Potassium	anr								
Selenium	anr								
Silver	anr								
Sodium	anr								
Strontium									
Thallium	anr								
Tin									
Titanium									
Vanadium									
Zinc	anr								

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F91658
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA040512M1.ICP Date Analyzed: 04/05/12 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA9694 Units: ug/l

Time:		12:24			13:16			14:09	
Sample ID:	CCV	CCV6		CCV	CCV7		CCV	CCV8	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	2000	1970	98.5	2000	1990	99.5	2000	1990	99.5
Barium	anr								
Beryllium	anr								
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt									
Copper	anr								
Iron	anr								
Lead	2000	1980	99.0	2000	1990	99.5	2000	1980	99.0
Magnesium	anr								
Manganese	anr								
Molybdenum	anr								
Nickel	anr								
Potassium	anr								
Selenium	anr								
Silver	anr								
Sodium	anr								
Strontium									
Thallium	anr								
Tin									
Titanium									
Vanadium									
Zinc	anr								

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F91658
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA040512M1.ICP Date Analyzed: 04/05/12 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA9694 Units: ug/l

Time:		15:01			15:54			16:47	
Sample ID:	CCV	CCV9		CCV	CCV10		CCV	CCV11	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	2000	2010	100.5	2000	2000	100.0	2000	2010	100.5
Barium	anr								
Beryllium	anr								
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt									
Copper	anr								
Iron	anr								
Lead	2000	1990	99.5	2000	1990	99.5	2000	1990	99.5
Magnesium	anr								
Manganese	anr								
Molybdenum	anr								
Nickel	anr								
Potassium	anr								
Selenium	anr								
Silver	anr								
Sodium	anr								
Strontium									
Thallium	anr								
Tin									
Titanium									
Vanadium									
Zinc	anr								

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F91658
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA040512M1.ICP Date Analyzed: 04/05/12 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA9694 Units: ug/l

Time:		17:39			18:31			19:24	
Sample ID:	CCV	CCV12		CCV	CCV13		CCV	CCV14	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	2000	2000	100.0	2000	2030	101.5	2000	2010	100.5
Barium	anr								
Beryllium	anr								
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt									
Copper	anr								
Iron	anr								
Lead	2000	1990	99.5	2000	1990	99.5	2000	1980	99.0
Magnesium	anr								
Manganese	anr								
Molybdenum	anr								
Nickel	anr								
Potassium	anr								
Selenium	anr								
Silver	anr								
Sodium	anr								
Strontium									
Thallium	anr								
Tin									
Titanium									
Vanadium									
Zinc	anr								

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F91658
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA040512M1.ICP Date Analyzed: 04/05/12 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA9694 Units: ug/l

Time:		20:17			20:48	
Sample ID:	CCV	CCV15		CCV	CCV16	
Metal	True	Results	% Rec	True	Results	% Rec
Aluminum	anr					
Antimony	anr					
Arsenic	2000	2020	101.0	2000	2020	101.0
Barium	anr					
Beryllium	anr					
Cadmium	anr					
Calcium	anr					
Chromium	anr					
Cobalt						
Copper	anr					
Iron	anr					
Lead	2000	1970	98.5	2000	1980	99.0
Magnesium	anr					
Manganese	anr					
Molybdenum	anr					
Nickel	anr					
Potassium	anr					
Selenium	anr					
Silver	anr					
Sodium	anr					
Strontium						
Thallium	anr					
Tin						
Titanium						
Vanadium						
Zinc	anr					

(*) Outside of QC limits
(anr) Analyte not requested

HIGH STANDARD CHECK SUMMARY

Login Number: F91658
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA040512M1.ICP Date Analyzed: 04/05/12 Methods: SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA9694 Units: ug/l

Time:		07:15	
Sample ID:	HSTD	HSTD1	
Metal	True	Results	% Rec
Aluminum	anr		
Antimony	anr		
Arsenic	4000	4000	100.0
Barium	anr		
Beryllium	anr		
Cadmium	anr		
Calcium	anr		
Chromium	anr		
Cobalt			
Copper	anr		
Iron	anr		
Lead	4000	4010	100.3
Magnesium	anr		
Manganese	anr		
Molybdenum	anr		
Nickel	anr		
Potassium	anr		
Selenium	anr		
Silver	anr		
Sodium	anr		
Strontium			
Thallium	anr		
Tin			
Titanium			
Vanadium			
Zinc	anr		

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: F91658
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA040512M1.ICP Date Analyzed: 04/05/12 Methods: SW846 6010C
QC Limits: CRI 70-130% CRIA 70-130% Run ID: MA9694 Units: ug/l

Time:			07:28		20:35	
Sample ID:	CRI	CRIA	CRIA1		CRIA2	
Metal	True	True	Results	% Rec	Results	% Rec
Aluminum	400	200	anr			
Antimony	10	5.0	anr			
Arsenic	20	10	10.5	105.0	10.4	104.0
Barium	400	200	anr			
Beryllium	10	5.0	anr			
Cadmium	10	5.0	anr			
Calcium	2000	1000	anr			
Chromium	20	10	anr			
Cobalt	100	50				
Copper	50	25	anr			
Iron	600	300	anr			
Lead	10	5.0	5.3	106.0	5.2	104.0
Magnesium	10000	5000	anr			
Manganese	30	15	anr			
Molybdenum	100	50	anr			
Nickel	80	40	anr			
Potassium	20000	10000	anr			
Selenium	20	10	anr			
Silver	20	10	anr			
Sodium	20000	10000	anr			
Strontium	20	10				
Thallium	20	10	anr			
Tin	100	50				
Titanium	20	10				
Vanadium	100	50				
Zinc	40	20	anr			

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: F91658
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA040512M1.ICP Date Analyzed: 04/05/12 Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery Run ID: MA9694 Units: ug/l

Time:			07:36		07:48		20:39		20:43	
Sample ID:	ICSA	ICSAB	ICSA1		ICSAB1		ICSA2		ICSAB2	
Metal	True	True	Results	% Rec	Results	% Rec	Results	% Rec	Results	% Rec
Aluminum	500000	500000	505000	101.0	497000	99.4	510000	102.0	513000	102.6
Antimony		1000	-0.80		997	99.7	-1.8		1000	100.0
Arsenic		1000	0.0		1000	100.0	-2.4		1010	101.0
Barium		500	0.70		536	107.2	0.80		557	111.4
Beryllium		500	-0.10		500	100.0	-0.10		481	96.2
Cadmium		1000	0.0		945	94.5	3.0		930	93.0
Calcium	500000	500000	489000	97.8	495000	99.0	460000	92.0	454000	90.8
Chromium		500	0.70		511	102.2	0.20		492	98.4
Cobalt		500	0.10		468	93.6	-0.10		457	91.4
Copper		500	0.0		557	111.4	-1.3		554	110.8
Iron	200000	200000	196000	98.0	196000	98.0	175000	87.5	175000	87.5
Lead		1000	0.0		950	95.0	5.6		933	93.3
Magnesium	500000	500000	532000	106.4	531000	106.2	492000	98.4	487000	97.4
Manganese		500	-0.20		503	100.6	-0.30		480	96.0
Molybdenum		1000	0.0		938	93.8	-0.10		926	92.6
Nickel		1000	0.0		916	91.6	0.30		900	90.0
Potassium			15.0		-59		50.6		19.8	
Selenium		1000	0.0		1000	100.0	3.7		1010	101.0
Silver		1000	0.80		1070	107.0	0.20		1030	103.0
Sodium			68.3		63.7		89.0		93.1	
Strontium		1000	0.30		1010	101.0	0.60		1050	105.0
Thallium		1000	-0.20		936	93.6	0.70		918	91.8
Tin		1000	1.8		853	85.3	1.4		838	83.8
Titanium		1000	1.0		982	98.2	0.90		960	96.0
Vanadium		500	0.0		490	98.0	0.70		483	96.6
Zinc		1000	-0.30		911	91.1	-0.50		885	88.5

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: F91658
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

QC Batch ID: MP22524
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 04/03/12

Metal	RL	IDL	MDL	MB raw	final
Aluminum	10	1	1.2		
Antimony	1.0	.05	.1		
Arsenic	0.50	.05	.1	-0.090	<0.50
Barium	10	.05	.5		
Beryllium	0.25	.005	.05		
Cadmium	0.20	.005	.05		
Calcium	250	2.5	5		
Chromium	0.50	.05	.05		
Cobalt	2.5	.05	.05		
Copper	1.3	.05	.1		
Iron	15	1.7	1.7		
Lead	1.0	.05	.05	0.015	<1.0
Magnesium	250	2.5	5		
Manganese	0.75	.05	.05		
Molybdenum	2.5	.05	.05		
Nickel	2.0	.05	.05		
Potassium	500	2.5	25		
Selenium	1.0	.1	.2		
Silver	0.50	.05	.05		
Sodium	500	38	55		
Strontium	0.50	.05	.05		
Thallium	0.50	.05	.13		
Tin	2.5	.05	.05		
Titanium	0.50	.055	.1		
Vanadium	2.5	.05	.05		
Zinc	1.0	.05	.25		

Associated samples MP22524: F91658-1, F91658-2, F91658-3, F91658-4, F91658-5, F91658-6, F91658-7, F91658-9

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F91658
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

QC Batch ID: MP22524
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Metal	F91658-6 Original	DUP	RPD	QC Limits	F91658-6 Original	MS	Spikelot MPFLICP1	% Rec	QC Limits
Prep Date:			04/03/12					04/03/12	
Aluminum									
Antimony									
Arsenic	0.0	0.0 (a)	NC	0-20	0.0	125 (a)	122	102.8	80-120
Barium	anr								
Beryllium									
Cadmium	anr								
Calcium									
Chromium	anr								
Cobalt									
Copper									
Iron									
Lead	9.5	8.2 (a)	14.7	0-20	9.5	37.6 (a)	30.4	92.4	80-120
Magnesium									
Manganese									
Molybdenum									
Nickel									
Potassium									
Selenium	anr								
Silver	anr								
Sodium									
Strontium									
Thallium									
Tin									
Titanium									
Vanadium									
Zinc									

Associated samples MP22524: F91658-1, F91658-2, F91658-3, F91658-4, F91658-5, F91658-6, F91658-7, F91658-9

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Elevated reporting limit(s) due to matrix interference.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F91658
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

QC Batch ID: MP22524
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date:					04/03/12				04/03/12	
Metal	F91658-6 Original	MSD	Spikelot MPFLICP1	% Rec	MSD RPD	QC Limit	F91658-9 Original	DUP	RPD	QC Limits
Aluminum										
Antimony										
Arsenic	0.0	124 (a)	122	101.9	0.8	20	0.0	0.0	NC	0-20
Barium	anr									
Beryllium										
Cadmium	anr									
Calcium										
Chromium	anr									
Cobalt										
Copper										
Iron										
Lead	9.5	38.6 (a)	30.4	95.7	2.6	20	10.3	9.7	6.0	0-20
Magnesium										
Manganese										
Molybdenum										
Nickel										
Potassium										
Selenium	anr									
Silver	anr									
Sodium										
Strontium										
Thallium										
Tin										
Titanium										
Vanadium										
Zinc										

Associated samples MP22524: F91658-1, F91658-2, F91658-3, F91658-4, F91658-5, F91658-6, F91658-7, F91658-9

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Elevated reporting limit(s) due to matrix interference.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F91658
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

QC Batch ID: MP22524
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 04/03/12

Metal	F91658-9 Original	MS	Spikelot MPFLICP1	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	0.0	119	115	103.3	80-120
Barium	anr				
Beryllium					
Cadmium	anr				
Calcium					
Chromium	anr				
Cobalt					
Copper					
Iron					
Lead	10.3	39.7	28.8	102.1	80-120
Magnesium					
Manganese					
Molybdenum					
Nickel					
Potassium					
Selenium	anr				
Silver	anr				
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Vanadium					
Zinc					

Associated samples MP22524: F91658-1, F91658-2, F91658-3, F91658-4, F91658-5, F91658-6, F91658-7, F91658-9

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F91658
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

QC Batch ID: MP22524
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 04/03/12

Metal	F91658-9 Original	MSD	Spikelot MPFLICP1	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	0.0	85.4	82.5	103.5	32.9 (a)	20
Barium	anr					
Beryllium						
Cadmium	anr					
Calcium						
Chromium	anr					
Cobalt						
Copper						
Iron						
Lead	10.3	29.6	20.6	93.6	29.1 (a)	20
Magnesium						
Manganese						
Molybdenum						
Nickel						
Potassium						
Selenium	anr					
Silver	anr					
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Vanadium						
Zinc						

Associated samples MP22524: F91658-1, F91658-2, F91658-3, F91658-4, F91658-5, F91658-6, F91658-7, F91658-9

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) High RPD due to possible sample nonhomogeneity.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: F91658
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

QC Batch ID: MP22524
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 04/03/12

Metal	BSP Result	Spikelot MPFLICP1	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	90.7	100	90.7	80-120
Barium	anr			
Beryllium				
Cadmium	anr			
Calcium				
Chromium	anr			
Cobalt				
Copper				
Iron				
Lead	22.1	25	88.4	80-120
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium	anr			
Silver	anr			
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP22524: F91658-1, F91658-2, F91658-3, F91658-4, F91658-5, F91658-6, F91658-7, F91658-9

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: F91658
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

QC Batch ID: MP22524
Matrix Type: SOLID

Methods: SW846 6010C
Units: ug/l

Prep Date:			04/03/12				04/03/12	
Metal	F91658-6 Original	SDL 20:100%DIF		QC Limits	F91658-9 Original	SDL 10:50%DIF		QC Limits
Aluminum								
Antimony								
Arsenic	0.00	0.00	NC	0-10	0.00	0.00	NC	0-10
Barium	anr							
Beryllium								
Cadmium	anr							
Calcium								
Chromium	anr							
Cobalt								
Copper								
Iron								
Lead	190	137	28.0 (a)	0-10	190	156	17.9 (a)	0-10
Magnesium								
Manganese								
Molybdenum								
Nickel								
Potassium								
Selenium	anr							
Silver	anr							
Sodium								
Strontium								
Thallium								
Tin								
Titanium								
Vanadium								
Zinc								

Associated samples MP22524: F91658-1, F91658-2, F91658-3, F91658-4, F91658-5, F91658-6, F91658-7, F91658-9

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

POST DIGESTATE SPIKE SUMMARY

Login Number: F91658
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

QC Batch ID: MP22524
Matrix Type: SOLID

Methods: SW846 6010C
Units: ug/l

Prep Date: 04/03/12

Metal	Sample ml	Final ml	F91658-6 Raw	Corr.**	PS ug/l	Spike ml	Spike ug/ml	Spike ug/l	% Rec	QC Limits
Aluminum										
Antimony										
Arsenic	9.8	10	0	0	117.5	0.2	5	100	117.5	80-120
Barium										
Beryllium										
Cadmium										
Calcium										
Chromium										
Cobalt										
Copper										
Iron										
Lead	9.8	10	189.6	185.808	246.4	0.2	2.5	50	121.2*(a	80-120
Magnesium										
Manganese										
Molybdenum										
Nickel										
Potassium										
Selenium										
Silver										
Sodium										
Strontium										
Thallium										
Tin										
Titanium										
Vanadium										
Zinc										

Associated samples MP22524: F91658-1, F91658-2, F91658-3, F91658-4, F91658-5, F91658-6, F91658-7, F91658-9

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested
(a) Spike recovery indicates matrix interference and/or outside control limits due to high level in sample relative to spike amount.

POST DIGESTATE SPIKE SUMMARY

Login Number: F91658
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

QC Batch ID: MP22524
Matrix Type: SOLID

Methods: SW846 6010C
Units: ug/l

Prep Date: 04/03/12

Metal	Sample ml	Final ml	F91658-9 Raw	Corr.**	PS ug/l	Spike ml	Spike ug/ml	Spike ug/l	% Rec	QC Limits
Aluminum										
Antimony										
Arsenic	9.8	10	0	0	118.5	0.2	5	100	118.5	80-120
Barium										
Beryllium										
Cadmium										
Calcium										
Chromium										
Cobalt										
Copper										
Iron										
Lead	9.8	10	190.3	186.494	252.9	0.2	2.5	50	132.8*(a	80-120
Magnesium										
Manganese										
Molybdenum										
Nickel										
Potassium										
Selenium										
Silver										
Sodium										
Strontium										
Thallium										
Tin										
Titanium										
Vanadium										
Zinc										

Associated samples MP22524: F91658-1, F91658-2, F91658-3, F91658-4, F91658-5, F91658-6, F91658-7, F91658-9

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested
(a) Spike recovery indicates matrix interference and/or outside control limits due to high level in sample relative to spike amount.

Southeast ACCUTEST LABORATORIES

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Percent Solids Raw Data Summary

Percent Solids Raw Data Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: F91658-1 **Analyzed:** 03-APR-12 by AA **Method:** SM19 2540G
ClientID: SS39-OXD-FL02

Wet Weight (Total)	7.05	g
Tare Weight	.95	g
Dry Weight (Total)	6.32	g
Solids, Percent	88	%

Sample: F91658-2 **Analyzed:** 03-APR-12 by AA **Method:** SM19 2540G
ClientID: SS39-OXD-SW03

Wet Weight (Total)	7.75	g
Tare Weight	1.03	g
Dry Weight (Total)	6.9	g
Solids, Percent	87.4	%

Sample: F91658-3 **Analyzed:** 03-APR-12 by AA **Method:** SM19 2540G
ClientID: SS39-OXD-SW01

Wet Weight (Total)	7.39	g
Tare Weight	1.01	g
Dry Weight (Total)	6.65	g
Solids, Percent	88.4	%

Sample: F91658-4 **Analyzed:** 03-APR-12 by AA **Method:** SM19 2540G
ClientID: SS39-PDB-FL02

Wet Weight (Total)	7.49	g
Tare Weight	.97	g
Dry Weight (Total)	6.6	g
Solids, Percent	86.3	%

Sample: F91658-5 **Analyzed:** 03-APR-12 by AA **Method:** SM19 2540G
ClientID: SS39-PDB-SW01A

Wet Weight (Total)	7.27	g
Tare Weight	1.01	g
Dry Weight (Total)	6.3	g
Solids, Percent	84.5	%

Sample: F91658-6 **Analyzed:** 03-APR-12 by AA **Method:** SM19 2540G
ClientID: SS39-PDB-SW01B

Wet Weight (Total)	7.44	g
Tare Weight	.97	g
Dry Weight (Total)	6.29	g
Solids, Percent	82.2	%

Percent Solids Raw Data Summary

Job Number: F91658
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: F91658-7 **Analyzed:** 03-APR-12 by AA **Method:** SM19 2540G
ClientID: SS39-FD01-032912

Wet Weight (Total)	7.09	g
Tare Weight	1.04	g
Dry Weight (Total)	6.02	g
Solids, Percent	82.3	%

Sample: F91658-9 **Analyzed:** 03-APR-12 by AA **Method:** SM19 2540G
ClientID: SS39-PDB-SW01B-032912

Wet Weight (Total)	7.16	g
Tare Weight	.98	g
Dry Weight (Total)	6.04	g
Solids, Percent	81.9	%

Southeast
ACCUTEST LABORATORIES

04/13/12

Technical Report for

Tetra Tech, Inc

Holloman AFB; Alamogordo, NM

Accutest Job Number: F91720

Sampling Date: 03/29/12

Report to:

Tetra Tech
800 Oak Ridge Tpk Suite A600
Oak Ridge, TN 37830
Purshotam.Juriasingani@tetratech.com

ATTN: Purshotam Juriasingani

Total number of pages in report: **163**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Harry Behzadi, Ph.D.
Laboratory Director

Client Service contact: Sue Bell 407-425-6700

Certifications: FL (E83510), LA (03051), KS (E-10327), IA (366), IL (200063), NC (573), NJ (FL002), SC (96038001) DoD ELAP (L-A-B L2229), CA (04226CA), TX (T104704404), AK, AR, GA, KY, MA, NV, OK, UT, VA, WA, WI

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Accutest Laboratories

Sample Summary

Tetra Tech, Inc

Holloman AFB; Alamogordo, NM

Job No: F91720

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
F91720-1	03/29/12	10:45	AJ	03/31/12	SO	Soil	SS39-RB01-032912
F91720-1L	03/29/12	10:45	AJ	03/31/12	SO	Soil	SS39-RB01-032912
F91720-2	03/29/12	10:55	AJ	03/31/12	SO	Soil	SS39-RB03-032912
F91720-2L	03/29/12	10:55	AJ	03/31/12	SO	Soil	SS39-RB03-032912
F91720-3	03/29/12	11:05	AJ	03/31/12	SO	Soil	SS39-RB04-032912
F91720-3L	03/29/12	11:05	AJ	03/31/12	SO	Soil	SS39-RB04-032912
F91720-4	03/29/12	11:25	AJ	03/31/12	SO	Soil	SS39-RB02-032912
F91720-4L	03/29/12	11:25	AJ	03/31/12	SO	Soil	SS39-RB02-032912
F91720-5	03/29/12	19:30	AJ	03/31/12	SO	Trip Blank Soil	SS39-TB03-032912

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Tetra Tech, Inc **Job** F91720

Site: Holloman AFB; Alamogordo, NM **Report Date** 4/13/2012 8:58:31 AM

4 Samples and 1 Trip Blank were collected on 03/29/2012 and were received at Accutest SE on 03/31/2012 properly preserved, at 3.8 Deg. C and intact. These Samples received an Accutest job number of F91720. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GCMS By Method SW846 8260B

Matrix: LEACHATE **Batch ID:** VJ3916

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) F91750-1MS, F91750-1MSD, F91880-1LDUP were used as the QC samples indicated.

RPD(s) for Duplicate for 1,1-Dichloroethylene, Vinyl chloride are outside control limits for sample F91880-1LDUP. RPD is acceptable due to low sample and duplicate concentrations.

Extractables by GCMS By Method SW846 8270D

Matrix: LEACHATE **Batch ID:** OP41343

All samples were prepped within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) F91720-1LDUP, F91880-1LMS, F91880-1LMSD were used as the QC samples indicated.

Volatiles by GC By Method SW846 8015C

Matrix: SO **Batch ID:** GQR2921

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) F91720-1MS, F91720-1MSD were used as the QC samples indicated.

Matrix Spike Recovery(s)/ Matrix Spike Duplicate Recovery(s) for TPH-GRO (C6-C10) are outside control limits. Probable cause is due to matrix interference. For method performance in a clean matrix, refer to Blank Spike.

Matrix: SO **Batch ID:** GUV2919

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) F91707-7MS, F91707-7MSD were used as the QC samples indicated.

Matrix Spike Recovery(s)/ Matrix Spike Duplicate Recovery(s) for TPH-GRO (C6-C10) are outside control limits. Probable cause is due to matrix interference. For method performance in a clean matrix, refer to Blank Spike.

Extractables by GC By Method SW846 8015C

Matrix: SO **Batch ID:** OP41221

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) F91658-9MS, F91658-9MSD were used as the QC samples indicated.

Sample(s) F91720-2 has surrogates outside control limits. Probable cause is due to matrix interference.

F91720-1 for TPH (C10-C28): Petroleum hydrocarbon pattern extends beyond C28.

F91720-2: Confirmation Run.

Extractables by GC By Method SW846 8015C

Matrix: SO **Batch ID:** OP41221

F91720-2: Dilution required due to matrix interference; extract was viscous.

F91720-2 for o-Terphenyl: Outside control limits due to matrix interference. Confirmed by re-analysis.

F91720-2 for TPH (C10-C28): Petroleum hydrocarbon pattern extends beyond C28.

F91720-3 for TPH (C10-C28): Petroleum hydrocarbon pattern extends beyond C28.

F91720-4 for TPH (C10-C28): Petroleum hydrocarbon pattern extends beyond C28.

Metals By Method SW846 6010C

Matrix: LEACHATE **Batch ID:** MP22563

All samples were digested within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) F91720-1LDUP, F91720-1LMS, F91720-1LMSD, F91720-1LSDL were used as the QC samples for metals.

RPD(s) for Serial Dilution for Chromium are outside control limits for sample MP22563-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

Metals By Method SW846 7470A

Matrix: LEACHATE **Batch ID:** MP22568

All samples were digested within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) F91750-1DUP, F91750-1MS, F91750-1MSD, F91750-1SDL were used as the QC samples for metals.

Wet Chemistry By Method SM19 2540G

Matrix: SO **Batch ID:** GN49176

Sample F91658-6DUP was used as the QC sample for Solids, Percent.

Wet Chemistry By Method SW846 1010

Matrix: SO **Batch ID:** GN49193

Sample(s) F91656-1DUP was used as the QC samples for Ignitability (Flashpoint).

F91720-1, F91720-2, F91720-3, F91720-4 for Ignitability (Flashpoint): Not ignitable

Wet Chemistry By Method SW846 CHAP7

Matrix: SO **Batch ID:** GP18997

All samples were prepped within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) F91720-3DUP was used as the QC samples for Sulfide Reactivity.

RPD(s) for Duplicate for Sulfide Reactivity are outside control limits for sample GP18997-D1. RPD acceptable due to low duplicate and sample concentrations.

Matrix: SO **Batch ID:** GP18998

All samples were prepped within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

F91720-3DUP was used as the QC sample for Cyanide Reactivity.

Accutest Laboratories Southeast (ALSE) certifies that this report meets the project requirements for analytical data produced for the samples as received at ALSE and as stated on the COC. ALSE certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the ALSE Quality Manual except as noted above. This report is to be used in its entirety. ALSE is not responsible for any assumptions of data quality if partial data packages are used.

Narrative prepared by:

_____ Date: April 13, 2012

Kim Benham, Client Services (signature on file)

Southeast ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	SS39-RB01-032912		
Lab Sample ID:	F91720-1	**Date Sampled:**	03/29/12
Matrix:	SO - Soil	**Date Received:**	03/31/12
Method:	SW846 8015C	**Percent Solids:**	84.2
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR067338.D	1	04/05/12	CP	n/a	n/a	GQR2921
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.13 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	22.7	8.1	4.1	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	103%		56-136%
98-08-8	aaa-Trifluorotoluene	87%		61-121%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-RB01-032912		
Lab Sample ID:	F91720-1	**Date Sampled:**	03/29/12
Matrix:	SO - Soil	**Date Received:**	03/31/12
Method:	SW846 8015C SW846 3550C	**Percent Solids:**	84.2
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	YY28753.D	1	04/03/12	SJL	04/03/12	OP41221	GYY1061
Run #2							

	Initial Weight	Final Volume
Run #1	30.3 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28) [a]	156	9.8	3.9	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	81%		49-108%

(a) Petroleum hydrocarbon pattern extends beyond C28.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-RB01-032912		
Lab Sample ID:	F91720-1	**Date Sampled:**	03/29/12
Matrix:	SO - Soil	**Date Received:**	03/31/12
		Percent Solids:	84.2
Project:	Holloman AFB; Alamogordo, NM		

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Corrosivity as pH	6.6			su	1	04/02/12 14:00	AA	SW846 CHAP7
Cyanide Reactivity	2.7 U	5.4	2.7	mg/kg	1	04/10/12	LE	SW846 CHAP7
Ignitability (Flashpoint) [a]	> 200			Deg. F	1	04/04/12	VK	SW846 1010
Solids, Percent	84.2			%	1	04/03/12	AA	SM19 2540G
Sulfide Reactivity	180 U	180	180	mg/kg	1	04/10/12	LE	SW846 CHAP7

(a) Not ignitable

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	SS39-RB01-032912		
Lab Sample ID:	F91720-1L	**Date Sampled:**	03/29/12
Matrix:	SO - Soil	**Date Received:**	03/31/12
Method:	SW846 8260B SW846 1311	**Percent Solids:**	84.2
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J073859.D	10	04/10/12	MM	04/09/12	OP41317	VJ3916
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCLP List **TCLP Leachate method SW846 1311**

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
71-43-2	Benzene	ND	D018	0.50	0.010	0.0020	mg/l	
108-90-7	Chlorobenzene	ND	D021	100	0.010	0.0020	mg/l	
67-66-3	Chloroform	ND	D022	6.0	0.010	0.0022	mg/l	
56-23-5	Carbon tetrachloride	ND	D019	0.50	0.010	0.0025	mg/l	
75-35-4	1,1-Dichloroethylene	ND	D029	0.70	0.010	0.0023	mg/l	
107-06-2	1,2-Dichloroethane	ND	D028	0.50	0.010	0.0020	mg/l	
106-46-7	p-Dichlorobenzene	ND	D027	7.5	0.010	0.0023	mg/l	
78-93-3	Methyl ethyl ketone	ND	D035	200	0.050	0.020	mg/l	
127-18-4	Tetrachloroethylene	0.0036	D039	0.70	0.010	0.0025	mg/l	J
79-01-6	Trichloroethylene	ND	D040	0.50	0.010	0.0026	mg/l	
75-01-4	Vinyl chloride	ND	D043	0.20	0.010	0.0022	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		87-116%
17060-07-0	1,2-Dichloroethane-D4	103%		76-127%
2037-26-5	Toluene-D8	97%		86-112%
460-00-4	4-Bromofluorobenzene	97%		84-120%

ND = Not detected MDL - Method Detection Limit
MCL = Maximum Contamination Level (40 CFR 261 6/96)
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-RB01-032912		
Lab Sample ID:	F91720-1L	**Date Sampled:**	03/29/12
Matrix:	SO - Soil	**Date Received:**	03/31/12
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	84.2
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L056744.D	1	04/11/12	NAF	04/11/12	OP41343	SL2892
Run #2							

	Initial Volume	Final Volume
Run #1	100 ml	1.0 ml
Run #2		

ABN TCLP List **TCLP Leachate method SW846 1311**

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
95-48-7	2-Methylphenol	ND	D023	200	0.050	0.0054	mg/l	
	3&4-Methylphenol	ND	D024	200	0.050	0.011	mg/l	
87-86-5	Pentachlorophenol	ND	D037	100	0.25	0.054	mg/l	
95-95-4	2,4,5-Trichlorophenol	ND	D041	400	0.050	0.0050	mg/l	
88-06-2	2,4,6-Trichlorophenol	ND	D042	2.0	0.050	0.0050	mg/l	
106-46-7	1,4-Dichlorobenzene	ND	D027	7.5	0.050	0.010	mg/l	
121-14-2	2,4-Dinitrotoluene	ND	D030	0.13	0.050	0.0050	mg/l	
118-74-1	Hexachlorobenzene	ND	D032	0.13	0.050	0.0056	mg/l	
87-68-3	Hexachlorobutadiene	ND	D033	0.50	0.050	0.010	mg/l	
67-72-1	Hexachloroethane	ND	D034	3.0	0.050	0.010	mg/l	
98-95-3	Nitrobenzene	ND	D036	2.0	0.050	0.0059	mg/l	
110-86-1	Pyridine	ND	D038	5.0	0.10	0.016	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	42%		14-62%
4165-62-2	Phenol-d5	30%		10-40%
118-79-6	2,4,6-Tribromophenol	77%		33-118%
4165-60-0	Nitrobenzene-d5	69%		42-108%
321-60-8	2-Fluorobiphenyl	68%		40-106%
1718-51-0	Terphenyl-d14	82%		39-121%

ND = Not detected MDL - Method Detection Limit
MCL = Maximum Contamination Level (40 CFR 261 6/96)
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-RB01-032912		
Lab Sample ID:	F91720-1L	**Date Sampled:**	03/29/12
Matrix:	SO - Soil	**Date Received:**	03/31/12
		Percent Solids:	84.2
Project:	Holloman AFB; Alamogordo, NM		

Metals Analysis, TCLP Leachate SW846 1311

Analyte	Result	HW#	MCL	RL	MDL	Units	DF	Prep	Analyzed	By	Method
Arsenic	0.020 U	D004	5.0	0.50	0.020	mg/l	1	04/10/12	04/10/12	LM	SW846 6010C [1]
Barium	0.12 B	D005	100	10	0.050	mg/l	1	04/10/12	04/10/12	LM	SW846 6010C [1]
Cadmium	0.094	D006	1.0	0.050	0.010	mg/l	1	04/10/12	04/10/12	LM	SW846 6010C [1]
Chromium	0.015 B	D007	5.0	0.10	0.010	mg/l	1	04/10/12	04/10/12	LM	SW846 6010C [1]
Lead	0.010 U	D008	5.0	0.50	0.010	mg/l	1	04/10/12	04/10/12	LM	SW846 6010C [1]
Mercury	0.00050 U	D009	0.20	0.010	0.00050	mg/l	1	04/11/12	04/11/12	JL	SW846 7470A [2]
Selenium	0.020 U	D010	1.0	0.50	0.020	mg/l	1	04/10/12	04/10/12	LM	SW846 6010C [1]
Silver	0.010 U	D011	5.0	0.10	0.010	mg/l	1	04/10/12	04/10/12	LM	SW846 6010C [1]

(1) Instrument QC Batch: MA9705
(2) Instrument QC Batch: MA9706
(3) Prep QC Batch: MP22563
(4) Prep QC Batch: MP22568

RL = Reporting Limit MDL = Method Detection Limit U = Indicates a result < MDL
MCL = Maximum Contamination Level (40 CFR 261 6/96) B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	SS39-RB03-032912		
Lab Sample ID:	F91720-2	**Date Sampled:**	03/29/12
Matrix:	SO - Soil	**Date Received:**	03/31/12
Method:	SW846 8015C	**Percent Solids:**	73.9
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	UV052209.D	1	04/03/12	CP	n/a	n/a	GUV2919
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.04 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	10	5.1	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	115%		56-136%
98-08-8	aaa-Trifluorotoluene	115%		61-121%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-RB03-032912		
Lab Sample ID:	F91720-2	**Date Sampled:**	03/29/12
Matrix:	SO - Soil	**Date Received:**	03/31/12
Method:	SW846 8015C SW846 3550C	**Percent Solids:**	73.9
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	YY28754.D	1	04/03/12	SJL	04/03/12	OP41221	GYY1061
Run #2 [b]	YY28755.D	5	04/03/12	SJL	04/03/12	OP41221	GYY1061

	Initial Weight	Final Volume
Run #1	30.0 g	5.0 ml
Run #2	30.0 g	5.0 ml

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28) [c]	123	56	23	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	123% [d]	109%	49-108%

(a) Dilution required due to matrix interference; extract was viscous.
(b) Confirmation Run.
(c) Petroleum hydrocarbon pattern extends beyond C28.
(d) Outside control limits due to matrix interference. Confirmed by reanalysis.

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-RB03-032912		
Lab Sample ID:	F91720-2	**Date Sampled:**	03/29/12
Matrix:	SO - Soil	**Date Received:**	03/31/12
		Percent Solids:	73.9
Project:	Holloman AFB; Alamogordo, NM		

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Corrosivity as pH	6.7			su	1	04/02/12 14:00	AA	SW846 CHAP7
Cyanide Reactivity	1.0 U	2.0	1.0	mg/kg	1	04/10/12	LE	SW846 CHAP7
Ignitability (Flashpoint) [a]	> 200			Deg. F	1	04/04/12	VK	SW846 1010
Solids, Percent	73.9			%	1	04/03/12	AA	SM19 2540G
Sulfide Reactivity	66 U	66	66	mg/kg	1	04/10/12	LE	SW846 CHAP7

(a) Not ignitable

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	SS39-RB03-032912		
Lab Sample ID:	F91720-2L	**Date Sampled:**	03/29/12
Matrix:	SO - Soil	**Date Received:**	03/31/12
Method:	SW846 8260B SW846 1311	**Percent Solids:**	73.9
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J073860.D	10	04/10/12	MM	04/09/12	OP41317	VJ3916
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCLP List **TCLP Leachate method SW846 1311**

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
71-43-2	Benzene	ND	D018	0.50	0.010	0.0020	mg/l	
108-90-7	Chlorobenzene	ND	D021	100	0.010	0.0020	mg/l	
67-66-3	Chloroform	ND	D022	6.0	0.010	0.0022	mg/l	
56-23-5	Carbon tetrachloride	ND	D019	0.50	0.010	0.0025	mg/l	
75-35-4	1,1-Dichloroethylene	ND	D029	0.70	0.010	0.0023	mg/l	
107-06-2	1,2-Dichloroethane	ND	D028	0.50	0.010	0.0020	mg/l	
106-46-7	p-Dichlorobenzene	ND	D027	7.5	0.010	0.0023	mg/l	
78-93-3	Methyl ethyl ketone	ND	D035	200	0.050	0.020	mg/l	
127-18-4	Tetrachloroethylene	ND	D039	0.70	0.010	0.0025	mg/l	
79-01-6	Trichloroethylene	ND	D040	0.50	0.010	0.0026	mg/l	
75-01-4	Vinyl chloride	ND	D043	0.20	0.010	0.0022	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		87-116%
17060-07-0	1,2-Dichloroethane-D4	105%		76-127%
2037-26-5	Toluene-D8	98%		86-112%
460-00-4	4-Bromofluorobenzene	97%		84-120%

ND = Not detected MDL - Method Detection Limit
MCL = Maximum Contamination Level (40 CFR 261 6/96)
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-RB03-032912		
Lab Sample ID:	F91720-2L	**Date Sampled:**	03/29/12
Matrix:	SO - Soil	**Date Received:**	03/31/12
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	73.9
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L056746.D	1	04/11/12	NAF	04/11/12	OP41343	SL2892
Run #2							

	Initial Volume	Final Volume
Run #1	100 ml	1.0 ml
Run #2		

ABN TCLP List **TCLP Leachate method SW846 1311**

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
95-48-7	2-Methylphenol	ND	D023	200	0.050	0.0054	mg/l	
	3&4-Methylphenol	ND	D024	200	0.050	0.011	mg/l	
87-86-5	Pentachlorophenol	ND	D037	100	0.25	0.054	mg/l	
95-95-4	2,4,5-Trichlorophenol	ND	D041	400	0.050	0.0050	mg/l	
88-06-2	2,4,6-Trichlorophenol	ND	D042	2.0	0.050	0.0050	mg/l	
106-46-7	1,4-Dichlorobenzene	ND	D027	7.5	0.050	0.010	mg/l	
121-14-2	2,4-Dinitrotoluene	ND	D030	0.13	0.050	0.0050	mg/l	
118-74-1	Hexachlorobenzene	ND	D032	0.13	0.050	0.0056	mg/l	
87-68-3	Hexachlorobutadiene	ND	D033	0.50	0.050	0.010	mg/l	
67-72-1	Hexachloroethane	ND	D034	3.0	0.050	0.010	mg/l	
98-95-3	Nitrobenzene	ND	D036	2.0	0.050	0.0059	mg/l	
110-86-1	Pyridine	ND	D038	5.0	0.10	0.016	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	44%		14-62%
4165-62-2	Phenol-d5	34%		10-40%
118-79-6	2,4,6-Tribromophenol	73%		33-118%
4165-60-0	Nitrobenzene-d5	65%		42-108%
321-60-8	2-Fluorobiphenyl	63%		40-106%
1718-51-0	Terphenyl-d14	75%		39-121%

ND = Not detected MDL - Method Detection Limit
MCL = Maximum Contamination Level (40 CFR 261 6/96)
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-RB03-032912		
Lab Sample ID:	F91720-2L	**Date Sampled:**	03/29/12
Matrix:	SO - Soil	**Date Received:**	03/31/12
		Percent Solids:	73.9
Project:	Holloman AFB; Alamogordo, NM		

Metals Analysis, TCLP Leachate SW846 1311

Analyte	Result	HW#	MCL	RL	MDL	Units	DF	Prep	Analyzed	By	Method
Arsenic	0.020 U	D004	5.0	0.50	0.020	mg/l	1	04/10/12	04/10/12	LM	SW846 6010C [1]
Barium	0.14 B	D005	100	10	0.050	mg/l	1	04/10/12	04/10/12	LM	SW846 6010C [1]
Cadmium	0.028 B	D006	1.0	0.050	0.010	mg/l	1	04/10/12	04/10/12	LM	SW846 6010C [1]
Chromium	0.010 U	D007	5.0	0.10	0.010	mg/l	1	04/10/12	04/10/12	LM	SW846 6010C [1]
Lead	0.92	D008	5.0	0.50	0.010	mg/l	1	04/10/12	04/10/12	LM	SW846 6010C [1]
Mercury	0.00050 U	D009	0.20	0.010	0.00050	mg/l	1	04/11/12	04/11/12	JL	SW846 7470A [2]
Selenium	0.028 B	D010	1.0	0.50	0.020	mg/l	1	04/10/12	04/10/12	LM	SW846 6010C [1]
Silver	0.010 U	D011	5.0	0.10	0.010	mg/l	1	04/10/12	04/10/12	LM	SW846 6010C [1]

(1) Instrument QC Batch: MA9705
(2) Instrument QC Batch: MA9706
(3) Prep QC Batch: MP22563
(4) Prep QC Batch: MP22568

RL = Reporting Limit MDL = Method Detection Limit U = Indicates a result < MDL
MCL = Maximum Contamination Level (40 CFR 261 6/96) B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	SS39-RB04-032912		
Lab Sample ID:	F91720-3	**Date Sampled:**	03/29/12
Matrix:	SO - Soil	**Date Received:**	03/31/12
Method:	SW846 8015C	**Percent Solids:**	87.1
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	UV052210.D	1	04/03/12	CP	n/a	n/a	GUV2919
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.21 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	7.6	3.8	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	100%		56-136%
98-08-8	aaa-Trifluorotoluene	98%		61-121%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-RB04-032912		
Lab Sample ID:	F91720-3	**Date Sampled:**	03/29/12
Matrix:	SO - Soil	**Date Received:**	03/31/12
Method:	SW846 8015C SW846 3550C	**Percent Solids:**	87.1
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	YY28758.D	1	04/03/12	SJL	04/03/12	OP41221	GYY1061
Run #2							

	Initial Weight	Final Volume
Run #1	30.2 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28) [a]	16.1	9.5	3.8	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	86%		49-108%

(a) Petroleum hydrocarbon pattern extends beyond C28.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-RB04-032912		
Lab Sample ID:	F91720-3	**Date Sampled:**	03/29/12
Matrix:	SO - Soil	**Date Received:**	03/31/12
		Percent Solids:	87.1
Project:	Holloman AFB; Alamogordo, NM		

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Corrosivity as pH	6.7			su	1	04/02/12 14:00	AA	SW846 CHAP7
Cyanide Reactivity	0.86 U	1.7	0.86	mg/kg	1	04/10/12	LE	SW846 CHAP7
Ignitability (Flashpoint) [a]	> 200			Deg. F	1	04/04/12	VK	SW846 1010
Solids, Percent	87.1			%	1	04/03/12	AA	SM19 2540G
Sulfide Reactivity	57 U	57	57	mg/kg	1	04/10/12	LE	SW846 CHAP7

(a) Not ignitable

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	SS39-RB04-032912		
Lab Sample ID:	F91720-3L	**Date Sampled:**	03/29/12
Matrix:	SO - Soil	**Date Received:**	03/31/12
Method:	SW846 8260B SW846 1311	**Percent Solids:**	87.1
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J073861.D	10	04/10/12	MM	04/09/12	OP41317	VJ3916
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCLP List **TCLP Leachate method SW846 1311**

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
71-43-2	Benzene	ND	D018	0.50	0.010	0.0020	mg/l	
108-90-7	Chlorobenzene	ND	D021	100	0.010	0.0020	mg/l	
67-66-3	Chloroform	ND	D022	6.0	0.010	0.0022	mg/l	
56-23-5	Carbon tetrachloride	ND	D019	0.50	0.010	0.0025	mg/l	
75-35-4	1,1-Dichloroethylene	ND	D029	0.70	0.010	0.0023	mg/l	
107-06-2	1,2-Dichloroethane	ND	D028	0.50	0.010	0.0020	mg/l	
106-46-7	p-Dichlorobenzene	ND	D027	7.5	0.010	0.0023	mg/l	
78-93-3	Methyl ethyl ketone	ND	D035	200	0.050	0.020	mg/l	
127-18-4	Tetrachloroethylene	ND	D039	0.70	0.010	0.0025	mg/l	
79-01-6	Trichloroethylene	ND	D040	0.50	0.010	0.0026	mg/l	
75-01-4	Vinyl chloride	ND	D043	0.20	0.010	0.0022	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		87-116%
17060-07-0	1,2-Dichloroethane-D4	108%		76-127%
2037-26-5	Toluene-D8	97%		86-112%
460-00-4	4-Bromofluorobenzene	96%		84-120%

ND = Not detected MDL - Method Detection Limit
MCL = Maximum Contamination Level (40 CFR 261 6/96)
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-RB04-032912		
Lab Sample ID:	F91720-3L	**Date Sampled:**	03/29/12
Matrix:	SO - Soil	**Date Received:**	03/31/12
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	87.1
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L056747.D	1	04/11/12	NAF	04/11/12	OP41343	SL2892
Run #2							

	Initial Volume	Final Volume
Run #1	100 ml	1.0 ml
Run #2		

ABN TCLP List **TCLP Leachate method SW846 1311**

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
95-48-7	2-Methylphenol	ND	D023	200	0.050	0.0054	mg/l	
	3&4-Methylphenol	ND	D024	200	0.050	0.011	mg/l	
87-86-5	Pentachlorophenol	ND	D037	100	0.25	0.054	mg/l	
95-95-4	2,4,5-Trichlorophenol	ND	D041	400	0.050	0.0050	mg/l	
88-06-2	2,4,6-Trichlorophenol	ND	D042	2.0	0.050	0.0050	mg/l	
106-46-7	1,4-Dichlorobenzene	ND	D027	7.5	0.050	0.010	mg/l	
121-14-2	2,4-Dinitrotoluene	ND	D030	0.13	0.050	0.0050	mg/l	
118-74-1	Hexachlorobenzene	ND	D032	0.13	0.050	0.0056	mg/l	
87-68-3	Hexachlorobutadiene	ND	D033	0.50	0.050	0.010	mg/l	
67-72-1	Hexachloroethane	ND	D034	3.0	0.050	0.010	mg/l	
98-95-3	Nitrobenzene	ND	D036	2.0	0.050	0.0059	mg/l	
110-86-1	Pyridine	ND	D038	5.0	0.10	0.016	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	41%		14-62%
4165-62-2	Phenol-d5	29%		10-40%
118-79-6	2,4,6-Tribromophenol	73%		33-118%
4165-60-0	Nitrobenzene-d5	63%		42-108%
321-60-8	2-Fluorobiphenyl	63%		40-106%
1718-51-0	Terphenyl-d14	72%		39-121%

ND = Not detected MDL - Method Detection Limit
MCL = Maximum Contamination Level (40 CFR 261 6/96)
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-RB04-032912		
Lab Sample ID:	F91720-3L	**Date Sampled:**	03/29/12
Matrix:	SO - Soil	**Date Received:**	03/31/12
		Percent Solids:	87.1
Project:	Holloman AFB; Alamogordo, NM		

Metals Analysis, TCLP Leachate SW846 1311

Analyte	Result	HW#	MCL	RL	MDL	Units	DF	Prep	Analyzed	By	Method
Arsenic	0.020 U	D004	5.0	0.50	0.020	mg/l	1	04/10/12	04/10/12	LM	SW846 6010C [1]
Barium	0.092 B	D005	100	10	0.050	mg/l	1	04/10/12	04/10/12	LM	SW846 6010C [1]
Cadmium	0.010 U	D006	1.0	0.050	0.010	mg/l	1	04/10/12	04/10/12	LM	SW846 6010C [1]
Chromium	0.010 U	D007	5.0	0.10	0.010	mg/l	1	04/10/12	04/10/12	LM	SW846 6010C [1]
Lead	0.16 B	D008	5.0	0.50	0.010	mg/l	1	04/10/12	04/10/12	LM	SW846 6010C [1]
Mercury	0.00050 U	D009	0.20	0.010	0.00050	mg/l	1	04/11/12	04/11/12	JL	SW846 7470A [2]
Selenium	0.020 U	D010	1.0	0.50	0.020	mg/l	1	04/10/12	04/10/12	LM	SW846 6010C [1]
Silver	0.010 U	D011	5.0	0.10	0.010	mg/l	1	04/10/12	04/10/12	LM	SW846 6010C [1]

(1) Instrument QC Batch: MA9705
(2) Instrument QC Batch: MA9706
(3) Prep QC Batch: MP22563
(4) Prep QC Batch: MP22568

RL = Reporting Limit MDL = Method Detection Limit U = Indicates a result < MDL
MCL = Maximum Contamination Level (40 CFR 261 6/96) B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	SS39-RB02-032912		
Lab Sample ID:	F91720-4	**Date Sampled:**	03/29/12
Matrix:	SO - Soil	**Date Received:**	03/31/12
Method:	SW846 8015C	**Percent Solids:**	84.5
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	UV052211.D	1	04/03/12	CP	n/a	n/a	GUV2919
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.00 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	8.3	4.2	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	78%		56-136%
98-08-8	aaa-Trifluorotoluene	91%		61-121%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-RB02-032912		
Lab Sample ID:	F91720-4	**Date Sampled:**	03/29/12
Matrix:	SO - Soil	**Date Received:**	03/31/12
Method:	SW846 8015C SW846 3550C	**Percent Solids:**	84.5
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	YY28759.D	1	04/03/12	SJL	04/03/12	OP41221	GYY1061
Run #2							

	Initial Weight	Final Volume
Run #1	30.3 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28) [a]	38.3	9.8	3.9	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	82%		49-108%

(a) Petroleum hydrocarbon pattern extends beyond C28.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-RB02-032912		
Lab Sample ID:	F91720-4	**Date Sampled:**	03/29/12
Matrix:	SO - Soil	**Date Received:**	03/31/12
		Percent Solids:	84.5
Project:	Holloman AFB; Alamogordo, NM		

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Corrosivity as pH	6.8			su	1	04/02/12 14:00	AA	SW846 CHAP7
Cyanide Reactivity	1.6 U	3.1	1.6	mg/kg	1	04/10/12	LE	SW846 CHAP7
Ignitability (Flashpoint) [a]	> 200			Deg. F	1	04/04/12	VK	SW846 1010
Solids, Percent	84.5			%	1	04/03/12	AA	SM19 2540G
Sulfide Reactivity	100 U	100	100	mg/kg	1	04/10/12	LE	SW846 CHAP7

(a) Not ignitable

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	SS39-RB02-032912		
Lab Sample ID:	F91720-4L	**Date Sampled:**	03/29/12
Matrix:	SO - Soil	**Date Received:**	03/31/12
Method:	SW846 8260B SW846 1311	**Percent Solids:**	84.5
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J073862.D	10	04/10/12	MM	04/09/12	OP41317	VJ3916
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCLP List **TCLP Leachate method SW846 1311**

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
71-43-2	Benzene	ND	D018	0.50	0.010	0.0020	mg/l	
108-90-7	Chlorobenzene	ND	D021	100	0.010	0.0020	mg/l	
67-66-3	Chloroform	ND	D022	6.0	0.010	0.0022	mg/l	
56-23-5	Carbon tetrachloride	ND	D019	0.50	0.010	0.0025	mg/l	
75-35-4	1,1-Dichloroethylene	ND	D029	0.70	0.010	0.0023	mg/l	
107-06-2	1,2-Dichloroethane	ND	D028	0.50	0.010	0.0020	mg/l	
106-46-7	p-Dichlorobenzene	ND	D027	7.5	0.010	0.0023	mg/l	
78-93-3	Methyl ethyl ketone	ND	D035	200	0.050	0.020	mg/l	
127-18-4	Tetrachloroethylene	ND	D039	0.70	0.010	0.0025	mg/l	
79-01-6	Trichloroethylene	ND	D040	0.50	0.010	0.0026	mg/l	
75-01-4	Vinyl chloride	ND	D043	0.20	0.010	0.0022	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		87-116%
17060-07-0	1,2-Dichloroethane-D4	106%		76-127%
2037-26-5	Toluene-D8	96%		86-112%
460-00-4	4-Bromofluorobenzene	94%		84-120%

ND = Not detected MDL - Method Detection Limit
MCL = Maximum Contamination Level (40 CFR 261 6/96)
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-RB02-032912		
Lab Sample ID:	F91720-4L	**Date Sampled:**	03/29/12
Matrix:	SO - Soil	**Date Received:**	03/31/12
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	84.5
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L056748.D	1	04/11/12	NAF	04/11/12	OP41343	SL2892
Run #2							

	Initial Volume	Final Volume
Run #1	100 ml	1.0 ml
Run #2		

ABN TCLP List **TCLP Leachate method SW846 1311**

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
95-48-7	2-Methylphenol	ND	D023	200	0.050	0.0054	mg/l	
	3&4-Methylphenol	ND	D024	200	0.050	0.011	mg/l	
87-86-5	Pentachlorophenol	ND	D037	100	0.25	0.054	mg/l	
95-95-4	2,4,5-Trichlorophenol	ND	D041	400	0.050	0.0050	mg/l	
88-06-2	2,4,6-Trichlorophenol	ND	D042	2.0	0.050	0.0050	mg/l	
106-46-7	1,4-Dichlorobenzene	ND	D027	7.5	0.050	0.010	mg/l	
121-14-2	2,4-Dinitrotoluene	ND	D030	0.13	0.050	0.0050	mg/l	
118-74-1	Hexachlorobenzene	ND	D032	0.13	0.050	0.0056	mg/l	
87-68-3	Hexachlorobutadiene	ND	D033	0.50	0.050	0.010	mg/l	
67-72-1	Hexachloroethane	ND	D034	3.0	0.050	0.010	mg/l	
98-95-3	Nitrobenzene	ND	D036	2.0	0.050	0.0059	mg/l	
110-86-1	Pyridine	ND	D038	5.0	0.10	0.016	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	35%		14-62%
4165-62-2	Phenol-d5	24%		10-40%
118-79-6	2,4,6-Tribromophenol	65%		33-118%
4165-60-0	Nitrobenzene-d5	58%		42-108%
321-60-8	2-Fluorobiphenyl	57%		40-106%
1718-51-0	Terphenyl-d14	67%		39-121%

ND = Not detected MDL - Method Detection Limit
MCL = Maximum Contamination Level (40 CFR 261 6/96)
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS39-RB02-032912		
Lab Sample ID:	F91720-4L	**Date Sampled:**	03/29/12
Matrix:	SO - Soil	**Date Received:**	03/31/12
		Percent Solids:	84.5
Project:	Holloman AFB; Alamogordo, NM		

Metals Analysis, TCLP Leachate SW846 1311

Analyte	Result	HW#	MCL	RL	MDL	Units	DF	Prep	Analyzed	By	Method
Arsenic	0.020 U	D004	5.0	0.50	0.020	mg/l	1	04/10/12	04/10/12	LM	SW846 6010C [1]
Barium	0.11 B	D005	100	10	0.050	mg/l	1	04/10/12	04/10/12	LM	SW846 6010C [1]
Cadmium	0.018 B	D006	1.0	0.050	0.010	mg/l	1	04/10/12	04/10/12	LM	SW846 6010C [1]
Chromium	0.010 U	D007	5.0	0.10	0.010	mg/l	1	04/10/12	04/10/12	LM	SW846 6010C [1]
Lead	0.010 U	D008	5.0	0.50	0.010	mg/l	1	04/10/12	04/10/12	LM	SW846 6010C [1]
Mercury	0.00050 U	D009	0.20	0.010	0.00050	mg/l	1	04/11/12	04/11/12	JL	SW846 7470A [2]
Selenium	0.028 B	D010	1.0	0.50	0.020	mg/l	1	04/10/12	04/10/12	LM	SW846 6010C [1]
Silver	0.010 U	D011	5.0	0.10	0.010	mg/l	1	04/10/12	04/10/12	LM	SW846 6010C [1]

(1) Instrument QC Batch: MA9705
(2) Instrument QC Batch: MA9706
(3) Prep QC Batch: MP22563
(4) Prep QC Batch: MP22568

RL = Reporting Limit MDL = Method Detection Limit U = Indicates a result < MDL
MCL = Maximum Contamination Level (40 CFR 261 6/96) B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	SS39-TB03-032912		
Lab Sample ID:	F91720-5	**Date Sampled:**	03/29/12
Matrix:	SO - Trip Blank Soil	**Date Received:**	03/31/12
Method:	SW846 8015C	**Percent Solids:**	n/a
Project:	Holloman AFB; Alamogordo, NM		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	UV052212.D	1	04/03/12	CP	n/a	n/a	GUV2919
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.00 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	5.0	2.5	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	93%		56-136%
98-08-8	aaa-Trifluorotoluene	101%		61-121%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Southeast ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Certification Exceptions
- Certification Exceptions (NM)
- Chain of Custody

Accutest Laboratories Southeast
Chain of Custody

ACCUTEST LABORATORIES

4405 Vineland Road, Suite C-15 Orlando, Fl 32811
TEL. 407-425-6700 • FAX: 407-425-0707
www.accutest.com

Accutest JOB # F91720 PAGE 1 OF 1

Accutest Quote #

SKIFF#

Client / Reporting Information

Company Name: Tetra Tech Inc
Address: 800 Oak Ridge Tpk, A-600
City: Oak Ridge State: TN Zip: 37771
Project Contact: Maureen MaMyler
Phone#: 865-220-4700
Sampler(s) Name(s) (Printed): Allan Jenkins

Project Information

Project Name: Excavation TCLP, SS 39
Street:
City: Holloman AFB State: NM
Project #: 865-566-8662 cellphone Allan J
Fax #: 865-566-7736 cell phone Danny W
Client Purchase Order #:

Analytical Information

Accutest Sample #	Field ID / Point of Collection	Collection DATE	Collection TIME	SAMPLED BY	MATRIX	TOTAL # OF BOTTLES	OTHER	NONE	HCl	NaOH	HNO3	H2SO4	NaOH+ZnAc	DI WATER	MeOH	V8260 TCLP	ABB270 TCLP	RCRA Metals TCLP	RCRA Classification	TPH GRO 5035/8015B	TPH DRO 8015 mod.						LAB USE ONLY
1	SS39-RB01-032912	3/29/12	1045	AJ	SOIL	36		✓							✓	X	X	X	X	X	X						
2	SS39-RB03-032912	↓	1055	↓	↓	36		✓							✓	X	X	X	X	X	X						
3	SS39-RB04-032912	↓	1105	↓	↓	36		✓							✓	X	X	X	X	X	X						
4	SS39-RB02-032912	↓	1125	↓	↓	36		✓							✓	X	X	X	X	X	X						
5	SS39-TB03-032912	↓	1930	↓	H2O	3																					

Matrix Codes
DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL - Sludge
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe

TURNAROUND TIME (Business Days)

Approved By: / Rush Code

- [x] 10 Days Standard
- [ ] 7 Day RUSH
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [ ] OTHER

Emergency or Rush T/A Data Available VIA Email or Lablink

Data Deliverable Information

- [ ] COMMERCIAL "A" (RESULTS ONLY)
- [ ] COMMERCIAL "B" (RESULTS PLUS QC)
- [ ] REDT1 (EPA LEVEL 3)
- [ ] FULT1 (EPA LEVEL 4)
- [ ] EDD'S

Comments / Remarks

Note that TPH (GRO + DRO) samples were collected from same locations but at later times - as recorded on sample bottles.

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished by:	Date Time:	Received By:
1 Allan Jenkins	3/30/12 0905	2 FX	3 FX	3-31-12	4 [illegible] (AISA) 09:30
Relinquished by:	Date Time:	Received By:	Relinquished by:	Date Time:	Received By:
5		6	7		8

Lab Use Only: Custody Seal in Place: Y N Temp Blank Provided: Y N Preserved where Applicable: Y N Total # of Coolers: Cooler Temperature (s) Celsius: 3-8

4.1
4

F91720: Chain of Custody
Page 1 of 2

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: F91720 CLIENT: TETRATECH PROJECT: EXCAVATION

DATE/TIME RECEIVED: 3-31-12 09:30 {MM/DD/YY 24:00} NIMBER OF COOLERS RECEIVED: 1

METHOD OF DELIVERY: (FEDEX) UPS ACCUTEST COURIER GREYHOUND DELIVERY OTHER

AIRBILL NUMBERS: 8996 2605 6141

COOLER INFORMATION

- [ ] CUSTODY SEAL NOT PRESENT OR NOT INTACT
- [ ] CHAIN OF CUSTODY NOT RECEIVED (COC)
- [ ] ANALYSIS REQUESTED IS UNCLEAR OR MISSING
- [ ] SAMPLE DATES OR TIMES UNCLEAR OR MISSING
- [ ] TEMPERATURE CRITERIA NOT MET
- [ ] WET ICE PRESENT

TRIP BLANK INFORMATION

- [X] TRIP BLANK PROVIDED
- [ ] TRIP BLANK NOT PROVIDED
- [ ] TRIP BLANK NOT ON COC
- [X] TRIP BLANK INTACT
- [ ] TRIP BLANK NOT INTACT
- [ ] RECEIVED WATER TRIP BLANK
- [X] RECEIVED SOIL TRIP BLANK

MISC. INFORMATION

NUMBER OF ENCORES ? 25-GRAM_____ 5-GRAM_____

NUMBER OF 5035 FIELD KITS ? _____

NUMBER OF LAB FILTERED METALS ? _____

TEMPERATURE INFORMATION

- [ ] IR THERM ID 1 CORR. FACTOR -0.2
- [ ] OBSERVED TEMPS: 4.0
- [ ] CORRECTED TEMPS: 3.8

SAMPLE INFORMATION

- [ ] SAMPLE LABELS PRESENT ON ALL BOTTLES
- [ ] INCORRECT NUMBER OF CONTAINERS USED
- [ ] SAMPLE RECEIVED IMPROPERLY PRESERVED
- [ ] INSUFFICIENT VOLUME FOR ANALYSIS
- [ ] DATES/TIMES ON COC DO NOT MATCH SAMPLE LABEL
- [ ] ID'S ON COC DO NOT MATCH LABEL
- [ ] VOC VIALS HAVE HEADSPACE (MACRO BUBBLES)
- [ ] BOTTLES RECEIVED BUT ANALYSIS NOT REQUESTED
- [ ] NO BOTTLES RECEIVED FOR ANALYSIS REQUESTED
- [ ] UNCLEAR FILTERING OR COMPOSITING INSTRUCTIONS
- [ ] SAMPLE CONTAINER(S) RECEIVED BROKEN
- [ ] % SOLIDS JAR NOT RECEIVED
- [ ] 5035 FIELD KIT FROZEN WITHIN 48 HOUR'S
- [ ] RESIDUAL CHLORINE PRESENT

{APPICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS}

SUMMARY OF COMMENTS:

TECHNICIAN SIGNATURE/DATE JC 3-31-12 REVIEWER SIGNATURE/DATE [signature] 03/31/12

NF 12/10 receipt confirmation 122910.xls

F91720: Chain of Custody
Page 2 of 2

Southeast ACCUTEST LABORATORIES

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (BFB)
- Internal Standard Area Summaries
- Surrogate Recovery Summaries
- Initial and Continuing Calibration Summaries

Leachate Blank Summary

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP41317-LB	J073855.D	10	04/10/12	MM	04/09/12	OP41317	VJ3916

The QC reported here applies to the following samples: **Method:** SW846 8260B

F91720-1L, F91720-2L, F91720-3L, F91720-4L

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	10	2.0	ug/l	
108-90-7	Chlorobenzene	ND	10	2.0	ug/l	
67-66-3	Chloroform	ND	10	2.2	ug/l	
56-23-5	Carbon tetrachloride	ND	10	2.5	ug/l	
75-35-4	1,1-Dichloroethylene	ND	10	2.3	ug/l	
107-06-2	1,2-Dichloroethane	ND	10	2.0	ug/l	
106-46-7	p-Dichlorobenzene	ND	10	2.3	ug/l	
78-93-3	Methyl ethyl ketone	ND	50	20	ug/l	
127-18-4	Tetrachloroethylene	ND	10	2.5	ug/l	
79-01-6	Trichloroethylene	ND	10	2.6	ug/l	
75-01-4	Vinyl chloride	ND	10	2.2	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	99%	87-116%
17060-07-0	1,2-Dichloroethane-D4	103%	76-127%
2037-26-5	Toluene-D8	96%	86-112%
460-00-4	4-Bromofluorobenzene	95%	84-120%

Blank Spike Summary

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ3916-BS	J073854.D	10	04/10/12	MM	n/a	n/a	VJ3916

The QC reported here applies to the following samples: **Method:** SW846 8260B

F91720-1L, F91720-2L, F91720-3L, F91720-4L

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	250	259	104	83-124
108-90-7	Chlorobenzene	250	255	102	87-115
67-66-3	Chloroform	250	257	103	85-123
56-23-5	Carbon tetrachloride	250	265	106	74-139
75-35-4	1,1-Dichloroethylene	250	273	109	75-133
107-06-2	1,2-Dichloroethane	250	255	102	76-122
106-46-7	p-Dichlorobenzene	250	248	99	87-113
78-93-3	Methyl ethyl ketone	1250	908	73	61-127
127-18-4	Tetrachloroethylene	250	227	91	80-131
79-01-6	Trichloroethylene	250	249	100	85-124
75-01-4	Vinyl chloride	250	299	120	57-153

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	98%	87-116%
17060-07-0	1,2-Dichloroethane-D4	101%	76-127%
2037-26-5	Toluene-D8	99%	86-112%
460-00-4	4-Bromofluorobenzene	94%	84-120%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F91750-1MS	J073864.D	10	04/10/12	MM	n/a	n/a	VJ3916
F91750-1MSD	J073865.D	10	04/10/12	MM	n/a	n/a	VJ3916
F91750-1	J073858.D	10	04/10/12	MM	04/09/12	OP41317	VJ3916

The QC reported here applies to the following samples: **Method:** SW846 8260B

F91720-1L, F91720-2L, F91720-3L, F91720-4L

CAS No.	Compound	F91750-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	10 U		250	250	100	247	99	1	83-124/11
108-90-7	Chlorobenzene	10 U		250	252	101	243	97	4	87-115/9
67-66-3	Chloroform	10 U		250	252	101	249	100	1	85-123/10
56-23-5	Carbon tetrachloride	10 U		250	254	102	232	93	9	74-139/13
75-35-4	1,1-Dichloroethylene	10 U		250	270	108	272	109	1	75-133/13
107-06-2	1,2-Dichloroethane	10 U		250	251	100	251	100	0	76-122/11
106-46-7	p-Dichlorobenzene	10 U		250	245	98	242	97	1	87-113/10
78-93-3	Methyl ethyl ketone	50 U		1250	1010	81	992	79	2	61-127/13
127-18-4	Tetrachloroethylene	10 U		250	217	87	211	84	3	80-131/12
79-01-6	Trichloroethylene	10 U		250	244	98	249	100	2	85-124/10
75-01-4	Vinyl chloride	10 U		250	295	118	278	111	6	57-153/22

CAS No.	Surrogate Recoveries	MS	MSD	F91750-1	Limits
1868-53-7	Dibromofluoromethane	97%	100%	99%	87-116%
17060-07-0	1,2-Dichloroethane-D4	102%	102%	103%	76-127%
2037-26-5	Toluene-D8	98%	99%	96%	86-112%
460-00-4	4-Bromofluorobenzene	93%	95%	94%	84-120%

Duplicate Summary

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F91880-1LDUP	J073857.D	10	04/10/12	MM	n/a	n/a	VJ3916
F91880-1L	J073856.D	10	04/10/12	MM	04/09/12	OP41317	VJ3916

The QC reported here applies to the following samples: **Method:** SW846 8260B

F91720-1L, F91720-2L, F91720-3L, F91720-4L

CAS No.	Compound	F91880-1L ug/l	Q	DUP ug/l	Q	RPD	Limits
71-43-2	Benzene	10 U		ND		nc	11
108-90-7	Chlorobenzene	10 U		ND		nc	9
67-66-3	Chloroform	10 U		ND		nc	10
56-23-5	Carbon tetrachloride	10 U		ND		nc	13
75-35-4	1,1-Dichloroethylene	2.3	I	ND		200*	13
107-06-2	1,2-Dichloroethane	10 U		ND		nc	11
106-46-7	p-Dichlorobenzene	10 U		ND		nc	10
78-93-3	Methyl ethyl ketone	50 U		ND		nc	13
127-18-4	Tetrachloroethylene	10 U		ND		nc	12
79-01-6	Trichloroethylene	10 U		ND		nc	10
75-01-4	Vinyl chloride	3.2	I	ND		200*	22

CAS No.	Surrogate Recoveries	DUP	F91880-1L	Limits
1868-53-7	Dibromofluoromethane	98%	99%	87-116%
17060-07-0	1,2-Dichloroethane-D4	104%	103%	76-127%
2037-26-5	Toluene-D8	98%	98%	86-112%
460-00-4	4-Bromofluorobenzene	95%	97%	84-120%

Instrument Performance Check (BFB)

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VJ3909-BFB
Lab File ID: J073703.D
Instrument ID: GCMSJ
Injection Date: 04/02/12
Injection Time: 15:40

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	50712	21.5		Pass
75	30.0 - 60.0% of mass 95	107575	45.6		Pass
95	Base peak, 100% relative abundance	235686	100.0		Pass
96	5.0 - 9.0% of mass 95	15365	6.52		Pass
173	Less than 2.0% of mass 174	999	0.42	(0.54) [a]	Pass
174	50.0 - 100.0% of mass 95	184043	78.1		Pass
175	5.0 - 9.0% of mass 174	13794	5.85	(7.49) [a]	Pass
176	95.0 - 101.0% of mass 174	181013	76.8	(98.4) [a]	Pass
177	5.0 - 9.0% of mass 176	11830	5.02	(6.54) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VJ3909-IC3909	J073706.D	04/02/12	17:03	01:23	Initial cal 1
VJ3909-IC3909	J073707.D	04/02/12	17:26	01:46	Initial cal 2
VJ3909-IC3909	J073708.D	04/02/12	17:50	02:10	Initial cal 3
VJ3909-ICC3909	J073709.D	04/02/12	18:13	02:33	Initial cal 4
VJ3909-IC3909	J073710.D	04/02/12	18:37	02:57	Initial cal 5
VJ3909-IC3909	J073711.D	04/02/12	19:00	03:20	Initial cal 6
VJ3909-ICV3909	J073712.D	04/02/12	19:23	03:43	Initial cal verification 4

Instrument Performance Check (BFB)

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VJ3915-BFB
Lab File ID: J073850.D
Instrument ID: GCMSJ
Injection Date: 04/10/12
Injection Time: 08:47

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	61304	21.4		Pass
75	30.0 - 60.0% of mass 95	133083	46.5		Pass
95	Base peak, 100% relative abundance	286272	100.0		Pass
96	5.0 - 9.0% of mass 95	20140	7.04		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 100.0% of mass 95	223125	77.9		Pass
175	5.0 - 9.0% of mass 174	16698	5.83	(7.48) [a]	Pass
176	95.0 - 101.0% of mass 174	222101	77.6	(99.5) [a]	Pass
177	5.0 - 9.0% of mass 176	15124	5.28	(6.81) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VJ3915-CC3909	J073851.D	04/10/12	09:25	00:38	Continuing cal 4
VJ3915-BS	J073852.D	04/10/12	10:00	01:13	Blank Spike
VJ3915-MB	J073853.D	04/10/12	10:26	01:39	Method Blank
VJ3916-BS	J073854.D	04/10/12	11:00	02:13	Blank Spike
OP41317-LB	J073855.D	04/10/12	11:23	02:36	Leachate Blank
F91880-1L	J073856.D	04/10/12	11:46	02:59	(used for QC only; not part of job F91720)
F91880-1LDUP	J073857.D	04/10/12	12:09	03:22	Duplicate
F91750-1	J073858.D	04/10/12	12:32	03:45	(used for QC only; not part of job F91720)
F91720-1L	J073859.D	04/10/12	12:55	04:08	SS39-RB01-032912
F91720-2L	J073860.D	04/10/12	13:19	04:32	SS39-RB03-032912
F91720-3L	J073861.D	04/10/12	13:42	04:55	SS39-RB04-032912
F91720-4L	J073862.D	04/10/12	14:05	05:18	SS39-RB02-032912
ZZZZZZ	J073863.D	04/10/12	14:28	05:41	(unrelated sample)
F91750-1MS	J073864.D	04/10/12	14:51	06:04	Matrix Spike
F91750-1MSD	J073865.D	04/10/12	15:14	06:27	Matrix Spike Duplicate
ZZZZZZ	J073866.D	04/10/12	15:37	06:50	(unrelated sample)
ZZZZZZ	J073867.D	04/10/12	16:01	07:14	(unrelated sample)
F91879-1	J073868.D	04/10/12	16:24	07:37	(used for QC only; not part of job F91720)
ZZZZZZ	J073869.D	04/10/12	16:47	08:00	(unrelated sample)
ZZZZZZ	J073870.D	04/10/12	17:10	08:23	(unrelated sample)
ZZZZZZ	J073871.D	04/10/12	17:34	08:47	(unrelated sample)
ZZZZZZ	J073872.D	04/10/12	17:57	09:10	(unrelated sample)
ZZZZZZ	J073873.D	04/10/12	18:20	09:33	(unrelated sample)
ZZZZZZ	J073874.D	04/10/12	18:43	09:56	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VJ3915-BFB
Lab File ID: J073850.D
Instrument ID: GCMSJ
Injection Date: 04/10/12
Injection Time: 08:47

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
F91879-1MS	J073875.D	04/10/12	19:06	10:19	Matrix Spike
F91879-1MSD	J073876.D	04/10/12	19:29	10:42	Matrix Spike Duplicate

Volatile Internal Standard Area Summary

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Check Std:	VJ3915-CC3909	**Injection Date:**	04/10/12
Lab File ID:	J073851.D	**Injection Time:**	09:25
Instrument ID:	GCMSJ	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
Initial Cal [a]	1220249	7.85	811443	10.95	466181	13.31	169106	5.38
Check Std [b]	1619048	7.85	1081222	10.95	613641	13.31	216765	5.38
Upper Limit [c]	3238096	8.35	2162444	11.45	1227282	13.81	433530	5.88
Lower Limit [d]	809524	7.35	540611	10.45	306821	12.81	108383	4.88

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
VJ3915-BS	1547998	7.85	1051458	10.95	592346	13.31	198305	5.38
VJ3915-MB	1548122	7.85	1091386	10.95	594700	13.31	206420	5.37
VJ3916-BS	1492960	7.85	1009180	10.95	580837	13.31	202557	5.38
OP41317-LB	1492042	7.85	1033841	10.95	570077	13.31	190739	5.37
F91880-1L	1465908	7.85	1025478	10.95	566938	13.31	178820	5.37
F91880-1LDUP	1498940	7.85	1029135	10.95	574125	13.31	193742	5.37
F91750-1	1471217	7.85	1035403	10.95	577384	13.31	185517	5.37
F91720-1L	1503755	7.85	1033856	10.95	568344	13.31	189786	5.37
F91720-2L	1484674	7.85	1037860	10.95	566922	13.31	198921	5.37
F91720-3L	1408907	7.85	993612	10.95	544367	13.31	181637	5.38
F91720-4L	1410062	7.85	1001119	10.95	559361	13.31	188960	5.37
ZZZZZZ	1464277	7.85	1029989	10.95	569518	13.31	188111	5.37
F91750-1MS	1467651	7.85	1005043	10.95	575561	13.31	187767	5.36
F91750-1MSD	1500606	7.85	1025295	10.95	588919	13.31	202832	5.38
ZZZZZZ	1499092	7.86	1033702	10.95	567401	13.31	199628	5.38
ZZZZZZ	1483436	7.85	1028488	10.95	564176	13.31	201114	5.37
F91879-1	1472301	7.85	1038495	10.95	581582	13.31	201488	5.36
ZZZZZZ	1493669	7.85	1025429	10.95	566227	13.31	206385	5.36
ZZZZZZ	1482222	7.85	1024393	10.95	562462	13.31	199506	5.37
ZZZZZZ	1427285	7.85	1003889	10.95	550703	13.31	202935	5.36
ZZZZZZ	1464426	7.85	1032634	10.95	561845	13.31	214516	5.37
ZZZZZZ	1426816	7.85	999060	10.95	552414	13.31	210560	5.37
ZZZZZZ	1451956	7.85	1011019	10.95	550092	13.31	206894	5.37
F91879-1MS	1422387	7.85	973521	10.95	552813	13.31	196804	5.38
F91879-1MSD	1453485	7.85	989856	10.95	560838	13.31	211036	5.38

IS 1 = Fluorobenzene
IS 2 = Chlorobenzene-D5
IS 3 = 1,4-Dichlorobenzene-d4
IS 4 = Tert Butyl Alcohol-D10

(a) Initial Cal is: VJ3909-ICC3909 J073709.D 04/02/12 18:13
(b) Check Std Limit = -50 to + 100% of initial cal area.

Volatile Internal Standard Area Summary

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Check Std:	VJ3915-CC3909	**Injection Date:**	04/10/12
Lab File ID:	J073851.D	**Injection Time:**	09:25
Instrument ID:	GCMSJ	**Method:**	SW846 8260B

Lab	IS 1		IS 2		IS 3		IS 4	
Sample ID	**AREA**	**RT**	**AREA**	**RT**	**AREA**	**RT**	**AREA**	**RT**

(c) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.
(d) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Volatile Surrogate Recovery Summary

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Method: SW846 8260B **Matrix:** LEACHATE

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
F91720-1L	J073859.D	98.0	103.0	97.0	97.0
F91720-2L	J073860.D	100.0	105.0	98.0	97.0
F91720-3L	J073861.D	101.0	108.0	97.0	96.0
F91720-4L	J073862.D	102.0	106.0	96.0	94.0
F91750-1MS	J073864.D	97.0	102.0	98.0	93.0
F91750-1MSD	J073865.D	100.0	102.0	99.0	95.0
F91880-1LDUP	J073857.D	98.0	104.0	98.0	95.0
OP41317-LB	J073855.D	99.0	103.0	96.0	95.0
VJ3916-BS	J073854.D	98.0	101.0	99.0	94.0

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	87-116%
S2 = 1,2-Dichloroethane-D4	76-127%
S3 = Toluene-D8	86-112%
S4 = 4-Bromofluorobenzene	84-120%

Initial Calibration Summary

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VJ3909-ICC3909
Lab FileID: J073709.D


```
                    Response Factor Report  MSVOA6

Method       : C:\MSDchem\1\METHODS\8260-japp9.m (RTE Integrator)
Title        : SW-846 Method 5030B/8260B & EPA 624
Last Update  : Tue Apr 03 11:28:18 2012
Response via : Initial Calibration

Calibration Files
1   =J073706.D   2   =J073707.D   3   =J073708.D   4   =J073709.D
5      =J073710.D    6      =J073711.D

      Compound              1     2     3     4     5     6     Avg    %RSD
-------------------------------------------------------------------------------

1) I   Fluorobenzene         ----------------ISTD---------------------
2)     Dichlorodifluoromet 0.376 0.202 0.253 0.279 0.268 0.269 0.274  20.63
           ---- Linear regr., Force(0,0) ----  Coefficient =  0.9994
             Response Ratio = 0.00000 + 0.26894 *A

3) P   Chloromethane       0.537 0.482 0.541 0.584 0.526 0.496 0.528   6.88
           ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9992
             Response Ratio = 0.00000 + 0.60686 *A + -0.05543 *A^2

4) C   Vinyl Chloride      0.278 0.261 0.335 0.362 0.341 0.338 0.319  12.55
           ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9994
             Response Ratio = 0.00000 + 0.35713 *A + -0.00973 *A^2

5)     Bromomethane        0.155 0.156 0.170 0.182 0.161 0.148 0.162   7.57
           ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9990
             Response Ratio = 0.00000 + 0.19321 *A + -0.02241 *A^2

6)     Chloroethane        0.148 0.155 0.176 0.191 0.162 0.143 0.162  11.17
           ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9984
             Response Ratio = 0.00000 + 0.20823 *A + -0.03278 *A^2

7)     Trichlorofluorometh 0.280 0.263 0.338 0.384 0.358 0.352 0.329  14.40
           ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9989
             Response Ratio = 0.00000 + 0.37699 *A + -0.01225 *A^2

8)     Ethyl Ether         0.355 0.413 0.390 0.391 0.376 0.356 0.380   5.93
9)     1,2-Dichlorotrifluo 0.259 0.436 0.436 0.444 0.427 0.413 0.403  17.63
           ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9999
             Response Ratio = 0.00000 + 0.45730 *A + -0.02199 *A^2

10) C  1,1-Dichloroethene  0.416 0.587 0.577 0.583 0.562 0.539 0.544  11.93
11)    Freon 113           0.209 0.308 0.316 0.313 0.302 0.295 0.291  14.01
12)    Carbon Disulfide    0.906 1.104 1.120 1.122 1.074 1.030 1.059   7.79
13)    Iodomethane         0.399 0.530 0.521 0.535 0.525 0.501 0.502  10.27
14)    Allyl chloride      0.667 0.515 0.437 0.710 0.690 0.670 0.615  18.12
           ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9936
             Response Ratio = 0.00000 + 0.65265 *A + 0.01288 *A^2

15)    Methylene Chloride  2.041 1.000 0.707 0.681 0.636 0.609 0.946  58.64
           ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9995
             Response Ratio = 0.00000 + 0.72931 *A + -0.06149 *A^2

16)    Acetone             0.049 0.041 0.039 0.038 0.036 0.035 0.040  12.88
           ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9998
             Response Ratio = 0.00000 + 0.03978 *A + -0.00048 *A^2
```

Initial Calibration Summary

Job Number: F91720 **Sample:** VJ3909-ICC3909
Account: TETTNOAK Tetra Tech, Inc **Lab FileID:** J073709.D
Project: Holloman AFB; Alamogordo, NM

17)		Methyl acetate	0.060	0.062	0.058	0.058	0.057	0.055	0.058	4.18
18)		trans-1,2-Dichloroe	0.489	0.637	0.612	0.615	0.590	0.564	0.584	9.08
19)		Hexane	0.285	0.407	0.401	0.393	0.382	0.368	0.373	12.06
20)		Methyl Tert Butyl E	0.901	1.124	1.054	1.080	1.042	0.988	1.031	7.58
21)		Acetonitrile		0.006	0.005	0.005	0.004	0.004	0.005	18.48
		---- Linear regr., Force(0,0) ---- Coefficient = 0.9904								
		Response Ratio = 0.00000 + 0.00391 *A								
22)		Di-isopropyl ether	1.373	1.702	1.611	1.640	1.573	1.491	1.565	7.50
23)		Chloroprene	0.654	0.482	0.381	0.701	0.688	0.663	0.595	22.13
		---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9909								
		Response Ratio = 0.00000 + 0.63570 *A + 0.01852 *A^2								
24)	P	1,1-Dichloroethane	0.575	0.737	0.731	0.731	0.705	0.673	0.692	9.00
25)		Acrylonitrile	0.187	0.177	0.168	0.172	0.165	0.158	0.171	5.91
26)		ETBE	1.295	1.456	1.395	1.410	1.339	1.267	1.360	5.31
27)		Vinyl acetate	0.712	0.848	0.738	0.718	0.680	0.585	0.714	11.97
28)		cis-1,2-Dichloroeth	0.410	0.401	0.384	0.386	0.370	0.353	0.384	5.37
29)		2,2-Dichloropropane	0.445	0.539	0.507	0.520	0.496	0.466	0.495	7.05
30)		Bromochloromethane	0.149	0.175	0.167	0.168	0.163	0.156	0.163	5.72
31)		Cyclohexane	0.637	0.826	0.803	0.804	0.775	0.742	0.765	9.02
32)	C	Chloroform	0.498	0.670	0.590	0.605	0.567	0.541	0.578	10.14
33)		Ethyl acetate	0.152	0.185	0.185	0.190	0.179	0.171	0.177	7.80
34)		Tetrahydrofuran	0.167	0.155	0.133	0.142	0.132	0.127	0.143	10.82
35)	S	Dibromofluoromethan	0.237	0.245	0.254	0.226	0.240	0.233	0.239	4.09
36)		Carbon Tetrachlorid	0.316	0.401	0.397	0.412	0.395	0.379	0.383	9.05
37)		1,1,1-Trichloroetha	0.476	0.504	0.502	0.498	0.483	0.463	0.488	3.38
38)		2-Butanone	0.251	0.241	0.242	0.253	0.217	0.220	0.237	6.47
39)		1,1-Dichloropropene	0.358	0.454	0.471	0.479	0.449	0.441	0.442	9.85
40)		Propionitrile	0.065	0.059	0.062	0.062	0.057	0.054	0.060	6.31
41)		Methacrylonitrile	0.262	0.221	0.227	0.230	0.206	0.190	0.223	10.94
42)		Benzene	1.174	1.466	1.383	1.384	1.280	1.205	1.315	8.68
43)		TAME	1.069	1.179	1.098	1.097	1.044	0.979	1.078	6.16
44)	S	1,2-Dichloroethane-	0.322	0.331	0.342	0.319	0.334	0.330	0.330	2.48
45)		1,2-Dichloroethane	0.419	0.507	0.481	0.506	0.481	0.462	0.476	6.87
46)		Trichloroethene	0.373	0.361	0.341	0.345	0.324	0.309	0.342	6.88
47)		Methylcyclohexane	0.567	0.629	0.640	0.636	0.610	0.580	0.610	5.03
48)		Dibromomethane	0.220	0.224	0.209	0.217	0.208	0.197	0.213	4.69
49)	C	1,2-Dichloropropane	0.379	0.450	0.429	0.445	0.419	0.398	0.420	6.54
50)		Bromodichloromethan	0.416	0.478	0.435	0.455	0.432	0.415	0.438	5.50
51)		Methyl methacrylate	0.460	0.305	0.351	0.368	0.360	0.344	0.365	14.16
52)		2-Chloroethyl vinyl	0.227	0.275	0.254	0.252	0.229	0.212	0.242	9.48
53)		cis-1,3-Dichloropro	0.487	0.592	0.566	0.588	0.557	0.525	0.552	7.29
54)	I	Chlorobenzene-d5	----------ISTD----------							
55)	S	Toluene-d8	1.340	1.343	1.393	1.371	1.410	1.402	1.377	2.20
56)	C	Toluene	1.810	2.121	2.040	2.094	1.956	1.852	1.979	6.49
57)		2-Nitropropane	0.144	0.147	0.145	0.155	0.149	0.146	0.148	2.59
58)		4-Methyl-2-pentanon	0.610	0.652	0.610	0.616	0.565	0.532	0.598	7.12
59)		trans-1,3-Dichlorop	0.568	0.711	0.701	0.716	0.684	0.653	0.672	8.30
60)		Tetrachloroethene	0.412	0.479	0.526	0.583	0.493	0.543	0.506	11.68
		---- Linear regr., Force(0,0) ---- Coefficient = 0.9941								
		Response Ratio = 0.00000 + 0.53199 *A								
61)		Ethyl methacrylate	0.760	0.609	0.674	0.757	0.718	0.708	0.704	8.02
62)		1,1,2-Trichloroetha	0.360	0.409	0.401	0.411	0.393	0.381	0.393	4.95
63)		Dibromochloromethan	0.388	0.432	0.435	0.472	0.460	0.453	0.440	6.75
64)		1,3-Dichloropropane	0.689	0.832	0.815	0.851	0.816	0.791	0.799	7.18
65)		1,2-Dibromoethane	0.437	0.460	0.458	0.483	0.463	0.455	0.459	3.19
66)		2-hexanone	0.409	0.477	0.445	0.453	0.413	0.395	0.432	7.25

Initial Calibration Summary

Job Number: F91720 **Sample:** VJ3909-ICC3909
Account: TETTNOAK Tetra Tech, Inc **Lab FileID:** J073709.D
Project: Holloman AFB; Alamogordo, NM

```
 67)      1-Chlorohexane       0.555 0.759 0.759 0.779 0.738 0.734 0.720  11.51
 68) C    Ethylbenzene         1.854 2.250 2.254 2.240 2.057 1.927 2.097   8.48
 69) P    Chlorobenzene        1.006 1.314 1.237 1.283 1.204 1.140 1.197   9.34
 70)      1,1,1,2-Tetrachloro 0.387 0.450 0.439 0.470 0.459 0.444 0.441   6.52
 71)      m,p-Xylene           1.510 1.886 1.755 1.730 1.544 1.415 1.640  10.86
              ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9998
                Response Ratio = 0.00000 + 1.88941 *A + -0.11916 *A^2

 72)      o-Xylene             1.574 1.984 1.916 1.962 1.807 1.714 1.826   8.76
              ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9998
                Response Ratio = 0.00000 + 2.05941 *A + -0.17351 *A^2

 73)      Styrene              1.268 1.557 1.502 1.566 1.455 1.401 1.458   7.68
 74) P    Bromoform            0.286 0.307 0.323 0.357 0.345 0.346 0.327   8.34
 75)      Isopropylbenzene     1.631 1.931 1.959 1.986 1.866 1.769 1.857   7.28

 76) I    1,4-Dichlorobenzene-d ----------------ISTD---------------------
 77) S    4-Bromofluorobenzen 1.022 1.077 1.139 1.031 1.057 1.065 1.065   3.90
 78)      cis-1,4-Dichloro-2- 0.366 0.264 0.335 0.388 0.374 0.370 0.350  12.93
 79)      n-Propylbenzene      4.228 5.163 4.911 4.836 4.278 3.996 4.569  10.13
 80)      Bromobenzene         0.886 1.073 1.042 1.048 0.961 0.936 0.991   7.48
 81) P    1,1,2,2-Tetrachloro 1.048 1.144 1.156 1.155 1.085 1.036 1.104   4.96
 82)      1,3,5-Trimethylbenz 2.934 3.657 3.475 3.335 3.008 2.818 3.205  10.40
 83)      2-Chlorotoluene      3.075 3.497 3.289 3.218 2.830 2.664 3.096   9.91
 84)      trans-1,4-Dichloro- 0.349 0.400 0.406 0.419 0.402 0.396 0.395   6.12
 85)      1,2,3-Trichloroprop 0.240 0.307 0.285 0.302 0.277 0.272 0.281   8.63
 86)      Cyclohexanone        0.089 0.048 0.039 0.040 0.039 0.038 0.049  40.91
              ---- Linear regr., Force(0,0) ----  Coefficient =  0.9995
                Response Ratio = 0.00000 + 0.03869 *A

 87)      4-Chlorotoluene      2.976 3.234 3.129 3.136 2.827 2.682 2.997   7.02
 88)      tert-Butylbenzene    1.841 2.033 1.998 1.990 1.835 1.771 1.911   5.67
 89)      1,2,4-Trimethylbenz 2.856 3.607 3.512 3.442 3.055 2.884 3.226  10.35
 90)      Pentachloroethane    0.404 0.379 0.329 0.375 0.458 0.354 0.383  11.66
 91)      sec-Butylbenzene     3.486 4.531 4.398 4.306 3.906 3.682 4.051  10.43
 92)      4-Isopropyltoluene   2.579 3.439 3.367 3.372 3.073 2.921 3.125  10.71
 93)      1,3-Dichlorobenzene 1.443 1.935 1.870 1.885 1.732 1.655 1.753  10.53
 94)      1,4-Dichlorobenzene 1.462 1.864 1.876 1.882 1.715 1.642 1.740   9.66
 95)      n-Butylbenzene       1.645 2.273 2.265 2.256 2.075 1.972 2.081  11.84
 96)      Benzyl Chloride      0.394 0.445 0.451 0.457 0.435 0.420 0.434   5.40
 97)      1,2-Dichlorobenzene 1.455 1.881 1.836 1.838 1.687 1.601 1.716   9.71
 98)      1,2-Dibromo-3-Chlor 0.236 0.236 0.217 0.223 0.215 0.209 0.223   5.12
 99)      Hexachlorobutadiene 0.543 0.749 0.776 0.793 0.743 0.714 0.720  12.62
100)      1,2,4-Trichlorobenz 1.096 1.413 1.400 1.439 1.313 1.254 1.319   9.83
101)      Naphthalene          2.617 3.232 3.293 3.331 3.040 2.826 3.056   9.35
102)      1,2,3-Trichlorobenz 0.974 1.258 1.317 1.334 1.237 1.150 1.211  11.02

103) I    Tert Butyl Alcohol-d1 ----------------ISTD---------------------
104)      Ethanol              0.355 0.177 0.171 0.173 0.171 0.157 0.201  37.91
              ---- Linear regr., Force(0,0) ----  Coefficient =  0.9965
                Response Ratio = 0.00000 + 0.16299 *A

105)      acrolein             0.298 1.578 1.649 1.643 1.633 1.632 1.406  38.63
              ---- Linear regr., Force(0,0) ----  Coefficient =  0.9999
                Response Ratio = 0.00000 + 1.63370 *A

106)      Tert Butyl Alcohol   1.363 1.504 1.440 1.466 1.472 1.449 1.449   3.27
107)      tert Amyl alcohol    1.279 1.315 1.254 1.269 1.257 1.245 1.270   1.98
108)      Isobutyl alcohol     0.265 0.155 0.150 0.152 0.145 0.145 0.169  28.05
              ---- Linear regr., Force(0,0) ----  Coefficient =  0.9997
```

Initial Calibration Summary

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VJ3909-ICC3909
Lab FileID: J073709.D

```
                Response Ratio = 0.00000 + 0.14599 *A

109)     1,4-Dioxane         0.109 0.120 0.120 0.128 0.132 0.130 0.123   7.09
 ---------------------------------------------------------------------------
 (#) = Out of Range

           8260-japp9.m        Tue Apr 03 14:20:53 2012
```

5.8.1

5

Initial Calibration Verification

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VJ3909-ICV3909
Lab FileID: J073712.D

Evaluate Continuing Calibration Report

```
Data File : C:\MSDchem\1\DATA\040212\J073712.D          Vial: 9
Acq On    :  2 Apr 2012   7:23 pm                   Operator: MELISSAM
Sample    : icv3909-4                               Inst    : MSVOA6
Misc      : MS20437,VJ3909,,,,,                     Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\MSDchem\1\METHODS\8260-japp9.m (RTE Integrator)
Title        : SW-846 Method 5030B/8260B & EPA 624
Last Update  : Tue Apr 03 11:28:18 2012
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%     Max. Rel. Area : 200%
```

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	Fluorobenzene	1.000	1.000	0.0	102	0.00	7.85
		Amount	Calc.	%Drift			
2	Dichlorodifluoromethane	40.000	50.534	-26.3#	124	-0.01	2.66
3 P	Chloromethane	40.000	43.715	-9.3	106	0.00	2.90
4 C	Vinyl Chloride	40.000	42.620	-6.5	104	0.00	3.05
5	Bromomethane	40.000	39.037	2.4	95	0.00	3.49
6	Chloroethane	40.000	38.198	4.5	93	0.00	3.65
7	Trichlorofluoromethane	40.000	40.601	-1.5	98	0.00	3.87
		AvgRF	CCRF	%Dev			
8	Ethyl Ether	0.380	0.359	5.5	93	0.00	4.17
		Amount	Calc.	%Drift			
9	1,2-Dichlorotrifluoroetha	40.000	35.210	12.0	89	0.00	4.42
		AvgRF	CCRF	%Dev			
10 C	1,1-Dichloroethene	0.544	0.571	-5.0	100	0.00	4.46
11	Freon 113	0.291	0.296	-1.7	96	0.00	4.51
12	Carbon Disulfide	1.059	1.043	1.5	94	0.00	4.53
13	Iodomethane	0.502	0.497	1.0	94	0.00	4.65
		Amount	Calc.	%Drift			
14	Allyl chloride	40.000	36.114	9.7	85	0.00	4.99
15	Methylene Chloride	40.000	37.361	6.6	95	0.00	5.12
16	Acetone	200.000	188.850	5.6	95	0.00	5.15
		AvgRF	CCRF	%Dev			
17	Methyl acetate	0.058	0.060	-3.4	105	0.00	5.27
18	trans-1,2-Dichloroethene	0.584	0.571	2.2	94	0.00	5.30
19	Hexane	0.373	0.387	-3.8	100	0.00	5.37
20	Methyl Tert Butyl Ether	1.031	1.026	0.5	96	0.00	5.41
		Amount	Calc.	%Drift			
21	Acetonitrile	400.000	441.098	-10.3	96	0.00	5.37
		AvgRF	CCRF	%Dev			
22	Di-isopropyl ether	1.565	1.570	-0.3	97	0.00	5.80
		Amount	Calc.	%Drift			
23	Chloroprene	40.000	38.419	4.0	90	0.00	5.96

Initial Calibration Verification

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VJ3909-ICV3909
Lab FileID: J073712.D

			AvgRF	CCRF	%Dev			
24	P	1,1-Dichloroethane	0.692	0.705	-1.9	98	0.00	5.99
25		Acrylonitrile	0.171	0.177	-3.5	105	0.00	6.03
26		ETBE	1.360	1.320	2.9	95	0.00	6.20
27		Vinyl acetate	0.714	0.656	8.1	93	0.00	6.20
28		cis-1,2-Dichloroethene	0.384	0.366	4.7	96	0.00	6.56
29		2,2-Dichloropropane	0.495	0.491	0.8	96	0.00	6.70
30		Bromochloromethane	0.163	0.160	1.8	96	0.00	6.78
31		Cyclohexane	0.765	0.782	-2.2	99	0.00	6.82
32	C	Chloroform	0.578	0.573	0.9	96	0.00	6.83
33		Ethyl acetate	0.177	0.343	-93.8#	183	0.00	6.90
34		Tetrahydrofuran	0.143	0.135	5.6	97	0.00	7.01
35	S	Dibromofluoromethane	0.239	0.227	5.0	102	0.00	7.03
36		Carbon Tetrachloride	0.383	0.382	0.3	94	0.00	7.02
37		1,1,1-Trichloroethane	0.488	0.471	3.5	96	0.00	7.09
38		2-Butanone	0.237	0.235	0.8	94	0.00	7.13
39		1,1-Dichloropropene	0.442	0.456	-3.2	97	0.00	7.20
40		Propionitrile	0.060	0.057	5.0	93	0.00	7.45
41		Methacrylonitrile	0.223	0.221	0.9	97	0.00	7.48
42		Benzene	1.315	1.300	1.1	95	0.00	7.45
43		TAME	1.078	1.053	2.3	97	0.00	7.52
44	S	1,2-Dichloroethane-d4	0.330	0.322	2.4	102	0.00	7.59
45		1,2-Dichloroethane	0.476	0.482	-1.3	97	0.00	7.65
46		Trichloroethene	0.342	0.332	2.9	98	0.00	8.03
47		Methylcyclohexane	0.610	0.611	-0.2	98	0.00	8.05
48		Dibromomethane	0.213	0.208	2.3	97	0.00	8.46
49	C	1,2-Dichloropropane	0.420	0.407	3.1	93	0.00	8.55
50		Bromodichloromethane	0.438	0.429	2.1	96	0.00	8.60
51		Methyl methacrylate	0.365	0.372	-1.9	103	0.00	8.69
52		2-Chloroethyl vinyl ether	0.242	0.163	32.6#	66	0.00	9.11
53		cis-1,3-Dichloropropene	0.552	0.556	-0.7	96	0.00	9.21
54	I	Chlorobenzene-d5	1.000	1.000	0.0	102	0.00	10.95
55	S	Toluene-d8	1.377	1.376	0.1	103	0.00	9.40
56	C	Toluene	1.979	1.949	1.5	95	0.00	9.45
57		2-Nitropropane	0.148	0.147	0.7	97	0.00	9.67
58		4-Methyl-2-pentanone	0.598	0.582	2.7	97	0.00	9.79
59		trans-1,3-Dichloropropene	0.672	0.740	-10.1	106	0.00	9.84
			Amount	Calc.	%Drift			
60		Tetrachloroethene	40.000	38.439	3.9	90	0.00	9.85
			AvgRF	CCRF	%Dev			
61		Ethyl methacrylate	0.704	0.684	2.8	93	0.00	9.95
62		1,1,2-Trichloroethane	0.393	0.388	1.3	97	0.00	10.01
63		Dibromochloromethane	0.440	0.450	-2.3	97	0.00	10.20
64		1,3-Dichloropropane	0.799	0.788	1.4	95	0.00	10.29
65		1,2-Dibromoethane	0.459	0.456	0.7	97	0.00	10.47
66		2-hexanone	0.432	0.419	3.0	95	0.00	10.60
67		1-Chlorohexane	0.720	0.720	0.0	95	0.00	10.90
68	C	Ethylbenzene	2.097	2.095	0.1	96	0.00	10.97
69	P	Chlorobenzene	1.197	1.214	-1.4	97	0.00	10.97
70		1,1,1,2-Tetrachloroethane	0.441	0.447	-1.4	98	0.00	11.02
			Amount	Calc.	%Drift			
71		m,p-Xylene	80.000	76.029	5.0	96	0.00	11.10
72		o-Xylene	40.000	38.164	4.6	96	0.00	11.55
			AvgRF	CCRF	%Dev			
73		Styrene	1.458	1.469	-0.8	96	0.00	11.59

Initial Calibration Verification

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VJ3909-ICV3909
Lab FileID: J073712.D

74	P	Bromoform	0.327	0.331	-1.2	95	0.00	11.66
75		Isopropylbenzene	1.857	2.111	-13.7	109	0.00	11.85
76	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	105	0.00	13.31
77	S	4-Bromofluorobenzene	1.065	1.014	4.8	103	0.00	12.16
78		cis-1,4-Dichloro-2-butene	0.350	0.414	-18.3	112	0.00	12.20
79		n-Propylbenzene	4.569	4.467	2.2	97	0.00	12.27
80		Bromobenzene	0.991	0.968	2.3	97	0.00	12.29
81	P	1,1,2,2-Tetrachloroethane	1.104	1.079	2.3	98	0.00	12.33
82		1,3,5-Trimethylbenzene	3.205	3.019	5.8	95	0.00	12.45
83		2-Chlorotoluene	3.096	2.926	5.5	95	0.00	12.46
84		trans-1,4-Dichloro-2-Bute	0.395	0.394	0.3	98	0.00	12.51
85		1,2,3-Trichloropropane	0.281	0.276	1.8	96	0.00	12.49
		----------	Amount	Calc.	%Drift		----------	
86		Cyclohexanone	200.000	215.301	-7.7	108	0.00	12.57
		----------	AvgRF	CCRF	%Dev		----------	
87		4-Chlorotoluene	2.997	2.957	1.3	99	0.00	12.62
88		tert-Butylbenzene	1.911	1.855	2.9	97	0.00	12.79
89		1,2,4-Trimethylbenzene	3.226	3.087	4.3	94	0.00	12.86
90		Pentachloroethane	0.383	0.552	-44.1#	154	0.00	12.85
91		sec-Butylbenzene	4.051	3.993	1.4	97	0.00	12.98
92		4-Isopropyltoluene	3.125	3.202	-2.5	99	0.00	13.11
93		1,3-Dichlorobenzene	1.753	1.754	-0.1	97	0.00	13.24
94		1,4-Dichlorobenzene	1.740	1.745	-0.3	97	0.00	13.33
95		n-Butylbenzene	2.081	2.066	0.7	96	0.00	13.54
96		Benzyl Chloride	0.434	0.425	2.1	97	0.00	13.55
97		1,2-Dichlorobenzene	1.716	1.739	-1.3	99	0.00	13.75
98		1,2-Dibromo-3-Chloropropa	0.223	0.210	5.8	99	0.00	14.48
99		Hexachlorobutadiene	0.720	0.751	-4.3	99	0.00	15.02
100		1,2,4-Trichlorobenzene	1.319	1.355	-2.7	98	0.00	15.07
101		Naphthalene	3.056	3.113	-1.9	98	0.00	15.36
102		1,2,3-Trichlorobenzene	1.211	1.232	-1.7	97	0.00	15.53
103	I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	102	0.00	5.38
		----------	Amount	Calc.	%Drift		----------	
104		Ethanol	800.000	818.375	-2.3	99	-0.02	4.32
105		acrolein	200.000	127.923	36.0#	65	0.00	4.83
		----------	AvgRF	CCRF	%Dev		----------	
106		Tert Butyl Alcohol	1.449	1.478	-2.0	103	0.00	5.46
107		tert Amyl alcohol	1.270	1.332	-4.9	108	0.00	7.68
		----------	Amount	Calc.	%Drift		----------	
108		Isobutyl alcohol	800.000	789.926	1.3	97	0.00	7.47
		----------	AvgRF	CCRF	%Dev		----------	
109		1,4-Dioxane	0.123	0.135	-9.8	109	0.00	8.77

(#) = Out of Range SPCC's out = 0 CCC's out = 0
J073709.D 8260-japp9.m Tue Apr 03 14:20:42 2012

Continuing Calibration Summary

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VJ3915-CC3909
Lab FileID: J073851.D

Evaluate Continuing Calibration Report

```
Data File : C:\MSDchem\1\DATA\041012\J073851.D          Vial: 1
Acq On    : 10 Apr 2012   9:25 am                   Operator: MELISSAM
Sample    : CC3909-4                                Inst    : MSVOA6
Misc      : MS20437,VJ3915,,,,,                     Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\MSDchem\1\METHODS\8260-japp9.m (RTE Integrator)
Title        : SW-846 Method 5030B/8260B & EPA 624
Last Update  : Tue Apr 03 11:04:07 2012
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%     Max. Rel. Area : 200%
```

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	Fluorobenzene	1.000	1.000	0.0	133	0.00	7.85
		Amount	Calc.	%Drift			
2	Dichlorodifluoromethane	40.000	49.851	-24.6#	160	0.00	2.67
3 P	Chloromethane	40.000	41.408	-3.5	132	0.00	2.90
4 C	Vinyl Chloride	40.000	45.259	-13.1	145	0.00	3.05
5	Bromomethane	40.000	45.559	-13.9	143	0.00	3.49
6	Chloroethane	40.000	45.713	-14.3	142	0.00	3.65
7	Trichlorofluoromethane	40.000	45.935	-14.8	145	0.00	3.86
		AvgRF	CCRF	%Dev			
8	Ethyl Ether	0.380	0.356	6.3	121	0.00	4.17
		Amount	Calc.	%Drift			
9	1,2-Dichlorotrifluoroetha	40.000	38.693	3.3	127	0.00	4.41
		AvgRF	CCRF	%Dev			
10 C	1,1-Dichloroethene	0.544	0.520	4.4	118	0.00	4.45
11	Freon 113	0.291	0.295	-1.4	125	0.00	4.51
12	Carbon Disulfide	1.059	0.927	12.5	110	0.00	4.53
13	Iodomethane	0.502	0.482	4.0	120	0.00	4.65
		Amount	Calc.	%Drift			
14	Allyl chloride	40.000	41.399	-3.5	128	0.00	4.99
15	Methylene Chloride	40.000	35.986	10.0	120	0.00	5.12
16	Acetone	200.000	240.490	-20.2#	156	0.00	5.15
		AvgRF	CCRF	%Dev			
17	Methyl acetate	0.058	0.054	6.9	122	0.00	5.27
18	trans-1,2-Dichloroethene	0.584	0.570	2.4	123	0.00	5.30
19	Hexane	0.373	0.369	1.1	125	0.00	5.36
20	Methyl Tert Butyl Ether	1.031	0.972	5.7	119	0.00	5.40
		Amount	Calc.	%Drift			
21	Acetonitrile	400.000	445.473	-11.4	126	-0.01	5.36
		AvgRF	CCRF	%Dev			
22	Di-isopropyl ether	1.565	1.514	3.3	123	0.00	5.79
		Amount	Calc.	%Drift			
23	Chloroprene	40.000	40.428	-1.1	124	0.00	5.96

Continuing Calibration Summary

Job Number: F91720 **Sample:** VJ3915-CC3909
Account: TETTNOAK Tetra Tech, Inc **Lab FileID:** J073851.D
Project: Holloman AFB; Alamogordo, NM

			AvgRF	CCRF	%Dev			
24	P	1,1-Dichloroethane	0.692	0.688	0.6	125	0.00	5.99
25		Acrylonitrile	0.171	0.154	9.9	119	0.00	6.03
26		ETBE	1.360	1.312	3.5	123	0.00	6.20
27		Vinyl acetate	0.714	0.679	4.9	126	0.00	6.20
28		cis-1,2-Dichloroethene	0.384	0.355	7.6	122	0.00	6.56
29		2,2-Dichloropropane	0.495	0.504	-1.8	129	0.00	6.70
30		Bromochloromethane	0.163	0.158	3.1	124	0.00	6.78
31		Cyclohexane	0.765	0.740	3.3	122	0.00	6.81
32	C	Chloroform	0.578	0.563	2.6	123	0.00	6.83
33		Ethyl acetate	0.177	0.168	5.1	117	0.00	6.90
34		Tetrahydrofuran	0.143	0.124	13.3	116	0.00	7.01
35	S	Dibromofluoromethane	0.239	0.234	2.1	137	0.00	7.02
36		Carbon Tetrachloride	0.383	0.386	-0.8	124	0.00	7.02
37		1,1,1-Trichloroethane	0.488	0.475	2.7	127	0.00	7.09
38		2-Butanone	0.237	0.212	10.5	111	0.00	7.12
39		1,1-Dichloropropene	0.442	0.446	-0.9	123	0.00	7.19
40		Propionitrile	0.060	0.057	5.0	122	0.00	7.45
41		Methacrylonitrile	0.223	0.213	4.5	123	0.00	7.47
42		Benzene	1.315	1.276	3.0	122	0.00	7.45
43		TAME	1.078	0.987	8.4	119	0.00	7.52
44	S	1,2-Dichloroethane-d4	0.330	0.332	-0.6	138	0.00	7.58
45		1,2-Dichloroethane	0.476	0.480	-0.8	126	0.00	7.65
46		Trichloroethene	0.342	0.321	6.1	124	0.00	8.02
47		Methylcyclohexane	0.610	0.593	2.8	124	0.00	8.05
48		Dibromomethane	0.213	0.201	5.6	123	0.00	8.46
49	C	1,2-Dichloropropane	0.420	0.406	3.3	121	0.00	8.55
50		Bromodichloromethane	0.438	0.411	6.2	120	0.00	8.59
51		Methyl methacrylate	0.365	0.333	8.8	120	0.00	8.69
			Amount	Calc.	%Drift			
52		2-Chloroethyl vinyl ether	200.000	180.035	10.0	119	0.00	9.11
			AvgRF	CCRF	%Dev			
53		cis-1,3-Dichloropropene	0.552	0.533	3.4	120	0.00	9.21
54	I	Chlorobenzene-d5	1.000	1.000	0.0	133	0.00	10.95
55	S	Toluene-d8	1.377	1.357	1.5	132	0.00	9.40
56	C	Toluene	1.979	1.921	2.9	122	0.00	9.45
57		2-Nitropropane	0.148	0.135	8.8	116	0.00	9.67
58		4-Methyl-2-pentanone	0.598	0.548	8.4	119	0.00	9.78
59		trans-1,3-Dichloropropene	0.672	0.660	1.8	123	0.00	9.84
			Amount	Calc.	%Drift			
60		Tetrachloroethene	40.000	33.691	15.8	102	0.00	9.85
			AvgRF	CCRF	%Dev			
61		Ethyl methacrylate	0.704	0.668	5.1	118	0.00	9.94
62		1,1,2-Trichloroethane	0.393	0.378	3.8	123	0.00	10.01
63		Dibromochloromethane	0.440	0.419	4.8	118	0.00	10.20
64		1,3-Dichloropropane	0.799	0.780	2.4	122	0.00	10.29
65		1,2-Dibromoethane	0.459	0.435	5.2	120	0.00	10.46
66		2-hexanone	0.432	0.407	5.8	120	0.00	10.60
67		1-Chlorohexane	0.720	0.724	-0.6	124	0.00	10.89
68	C	Ethylbenzene	2.097	2.050	2.2	122	0.00	10.96
69	P	Chlorobenzene	1.197	1.172	2.1	122	0.00	10.97
70		1,1,1,2-Tetrachloroethane	0.441	0.419	5.0	119	0.00	11.02
			Amount	Calc.	%Drift			
71		m,p-Xylene	80.000	72.922	8.8	120	0.00	11.10

Continuing Calibration Summary

Job Number: F91720 **Sample:** VJ3915-CC3909
Account: TETTNOAK Tetra Tech, Inc **Lab FileID:** J073851.D
Project: Holloman AFB; Alamogordo, NM

72		o-Xylene	40.000	36.255	9.4	119	0.00	11.54
		----------	AvgRF	CCRF	%Dev	----------		
73		Styrene	1.458	1.375	5.7	117	0.00	11.59
74	P	Bromoform	0.327	0.290	11.3	108	0.00	11.66
75		Isopropylbenzene	1.857	1.791	3.6	120	0.00	11.85
76	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	132	0.00	13.31
77	S	4-Bromofluorobenzene	1.065	1.023	3.9	131	0.00	12.16
78		cis-1,4-Dichloro-2-butene	0.350	0.355	-1.4	120	0.00	12.20
79		n-Propylbenzene	4.569	4.424	3.2	120	0.00	12.27
80		Bromobenzene	0.991	0.964	2.7	121	0.00	12.29
81	P	1,1,2,2-Tetrachloroethane	1.104	1.036	6.2	118	0.00	12.33
82		1,3,5-Trimethylbenzene	3.205	3.053	4.7	121	0.00	12.45
83		2-Chlorotoluene	3.096	2.938	5.1	120	0.00	12.46
84		trans-1,4-Dichloro-2-Bute	0.395	0.380	3.8	119	0.00	12.51
85		1,2,3-Trichloropropane	0.281	0.268	4.6	117	0.00	12.49
		----------	Amount	Calc.	%Drift	----------		
86		Cyclohexanone	200.000	189.752	5.1	120	0.00	12.57
		----------	AvgRF	CCRF	%Dev	----------		
87		4-Chlorotoluene	2.997	2.843	5.1	119	0.00	12.62
88		tert-Butylbenzene	1.911	1.851	3.1	122	0.00	12.79
89		1,2,4-Trimethylbenzene	3.226	3.108	3.7	119	0.00	12.86
90		Pentachloroethane	0.383	0.504	-31.6#	177	0.00	12.84
91		sec-Butylbenzene	4.051	3.992	1.5	122	0.00	12.98
92		4-Isopropyltoluene	3.125	3.081	1.4	120	0.00	13.11
93		1,3-Dichlorobenzene	1.753	1.731	1.3	121	0.00	13.24
94		1,4-Dichlorobenzene	1.740	1.698	2.4	119	0.00	13.32
95		n-Butylbenzene	2.081	2.082	-0.0	122	0.00	13.54
96		Benzyl Chloride	0.434	0.403	7.1	116	0.00	13.55
97		1,2-Dichlorobenzene	1.716	1.675	2.4	120	0.00	13.75
98		1,2-Dibromo-3-Chloropropa	0.223	0.179	19.7	105	0.00	14.48
99		Hexachlorobutadiene	0.720	0.719	0.1	119	0.00	15.02
100		1,2,4-Trichlorobenzene	1.319	1.269	3.8	116	0.00	15.07
101		Naphthalene	3.056	2.775	9.2	110	0.00	15.36
102		1,2,3-Trichlorobenzene	1.211	1.158	4.4	114	0.00	15.53
103	I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	128	0.00	5.38
		----------	Amount	Calc.	%Drift	----------		
104		Ethanol	800.000	777.835	2.8	118	0.00	4.34
105		acrolein	200.000	136.073	32.0#	87	0.00	4.83
		----------	AvgRF	CCRF	%Dev	----------		
106		Tert Butyl Alcohol	1.449	1.355	6.5	119	0.00	5.45
107		tert Amyl alcohol	1.270	1.120	11.8	113	0.00	7.67
		----------	Amount	Calc.	%Drift	----------		
108		Isobutyl alcohol	800.000	854.957	-6.9	131	0.00	7.47
		----------	AvgRF	CCRF	%Dev	----------		
109		1,4-Dioxane	0.123	0.137	-11.4	137	0.00	8.77

(#) = Out of Range SPCC's out = 0 CCC's out = 0
J073709.D 8260-japp9.m Wed Apr 11 08:21:32 2012

5.8.3

5

Southeast ACCUTEST LABORATORIES

GC/MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (DFTPP)
- Internal Standard Area Summaries
- Surrogate Recovery Summaries
- Initial and Continuing Calibration Summaries

Leachate Blank Summary

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP41343-LB	L056740.D	1	04/11/12	NAF	04/11/12	OP41343	SL2892

The QC reported here applies to the following samples: **Method:** SW846 8270D

F91720-1L, F91720-2L, F91720-3L, F91720-4L

CAS No.	Compound	Result	RL	MDL	Units	Q
95-48-7	2-Methylphenol	ND	50	5.4	ug/l	
	3&4-Methylphenol	ND	50	11	ug/l	
87-86-5	Pentachlorophenol	ND	250	54	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	50	5.0	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	50	5.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	50	10	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	50	5.0	ug/l	
118-74-1	Hexachlorobenzene	ND	50	5.6	ug/l	
87-68-3	Hexachlorobutadiene	ND	50	10	ug/l	
67-72-1	Hexachloroethane	ND	50	10	ug/l	
98-95-3	Nitrobenzene	ND	50	5.9	ug/l	
110-86-1	Pyridine	ND	100	16	ug/l	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	43%	14-62%
4165-62-2	Phenol-d5	31%	10-40%
118-79-6	2,4,6-Tribromophenol	72%	33-118%
4165-60-0	Nitrobenzene-d5	67%	42-108%
321-60-8	2-Fluorobiphenyl	65%	40-106%
1718-51-0	Terphenyl-d14	79%	39-121%

Blank Spike Summary

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP41343-LBS	L056739.D	1	04/11/12	NAF	04/11/12	OP41343	SL2892

The QC reported here applies to the following samples: **Method:** SW846 8270D

F91720-1L, F91720-2L, F91720-3L, F91720-4L

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
95-48-7	2-Methylphenol	500	309	62	35-91
	3&4-Methylphenol	1000	760	76	32-85
87-86-5	Pentachlorophenol	1000	800	80	57-118
95-95-4	2,4,5-Trichlorophenol	500	400	80	59-106
88-06-2	2,4,6-Trichlorophenol	500	385	77	58-107
106-46-7	1,4-Dichlorobenzene	500	355	71	40-100
121-14-2	2,4-Dinitrotoluene	500	402	80	60-109
118-74-1	Hexachlorobenzene	500	397	79	62-107
87-68-3	Hexachlorobutadiene	500	365	73	38-107
67-72-1	Hexachloroethane	500	339	68	35-101
98-95-3	Nitrobenzene	500	376	75	52-105
110-86-1	Pyridine	500	232	46	15-67

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	50%	14-62%
4165-62-2	Phenol-d5	35%	10-40%
118-79-6	2,4,6-Tribromophenol	79%	33-118%
4165-60-0	Nitrobenzene-d5	75%	42-108%
321-60-8	2-Fluorobiphenyl	75%	40-106%
1718-51-0	Terphenyl-d14	81%	39-121%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP41343-MS	L056742.D	1	04/11/12	NAF	04/11/12	OP41343	SL2892
OP41343-MSD	L056743.D	1	04/11/12	NAF	04/11/12	OP41343	SL2892
F91880-1L	L056741.D	1	04/11/12	NAF	04/11/12	OP41343	SL2892

The QC reported here applies to the following samples: **Method:** SW846 8270D

F91720-1L, F91720-2L, F91720-3L, F91720-4L

CAS No.	Compound	F91880-1L ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
95-48-7	2-Methylphenol	50	U	500	331	66	319	64	4	35-91/30
	3&4-Methylphenol	50	U	1000	757	76	700	70	8	32-85/29
87-86-5	Pentachlorophenol	250	U	1000	852	85	808	81	5	57-118/26
95-95-4	2,4,5-Trichlorophenol	50	U	500	409	82	396	79	3	59-106/23
88-06-2	2,4,6-Trichlorophenol	50	U	500	410	82	363	73	12	58-107/24
106-46-7	1,4-Dichlorobenzene	50	U	500	375	75	365	73	3	40-100/28
121-14-2	2,4-Dinitrotoluene	50	U	500	422	84	399	80	6	60-109/20
118-74-1	Hexachlorobenzene	50	U	500	429	86	403	81	6	62-107/20
87-68-3	Hexachlorobutadiene	50	U	500	393	79	383	77	3	38-107/30
67-72-1	Hexachloroethane	50	U	500	369	74	345	69	7	35-101/29
98-95-3	Nitrobenzene	50	U	500	397	79	400	80	1	52-105/28
110-86-1	Pyridine	100	U	500	250	50	236	47	6	15-67/40

CAS No.	Surrogate Recoveries	MS	MSD	F91880-1L	Limits
367-12-4	2-Fluorophenol	54%	52%	43%	14-62%
4165-62-2	Phenol-d5	35%	35%	32%	10-40%
118-79-6	2,4,6-Tribromophenol	86%	81%	73%	33-118%
4165-60-0	Nitrobenzene-d5	78%	77%	69%	42-108%
321-60-8	2-Fluorobiphenyl	81%	75%	66%	40-106%
1718-51-0	Terphenyl-d14	86%	82%	77%	39-121%

Duplicate Summary

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP41343-DUP	L056745.D	1	04/11/12	NAF	04/11/12	OP41343	SL2892
F91720-1L	L056744.D	1	04/11/12	NAF	04/11/12	OP41343	SL2892

The QC reported here applies to the following samples: **Method:** SW846 8270D

F91720-1L, F91720-2L, F91720-3L, F91720-4L

CAS No.	Compound	F91720-1L ug/l	Q	DUP ug/l	Q	RPD	Limits
95-48-7	2-Methylphenol	ND		ND		nc	30
	3&4-Methylphenol	ND		ND		nc	29
87-86-5	Pentachlorophenol	ND		ND		nc	26
95-95-4	2,4,5-Trichlorophenol	ND		ND		nc	23
88-06-2	2,4,6-Trichlorophenol	ND		ND		nc	24
106-46-7	1,4-Dichlorobenzene	ND		ND		nc	28
121-14-2	2,4-Dinitrotoluene	ND		ND		nc	20
118-74-1	Hexachlorobenzene	ND		ND		nc	20
87-68-3	Hexachlorobutadiene	ND		ND		nc	30
67-72-1	Hexachloroethane	ND		ND		nc	29
98-95-3	Nitrobenzene	ND		ND		nc	28
110-86-1	Pyridine	ND		ND		nc	40

CAS No.	Surrogate Recoveries	DUP	F91720-1L	Limits
367-12-4	2-Fluorophenol	44%	42%	14-62%
4165-62-2	Phenol-d5	31%	30%	10-40%
118-79-6	2,4,6-Tribromophenol	86%	77%	33-118%
4165-60-0	Nitrobenzene-d5	69%	69%	42-108%
321-60-8	2-Fluorobiphenyl	73%	68%	40-106%
1718-51-0	Terphenyl-d14	85%	82%	39-121%

Instrument Performance Check (DFTPP)

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: SL2892-DFTPP
Lab File ID: L056727.D
Instrument ID: GCMSL
Injection Date: 04/11/12
Injection Time: 11:48

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	34816	33.0		Pass
68	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
69	Mass 69 relative abundance	34666	32.9		Pass
70	Less than 2.0% of mass 69	171	0.16	(0.49) [a]	Pass
127	40.0 - 60.0% of mass 198	43869	41.6		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	105528	100.0		Pass
199	5.0 - 9.0% of mass 198	7245	6.87		Pass
275	10.0 - 30.0% of mass 198	24989	23.7		Pass
365	1.0 - 100.0% of mass 198	2461	2.33		Pass
441	Present, but less than mass 443	14604	13.8	(75.9) [b]	Pass
442	40.0 - 100.0% of mass 198	92978	88.1		Pass
443	17.0 - 23.0% of mass 442	19247	18.2	(20.7) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
SL2892-IC2892	L056728.D	04/11/12	12:07	00:19	Initial cal 5
SL2892-IC2892	L056729.D	04/11/12	12:36	00:48	Initial cal 10
SL2892-IC2892	L056730.D	04/11/12	13:12	01:24	Initial cal 25
SL2892-ICC2892	L056731.D	04/11/12	13:41	01:53	Initial cal 50
SL2892-IC2892	L056732.D	04/11/12	14:09	02:21	Initial cal 60
SL2892-IC2892	L056733.D	04/11/12	14:38	02:50	Initial cal 75
SL2892-IC2892	L056734.D	04/11/12	15:08	03:20	Initial cal 100
SL2892-ICV2892	L056735.D	04/11/12	15:37	03:49	Initial cal verification 50
SL2892-ICV2892	L056736.D	04/11/12	16:05	04:17	Initial cal verification 50
SL2892-ICV2892	L056737.D	04/11/12	16:33	04:45	Initial cal verification 50
OP41343-LBS	L056739.D	04/11/12	17:30	05:42	Blank Spike
OP41343-LB	L056740.D	04/11/12	17:58	06:10	Leachate Blank
F91880-1L	L056741.D	04/11/12	18:25	06:37	(used for QC only; not part of job F91720)
OP41343-MS	L056742.D	04/11/12	18:54	07:06	Matrix Spike
OP41343-MSD	L056743.D	04/11/12	19:22	07:34	Matrix Spike Duplicate
F91720-1L	L056744.D	04/11/12	19:50	08:02	SS39-RB01-032912
OP41343-DUP	L056745.D	04/11/12	20:17	08:29	Duplicate
F91720-2L	L056746.D	04/11/12	20:45	08:57	SS39-RB03-032912
F91720-3L	L056747.D	04/11/12	21:12	09:24	SS39-RB04-032912

Instrument Performance Check (DFTPP)

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: SL2892-DFTPP
Lab File ID: L056727.D
Instrument ID: GCMSL
Injection Date: 04/11/12
Injection Time: 11:48

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
F91720-4L	L056748.D	04/11/12	21:40	09:52	SS39-RB02-032912
OP41344-MB	L056749.D	04/11/12	22:07	10:19	Method Blank
OP41344-BS	L056750.D	04/11/12	22:35	10:47	Blank Spike
ZZZZZZ	L056751.D	04/11/12	23:02	11:14	(unrelated sample)

Semivolatile Internal Standard Area Summary

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Check Std:	SL2892-ICC2892	**Injection Date:**	04/11/12
Lab File ID:	L056731.D	**Injection Time:**	13:41
Instrument ID:	GCMSL	**Method:**	SW846 8270D

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Initial Cal [a]	147127	4.21	491657	5.19	277948	7.19	459851	9.50	346688	14.32	298516	16.79
Check Std [b]	147127	4.21	491657	5.19	277948	7.19	459851	9.50	346688	14.32	298516	16.79
Upper Limit [c]	294254	4.71	983314	5.69	555896	7.69	919702	10.00	693376	14.82	597032	17.29
Lower Limit [d]	73564	3.71	245829	4.69	138974	6.69	229926	9.00	173344	13.82	149258	16.29

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
OP41343-LBS	139937	4.20	485869	5.19	269683	7.19	442553	9.50	343953	14.32	274883	16.78
OP41343-LB	149162	4.20	492048	5.19	277578	7.18	453426	9.49	371226	14.31	304871	16.78
F91880-1L	150463	4.20	506728	5.19	286917	7.19	460973	9.49	390775	14.31	310675	16.78
OP41343-MS	140303	4.20	494444	5.19	266388	7.19	435761	9.50	333829	14.32	277952	16.79
OP41343-MSD	147007	4.20	496445	5.19	283549	7.19	454539	9.50	346666	14.32	290239	16.78
F91720-1L	151992	4.20	499094	5.19	290675	7.18	453825	9.49	368209	14.31	313851	16.78
OP41343-DUP	153539	4.20	521157	5.18	287717	7.18	456793	9.49	375653	14.31	312857	16.78
F91720-2L	157682	4.20	526070	5.18	300048	7.18	468583	9.49	382036	14.31	311477	16.78
F91720-3L	158199	4.20	538021	5.19	306496	7.18	492801	9.49	403352	14.31	315623	16.78
F91720-4L	154378	4.20	517578	5.19	296259	7.18	467204	9.49	387483	14.31	309435	16.78
OP41344-MB	157865	4.20	523841	5.18	293457	7.18	469052	9.49	381287	14.30	313124	16.78
OP41344-BS [e]	147159	4.20	508428	5.19	279950	7.18	447987	9.50	343732	14.32	276609	16.78
ZZZZZZ	153804	4.20	501169	5.18	287548	7.18	466503	9.49	373206	14.31	309865	16.78

IS 1 = 1,4-Dichlorobenzene-d4
IS 2 = Naphthalene-d8
IS 3 = Acenaphthene-D10
IS 4 = Phenanthrene-d10
IS 5 = Chrysene-d12
IS 6 = Perylene-d12

(a) Initial Cal is: SL2892-ICC2892 L056731.D 04/11/12 13:41
(b) Check Std Limit = -50 to + 100% of initial cal area.
(c) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.
(d) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
(e) Insufficient sample for MS/MSD.

Semivolatile Surrogate Recovery Summary

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Method: SW846 8270D **Matrix:** LEACHATE

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4	S5	S6
F91720-1L	L056744.D	42.0	30.0	77.0	69.0	68.0	82.0
F91720-2L	L056746.D	44.0	34.0	73.0	65.0	63.0	75.0
F91720-3L	L056747.D	41.0	29.0	73.0	63.0	63.0	72.0
F91720-4L	L056748.D	35.0	24.0	65.0	58.0	57.0	67.0
OP41343-DUP	L056745.D	44.0	31.0	86.0	69.0	73.0	85.0
OP41343-LB	L056740.D	43.0	31.0	72.0	67.0	65.0	79.0
OP41343-LBS	L056739.D	50.0	35.0	79.0	75.0	75.0	81.0
OP41343-MS	L056742.D	54.0	35.0	86.0	78.0	81.0	86.0
OP41343-MSD	L056743.D	52.0	35.0	81.0	77.0	75.0	82.0

Surrogate Compounds	Recovery Limits
S1 = 2-Fluorophenol	14-62%
S2 = Phenol-d5	10-40%
S3 = 2,4,6-Tribromophenol	33-118%
S4 = Nitrobenzene-d5	42-108%
S5 = 2-Fluorobiphenyl	40-106%
S6 = Terphenyl-d14	39-121%

Initial Calibration Summary

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: SL2892-ICC2892
Lab FileID: L056731.D

```
                        Response Factor Report  MSBNA02

 Method       : C:\msdchem\2\METHODS\8270d.m (RTE Integrator)
 Title        : SW846 8270D OR EPA 625
 Last Update  : Wed Apr 11 15:42:07 2012
 Response via : Initial Calibration

 Calibration Files
 5   =L056728.D   10  =L056729.D   25  =L056730.D   50  =L056731.D
 60  =L056732.D   75  =L056733.D   100 =L056734.D

    Compound             5     10    25    50    60    75    100   Avg   %RSD
 ---------------------------------------------------------------------------

 1) I   1,4-Dichlorobenzene-d ----------------ISTD---------------------
 2)  1,4-Dioxane       0.734 0.742 0.694 0.646 0.632 0.643 0.614 0.672   7.64
 3)  N-nitrosodimethyl 0.838 0.809 0.808 0.761 0.788 0.754 0.782 0.791   3.72
 4)  Pyridine          1.716 1.565 1.497 1.471 1.500 1.431 1.508 1.527   6.06
 5)P Benzaldehyde      1.309 1.184 1.065 0.961 0.949 0.871 0.819 1.022  17.09
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9993
              Response Ratio = 0.00000 + 1.12540 *A + -0.12517 *A^2

 6)  Aniline           2.553 2.498 2.238 1.907 1.898 1.752 1.724 2.081  16.65
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9975
              Response Ratio = 0.00000 + 2.18341 *A + -0.19468 *A^2

 7)S 2-Fluorophenol    1.646 1.550 1.373 1.126 1.111 0.993 0.939 1.248  22.15
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9967
              Response Ratio = 0.00000 + 1.37620 *A + -0.09083 *A^2

 8)P bis(2-Chloroethyl 1.691 1.586 1.366 1.206 1.173 1.061 1.015 1.300  19.92
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9980
              Response Ratio = 0.00000 + 1.41576 *A + -0.16657 *A^2

 9)S Phenol-d5         2.002 1.769 1.495 1.261 1.239 1.129 1.054 1.421  24.76
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9981
              Response Ratio = 0.00000 + 1.53515 *A + -0.09932 *A^2

10)P Phenol            2.244 1.989 1.764 1.413 1.379 1.283 1.124 1.599  25.57
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9983
              Response Ratio = 0.00000 + 1.81325 *A + -0.27972 *A^2

11)P 2-Chlorophenol    1.860 1.747 1.526 1.346 1.341 1.242 1.186 1.464  17.56
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9989
              Response Ratio = 0.00000 + 1.56315 *A + -0.15549 *A^2

12)  1,3-Dichlorobenze 2.276 2.074 1.839 1.552 1.525 1.383 1.265 1.702  21.90
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9987
              Response Ratio = 0.00000 + 1.91355 *A + -0.26511 *A^2

13)  1,4-Dichlorobenze 2.149 2.024 1.777 1.488 1.442 1.312 1.219 1.630  22.01
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9980
              Response Ratio = 0.00000 + 1.81399 *A + -0.24561 *A^2

14)  1,2-Dichlorobenze 2.125 2.009 1.720 1.376 1.335 1.195 1.050 1.544  26.74
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9978
              Response Ratio = 0.00000 + 1.79132 *A + -0.30273 *A^2

15)  Benzyl alcohol    1.228 1.162 1.050 0.909 0.866 0.812 0.747 0.968  18.82
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9992
```

Initial Calibration Summary

Job Number: F91720 **Sample:** SL2892-ICC2892
Account: TETTNOAK Tetra Tech, Inc **Lab FileID:** L056731.D
Project: Holloman AFB; Alamogordo, NM

```
                Response Ratio = 0.00000 + 1.08478 *A + -0.13828 *A^2

16)P bis(2-chloroisopr 2.144 2.033 1.887 1.668 1.677 1.551 1.470 1.776  14.16
17)P 2-Methylphenol    1.665 1.522 1.391 1.181 1.148 1.026 0.976 1.273  20.36
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9972
                Response Ratio = 0.00000 + 1.41424 *A + -0.18208 *A^2

18)P Acetophenone      2.339 2.294 1.996 1.729 1.710 1.617 1.627 1.902  16.31
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9975
                Response Ratio = 0.00000 + 1.90283 *A + -0.12107 *A^2

19)P Hexachloroethane  0.873 0.841 0.761 0.596 0.600 0.508 0.405 0.655  26.77
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9969
                Response Ratio = 0.00000 + 0.84645 *A + -0.17729 *A^2

20)P N-Nitroso-di-n-pr 1.178 1.174 1.024 0.844 0.836 0.689 0.595 0.906  25.20
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9956
                Response Ratio = 0.00000 + 1.13478 *A + -0.21965 *A^2

21)P 3&4-Methylphenol  1.752 1.696 1.429 1.132 1.110 0.924 0.793 1.262  29.47
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9954
                Response Ratio = 0.00000 + 1.54349 *A + -0.30634 *A^2


22) I   Naphthalene-d8        ----------------ISTD---------------------
23)S Nitrobenzene-d5   0.570 0.499 0.458 0.414 0.403 0.378 0.363 0.441  16.68
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9993
                Response Ratio = 0.00000 + 0.46942 *A + -0.04395 *A^2

24)P Nitrobenzene      0.574 0.504 0.456 0.398 0.384 0.360 0.339 0.431  19.67
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9990
                Response Ratio = 0.00000 + 0.46516 *A + -0.05189 *A^2

25)P Isophorone        0.890 0.850 0.788 0.703 0.704 0.684 0.679 0.757  11.38
26)P 2-Nitrophenol     0.326 0.287 0.277 0.249 0.247 0.227 0.213 0.261  14.91
27)P 2,4-Dimethylpheno 0.564 0.484 0.460 0.377 0.374 0.356 0.320 0.419  20.50
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9985
                Response Ratio = 0.00000 + 0.46502 *A + -0.05856 *A^2

28)P bis(2-Chloroethox 0.611 0.548 0.502 0.440 0.427 0.404 0.370 0.472  18.18
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9996
                Response Ratio = 0.00000 + 0.52217 *A + -0.06165 *A^2

29)  Benzoic Acid      0.454 0.460 0.454 0.420 0.431 0.439 0.408 0.438   4.45
30)P 2,4-Dichloropheno 0.516 0.480 0.420 0.349 0.340 0.309 0.283 0.385  22.93
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9983
                Response Ratio = 0.00000 + 0.43167 *A + -0.06103 *A^2

31)  1,2,4-Trichlorobe 0.579 0.510 0.450 0.401 0.392 0.362 0.317 0.430  20.91
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9997
                Response Ratio = 0.00000 + 0.49802 *A + -0.07246 *A^2

32)P Naphthalene       1.465 1.309 1.119 0.936 0.898 0.807 0.712 1.035  26.52
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9988
                Response Ratio = 0.00000 + 1.19413 *A + -0.19649 *A^2

33)P 4-Chloroaniline   0.627 0.588 0.507 0.434 0.413 0.381 0.336 0.469  23.11
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9994
                Response Ratio = 0.00000 + 0.54239 *A + -0.08386 *A^2
```

Initial Calibration Summary

Job Number: F91720 **Sample:** SL2892-ICC2892
Account: TETTNOAK Tetra Tech, Inc **Lab FileID:** L056731.D
Project: Holloman AFB; Alamogordo, NM

```
34)  2,6-Dichloropheno 0.496 0.442 0.381 0.333 0.313 0.300 0.272 0.363  22.52
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9991
              Response Ratio = 0.00000 + 0.39756 *A + -0.05105 *A^2

35)P Hexachlorobutadie 0.350 0.317 0.292 0.255 0.244 0.228 0.209 0.271  18.74
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9994
              Response Ratio = 0.00000 + 0.30413 *A + -0.03869 *A^2

36)P Caprolactam       0.152 0.131 0.135 0.134 0.130 0.128 0.127 0.134   6.37
37)P 4-Chloro-3-methyl 0.447 0.411 0.385 0.346 0.346 0.319 0.310 0.366  13.73
38)P 2-Methylnaphthale 1.018 0.914 0.794 0.686 0.651 0.594 0.551 0.744  23.17
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9983
              Response Ratio = 0.00000 + 0.82672 *A + -0.11368 *A^2

39)  1-Methylnaphthale 0.931 0.816 0.746 0.631 0.617 0.559 0.516 0.688  21.65
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9985
              Response Ratio = 0.00000 + 0.77041 *A + -0.10419 *A^2

40)P 1,2,4,5-Tetrachlo 0.572 0.513 0.479 0.409 0.392 0.373 0.345 0.441  18.77
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9990
              Response Ratio = 0.00000 + 0.48397 *A + -0.05682 *A^2


41) I   Acenaphthene-d10      ----------------ISTD---------------------
42)P Hexachlorocyclope 0.622 0.557 0.572 0.509 0.529 0.483 0.452 0.532  10.74
43)P 2,4,6-Trichloroph 0.672 0.632 0.581 0.516 0.503 0.465 0.433 0.543  16.20
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9995
              Response Ratio = 0.00000 + 0.60905 *A + -0.07194 *A^2

44)P 2,4,5-Trichloroph 0.661 0.592 0.576 0.525 0.527 0.488 0.447 0.545  12.99
45)S 2-Fluorobiphenyl  2.013 1.737 1.618 1.367 1.344 1.229 1.106 1.488  21.31
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9992
              Response Ratio = 0.00000 + 1.69501 *A + -0.23897 *A^2

46)P 1,1'-Biphenyl     1.886 1.564 1.422 1.173 1.172 1.023 0.898 1.305  26.13
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9979
              Response Ratio = 0.00000 + 1.52832 *A + -0.25546 *A^2

47)P 2-Chloronaphthale 1.688 1.387 1.246 1.067 1.073 0.957 0.889 1.187  23.42
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9981
              Response Ratio = 0.00000 + 1.30824 *A + -0.17168 *A^2

48)P 2-Nitroaniline    0.442 0.402 0.399 0.380 0.388 0.352 0.361 0.389   7.70
49)  p-Dinitrobenzene  0.281 0.259 0.266 0.271 0.277 0.258 0.257 0.267   3.62
50)P Acenaphthylene    2.491 2.276 2.095 1.750 1.747 1.530 1.352 1.892  21.70
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9983
              Response Ratio = 0.00000 + 2.25156 *A + -0.36440 *A^2

51)P Dimethylphthalate 1.707 1.588 1.463 1.219 1.177 1.050 0.946 1.307  21.75
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9983
              Response Ratio = 0.00000 + 1.52880 *A + -0.23817 *A^2

52)  m-Dinitrobenzene  0.295 0.251 0.261 0.232 0.239 0.221 0.204 0.243  12.18
53)P 2,6-Dinitrotoluen 0.411 0.348 0.357 0.333 0.327 0.313 0.288 0.340  11.44
54)  o-Dinitrobenzene  0.237 0.223 0.224 0.227 0.225 0.217 0.218 0.224   2.95
55)P Acenaphthene      1.428 1.348 1.228 1.083 1.067 0.990       1.191  14.53
56)P 3-Nitroaniline    0.341 0.352 0.380 0.362 0.368 0.353 0.334 0.356   4.46
57)P 2,4-Dinitrophenol 0.174 0.201 0.243 0.268 0.268 0.263 0.249 0.238  15.46
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9981
              Response Ratio = 0.00000 + 0.27586 *A + -0.00942 *A^2
```

Initial Calibration Summary

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: SL2892-ICC2892
Lab FileID: L056731.D

```
58)P Dibenzofuran      2.080 1.897 1.750 1.528 1.495 1.358 1.218 1.618  18.86
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9995
              Response Ratio = 0.00000 + 1.88158 *A + -0.26812 *A^2

59)P 2,4-Dinitrotoluen 0.470 0.480 0.459 0.452 0.439 0.411 0.389 0.443   7.34
60)P 4-Nitrophenol     0.229 0.226 0.228 0.236 0.232 0.220 0.207 0.225   4.21
61)  2,3,5,6-Tetrachlo 0.486 0.465 0.436 0.417 0.415 0.388 0.355 0.423  10.47
62)P 2,3,4,6-Tetrachlo 0.486 0.463 0.430 0.403 0.401 0.363 0.336 0.412  12.82
63)P Fluorene          1.659 1.509 1.431 1.244 1.230 1.118 1.025 1.317  17.12
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9992
              Response Ratio = 0.00000 + 1.50703 *A + -0.19570 *A^2

64)P 4-Chlorophenyl-ph 0.883 0.752 0.749 0.636 0.628 0.563 0.510 0.675  18.96
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9987
              Response Ratio = 0.00000 + 0.78673 *A + -0.11222 *A^2

65)P Diethylphthalate  1.640 1.470 1.390 1.217 1.192 1.064 0.931 1.272  19.19
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9994
              Response Ratio = 0.00000 + 1.53286 *A + -0.24194 *A^2

66)P 4-Nitroaniline    0.393 0.380 0.382 0.360 0.379 0.358 0.337 0.370   5.20

67) I   Phenanthrene-d10      ----------------ISTD--------------------
68)P 4,6-Dinitro-2-met 0.178 0.186 0.184 0.180 0.183 0.177 0.178 0.181   1.99
69)P n-Nitrosodiphenyl 0.777 0.728 0.629 0.537 0.525 0.487 0.444 0.590  21.25
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9991
              Response Ratio = 0.00000 + 0.65575 *A + -0.07183 *A^2

70)  1,2-Diphenylhydra 0.946 0.964 0.863 0.763 0.739 0.679 0.633 0.798  16.16
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9991
              Response Ratio = 0.00000 + 0.90308 *A + -0.11062 *A^2

71)S 2,4,6-Tribromophe 0.154 0.145 0.130 0.117 0.114 0.112 0.110 0.126  13.74
72)P 4-Bromophenyl-phe 0.302 0.284 0.255 0.235 0.218 0.209 0.207 0.244  15.42
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9975
              Response Ratio = 0.00000 + 0.25399 *A + -0.02021 *A^2

73)P Hexachlorobenzene 0.300 0.286 0.249 0.228 0.224 0.216 0.218 0.246  13.95
74)  Simazine          0.148 0.151 0.134 0.126 0.128 0.121 0.123 0.133   9.07
75)P Atrazine          0.288 0.258 0.237 0.219 0.211 0.202 0.207 0.231  13.56
76)P Pentachlorophenol 0.174 0.170 0.172 0.176 0.167 0.167 0.171 0.171   1.86
77)P Phenanthrene      1.254 1.196 1.076 0.938 0.922 0.867 0.809 1.009  16.80
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9993
              Response Ratio = 0.00000 + 1.10332 *A + -0.12002 *A^2

78)P Anthracene        1.343 1.207 1.095 0.982 0.968 0.889 0.843 1.047  17.10
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9991
              Response Ratio = 0.00000 + 1.14320 *A + -0.12328 *A^2

79)P Carbazole         1.212 1.102 1.023 0.910 0.893 0.822 0.801 0.966  15.75
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9984
              Response Ratio = 0.00000 + 1.03348 *A + -0.09725 *A^2

80)P Di-n-butylphthala 1.417 1.338 1.212 1.060 1.057 0.971 0.915 1.139  16.54
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9990
              Response Ratio = 0.00000 + 1.25175 *A + -0.13782 *A^2

81)P Fluoranthene      1.327 1.273 1.135 1.047 0.987 0.931 0.884 1.083  15.61
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9991
```

Initial Calibration Summary

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: SL2892-ICC2892
Lab FileID: L056731.D

Response Ratio = 0.00000 + 1.18561 *A + -0.12432 *A^2

82) I Chrysene-d12	----------ISTD----------								
83) Benzidine	0.812	0.812	0.775	0.756	0.727	0.698	0.616	0.743	9.38
84)P Pyrene	1.701	1.520	1.424	1.326	1.248	1.216	1.109	1.363	14.76
85)S Terphenyl-d14	1.114	1.040	0.976	0.932	0.891	0.859	0.821	0.948	10.95
86)P Butylbenzylphthal	0.646	0.605	0.610	0.580	0.550	0.567	0.518	0.582	7.28
87)P 3,3'-Dichlorobenz	0.515	0.479	0.480	0.456	0.449	0.442	0.411	0.462	7.17
88)P Benzo[a]anthracen	1.308	1.239	1.198	1.141	1.123	1.109	1.053	1.167	7.40
89)P Chrysene	1.218	1.071	1.076	1.009	0.978	0.985	0.896	1.033	9.84
90)P bis(2-Ethylhexyl)	0.822	0.785	0.747	0.755	0.713	0.702	0.651	0.739	7.59
91) I Perylene-d12	----------ISTD----------								
92)P Di-n-octylphthala	1.533	1.491	1.490	1.393	1.385	1.289	1.174	1.394	9.13
93)P Benzo[b]fluoranth	1.295	1.351	1.313	1.308	1.233	1.226	1.156	1.269	5.26
94)P Benzo[k]fluoranth	1.344	1.309	1.245	1.109	1.167	0.996	0.879	1.150	14.68
95)P Benzo[a]pyrene	1.296	1.277	1.206	1.199	1.170	1.152	1.072	1.196	6.37
96)P Indeno[1,2,3-cd]p	0.973	0.985	0.926	0.967	0.980	0.957	0.931	0.960	2.41
97)P Dibenz[a,h]anthra	0.910	0.946	0.921	0.897	0.979	0.944	0.877	0.925	3.72
98)P Benzo[g,h,i]peryl	1.052	1.059	1.034	1.005	1.029	1.008	0.930	1.017	4.23

(#) = Out of Range

8270d.m Thu Apr 12 08:51:46 2012

6.8.1

6

Initial Calibration Verification

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: SL2892-ICV2892
Lab FileID: L056735.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\2\DATA\041112\L056735.D          Vial: 9
Acq On    : 11 Apr 2012   3:37 pm                   Operator: nancyf
Sample    : icv2892-50                              Inst    : MSBNA02
Misc      : op41119,sl2892,1000,,,1,1,water         Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\msdchem\2\METHODS\8270d.m (RTE Integrator)
Title        : SW846 8270D OR EPA 625
Last Update  : Wed Apr 11 15:42:07 2012
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%     Max. Rel. Area : 200%
```

		Compound	Amount	Calc.	%Drift	Area%	Dev(min)	R.T.
1	I	1,4-Dichlorobenzene-d4	40.000	40.000	0.0	108	0.00	4.21
2		1,4-Dioxane	50.000	49.561	0.9	111	0.04	1.71
3		N-nitrosodimethylamine	50.000	50.363	-0.7	113	0.03	2.06
4		Pyridine		----------NA----------				
		----------	Amount	Calc.	%Drift	----------		
5	P	Benzaldehyde	50.000	53.460	-6.9	115	0.00	3.89
6		Aniline		----------NA----------				
7	S	2-Fluorophenol		----------NA----------				
8	P	bis(2-Chloroethyl)ether	50.000	50.379	-0.8	109	0.00	4.06
9	S	Phenol-d5		----------NA----------				
10	P	Phenol	50.000	58.214	-16.4	125	0.00	4.04
11	P	2-Chlorophenol	50.000	48.518	3.0	107	0.00	4.09
12		1,3-Dichlorobenzene	50.000	47.415	5.2	105	0.00	4.18
13		1,4-Dichlorobenzene	50.000	48.446	3.1	106	0.00	4.22
14		1,2-Dichlorobenzene	50.000	52.277	-4.6	114	0.00	4.35
15		Benzyl alcohol		----------NA----------				
		----------	Amount	Calc.	%Drift	----------		
16	P	bis(2-chloroisopropyl)eth	50.000	46.504	7.0	107	0.00	4.45
		----------	Amount	Calc.	%Drift	----------		
17	P	2-Methylphenol	50.000	44.732	10.5	99	0.00	4.46
18	P	Acetophenone	50.000	52.636	-5.3	114	0.00	4.53
19	P	Hexachloroethane	50.000	43.209	13.6	102	0.00	4.58
20	P	N-Nitroso-di-n-propylamin	50.000	50.474	-0.9	110	0.00	4.56
21	P	3&4-Methylphenol		----------NA----------				
		----------	Amount	Calc.	%Drift	----------		
22	I	Naphthalene-d8	40.000	40.000	0.0	112	0.00	5.19
		----------	Amount	Calc.	%Drift	----------		
23	S	Nitrobenzene-d5		----------NA----------				
24	P	Nitrobenzene	50.000	51.548	-3.1	115	0.00	4.65
		----------	Amount	Calc.	%Drift	----------		
25	P	Isophorone	50.000	40.278	19.4	97	0.00	4.83
26	P	2-Nitrophenol	50.000	48.102	3.8	113	0.00	4.89
		----------	Amount	Calc.	%Drift	----------		
27	P	2,4-Dimethylphenol	50.000	44.444	11.1	105	0.00	4.96
28	P	bis(2-Chloroethoxy)methan	50.000	49.290	1.4	112	0.00	5.02

Initial Calibration Verification

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: SL2892-ICV2892
Lab FileID: L056735.D

			Amount	Calc.	%Drift			
29		Benzoic Acid	100.000	87.898	12.1	100	0.04	5.14
			Amount	Calc.	%Drift			
30	P	2,4-Dichlorophenol	50.000	47.716	4.6	109	0.00	5.10
31		1,2,4-Trichlorobenzene	50.000	43.494	13.0	101	0.00	5.16
32	P	Naphthalene	50.000	47.381	5.2	109	0.00	5.21
33	P	4-Chloroaniline		NA				
34		2,6-Dichlorophenol	50.000	53.983	-8.0	119	0.00	5.29
35	P	Hexachlorobutadiene	50.000	50.543	-1.1	113	0.00	5.38
			Amount	Calc.	%Drift			
36	P	Caprolactam	50.000	49.681	0.6	111	0.00	5.64
37	P	4-Chloro-3-methylphenol	50.000	45.157	9.7	107	0.00	5.80
			Amount	Calc.	%Drift			
38	P	2-Methylnaphthalene		NA				
39		1-Methylnaphthalene	50.000	50.966	-1.9	115	0.00	5.99
40	P	1,2,4,5-Tetrachlorobenzen	50.000	48.575	2.8	110	0.00	6.11
			Amount	Calc.	%Drift			
41	I	Acenaphthene-d10	40.000	40.000	0.0	114	0.00	7.19
42	P	Hexachlorocyclopentadiene	50.000	48.205	3.6	115	0.00	6.14
			Amount	Calc.	%Drift			
43	P	2,4,6-Trichlorophenol	50.000	45.899	8.2	107	0.00	6.24
			Amount	Calc.	%Drift			
44	P	2,4,5-Trichlorophenol	50.000	46.796	6.4	111	0.00	6.30
			Amount	Calc.	%Drift			
45	S	2-Fluorobiphenyl		NA				
46	P	1,1'-Biphenyl	50.000	47.284	5.4	113	0.00	6.44
47	P	2-Chloronaphthalene	50.000	47.003	6.0	112	0.00	6.43
			Amount	Calc.	%Drift			
48	P	2-Nitroaniline		NA				
49		p-Dinitrobenzene		NA				
			Amount	Calc.	%Drift			
50	P	Acenaphthylene	50.000	44.185	11.6	107	0.00	6.97
51	P	Dimethylphthalate	50.000	51.514	-3.0	118	0.00	6.94
			Amount	Calc.	%Drift			
52		m-Dinitrobenzene		NA				
53	P	2,6-Dinitrotoluene	50.000	45.072	9.9	105	0.00	7.02
54		o-Dinitrobenzene		NA				
55	P	Acenaphthene	50.000	43.918	12.2	111	0.00	7.24
56	P	3-Nitroaniline		NA				
			Amount	Calc.	%Drift			
57	P	2,4-Dinitrophenol	100.000	88.788	11.2	98	0.00	7.34
58	P	Dibenzofuran		NA				
			Amount	Calc.	%Drift			
59	P	2,4-Dinitrotoluene	50.000	44.397	11.2	100	0.00	7.58
60	P	4-Nitrophenol	100.000	88.876	11.1	104	0.00	7.55
61		2,3,5,6-Tetrachlorophenol		NA				

Initial Calibration Verification

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: SL2892-ICV2892
Lab FileID: L056735.D

			Amount	Calc.	%Drift			
62	P	2,3,4,6-Tetrachlorophenol	50.000	45.646	8.7	107	0.00	7.75
63	P	Fluorene	50.000	44.517	11.0	106	0.00	7.99
64	P	4-Chlorophenyl-phenylethe	50.000	45.315	9.4	108	0.00	8.04
65	P	Diethylphthalate	50.000	44.485	11.0	106	0.00	8.02
66	P	4-Nitroaniline		NA				
67	I	Phenanthrene-d10	40.000	40.000	0.0	107	0.00	9.50
68	P	4,6-Dinitro-2-methylpheno	100.000	99.860	0.1	104	0.00	8.22
69	P	n-Nitrosodiphenylamine	50.000	47.310	5.4	90	0.00	8.26
70		1,2-Diphenylhydrazine	50.000	48.743	2.5	105	0.00	8.29
71	S	2,4,6-Tribromophenol		NA				
72	P	4-Bromophenyl-phenylether	50.000	51.206	-2.4	107	0.00	8.82
73	P	Hexachlorobenzene	50.000	46.944	6.1	108	0.00	9.01
74		Simazine		NA				
75	P	Atrazine	50.000	48.911	2.2	111	0.00	9.29
76	P	Pentachlorophenol	100.000	92.594	7.4	95	0.00	9.35
77	P	Phenanthrene	50.000	47.585	4.8	105	0.00	9.55
78	P	Anthracene	50.000	47.706	4.6	104	0.00	9.62
79	P	Carbazole		NA				
80	P	Di-n-butylphthalate	50.000	48.345	3.3	106	0.00	10.87
81	P	Fluoranthene	50.000	46.554	6.9	99	0.00	11.66
82	I	Chrysene-d12	40.000	40.000	0.0	101	0.00	14.32
83		Benzidine		NA				
84	P	Pyrene	50.000	50.921	-1.8	106	0.00	12.04
85	S	Terphenyl-d14		NA				
86	P	Butylbenzylphthalate	50.000	49.309	1.4	100	0.00	13.61
87	P	3,3'-Dichlorobenzidine		NA				
88	P	Benzo[a]anthracene	50.000	48.931	2.1	101	0.00	14.30
89	P	Chrysene	50.000	48.408	3.2	100	0.00	14.37
90	P	bis(2-Ethylhexyl)phthalat	50.000	49.262	1.5	98	0.00	14.84
91	I	Perylene-d12	40.000	40.000	0.0	93	0.00	16.79
92	P	Di-n-octylphthalate	50.000	52.809	-5.6	99	0.00	15.95
93	P	Benzo[b]fluoranthene	50.000	47.724	4.6	86	0.00	16.19
94	P	Benzo[k]fluoranthene	50.000	50.997	-2.0	99	0.00	16.24
95	P	Benzo[a]pyrene	50.000	47.894	4.2	89	0.00	16.69
96	P	Indeno[1,2,3-cd]pyrene	50.000	49.060	1.9	91	0.00	18.36
97	P	Dibenz[a,h]anthracene	50.000	49.789	0.4	96	0.00	18.42
98	P	Benzo[g,h,i]perylene	50.000	48.758	2.5	92	0.00	18.70

(#) = Out of Range SPCC's out = 0 CCC's out = 0

6.8.2

6

Initial Calibration Verification

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: SL2892-ICV2892
Lab FileID: L056735.D

```
L056731.D  8270d.m          Thu Apr 12 09:15:18 2012
```

Initial Calibration Verification

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: SL2892-ICV2892
Lab FileID: L056736.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\2\DATA\041112\L056736.D          Vial: 10
Acq On    : 11 Apr 2012   4:05 pm                   Operator: nancyf
Sample    : icv2892-50                              Inst    : MSBNA02
Misc      : op41119,sl2892,1000,,,1,1,water         Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\msdchem\2\METHODS\8270d.m (RTE Integrator)
Title        : SW846 8270D OR EPA 625
Last Update  : Wed Apr 11 15:42:07 2012
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%     Max. Rel. Area : 200%
```

		Compound	Amount	Calc.	%Drift	Area%	Dev(min)	R.T.
1	I	1,4-Dichlorobenzene-d4	40.000	40.000	0.0	98	0.00	4.20
2		1,4-Dioxane		----------NA----------				
3		N-nitrosodimethylamine		----------NA----------				
4		Pyridine	50.000	48.878	2.2	99	-0.02	1.98
		----------	Amount	Calc.	%Drift		----------	
5	P	Benzaldehyde	25.000	27.382	-9.5	125	0.00	3.88
6		Aniline	50.000	47.473	5.1	95	0.00	4.00
7	S	2-Fluorophenol		----------NA----------				
8	P	bis(2-Chloroethyl)ether		----------NA----------				
9	S	Phenol-d5		----------NA----------				
10	P	Phenol		----------NA----------				
11	P	2-Chlorophenol		----------NA----------				
12		1,3-Dichlorobenzene		----------NA----------				
13		1,4-Dichlorobenzene		----------NA----------				
14		1,2-Dichlorobenzene		----------NA----------				
15		Benzyl alcohol	50.000	49.828	0.3	98	0.00	4.34
		----------	Amount	Calc.	%Drift		----------	
16	P	bis(2-chloroisopropyl)eth		----------NA----------				
		----------	Amount	Calc.	%Drift		----------	
17	P	2-Methylphenol		----------NA----------				
18	P	Acetophenone		----------NA----------				
19	P	Hexachloroethane		----------NA----------				
20	P	N-Nitroso-di-n-propylamin		----------NA----------				
21	P	3&4-Methylphenol		----------NA----------				
		----------	Amount	Calc.	%Drift		----------	
22	I	Naphthalene-d8	40.000	40.000	0.0	99	0.00	5.19
		----------	Amount	Calc.	%Drift		----------	
23	S	Nitrobenzene-d5		----------NA----------				
24	P	Nitrobenzene		----------NA----------				
		----------	Amount	Calc.	%Drift		----------	
25	P	Isophorone	50.000	41.038	17.9	88	-0.01	4.82
26	P	2-Nitrophenol		----------NA----------				
		----------	Amount	Calc.	%Drift		----------	
27	P	2,4-Dimethylphenol		----------NA----------				

Initial Calibration Verification

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: SL2892-ICV2892
Lab FileID: L056736.D

			Amount	Calc.	%Drift			
28	P	bis(2-Chloroethoxy)methan		----------NA----------				
29		Benzoic Acid		----------NA----------				
30	P	2,4-Dichlorophenol		----------NA----------				
31		1,2,4-Trichlorobenzene		----------NA----------				
32	P	Naphthalene		----------NA----------				
33	P	4-Chloroaniline	50.000	52.376	-4.8	104	0.00	5.28
34		2,6-Dichlorophenol		----------NA----------				
35	P	Hexachlorobutadiene		----------NA----------				
36	P	Caprolactam		----------NA----------				
37	P	4-Chloro-3-methylphenol		----------NA----------				
38	P	2-Methylnaphthalene	50.000	49.203	1.6	98	0.00	5.88
39		1-Methylnaphthalene		----------NA----------				
40	P	1,2,4,5-Tetrachlorobenzen		----------NA----------				
41	I	Acenaphthene-d10	40.000	40.000	0.0	99	0.00	7.19
42	P	Hexachlorocyclopentadiene		----------NA----------				
43	P	2,4,6-Trichlorophenol		----------NA----------				
44	P	2,4,5-Trichlorophenol		----------NA----------				
45	S	2-Fluorobiphenyl		----------NA----------				
46	P	1,1'-Biphenyl		----------NA----------				
47	P	2-Chloronaphthalene		----------NA----------				
48	P	2-Nitroaniline	50.000	52.758	-5.5	107	0.00	6.62
49		p-Dinitrobenzene		----------NA----------				
50	P	Acenaphthylene		----------NA----------				
51	P	Dimethylphthalate		----------NA----------				
52		m-Dinitrobenzene	50.000	51.074	-2.1	106	0.00	6.93
53	P	2,6-Dinitrotoluene		----------NA----------				
54		o-Dinitrobenzene		----------NA----------				
55	P	Acenaphthene		----------NA----------				
56	P	3-Nitroaniline	50.000	49.426	1.1	96	0.00	7.20
57	P	2,4-Dinitrophenol		----------NA----------				
58	P	Dibenzofuran	50.000	49.079	1.8	99	0.00	7.47
59	P	2,4-Dinitrotoluene		----------NA----------				
60	P	4-Nitrophenol		----------NA----------				

Initial Calibration Verification

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: SL2892-ICV2892
Lab FileID: L056736.D

			Amount	Calc.	%Drift			
61		2,3,5,6-Tetrachlorophenol		NA				
62	P	2,3,4,6-Tetrachlorophenol		NA				
63	P	Fluorene		NA				
64	P	4-Chlorophenyl-phenylethe		NA				
65	P	Diethylphthalate		NA				
66	P	4-Nitroaniline	50.000	51.374	-2.7	104	-0.02	8.13
67	I	Phenanthrene-d10	40.000	40.000	0.0	98	-0.01	9.49
68	P	4,6-Dinitro-2-methylpheno		NA				
69	P	n-Nitrosodiphenylamine		NA				
70		1,2-Diphenylhydrazine		NA				
71	S	2,4,6-Tribromophenol		NA				
72	P	4-Bromophenyl-phenylether		NA				
73	P	Hexachlorobenzene		NA				
74		Simazine	50.000	59.443	-18.9	123	-0.02	9.20
75	P	Atrazine		NA				
76	P	Pentachlorophenol		NA				
77	P	Phenanthrene		NA				
78	P	Anthracene		NA				
79	P	Carbazole	50.000	51.018	-2.0	100	0.00	9.96
80	P	Di-n-butylphthalate		NA				
81	P	Fluoranthene		NA				
82	I	Chrysene-d12	40.000	40.000	0.0	109	-0.01	14.31
83		Benzidine	50.000	52.659	-5.3	112	0.00	12.02
84	P	Pyrene		NA				
85	S	Terphenyl-d14		NA				
86	P	Butylbenzylphthalate		NA				
87	P	3,3'-Dichlorobenzidine	50.000	45.512	9.0	100	0.00	14.40
88	P	Benzo[a]anthracene		NA				
89	P	Chrysene		NA				
90	P	bis(2-Ethylhexyl)phthalat		NA				
91	I	Perylene-d12	40.000	40.000	0.0	102	0.00	16.78
92	P	Di-n-octylphthalate		NA				
93	P	Benzo[b]fluoranthene		NA				
94	P	Benzo[k]fluoranthene		NA				
95	P	Benzo[a]pyrene		NA				
96	P	Indeno[1,2,3-cd]pyrene		NA				
97	P	Dibenz[a,h]anthracene		NA				
98	P	Benzo[g,h,i]perylene		NA				

Initial Calibration Verification

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: SL2892-ICV2892
Lab FileID: L056736.D

```
(#) = Out of Range                SPCC's out = 0  CCC's out = 0
 L056731.D  8270d.m          Thu Apr 12 08:14:39 2012
```

Initial Calibration Verification

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: SL2892-ICV2892
Lab FileID: L056737.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\2\DATA\041112\L056737.D          Vial: 11
Acq On    : 11 Apr 2012   4:33 pm                   Operator: nancyf
Sample    : icv2892-50 3,4-mp                       Inst    : MSBNA02
Misc      : op41119,sl2892,1000,,,1,1,water         Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\msdchem\2\METHODS\8270d.m (RTE Integrator)
Title        : SW846 8270D OR EPA 625
Last Update  : Wed Apr 11 15:42:07 2012
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%     Max. Rel. Area : 200%
```

		Compound	Amount	Calc.	%Drift	Area%	Dev(min)	R.T.
1	I	1,4-Dichlorobenzene-d4	40.000	40.000	0.0	98	0.00	4.20
2		1,4-Dioxane		NA				
3		N-nitrosodimethylamine		NA				
4		Pyridine		NA				
			Amount	Calc.	%Drift			
5	P	Benzaldehyde		NA				
6		Aniline		NA				
7	S	2-Fluorophenol		NA				
8	P	bis(2-Chloroethyl)ether		NA				
9	S	Phenol-d5		NA				
10	P	Phenol		NA				
11	P	2-Chlorophenol		NA				
12		1,3-Dichlorobenzene		NA				
13		1,4-Dichlorobenzene		NA				
14		1,2-Dichlorobenzene		NA				
15		Benzyl alcohol		NA				
			Amount	Calc.	%Drift			
16	P	bis(2-chloroisopropyl)eth		NA				
			Amount	Calc.	%Drift			
17	P	2-Methylphenol		NA				
18	P	Acetophenone		NA				
19	P	Hexachloroethane		NA				
20	P	N-Nitroso-di-n-propylamin		NA				
21	P	3&4-Methylphenol	50.000	53.776	-7.6	106	0.00	4.56
			Amount	Calc.	%Drift			
22	I	Naphthalene-d8	40.000	40.000	0.0	99	0.00	5.19
			Amount	Calc.	%Drift			
23	S	Nitrobenzene-d5		NA				
24	P	Nitrobenzene		NA				
			Amount	Calc.	%Drift			
25	P	Isophorone		NA				
26	P	2-Nitrophenol		NA				
			Amount	Calc.	%Drift			
27	P	2,4-Dimethylphenol		NA				

Initial Calibration Verification

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: SL2892-ICV2892
Lab FileID: L056737.D

```
28 P   bis(2-Chloroethoxy)methan          ----------NA----------

           ----------------------- Amount  Calc.    %Drift   -------------
29     Benzoic Acid                       ----------NA----------

           ----------------------- Amount  Calc.    %Drift   -------------
30 P   2,4-Dichlorophenol                 ----------NA----------
31     1,2,4-Trichlorobenzene             ----------NA----------
32 P   Naphthalene                        ----------NA----------
33 P   4-Chloroaniline                    ----------NA----------
34     2,6-Dichlorophenol                 ----------NA----------
35 P   Hexachlorobutadiene                ----------NA----------

           ----------------------- Amount  Calc.    %Drift   -------------
36 P   Caprolactam                        ----------NA----------
37 P   4-Chloro-3-methylphenol            ----------NA----------

           ----------------------- Amount  Calc.    %Drift   -------------
38 P   2-Methylnaphthalene                ----------NA----------
39     1-Methylnaphthalene                ----------NA----------
40 P   1,2,4,5-Tetrachlorobenzen          ----------NA----------


           ----------------------- Amount  Calc.    %Drift   -------------
41 I   Acenaphthene-d10           40.000  40.000      0.0   99  -0.01    7.18
42 P   Hexachlorocyclopentadiene          ----------NA----------

           ----------------------- Amount  Calc.    %Drift   -------------
43 P   2,4,6-Trichlorophenol              ----------NA----------

           ----------------------- Amount  Calc.    %Drift   -------------
44 P   2,4,5-Trichlorophenol              ----------NA----------

           ----------------------- Amount  Calc.    %Drift   -------------
45 S   2-Fluorobiphenyl                   ----------NA----------
46 P   1,1'-Biphenyl                      ----------NA----------
47 P   2-Chloronaphthalene                ----------NA----------

           ----------------------- Amount  Calc.    %Drift   -------------
48 P   2-Nitroaniline                     ----------NA----------
49     p-Dinitrobenzene                   ----------NA----------

           ----------------------- Amount  Calc.    %Drift   -------------
50 P   Acenaphthylene                     ----------NA----------
51 P   Dimethylphthalate                  ----------NA----------

           ----------------------- Amount  Calc.    %Drift   -------------
52     m-Dinitrobenzene                   ----------NA----------
53 P   2,6-Dinitrotoluene                 ----------NA----------
54     o-Dinitrobenzene                   ----------NA----------
55 P   Acenaphthene                       ----------NA----------
56 P   3-Nitroaniline                     ----------NA----------

           ----------------------- Amount  Calc.    %Drift   -------------
57 P   2,4-Dinitrophenol                  ----------NA----------
58 P   Dibenzofuran                       ----------NA----------

           ----------------------- Amount  Calc.    %Drift   -------------
59 P   2,4-Dinitrotoluene                 ----------NA----------
60 P   4-Nitrophenol                      ----------NA----------
```

Initial Calibration Verification

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: SL2892-ICV2892
Lab FileID: L056737.D

			Amount	Calc.	%Drift			
61		2,3,5,6-Tetrachlorophenol		NA				
62	P	2,3,4,6-Tetrachlorophenol		NA				
63	P	Fluorene		NA				
64	P	4-Chlorophenyl-phenylethe		NA				
65	P	Diethylphthalate		NA				
66	P	4-Nitroaniline		NA				
67	I	Phenanthrene-d10	40.000	40.000	0.0	93	0.00	9.50
68	P	4,6-Dinitro-2-methylpheno		NA				
69	P	n-Nitrosodiphenylamine		NA				
70		1,2-Diphenylhydrazine		NA				
71	S	2,4,6-Tribromophenol		NA				
72	P	4-Bromophenyl-phenylether		NA				
73	P	Hexachlorobenzene		NA				
74		Simazine		NA				
75	P	Atrazine		NA				
76	P	Pentachlorophenol		NA				
77	P	Phenanthrene		NA				
78	P	Anthracene		NA				
79	P	Carbazole		NA				
80	P	Di-n-butylphthalate		NA				
81	P	Fluoranthene		NA				
82	I	Chrysene-d12	40.000	40.000	0.0	90	0.00	14.32
83		Benzidine		NA				
84	P	Pyrene		NA				
85	S	Terphenyl-d14		NA				
86	P	Butylbenzylphthalate		NA				
87	P	3,3'-Dichlorobenzidine		NA				
88	P	Benzo[a]anthracene		NA				
89	P	Chrysene		NA				
90	P	bis(2-Ethylhexyl)phthalat		NA				
91	I	Perylene-d12	40.000	40.000	0.0	89	0.00	16.78
92	P	Di-n-octylphthalate		NA				
93	P	Benzo[b]fluoranthene		NA				
94	P	Benzo[k]fluoranthene		NA				
95	P	Benzo[a]pyrene		NA				
96	P	Indeno[1,2,3-cd]pyrene		NA				
97	P	Dibenz[a,h]anthracene		NA				
98	P	Benzo[g,h,i]perylene		NA				

6.8.4

6

Initial Calibration Verification

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: SL2892-ICV2892
Lab FileID: L056737.D

```
(#) = Out of Range                SPCC's out = 0  CCC's out = 0
 L056731.D  8270d.m          Thu Apr 12 09:12:07 2012
```

Southeast ACCUTEST LABORATORIES

GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries
- GC Surrogate Retention Time Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GUV2919-MB	UV052196.D	1	04/03/12	CP	n/a	n/a	GUV2919

The QC reported here applies to the following samples: **Method:** SW846 8015C

F91720-2, F91720-3, F91720-4, F91720-5

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	5.0	2.5	mg/kg	

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	86%	56-136%
98-08-8	aaa-Trifluorotoluene	105%	61-121%

Method Blank Summary

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GQR2921-MB	QR067337.D	1	04/05/12	CP	n/a	n/a	GQR2921

The QC reported here applies to the following samples: **Method:** SW846 8015C

F91720-1

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	5.0	2.5	mg/kg	

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	88%	56-136%
98-08-8	aaa-Trifluorotoluene	84%	61-121%

Blank Spike Summary

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GUV2919-BS	UV052195.D	1	04/03/12	CP	n/a	n/a	GUV2919

The QC reported here applies to the following samples: **Method:** SW846 8015C

F91720-2, F91720-3, F91720-4, F91720-5

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	20	23.1	116	74-121

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	96%	56-136%
98-08-8	aaa-Trifluorotoluene	109%	61-121%

Blank Spike Summary

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GQR2921-BS	QR067336.D	1	04/05/12	CP	n/a	n/a	GQR2921

The QC reported here applies to the following samples: **Method:** SW846 8015C

F91720-1

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	20	21.9	110	74-121

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	93%	56-136%
98-08-8	aaa-Trifluorotoluene	87%	61-121%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F91707-7MS	UV052213.D	1	04/03/12	CP	n/a	n/a	GUV2919
F91707-7MSD	UV052214.D	1	04/03/12	CP	n/a	n/a	GUV2919
F91707-7	UV052198.D	1	04/03/12	CP	n/a	n/a	GUV2919

The QC reported here applies to the following samples: **Method:** SW846 8015C

F91720-2, F91720-3, F91720-4, F91720-5

CAS No.	Compound	F91707-7 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	91.9		68.8	139	68*	139	68*	0	74-121/17

CAS No.	Surrogate Recoveries	MS	MSD	F91707-7	Limits
460-00-4	4-Bromofluorobenzene	108%	97%	117%	56-136%
98-08-8	aaa-Trifluorotoluene	105%	100%	100%	61-121%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F91720-1MS	QR067341.D	10	04/05/12	CP	n/a	n/a	GQR2921
F91720-1MSD	QR067342.D	10	04/05/12	CP	n/a	n/a	GQR2921
F91720-1	QR067338.D	1	04/05/12	CP	n/a	n/a	GQR2921

The QC reported here applies to the following samples: **Method:** SW846 8015C

F91720-1

CAS No.	Compound	F91720-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	22.7		325	531	156*	477	140*	11	74-121/17

CAS No.	Surrogate Recoveries	MS	MSD	F91720-1	Limits
460-00-4	4-Bromofluorobenzene	106%	105%	103%	56-136%
98-08-8	aaa-Trifluorotoluene	87%	87%	87%	61-121%

Volatile Surrogate Recovery Summary

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Method: SW846 8015C **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S2 [a]
F91720-1	QR067338.D	103.0	87.0
F91720-2	UV052209.D	115.0	115.0
F91720-3	UV052210.D	100.0	98.0
F91720-4	UV052211.D	78.0	91.0
F91720-5	UV052212.D	93.0	101.0
F91707-7MS	UV052213.D	108.0	105.0
F91707-7MSD	UV052214.D	97.0	100.0
F91720-1MS	QR067341.D	106.0	87.0
F91720-1MSD	QR067342.D	105.0	87.0
GQR2921-BS	QR067336.D	93.0	87.0
GQR2921-MB	QR067337.D	88.0	84.0
GUV2919-BS	UV052195.D	96.0	109.0
GUV2919-MB	UV052196.D	86.0	105.0

Surrogate Compounds	Recovery Limits
S1 = 4-Bromofluorobenzene	56-136%
S2 = aaa-Trifluorotoluene	61-121%

(a) Recovery from GC signal #2

GC Surrogate Retention Time Summary

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Check Std:	GQR2921-CC2910	**Injection Date:**	04/05/12
Lab File ID:	QR067335.D	**Injection Time:**	08:47
Instrument ID:	GCQR	**Method:**	SW846 8015C

	S1 [a] RT	S2 [a] RT
Check Std	15.06	11.19

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S2 [a] RT
GQR2921-BS	QR067336.D	04/05/12	09:15	15.07	11.19
GQR2921-MB	QR067337.D	04/05/12	09:43	15.06	11.20
F91720-1	QR067338.D	04/05/12	10:17	15.07	11.19
ZZZZZZ	QR067339.D	04/05/12	10:45	15.07	11.19
ZZZZZZ	QR067340.D	04/05/12	11:13	15.05	11.20
F91720-1MS	QR067341.D	04/05/12	11:41	15.06	11.19
F91720-1MSD	QR067342.D	04/05/12	12:09	15.06	11.19

Surrogate Compounds

S1 = 4-Bromofluorobenzene
S2 = aaa-Trifluorotoluene

(a) Retention time from GC signal #2

GC Surrogate Retention Time Summary

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Check Std:	GUV2919-CC2884	**Injection Date:**	04/03/12
Lab File ID:	UV052194.D	**Injection Time:**	09:43
Instrument ID:	GCUV	**Method:**	SW846 8015C

	S1 [a] RT	S2 [a] RT
Check Std	16.15	11.56

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S2 [a] RT
GUV2919-BS	UV052195.D	04/03/12	10:29	16.14	11.56
GUV2919-MB	UV052196.D	04/03/12	11:00	16.15	11.56
F91707-7	UV052198.D	04/03/12	12:32	16.14	11.55
ZZZZZZ	UV052199.D	04/03/12	13:03	16.14	11.56
ZZZZZZ	UV052200.D	04/03/12	13:35	16.14	11.56
ZZZZZZ	UV052201.D	04/03/12	14:06	16.14	11.56
ZZZZZZ	UV052202.D	04/03/12	14:37	16.14	11.56
ZZZZZZ	UV052203.D	04/03/12	15:09	16.14	11.56

Surrogate Compounds

S1 = 4-Bromofluorobenzene
S2 = aaa-Trifluorotoluene

(a) Retention time from GC signal #2

GC Surrogate Retention Time Summary

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Check Std:	GUV2919-CC2884	**Injection Date:**	04/03/12
Lab File ID:	UV052205.D	**Injection Time:**	16:12
Instrument ID:	GCUV	**Method:**	SW846 8015C

	S1 [a] RT	S1 [b] RT	S2 [a] RT	S2 [b] RT
Check Std	16.14	16.14	11.56	11.56

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT	S2 [a] RT	S2 [b] RT
ZZZZZZ	UV052207.D	04/03/12	17:16		16.14		11.56
ZZZZZZ	UV052208.D	04/03/12	17:47		16.14		11.56
F91720-2	UV052209.D	04/03/12	18:19		16.14		11.55
F91720-3	UV052210.D	04/03/12	18:50		16.14		11.56
F91720-4	UV052211.D	04/03/12	19:22		16.15		11.56
F91720-5	UV052212.D	04/03/12	19:53		16.14		11.56
F91707-7MS	UV052213.D	04/03/12	20:25		16.14		11.56
F91707-7MSD	UV052214.D	04/03/12	20:56		16.14		11.56
GUV2919-ECC2884	UV052216.D	04/03/12	21:59	16.14	16.14	11.55	11.55

Surrogate Compounds

S1 = 4-Bromofluorobenzene
S2 = aaa-Trifluorotoluene

(a) Retention time from GC signal #1
(b) Retention time from GC signal #2

Initial Calibration Summary

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: GQR2910-ICC2910
Lab FileID: QR067156.D

Response Factor Report VOA3

Method : C:\HPCHEM\1\METHODS\GROML.M (Chemstation Integrator)
Title : SW846 8015 TPH by GC-FID
Last Update : Tue Mar 27 14:24:35 2012
Response via : Initial Calibration

Calibration Files
1 =QR067154.D 2 =QR067155.D 3 =QR067153.D 4 =QR067156.D
5 =QR067157.D 6 =QR067158.D

Compound	1	2	3	4	5	6	Avg	%RSD
1) S a,a,a-TFT	6.609	6.280	6.810	6.258	6.065	5.742	6.294 E2	6.05
2) S BFB	1.592	1.560	1.653	1.576	1.589	1.510	1.580 E3	2.94
Signal #2								
4) S a,a,a-TFT #2	2.982	2.810	3.020	2.802	2.745	2.600	2.827 E4	5.49
5) S BFB #2	1.875	1.845	1.951	1.904	1.907	1.838	1.887 E4	2.28
6) H TPH-GRO (C6-C10)	2.711	2.535	2.466	2.471	2.373	2.416	2.495 E4	4.78

(#) = Out of Range

GROML.M Wed Mar 28 11:43:45 2012

7.6.1

7

Initial Calibration Verification

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: GQR2910-ICV2910
Lab FileID: QR067159.D

Evaluate Continuing Calibration Report

```
Signal #1 : C:\HPCHEM\1\DATA\032712\QR067159.D\FID1B.CH  Vial: 12
Signal #2 : C:\HPCHEM\1\DATA\032712\QR067159.D\FID2A.CH
Acq On    : 27 Mar 2012   2:20 pm                    Operator: CARLENEP
Sample    : ICV2910-3                                Inst    : VOA3
Misc      : gc13491,gqr2910,5.00,,100,5.0,,soil      Multiplr: 1.00
IntFile Signal #1: PID.E        IntFile Signal #2: events2.e

Method       : C:\HPCHEM\1\METHODS\GROML.M (Chemstation Integrator)
Title        : SW846 8015 TPH by GC-FID
Last Update  : Tue Mar 27 14:24:35 2012
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
Max. RRF Dev :  20%     Max. Rel. Area : 150%
```

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1 S	a,a,a-TFT	50.000	50.283	-0.6	93	-0.02	11.12-11.32
2 S	BFB	50.000	49.224	1.6	94	0.00	14.97-15.17
*****	Signal #2 *****						
4 S	a,a,a-TFT #2	50.000	51.814	-3.6	97	-0.02	11.12-11.32
5 S	BFB #2	50.000	50.582	-1.2	98	0.00	14.98-15.18
6 H	TPH-GRO (C6-C10)	400.000	433.612	-8.4	110	0.00	7.52-16.19

(#) = Out of Range SPCC's out = 0 CCC's out = 0
QR067153.D GROML.M Wed Mar 28 11:43:31 2012

7.6.2

7

Continuing Calibration Summary

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: GQR2921-CC2910
Lab FileID: QR067335.D

```
                    Evaluate Continuing Calibration Report

 Signal #1 : C:\HPCHEM\1\DATA\040512\QR067335.D\FID1B.CH  Vial: 3
 Signal #2 : C:\HPCHEM\1\DATA\040512\QR067335.D\FID2A.CH
 Acq On    :  5 Apr 2012   8:47 am                    Operator: CARLENEP
 Sample    : CC2910-3                                 Inst    : VOA3
 Misc      : gc13521,gqr2921,5.00,,100,5.0,,soil      Multiplr: 1.00
 IntFile Signal #1: PID.E        IntFile Signal #2: events2.e

 Method       : C:\HPCHEM\1\METHODS\GROML.M (Chemstation Integrator)
 Title        : SW846 8015 TPH by GC-FID
 Last Update  : Tue Mar 27 14:24:35 2012
 Response via : Multiple Level Calibration

 Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
 Max. RRF Dev :  20%     Max. Rel. Area : 150%

        Compound                Amount  Calc.    %Drift Area% Dev(min)RT Window
 ---------------------------------------------------------------------------
 1 S   a,a,a-TFT               50.000  42.243     15.5   78  -0.03   11.12-11.32
 2 S   BFB                     50.000  45.540      8.9   87  -0.02   14.97-15.17

*****  Signal #2   *****

 4 S   a,a,a-TFT #2            50.000  46.151      7.7   86  -0.03   11.12-11.32
 5  S  BFB #2                  50.000  48.464      3.1   94  -0.02   14.98-15.18
 6 H   TPH-GRO (C6-C10)       400.000 408.642     -2.2  103   0.00    7.52-16.19
---------------------------------------------------------------------------
---------------------------------------------------------------------------

   (#) = Out of Range              SPCC's out = 0  CCC's out = 0
    QR067153.D GROML.M          Thu Apr 05 14:18:19 2012
```

7.6.3

7

Continuing Calibration Summary

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: GQR2921-CC2910
Lab FileID: QR067343.D

```
                    Evaluate Continuing Calibration Report

 Signal #1 : C:\HPCHEM\1\DATA\040512\QR067343.D\FID1B.CH  Vial: 11
 Signal #2 : C:\HPCHEM\1\DATA\040512\QR067343.D\FID2A.CH
 Acq On    :  5 Apr 2012  12:37 pm                    Operator: CARLENEP
 Sample    : CC2910-3                                 Inst    : VOA3
 Misc      : gc13521,gqr2921,5.00,,100,5.0,10,soil    Multiplr: 1.00
 IntFile Signal #1: PID.E        IntFile Signal #2: events2.e

 Method       : C:\HPCHEM\1\METHODS\GROML.M (Chemstation Integrator)
 Title        : SW846 8015 TPH by GC-FID
 Last Update  : Tue Mar 27 14:24:35 2012
 Response via : Multiple Level Calibration

 Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
 Max. RRF Dev :  20%     Max. Rel. Area : 150%

        Compound                Amount  Calc.    %Drift Area% Dev(min)RT Window
 ---------------------------------------------------------------------------
 1 S   a,a,a-TFT               50.000  41.731     16.5   77  -0.03   11.12-11.32
 2 S   BFB                     50.000  45.196      9.6   86  -0.03   14.97-15.17

*****  Signal #2   *****

 4 S   a,a,a-TFT #2            50.000  44.823     10.4   84  -0.03   11.12-11.32
 5  S  BFB #2                  50.000  47.358      5.3   92  -0.03   14.98-15.18
 6 H   TPH-GRO (C6-C10)       400.000 404.186     -1.0  102   0.00    7.52-16.19
---------------------------------------------------------------------------
---------------------------------------------------------------------------

   (#) = Out of Range              SPCC's out = 0  CCC's out = 0
    QR067153.D GROML.M          Thu Apr 05 14:18:19 2012
```

7.6.4

7

Initial Calibration Summary

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: GUV2884-ICC2884
Lab FileID: UV051526.D

```
                         Response Factor Report  VOA4

  Method       : C:\HPCHEM\2\METHODS\8015UVML.M (Chemstation Integrator)
  Title        : Gasoline Range Organics SW8015
  Last Update  : Mon Mar 05 13:36:08 2012
  Response via : Initial Calibration

  Calibration Files
  1   =UV051523.D  2   =UV051524.D  3   =UV051525.D  4   =UV051526.D
  5      =UV051527.D   6      =UV051528.D

        Compound              1     2     3     4     5     6     Avg    %RSD
  ---------------------------------------------------------------------------
  1) s   a,a,a-TFT           5.622 5.797 5.688 5.300 5.667 5.705 5.630 E2   3.05
  2) s   BFB                 1.208 1.228 1.221 1.203 1.295 1.299 1.242 E3   3.48

Signal #2

  4) s   a,a,a-TFT #2        2.580 2.612 2.485 2.288 2.500 2.560 2.504 E4   4.64
  5) s   BFB #2              1.492 1.509 1.532 1.468 1.552 1.593 1.524 E4   2.93
  6) H   TPH-GRO (C6-C10)    3.768 3.020 2.720 2.351 2.457 2.420 2.789 E4  19.34
             ---- Linear regression ----  Coefficient =  0.9967
               Response Ratio = 1481157.25936 + 22504.53115 *A

 ---------------------------------------------------------------------------
 (#) = Out of Range

           8015UVML.M        Mon Mar 05 14:06:12 2012
```

7.6.5

7

Initial Calibration Verification

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: GUV2884-ICV2884
Lab FileID: UV051530.D

Evaluate Continuing Calibration Report

```
Signal #1 : C:\HPCHEM\2\DATA\030212\UV051530.D\FID1B.CH  Vial: 12
Signal #2 : C:\HPCHEM\2\DATA\030212\UV051530.D\FID2A.CH
Acq On    :  2 Mar 2012  12:49 pm                    Operator: CARLENEP
Sample    : ICV2884-3                                Inst    : VOA4
Misc      : gc13392,guv2884,5.00,,100,5.0,,SOIL      Multiplr: 1.00
IntFile Signal #1: PID.E        IntFile Signal #2: FID.E

Method       : C:\HPCHEM\2\METHODS\8015UVML.M (Chemstation Integrator)
Title        : Gasoline Range Organics SW8015
Last Update  : Mon Mar 05 13:36:08 2012
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%     Max. Rel. Area : 150%
```

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1 s	a,a,a-TFT	20.000	20.775	-3.9	103	0.00	11.43-11.73
2 s	BFB	20.000	19.843	0.8	101	0.03	15.96-16.26
*****	Signal #2 *****						
4 s	a,a,a-TFT #2	20.000	19.724	1.4	99	0.00	11.43-11.73
5 s	BFB #2	20.000	21.310	-6.5	106	0.03	15.96-16.26
6 H	TPH-GRO (C6-C10)	400.000	464.876	-16.2	110	0.00	7.13-17.34

(#) = Out of Range SPCC's out = 0 CCC's out = 0
UV051525.D 8015UVML.M Mon Mar 05 14:05:41 2012

7.6.6

7

Continuing Calibration Summary

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: GUV2919-CC2884
Lab FileID: UV052194.D

```
                    Evaluate Continuing Calibration Report

 Signal #1 : C:\HPCHEM\2\DATA\040312\UV052194.D\FID1B.CH  Vial: 5
 Signal #2 : C:\HPCHEM\2\DATA\040312\UV052194.D\FID2A.CH
 Acq On    :  3 Apr 2012   9:43 am                    Operator: CARLENEP
 Sample    : CC2884-3                                 Inst    : VOA4
 Misc      : gc13515,guv2919,5.00,,100,5.0,,SOIL      Multiplr: 1.00
 IntFile Signal #1: PID.E        IntFile Signal #2: FID.E

 Method       : C:\HPCHEM\2\METHODS\8015UVML.M (Chemstation Integrator)
 Title        : Gasoline Range Organics SW8015
 Last Update  : Mon Mar 05 13:36:08 2012
 Response via : Multiple Level Calibration

 Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
 Max. RRF Dev :  20%     Max. Rel. Area : 150%

        Compound                Amount  Calc.    %Drift Area% Dev(min)RT Window
 ---------------------------------------------------------------------------
 1 s   a,a,a-TFT               20.000  21.056     -5.3  104  -0.03   11.43-11.73
 2 s   BFB                     20.000  19.747      1.3  100   0.03   15.96-16.26

*****  Signal #2   *****

 4 s   a,a,a-TFT #2            20.000  19.427      2.9   98  -0.02   11.43-11.73
 5 s   BFB #2                  20.000  20.415     -2.1  102   0.03   15.96-16.26
 6 H   TPH-GRO (C6-C10)       400.000 457.532    -14.4  108   0.00    7.13-17.34
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------

   (#) = Out of Range              SPCC's out = 0  CCC's out = 0
    UV051525.D 8015UVML.M       Wed Apr 04 12:54:33 2012
```

7.6.7

7

Continuing Calibration Summary

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: GUV2919-CC2884
Lab FileID: UV052205.D

```
                    Evaluate Continuing Calibration Report

 Signal #1 : C:\HPCHEM\2\DATA\040312\UV052205.D\FID1B.CH  Vial: 16
 Signal #2 : C:\HPCHEM\2\DATA\040312\UV052205.D\FID2A.CH
 Acq On    :  3 Apr 2012   4:12 pm                    Operator: CARLENEP
 Sample    : CC2884-3                                 Inst    : VOA4
 Misc      : gc13515,guv2919,5.00,,100,5.0,,SOIL      Multiplr: 1.00
 IntFile Signal #1: PID.E        IntFile Signal #2: FID.E

 Method       : C:\HPCHEM\2\METHODS\8015UVML.M (Chemstation Integrator)
 Title        : Gasoline Range Organics SW8015
 Last Update  : Mon Mar 05 13:36:08 2012
 Response via : Multiple Level Calibration

 Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
 Max. RRF Dev :  20%     Max. Rel. Area : 150%

        Compound                Amount  Calc.    %Drift Area% Dev(min)RT Window
 ---------------------------------------------------------------------------
 1 s   a,a,a-TFT               20.000  20.403     -2.0  101  -0.03   11.43-11.73
 2 s   BFB                     20.000  19.916      0.4  101   0.03   15.96-16.26

*****  Signal #2   *****

 4 s   a,a,a-TFT #2            20.000  18.761      6.2   95  -0.02   11.43-11.73
 5 s   BFB #2                  20.000  18.409      8.0   92   0.02   15.96-16.26
 6 H   TPH-GRO (C6-C10)       400.000 402.448     -0.6   97   0.00    7.13-17.34
---------------------------------------------------------------------------
---------------------------------------------------------------------------

   (#) = Out of Range              SPCC's out = 0  CCC's out = 0
    UV051525.D 8015UVML.M       Wed Apr 04 12:54:34 2012
```

7.6.8

7

Continuing Calibration Summary

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: GUV2919-ECC2884
Lab FileID: UV052216.D

```
                    Evaluate Continuing Calibration Report

 Signal #1 : C:\HPCHEM\2\DATA\040312\UV052216.D\FID1B.CH  Vial: 27
 Signal #2 : C:\HPCHEM\2\DATA\040312\UV052216.D\FID2A.CH
 Acq On    :  3 Apr 2012   9:59 pm                    Operator: CARLENEP
 Sample    : ECC2884-3                                Inst    : VOA4
 Misc      : gc13521,guv2919,5.00,,100,5.0,,SOIL      Multiplr: 1.00
 IntFile Signal #1: PID.E        IntFile Signal #2: FID.E

 Method       : C:\HPCHEM\2\METHODS\8015UVML.M (Chemstation Integrator)
 Title        : Gasoline Range Organics SW8015
 Last Update  : Mon Mar 05 13:36:08 2012
 Response via : Multiple Level Calibration

 Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
 Max. RRF Dev :  20%     Max. Rel. Area : 150%

        Compound                Amount  Calc.    %Drift Area% Dev(min)RT Window
 ---------------------------------------------------------------------------
 1 s   a,a,a-TFT               20.000  20.062     -0.3   99  -0.03   11.43-11.73
 2 s   BFB                     20.000  19.937      0.3  101   0.03   15.96-16.26

*****  Signal #2   *****

 4 s   a,a,a-TFT #2            20.000  17.622     11.9   89  -0.03   11.43-11.73
 5 s   BFB #2                  20.000  18.250      8.8   91   0.02   15.96-16.26
 6 H   TPH-GRO (C6-C10)       400.000 401.665     -0.4   97   0.00    7.13-17.34
---------------------------------------------------------------------------
---------------------------------------------------------------------------

   (#) = Out of Range              SPCC's out = 0  CCC's out = 0
    UV051525.D 8015UVML.M       Wed Apr 04 12:54:35 2012
```

7.6.9

7

Southeast ACCUTEST LABORATORIES

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries
- GC Surrogate Retention Time Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP41221-MB	YY28747.D	1	04/03/12	SJL	04/03/12	OP41221	GYY1061

The QC reported here applies to the following samples: **Method:** SW846 8015C

F91720-1, F91720-2, F91720-3, F91720-4

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	ND	8.3	3.3	mg/kg	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	94%	49-108%

Blank Spike Summary

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP41221-BS	YY28746.D	1	04/03/12	SJL	04/03/12	OP41221	GYY1061

The QC reported here applies to the following samples: **Method:** SW846 8015C

F91720-1, F91720-2, F91720-3, F91720-4

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH (C10-C28)	33.3	32.0	96	60-107

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	95%	49-108%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP41221-MS	YY28751.D	1	04/03/12	SJL	04/03/12	OP41221	GYY1061
OP41221-MSD	YY28752.D	1	04/03/12	SJL	04/03/12	OP41221	GYY1061
F91658-9	YY28750.D	1	04/03/12	SJL	04/03/12	OP41221	GYY1061

The QC reported here applies to the following samples: **Method:** SW846 8015C

F91720-1, F91720-2, F91720-3, F91720-4

CAS No.	Compound	F91658-9 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH (C10-C28)	ND		40.4	38.3	95	39.6	98	3	60-107/36

CAS No.	Surrogate Recoveries	MS	MSD	F91658-9	Limits
84-15-1	o-Terphenyl	90%	91%	90%	49-108%

8.3.1

8

Semivolatile Surrogate Recovery Summary

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Method: SW846 8015C **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]
F91720-1	YY28753.D	81.0
F91720-2	YY28755.D	109.0*
F91720-2	YY28754.D	123.0* [b]
F91720-3	YY28758.D	86.0
F91720-4	YY28759.D	82.0
OP41221-BS	YY28746.D	95.0
OP41221-MB	YY28747.D	94.0
OP41221-MS	YY28751.D	90.0
OP41221-MSD	YY28752.D	91.0

Surrogate Compounds	Recovery Limits
S1 = o-Terphenyl	49-108%

(a) Recovery from GC signal #1
(b) Outside control limits due to matrix interference. Confirmed by reanalysis.

GC Surrogate Retention Time Summary

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Check Std:	GYY1061-CC1009	**Injection Date:**	04/03/12
Lab File ID:	YY28744.D	**Injection Time:**	15:45
Instrument ID:	GCYY	**Method:**	SW846 8015C

	S1 [a] **RT**
Check Std	6.17

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
OP41221-BS	YY28746.D	04/03/12	16:41	6.16
OP41221-MB	YY28747.D	04/03/12	17:09	6.16
ZZZZZZ	YY28749.D	04/03/12	18:04	0.00
F91658-9	YY28750.D	04/03/12	18:32	6.16
OP41221-MS	YY28751.D	04/03/12	19:00	6.16
OP41221-MSD	YY28752.D	04/03/12	19:27	6.16
F91720-1	YY28753.D	04/03/12	19:55	6.17
F91720-2	YY28754.D	04/03/12	20:23	6.16
F91720-2	YY28755.D	04/03/12	20:50	6.16

Surrogate Compounds

S1 = o-Terphenyl

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Check Std:	GYY1061-CC1009	**Injection Date:**	04/03/12
Lab File ID:	YY28756.D	**Injection Time:**	21:18
Instrument ID:	GCYY	**Method:**	SW846 8015C

	S1 [a] **RT**
Check Std	6.17

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
F91720-3	YY28758.D	04/03/12	22:13	6.16
F91720-4	YY28759.D	04/03/12	22:40	6.16
OP41234-BS	YY28760.D	04/03/12	23:08	6.16
OP41234-MB	YY28762.D	04/04/12	00:03	6.16
ZZZZZZ	YY28764.D	04/04/12	00:58	6.16
GYY1061-ECC1009	YY28765.D	04/04/12	01:25	6.16

Surrogate Compounds

S1 = o-Terphenyl

(a) Retention time from GC signal #1

Initial Calibration Summary

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: GYY1009-ICC1009
Lab FileID: YY27280.D

Response Factor Report FID 5

```
Method       : C:\MSDCHEM\2\METHODS\F_DRO.M (Chemstation Integrator)
Title        : TPH by SW846 8015C
Last Update  : Tue Jan 24 10:44:26 2012
Response via : Initial Calibration

Calibration Files
200 =YY27277.D   500 =YY27278.D   1000=YY27279.D   2000=YY27280.D
3000   =YY27281.D    4000   =YY27282.D
```

Compound	200	500	1000	2000	3000	4000	Avg	%RSD
1) S O-TERPHENYL	1.159	1.187	1.219	1.244	1.240	1.274	1.221 E5	3.43
2) H TPH (C10-C28)	1.104	1.069	1.078	1.093	1.083	1.109	1.089 E5	1.42

(#) = Out of Range

F_DRO.M Tue Jan 24 12:40:49 2012

8.6.1

8

Initial Calibration Verification

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: GYY1009-ICV1009
Lab FileID: YY27283.D

```
                    Evaluate Continuing Calibration Report

 Data File : C:\MSDCHEM\2\DATA\0123DRO.S\YY27283.D        Vial: 9
 Acq On    : 1-23-12 02:56:38 PM                      Operator: steve
 Sample    : icv1009-1000                             Inst    : FID 5
 Misc      : op40224,gyy1009,30.0,,,1,1,soil          Multiplr: 1.00
 IntFile   : events.e

 Method       : C:\MSDCHEM\2\METHODS\F_DRO.M (Chemstation Integrator)
 Title        : TPH by SW846 8015C
 Last Update  : Tue Jan 24 10:44:26 2012
 Response via : Multiple Level Calibration

 Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
 Max. RRF Dev :  20%     Max. Rel. Area : 150%

        Compound                Amount  Calc.    %Drift Area% Dev(min)RT Window
 ---------------------------------------------------------------------------
 1 S   O-TERPHENYL                        ----------NA----------
 2 H   TPH (C10-C28)          1000.000 943.394      5.7   95   0.00    3.38- 8.75
---------------------------------------------------------------------------
---------------------------------------------------------------------------

   (#) = Out of Range               SPCC's out = 0  CCC's out = 0
    YY27279.D  F_DRO.M          Tue Jan 24 12:37:46 2012
```

8.6.2

8

Continuing Calibration Summary

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: GYY1061-CC1009
Lab FileID: YY28744.D

```
                    Evaluate Continuing Calibration Report

 Data File : C:\MSDCHEM\2\DATA\0403DRO.S\YY28744.D        Vial: 3
 Acq On    : 4-3-12 03:45:52 PM                       Operator: steve
 Sample    : cc1009-2000                              Inst    : FID 5
 Misc      : op41221,gyy1061,30.0,,,1,1,soil          Multiplr: 1.00
 IntFile   : events.e

 Method       : C:\MSDCHEM\2\METHODS\F_DRO.M (Chemstation Integrator)
 Title        : TPH by SW846 8015C
 Last Update  : Mon Mar 26 15:40:24 2012
 Response via : Multiple Level Calibration

 Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
 Max. RRF Dev :  20%     Max. Rel. Area : 150%

        Compound                Amount  Calc.    %Drift Area% Dev(min)RT Window
 ---------------------------------------------------------------------------
 1 S   O-TERPHENYL             50.000  51.002     -2.0  100   0.00    6.14- 6.24
 2 H   TPH (C10-C28)          2000.000 2088.251     -4.4  104   0.00    3.16- 8.75
---------------------------------------------------------------------------
---------------------------------------------------------------------------

   (#) = Out of Range               SPCC's out = 0  CCC's out = 0
    YY27280.D  F_DRO.M          Thu Apr 05 15:30:30 2012
```

8.6.3

8

Continuing Calibration Summary

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: GYY1061-CC1009
Lab FileID: YY28756.D

```
                    Evaluate Continuing Calibration Report

 Data File : C:\MSDCHEM\2\DATA\0403DRO.S\YY28756.D        Vial: 3
 Acq On    : 4-3-12 09:18:08 PM                       Operator: steve
 Sample    : cc1009-2000                              Inst    : FID 5
 Misc      : op41221,gyy1061,30.0,,,1,1,soil          Multiplr: 1.00
 IntFile   : events.e

 Method       : C:\MSDCHEM\2\METHODS\F_DRO.M (Chemstation Integrator)
 Title        : TPH by SW846 8015C
 Last Update  : Mon Mar 26 15:40:24 2012
 Response via : Multiple Level Calibration

 Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
 Max. RRF Dev :  20%     Max. Rel. Area : 150%

        Compound                Amount  Calc.    %Drift Area% Dev(min)RT Window
 ---------------------------------------------------------------------------
 1 S   O-TERPHENYL             50.000  55.332    -10.7  109  -0.01    6.14- 6.24
 2 H   TPH (C10-C28)          2000.000 2158.229     -7.9  108   0.00    3.16- 8.75
---------------------------------------------------------------------------
---------------------------------------------------------------------------

   (#) = Out of Range               SPCC's out = 0  CCC's out = 0
    YY27280.D  F_DRO.M          Thu Apr 05 15:30:31 2012
```

8.6.4

8

Continuing Calibration Summary

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: GYY1061-ECC1009
Lab FileID: YY28765.D

```
                    Evaluate Continuing Calibration Report

 Data File : C:\MSDCHEM\2\DATA\0403DRO.S\YY28765.D        Vial: 22
 Acq On    : 4-4-12 01:25:47 AM                       Operator: steve
 Sample    : ecc1009-1000                             Inst    : FID 5
 Misc      : op41234,gyy1061,30.0,,,1,1,soil          Multiplr: 1.00
 IntFile   : events.e

 Method       : C:\MSDCHEM\2\METHODS\F_DRO.M (Chemstation Integrator)
 Title        : TPH by SW846 8015C
 Last Update  : Mon Mar 26 15:40:24 2012
 Response via : Multiple Level Calibration

 Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
 Max. RRF Dev :  20%     Max. Rel. Area : 150%

        Compound                Amount  Calc.    %Drift Area% Dev(min)RT Window
 ---------------------------------------------------------------------------
 1 S   O-TERPHENYL             25.000  27.069     -8.3  108  -0.02    6.14- 6.24
 2 H   TPH (C10-C28)          1000.000 1073.860     -7.4  108   0.00    3.16- 8.75
---------------------------------------------------------------------------
---------------------------------------------------------------------------

   (#) = Out of Range               SPCC's out = 0  CCC's out = 0
    YY27279.D  F_DRO.M          Thu Apr 05 15:32:12 2012
```

8.6.5

8

Southeast ACCUTEST LABORATORIES

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Instrument Runlogs
- Initial and Continuing Calibration Blanks
- Initial and Continuing Calibration Checks
- High and Low Check Standards
- Interfering Element Check Standards
- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F91720
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA041012M1.ICP Date Analyzed: 04/10/12 Methods: SW846 6010C
Analyst: LM Run ID: MA9705
Parameters: As,Ba,Cd,Cr,Pb,Se,Ag

Time	Sample Description	Dilution Factor	PS Recov	Comments
07:34	MA9705-STD1	1		STDA
07:38	MA9705-STD2	1		STDB
07:42	MA9705-STD3	1		STDC
07:45	MA9705-STD4	1		STDD
07:49	MA9705-HSTD1	1		
07:56	MA9705-ICV1	1		
08:08	MA9705-ICB1	1		
08:12	MA9705-CRIA1	1		
08:24	MA9705-ICSA1	1		
08:30	MA9705-ICSAB1	1		
08:37	MA9705-CCV1	1		
08:42	MA9705-CCB1	1		
08:45	ZZZZZZ	5		
08:50	ZZZZZZ	5		
08:54	MP22557-MB1	1		
08:59	MP22557-B1	1		
09:03	F91940-1	1		(sample used for QC only; not part of login F91720)
09:07	MP22557-D1	1		
09:11	MP22557-S1	1		
09:15	MP22557-S2	1		
09:20	MP22557-PS1	1		
09:24	MP22557-SD1	5		
09:28	MA9705-CCV2	1		
09:32	MA9705-CCB2	1		
09:37	ZZZZZZ	5		
09:41	ZZZZZZ	5		
09:46	ZZZZZZ	5		
09:50	ZZZZZZ	5		
09:54	ZZZZZZ	5		
09:59	ZZZZZZ	5		
10:03	ZZZZZZ	1		
10:07	ZZZZZZ	1		
10:12	MA9705-CCV3	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F91720
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA041012M1.ICP Date Analyzed: 04/10/12 Methods: SW846 6010C
Analyst: LM Run ID: MA9705
Parameters: As,Ba,Cd,Cr,Pb,Se,Ag

Time	Sample Description	Dilution Factor	PS Recov	Comments
10:16	MA9705-CCB3	1		
10:44	MA9705-CCV4	1		
10:49	MA9705-CCB4	1		
10:56	MP22558-MB1	1		
11:00	MP22558-B1	1		
11:04	F91753-4	1		(sample used for QC only; not part of login F91720)
11:09	MP22558-D1	1		
11:14	MP22558-SD1	5		
11:18	MP22558-PS1	1		
11:23	MP22558-S1	1		
11:27	MP22558-S2	1		
11:32	ZZZZZZ	1		
11:36	ZZZZZZ	1		
11:41	MA9705-CCV5	1		
11:45	MA9705-CCB5	1		
11:50	ZZZZZZ	1		
11:54	ZZZZZZ	1		
11:58	ZZZZZZ	1		
12:03	ZZZZZZ	1		
12:07	ZZZZZZ	1		
12:11	ZZZZZZ	1		
12:16	ZZZZZZ	1		
12:20	ZZZZZZ	1		
12:24	ZZZZZZ	1		
12:29	ZZZZZZ	1		
12:33	MA9705-CCV6	1		
12:37	MA9705-CCB6	1		
12:42	ZZZZZZ	1		
12:46	ZZZZZZ	1		
12:51	ZZZZZZ	1		
12:55	ZZZZZZ	1		
13:00	ZZZZZZ	1		
13:04	ZZZZZZ	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F91720
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA041012M1.ICP Date Analyzed: 04/10/12 Methods: SW846 6010C
Analyst: LM Run ID: MA9705
Parameters: As,Ba,Cd,Cr,Pb,Se,Ag

Time	Sample Description	Dilution Factor	PS Recov	Comments
13:09	MP22558-MB2A	1		
13:13	ZZZZZZ	1		
13:18	MP22559-MB1	1		
13:22	MP22559-B1	1		
13:26	MA9705-CCV7	1		
13:30	MA9705-CCB7	1		
13:35	F91768-2	1		(sample used for QC only; not part of login F91720)
13:39	MP22559-D1	1		
13:44	MP22559-SD1	5		
13:48	MP22559-PS1	1		
13:53	MP22559-S1	1		
13:57	MP22559-S2	1		
14:01	ZZZZZZ	1		
14:05	ZZZZZZ	1		
14:10	ZZZZZZ	1		
14:14	ZZZZZZ	1		
14:19	MA9705-CCV8	1		
14:23	MA9705-CCB8	1		
14:28	ZZZZZZ	1		
14:32	ZZZZZZ	1		
14:37	ZZZZZZ	1		
14:41	ZZZZZZ	1		
14:45	ZZZZZZ	1		
14:50	ZZZZZZ	1		
14:55	ZZZZZZ	1		
14:59	ZZZZZZ	1		
15:04	ZZZZZZ	1		
15:08	ZZZZZZ	1		
15:13	MA9705-CCV9	1		
15:17	MA9705-CCB9	1		
15:21	ZZZZZZ	1		
15:26	MP22563-MB1	1		
15:30	MP22563-B1	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F91720
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA041012M1.ICP Date Analyzed: 04/10/12 Methods: SW846 6010C
Analyst: LM Run ID: MA9705
Parameters: As,Ba,Cd,Cr,Pb,Se,Ag

	Time	Sample Description	Dilution Factor	PS Recov	Comments
	15:34	F91720-1L	1		
	15:39	MP22563-D1	1		
	15:43	MP22563-SD1	5		
	15:48	MP22563-S1	1		
	15:52	MP22563-S2	1		
	15:57	F91720-2L	1		
	16:01	F91720-3L	1		
	16:06	MA9705-CCV10	1		
	16:10	MA9705-CCB10	1		
	16:29	MA9705-CCV11	1		
	16:32	MA9705-CCB11	1		
	16:36	F91720-4L	1		
	16:40	ZZZZZZ	1		
	16:45	F91880-1L	1		(sample used for QC only; not part of login F91720)
	16:49	MP22563-D2	1		
	16:54	MP22563-MB2	1		
	16:59	MP22563-B2	1		
---------->	Last reportable sample/prep for job F91720				
	17:03	MP22564-MB1	1		
	17:07	MP22564-B1	1		
	17:12	F91753-4F	1		(sample used for QC only; not part of login F91720)
	17:16	MP22564-D1	1		
	17:21	MA9705-CCV12	1		
	17:25	MA9705-CCB12	1		
---------->	Last reportable CCB for job F91720				
	17:30	MP22564-SD1	5		
	17:34	MP22564-PS1	1		
	17:39	MP22564-S1	1		
	17:43	MP22564-S2	1		
	17:48	ZZZZZZ	1		
	17:52	ZZZZZZ	1		
	17:57	ZZZZZZ	1		
	18:01	ZZZZZZ	1		
	18:06	ZZZZZZ	1		
	18:10	ZZZZZZ	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F91720
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA041012M1.ICP Date Analyzed: 04/10/12 Methods: SW846 6010C
Analyst: LM Run ID: MA9705
Parameters: As,Ba,Cd,Cr,Pb,Se,Ag

Time	Sample Description	Dilution Factor	PS Recov	Comments
18:15	MA9705-CCV13	1		
18:19	MA9705-CCB13	1		
18:23	ZZZZZZ	1		
18:28	ZZZZZZ	1		
18:32	ZZZZZZ	1		
18:36	ZZZZZZ	1		
18:41	ZZZZZZ	1		
18:45	ZZZZZZ	1		
18:50	ZZZZZZ	1		
18:54	ZZZZZZ	1		
18:59	ZZZZZZ	1		
19:04	ZZZZZZ	1		
19:08	MA9705-CCV14	1		
19:12	MA9705-CCB14	1		
19:17	ZZZZZZ	1		
19:21	ZZZZZZ	1		
19:26	ZZZZZZ	1		
19:30	MP22564-MB2A	1		
19:35	MP22564-MB3A	1		
19:39	MA9705-CCV15	1		
19:43	MA9705-CCB15	1		

Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: F91720
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA041012M1.ICP Date Analyzed: 04/10/12 Methods: SW846 6010C
Analyst: LM Run ID: MA9705
Parameters: As,Ba,Cd,Cr,Pb,Se,Ag

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
07:34	MA9705-STD1	1820	13252	4167	901
07:38	MA9705-STD2	1822	13407	4224	856
07:42	MA9705-STD3	1765	13266	4170	784
07:45	MA9705-STD4	1722	13039	4082	738
07:49	MA9705-HSTD1	1711	12925	4049	732
07:56	MA9705-ICV1	1744	12938	4039	777
08:08	MA9705-ICB1	1831 R	13193 R	4120 R	904 R
08:12	MA9705-CRIA1	1835	13223	4124	880
08:24	MA9705-ICSA1	1636	12269	3914	686
08:30	MA9705-ICSAB1	1595	11988	3775	665
08:37	MA9705-CCV1	1760	12890	3992	780
08:42	MA9705-CCB1	1845	13133	4053	909
08:45	ZZZZZZ	1820	13198	4063	876
08:50	ZZZZZZ	1821	13196	4075	878
08:54	MP22557-MB1	1844	13153	4018	909
08:59	MP22557-B1	1784	12962	3973	820
09:03	F91940-1	2261	16620	5145	776
09:07	MP22557-D1	2519	18705	5613	747
09:11	MP22557-S1	2435	18035	5451	747
09:15	MP22557-S2	2613	19578	5916	732
09:20	MP22557-PS1	2266	16640	5024	775
09:24	MP22557-SD1	1961	14121	4279	859
09:28	MA9705-CCV2	1790	13121	3990	795
09:32	MA9705-CCB2	1874	13292	4041	924
09:37	ZZZZZZ	2008	14250	4323	833
09:41	ZZZZZZ	2034	14482	4377	853
09:46	ZZZZZZ	2048	14637	4437	851
09:50	ZZZZZZ	2118	15114	4547	834
09:54	ZZZZZZ	2070	14629	4412	843
09:59	ZZZZZZ	2111	15133	4569	838
10:03	ZZZZZZ	1893	13333	3964	910
10:07	ZZZZZZ	2136	15175	4515	853
10:12	MA9705-CCV3	1780	13053	3935	790

INTERNAL STANDARD SUMMARY

Login Number: F91720
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA041012M1.ICP Date Analyzed: 04/10/12 Methods: SW846 6010C
Analyst: LM Run ID: MA9705
Parameters: As,Ba,Cd,Cr,Pb,Se,Ag

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
10:16	MA9705-CCB3	1866	13113	3960	916
10:44	MA9705-CCV4	1762	12841	3858	781
10:49	MA9705-CCB4	1862	13183	3953	915
10:56	MP22558-MB1	1828	13042	3921	903
11:00	MP22558-B1	1799	13018	3912	823
11:04	F91753-4	1464	11084	3562	580
11:09	MP22558-D1	1461	11110	3591	578
11:14	MP22558-SD1	1646	12278	3777	709
11:18	MP22558-PS1	1480	11156	3575	583
11:23	MP22558-S1	1505	11306	3595	572
11:27	MP22558-S2	1501	11246	3589	568
11:32	ZZZZZZ	2097	16633	5176	544
11:36	ZZZZZZ	1956	15437	4796	561
11:41	MA9705-CCV5	1758	12929	3833	780
11:45	MA9705-CCB5	1835	13001	3823	902
11:50	ZZZZZZ	1981	14221	4196	850
11:54	ZZZZZZ	2052	14764	4372	855
11:58	ZZZZZZ	1891	13588	3987	867
12:03	ZZZZZZ	1929	13958	4109	851
12:07	ZZZZZZ	1913	13916	4111	859
12:11	ZZZZZZ	1914	13767	4051	865
12:16	ZZZZZZ	1911	13751	4021	854
12:20	ZZZZZZ	2141	15419	4525	865
12:24	ZZZZZZ	1771	12898	3795	828
12:29	ZZZZZZ	1730	12905	3811	796
12:33	MA9705-CCV6	1755	12863	3788	781
12:37	MA9705-CCB6	1861	13163	3863	916
12:42	ZZZZZZ	1733	12800	3760	808
12:46	ZZZZZZ	1572	11847	3640	654
12:51	ZZZZZZ	1712	12786	3772	790
12:55	ZZZZZZ	1836	13219	3842	879
13:00	ZZZZZZ	1769	13070	3857	848
13:04	ZZZZZZ	1846	13177	3870	865

INTERNAL STANDARD SUMMARY

Login Number: F91720
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA041012M1.ICP Date Analyzed: 04/10/12 Methods: SW846 6010C
Analyst: LM Run ID: MA9705
Parameters: As,Ba,Cd,Cr,Pb,Se,Ag

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
13:09	MP22558-MB2A	1860	13199	3826	914
13:13	ZZZZZZ	1774	13019	3830	768
13:18	MP22559-MB1	1860	13273	3884	918
13:22	MP22559-B1	1792	13050	3783	820
13:26	MA9705-CCV7	1760	12902	3771	779
13:30	MA9705-CCB7	1838	13027	3815	902
13:35	F91768-2	1738	12765	3716	807
13:39	MP22559-D1	1718	12696	3686	799
13:44	MP22559-SD1	1805	12986	3794	869
13:48	MP22559-PS1	1716	12534	3635	781
13:53	MP22559-S1	1734	12701	3711	769
13:57	MP22559-S2	1726	12707	3729	764
14:01	ZZZZZZ	1722	12646	3708	800
14:05	ZZZZZZ	1856	13059	3796	913
14:10	ZZZZZZ	1681	12403	3613	751
14:14	ZZZZZZ	1592	12111	3568	720
14:19	MA9705-CCV8	1761	12655	3654	775
14:23	MA9705-CCB8	1813	12758	3667	890
14:28	ZZZZZZ	1628	12252	3604	749
14:32	ZZZZZZ	1728	12636	3706	801
14:37	ZZZZZZ	1783	12851	3691	840
14:41	ZZZZZZ	1759	12717	3691	826
14:45	ZZZZZZ	1609	12263	3619	709
14:50	ZZZZZZ	1623	12216	3620	713
14:55	ZZZZZZ	1731	12726	3704	704
14:59	ZZZZZZ	1611	12199	3570	727
15:04	ZZZZZZ	1636	12342	3614	734
15:08	ZZZZZZ	1831	13017	3756	854
15:13	MA9705-CCV9	1765	12780	3666	776
15:17	MA9705-CCB9	1806	12860	3725	888
15:21	ZZZZZZ	1682	12407	3595	778
15:26	MP22563-MB1	1844	13033	3743	906
15:30	MP22563-B1	1769	12826	3677	808

INTERNAL STANDARD SUMMARY

Login Number: F91720
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA041012M1.ICP Date Analyzed: 04/10/12 Methods: SW846 6010C
Analyst: LM Run ID: MA9705
Parameters: As,Ba,Cd,Cr,Pb,Se,Ag

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
15:34	F91720-1L	1650	12314	3576	752
15:39	MP22563-D1	1657	12353	3573	756
15:43	MP22563-SD1	1779	12935	3718	844
15:48	MP22563-S1	1703	12639	3682	735
15:52	MP22563-S2	1687	12384	3601	730
15:57	F91720-2L	1671	12489	3599	761
16:01	F91720-3L	1656	12447	3615	756
16:06	MA9705-CCV10	1745	12640	3647	770
16:10	MA9705-CCB10	1813	12746	3672	886
16:29	MA9705-CCV11	1765	12814	3636	776
16:32	MA9705-CCB11	1827	12937	3691	893
16:36	F91720-4L	1674	12527	3624	762
16:40	ZZZZZZ	1712	12553	3608	779
16:45	F91880-1L	1688	12483	3583	768
16:49	MP22563-D2	1687	12341	3612	770
16:54	MP22563-MB2	1727	12649	3648	799
16:59	MP22563-B2	1721	12554	3595	762
17:03	MP22564-MB1	1837	12917	3662	900
17:07	MP22564-B1	1763	12748	3617	805
17:12	F91753-4F	1408	10608	3312	568
17:16	MP22564-D1	1434	10702	3329	576
17:21	MA9705-CCV12	1756	12731	3611	772
17:25	MA9705-CCB12	1809	12883	3674	887
17:30	MP22564-SD1	1625	12101	3568	706
17:34	MP22564-PS1	1431	10662	3281	569
17:39	MP22564-S1	1502	11129	3347	574
17:43	MP22564-S2	1476	11003	3320	565
17:48	ZZZZZZ	1597	12026	3525	696
17:52	ZZZZZZ	1599	12004	3507	697
17:57	ZZZZZZ	1805	12904	3641	858
18:01	ZZZZZZ	1806	13040	3692	838
18:06	ZZZZZZ	1747	12760	3641	821
18:10	ZZZZZZ	1796	12842	3652	860

INTERNAL STANDARD SUMMARY

Login Number: F91720
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA041012M1.ICP Date Analyzed: 04/10/12 Methods: SW846 6010C
Analyst: LM Run ID: MA9705
Parameters: As,Ba,Cd,Cr,Pb,Se,Ag

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
18:15	MA9705-CCV13	1746	12613	3582	769
18:19	MA9705-CCB13	1795	12772	3623	884
18:23	ZZZZZZ	1734	12753	3645	833
18:28	ZZZZZZ	1820	12987	3686	852
18:32	ZZZZZZ	1812	13036	3687	862
18:36	ZZZZZZ	1795	13024	3715	835
18:41	ZZZZZZ	1768	13022	3727	833
18:45	ZZZZZZ	1638	12277	3606	655
18:50	ZZZZZZ	1579	11898	3469	644
18:54	ZZZZZZ	1596	12128	3506	685
18:59	ZZZZZZ	1498	11516	3484	579
19:04	ZZZZZZ	1637	12314	3543	697
19:08	MA9705-CCV14	1743	12731	3596	771
19:12	MA9705-CCB14	1799	12779	3573	884
19:17	ZZZZZZ	1663	12475	3538	765
19:21	ZZZZZZ	1576	11638	3472	633
19:26	ZZZZZZ	1598	12015	3490	694
19:30	MP22564-MB2A	1794	12837	3600	885
19:35	MP22564-MB3A	1783	12802	3634	881
19:39	MA9705-CCV15	1713	12550	3558	763
19:43	MA9705-CCB15	1803	12753	3576	886

R = Reference for ISTD limits. ! = Outside limits.

LEGEND:

Istd#	Parameter	Limits
Istd#1	Yttrium (2243)	60-125 %
Istd#2	Yttrium (3600)	60-125 %
Istd#3	Yttrium (3710)	60-125 %
Istd#4	Indium	60-125 %

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F91720
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA041012M1.ICP Date Analyzed: 04/10/12 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA9705 Units: ug/l

Time:			08:08		08:42		09:32		10:16	
Sample ID:			ICB1		CCB1		CCB2		CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	20	anr							
Antimony	6.0	1	anr							
Arsenic	10	1	0.30	<10	-0.50	<10	0.30	<10	-0.70	<10
Barium	200	1	-0.20	<200	-0.30	<200	-0.10	<200	-0.20	<200
Beryllium	4.0	.1	anr							
Cadmium	5.0	.1	-0.10	<5.0	0.0	<5.0	0.0	<5.0	0.0	<5.0
Calcium	1000	50	anr							
Chromium	10	1	-0.20	<10	0.80	<10	-0.20	<10	0.40	<10
Cobalt	50	1								
Copper	25	1	anr							
Iron	300	34	anr							
Lead	5.0	1	0.70	<5.0	0.10	<5.0	1.7	<5.0	0.50	<5.0
Magnesium	5000	50	anr							
Manganese	15	1	anr							
Molybdenum	50	1								
Nickel	40	1	anr							
Potassium	10000	50	anr							
Selenium	10	2	3.0	<10	1.4	<10	1.2	<10	1.5	<10
Silver	10	1	0.30	<10	0.0	<10	0.20	<10	0.30	<10
Sodium	10000	750	anr							
Strontium	10	1								
Thallium	10	1	anr							
Tin	50	1								
Titanium	10	1.1								
Vanadium	50	1								
Zinc	20	1								

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F91720
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA041012M1.ICP Date Analyzed: 04/10/12 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA9705 Units: ug/l

Time:			10:49		11:45		12:37		13:30	
Sample ID:			CCB4		CCB5		CCB6		CCB7	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	20	anr							
Antimony	6.0	1	anr							
Arsenic	10	1	-0.10	<10	-0.20	<10	-0.60	<10	0.70	<10
Barium	200	1	0.10	<200	0.0	<200	0.10	<200	0.10	<200
Beryllium	4.0	.1	anr							
Cadmium	5.0	.1	-0.10	<5.0	0.0	<5.0	0.0	<5.0	0.0	<5.0
Calcium	1000	50	anr							
Chromium	10	1	-0.10	<10	-0.20	<10	0.0	<10	0.10	<10
Cobalt	50	1								
Copper	25	1	anr							
Iron	300	34	anr							
Lead	5.0	1	-0.40	<5.0	0.0	<5.0	-0.40	<5.0	-0.40	<5.0
Magnesium	5000	50	anr							
Manganese	15	1	anr							
Molybdenum	50	1								
Nickel	40	1	anr							
Potassium	10000	50	anr							
Selenium	10	2	-0.40	<10	-0.80	<10	-0.80	<10	-0.60	<10
Silver	10	1	0.40	<10	0.10	<10	0.30	<10	0.50	<10
Sodium	10000	750	anr							
Strontium	10	1								
Thallium	10	1	anr							
Tin	50	1								
Titanium	10	1.1								
Vanadium	50	1								
Zinc	20	1								

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F91720
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA041012M1.ICP Date Analyzed: 04/10/12 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA9705 Units: ug/l

Time:			14:23		15:17		16:10		16:32	
Sample ID:			CCB8		CCB9		CCB10		CCB11	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	20	anr							
Antimony	6.0	1	anr							
Arsenic	10	1	0.70	<10	0.90	<10	0.0	<10	0.0	<10
Barium	200	1	0.20	<200	0.10	<200	0.10	<200	0.10	<200
Beryllium	4.0	.1	anr							
Cadmium	5.0	.1	0.20	<5.0	0.10	<5.0	-0.10	<5.0	0.0	<5.0
Calcium	1000	50	anr							
Chromium	10	1	0.30	<10	0.50	<10	0.10	<10	0.20	<10
Cobalt	50	1								
Copper	25	1	anr							
Iron	300	34	anr							
Lead	5.0	1	-0.20	<5.0	-0.60	<5.0	0.20	<5.0	-0.30	<5.0
Magnesium	5000	50	anr							
Manganese	15	1	anr							
Molybdenum	50	1								
Nickel	40	1	anr							
Potassium	10000	50	anr							
Selenium	10	2	-2.7	<10	-0.30	<10	-1.7	<10	-2.1	<10
Silver	10	1	0.60	<10	-0.10	<10	0.20	<10	0.30	<10
Sodium	10000	750	anr							
Strontium	10	1								
Thallium	10	1	anr							
Tin	50	1								
Titanium	10	1.1								
Vanadium	50	1								
Zinc	20	1								

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F91720
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA041012M1.ICP Date Analyzed: 04/10/12 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA9705 Units: ug/l

Time:			17:25	
Sample ID:			CCB12	
Metal	RL	IDL	raw	final
Aluminum	200	20	anr	
Antimony	6.0	1	anr	
Arsenic	10	1	-0.50	<10
Barium	200	1	0.20	<200
Beryllium	4.0	.1	anr	
Cadmium	5.0	.1	0.10	<5.0
Calcium	1000	50	anr	
Chromium	10	1	0.20	<10
Cobalt	50	1		
Copper	25	1	anr	
Iron	300	34	anr	
Lead	5.0	1	-0.90	<5.0
Magnesium	5000	50	anr	
Manganese	15	1	anr	
Molybdenum	50	1		
Nickel	40	1	anr	
Potassium	10000	50	anr	
Selenium	10	2	-2.4	<10
Silver	10	1	0.10	<10
Sodium	10000	750	anr	
Strontium	10	1		
Thallium	10	1	anr	
Tin	50	1		
Titanium	10	1.1		
Vanadium	50	1		
Zinc	20	1		

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F91720
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA041012M1.ICP Date Analyzed: 04/10/12 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA9705 Units: ug/l

Time:		07:56			08:37			09:28	
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	2000	1980	99.0	2000	2060	103.0	2000	2050	102.5
Barium	2000	2090	104.5	2000	2100	105.0	2000	2090	104.5
Beryllium	anr								
Cadmium	2000	2050	102.5	2000	2100	105.0	2000	2080	104.0
Calcium	anr								
Chromium	2000	2050	102.5	2000	2120	106.0	2000	2090	104.5
Cobalt									
Copper	anr								
Iron	anr								
Lead	2000	1980	99.0	2000	2080	104.0	2000	2060	103.0
Magnesium	anr								
Manganese	anr								
Molybdenum									
Nickel	anr								
Potassium	anr								
Selenium	2000	2040	102.0	2000	2040	102.0	2000	2020	101.0
Silver	250	261	104.4	250	260	104.0	250	256	102.4
Sodium	anr								
Strontium									
Thallium	anr								
Tin									
Titanium									
Vanadium									
Zinc									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F91720
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA041012M1.ICP Date Analyzed: 04/10/12 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA9705 Units: ug/l

Time:		10:12			10:44			11:41	
Sample ID:	CCV	CCV3		CCV	CCV4		CCV	CCV5	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	2000	2080	104.0	2000	2060	103.0	2000	2060	103.0
Barium	2000	2100	105.0	2000	2070	103.5	2000	2050	102.5
Beryllium	anr								
Cadmium	2000	2110	105.5	2000	2090	104.5	2000	2080	104.0
Calcium	anr								
Chromium	2000	2110	105.5	2000	2090	104.5	2000	2070	103.5
Cobalt									
Copper	anr								
Iron	anr								
Lead	2000	2090	104.5	2000	2060	103.0	2000	2050	102.5
Magnesium	anr								
Manganese	anr								
Molybdenum									
Nickel	anr								
Potassium	anr								
Selenium	2000	2050	102.5	2000	2050	102.5	2000	2060	103.0
Silver	250	261	104.4	250	255	102.0	250	252	100.8
Sodium	anr								
Strontium									
Thallium	anr								
Tin									
Titanium									
Vanadium									
Zinc									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F91720
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA041012M1.ICP Date Analyzed: 04/10/12 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA9705 Units: ug/l

Time:		12:33			13:26			14:19	
Sample ID:	CCV	CCV6		CCV	CCV7		CCV	CCV8	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	2000	2070	103.5	2000	2070	103.5	2000	2070	103.5
Barium	2000	2070	103.5	2000	2080	104.0	2000	2120	106.0
Beryllium	anr								
Cadmium	2000	2090	104.5	2000	2090	104.5	2000	2110	105.5
Calcium	anr								
Chromium	2000	2080	104.0	2000	2060	103.0	2000	2070	103.5
Cobalt									
Copper	anr								
Iron	anr								
Lead	2000	2060	103.0	2000	2070	103.5	2000	2100	105.0
Magnesium	anr								
Manganese	anr								
Molybdenum									
Nickel	anr								
Potassium	anr								
Selenium	2000	2080	104.0	2000	2050	102.5	2000	2000	100.0
Silver	250	256	102.4	250	253	101.2	250	258	103.2
Sodium	anr								
Strontium									
Thallium	anr								
Tin									
Titanium									
Vanadium									
Zinc									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F91720
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA041012M1.ICP Date Analyzed: 04/10/12 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA9705 Units: ug/l

Time:		15:13			16:06			16:29	
Sample ID:	CCV	CCV9		CCV	CCV10		CCV	CCV11	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	2000	2070	103.5	2000	2110	105.5	2000	2030	101.5
Barium	2000	2130	106.5	2000	2160	108.0	2000	2050	102.5
Beryllium	anr								
Cadmium	2000	2110	105.5	2000	2140	107.0	2000	2070	103.5
Calcium	anr								
Chromium	2000	2030	101.5	2000	2060	103.0	2000	2050	102.5
Cobalt									
Copper	anr								
Iron	anr								
Lead	2000	2090	104.5	2000	2120	106.0	2000	2040	102.0
Magnesium	anr								
Manganese	anr								
Molybdenum									
Nickel	anr								
Potassium	anr								
Selenium	2000	1990	99.5	2000	2030	101.5	2000	2040	102.0
Silver	250	257	102.8	250	260	104.0	250	255	102.0
Sodium	anr								
Strontium									
Thallium	anr								
Tin									
Titanium									
Vanadium									
Zinc									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F91720
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA041012M1.ICP Date Analyzed: 04/10/12 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA9705 Units: ug/l

Time:		17:21	
Sample ID:	CCV	CCV12	
Metal	True	Results	% Rec
Aluminum	anr		
Antimony	anr		
Arsenic	2000	2050	102.5
Barium	2000	2080	104.0
Beryllium	anr		
Cadmium	2000	2090	104.5
Calcium	anr		
Chromium	2000	2050	102.5
Cobalt			
Copper	anr		
Iron	anr		
Lead	2000	2060	103.0
Magnesium	anr		
Manganese	anr		
Molybdenum			
Nickel	anr		
Potassium	anr		
Selenium	2000	2050	102.5
Silver	250	257	102.8
Sodium	anr		
Strontium			
Thallium	anr		
Tin			
Titanium			
Vanadium			
Zinc			

(*) Outside of QC limits
(anr) Analyte not requested

HIGH STANDARD CHECK SUMMARY

Login Number: F91720
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA041012M1.ICP Date Analyzed: 04/10/12 Methods: SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA9705 Units: ug/l

Time:		07:49	
Sample ID:	HSTD	HSTD1	
Metal	True	Results	% Rec
Aluminum	anr		
Antimony	anr		
Arsenic	4000	3990	99.8
Barium	4000	3980	99.5
Beryllium	anr		
Cadmium	4000	3930	98.3
Calcium	anr		
Chromium	4000	3920	98.0
Cobalt			
Copper	anr		
Iron	anr		
Lead	4000	3980	99.5
Magnesium	anr		
Manganese	anr		
Molybdenum			
Nickel	anr		
Potassium	anr		
Selenium	4000	3950	98.8
Silver	500	501	100.2
Sodium	anr		
Strontium			
Thallium	anr		
Tin			
Titanium			
Vanadium			
Zinc			

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: F91720
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA041012M1.ICP Date Analyzed: 04/10/12 Methods: SW846 6010C
QC Limits: CRI 70-130% CRIA 70-130% Run ID: MA9705 Units: ug/l

Time:			08:12	
Sample ID:	CRI	CRIA	CRIA1	
Metal	True	True	Results	% Rec
Aluminum	400	200	anr	
Antimony	10	5.0	anr	
Arsenic	20	10	10.0	100.0
Barium	400	200	204	102.0
Beryllium	10	5.0	anr	
Cadmium	10	5.0	5.5	110.0
Calcium	2000	1000	anr	
Chromium	20	10	10.8	108.0
Cobalt	100	50		
Copper	50	25	anr	
Iron	600	300	anr	
Lead	10	5.0	5.3	106.0
Magnesium	10000	5000	anr	
Manganese	30	15	anr	
Molybdenum	100	50		
Nickel	80	40	anr	
Potassium	20000	10000	anr	
Selenium	20	10	12.0	120.0
Silver	20	10	9.3	93.0
Sodium	20000	10000	anr	
Strontium	20	10		
Thallium	20	10	anr	
Tin	100	50		
Titanium	20	10		
Vanadium	100	50		
Zinc	40	20		

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: F91720
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA041012M1.ICP Date Analyzed: 04/10/12 Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery Run ID: MA9705 Units: ug/l

Time:			08:24		08:30	
Sample ID:	ICSA	ICSAB	ICSA1		ICSAB1	
Metal	True	True	Results	% Rec	Results	% Rec
Aluminum	500000	500000	497000	99.4	511000	102.2
Antimony		1000	-0.40		1030	103.0
Arsenic		1000	1.0		1030	103.0
Barium		500	0.50		551	110.2
Beryllium		500	-0.10		521	104.2
Cadmium		1000	0.0		959	95.9
Calcium	500000	500000	471000	94.2	493000	98.6
Chromium		500	0.20		510	102.0
Cobalt		500	-0.40		470	94.0
Copper		500	0.90		579	115.8
Iron	200000	200000	190000	95.0	198000	99.0
Lead		1000	1.0		971	97.1
Magnesium	500000	500000	531000	106.2	550000	110.0
Manganese		500	-0.30		513	102.6
Molybdenum		1000	-0.60		942	94.2
Nickel		1000	0.10		927	92.7
Potassium			-22		-18	
Selenium		1000	-1.8		997	99.7
Silver		1000	-0.30		1070	107.0
Sodium			59.6		59.1	
Strontium		1000	0.40		1070	107.0
Thallium		1000	0.0		962	96.2
Tin		1000	1.0		864	86.4
Titanium		1000	0.20		1020	102.0
Vanadium		500	0.10		509	101.8
Zinc		1000	1.1		912	91.2

(*) Outside of QC limits
(anr) Analyte not requested

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F91720
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: H40411W1.CSV Date Analyzed: 04/11/12 Methods: SW846 7470A
Analyst: JL Run ID: MA9706
Parameters: Hg

Time	Sample Description	Dilution Factor	PS Recov	Comments
12:01	MA9706-STD1	1		STD1
12:03	MA9706-STD2	1		STD2
12:05	MA9706-STD3	1		STD3
12:07	MA9706-STD4	1		STD4
12:09	MA9706-STD5	1		STD5
12:11	MA9706-STD6	1		STD6
12:13	MA9706-HSTD1	1		
12:14	MA9706-ICV1	1		
12:16	MA9706-ICB1	1		
12:18	MA9706-CRI1	1		
12:20	MA9706-CCV1	1		
12:22	MA9706-CCB1	1		
12:24	MP22568-MB1	1		
12:26	MP22568-B1	1		
12:28	F91750-1	1		(sample used for QC only; not part of login F91720)
12:29	MP22568-D1	1		
12:31	MA9706-CCV2	1		
12:33	MA9706-CCB2	1		
12:35	MP22568-SD1	5		
12:37	MP22568-S1	1		
12:39	MP22568-S2	1		
12:41	F91880-1L	1		(sample used for QC only; not part of login F91720)
12:43	F91720-1L	1		
12:44	F91720-2L	1		
12:46	F91720-3L	1		
12:48	F91720-4L	1		
12:50	MP22568-MB2	1		
12:52	MP22568-B2	1		
12:54	MA9706-CCV3	1		
12:55	MA9706-CCB3	1		
12:57	MP22568-D2	1		
12:59	ZZZZZZ	1		
13:01	MP22568-MB3	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F91720
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: H40411W1.CSV Date Analyzed: 04/11/12 Methods: SW846 7470A
Analyst: JL Run ID: MA9706
Parameters: Hg

	Time	Sample Description	Dilution Factor	PS Recov	Comments
	13:03	MP22568-B3	1		
---------->	Last reportable sample/prep for job F91720				
	13:05	MP22569-MB1	1		
	13:07	MP22569-B1	1		
	13:09	F91727-1L	1		(sample used for QC only; not part of login F91720)
	13:10	MP22569-D1	1		
	13:12	MP22569-SD1	5		
	13:14	MP22569-S1	1		
	13:16	MA9706-CCV4	1		
	13:18	MA9706-CCB4	1		
	13:20	MP22569-S2	1		
	13:22	F91727-2L	1		(sample used for QC only; not part of login F91720)
	13:24	MP22569-MB2	1		
	13:25	MP22569-B2	1		
	13:27	MP22569-D2	1		
	13:29	MP22570-MB1	1		
	13:31	MP22570-B1	1		
	13:33	F91891-12	1		(sample used for QC only; not part of login F91720)
	13:35	MP22570-D1	1		
	13:37	MP22570-SD1	5		
	13:39	MA9706-CCV5	1		
	13:40	MA9706-CCB5	1		
	13:42	MP22570-S1	1		
	13:44	MP22570-S2	1		
	13:46	ZZZZZZ	1		
	13:48	ZZZZZZ	1		
	13:50	ZZZZZZ	1		
	13:52	ZZZZZZ	1		
	13:54	ZZZZZZ	1		
	13:55	ZZZZZZ	1		
	13:57	ZZZZZZ	1		
	13:59	ZZZZZZ	1		
	14:01	MA9706-CCV6	1		
	14:03	MA9706-CCB6	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F91720
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: H40411W1.CSV Date Analyzed: 04/11/12 Methods: SW846 7470A
Analyst: JL Run ID: MA9706
Parameters: Hg

Time	Sample Description	Dilution Factor	PS Recov	Comments
14:05	ZZZZZZ	1		
14:07	ZZZZZZ	1		
14:08	ZZZZZZ	1		
14:10	ZZZZZZ	1		
14:12	ZZZZZZ	1		
14:14	ZZZZZZ	1		
14:16	ZZZZZZ	1		
14:18	ZZZZZZ	1		
14:20	ZZZZZZ	1		
14:21	ZZZZZZ	1		
14:23	MA9706-CCV7	1		
14:25	MA9706-CCB7	1		
14:27	ZZZZZZ	1		
14:29	MA9706-CRI2	1		
14:31	MA9706-CCV8	1		
14:33	MA9706-CCB8	1		

----------> Last reportable CCB for job F91720
Refer to raw data for calibration curve and standards.

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F91720
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: H40411W1.CSV Date Analyzed: 04/11/12 Methods: SW846 7470A
QC Limits: result < RL Run ID: MA9706 Units: ug/l

Time:			12:16		12:22		12:33		12:55	
Sample ID:			ICB1		CCB1		CCB2		CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Mercury	1.0	.04	-0.028	<1.0	-0.028	<1.0	-0.019	<1.0	-0.020	<1.0

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F91720
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: H40411W1.CSV Date Analyzed: 04/11/12 Methods: SW846 7470A
QC Limits: result < RL Run ID: MA9706 Units: ug/l

Time:			13:18		13:40		14:03		14:25	
Sample ID:			CCB4		CCB5		CCB6		CCB7	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Mercury	1.0	.04	-0.020	<1.0	-0.023	<1.0	-0.021	<1.0	-0.019	<1.0

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F91720
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: H40411W1.CSV Date Analyzed: 04/11/12 Methods: SW846 7470A
QC Limits: result < RL Run ID: MA9706 Units: ug/l

Time:			14:33	
Sample ID:			CCB8	
Metal	RL	IDL	raw	final
Mercury	1.0	.04	-0.019	<1.0

(*) Outside of QC limits
(anr) Analyte not requested

9.2.1
9

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F91720
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: H40411W1.CSV Date Analyzed: 04/11/12 Methods: SW846 7470A
QC Limits: 90 to 110 % Recovery Run ID: MA9706 Units: ug/l

Time:		12:14			12:20			12:31	
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Mercury	3	2.9	96.7	3	3.1	103.3	3	3.1	103.3

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F91720
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: H40411W1.CSV Date Analyzed: 04/11/12 Methods: SW846 7470A
QC Limits: 90 to 110 % Recovery Run ID: MA9706 Units: ug/l

Time:		12:54			13:16			13:39	
Sample ID:	CCV	CCV3		CCV	CCV4		CCV	CCV5	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Mercury	3.0	3.0	100.0	3.0	3.0	100.0	3.0	3.0	100.0

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F91720
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: H40411W1.CSV Date Analyzed: 04/11/12 Methods: SW846 7470A
QC Limits: 90 to 110 % Recovery Run ID: MA9706 Units: ug/l

Time:		14:01			14:23			14:31	
Sample ID:	CCV	CCV6		CCV	CCV7		CCV	CCV8	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Mercury	3.0	3.0	100.0	3.0	3.0	100.0	3.0	3.0	100.0

(*) Outside of QC limits
(anr) Analyte not requested

HIGH STANDARD CHECK SUMMARY

Login Number: F91720
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: H40411W1.CSV Date Analyzed: 04/11/12 Methods: SW846 7470A
QC Limits: 95 to 105 % Recovery Run ID: MA9706 Units: ug/l

Time:		12:13	
Sample ID:	HSTD	HSTD1	
Metal	True	Results	% Rec
Mercury	6	6.1	101.7

(*) Outside of QC limits
(anr) Analyte not requested

9.2.3

9

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: F91720
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: H40411W1.CSV Date Analyzed: 04/11/12 Methods: SW846 7470A
QC Limits: 80 to 120 % Recovery Run ID: MA9706 Units: ug/l

Time:			12:18		14:29	
Sample ID:	CRI	CRIA	CRI1		CRI2	
Metal	True	True	Results	% Rec	Results	% Rec
Mercury	0.20		0.18	90.0	0.17	85.0

(*) Outside of QC limits
(anr) Analyte not requested

9.2.4

9

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: F91720
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

QC Batch ID: MP22563
Matrix Type: LEACHATE

Methods: SW846 6010C
Units: mg/l

Prep Date:					04/10/12		04/10/12
Metal	RL	IDL	MDL	MB raw	final	MB raw	final
Aluminum	0.20	.02	.025				
Antimony	0.0060	.001	.002				
Arsenic	0.050	.001	.002	-0.0011	<0.050	-0.0090	<0.50
Barium	1.0	.001	.005	-0.00030	<1.0	0.0030	<10
Beryllium	0.0040	.0001	.001				
Cadmium	0.0050	.0001	.001	-0.00020	<0.0050	-0.0010	<0.050
Calcium	1.0	.05	.1				
Chromium	0.010	.001	.001	-0.00020	<0.010	-0.0040	<0.10
Cobalt	0.050	.001	.001				
Copper	0.025	.001	.002				
Iron	0.30	.034	.035				
Lead	0.050	.001	.001	-0.0011	<0.050	-0.0060	<0.50
Magnesium	5.0	.05	.1				
Manganese	0.015	.001	.001				
Molybdenum	0.050	.001	.002				
Nickel	0.040	.001	.002				
Potassium	10	.05	.5				
Selenium	0.050	.002	.002	-0.0012	<0.050	0.0060	<0.50
Silver	0.010	.001	.001	-0.00020	<0.010	-0.0020	<0.10
Sodium	10	.75	1.9				
Strontium	0.010	.001	.001				
Thallium	0.010	.001	.0019				
Tin	0.050	.001	.001				
Titanium	0.010	.0011	.002				
Vanadium	0.050	.001	.001				
Zinc	0.10	.001	.005				

Associated samples MP22563: F91720-1L, F91720-2L, F91720-3L, F91720-4L

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F91720
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

QC Batch ID: MP22563
Matrix Type: LEACHATE

Methods: SW846 6010C
Units: mg/l

Prep Date:			04/10/12					04/10/12	
Metal	F91720-1L Original	DUP	RPD	QC Limits	F91720-1L Original	MS	Spikelot MPFLICP1	% Rec	QC Limits
Aluminum									
Antimony									
Arsenic	0.0	0.0	NC	0-20	0.0	21.3	20.0	106.5	80-120
Barium	0.12	0.12	0.0	0-20	0.12	21.3	20.0	105.9	80-120
Beryllium									
Cadmium	0.094	0.094	0.0	0-20	0.094	0.60	0.50	101.2	80-120
Calcium									
Chromium	0.015	0.013	14.3	0-20	0.015	2.0	2.0	99.3	80-120
Cobalt									
Copper									
Iron									
Lead	0.0	0.0	NC	0-20	0.0	5.0	5.0	100.0	80-120
Magnesium									
Manganese									
Molybdenum									
Nickel									
Potassium									
Selenium	0.0	0.0	NC	0-20	0.0	21.1	20.0	105.5	80-120
Silver	0.0	0.0	NC	0-20	0.0	0.49	0.50	98.0	80-120
Sodium									
Strontium									
Thallium									
Tin									
Titanium									
Vanadium									
Zinc									

Associated samples MP22563: F91720-1L, F91720-2L, F91720-3L, F91720-4L

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F91720
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

QC Batch ID: MP22563
Matrix Type: LEACHATE

Methods: SW846 6010C
Units: mg/l

Prep Date: 04/10/12

Metal	F91720-1L Original	MSD	Spikelot MPFLICP1	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	0.0	20.3	20.0	101.5	4.8	20
Barium	0.12	20.5	20.0	101.9	3.8	20
Beryllium						
Cadmium	0.094	0.58	0.50	97.2	3.4	20
Calcium						
Chromium	0.015	2.0	2.0	99.3	0.0	20
Cobalt						
Copper						
Iron						
Lead	0.0	4.8	5.0	96.0	4.1	20
Magnesium						
Manganese						
Molybdenum						
Nickel						
Potassium						
Selenium	0.0	19.9	20.0	99.5	5.9	20
Silver	0.0	0.48	0.50	96.0	2.1	20
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Vanadium						
Zinc						

Associated samples MP22563: F91720-1L, F91720-2L, F91720-3L, F91720-4L

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: F91720
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

QC Batch ID: MP22563
Matrix Type: LEACHATE

Methods: SW846 6010C
Units: mg/l

Prep Date:			04/10/12				04/10/12	
Metal	BSP Result	Spikelot MPFLICP1	% Rec	QC Limits	BSP Result	Spikelot MPFLICP1	% Rec	QC Limits
Aluminum								
Antimony								
Arsenic	2.0	2.0	100.0	80-120	20.1	20.0	100.5	80-120
Barium	2.1	2.0	105.0	80-120	20.1	20.0	100.5	80-120
Beryllium								
Cadmium	0.051	0.050	102.0	80-120	0.50	0.50	100.0	80-120
Calcium								
Chromium	0.20	0.20	100.0	80-120	2.0	2.0	100.0	80-120
Cobalt								
Copper								
Iron								
Lead	0.49	0.50	98.0	80-120	4.8	5.0	96.0	80-120
Magnesium								
Manganese								
Molybdenum								
Nickel								
Potassium								
Selenium	1.9	2.0	95.0	80-120	20.1	20.0	100.5	80-120
Silver	0.048	0.050	96.0	80-120	0.49	0.50	98.0	80-120
Sodium								
Strontium								
Thallium								
Tin								
Titanium								
Vanadium								
Zinc								

Associated samples MP22563: F91720-1L, F91720-2L, F91720-3L, F91720-4L

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: F91720
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

QC Batch ID: MP22563
Matrix Type: LEACHATE

Methods: SW846 6010C
Units: ug/l

Prep Date: 04/10/12

Metal	F91720-1L Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	0.00	0.00	NC	0-10
Barium	11.9	12.9	8.4	0-10
Beryllium				
Cadmium	9.40	8.60	8.5	0-10
Calcium				
Chromium	1.50	0.00	100.0(a)	0-10
Cobalt				
Copper				
Iron				
Lead	0.00	0.00	NC	0-10
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium	0.00	0.00	NC	0-10
Silver	0.00	0.00	NC	0-10
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP22563: F91720-1L, F91720-2L, F91720-3L, F91720-4L

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: F91720
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

QC Batch ID: MP22568
Matrix Type: LEACHATE

Methods: SW846 7470A
Units: mg/l

Prep Date:				04/11/12		04/11/12		04/11/12	
Metal	RL	IDL	MDL	MB raw	final	MB raw	final	MB raw	final
Mercury	0.0010	.00004	.00005	-0.0000099	<0.0010	-0.00017	<0.010	-0.00014	<0.010

Associated samples MP22568: F91720-1L, F91720-2L, F91720-3L, F91720-4L

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F91720
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

QC Batch ID: MP22568
Matrix Type: LEACHATE

Methods: SW846 7470A
Units: mg/l

Prep Date: 04/11/12 04/11/12

Metal	F91750-1 Original	DUP	RPD	QC Limits	F91750-1 Original	MS	Spikelot HGFLWS1	% Rec	QC Limits
Mercury	0.0	0.0	NC	0-20	0.0	0.030	0.030	100.0	80-120

Associated samples MP22568: F91720-1L, F91720-2L, F91720-3L, F91720-4L

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F91720
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

QC Batch ID: MP22568
Matrix Type: LEACHATE

Methods: SW846 7470A
Units: mg/l

Prep Date: 04/11/12

Metal	F91750-1 Original	MSD	Spikelot HGFLWS1	% Rec	MSD RPD	QC Limit
Mercury	0.0	0.030	0.030	100.0	0.0	20

Associated samples MP22568: F91720-1L, F91720-2L, F91720-3L, F91720-4L

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: F91720
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

QC Batch ID: MP22568
Matrix Type: LEACHATE

Methods: SW846 7470A
Units: mg/l

Prep Date:	04/11/12				04/11/12			
Metal	BSP Result	Spikelot HGFLWS1	% Rec	QC Limits	BSP Result	Spikelot HGFLWS1	% Rec	QC Limits
Mercury	0.0030	0.0030	100.0	80-120	0.030	0.030	100.0	80-120

Associated samples MP22568: F91720-1L, F91720-2L, F91720-3L, F91720-4L

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: F91720
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

QC Batch ID: MP22568
Matrix Type: LEACHATE

Methods: SW846 7470A
Units: mg/l

Prep Date: 04/11/12

Metal	BSP Result	Spikelot HGFLWS1	% Rec	QC Limits
Mercury	0.030	0.030	100.0	80-120

Associated samples MP22568: F91720-1L, F91720-2L, F91720-3L, F91720-4L

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: F91720
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

QC Batch ID: MP22568
Matrix Type: LEACHATE

Methods: SW846 7470A
Units: ug/l

Prep Date: 04/11/12

Metal	F91750-1 Original	SDL 1:5	%DIF	QC Limits
Mercury	0.00	0.00	NC	0-10

Associated samples MP22568: F91720-1L, F91720-2L, F91720-3L, F91720-4L

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

Southeast ACCUTEST LABORATORIES

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries
- Instrument Runlogs/QC
- Percent Solids Raw Data Summary

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: F91720
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Cyanide Reactivity	GP18998/GN49289	1.5	0.0	mg/kg	5.00	0.33	6.6	0-100%
Sulfide Reactivity	GP18997/GN49265	50	0.0	mg/kg	537	315	58.7	0-100%

Associated Samples:
Batch GP18997: F91720-1, F91720-2, F91720-3, F91720-4
Batch GP18998: F91720-1, F91720-2, F91720-3, F91720-4
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: F91720
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Corrosivity as pH	GN49157	F91720-1	su	6.6	6.6		0-%
Cyanide Reactivity	GP18998/GN49289	F91720-3	mg/kg	0.86 U	0.0	21.3	0-30%
Ignitability (Flashpoint)	GN49193	F91656-1	Deg. F	150	140	8.4	0-38%
Solids, Percent	GN49176	F91658-6	%	82.2	82.1	0.1	0-5%
Sulfide Reactivity	GP18997/GN49265	F91720-3	mg/kg	57 U	0.00	66.7(a)	0-30%

Associated Samples:
Batch GN49157: F91720-1, F91720-2, F91720-3, F91720-4
Batch GN49176: F91720-1, F91720-2, F91720-3, F91720-4
Batch GN49193: F91720-1, F91720-2, F91720-3, F91720-4
Batch GP18997: F91720-1, F91720-2, F91720-3, F91720-4
Batch GP18998: F91720-1, F91720-2, F91720-3, F91720-4
(*) Outside of QC limits
(a) RPD acceptable due to low duplicate and sample concentrations.

Percent Solids Raw Data Summary

Job Number: F91720
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: F91720-1 **Analyzed:** 03-APR-12 by AA **Method:** SM19 2540G
ClientID: SS39-RB01-032912

Wet Weight (Total)	7.17	g
Tare Weight	.97	g
Dry Weight (Total)	6.19	g
Solids, Percent	84.2	%

Sample: F91720-2 **Analyzed:** 03-APR-12 by AA **Method:** SM19 2540G
ClientID: SS39-RB03-032912

Wet Weight (Total)	7.02	g
Tare Weight	1.01	g
Dry Weight (Total)	5.45	g
Solids, Percent	73.9	%

Sample: F91720-3 **Analyzed:** 03-APR-12 by AA **Method:** SM19 2540G
ClientID: SS39-RB04-032912

Wet Weight (Total)	7.31	g
Tare Weight	1.01	g
Dry Weight (Total)	6.5	g
Solids, Percent	87.1	%

Sample: F91720-4 **Analyzed:** 03-APR-12 by AA **Method:** SM19 2540G
ClientID: SS39-RB02-032912

Wet Weight (Total)	7.24	g
Tare Weight	1.03	g
Dry Weight (Total)	6.28	g
Solids, Percent	84.5	%

Southeast ACCUTEST LABORATORIES

04/30/12

Technical Report for

Tetra Tech, Inc

Holloman AFB; Alamogordo, NM

SS-39

Accutest Job Number: F92354R

Sampling Date: 04/19/12

Report to:

Tetra Tech
800 Oak Ridge Tpk Suite A600
Oak Ridge, TN 37830
Purshotam.Juriasingani@tetratech.com

ATTN: Purshotam Juriasingani

Total number of pages in report: **33**

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Harry Behzadi, Ph.D.
Laboratory Director

Client Service contact: Sue Bell 407-425-6700

Certifications: FL (E83510), LA (03051), KS (E-10327), IA (366), IL (200063), NC (573), NJ (FL002), SC (96038001) DoD ELAP (L-A-B L2229), CA (04226CA), TX (T104704404), AK, AR, GA, KY, MA, NV, OK, UT, VA, WA, WI

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Test results relate only to samples analyzed.

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Accutest Laboratories

Sample Summary

Tetra Tech, Inc

Job No: F92354R

Holloman AFB; Alamogordo, NM
Project No: SS-39

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
F92354-1R	04/19/12	14:50	AJ	04/21/12	SO	Soil	SS39-OXD-HA01

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Tetra Tech, Inc **Job** F92354R

Site: Holloman AFB; Alamogordo, NM **Report Date** 4/30/2012 3:03:45 PM

1 Sample was collected on 04/19/2012 and was received at Accutest SE on 04/21/2012 properly preserved, at 4.2 Deg. C and intact. The Sample received an Accutest job number of F92354R. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Metals By Method SW846 6010C

Matrix: SO **Batch ID:** MP22681

All samples were digested within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) F92252-9DUP, F92252-9MS, F92252-9MSD, F92252-9SDL, F92252-9PS were used as the QC samples for metals.

Matrix Spike Recovery(s) for Arsenic are outside control limits. Spike recovery indicates possible matrix interference and/or sample non-homogeneity.

RPD(s) for Duplicate for Arsenic are outside control limits for sample MP22681-D1. RPD acceptable due to low duplicate and sample concentrations.

RPD(s) for Serial Dilution for Arsenic are outside control limits for sample MP22681-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

MP22681-PS1 for Arsenic: Spike recovery indicates matrix interference and/or outside control limits due to high level in sample relative to spike amount.

Accutest Laboratories Southeast (ALSE) certifies that this report meets the project requirements for analytical data produced for the samples as received at ALSE and as stated on the COC. ALSE certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the ALSE Quality Manual except as noted above. This report is to be used in its entirety. ALSE is not responsible for any assumptions of data quality if partial data packages are used.

Narrative prepared by:

_____ Date: April 30, 2012

Kim Benham, Client Services (signature on file)

Southeast ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	SS39-OXD-HA01		
Lab Sample ID:	F92354-1R	**Date Sampled:**	04/19/12
Matrix:	SO - Soil	**Date Received:**	04/21/12
		Percent Solids:	87.5
Project:	Holloman AFB; Alamogordo, NM		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	13.4	0.48	0.095	mg/kg	1	04/27/12	04/27/12	LM	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA9740
(2) Prep QC Batch: MP22681

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Southeast ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Certification Exceptions
- Certification Exceptions (NM)
- Chain of Custody

Accutest Laboratories Southeast
Chain of Custody

ACCUTEST LABORATORIES

4405 Vineland Road, Suite C-15 Orlando, Fl 32811
TEL. 407-425-6700 • FAX: 407-425-0707
www.accutest.com

Accutest JOB # F92354 PAGE 1 OF 1

Accutest Quote #

SKIFF#

Client / Reporting Information

Company Name: TETRATECH, INC
Address: 800 OAK RIDGE TURNPIKE, A-600
City: OAK RIDGE State: TN Zip: 37830
Project Contact: PURSHOTAM J. E-mail: purshotam.kumasi@tetratech.com
Phone#: 865 483 9900
Sampler(s) Name(s) (Printed): Allan Jenkins

Project Information

Project Name: Holloman AFB
Street:
City: Alamogordo State: NM
Project #: SS-39
Fax #:
Client Purchase Order #:

Analytical Information

Accutest Sample #	Field ID / Point of Collection	Collection DATE	Collection TIME	SAMPLED BY	MATRIX	TOTAL # OF BOTTLES	OTHER	NONE	HCl	NaOH	HNO3	H2SO4	NaOH+ZnAc	DI WATER	MEOH	Arsenic (As)	Hold Analysis
1	SS39-OXD-HA01	4/19/12	14:50	AJ	SO	1		✓								✓	X
2	SS39-OXD-FL04A		15:15					✓								✓	X
3	SS39-OXD-FL04B		15:20					✓								✓	
4	SS39-OXD-FL04C		15:25					✓								✓	X
5	SS39-OXD-SW03A		15:28					✓								✓	X
6	SS39-OXD-SW03B		15:32					✓								✓	
7	SS39-OXD-SW03C		15:37					✓								✓	X
8	SS39-OXD-SW03D		15:41					✓								✓	X
9	SS39-OXD-SW03E		16:45					✓								✓	X
10	SS39-OXD-FL04D		15:55					✓								✓	
11	SS39-OXD-SW03F		16:05					✓								✓	

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL - Sludge
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe

LAB USE ONLY

TURNAROUND TIME (Business Days)

Approved By: / Rush Code

- ☐ 10 Days Standard
- ☐ 7 Day RUSH
- ☐ 5 Day RUSH
- ☐ 3 Day EMERGENCY
- ☒ 2 Day EMERGENCY — 48 hrs.
- ☐ 1 Day EMERGENCY
- ☐ OTHER

Emergency or Rush T/A Data Available VIA Email or Lablink

Data Deliverable Information

- ☐ COMMERCIAL "A" (RESULTS ONLY)
- ☐ COMMERCIAL "B" (RESULTS PLUS QC)
- ☐ REDT1 (EPA LEVEL 3)
- ☐ FULT1 (EPA LEVEL 4)
- ☐ EDD'S

Comments / Remarks

Note samples on 'HOLD'

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished by:	Date Time:	Received By:
Allan Jenkins	4/20/12	2 FX	3 FX	4-21-12	4 Connie (ALS) 09:30
Relinquished by: 5	Date Time:	Received By: 6	Relinquished by: 7	Date Time:	Received By: 8

Lab Use Only: Custody Seal in Place: Y N Temp Blank Provided: Y N Preserved where Applicable: Y N Total # of Coolers: 1 Cooler Temperature (s) Celsius: 4.8

F92354R: Chain of Custody
Page 1 of 3

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: F92354 CLIENT: TETRA TECH PROJECT: HOLBOMAN

DATE/TIME RECEIVED: 4-21-12 09:30 {MM/DD/YY 24:00} NIMBER OF COOLERS RECEIVED: 1

METHOD OF DELIVERY: (FEDEX) UPS ACCUTEST COURIER GREYHOUND DELIVERY OTHER

AIRBILL NUMBERS: 8496 8604 4921

COOLER INFORMATION

- [ ] CUSTODY SEAL NOT PRESENT OR NOT INTACT
- [ ] CHAIN OF CUSTODY NOT RECEIVED (COC)
- [ ] ANALYSIS REQUESTED IS UNCLEAR OR MISSING
- [ ] SAMPLE DATES OR TIMES UNCLEAR OR MISSING
- [ ] TEMPERATURE CRITERIA NOT MET
- [ ] WET ICE PRESENT

TRIP BLANK INFORMATION

- [ ] TRIP BLANK PROVIDED
- [X] TRIP BLANK NOT PROVIDED
- [X] TRIP BLANK NOT ON COC
- [ ] TRIP BLANK INTACT
- [ ] TRIP BLANK NOT INTACT
- [ ] RECEIVED WATER TRIP BLANK
- [ ] RECEIVED SOIL TRIP BLANK

MISC. INFORMATION

NUMBER OF ENCORES ? 25-GRAM_____ 5-GRAM_____

NUMBER OF 5035 FIELD KITS ? _____

NUMBER OF LAB FILTERED METALS ? _____

TEMPERATURE INFORMATION

- [ ] IR THERM ID 1 CORR. FACTOR -0.2
- [ ] OBSERVED TEMPS: 4.4
- [ ] CORRECTED TEMPS: 4.2

SAMPLE INFORMATION

- [ ] SAMPLE LABELS PRESENT ON ALL BOTTLES
- [ ] INCORRECT NUMBER OF CONTAINERS USED
- [ ] SAMPLE RECEIVED IMPROPERLY PRESERVED
- [ ] INSUFFICIENT VOLUME FOR ANALYSIS
- [ ] DATES/TIMES ON COC DO NOT MATCH SAMPLE LABEL
- [ ] ID'S ON COC DO NOT MATCH LABEL
- [ ] VOC VIALS HAVE HEADSPACE (MACRO BUBBLES)
- [ ] BOTTLES RECEIVED BUT ANALYSIS NOT REQUESTED
- [ ] NO BOTTLES RECEIVED FOR ANALYSIS REQUESTED
- [ ] UNCLEAR FILTERING OR COMPOSITING INSTRUCTIONS
- [ ] SAMPLE CONTAINER(S) RECEIVED BROKEN
- [ ] % SOLIDS JAR NOT RECEIVED
- [ ] 5035 FIELD KIT FROZEN WITHIN 48 HOUR'S
- [ ] RESIDUAL CHLORINE PRESENT

{APPICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS}

SUMMARY OF COMMENTS:

TECHNICIAN SIGNATURE/DATE 4-21-12 REVIEWER SIGNATURE/DATE 04/21/12

NF 12/10 receipt confirmation 122910.xls

4.1

4

F92354R: Chain of Custody

Page 2 of 3

Job Change Order: F92354_4/26/2012

Requested Date:	4/26/2012	**Received Date:**	4/21/2012
Account Name:	Tetra Tech, Inc	**Due Date:**	4/25/2012
Project Description:	Holloman AFB; Alamogordo, NM	**Deliverable:**	REDT1
CSR:	SB	**TAT (Days):**	2

Sample #:
F92354-1

Change: Per Valerie B. at Tetra Tech via e-mail 04.26.12, run this sample for Arsenic on a 48hr TAT.

SS39-OXD-HA01

Above Changes Valerie B. at Tetra Tech **Date:** 4/26/2012

To Client: This Change Order is confirmation of the revisions, previously discussed with the Accutest Client Service Representative.

Page 1 of 1

F92354R: Chain of Custody
Page 3 of 3

Southeast ACCUTEST LABORATORIES

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Instrument Runlogs
- Initial and Continuing Calibration Blanks
- Initial and Continuing Calibration Checks
- High and Low Check Standards
- Interfering Element Check Standards
- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F92354R
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA042712M1.ICP Date Analyzed: 04/27/12 Methods: SW846 6010C
Analyst: LM Run ID: MA9740
Parameters: As

Time	Sample Description	Dilution Factor	PS Recov	Comments
06:12	MA9740-STD1	1		STDA
06:15	MA9740-STD2	1		STDB
06:19	MA9740-STD3	1		STDC
06:22	MA9740-STD4	1		STDD
06:27	MA9740-HSTD1	1		
06:32	MA9740-ICV1	1		
06:39	MA9740-ICB1	1		
06:43	MA9740-CRIA1	1		
06:52	MA9740-ICSA1	1		
06:58	MA9740-ICSAB1	1		
07:02	MA9740-CCV1	1		
07:06	MA9740-CCB1	1		
10:14	MP22676-MB1	1		
10:19	MP22676-B1	1		
10:23	F92492-1	1		(sample used for QC only; not part of login F92354R)
10:27	MP22676-D1	1		
10:32	MP22676-SD1	5		
10:36	MP22676-PS1	1		
10:41	MP22676-S1	1		
10:45	MP22676-S2	1		
10:49	ZZZZZZ	1		
10:54	ZZZZZZ	1		
10:58	MA9740-CCV2	1		
11:02	MA9740-CCB2	1		
11:07	ZZZZZZ	1		
11:11	ZZZZZZ	1		
11:16	ZZZZZZ	1		
11:20	ZZZZZZ	1		
11:25	ZZZZZZ	1		
11:29	ZZZZZZ	1		
11:33	ZZZZZZ	1		
11:38	ZZZZZZ	1		
11:42	ZZZZZZ	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F92354R
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA042712M1.ICP Date Analyzed: 04/27/12 Methods: SW846 6010C
Analyst: LM Run ID: MA9740
Parameters: As

Time	Sample Description	Dilution Factor	PS Recov	Comments
11:47	ZZZZZZ	1		
11:51	MA9740-CCV3	1		
11:55	MA9740-CCB3	1		
12:00	ZZZZZZ	1		
12:04	ZZZZZZ	1		
12:09	ZZZZZZ	1		
12:13	ZZZZZZ	1		
12:18	ZZZZZZ	1		
12:22	ZZZZZZ	1		
12:27	MP22676-MB2A	1		
12:31	MP22681-MB1	1		
12:36	MP22681-B1	1		
12:44	MA9740-CCV4	1		
12:48	MA9740-CCB4	1		
12:53	MP22681-D1	1		
12:57	MP22681-SD1	5		
13:02	MP22681-PS1	1		
13:06	MP22681-S1	1		
13:11	MP22681-S2	1		
13:29	ZZZZZZ	1		
13:38	MA9740-CCV5	1		
13:42	MA9740-CCB5	1		
14:18	ZZZZZZ	1		
14:22	F92354-1R	1		
---------->	Last reportable sample/prep for job F92354R			
14:26	ZZZZZZ	1		
14:31	MA9740-CCV6	1		
14:35	MA9740-CCB6	1		
14:39	ZZZZZZ	1		
14:44	ZZZZZZ	1		
14:48	ZZZZZZ	1		
14:53	ZZZZZZ	1		
14:57	MA9740-CRIA2	1		
15:02	MA9740-ICSA2	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F92354R
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA042712M1.ICP Date Analyzed: 04/27/12 Methods: SW846 6010C
Analyst: LM Run ID: MA9740
Parameters: As

Time	Sample Description	Dilution Factor	PS Recov	Comments
15:07	MA9740-ICSAB2	1		
15:11	MA9740-CCV7	1		
15:15	MA9740-CCB7	1		

----------> Last reportable CCB for job F92354R
Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: F92354R
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA042712M1.ICP Date Analyzed: 04/27/12 Methods: SW846 6010C
Analyst: LM Run ID: MA9740
Parameters: As

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
06:12	MA9740-STD1	2382	18812	9583	1209
06:15	MA9740-STD2	2353	18735	9527	1175
06:19	MA9740-STD3	2285	18710	9540	1097
06:22	MA9740-STD4	2226	18493	9481	1025
06:27	MA9740-HSTD1	2233	18396	9455	1021
06:32	MA9740-ICV1	2297	18518	9428	1097
06:39	MA9740-ICB1	2394 R	19231 R	9812 R	1217 R
06:43	MA9740-CRIA1	2387	19074	9703	1210
06:52	MA9740-ICSA1	2141	17239	9027	922
06:58	MA9740-ICSAB1	2144	17282	9121	917
07:02	MA9740-CCV1	2315	18474	9447	1096
07:06	MA9740-CCB1	2378	18819	9559	1210
10:14	MP22676-MB1	2446	19352	9948	1234
10:19	MP22676-B1	2380	18763	9567	1160
10:23	F92492-1	2279	18608	9586	1153
10:27	MP22676-D1	2286	18787	9708	1159
10:32	MP22676-SD1	2396	19150	9735	1217
10:36	MP22676-PS1	2283	18575	9556	1139
10:41	MP22676-S1	2310	18772	9755	1108
10:45	MP22676-S2	2307	18682	9799	1104
10:49	ZZZZZZ	2321	18961	9828	1141
10:54	ZZZZZZ	2308	18752	9699	1138
10:58	MA9740-CCV2	2361	19137	9737	1122
11:02	MA9740-CCB2	2451	19320	9807	1237
11:07	ZZZZZZ	2274	18350	9560	1113
11:11	ZZZZZZ	2238	18338	9643	1077
11:16	ZZZZZZ	2396	19284	9992	1214
11:20	ZZZZZZ	2384	19142	9788	1214
11:25	ZZZZZZ	2296	18854	9688	1177
11:29	ZZZZZZ	2397	19422	9943	1226
11:33	ZZZZZZ	2278	18680	9620	1147
11:38	ZZZZZZ	2283	18693	9643	1144
11:42	ZZZZZZ	2366	19335	9863	1203

INTERNAL STANDARD SUMMARY

Login Number: F92354R
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA042712M1.ICP Date Analyzed: 04/27/12 Methods: SW846 6010C
Analyst: LM Run ID: MA9740
Parameters: As

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
11:47	ZZZZZZ	2371	19328	9940	1192
11:51	MA9740-CCV3	2359	18926	9621	1114
11:55	MA9740-CCB3	2438	19359	9843	1237
12:00	ZZZZZZ	2338	19089	9828	1187
12:04	ZZZZZZ	2369	19098	9774	1202
12:09	ZZZZZZ	2277	18750	9721	1147
12:13	ZZZZZZ	2291	18725	9761	1147
12:18	ZZZZZZ	2358	18975	9804	1201
12:22	ZZZZZZ	2340	18975	9676	1186
12:27	MP22676-MB2A	2416	19501	9929	1237
12:31	MP22681-MB1	2403	19406	9850	1220
12:36	MP22681-B1	2400	19125	9719	1174
12:44	MA9740-CCV4	2372	19245	9744	1127
12:48	MA9740-CCB4	2436	19468	9983	1240
12:53	MP22681-D1	2522	21132	11157	832
12:57	MP22681-SD1	2318	19065	9744	1049
13:02	MP22681-PS1	2342	19812	10408	812
13:06	MP22681-S1	2485	20937	11010	855
13:11	MP22681-S2	2453	20596	10820	822
13:29	ZZZZZZ	2972	24113	12373	1119
13:38	MA9740-CCV5	2370	19306	9615	1133
13:42	MA9740-CCB5	2412	19559	9721	1236
14:18	ZZZZZZ	2645	21634	10902	1135
14:22	F92354-1R	1985	17401	8956	772
14:26	ZZZZZZ	2682	22160	10988	1172
14:31	MA9740-CCV6	2358	19638	9647	1135
14:35	MA9740-CCB6	2407	19612	9710	1239
14:39	ZZZZZZ	2363	19370	9657	1180
14:44	ZZZZZZ	2354	19307	9611	1219
14:48	ZZZZZZ	3091 !	26473 !	13298 !	928
14:53	ZZZZZZ	3907 !	32813 !	16324 !	1018
14:57	MA9740-CRIA2	2400	19541	9530	1236
15:02	MA9740-ICSA2	2132	17732	8904	940

INTERNAL STANDARD SUMMARY

Login Number: F92354R
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA042712M1.ICP Date Analyzed: 04/27/12 Methods: SW846 6010C
Analyst: LM Run ID: MA9740
Parameters: As

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
15:07	MA9740-ICSAB2	2120	17867	9016	930
15:11	MA9740-CCV7	2286	19257	9452	1118
15:15	MA9740-CCB7	2373	19623	9610	1234

R = Reference for ISTD limits. ! = Outside limits.

LEGEND:

Istd#	Parameter	Limits
Istd#1	Yttrium (2243)	60-125 %
Istd#2	Yttrium (3600)	60-125 %
Istd#3	Yttrium (3710)	60-125 %
Istd#4	Indium	60-125 %

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F92354R
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA042712M1.ICP Date Analyzed: 04/27/12 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA9740 Units: ug/l

Time:			06:39		07:06		11:02		11:55	
Sample ID:			ICB1		CCB1		CCB2		CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	20								
Antimony	6.0	1								
Arsenic	10	1	-0.20	<10	0.10	<10	-0.30	<10	-0.20	<10
Barium	200	1	anr							
Beryllium	4.0	.1								
Cadmium	5.0	.1	anr							
Calcium	1000	50								
Chromium	10	1	anr							
Cobalt	50	1								
Copper	25	1	anr							
Iron	300	34	anr							
Lead	5.0	1	anr							
Magnesium	5000	50								
Manganese	15	1								
Molybdenum	50	1	anr							
Nickel	40	1	anr							
Potassium	10000	50	anr							
Selenium	10	2	anr							
Silver	10	1	anr							
Sodium	10000	750								
Strontium	10	1								
Thallium	10	1								
Tin	50	1								
Titanium	10	1.1								
Vanadium	50	1								
Zinc	20	1	anr							

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F92354R
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA042712M1.ICP Date Analyzed: 04/27/12 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA9740 Units: ug/l

Time:			12:48		13:42		14:35		15:15	
Sample ID:			CCB4		CCB5		CCB6		CCB7	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	20								
Antimony	6.0	1								
Arsenic	10	1	-0.30	<10	-0.50	<10	-0.10	<10	-0.60	<10
Barium	200	1	anr							
Beryllium	4.0	.1								
Cadmium	5.0	.1	anr							
Calcium	1000	50								
Chromium	10	1	anr							
Cobalt	50	1								
Copper	25	1	anr							
Iron	300	34	anr							
Lead	5.0	1	anr							
Magnesium	5000	50								
Manganese	15	1								
Molybdenum	50	1	anr							
Nickel	40	1	anr							
Potassium	10000	50	anr							
Selenium	10	2	anr							
Silver	10	1	anr							
Sodium	10000	750								
Strontium	10	1								
Thallium	10	1								
Tin	50	1								
Titanium	10	1.1								
Vanadium	50	1								
Zinc	20	1	anr							

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F92354R
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA042712M1.ICP Date Analyzed: 04/27/12 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA9740 Units: ug/l

Time:		06:32			07:02			10:58	
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum									
Antimony									
Arsenic	2000	1980	99.0	2000	1980	99.0	2000	1970	98.5
Barium	anr								
Beryllium									
Cadmium	anr								
Calcium									
Chromium	anr								
Cobalt									
Copper	anr								
Iron	anr								
Lead	anr								
Magnesium									
Manganese									
Molybdenum	anr								
Nickel	anr								
Potassium	anr								
Selenium	anr								
Silver	anr								
Sodium									
Strontium									
Thallium									
Tin									
Titanium									
Vanadium									
Zinc	anr								

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F92354R
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA042712M1.ICP Date Analyzed: 04/27/12 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA9740 Units: ug/l

Time:		11:51			12:44			13:38	
Sample ID:	CCV	CCV3		CCV	CCV4		CCV	CCV5	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum									
Antimony									
Arsenic	2000	1970	98.5	2000	1970	98.5	2000	1980	99.0
Barium	anr								
Beryllium									
Cadmium	anr								
Calcium									
Chromium	anr								
Cobalt									
Copper	anr								
Iron	anr								
Lead	anr								
Magnesium									
Manganese									
Molybdenum	anr								
Nickel	anr								
Potassium	anr								
Selenium	anr								
Silver	anr								
Sodium									
Strontium									
Thallium									
Tin									
Titanium									
Vanadium									
Zinc	anr								

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F92354R
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA042712M1.ICP Date Analyzed: 04/27/12 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA9740 Units: ug/l

Time:		14:31			15:11	
Sample ID:	CCV	CCV6		CCV	CCV7	
Metal	True	Results	% Rec	True	Results	% Rec
Aluminum						
Antimony						
Arsenic	2000	2000	100.0	2000	2020	101.0
Barium	anr					
Beryllium						
Cadmium	anr					
Calcium						
Chromium	anr					
Cobalt						
Copper	anr					
Iron	anr					
Lead	anr					
Magnesium						
Manganese						
Molybdenum	anr					
Nickel	anr					
Potassium	anr					
Selenium	anr					
Silver	anr					
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Vanadium						
Zinc	anr					

(*) Outside of QC limits
(anr) Analyte not requested

HIGH STANDARD CHECK SUMMARY

Login Number: F92354R
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA042712M1.ICP Date Analyzed: 04/27/12 Methods: SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA9740 Units: ug/l

Time:		06:27	
Sample ID:	HSTD	HSTD1	
Metal	True	Results	% Rec
Aluminum			
Antimony			
Arsenic	4000	4010	100.3
Barium	anr		
Beryllium			
Cadmium	anr		
Calcium			
Chromium	anr		
Cobalt			
Copper	anr		
Iron	anr		
Lead	anr		
Magnesium			
Manganese			
Molybdenum	anr		
Nickel	anr		
Potassium	anr		
Selenium	anr		
Silver	anr		
Sodium			
Strontium			
Thallium			
Tin			
Titanium			
Vanadium			
Zinc	anr		

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: F92354R
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA042712M1.ICP Date Analyzed: 04/27/12 Methods: SW846 6010C
QC Limits: CRI 70-130% CRIA 70-130% Run ID: MA9740 Units: ug/l

Time:			06:43		14:57	
Sample ID:	CRI	CRIA	CRIA1		CRIA2	
Metal	True	True	Results	% Rec	Results	% Rec
Aluminum	400	200				
Antimony	10	5.0				
Arsenic	20	10	10.6	106.0	11.0	110.0
Barium	400	200	anr			
Beryllium	10	5.0				
Cadmium	10	5.0	anr			
Calcium	2000	1000				
Chromium	20	10	anr			
Cobalt	100	50				
Copper	50	25	anr			
Iron	600	300	anr			
Lead	10	5.0	anr			
Magnesium	10000	5000				
Manganese	30	15				
Molybdenum	100	50	anr			
Nickel	80	40	anr			
Potassium	20000	10000	anr			
Selenium	20	10	anr			
Silver	20	10	anr			
Sodium	20000	10000				
Strontium	20	10				
Thallium	20	10				
Tin	100	50				
Titanium	20	10				
Vanadium	100	50				
Zinc	40	20	anr			

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: F92354R
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA042712M1.ICP Date Analyzed: 04/27/12 Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery Run ID: MA9740 Units: ug/l

Time:			06:52		06:58		15:02		15:07	
Sample ID:	ICSA	ICSAB	ICSA1		ICSAB1		ICSA2		ICSAB2	
Metal	True	True	Results	% Rec	Results	% Rec	Results	% Rec	Results	% Rec
Aluminum	500000	500000	497000	99.4	506000	101.2	505000	101.0	515000	103.0
Antimony		1000	-0.10		1020	102.0	2.5		1040	104.0
Arsenic		1000	0.0		1020	102.0	1.8		1020	102.0
Barium		500	0.90		519	103.8	1.0		506	101.2
Beryllium		500	-0.10		501	100.2	-0.10		491	98.2
Cadmium		1000	0.0		930	93.0	-0.80		943	94.3
Calcium	500000	500000	475000	95.0	486000	97.2	467000	93.4	475000	95.0
Chromium		500	-0.90		504	100.8	-0.80		496	99.2
Cobalt		500	-0.60		466	93.2	-0.60		480	96.0
Copper		500	0.0		571	114.2	-0.30		546	109.2
Iron	200000	200000	189000	94.5	188000	94.0	189000	94.5	188000	94.0
Lead		1000	0.0		1010	101.0	4.1		997	99.7
Magnesium	500000	500000	535000	107.0	540000	108.0	522000	104.4	523000	104.6
Manganese		500	0.0		491	98.2	0.10		476	95.2
Molybdenum		1000	0.40		975	97.5	0.20		1010	101.0
Nickel		1000	0.0		914	91.4	0.30		920	92.0
Potassium			-29		-25		-41		-33	
Selenium		1000	0.0		1000	100.0	0.70		1030	103.0
Silver		1000	0.70		1040	104.0	0.40		1030	103.0
Sodium			41.5		19.2		39.8		20.1	
Strontium		1000	0.50		1020	102.0	0.40		999	99.9
Thallium		1000	0.30		1020	102.0	-0.30		1010	101.0
Tin		1000	0.80		887	88.7	1.7		880	88.0
Titanium		1000	-1.9		988	98.8	-2.1		956	95.6
Vanadium		500	-0.70		491	98.2	0.0		474	94.8
Zinc		1000	-0.60		886	88.6	-0.70		885	88.5

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: F92354R
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

QC Batch ID: MP22681
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 04/27/12

Metal	RL	IDL	MDL	MB raw	final
Aluminum	10	1	1.2		
Antimony	1.0	.05	.1		
Arsenic	0.50	.05	.1	-0.16	<0.50
Barium	10	.05	.5		
Beryllium	0.25	.005	.05		
Cadmium	0.20	.005	.05		
Calcium	250	2.5	5		
Chromium	0.50	.05	.05		
Cobalt	2.5	.05	.05		
Copper	1.3	.05	.1		
Iron	15	1.7	1.7		
Lead	1.0	.05	.05		
Magnesium	250	2.5	5		
Manganese	0.75	.05	.05		
Molybdenum	2.5	.05	.05		
Nickel	2.0	.05	.05		
Potassium	500	2.5	25		
Selenium	1.0	.1	.2		
Silver	0.50	.05	.05		
Sodium	500	38	55		
Strontium	0.50	.05	.05		
Thallium	0.50	.05	.13		
Tin	2.5	.05	.05		
Titanium	0.50	.055	.1		
Vanadium	2.5	.05	.05		
Zinc	1.0	.05	.25		

Associated samples MP22681: F92354-1R

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F92354R
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

QC Batch ID: MP22681
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date:			04/27/12					04/27/12	
Metal	F92252-9 Original	DUP	RPD	QC Limits	F92252-9 Original	MS	Spikelot MPFLICP1	% Rec	QC Limits
Aluminum									
Antimony									
Arsenic	3.7	2.8	27.7 (a)	0-20	3.7	66.6	79.1	79.6N(b)	80-120
Barium									
Beryllium									
Cadmium	anr								
Calcium									
Chromium	anr								
Cobalt									
Copper	anr								
Iron									
Lead	anr								
Magnesium									
Manganese									
Molybdenum	anr								
Nickel	anr								
Potassium	anr								
Selenium	anr								
Silver									
Sodium									
Strontium									
Thallium									
Tin									
Titanium									
Vanadium									
Zinc	anr								

Associated samples MP22681: F92354-1R

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) RPD acceptable due to low duplicate and sample concentrations.
(b) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F92354R
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

QC Batch ID: MP22681
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 04/27/12

Metal	F92252-9 Original	MSD	Spikelot MPFLICP1	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	3.7	64.4	73.5	82.5	3.4	20
Barium						
Beryllium						
Cadmium	anr					
Calcium						
Chromium	anr					
Cobalt						
Copper	anr					
Iron						
Lead	anr					
Magnesium						
Manganese						
Molybdenum	anr					
Nickel	anr					
Potassium	anr					
Selenium	anr					
Silver						
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Vanadium						
Zinc	anr					

Associated samples MP22681: F92354-1R

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: F92354R
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

QC Batch ID: MP22681
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 04/27/12

Metal	BSP Result	Spikelot MPFLICP1	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	91.9	100	91.9	80-120
Barium				
Beryllium				
Cadmium	anr			
Calcium				
Chromium	anr			
Cobalt				
Copper	anr			
Iron				
Lead	anr			
Magnesium				
Manganese				
Molybdenum	anr			
Nickel	anr			
Potassium	anr			
Selenium	anr			
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc	anr			

Associated samples MP22681: F92354-1R

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: F92354R
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

QC Batch ID: MP22681
Matrix Type: SOLID

Methods: SW846 6010C
Units: ug/l

Prep Date: 04/27/12

Metal	F92252-9 Original	SDL 5:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	96.5	83.4	13.6 (a)	0-10
Barium				
Beryllium				
Cadmium	anr			
Calcium				
Chromium	anr			
Cobalt				
Copper	anr			
Iron				
Lead	anr			
Magnesium				
Manganese				
Molybdenum	anr			
Nickel	anr			
Potassium	anr			
Selenium	anr			
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc	anr			

Associated samples MP22681: F92354-1R

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

POST DIGESTATE SPIKE SUMMARY

Login Number: F92354R
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

QC Batch ID: MP22681
Matrix Type: SOLID

Methods: SW846 6010C
Units: ug/l

Prep Date: 04/27/12

Metal	Sample ml	Final ml	F92252-9 Raw	Corr.**	PS ug/l	Spike ml	Spike ug/ml	Spike ug/l	% Rec	QC Limits
Aluminum										
Antimony										
Arsenic	9.8	10	96.5	94.57	169.7	0.2	5	100	75.1*(a)	80-120
Barium										
Beryllium										
Cadmium										
Calcium										
Chromium										
Cobalt										
Copper										
Iron										
Lead										
Magnesium										
Manganese										
Molybdenum										
Nickel										
Potassium										
Selenium										
Silver										
Sodium										
Strontium										
Thallium										
Tin										
Titanium										
Vanadium										
Zinc										

Associated samples MP22681: F92354-1R

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested
(a) Spike recovery indicates matrix interference and/or outside control limits due to high level in sample relative to spike amount.

Southeast ACCUTEST LABORATORIES

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Percent Solids Raw Data Summary

Percent Solids Raw Data Summary

Job Number: F92354R
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: F92354-1 **Analyzed:** 23-APR-12 by LE **Method:** SM19 2540G
ClientID: SS39-OXD-HA01

Wet Weight (Total)	6.32	g
Tare Weight	1.04	g
Dry Weight (Total)	5.66	g
Solids, Percent	87.5	%

Southeast ACCUTEST LABORATORIES

05/10/12

Technical Report for

Tetra Tech, Inc

Holloman AFB; Alamogordo, NM

Accutest Job Number: F92814

Sampling Date: 05/03/12

Report to:

Tetra Tech
800 Oak Ridge Tpk Suite A600
Oak Ridge, TN 37830
Purshotam.Juriasingani@tetratech.com

ATTN: Purshotam Juriasingani

Total number of pages in report: **68**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Harry Behzadi, Ph.D.
Laboratory Director

Client Service contact: Sue Bell 407-425-6700

Certifications: FL (E83510), LA (03051), KS (E-10327), IA (366), IL (200063), NC (573), NJ (FL002), SC (96038001) DoD ELAP (L-A-B L2229), CA (04226CA), TX (T104704404), AK, AR, GA, KY, MA, NV, OK, UT, VA, WA, WI

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Test results relate only to samples analyzed.

Accutest Laboratories is the sole authority for authorizing edits or modifications to this document. Unauthorized modification of this report is strictly prohibited.

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Accutest Laboratories

Sample Summary

Tetra Tech, Inc

Holloman AFB; Alamogordo, NM

Job No: F92814

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
F92814-1	05/03/12	15:05	DR	05/05/12	SO	Soil	SS39-OXD-HA02
F92814-2	05/03/12	15:30	DR	05/05/12	SO	Soil	SS39-OXD-HA03
F92814-3	05/03/12	15:50	DR	05/05/12	SO	Soil	SS39-OXD-HA04
F92814-4	05/03/12	16:10	DR	05/05/12	SO	Soil	SS39-OXD-HA05
F92814-5	05/03/12	16:30	DR	05/05/12	SO	Soil	SS39-OXD-HA06
F92814-6	05/03/12	16:45	DR	05/05/12	SO	Soil	SS39-OXD-HA07
F92814-7	05/03/12	17:10	DR	05/05/12	SO	Soil	SS39-OXD-HA08
F92814-8	05/03/12	17:30	DR	05/05/12	SO	Soil	SS39-OXD-HA09
F92814-9	05/03/12	17:50	DR	05/05/12	SO	Soil	SS39-OXD-HA10

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Tetra Tech, Inc **Job** F92814

Site: Holloman AFB; Alamogordo, NM **Report Date** 5/10/2012 8:23:30 AM

9 Sample(s) were collected on 05/03/2012 and were received at Accutest SE on 05/05/2012 properly preserved, at 3.2 Deg. C and intact. These Samples received an Accutest job number of F92814. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Metals By Method SW846 6010C

Matrix: SO **Batch ID:** MP22736

All samples were digested within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) F92251-1DUP, F92251-1MS, F92251-1MSD, F92251-1SDL, F92251-1PS were used as the QC samples for metals.

RPD(s) for Serial Dilution for Arsenic are outside control limits for sample MP22736-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

Matrix: SO **Batch ID:** MP22748

All samples were digested within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) F92330-29DUP, F92330-29MS, F92330-29MSD, F92330-29SDL, F92330-29PS were used as the QC samples for metals.

RPD(s) for MSD for Arsenic are outside control limits for sample MP22748-S2. High RPD due to possible sample nonhomogeneity.

RPD(s) for Serial Dilution for Arsenic are outside control limits for sample MP22748-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

Wet Chemistry By Method SM19 2540G

Matrix: SO **Batch ID:** GN49699

Sample(s) F92749-4DUP was used as the QC sample for Solids, Percent.

Matrix: SO **Batch ID:** GN49700

Sample(s) F92814-3DUP, F92814-4DUP were used as the QC samples for Solids, Percent.

Accutest Laboratories Southeast (ALSE) certifies that this report meets the project requirements for analytical data produced for the samples as received at ALSE and as stated on the COC. ALSE certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the ALSE Quality Manual except as noted above. This report is to be used in its entirety. ALSE is not responsible for any assumptions of data quality if partial data packages are used.

Narrative prepared by:

_____ Date: May 10, 2012

Kim Benham, Client Services (signature on file)

Southeast ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	SS39-OXD-HA02		
Lab Sample ID:	F92814-1	**Date Sampled:**	05/03/12
Matrix:	SO - Soil	**Date Received:**	05/05/12
		Percent Solids:	87.3
Project:	Holloman AFB; Alamogordo, NM		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	7.2	0.46	0.092	mg/kg	1	05/07/12	05/07/12	LM	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA9761
(2) Prep QC Batch: MP22736

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	SS39-OXD-HA03		
Lab Sample ID:	F92814-2	**Date Sampled:**	05/03/12
Matrix:	SO - Soil	**Date Received:**	05/05/12
		Percent Solids:	86.4
Project:	Holloman AFB; Alamogordo, NM		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	12.4	0.49	0.098	mg/kg	1	05/07/12	05/07/12	LM	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA9761
(2) Prep QC Batch: MP22736

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	SS39-OXD-HA04		
Lab Sample ID:	F92814-3	**Date Sampled:**	05/03/12
Matrix:	SO - Soil	**Date Received:**	05/05/12
		Percent Solids:	86.7
Project:	Holloman AFB; Alamogordo, NM		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	9.0	0.52	0.10	mg/kg	1	05/07/12	05/07/12	LM	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA9761
(2) Prep QC Batch: MP22736

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	SS39-OXD-HA05		
Lab Sample ID:	F92814-4	**Date Sampled:**	05/03/12
Matrix:	SO - Soil	**Date Received:**	05/05/12
		Percent Solids:	89.0
Project:	Holloman AFB; Alamogordo, NM		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	10.7	0.40	0.080	mg/kg	1	05/07/12	05/07/12	LM	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA9761
(2) Prep QC Batch: MP22736

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	SS39-OXD-HA06		
Lab Sample ID:	F92814-5	**Date Sampled:**	05/03/12
Matrix:	SO - Soil	**Date Received:**	05/05/12
		Percent Solids:	82.6
Project:	Holloman AFB; Alamogordo, NM		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	12.6	0.50	0.099	mg/kg	1	05/09/12	05/09/12	LM	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA9766
(2) Prep QC Batch: MP22748

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	SS39-OXD-HA07		
Lab Sample ID:	F92814-6	**Date Sampled:**	05/03/12
Matrix:	SO - Soil	**Date Received:**	05/05/12
		Percent Solids:	73.9
Project:	Holloman AFB; Alamogordo, NM		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	3.0	0.59	0.12	mg/kg	1	05/09/12	05/09/12	LM	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA9766
(2) Prep QC Batch: MP22748

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	SS39-OXD-HA08		
Lab Sample ID:	F92814-7	**Date Sampled:**	05/03/12
Matrix:	SO - Soil	**Date Received:**	05/05/12
		Percent Solids:	82.8
Project:	Holloman AFB; Alamogordo, NM		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	5.3	0.51	0.10	mg/kg	1	05/09/12	05/09/12	LM	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA9766
(2) Prep QC Batch: MP22748

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	SS39-OXD-HA09		
Lab Sample ID:	F92814-8	**Date Sampled:**	05/03/12
Matrix:	SO - Soil	**Date Received:**	05/05/12
		Percent Solids:	81.1
Project:	Holloman AFB; Alamogordo, NM		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	2.4	0.58	0.12	mg/kg	1	05/09/12	05/09/12	LM	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA9766
(2) Prep QC Batch: MP22748

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	SS39-OXD-HA10		
Lab Sample ID:	F92814-9	**Date Sampled:**	05/03/12
Matrix:	SO - Soil	**Date Received:**	05/05/12
		Percent Solids:	82.3
Project:	Holloman AFB; Alamogordo, NM		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	1.1	0.61	0.12	mg/kg	1	05/09/12	05/09/12	LM	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA9766
(2) Prep QC Batch: MP22748

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Southeast ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Certification Exceptions
- Certification Exceptions (NM)
- Chain of Custody

Accutest Laboratories Southeast
Chain of Custody

ACCUTEST LABORATORIES

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www.accutest.com

Accutest JOB # F92814

PAGE 1 OF 1

Accutest Quote #

SKIFF# 42514

Client / Reporting Information

Company Name: Tetra Tech Inc.
Address: 800 OAK RIDGE Turnpike Ste A100
City: Oak Ridge State: TN Zip: 37830
Project Contact: Maureen McMyler E-mail:
Phone#: 865-441-5430
Sampler(s) Name(s) (Printed): David Ritzwa

Project Information

Project Name: Excavation Confirmation Holloman AFB
Street: Test Track Rd. SS-39
City: Holloman AFB State: NM
Project #:
Fax #:
Client Purchase Order #:

Analytical Information

ARSENIC (6010)

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL - Sludge
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe

Accutest Sample #	Field ID / Point of Collection	Collection DATE	Collection TIME	SAMPLED BY:	MATRIX	TOTAL # OF BOTTLES	OTHER	NONE	HCl	NaOH	HNO3	H2SO4	NaOH+ZnAc	DI WATER	MEOH	ARSENIC (6010)	LAB USE ONLY
1	SS39-OXD-HA02	5/3/12	1505	DR	Soil	1		X								X	
2	SS39-OXD-HA03	5/3/12	1530	DR	Soil	1		X								X	
3	SS39-OXD-HA04	5/3/12	1550	DR	Soil	1		X								X	
4	SS39-OXD-HA05	5/3/12	1610	DR	Soil	1		X								X	
5	SS39-OXD-HA06	5/3/12	1630	DR	Soil	1		X								X	
6	SS39-OXD-HA07	5/3/12	1645	DR	Soil	1		X								X	
7	SS39-OXD-HA08	5/3/12	1710	DR	Soil	1		X								X	
8	SS39-OXD-HA09	5/3/12	1730	DR	Soil	1		X								X	
9	SS39-OXD-HA10	5/3/12	1750	DR	Soil	1		X								X	
	Temp BLANK	—	—	—	WW	1		X									

TURNAROUND TIME (Business Days)

Approved By: / Rush Code

- [ ] 10 Days Standard
- [ ] 7 Day RUSH
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [x] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [x] OTHER See Remarks

Emergency or Rush T/A Data Available VIA Email or Lablink

Data Deliverable Information

- [ ] COMMERCIAL "A" (RESULTS ONLY)
- [ ] COMMERCIAL "B" (RESULTS PLUS QC)
- [ ] REDT1 (EPA LEVEL 3)
- [ ] FULT1 (EPA LEVEL 4)
- [ ] EDD'S

Comments / Remarks

*Samples HA02 - HA05 - 48 HR TAT
Samples HA06 - HA10 - HOLD!
Fed-Ex# 8005 1427 3790

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished by:	Date Time:	Received By:
1	5/4/12 14:00	2 FX	3 FX	5/6/12 9:30	4 NSE
Relinquished by: 5	Date Time:	Received By: 6	Relinquished by: 7	Date Time:	Received By: 8

Lab Use Only: Custody Seal in Place: Y N Temp Blank Provided: Y N Preserved where Applicable: Y N Total # of Coolers: Cooler Temperature (s) Celsius: 3.2

4.1
4

F92814: Chain of Custody
Page 1 of 3

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: F92814 CLIENT: TETRA TECH INC. PROJECT: EXCAVATION CONFIRM. HOLLOMAN AFB

DATE/TIME RECEIVED: 05/05/12 9:30 {MM/DD/YY 24:00} NIMBER OF COOLERS RECEIVED: 1

METHOD OF DELIVERY: (FEDEX) UPS ACCUTEST COURIER GREYHOUND DELIVERY OTHER

AIRBILL NUMBERS: 8005 1427 3790

COOLER INFORMATION

- [ ] CUSTODY SEAL NOT PRESENT OR NOT INTACT
- [ ] CHAIN OF CUSTODY NOT RECEIVED (COC)
- [ ] ANALYSIS REQUESTED IS UNCLEAR OR MISSING
- [ ] SAMPLE DATES OR TIMES UNCLEAR OR MISSING
- [ ] TEMPERATURE CRITERIA NOT MET
- [ ] WET ICE PRESENT

TRIP BLANK INFORMATION

- [ ] TRIP BLANK PROVIDED
- [x] TRIP BLANK NOT PROVIDED
- [x] TRIP BLANK NOT ON COC
- [ ] TRIP BLANK INTACT
- [ ] TRIP BLANK NOT INTACT
- [ ] RECEIVED WATER TRIP BLANK
- [ ] RECEIVED SOIL TRIP BLANK

MISC. INFORMATION

NUMBER OF ENCORES ? 25-GRAM_____ 5-GRAM_____

NUMBER OF 5035 FIELD KITS ? _____

NUMBER OF LAB FILTERED METALS ? _____

TEMPERATURE INFORMATION

- [ ] IR THERM ID -0.2 CORR. FACTOR #1
- [ ] OBSERVED TEMPS: 3.4
- [ ] CORRECTED TEMPS: 3.2

SAMPLE INFORMATION

- [ ] SAMPLE LABELS PRESENT ON ALL BOTTLES
- [ ] INCORRECT NUMBER OF CONTAINERS USED
- [ ] SAMPLE RECEIVED IMPROPERLY PRESERVED
- [ ] INSUFFICIENT VOLUME FOR ANALYSIS
- [ ] DATES/TIMES ON COC DO NOT MATCH SAMPLE LABEL
- [ ] ID'S ON COC DO NOT MATCH LABEL
- [ ] VOC VIALS HAVE HEADSPACE (MACRO BUBBLES)
- [ ] BOTTLES RECEIVED BUT ANALYSIS NOT REQUESTED
- [ ] NO BOTTLES RECEIVED FOR ANALYSIS REQUESTED
- [ ] UNCLEAR FILTERING OR COMPOSITING INSTRUCTIONS
- [ ] SAMPLE CONTAINER(S) RECEIVED BROKEN
- [ ] % SOLIDS JAR NOT RECEIVED
- [ ] 5035 FIELD KIT FROZEN WITHIN 48 HOUR'S
- [ ] RESIDUAL CHLORINE PRESENT

{APPICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS}

SUMMARY OF COMMENTS:

TECHNICIAN SIGNATURE/DATE 05/05/12 REVIEWER SIGNATURE/DATE 05/05/12

NF 12/10 receipt confirmation 122910.xls

4.1

4

F92814: Chain of Custody

Page 2 of 3

Job Change Order: F92814_5/8/2012

Requested Date:	5/8/2012	**Received Date:**	5/5/2012
Account Name:	Tetra Tech, Inc	**Due Date:**	5/9/2012
Project Description:	Holloman AFB; Alamogordo, NM	**Deliverable:**	REDT1
CSR:	SB	**TAT (Days):**	0

Sample #: F92814-5 **Change:** Per Valerie B. at Tetra Tech via email 05.08.12 at 15:47, take sample off HOLD and run Arsenic on a RUSH TAT.

SS39-OXD-HA06

Sample #: F92814-6 **Change:** Per Valerie B. at Tetra Tech via email 05.08.12 at 15:47, take sample off HOLD and run Arsenic on a RUSH TAT.

SS39-OXD-HA07

Sample #: F92814-7 **Change:** Per Valerie B. at Tetra Tech via email 05.08.12 at 15:47, take sample off HOLD and run Arsenic on a RUSH TAT.

SS39-OXD-HA08

Sample #: F92814-8 **Change:** Per Valerie B. at Tetra Tech via email 05.08.12 at 15:47, take sample off HOLD and run Arsenic on a RUSH TAT.

SS39-OXD-HA09

Sample #: F92814-9 **Change:** Per Valerie B. at Tetra Tech via email 05.08.12 at 15:47, take sample off HOLD and run Arsenic on a RUSH TAT.

SS39-OXD-HA10

Above Changes Valerie B. at Tetra Tech **Date:** 5/8/2012

To Client: This Change Order is confirmation of the revisions, previously discussed with the Accutest Client Service Representative.

Page 1 of 1

Southeast ACCUTEST LABORATORIES

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Instrument Runlogs
- Initial and Continuing Calibration Blanks
- Initial and Continuing Calibration Checks
- High and Low Check Standards
- Interfering Element Check Standards
- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F92814
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB050712M1.ICP Date Analyzed: 05/07/12 Methods: SW846 6010C
Analyst: LM Run ID: MA9761
Parameters: As

Time	Sample Description	Dilution Factor	PS Recov	Comments
08:17	MA9761-STD1	1		STDA
08:21	MA9761-STD2	1		STDB
08:24	MA9761-STD3	1		STDC
08:27	MA9761-STD4	1		STDD
08:33	MA9761-HSTD1	1		
08:40	MA9761-ICV1	1		
08:47	MA9761-ICB1	1		
08:54	MA9761-CRIA1	1		
09:38	MA9761-ICSA1	1		
09:49	MA9761-ICSAB1	1		
09:57	MA9761-CCV1	1		
10:07	MA9761-CCB1	1		
10:13	MP22722-PS1	1		
10:18	ZZZZZZ	5		
10:22	ZZZZZZ	5		
10:26	ZZZZZZ	5		
10:31	F92663-1	5		(sample used for QC only; not part of login F92814)
10:35	MP22730-D1	5		
10:39	MP22730-S1	5		
10:43	MP22730-S2	5		
10:47	MP22730-PS1	5		
10:51	MP22730-SD1	25		
10:55	MA9761-CCV2	1		
10:59	MA9761-CCB2	1		
11:03	ZZZZZZ	10		
11:07	ZZZZZZ	10		
11:12	ZZZZZZ	10		
11:16	ZZZZZZ	10		
11:20	ZZZZZZ	10		
11:25	ZZZZZZ	10		
11:29	ZZZZZZ	10		
11:33	ZZZZZZ	10		
11:38	ZZZZZZ	10		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F92814
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB050712M1.ICP Date Analyzed: 05/07/12 Methods: SW846 6010C
Analyst: LM Run ID: MA9761
Parameters: As

Time	Sample Description	Dilution Factor	PS Recov	Comments
11:42	ZZZZZZ	10		
11:46	MA9761-CCV3	1		
11:50	MA9761-CCB3	1		
11:55	F92641-1	1		(sample used for QC only; not part of login F92814)
11:59	MP22729-D1	1		
12:03	MP22729-S1	1		
12:07	MP22729-S2	1		
12:11	MP22729-PS1	1		
12:15	MP22729-SD1	5		
12:19	MA9761-CCV4	1		
12:23	MA9761-CCB4	1		
12:38	MP22736-MB1	1		
12:43	MP22736-B1	1		
12:47	F92251-1	5		(sample used for QC only; not part of login F92814)
12:51	MP22736-D1	5		
12:55	MP22736-SD1	25		
12:59	MP22736-PS1	5		
13:04	MP22736-S1	5		
13:08	MP22736-S2	5		
13:12	ZZZZZZ	5		
13:17	ZZZZZZ	5		
13:21	MA9761-CCV5	1		
13:25	MA9761-CCB5	1		
13:29	ZZZZZZ	5		
13:34	ZZZZZZ	5		
13:38	ZZZZZZ	5		
13:42	ZZZZZZ	5		
13:47	ZZZZZZ	5		
13:51	ZZZZZZ	5		
13:56	ZZZZZZ	5		
14:00	ZZZZZZ	5		
14:04	ZZZZZZ	1		
14:08	ZZZZZZ	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F92814
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB050712M1.ICP Date Analyzed: 05/07/12 Methods: SW846 6010C
Analyst: LM Run ID: MA9761
Parameters: As

	Time	Sample Description	Dilution Factor	PS Recov	Comments
	14:12	MA9761-CCV6	1		
	14:16	MA9761-CCB6	1		
	14:20	ZZZZZZ	1		
	14:25	ZZZZZZ	1		
	14:29	ZZZZZZ	1		
	14:33	F92814-1	1		
	14:37	F92814-2	1		
	14:41	F92814-3	1		
	14:46	F92814-4	1		
---------->	Last reportable sample/prep for job F92814				
	14:50	MP22738-MB1	1		
	14:54	MP22738-B1	1		
	14:58	F92251-32	5		(sample used for QC only; not part of login F92814)
	15:03	MA9761-CCV7	1		
	15:07	MA9761-CCB7	1		
	15:11	MP22738-D1	5		
	15:15	MP22738-SD1	25		
	15:20	MP22738-PS1	5		
	15:24	MP22738-S1	5		
	15:28	MP22738-S2	5		
	15:32	ZZZZZZ	5		
	15:37	ZZZZZZ	5		
	15:41	ZZZZZZ	5		
	15:46	ZZZZZZ	5		
	15:50	ZZZZZZ	5		
	15:54	MA9761-CCV8	1		
	15:58	MA9761-CCB8	1		
	16:03	ZZZZZZ	5		
	16:07	ZZZZZZ	5		
	16:11	ZZZZZZ	5		
	16:16	ZZZZZZ	5		
	16:20	ZZZZZZ	5		
	16:25	ZZZZZZ	5		
	16:29	ZZZZZZ	5		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F92814
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB050712M1.ICP Date Analyzed: 05/07/12 Methods: SW846 6010C
Analyst: LM Run ID: MA9761
Parameters: As

Time	Sample Description	Dilution Factor	PS Recov	Comments
16:33	ZZZZZZ	5		
16:38	ZZZZZZ	5		
16:42	ZZZZZZ	5		
16:46	MA9761-CCV9	1		
16:50	MA9761-CCB9	1		
16:55	ZZZZZZ	5		
16:59	ZZZZZZ	5		
17:03	ZZZZZZ	5		
17:08	ZZZZZZ	5		
17:12	MA9761-CRIA2	1		
17:16	MA9761-ICSA2	1		
17:21	MA9761-ICSAB2	1		
17:25	MA9761-CCV10	1		
17:29	MA9761-CCB10	1		

----------> Last reportable CCB for job F92814
Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: F92814
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB050712M1.ICP Date Analyzed: 05/07/12 Methods: SW846 6010C
Analyst: LM Run ID: MA9761
Parameters: As

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
08:17	MA9761-STD1	5871	48856	10012	2993
08:21	MA9761-STD2	5839	48312	10073	2770
08:24	MA9761-STD3	5657	46998	9951	2502
08:27	MA9761-STD4	5457	45795	9765	2315
08:33	MA9761-HSTD1	5439	45766	9838	2309
08:40	MA9761-ICV1	5598	46667	9858	2496
08:47	MA9761-ICB1	5866 R	48852 R	9962 R	2971 R
08:54	MA9761-CRIA1	5796	47982	10048	2827
09:38	MA9761-ICSA1	5128	40990	9047	2169
09:49	MA9761-ICSAB1	5099	41767	9174	2142
09:57	MA9761-CCV1	5551	45834	9450	2462
10:07	MA9761-CCB1	5787	48133	9534	2939
10:13	MP22722-PS1	5149	43523	9363	2371
10:18	ZZZZZZ	5746	48349	9744	2859
10:22	ZZZZZZ	5746	47902	9777	2875
10:26	ZZZZZZ	5774	48110	9696	2876
10:31	F92663-1	6398	52003	10650	2682
10:35	MP22730-D1	6488	52903	10813	2646
10:39	MP22730-S1	6424	52328	10685	2628
10:43	MP22730-S2	6254	51190	10400	2660
10:47	MP22730-PS1	6498	52824	10771	2679
10:51	MP22730-SD1	6053	49988	9879	2867
10:55	MA9761-CCV2	5570	46182	9447	2480
10:59	MA9761-CCB2	5796	48225	9490	2953
11:03	ZZZZZZ	5474	45675	9590	2455
11:07	ZZZZZZ	5585	46277	9816	2328
11:12	ZZZZZZ	5632	46421	9874	2328
11:16	ZZZZZZ	5623	46613	9633	2537
11:20	ZZZZZZ	5503	45611	9599	2407
11:25	ZZZZZZ	5481	45413	9543	2460
11:29	ZZZZZZ	5464	45451	9445	2492
11:33	ZZZZZZ	5496	45909	9575	2514
11:38	ZZZZZZ	5453	45549	9531	2488

INTERNAL STANDARD SUMMARY

Login Number: F92814
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB050712M1.ICP Date Analyzed: 05/07/12 Methods: SW846 6010C
Analyst: LM Run ID: MA9761
Parameters: As

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
11:42	ZZZZZZ	5398	44739	9527	2424
11:46	MA9761-CCV3	5533	45983	9442	2459
11:50	MA9761-CCB3	5790	48420	9609	2948
11:55	F92641-1	5922	48431	9827	2726
11:59	MP22729-D1	6110	49965	10247	2706
12:03	MP22729-S1	5783	47640	9916	2518
12:07	MP22729-S2	5834	47805	9905	2524
12:11	MP22729-PS1	5867	48078	9765	2646
12:15	MP22729-SD1	6000	49836	9867	2905
12:19	MA9761-CCV4	5626	46391	9512	2478
12:23	MA9761-CCB4	5888	48576	9640	2952
12:38	MP22736-MB1	5710	47549	9475	2821
12:43	MP22736-B1	5549	45917	9374	2556
12:47	F92251-1	5551	46044	9668	2359
12:51	MP22736-D1	5658	46597	9807	2436
12:55	MP22736-SD1	5669	46850	9627	2685
12:59	MP22736-PS1	5543	45877	9753	2377
13:04	MP22736-S1	5602	46326	9632	2422
13:08	MP22736-S2	5665	46932	9790	2448
13:12	ZZZZZZ	5669	47055	9957	2327
13:17	ZZZZZZ	5606	46245	9758	2458
13:21	MA9761-CCV5	5573	45835	9438	2451
13:25	MA9761-CCB5	5799	48032	9601	2922
13:29	ZZZZZZ	5507	45971	9770	2356
13:34	ZZZZZZ	5478	45371	9612	2389
13:38	ZZZZZZ	5397	44846	9688	2259
13:42	ZZZZZZ	5523	45953	9756	2352
13:47	ZZZZZZ	5428	45002	9659	2318
13:51	ZZZZZZ	5496	45184	9492	2400
13:56	ZZZZZZ	5749	47530	9856	2495
14:00	ZZZZZZ	5652	46652	9840	2368
14:04	ZZZZZZ	7322	59750	12124	2584
14:08	ZZZZZZ	7174	59020	12144	2544

INTERNAL STANDARD SUMMARY

Login Number: F92814
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB050712M1.ICP Date Analyzed: 05/07/12 Methods: SW846 6010C
Analyst: LM Run ID: MA9761
Parameters: As

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
14:12	MA9761-CCV6	5561	46091	9339	2461
14:16	MA9761-CCB6	5771	47954	9402	2921
14:20	ZZZZZZ	5919	48651	9949	2570
14:25	ZZZZZZ	5887	48133	9746	2612
14:29	ZZZZZZ	5958	48371	9969	2565
14:33	F92814-1	4925	43616	10523	1761 !
14:37	F92814-2	4680	42233	10209	1803
14:41	F92814-3	4848	41785	10255	1826
14:46	F92814-4	4950	42840	10900	1794
14:50	MP22738-MB1	5742	48154	9412	2837
14:54	MP22738-B1	5613	46242	9296	2549
14:58	F92251-32	5511	45686	9382	2399
15:03	MA9761-CCV7	5601	46348	9456	2456
15:07	MA9761-CCB7	5816	48215	9377	2922
15:11	MP22738-D1	5472	45597	9476	2391
15:15	MP22738-SD1	5715	46567	9308	2682
15:20	MP22738-PS1	5482	45183	9308	2375
15:24	MP22738-S1	5487	45181	9342	2330
15:28	MP22738-S2	5573	45372	9353	2381
15:32	ZZZZZZ	5668	46063	9478	2326
15:37	ZZZZZZ	5875	47638	9624	2523
15:41	ZZZZZZ	5530	45307	9393	2318
15:46	ZZZZZZ	5660	46184	9480	2358
15:50	ZZZZZZ	5560	45240	9325	2315
15:54	MA9761-CCV8	5621	45852	9119	2431
15:58	MA9761-CCB8	5735	48158	9357	2879
16:03	ZZZZZZ	5347	44533	9287	2262
16:07	ZZZZZZ	5311	44325	9184	2284
16:11	ZZZZZZ	5392	45034	9269	2288
16:16	ZZZZZZ	5601	46439	9559	2359
16:20	ZZZZZZ	5466	45257	9396	2281
16:25	ZZZZZZ	5340	44599	9182	2323
16:29	ZZZZZZ	5572	46030	9490	2265

INTERNAL STANDARD SUMMARY

Login Number: F92814
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB050712M1.ICP Date Analyzed: 05/07/12 Methods: SW846 6010C
Analyst: LM Run ID: MA9761
Parameters: As

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
16:33	ZZZZZZ	5220	43014	9077	2142
16:38	ZZZZZZ	5441	44749	9174	2249
16:42	ZZZZZZ	5429	45064	9248	2275
16:46	MA9761-CCV9	5570	45837	9155	2423
16:50	MA9761-CCB9	5856	47909	9272	2903
16:55	ZZZZZZ	5526	45512	9549	2209
16:59	ZZZZZZ	5468	45111	9359	2259
17:03	ZZZZZZ	5387	44099	9178	2222
17:08	ZZZZZZ	5701	47080	9437	2525
17:12	MA9761-CRIA2	5750	47218	9220	2741
17:16	MA9761-ICSA2	5167	41728	8862	2138
17:21	MA9761-ICSAB2	5109	41498	8797	2091
17:25	MA9761-CCV10	5593	45808	9022	2411
17:29	MA9761-CCB10	5795	47553	9103	2858

R = Reference for ISTD limits. ! = Outside limits.

LEGEND:

Istd#	Parameter	Limits
Istd#1	Yttrium (2243)	60-125 %
Istd#2	Yttrium (3600)	60-125 %
Istd#3	Yttrium (3710)	60-125 %
Istd#4	Indium	60-125 %

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F92814
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB050712M1.ICP Date Analyzed: 05/07/12 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA9761 Units: ug/l

Time:			08:47		10:07		10:59		11:50	
Sample ID:			ICB1		CCB1		CCB2		CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	24	anr							
Antimony	6.0	1	anr							
Arsenic	10	1	-0.40	<10	-0.30	<10	-0.40	<10	-0.70	<10
Barium	200	4	anr							
Beryllium	4.0	.1	anr							
Cadmium	5.0	.1	anr							
Calcium	1000	50	anr							
Chromium	10	1	anr							
Cobalt	50	1	anr							
Copper	25	1	anr							
Iron	300	23	anr							
Lead	5.0	1	anr							
Magnesium	5000	50	anr							
Manganese	15	1	anr							
Molybdenum	50	1	anr							
Nickel	40	1	anr							
Potassium	10000	50	anr							
Selenium	10	2	anr							
Silver	10	1	anr							
Sodium	10000	850	anr							
Strontium	10	1								
Thallium	10	1.5	anr							
Tin	50	1	anr							
Titanium	10	1								
Vanadium	50	1	anr							
Zinc	20	1	anr							

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F92814
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB050712M1.ICP Date Analyzed: 05/07/12 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA9761 Units: ug/l

Time:			12:23		13:25		14:16		15:07	
Sample ID:			CCB4		CCB5		CCB6		CCB7	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	24	anr							
Antimony	6.0	1	anr							
Arsenic	10	1	-0.10	<10	-0.70	<10	0.10	<10	-0.20	<10
Barium	200	4	anr							
Beryllium	4.0	.1	anr							
Cadmium	5.0	.1	anr							
Calcium	1000	50	anr							
Chromium	10	1	anr							
Cobalt	50	1								
Copper	25	1	anr							
Iron	300	23	anr							
Lead	5.0	1	anr							
Magnesium	5000	50	anr							
Manganese	15	1	anr							
Molybdenum	50	1								
Nickel	40	1	anr							
Potassium	10000	50								
Selenium	10	2	anr							
Silver	10	1	anr							
Sodium	10000	850								
Strontium	10	1								
Thallium	10	1.5	anr							
Tin	50	1								
Titanium	10	1								
Vanadium	50	1								
Zinc	20	1	anr							

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F92814
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB050712M1.ICP Date Analyzed: 05/07/12 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA9761 Units: ug/l

Time:			15:58		16:50		17:29	
Sample ID:			CCB8		CCB9		CCB10	
Metal	RL	IDL	raw	final	raw	final	raw	final
Aluminum	200	24	anr					
Antimony	6.0	1	anr					
Arsenic	10	1	-0.60	<10	-1.0	<10	-0.60	<10
Barium	200	4	anr					
Beryllium	4.0	.1	anr					
Cadmium	5.0	.1	anr					
Calcium	1000	50	anr					
Chromium	10	1	anr					
Cobalt	50	1						
Copper	25	1	anr					
Iron	300	23	anr					
Lead	5.0	1	anr					
Magnesium	5000	50	anr					
Manganese	15	1	anr					
Molybdenum	50	1						
Nickel	40	1	anr					
Potassium	10000	50						
Selenium	10	2	anr					
Silver	10	1	anr					
Sodium	10000	850						
Strontium	10	1						
Thallium	10	1.5	anr					
Tin	50	1						
Titanium	10	1						
Vanadium	50	1						
Zinc	20	1	anr					

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F92814
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB050712M1.ICP Date Analyzed: 05/07/12 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA9761 Units: ug/l

Time:		08:40			09:57			10:55	
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	2000	2000	100.0	2000	2040	102.0	2000	2040	102.0
Barium	anr								
Beryllium	anr								
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	anr								
Lead	anr								
Magnesium	anr								
Manganese	anr								
Molybdenum	anr								
Nickel	anr								
Potassium	anr								
Selenium	anr								
Silver	anr								
Sodium	anr								
Strontium									
Thallium	anr								
Tin	anr								
Titanium									
Vanadium	anr								
Zinc	anr								

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F92814
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB050712M1.ICP Date Analyzed: 05/07/12 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA9761 Units: ug/l

Time:		11:46			12:19			13:21	
Sample ID:	CCV	CCV3		CCV	CCV4		CCV	CCV5	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	2000	2060	103.0	2000	2030	101.5	2000	2030	101.5
Barium	anr								
Beryllium	anr								
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt									
Copper	anr								
Iron	anr								
Lead	anr								
Magnesium	anr								
Manganese	anr								
Molybdenum									
Nickel	anr								
Potassium									
Selenium	anr								
Silver	anr								
Sodium									
Strontium									
Thallium	anr								
Tin									
Titanium									
Vanadium									
Zinc	anr								

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F92814
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB050712M1.ICP Date Analyzed: 05/07/12 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA9761 Units: ug/l

Time:		14:12			15:03			15:54	
Sample ID:	CCV	CCV6		CCV	CCV7		CCV	CCV8	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	2000	2050	102.5	2000	2030	101.5	2000	1990	99.5
Barium	anr								
Beryllium	anr								
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt									
Copper	anr								
Iron	anr								
Lead	anr								
Magnesium	anr								
Manganese	anr								
Molybdenum									
Nickel	anr								
Potassium									
Selenium	anr								
Silver	anr								
Sodium									
Strontium									
Thallium	anr								
Tin									
Titanium									
Vanadium									
Zinc	anr								

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F92814
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB050712M1.ICP Date Analyzed: 05/07/12 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA9761 Units: ug/l

Time:		16:46			17:25	
Sample ID:	CCV	CCV9		CCV	CCV10	
Metal	True	Results	% Rec	True	Results	% Rec
Aluminum	anr					
Antimony	anr					
Arsenic	2000	1990	99.5	2000	1980	99.0
Barium	anr					
Beryllium	anr					
Cadmium	anr					
Calcium	anr					
Chromium	anr					
Cobalt						
Copper	anr					
Iron	anr					
Lead	anr					
Magnesium	anr					
Manganese	anr					
Molybdenum						
Nickel	anr					
Potassium						
Selenium	anr					
Silver	anr					
Sodium						
Strontium						
Thallium	anr					
Tin						
Titanium						
Vanadium						
Zinc	anr					

(*) Outside of QC limits
(anr) Analyte not requested

HIGH STANDARD CHECK SUMMARY

Login Number: F92814
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB050712M1.ICP Date Analyzed: 05/07/12 Methods: SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA9761 Units: ug/l

Time:		08:33	
Sample ID:	HSTD	HSTD1	
Metal	True	Results	% Rec
Aluminum	anr		
Antimony	anr		
Arsenic	4000	3980	99.5
Barium	anr		
Beryllium	anr		
Cadmium	anr		
Calcium	anr		
Chromium	anr		
Cobalt	anr		
Copper	anr		
Iron	anr		
Lead	anr		
Magnesium	anr		
Manganese	anr		
Molybdenum	anr		
Nickel	anr		
Potassium	anr		
Selenium	anr		
Silver	anr		
Sodium	anr		
Strontium			
Thallium	anr		
Tin	anr		
Titanium			
Vanadium	anr		
Zinc	anr		

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: F92814
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB050712M1.ICP Date Analyzed: 05/07/12 Methods: SW846 6010C
QC Limits: CRI 70-130% CRIA 70-130% Run ID: MA9761 Units: ug/l

Time:			08:54		17:12	
Sample ID:	CRI	CRIA	CRIA1		CRIA2	
Metal	True	True	Results	% Rec	Results	% Rec
Aluminum	400	200	anr			
Antimony	10	5.0	anr			
Arsenic	20	10	9.8	98.0	8.8	88.0
Barium	400	200	anr			
Beryllium	10	5.0	anr			
Cadmium	10	5.0	anr			
Calcium	2000	1000	anr			
Chromium	20	10	anr			
Cobalt	100	50	anr			
Copper	50	25	anr			
Iron	600	300	anr			
Lead	10	5.0	anr			
Magnesium	10000	5000	anr			
Manganese	30	15	anr			
Molybdenum	100	50	anr			
Nickel	80	40	anr			
Potassium	20000	10000	anr			
Selenium	20	10	anr			
Silver	20	10	anr			
Sodium	20000	10000	anr			
Strontium	20	10				
Thallium	20	10	anr			
Tin	100	50	anr			
Titanium	20	10				
Vanadium	100	50	anr			
Zinc	40	20	anr			

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: F92814
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB050712M1.ICP Date Analyzed: 05/07/12 Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery Run ID: MA9761 Units: ug/l

Time:			09:38		09:49		17:16		17:21	
Sample ID:	ICSA	ICSAB	ICSA1		ICSAB1		ICSA2		ICSAB2	
Metal	True	True	Results	% Rec	Results	% Rec	Results	% Rec	Results	% Rec
Aluminum	500000	500000	504000	100.8	495000	99.0	491000	98.2	492000	98.4
Antimony		1000	0.0		1020	102.0	-1.6		988	98.8
Arsenic		1000	-0.10		1030	103.0	-0.70		989	98.9
Barium		500	0.90		536	107.2	0.80		528	105.6
Beryllium		500	0.0		507	101.4	0.0		469	93.8
Cadmium		1000	0.0		978	97.8	1.6		973	97.3
Calcium	500000	500000	473000	94.6	469000	93.8	452000	90.4	449000	89.8
Chromium		500	-0.40		528	105.6	-0.30		527	105.4
Cobalt		500	0.0		485	97.0	0.0		482	96.4
Copper		500	0.20		563	112.6	-0.60		550	110.0
Iron	200000	200000	183000	91.5	187000	93.5	169000	84.5	174000	87.0
Lead		1000	0.0		982	98.2	0.60		948	94.8
Magnesium	500000	500000	521000	104.2	513000	102.6	475000	95.0	475000	95.0
Manganese		500	-0.50		512	102.4	-0.20		491	98.2
Molybdenum		1000	-0.50		952	95.2	-0.90		906	90.6
Nickel		1000	0.0		949	94.9	-0.50		908	90.8
Potassium			21.2		20.7		-24		-41	
Selenium		1000	-1.0		1030	103.0	1.1		992	99.2
Silver		1000	0.10		1030	103.0	0.40		1030	103.0
Sodium			95.9		87.2		51.1		36.1	
Strontium		1000	1.8		1020	102.0	1.7		986	98.6
Thallium		1000	0.0		972	97.2	-3.9		952	95.2
Tin		1000	-0.40		872	87.2	-0.40		849	84.9
Titanium		1000	0.40		1020	102.0	0.30		997	99.7
Vanadium		500	0.0		503	100.6	-0.10		494	98.8
Zinc		1000	0.60		934	93.4	0.40		870	87.0

(*) Outside of QC limits
(anr) Analyte not requested

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F92814
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA050912M1.ICP Date Analyzed: 05/09/12 Methods: SW846 6010C
Analyst: LM Run ID: MA9766
Parameters: As

Time	Sample Description	Dilution Factor	PS Recov	Comments
07:34	MA9766-STD1	1		STDA
07:38	MA9766-STD2	1		STDB
07:41	MA9766-STD3	1		STDC
07:44	MA9766-STD4	1		STDD
07:51	MA9766-HSTD1	1		
07:54	MA9766-ICV1	1		
08:00	MA9766-ICB1	1		
08:04	MA9766-CRIA1	1		
08:12	MA9766-ICSA1	1		
08:25	MA9766-ICSAB1	1		
08:31	MA9766-CCV1	1		
08:47	MA9766-CCB1	1		
09:51	MA9766-CCV2	1		
10:01	MA9766-CCB2	1		
10:14	F92814-5	1		
10:18	F92814-6	1		
10:23	F92814-7	1		
10:27	F92814-8	1		
10:32	F92814-9	1		
10:50	MA9766-CCV3	1		
10:54	MA9766-CCB3	1		
11:28	MA9766-CCV4	1		
11:32	MA9766-CCB4	1		
11:36	MP22748-PS1	5		
11:41	MP22748-S1	5		
11:45	MP22748-S2	5		
11:50	ZZZZZZ	5		
11:54	ZZZZZZ	5		
11:59	ZZZZZZ	5		
12:03	ZZZZZZ	5		
12:07	ZZZZZZ	5		
12:12	ZZZZZZ	5		
12:17	MA9766-CCV5	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F92814
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA050912M1.ICP Date Analyzed: 05/09/12 Methods: SW846 6010C
Analyst: LM Run ID: MA9766
Parameters: As

Time	Sample Description	Dilution Factor	PS Recov	Comments
12:21	MA9766-CCB5	1		
12:25	ZZZZZZ	5		
12:30	ZZZZZZ	5		
12:35	ZZZZZZ	5		
12:39	ZZZZZZ	5		
12:44	ZZZZZZ	5		
12:48	ZZZZZZ	5		
12:53	ZZZZZZ	5		
12:57	ZZZZZZ	5		
13:11	MA9766-CCV6	1		
13:15	MA9766-CCB6	1		
14:04	MA9766-CCV7	1		
14:08	MA9766-CCB7	1		
14:17	MP22755-MB1	1		
14:22	MP22755-B1	1		
14:26	F92571-2	1		(sample used for QC only; not part of login F92814)
14:30	MP22755-D1	1		
14:35	MP22755-SD1	5		
14:39	MP22755-PS1	1		
14:43	MP22755-S1	1		
14:48	MP22755-S2	1		
14:52	ZZZZZZ	1		
14:57	MA9766-CCV8	1		
15:01	MA9766-CCB8	1		
15:05	ZZZZZZ	1		
15:10	ZZZZZZ	1		
15:14	ZZZZZZ	1		
15:19	ZZZZZZ	1		
15:23	ZZZZZZ	1		
15:28	ZZZZZZ	1		
15:33	ZZZZZZ	1		
15:37	ZZZZZZ	1		
15:42	ZZZZZZ	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F92814
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA050912M1.ICP Date Analyzed: 05/09/12 Methods: SW846 6010C
Analyst: LM Run ID: MA9766
Parameters: As

Time	Sample Description	Dilution Factor	PS Recov	Comments
15:46	ZZZZZZ	1		
15:51	MA9766-CCV9	1		
15:55	MA9766-CCB9	1		
16:00	ZZZZZZ	1		
16:04	ZZZZZZ	1		
16:08	ZZZZZZ	1		
16:13	ZZZZZZ	1		
16:17	ZZZZZZ	1		
16:26	ZZZZZZ	1		
16:31	ZZZZZZ	1		
16:40	MP22748-MB1	1		
16:44	MA9766-CCV10	1		
16:49	MA9766-CCB10	1		
16:53	MP22748-B1	1		
16:57	F92330-29	5		(sample used for QC only; not part of login F92814)
17:02	MP22748-D1	5		
17:07	MP22748-SD1	25		
---------->	Last reportable sample/prep for job F92814			
17:11	MA9766-CRIA2	1		
17:16	MA9766-ICSA2	1		
17:20	MA9766-ICSAB2	1		
17:25	MA9766-CCV11	1		
17:29	MA9766-CCB11	1		
---------->	Last reportable CCB for job F92814			

Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: F92814
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA050912M1.ICP Date Analyzed: 05/09/12 Methods: SW846 6010C
Analyst: LM Run ID: MA9766
Parameters: As

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
07:34	MA9766-STD1	2581	18694	9205	1419
07:38	MA9766-STD2	2578	18894	9246	1402
07:41	MA9766-STD3	2501	18764	9220	1318
07:44	MA9766-STD4	2408	18409	9024	1234
07:51	MA9766-HSTD1	2409	18289	8959	1236
07:54	MA9766-ICV1	2492	18645	9104	1313
08:00	MA9766-ICB1	2582 R	18696 R	9193 R	1410 R
08:04	MA9766-CRIA1	2585	18812	9060	1410
08:12	MA9766-ICSA1	2316	17496	8788	1193
08:25	MA9766-ICSAB1	2284	17109	8616	1172
08:31	MA9766-CCV1	2442	18198	8874	1282
08:47	MA9766-CCB1	2569	18799	9138	1403
09:51	MA9766-CCV2	2501	18600	9000	1313
10:01	MA9766-CCB2	2558	18656	9052	1393
10:14	F92814-5	2317	18363	9207	1011
10:18	F92814-6	2097	17010	8531	991
10:23	F92814-7	2116	17484	9169	978
10:27	F92814-8	1975	16732	8868	978
10:32	F92814-9	1823	16551	8986	948
10:50	MA9766-CCV3	2259	19409	10624	1270
10:54	MA9766-CCB3	2340	19537	10816	1379
11:28	MA9766-CCV4	2256	19524	10682	1271
11:32	MA9766-CCB4	2329	19459	10821	1365
11:36	MP22748-PS1	2238	19527	10852	1219
11:41	MP22748-S1	2274	19892	11009	1204
11:45	MP22748-S2	2170	18942	10422	1159
11:50	ZZZZZZ	2338	19749	10756	1343
11:54	ZZZZZZ	2241	19649	10955	1207
11:59	ZZZZZZ	2350	20071	11066	1372
12:03	ZZZZZZ	2304	20335	10920	1279
12:07	ZZZZZZ	2330	19815	10892	1290
12:12	ZZZZZZ	2148	18717	10312	1175
12:17	MA9766-CCV5	2252	19395	10663	1261

INTERNAL STANDARD SUMMARY

Login Number: F92814
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA050912M1.ICP Date Analyzed: 05/09/12 Methods: SW846 6010C
Analyst: LM Run ID: MA9766
Parameters: As

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
12:21	MA9766-CCB5	2348	19607	10807	1374
12:25	ZZZZZZ	2133	18697	10351	1117
12:30	ZZZZZZ	2263	19847	10927	1230
12:35	ZZZZZZ	2191	19073	10537	1204
12:39	ZZZZZZ	2257	19433	10603	1235
12:44	ZZZZZZ	2245	19409	10571	1278
12:48	ZZZZZZ	2236	19624	10842	1221
12:53	ZZZZZZ	2123	18676	10343	1080
12:57	ZZZZZZ	2210	19162	10549	1181
13:11	MA9766-CCV6	2259	19250	10446	1270
13:15	MA9766-CCB6	2329	19448	10684	1367
14:04	MA9766-CCV7	2272	19360	10413	1273
14:08	MA9766-CCB7	2343	19516	10649	1373
14:17	MP22755-MB1	2309	19524	10614	1358
14:22	MP22755-B1	2277	19424	10557	1311
14:26	F92571-2	2284	19375	10563	1335
14:30	MP22755-D1	2314	19792	10855	1348
14:35	MP22755-SD1	2342	19587	10698	1375
14:39	MP22755-PS1	2278	19391	10539	1319
14:43	MP22755-S1	2268	19586	10743	1281
14:48	MP22755-S2	2265	19354	10570	1283
14:52	ZZZZZZ	2252	19270	10440	1306
14:57	MA9766-CCV8	2269	19416	10485	1268
15:01	MA9766-CCB8	2345	19861	10883	1366
15:05	ZZZZZZ	2190	18949	10349	1267
15:10	ZZZZZZ	2191	18934	10274	1262
15:14	ZZZZZZ	2314	19510	10699	1353
15:19	ZZZZZZ	2236	19417	10540	1295
15:23	ZZZZZZ	2216	19338	10459	1279
15:28	ZZZZZZ	2210	19102	10364	1273
15:33	ZZZZZZ	2191	19025	10339	1264
15:37	ZZZZZZ	2224	19309	10560	1287
15:42	ZZZZZZ	2210	19093	10358	1273

INTERNAL STANDARD SUMMARY

Login Number: F92814
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA050912M1.ICP Date Analyzed: 05/09/12 Methods: SW846 6010C
Analyst: LM Run ID: MA9766
Parameters: As

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
15:46	ZZZZZZ	2209	19001	10214	1271
15:51	MA9766-CCV9	2254	19447	10463	1255
15:55	MA9766-CCB9	2334	19548	10712	1361
16:00	ZZZZZZ	2283	19400	10598	1335
16:04	ZZZZZZ	2216	19231	10428	1298
16:08	ZZZZZZ	2223	19387	10564	1296
16:13	ZZZZZZ	2182	18926	10314	1269
16:17	ZZZZZZ	2201	18975	10237	1278
16:26	ZZZZZZ	2180	18876	10215	1263
16:31	ZZZZZZ	2111	18259	9934	1184
16:40	MP22748-MB1	2251	18893	10283	1315
16:44	MA9766-CCV10	2269	19470	10395	1268
16:49	MA9766-CCB10	2334	19440	10544	1360
16:53	MP22748-B1	2221	18956	10172	1276
16:57	F92330-29	2243	19672	10709	1206
17:02	MP22748-D1	2255	19544	10612	1187
17:07	MP22748-SD1	2287	19234	10387	1316
17:11	MA9766-CRIA2	2338	19627	10584	1360
17:16	MA9766-ICSA2	2113	18048	9868	1140
17:20	MA9766-ICSAB2	2110	18002	9732	1128
17:25	MA9766-CCV11	2277	19439	10332	1267
17:29	MA9766-CCB11	2327	19589	10546	1352

R = Reference for ISTD limits. ! = Outside limits.

LEGEND:

Istd#	Parameter	Limits
Istd#1	Yttrium (2243)	60-125 %
Istd#2	Yttrium (3600)	60-125 %
Istd#3	Yttrium (3710)	60-125 %
Istd#4	Indium	60-125 %

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F92814
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA050912M1.ICP Date Analyzed: 05/09/12 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA9766 Units: ug/l

Time:			08:00		08:47		10:01		10:54	
Sample ID:			ICB1		CCB1		CCB2		CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	20	anr							
Antimony	6.0	1	anr							
Arsenic	10	1	-1.3	<10	0.0	<10	-1.3	<10	-2.9	<10
Barium	200	1	anr							
Beryllium	4.0	.1	anr							
Cadmium	4.0	.1	anr							
Calcium	1000	50	anr							
Chromium	10	1	anr							
Cobalt	50	1	anr							
Copper	25	1	anr							
Iron	300	34	anr							
Lead	5.0	1	anr							
Magnesium	5000	50	anr							
Manganese	15	1	anr							
Molybdenum	50	1	anr							
Nickel	40	1	anr							
Potassium	10000	50	anr							
Selenium	10	2	anr							
Silver	10	1	anr							
Sodium	10000	750	anr							
Strontium	10	1								
Thallium	10	1	anr							
Tin	50	1	anr							
Titanium	10	1.1								
Vanadium	50	1	anr							
Zinc	20	1	anr							

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F92814
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA050912M1.ICP Date Analyzed: 05/09/12 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA9766 Units: ug/l

Time:			11:32		12:21		13:15		14:08	
Sample ID:			CCB4		CCB5		CCB6		CCB7	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	20	anr							
Antimony	6.0	1	anr							
Arsenic	10	1	-0.80	<10	0.0	<10	-0.20	<10	-0.20	<10
Barium	200	1	anr							
Beryllium	4.0	.1	anr							
Cadmium	4.0	.1	anr							
Calcium	1000	50	anr							
Chromium	10	1	anr							
Cobalt	50	1	anr							
Copper	25	1	anr							
Iron	300	34	anr							
Lead	5.0	1	anr							
Magnesium	5000	50	anr							
Manganese	15	1	anr							
Molybdenum	50	1								
Nickel	40	1	anr							
Potassium	10000	50	anr							
Selenium	10	2	anr							
Silver	10	1	anr							
Sodium	10000	750	anr							
Strontium	10	1								
Thallium	10	1	anr							
Tin	50	1								
Titanium	10	1.1								
Vanadium	50	1	anr							
Zinc	20	1	anr							

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F92814
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA050912M1.ICP Date Analyzed: 05/09/12 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA9766 Units: ug/l

Time:			15:01		15:55		16:49		17:29	
Sample ID:			CCB8		CCB9		CCB10		CCB11	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	20	anr							
Antimony	6.0	1	anr							
Arsenic	10	1	-0.70	<10	-0.10	<10	-0.60	<10	-0.30	<10
Barium	200	1	anr							
Beryllium	4.0	.1	anr							
Cadmium	4.0	.1	anr							
Calcium	1000	50	anr							
Chromium	10	1	anr							
Cobalt	50	1	anr							
Copper	25	1	anr							
Iron	300	34	anr							
Lead	5.0	1	anr							
Magnesium	5000	50	anr							
Manganese	15	1	anr							
Molybdenum	50	1								
Nickel	40	1	anr							
Potassium	10000	50	anr							
Selenium	10	2	anr							
Silver	10	1	anr							
Sodium	10000	750	anr							
Strontium	10	1								
Thallium	10	1	anr							
Tin	50	1								
Titanium	10	1.1								
Vanadium	50	1	anr							
Zinc	20	1	anr							

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F92814
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA050912M1.ICP Date Analyzed: 05/09/12 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA9766 Units: ug/l

Time:		07:54			08:31			09:51	
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	2000	1980	99.0	2000	2050	102.5	2000	2020	101.0
Barium	anr								
Beryllium	anr								
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	anr								
Lead	anr								
Magnesium	anr								
Manganese	anr								
Molybdenum	anr								
Nickel	anr								
Potassium	anr								
Selenium	anr								
Silver	anr								
Sodium	anr								
Strontium									
Thallium	anr								
Tin	anr								
Titanium									
Vanadium	anr								
Zinc	anr								

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F92814
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA050912M1.ICP Date Analyzed: 05/09/12 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA9766 Units: ug/l

Time:		10:50			11:28			12:17	
Sample ID:	CCV	CCV3		CCV	CCV4		CCV	CCV5	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	2000	2100	105.0	2000	1990	99.5	2000	2020	101.0
Barium	anr								
Beryllium	anr								
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	anr								
Lead	anr								
Magnesium	anr								
Manganese	anr								
Molybdenum	anr								
Nickel	anr								
Potassium	anr								
Selenium	anr								
Silver	anr								
Sodium	anr								
Strontium									
Thallium	anr								
Tin	anr								
Titanium									
Vanadium	anr								
Zinc	anr								

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F92814
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA050912M1.ICP Date Analyzed: 05/09/12 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA9766 Units: ug/l

Time:		13:11			14:04			14:57	
Sample ID:	CCV	CCV6		CCV	CCV7		CCV	CCV8	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	2000	2020	101.0	2000	2000	100.0	2000	1990	99.5
Barium	anr								
Beryllium	anr								
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	anr								
Lead	anr								
Magnesium	anr								
Manganese	anr								
Molybdenum									
Nickel	anr								
Potassium	anr								
Selenium	anr								
Silver	anr								
Sodium	anr								
Strontium									
Thallium	anr								
Tin									
Titanium									
Vanadium	anr								
Zinc	anr								

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F92814
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA050912M1.ICP Date Analyzed: 05/09/12 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA9766 Units: ug/l

Time:		15:51			16:44			17:25	
Sample ID:	CCV	CCV9		CCV	CCV10		CCV	CCV11	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	2000	1990	99.5	2000	1990	99.5	2000	1980	99.0
Barium	anr								
Beryllium	anr								
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	anr								
Lead	anr								
Magnesium	anr								
Manganese	anr								
Molybdenum									
Nickel	anr								
Potassium	anr								
Selenium	anr								
Silver	anr								
Sodium	anr								
Strontium									
Thallium	anr								
Tin									
Titanium									
Vanadium	anr								
Zinc	anr								

(*) Outside of QC limits
(anr) Analyte not requested

HIGH STANDARD CHECK SUMMARY

Login Number: F92814
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA050912M1.ICP Date Analyzed: 05/09/12 Methods: SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA9766 Units: ug/l

Time:		07:51	
Sample ID:	HSTD	HSTD1	
Metal	True	Results	% Rec
Aluminum	anr		
Antimony	anr		
Arsenic	4000	3970	99.3
Barium	anr		
Beryllium	anr		
Cadmium	anr		
Calcium	anr		
Chromium	anr		
Cobalt	anr		
Copper	anr		
Iron	anr		
Lead	anr		
Magnesium	anr		
Manganese	anr		
Molybdenum	anr		
Nickel	anr		
Potassium	anr		
Selenium	anr		
Silver	anr		
Sodium	anr		
Strontium			
Thallium	anr		
Tin	anr		
Titanium			
Vanadium	anr		
Zinc	anr		

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: F92814
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA050912M1.ICP Date Analyzed: 05/09/12 Methods: SW846 6010C
QC Limits: CRI 70-130% CRIA 70-130% Run ID: MA9766 Units: ug/l

Time:			08:04		17:11	
Sample ID:	CRI	CRIA	CRIA1		CRIA2	
Metal	True	True	Results	% Rec	Results	% Rec
Aluminum	400	200	anr			
Antimony	10	5.0	anr			
Arsenic	20	10	9.1	91.0	10.3	103.0
Barium	400	200	anr			
Beryllium	10	5.0	anr			
Cadmium	10	5.0	anr			
Calcium	2000	1000	anr			
Chromium	20	10	anr			
Cobalt	100	50	anr			
Copper	50	25	anr			
Iron	600	300	anr			
Lead	10	5.0	anr			
Magnesium	10000	5000	anr			
Manganese	30	15	anr			
Molybdenum	100	50	anr			
Nickel	80	40	anr			
Potassium	20000	10000	anr			
Selenium	20	10	anr			
Silver	20	10	anr			
Sodium	20000	10000	anr			
Strontium	20	10				
Thallium	20	10	anr			
Tin	100	50	anr			
Titanium	20	10				
Vanadium	100	50	anr			
Zinc	40	20	anr			

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: F92814
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SA050912M1.ICP Date Analyzed: 05/09/12 Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery Run ID: MA9766 Units: ug/l

Time:			08:12		08:25		17:16		17:20	
Sample ID:	ICSA	ICSAB	ICSA1		ICSAB1		ICSA2		ICSAB2	
Metal	True	True	Results	% Rec	Results	% Rec	Results	% Rec	Results	% Rec
Aluminum	500000	500000	488000	97.6	498000	99.6	509000	101.8	506000	101.2
Antimony		1000	0.10		1020	102.0	-3.1		1010	101.0
Arsenic		1000	0.0		1000	100.0	3.0		1000	100.0
Barium		500	0.90		530	106.0	1.0		547	109.4
Beryllium		500	0.0		507	101.4	-0.10		520	104.0
Cadmium		1000	0.0		955	95.5	2.7		948	94.8
Calcium	500000	500000	458000	91.6	464000	92.8	472000	94.4	476000	95.2
Chromium		500	-0.40		516	103.2	0.0		520	104.0
Cobalt		500	-0.60		484	96.8	-0.50		482	96.4
Copper		500	0.0		580	116.0	2.7		576	115.2
Iron	200000	200000	181000	90.5	188000	94.0	184000	92.0	186000	93.0
Lead		1000	-0.30		963	96.3	9.5		977	97.7
Magnesium	500000	500000	508000	101.6	514000	102.8	543000	108.6	546000	109.2
Manganese		500	-0.20		504	100.8	0.0		511	102.2
Molybdenum		1000	0.20		952	95.2	1.1		968	96.8
Nickel		1000	0.10		943	94.3	0.80		927	92.7
Potassium			8.1		-10		1.7		-13	
Selenium		1000	0.0		1020	102.0	-1.9		1020	102.0
Silver		1000	0.40		1060	106.0	0.70		1100	110.0
Sodium			69.5		77.9		72.8		67.7	
Strontium		1000	2.1		1020	102.0	2.1		1030	103.0
Thallium		1000	0.0		955	95.5	-2.0		964	96.4
Tin		1000	-0.20		872	87.2	0.60		860	86.0
Titanium		1000	-2.9		1010	101.0	-1.6		990	99.0
Vanadium		500	0.30		497	99.4	1.0		489	97.8
Zinc		1000	0.40		904	90.4	0.80		898	89.8

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: F92814
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

QC Batch ID: MP22736
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 05/07/12

Metal	RL	IDL	MDL	MB raw	final
Aluminum	10	1.2	1.2		
Antimony	1.0	.05	.1		
Arsenic	0.50	.05	.1	-0.10	<0.50
Barium	10	.2	.5		
Beryllium	0.25	.005	.05		
Cadmium	0.20	.005	.05		
Calcium	250	2.5	5		
Chromium	0.50	.05	.05		
Cobalt	2.5	.05	.05		
Copper	1.3	.05	.1		
Iron	15	1.2	1.7		
Lead	1.0	.05	.05		
Magnesium	250	2.5	5		
Manganese	0.75	.05	.05		
Molybdenum	2.5	.05	.05		
Nickel	2.0	.05	.05		
Potassium	500	2.5	25		
Selenium	1.0	.1	.2		
Silver	0.50	.05	.05		
Sodium	500	43	55		
Strontium	0.50	.05	.05		
Thallium	0.50	.075	.13		
Tin	2.5	.05	.05		
Titanium	0.50	.05	.1		
Vanadium	2.5	.05	.05		
Zinc	1.0	.05	.25		

Associated samples MP22736: F92814-1, F92814-2, F92814-3, F92814-4

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F92814
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

QC Batch ID: MP22736
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Metal	F92251-1 Original	DUP	RPD	QC Limits	F92251-1 Original	MS	Spikelot MPFLICP1	% Rec	QC Limits
Prep Date:			05/07/12					05/07/12	
Aluminum									
Antimony	anr								
Arsenic	1.7	1.5 (a)	12.5	0-20	1.7	102 (a)	103	97.8	80-120
Barium	anr								
Beryllium	anr								
Cadmium	anr								
Calcium									
Chromium	anr								
Cobalt									
Copper	anr								
Iron									
Lead	anr								
Magnesium									
Manganese									
Molybdenum									
Nickel	anr								
Potassium									
Selenium	anr								
Silver	anr								
Sodium									
Strontium									
Thallium	anr								
Tin									
Titanium									
Vanadium									
Zinc	anr								

Associated samples MP22736: F92814-1, F92814-2, F92814-3, F92814-4

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Sample dilution required due to sample matrix.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F92814
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

QC Batch ID: MP22736
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 05/07/12

Metal	F92251-1 Original	MSD	Spikelot MPFLICP1	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony	anr					
Arsenic	1.7	101 (a)	98.6	100.7	1.0	20
Barium	anr					
Beryllium	anr					
Cadmium	anr					
Calcium						
Chromium	anr					
Cobalt						
Copper	anr					
Iron						
Lead	anr					
Magnesium						
Manganese						
Molybdenum						
Nickel	anr					
Potassium						
Selenium	anr					
Silver	anr					
Sodium						
Strontium						
Thallium	anr					
Tin						
Titanium						
Vanadium						
Zinc	anr					

Associated samples MP22736: F92814-1, F92814-2, F92814-3, F92814-4

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Sample dilution required due to sample matrix.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: F92814
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

QC Batch ID: MP22736
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 05/07/12

Metal	BSP Result	Spikelot MPFLICP1	% Rec	QC Limits
Aluminum				
Antimony	anr			
Arsenic	98.9	100	98.9	80-120
Barium	anr			
Beryllium	anr			
Cadmium	anr			
Calcium				
Chromium	anr			
Cobalt				
Copper	anr			
Iron				
Lead	anr			
Magnesium				
Manganese				
Molybdenum				
Nickel	anr			
Potassium				
Selenium	anr			
Silver	anr			
Sodium				
Strontium				
Thallium	anr			
Tin				
Titanium				
Vanadium				
Zinc	anr			

Associated samples MP22736: F92814-1, F92814-2, F92814-3, F92814-4

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: F92814
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

QC Batch ID: MP22736
Matrix Type: SOLID

Methods: SW846 6010C
Units: ug/l

Prep Date: 05/07/12

Metal	F92251-1 Original	SDL 5:25	%DIF	QC Limits
Aluminum				
Antimony	anr			
Arsenic	48.9	0.00	100.0(a)	0-10
Barium	anr			
Beryllium	anr			
Cadmium	anr			
Calcium				
Chromium	anr			
Cobalt				
Copper	anr			
Iron				
Lead	anr			
Magnesium				
Manganese				
Molybdenum				
Nickel	anr			
Potassium				
Selenium	anr			
Silver	anr			
Sodium				
Strontium				
Thallium	anr			
Tin				
Titanium				
Vanadium				
Zinc	anr			

Associated samples MP22736: F92814-1, F92814-2, F92814-3, F92814-4

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

POST DIGESTATE SPIKE SUMMARY

Login Number: F92814
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

QC Batch ID: MP22736
Matrix Type: SOLID

Methods: SW846 6010C
Units: ug/l

Prep Date: 05/07/12

Metal	Sample ml	Final ml	F92251-1 Raw	Corr.**	PS ug/l	Spike ml	Spike ug/ml	Spike ug/l	% Rec	QC Limits
Aluminum										
Antimony										
Arsenic	9.8	10	48.9	47.922	144.3	0.2	5	100	96.4	80-120
Barium										
Beryllium										
Cadmium										
Calcium										
Chromium										
Cobalt										
Copper										
Iron										
Lead										
Magnesium										
Manganese										
Molybdenum										
Nickel										
Potassium										
Selenium										
Silver										
Sodium										
Strontium										
Thallium										
Tin										
Titanium										
Vanadium										
Zinc										

Associated samples MP22736: F92814-1, F92814-2, F92814-3, F92814-4

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: F92814
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

QC Batch ID: MP22748
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 05/09/12

Metal	RL	IDL	MDL	MB raw	final
Aluminum	10	1	1.2		
Antimony	1.0	.05	.1		
Arsenic	0.50	.05	.1	-0.19	<0.50
Barium	10	.05	.5		
Beryllium	0.25	.005	.05		
Cadmium	0.20	.005	.05		
Calcium	250	2.5	5		
Chromium	0.50	.05	.05		
Cobalt	2.5	.05	.05		
Copper	1.3	.05	.1		
Iron	15	1.7	1.7		
Lead	1.0	.05	.05		
Magnesium	250	2.5	5		
Manganese	0.75	.05	.05		
Molybdenum	2.5	.05	.05		
Nickel	2.0	.05	.05		
Potassium	500	2.5	25		
Selenium	1.0	.1	.2		
Silver	0.50	.05	.05		
Sodium	500	38	55		
Strontium	0.50	.05	.05		
Thallium	0.50	.05	.13		
Tin	2.5	.05	.05		
Titanium	0.50	.055	.1		
Vanadium	2.5	.05	.05		
Zinc	1.0	.05	.25		

Associated samples MP22748: F92814-5, F92814-6, F92814-7, F92814-8, F92814-9

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F92814
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

QC Batch ID: MP22748
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 05/09/12

Metal	F92330-29 Original MS		Spikelot MPFLICP1 % Rec	QC Limits
Aluminum				
Antimony	anr			
Arsenic	1.2	85.5 (a) 79.9	105.5	80-120
Barium	anr			
Beryllium	anr			
Cadmium	anr			
Calcium				
Chromium	anr			
Cobalt				
Copper	anr			
Iron				
Lead	anr			
Magnesium				
Manganese				
Molybdenum				
Nickel	anr			
Potassium				
Selenium	anr			
Silver	anr			
Sodium				
Strontium				
Thallium	anr			
Tin				
Titanium				
Vanadium				
Zinc	anr			

Associated samples MP22748: F92814-5, F92814-6, F92814-7, F92814-8, F92814-9

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Sample dilution required due to sample matrix.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F92814
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

QC Batch ID: MP22748
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Metal	F92330-29 Original MSD		Spikelot MPFLICP1 % Rec		MSD RPD	QC Limit	F92330-29 Original DUP		RPD	QC Limits
Prep Date:					05/09/12				05/09/12	
Aluminum										
Antimony	anr									
Arsenic	1.2	112 (a)	98.6	112.4	26.8 (b)	20	1.2	1.1 (a)	8.7	0-20
Barium	anr									
Beryllium	anr									
Cadmium	anr									
Calcium										
Chromium	anr									
Cobalt										
Copper	anr									
Iron										
Lead	anr									
Magnesium										
Manganese										
Molybdenum										
Nickel	anr									
Potassium										
Selenium	anr									
Silver	anr									
Sodium										
Strontium										
Thallium	anr									
Tin										
Titanium										
Vanadium										
Zinc	anr									

Associated samples MP22748: F92814-5, F92814-6, F92814-7, F92814-8, F92814-9

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Sample dilution required due to sample matrix.
(b) High RPD due to possible sample nonhomogeneity.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: F92814
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

QC Batch ID: MP22748
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 05/09/12

Metal	BSP Result	Spikelot MPFLICP1	% Rec	QC Limits
Aluminum				
Antimony	anr			
Arsenic	98.0	100	98.0	80-120
Barium	anr			
Beryllium	anr			
Cadmium	anr			
Calcium				
Chromium	anr			
Cobalt				
Copper	anr			
Iron				
Lead	anr			
Magnesium				
Manganese				
Molybdenum				
Nickel	anr			
Potassium				
Selenium	anr			
Silver	anr			
Sodium				
Strontium				
Thallium	anr			
Tin				
Titanium				
Vanadium				
Zinc	anr			

Associated samples MP22748: F92814-5, F92814-6, F92814-7, F92814-8, F92814-9

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: F92814
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

QC Batch ID: MP22748
Matrix Type: SOLID

Methods: SW846 6010C
Units: ug/l

Prep Date: 05/09/12

Metal	F92330-29 Original	SDL 5:25	%DIF	QC Limits
Aluminum				
Antimony	anr			
Arsenic	23.6	0.00	100.0(a)	0-10
Barium	anr			
Beryllium	anr			
Cadmium	anr			
Calcium				
Chromium	anr			
Cobalt				
Copper	anr			
Iron				
Lead	anr			
Magnesium				
Manganese				
Molybdenum				
Nickel	anr			
Potassium				
Selenium	anr			
Silver	anr			
Sodium				
Strontium				
Thallium	anr			
Tin				
Titanium				
Vanadium				
Zinc	anr			

Associated samples MP22748: F92814-5, F92814-6, F92814-7, F92814-8, F92814-9

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

POST DIGESTATE SPIKE SUMMARY

Login Number: F92814
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

QC Batch ID: MP22748
Matrix Type: SOLID

Methods: SW846 6010C
Units: ug/l

Prep Date: 05/09/12

Metal	Sample ml	Final ml	F92330-29 Raw	Corr.**	PS ug/l	Spike ml	Spike ug/ml	Spike ug/l	% Rec	QC Limits
Aluminum										
Antimony										
Arsenic	9.8	10	23.6	23.128	126.7	0.2	5	100	103.6	80-120
Barium										
Beryllium										
Cadmium										
Calcium										
Chromium										
Cobalt										
Copper										
Iron										
Lead										
Magnesium										
Manganese										
Molybdenum										
Nickel										
Potassium										
Selenium										
Silver										
Sodium										
Strontium										
Thallium										
Tin										
Titanium										
Vanadium										
Zinc										

Associated samples MP22748: F92814-5, F92814-6, F92814-7, F92814-8, F92814-9

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested

Southeast ACCUTEST LABORATORIES

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Percent Solids Raw Data Summary

Percent Solids Raw Data Summary

Job Number: F92814
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: F92814-1 **Analyzed:** 07-MAY-12 by VK **Method:** SM19 2540G
ClientID: SS39-OXD-HA02

Wet Weight (Total)	9.01	g
Tare Weight	1.01	g
Dry Weight (Total)	7.99	g
Solids, Percent	87.3	%

Sample: F92814-2 **Analyzed:** 07-MAY-12 by VK **Method:** SM19 2540G
ClientID: SS39-OXD-HA03

Wet Weight (Total)	8.63	g
Tare Weight	.96	g
Dry Weight (Total)	7.59	g
Solids, Percent	86.4	%

Sample: F92814-3 **Analyzed:** 07-MAY-12 by VK **Method:** SM19 2540G
ClientID: SS39-OXD-HA04

Wet Weight (Total)	8.54	g
Tare Weight	1	g
Dry Weight (Total)	7.54	g
Solids, Percent	86.7	%

Sample: F92814-4 **Analyzed:** 07-MAY-12 by VK **Method:** SM19 2540G
ClientID: SS39-OXD-HA05

Wet Weight (Total)	8.83	g
Tare Weight	1.01	g
Dry Weight (Total)	7.97	g
Solids, Percent	89	%

Sample: F92814-5 **Analyzed:** 07-MAY-12 by VK **Method:** SM19 2540G
ClientID: SS39-OXD-HA06

Wet Weight (Total)	8.5	g
Tare Weight	1.03	g
Dry Weight (Total)	7.2	g
Solids, Percent	82.6	%

Sample: F92814-6 **Analyzed:** 07-MAY-12 by VK **Method:** SM19 2540G
ClientID: SS39-OXD-HA07

Wet Weight (Total)	8.48	g
Tare Weight	1	g
Dry Weight (Total)	6.53	g
Solids, Percent	73.9	%

Percent Solids Raw Data Summary

Job Number: F92814
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: F92814-7 **Analyzed:** 07-MAY-12 by VK **Method:** SM19 2540G
ClientID: SS39-OXD-HA08

Wet Weight (Total)	8.76	g
Tare Weight	.98	g
Dry Weight (Total)	7.42	g
Solids, Percent	82.8	%

Sample: F92814-8 **Analyzed:** 07-MAY-12 by VK **Method:** SM19 2540G
ClientID: SS39-OXD-HA09

Wet Weight (Total)	8.55	g
Tare Weight	1.02	g
Dry Weight (Total)	7.13	g
Solids, Percent	81.1	%

Sample: F92814-9 **Analyzed:** 07-MAY-12 by VK **Method:** SM19 2540G
ClientID: SS39-OXD-HA10

Wet Weight (Total)	8.64	g
Tare Weight	1	g
Dry Weight (Total)	7.29	g
Solids, Percent	82.3	%

Southeast
ACCUTEST LABORATORIES

05/31/12

Technical Report for

Tetra Tech, Inc

Holloman AFB; Alamogordo, NM

T93002

Accutest Job Number: F93131

Sampling Date: 05/14/12

Report to:

Tetra Tech
800 Oak Ridge Tpk Suite A600
Oak Ridge, TN 37830
Purshotam.Juriasingani@tetratech.com

ATTN: Purshotam Juriasingani

Total number of pages in report: **43**

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Harry Behzadi, Ph.D.
Laboratory Director

Client Service contact: Sue Bell 407-425-6700

Certifications: FL (E83510), LA (03051), KS (E-10327), IA (366), IL (200063), NC (573), NJ (FL002), SC (96038001) DoD ELAP (L-A-B L2229), CA (04226CA), TX (T104704404), AK, AR, GA, KY, MA, NV, OK, UT, VA, WA, WI

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Test results relate only to samples analyzed.

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Sample Summary

Tetra Tech, Inc

Job No: F93131

Holloman AFB; Alamogordo, NM
Project No: T93002

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
F93131-1	05/14/12	16:15	AJ	05/16/12	SO	Soil	SS39-OXD-FL04E
F93131-2	05/14/12	16:17	AJ	05/16/12	SO	Soil	SS39-OXD-SW03G
F93131-3	05/14/12	16:22	AJ	05/16/12	SO	Soil	SS39-OXD-FL04F
F93131-4	05/14/12	16:24	AJ	05/16/12	SO	Soil	SS39-OXD-SW03H
F93131-5	05/14/12	16:35	AJ	05/16/12	SO	Soil	SS39-OXD-FL03G
F93131-6	05/14/12	16:37	AJ	05/16/12	SO	Soil	SS39-OXD-SW03I

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Tetra Tech, Inc **Job:** F93131

Site: Holloman AFB; Alamogordo, NM **Report Date:** 5/31/2012 11:34:55 AM

6 Sample(s) were collected on 05/14/2012 and were received at Accutest SE on 05/16/2012 properly preserved, at 4 Deg. C and intact. These Samples received an Accutest job number of F93131. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Metals By Method SW846 6010C

Matrix: SO **Batch ID:** MP22908

All samples were digested within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) F93387-1DUP, F93387-1MS, F93387-1MSD, F93387-1PS, F93387-1SDL were used as the QC samples for metals.

Wet Chemistry By Method SM19 2540G

Matrix: SO **Batch ID:** GN49879

Sample(s) F93131-1DUP, F93131-2DUP were used as the QC samples for Solids, Percent.

Matrix: SO **Batch ID:** GN49880

Sample(s) F93082-1DUP was used as the QC sample for Solids, Percent.

Accutest Laboratories Southeast (ALSE) certifies that this report meets the project requirements for analytical data produced for the samples as received at ALSE and as stated on the COC. ALSE certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the ALSE Quality Manual except as noted above. This report is to be used in its entirety. ALSE is not responsible for any assumptions of data quality if partial data packages are used.

Narrative prepared by:

_____ Date: May 31, 2012

Kim Benham, Client Services (signature on file)

Southeast ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	SS39-OXD-FL04E		
Lab Sample ID:	F93131-1	**Date Sampled:**	05/14/12
Matrix:	SO - Soil	**Date Received:**	05/16/12
		Percent Solids:	80.2
Project:	Holloman AFB; Alamogordo, NM		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	1.7	0.59	0.12	mg/kg	1	05/30/12	05/30/12	LM	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA9826
(2) Prep QC Batch: MP22908

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	SS39-OXD-SW03G		
Lab Sample ID:	F93131-2	**Date Sampled:**	05/14/12
Matrix:	SO - Soil	**Date Received:**	05/16/12
		Percent Solids:	72.7
Project:	Holloman AFB; Alamogordo, NM		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	1.9	0.53	0.11	mg/kg	1	05/30/12	05/30/12	LM	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA9826
(2) Prep QC Batch: MP22908

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	SS39-OXD-FL04F		
Lab Sample ID:	F93131-3	**Date Sampled:**	05/14/12
Matrix:	SO - Soil	**Date Received:**	05/16/12
		Percent Solids:	80.8
Project:	Holloman AFB; Alamogordo, NM		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	1.4	0.40	0.080	mg/kg	1	05/30/12	05/30/12	LM	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA9826
(2) Prep QC Batch: MP22908

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	SS39-OXD-SW03H		
Lab Sample ID:	F93131-4	**Date Sampled:**	05/14/12
Matrix:	SO - Soil	**Date Received:**	05/16/12
		Percent Solids:	78.8
Project:	Holloman AFB; Alamogordo, NM		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	3.6	0.58	0.12	mg/kg	1	05/30/12	05/30/12	LM	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA9826
(2) Prep QC Batch: MP22908

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	SS39-OXD-FL03G		
Lab Sample ID:	F93131-5	**Date Sampled:**	05/14/12
Matrix:	SO - Soil	**Date Received:**	05/16/12
		Percent Solids:	87.2
Project:	Holloman AFB; Alamogordo, NM		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	5.2	0.45	0.090	mg/kg	1	05/30/12	05/30/12	LM	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA9826
(2) Prep QC Batch: MP22908

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	SS39-OXD-SW03I		
Lab Sample ID:	F93131-6	**Date Sampled:**	05/14/12
Matrix:	SO - Soil	**Date Received:**	05/16/12
		Percent Solids:	85.6
Project:	Holloman AFB; Alamogordo, NM		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	4.9	0.42	0.083	mg/kg	1	05/30/12	05/30/12	LM	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA9826
(2) Prep QC Batch: MP22908

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Southeast ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Certification Exceptions
- Certification Exceptions (NM)
- Chain of Custody

Accutest Laboratories Southeast
Chain of Custody

ACCUTEST LABORATORIES

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www.accutest.com

Accutest JOB # F93131 PAGE 1 OF 1

Accutest Quote # | SKIFF#

Client / Reporting Information

Company Name: TETRA TECH, INC
Address: 800 OAK RIDGE TURNPIKE A-200
City: OAK RIDGE State: TN Zip: 37830
Project Contact: PK JORIASINGANI E-mail: purshotam.juria@tetratech.com
Phone#: 865 220 4753
Sampler(s) Name(s) (Printed): ALLAN JENKINS

Project Information

Project Name: HOLLOMAN AFB / SS-39
Street:
City: Alamogordo State: NM
Project #: T93002
Fax #:
Client Purchase Order #:

Analytical Information: ARSENIC

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL - Sludge; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe

Accutest Sample #	Field ID / Point of Collection	Collection DATE	Collection TIME	SAMPLED BY	MATRIX	TOTAL # OF BOTTLES	OTHER	NONE	HCl	NaOH	HNO3	H2SO4	NaOH+ZNAC	DI WATER	MEOH	ARSENIC	LAB USE ONLY
1	SS39-OXD-FL04E	5/14/12	16:15	AJ	SO	1		✓								✓	
2	SS39-OXD-SW03G		16:17	AJ	SO	1		✓								✓	
3	SS39-OXD-FL04F		16:22	AJ	SO	1		✓								✓	
4	SS39-OXD-SW03H		16:24	AJ	SO	1		✓								✓	
5	SS39-OXD-FL03G		16:35	AJ	SO	1		✓								✓	
6	SS39-OXD-SW03I		16:37	AJ	SO	1		✓								✓	

TURNAROUND TIME (Business Days)

Approved By: / Rush Code

- [x] 10 Days Standard
- [ ] 7 Day RUSH
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [ ] OTHER

Emergency or Rush T/A Data Available VIA Email or Lablink

Data Deliverable Information

- [ ] COMMERCIAL "A" (RESULTS ONLY)
- [ ] COMMERCIAL "B" (RESULTS PLUS QC)
- [ ] REDT1 (EPA LEVEL 3)
- [ ] FULT1 (EPA LEVEL 4)
- [ ] EDD'S

Comments / Remarks

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished by:	Date Time:	Received By:
1 Allan Jenkins	5/15/12 1631	2 FX	3 FX	5-16-12	4 J-Crowe (AISE) 09:30
Relinquished by: 5	Date Time:	Received By: 6	Relinquished by: 7	Date Time:	Received By: 8

Lab Use Only: Custody Seal in Place: Y N Temp Blank Provided: Y N Preserved where Applicable: Y N Total # of Coolers: 1 Cooler Temperature (s) Celsius: 4.0

F93131: Chain of Custody
Page 1 of 2

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: F93131 CLIENT: TETRA TECH PROJECT: HOLLOMAN AFB

DATE/TIME RECEIVED: 5-16-12 09:30 {MM/DD/YY 24:00} NIMBER OF COOLERS RECEIVED: 1

METHOD OF DELIVERY: (FEDEX) UPS ACCUTEST COURIER GREYHOUND DELIVERY OTHER

AIRBILL NUMBERS: 8996 2604 9196

COOLER INFORMATION

- [ ] CUSTODY SEAL NOT PRESENT OR NOT INTACT
- [ ] CHAIN OF CUSTODY NOT RECEIVED (COC)
- [ ] ANALYSIS REQUESTED IS UNCLEAR OR MISSING
- [ ] SAMPLE DATES OR TIMES UNCLEAR OR MISSING
- [ ] TEMPERATURE CRITERIA NOT MET
- [ ] WET ICE PRESENT

TRIP BLANK INFORMATION

- [ ] TRIP BLANK PROVIDED
- [X] TRIP BLANK NOT PROVIDED
- [X] TRIP BLANK NOT ON COC
- [ ] TRIP BLANK INTACT
- [ ] TRIP BLANK NOT INTACT
- [ ] RECEIVED WATER TRIP BLANK
- [ ] RECEIVED SOIL TRIP BLANK

MISC. INFORMATION

NUMBER OF ENCORES ? 25-GRAM_____ 5-GRAM_____

NUMBER OF 5035 FIELD KITS ? _____

NUMBER OF LAB FILTERED METALS ? _____

TEMPERATURE INFORMATION

- [ ] IR THERM ID 1 CORR. FACTOR -0.2
- [ ] OBSERVED TEMPS: 4.2
- [ ] CORRECTED TEMPS: 4.0

SAMPLE INFORMATION

- [ ] SAMPLE LABELS PRESENT ON ALL BOTTLES
- [ ] INCORRECT NUMBER OF CONTAINERS USED
- [ ] SAMPLE RECEIVED IMPROPERLY PRESERVED
- [ ] INSUFFICIENT VOLUME FOR ANALYSIS
- [ ] DATES/TIMES ON COC DO NOT MATCH SAMPLE LABEL
- [ ] ID'S ON COC DO NOT MATCH LABEL
- [ ] VOC VIALS HAVE HEADSPACE (MACRO BUBBLES)
- [ ] BOTTLES RECEIVED BUT ANALYSIS NOT REQUESTED
- [ ] NO BOTTLES RECEIVED FOR ANALYSIS REQUESTED
- [ ] UNCLEAR FILTERING OR COMPOSITING INSTRUCTIONS
- [ ] SAMPLE CONTAINER(S) RECEIVED BROKEN
- [ ] % SOLIDS JAR NOT RECEIVED
- [ ] 5035 FIELD KIT FROZEN WITHIN 48 HOUR'S
- [ ] RESIDUAL CHLORINE PRESENT

{APPICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS}

SUMMARY OF COMMENTS:

TECHNICIAN SIGNATURE/DATE JC 5-16-12 REVIEWER SIGNATURE/DATE [signature] 05/16/12

NF 12/10

receipt confirmation 122910.xls

4.1

4

F93131: Chain of Custody

Page 2 of 2

Southeast ACCUTEST LABORATORIES

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Instrument Runlogs
- Initial and Continuing Calibration Blanks
- Initial and Continuing Calibration Checks
- High and Low Check Standards
- Interfering Element Check Standards
- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F93131
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB053012M1.ICP Date Analyzed: 05/30/12 Methods: SW846 6010C
Analyst: LM Run ID: MA9826
Parameters: As

Time	Sample Description	Dilution Factor	PS Recov	Comments
08:41	MA9826-STD1	1		STDA
08:45	MA9826-STD2	1		STDB
08:48	MA9826-STD3	1		STDC
08:52	MA9826-STD4	1		STDD
08:56	MA9826-HSTD1	1		
09:00	MA9826-ICV1	1		
09:06	MA9826-ICB1	1		
09:10	MA9826-CRIA1	1		
09:18	MA9826-ICSA1	1		
09:25	MA9826-ICSAB1	1		
09:33	MA9826-CCV1	1		
09:37	MA9826-CCB1	1		
09:44	ZZZZZZ	20		
09:48	ZZZZZZ	20		
09:52	ZZZZZZ	25		
09:57	ZZZZZZ	20		
10:01	ZZZZZZ	20		
10:05	ZZZZZZ	20		
10:09	ZZZZZZ	10		
10:14	ZZZZZZ	10		
10:18	ZZZZZZ	20		
10:22	ZZZZZZ	10		
10:26	MA9826-CCV2	1		
10:30	MA9826-CCB2	1		
10:34	ZZZZZZ	20		
10:39	ZZZZZZ	10		
10:43	ZZZZZZ	10		
10:47	ZZZZZZ	20		
10:51	ZZZZZZ	25		
10:56	ZZZZZZ	20		
11:00	ZZZZZZ	100		
11:04	ZZZZZZ	20		
11:17	MA9826-CCV3	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F93131
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB053012M1.ICP Date Analyzed: 05/30/12 Methods: SW846 6010C
Analyst: LM Run ID: MA9826
Parameters: As

Time	Sample Description	Dilution Factor	PS Recov	Comments
11:21	MA9826-CCB3	1		
11:34	F93167-1	4		(sample used for QC only; not part of login F93131)
11:38	MP22900-D1	4		
11:42	MP22900-S1	4		
11:46	MP22900-S2	4		
11:50	MP22900-PS1	4		
11:54	MP22900-SD1	20		
11:58	ZZZZZZ	4		
12:02	ZZZZZZ	5		
12:06	MA9826-CCV4	1		
12:10	MA9826-CCB4	1		
12:15	ZZZZZZ	10		
12:19	ZZZZZZ	10		
12:23	ZZZZZZ	2		
12:27	ZZZZZZ	10		
12:31	ZZZZZZ	10		
12:36	ZZZZZZ	10		
12:40	ZZZZZZ	10		
12:44	ZZZZZZ	10		
12:48	ZZZZZZ	20		
12:52	ZZZZZZ	20		
12:56	MA9826-CCV5	1		
13:00	MA9826-CCB5	1		
13:05	ZZZZZZ	20		
13:16	MA9826-CCV6	1		
13:19	MA9826-CCB6	1		
13:23	MP22908-MB1	1		
13:28	MP22908-B1	1		
13:32	ZZZZZZ	1		
13:36	F93387-1	1		(sample used for QC only; not part of login F93131)
13:40	MP22908-D1	1		
13:44	MP22908-SD1	5		
13:48	MP22908-PS1	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F93131
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB053012M1.ICP Date Analyzed: 05/30/12 Methods: SW846 6010C
Analyst: LM Run ID: MA9826
Parameters: As

Time	Sample Description	Dilution Factor	PS Recov	Comments
13:52	MP22908-S1	1		
13:56	MP22908-S2	1		
14:00	ZZZZZZ	5		
14:04	MA9826-CCV7	1		
14:08	MA9826-CCB7	1		
14:43	F93131-1	1		
14:47	F93131-2	1		
15:23	MA9826-CCV8	1		
15:30	MA9826-CCB8	1		
15:34	ZZZZZZ	1		
15:38	ZZZZZZ	1		
15:42	ZZZZZZ	1		
15:46	ZZZZZZ	1		
15:50	ZZZZZZ	1		
15:55	MP22910-MB1	1		
15:59	MP22910-B1	1		
16:03	F92811-78	5		(sample used for QC only; not part of login F93131)
16:07	MP22910-D1	5		
16:11	MP22910-SD1	25		
16:15	MA9826-CCV9	1		
16:19	MA9826-CCB9	1		
16:23	MP22910-PS1	5		
16:27	MP22910-S1	5		
16:31	MP22910-S2	5		
16:35	ZZZZZZ	5		
16:40	ZZZZZZ	5		
16:44	ZZZZZZ	5		
16:48	ZZZZZZ	5		
16:53	ZZZZZZ	5		
16:57	ZZZZZZ	5		
17:01	ZZZZZZ	5		
17:05	MA9826-CCV10	1		
17:09	MA9826-CCB10	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F93131
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB053012M1.ICP Date Analyzed: 05/30/12 Methods: SW846 6010C
Analyst: LM Run ID: MA9826
Parameters: As

Time	Sample Description	Dilution Factor	PS Recov	Comments
17:14	ZZZZZZ	5		
17:18	ZZZZZZ	5		
17:22	ZZZZZZ	5		
17:27	ZZZZZZ	5		
17:31	ZZZZZZ	5		
17:35	ZZZZZZ	5		
17:40	ZZZZZZ	5		
17:44	ZZZZZZ	5		
17:49	ZZZZZZ	5		
17:53	ZZZZZZ	5		
17:57	MA9826-CCV11	1		
18:01	MA9826-CCB11	1		
18:14	F93131-3	1		
18:19	F93131-4	1		
18:23	F93131-5	1		
18:27	F93131-6	1		
---------->	Last reportable sample/prep for job F93131			
18:32	MA9826-CRIA2	1		
18:36	MA9826-ICSA2	1		
18:40	MA9826-ICSAB2	1		
18:44	MA9826-CCV12	1		
18:48	MA9826-CCB12	1		
---------->	Last reportable CCB for job F93131			

Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: F93131
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB053012M1.ICP Date Analyzed: 05/30/12 Methods: SW846 6010C
Analyst: LM Run ID: MA9826
Parameters: As

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
08:41	MA9826-STD1	5980	45355	6060	2871
08:45	MA9826-STD2	5929	44805	6073	2713
08:48	MA9826-STD3	5717	43447	6034	2465
08:52	MA9826-STD4	5502	42224	5989	2273
08:56	MA9826-HSTD1	5488	42136	5972	2272
09:00	MA9826-ICV1	5681	42898	5989	2466
09:06	MA9826-ICB1	5960 R	45626 R	6102 R	2871 R
09:10	MA9826-CRIA1	5950	45459	6171	2789
09:18	MA9826-ICSA1	5197	38891	5778	2180
09:25	MA9826-ICSAB1	5174	39073	5713	2150
09:33	MA9826-CCV1	5618	43110	5860	2437
09:37	MA9826-CCB1	5878	45222	5932	2842
09:44	ZZZZZZ	5585	42927	5939	2487
09:48	ZZZZZZ	5607	43048	5962	2470
09:52	ZZZZZZ	5442	41921	5812	2440
09:57	ZZZZZZ	5583	42789	5905	2495
10:01	ZZZZZZ	5512	42358	5835	2453
10:05	ZZZZZZ	5525	42683	5846	2479
10:09	ZZZZZZ	5593	43186	5877	2508
10:14	ZZZZZZ	5524	42749	5888	2456
10:18	ZZZZZZ	5526	42750	5854	2472
10:22	ZZZZZZ	5544	42979	5935	2477
10:26	MA9826-CCV2	5547	42962	5820	2441
10:30	MA9826-CCB2	5844	45597	5909	2860
10:34	ZZZZZZ	5602	43311	5922	2539
10:39	ZZZZZZ	5601	42958	5968	2485
10:43	ZZZZZZ	5588	43249	5935	2455
10:47	ZZZZZZ	5558	42818	5822	2522
10:51	ZZZZZZ	5467	42347	5814	2461
10:56	ZZZZZZ	5459	42517	5843	2452
11:00	ZZZZZZ	5740	44218	5916	2661
11:04	ZZZZZZ	5654	43656	5957	2505
11:17	MA9826-CCV3	5569	43406	5893	2477

INTERNAL STANDARD SUMMARY

Login Number: F93131
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB053012M1.ICP Date Analyzed: 05/30/12 Methods: SW846 6010C
Analyst: LM Run ID: MA9826
Parameters: As

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
11:21	MA9826-CCB3	5853	45756	5962	2895
11:34	F93167-1	5653	44113	5981	2649
11:38	MP22900-D1	5651	44592	6059	2655
11:42	MP22900-S1	5649	44252	6025	2610
11:46	MP22900-S2	5646	44479	6035	2617
11:50	MP22900-PS1	5651	44523	6084	2647
11:54	MP22900-SD1	5885	46123	6120	2842
11:58	ZZZZZZ	5753	45132	6103	2679
12:02	ZZZZZZ	7621	59468	7899	2768
12:06	MA9826-CCV4	5607	43939	5953	2489
12:10	MA9826-CCB4	5834	46040	5980	2912
12:15	ZZZZZZ	6695	52259	6885	2793
12:19	ZZZZZZ	7603	59299	7810	2764
12:23	ZZZZZZ	6780	52502	7332	2315
12:27	ZZZZZZ	6402	50135	6553	2827
12:31	ZZZZZZ	7263	56586	7435	2810
12:36	ZZZZZZ	7924	61484	8073	2755
12:40	ZZZZZZ	7539	58693	7744	2793
12:44	ZZZZZZ	7371	57538	7532	2824
12:48	ZZZZZZ	7118	55417	7291	2855
12:52	ZZZZZZ	5468	43214	5887	2513
12:56	MA9826-CCV5	5559	43642	5863	2500
13:00	MA9826-CCB5	5837	46107	5921	2918
13:05	ZZZZZZ	5322	41633	5756	2428
13:16	MA9826-CCV6	5558	43550	5847	2485
13:19	MA9826-CCB6	5844	46233	5918	2917
13:23	MP22908-MB1	5931	47314	5982	2954
13:28	MP22908-B1	5719	44896	5912	2656
13:32	ZZZZZZ	9660 !	77324 !	9906 !	2948
13:36	F93387-1	5982	46456	6160	2672
13:40	MP22908-D1	5929	46171	6101	2682
13:44	MP22908-SD1	5956	46740	6067	2863
13:48	MP22908-PS1	5916	45982	6135	2623

INTERNAL STANDARD SUMMARY

Login Number: F93131
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB053012M1.ICP Date Analyzed: 05/30/12 Methods: SW846 6010C
Analyst: LM Run ID: MA9826
Parameters: As

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
13:52	MP22908-S1	5847	45533	6035	2598
13:56	MP22908-S2	5883	45551	6068	2559
14:00	ZZZZZZ	6737	53819	6843	3004
14:04	MA9826-CCV7	5592	43913	5892	2510
14:08	MA9826-CCB7	5882	46413	5940	2938
14:43	F93131-1	4639	37703	5664	1900
14:47	F93131-2	4490	35702	4828	1831
15:23	MA9826-CCV8	5308	42326	5076	2438
15:30	MA9826-CCB8	5560	44545	5107	2835
15:34	ZZZZZZ	6019	48180	5575	2805
15:38	ZZZZZZ	5746	46111	5297	2800
15:42	ZZZZZZ	5782	45958	6240	1688
15:46	ZZZZZZ	5828	46794	5283	2641
15:50	ZZZZZZ	5858	46822	5190	2792
15:55	MP22910-MB1	5587	45458	4995	2919
15:59	MP22910-B1	5442	43578	4937	2654
16:03	F92811-78	5494	44058	5042	2597
16:07	MP22910-D1	5486	43791	5021	2610
16:11	MP22910-SD1	5541	44276	4969	2779
16:15	MA9826-CCV9	5293	42176	4846	2465
16:19	MA9826-CCB9	5516	44463	4893	2870
16:23	MP22910-PS1	5451	43441	5007	2550
16:27	MP22910-S1	5483	43839	5029	2577
16:31	MP22910-S2	5451	43640	5008	2557
16:35	ZZZZZZ	5056	40397	4970	2239
16:40	ZZZZZZ	5123	40925	4880	2346
16:44	ZZZZZZ	5149	41005	4885	2333
16:48	ZZZZZZ	5175	41151	4932	2235
16:53	ZZZZZZ	5947	47593	5337	2541
16:57	ZZZZZZ	5172	41117	4841	2314
17:01	ZZZZZZ	5269	42087	4825	2358
17:05	MA9826-CCV10	5262	41972	4686	2461
17:09	MA9826-CCB10	5555	44304	4809	2880

INTERNAL STANDARD SUMMARY

Login Number: F93131
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB053012M1.ICP Date Analyzed: 05/30/12 Methods: SW846 6010C
Analyst: LM Run ID: MA9826
Parameters: As

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
17:14	ZZZZZZ	5354	42829	4935	2402
17:18	ZZZZZZ	5326	42447	4905	2402
17:22	ZZZZZZ	5024	39885	4733	2268
17:27	ZZZZZZ	5094	40313	4709	2228
17:31	ZZZZZZ	5168	41218	4714	2307
17:35	ZZZZZZ	5215	41165	4698	2345
17:40	ZZZZZZ	5290	41952	4814	2293
17:44	ZZZZZZ	5223	41481	4763	2309
17:49	ZZZZZZ	5200	41078	4690	2299
17:53	ZZZZZZ	5255	41761	4743	2277
17:57	MA9826-CCV11	5397	42565	4619	2469
18:01	MA9826-CCB11	5654	44899	4689	2872
18:14	F93131-3	4450	35308	4701	1806
18:19	F93131-4	4988	40099	4696	1984
18:23	F93131-5	5396	42132	4830	1988
18:27	F93131-6	4970	39579	4767	1817
18:32	MA9826-CRIA2	5751	45921	4673	2835
18:36	MA9826-ICSA2	5161	39920	4495	2225
18:40	MA9826-ICSAB2	5140	39863	4485	2186
18:44	MA9826-CCV12	5524	44057	4607	2497
18:48	MA9826-CCB12	5786	46298	4665	2918

R = Reference for ISTD limits. ! = Outside limits.

LEGEND:

Istd#	Parameter	Limits
Istd#1	Yttrium (2243)	60-125 %
Istd#2	Yttrium (3600)	60-125 %
Istd#3	Yttrium (3710)	60-125 %
Istd#4	Indium	60-125 %

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F93131
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB053012M1.ICP Date Analyzed: 05/30/12 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA9826 Units: ug/l

Time:			09:06		09:37		10:30		11:21	
Sample ID:			ICB1		CCB1		CCB2		CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	24	anr							
Antimony	20	1	anr							
Arsenic	10	1	0.40	<10	0.30	<10	0.20	<10	0.10	<10
Barium	200	4	anr							
Beryllium	5.0	.1	anr							
Cadmium	4.0	.1	anr							
Calcium	5000	50	anr							
Chromium	10	1	anr							
Cobalt	50	1	anr							
Copper	25	1	anr							
Iron	300	23	anr							
Lead	20	1	anr							
Magnesium	5000	50	anr							
Manganese	15	1	anr							
Molybdenum	50	1								
Nickel	40	1	anr							
Potassium	10000	50	anr							
Selenium	20	2	anr							
Silver	10	1	anr							
Sodium	10000	850	anr							
Strontium	10	1								
Thallium	10	1.5	anr							
Tin	50	1								
Titanium	10	1								
Vanadium	50	1	anr							
Zinc	20	1	anr							

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F93131
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB053012M1.ICP Date Analyzed: 05/30/12 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA9826 Units: ug/l

Time:			12:10		13:00		13:19		14:08	
Sample ID:			CCB4		CCB5		CCB6		CCB7	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	24	anr							
Antimony	20	1	anr							
Arsenic	10	1	0.50	<10	0.50	<10	0.40	<10	0.20	<10
Barium	200	4	anr							
Beryllium	5.0	.1	anr							
Cadmium	4.0	.1	anr							
Calcium	5000	50	anr							
Chromium	10	1	anr							
Cobalt	50	1	anr							
Copper	25	1	anr							
Iron	300	23	anr							
Lead	20	1	anr							
Magnesium	5000	50	anr							
Manganese	15	1	anr							
Molybdenum	50	1								
Nickel	40	1	anr							
Potassium	10000	50	anr							
Selenium	20	2	anr							
Silver	10	1	anr							
Sodium	10000	850	anr							
Strontium	10	1								
Thallium	10	1.5	anr							
Tin	50	1								
Titanium	10	1								
Vanadium	50	1	anr							
Zinc	20	1	anr							

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F93131
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB053012M1.ICP Date Analyzed: 05/30/12 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA9826 Units: ug/l

Time:			15:30		16:19		17:09		18:01	
Sample ID:			CCB8		CCB9		CCB10		CCB11	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	24	anr							
Antimony	20	1	anr							
Arsenic	10	1	0.50	<10	-0.20	<10	0.20	<10	0.20	<10
Barium	200	4	anr							
Beryllium	5.0	.1	anr							
Cadmium	4.0	.1	anr							
Calcium	5000	50	anr							
Chromium	10	1	anr							
Cobalt	50	1	anr							
Copper	25	1	anr							
Iron	300	23	anr							
Lead	20	1	anr							
Magnesium	5000	50	anr							
Manganese	15	1	anr							
Molybdenum	50	1								
Nickel	40	1	anr							
Potassium	10000	50	anr							
Selenium	20	2	anr							
Silver	10	1	anr							
Sodium	10000	850	anr							
Strontium	10	1								
Thallium	10	1.5	anr							
Tin	50	1								
Titanium	10	1								
Vanadium	50	1	anr							
Zinc	20	1	anr							

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F93131
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB053012M1.ICP Date Analyzed: 05/30/12 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA9826 Units: ug/l

Time:			18:48	
Sample ID:			CCB12	
Metal	RL	IDL	raw	final
Aluminum	200	24	anr	
Antimony	20	1	anr	
Arsenic	10	1	-0.10	<10
Barium	200	4	anr	
Beryllium	5.0	.1	anr	
Cadmium	4.0	.1	anr	
Calcium	5000	50	anr	
Chromium	10	1	anr	
Cobalt	50	1	anr	
Copper	25	1	anr	
Iron	300	23	anr	
Lead	20	1	anr	
Magnesium	5000	50	anr	
Manganese	15	1	anr	
Molybdenum	50	1		
Nickel	40	1	anr	
Potassium	10000	50	anr	
Selenium	20	2	anr	
Silver	10	1	anr	
Sodium	10000	850	anr	
Strontium	10	1		
Thallium	10	1.5	anr	
Tin	50	1		
Titanium	10	1		
Vanadium	50	1	anr	
Zinc	20	1	anr	

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F93131
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB053012M1.ICP Date Analyzed: 05/30/12 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA9826 Units: ug/l

Time:		09:00			09:33			10:26	
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	2000	1980	99.0	2000	2030	101.5	2000	2050	102.5
Barium	anr								
Beryllium	anr								
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	anr								
Lead	anr								
Magnesium	anr								
Manganese	anr								
Molybdenum									
Nickel	anr								
Potassium	anr								
Selenium	anr								
Silver	anr								
Sodium	anr								
Strontium									
Thallium	anr								
Tin									
Titanium									
Vanadium	anr								
Zinc	anr								

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F93131
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB053012M1.ICP Date Analyzed: 05/30/12 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA9826 Units: ug/l

Time:		11:17			12:06			12:56	
Sample ID:	CCV	CCV3		CCV	CCV4		CCV	CCV5	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	2000	2070	103.5	2000	2070	103.5	2000	2090	104.5
Barium	anr								
Beryllium	anr								
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	anr								
Lead	anr								
Magnesium	anr								
Manganese	anr								
Molybdenum									
Nickel	anr								
Potassium	anr								
Selenium	anr								
Silver	anr								
Sodium	anr								
Strontium									
Thallium	anr								
Tin									
Titanium									
Vanadium	anr								
Zinc	anr								

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F93131
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB053012M1.ICP Date Analyzed: 05/30/12 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA9826 Units: ug/l

Time:		13:16			14:04			15:23	
Sample ID:	CCV	CCV6		CCV	CCV7		CCV	CCV8	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	2000	2070	103.5	2000	2100	105.0	2000	2030	101.5
Barium	anr								
Beryllium	anr								
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	anr								
Lead	anr								
Magnesium	anr								
Manganese	anr								
Molybdenum									
Nickel	anr								
Potassium	anr								
Selenium	anr								
Silver	anr								
Sodium	anr								
Strontium									
Thallium	anr								
Tin									
Titanium									
Vanadium	anr								
Zinc	anr								

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F93131
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB053012M1.ICP Date Analyzed: 05/30/12 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA9826 Units: ug/l

Time:		16:15			17:05			17:57	
Sample ID:	CCV	CCV9		CCV	CCV10		CCV	CCV11	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	2000	1960	98.0	2000	1960	98.0	2000	1930	96.5
Barium	anr								
Beryllium	anr								
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	anr								
Lead	anr								
Magnesium	anr								
Manganese	anr								
Molybdenum									
Nickel	anr								
Potassium	anr								
Selenium	anr								
Silver	anr								
Sodium	anr								
Strontium									
Thallium	anr								
Tin									
Titanium									
Vanadium	anr								
Zinc	anr								

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F93131
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB053012M1.ICP Date Analyzed: 05/30/12 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA9826 Units: ug/l

Time:		18:44	
Sample ID:	CCV	CCV12	
Metal	True	Results	% Rec
Aluminum	anr		
Antimony	anr		
Arsenic	2000	1950	97.5
Barium	anr		
Beryllium	anr		
Cadmium	anr		
Calcium	anr		
Chromium	anr		
Cobalt	anr		
Copper	anr		
Iron	anr		
Lead	anr		
Magnesium	anr		
Manganese	anr		
Molybdenum			
Nickel	anr		
Potassium	anr		
Selenium	anr		
Silver	anr		
Sodium	anr		
Strontium			
Thallium	anr		
Tin			
Titanium			
Vanadium	anr		
Zinc	anr		

(*) Outside of QC limits
(anr) Analyte not requested

HIGH STANDARD CHECK SUMMARY

Login Number: F93131
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB053012M1.ICP Date Analyzed: 05/30/12 Methods: SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA9826 Units: ug/l

Time:		08:56	
Sample ID:	HSTD	HSTD1	
Metal	True	Results	% Rec
Aluminum	anr		
Antimony	anr		
Arsenic	4000	3990	99.8
Barium	anr		
Beryllium	anr		
Cadmium	anr		
Calcium	anr		
Chromium	anr		
Cobalt	anr		
Copper	anr		
Iron	anr		
Lead	anr		
Magnesium	anr		
Manganese	anr		
Molybdenum			
Nickel	anr		
Potassium	anr		
Selenium	anr		
Silver	anr		
Sodium	anr		
Strontium			
Thallium	anr		
Tin			
Titanium			
Vanadium	anr		
Zinc	anr		

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: F93131
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB053012M1.ICP Date Analyzed: 05/30/12 Methods: SW846 6010C
QC Limits: CRI 70-130% CRIA 70-130% Run ID: MA9826 Units: ug/l

Time:			09:10		18:32	
Sample ID:	CRI	CRIA	CRIA1		CRIA2	
Metal	True	True	Results	% Rec	Results	% Rec
Aluminum	400	200	anr			
Antimony	10	5.0	anr			
Arsenic	20	10	10.0	100.0	10.0	100.0
Barium	400	200	anr			
Beryllium	10	5.0	anr			
Cadmium	10	5.0	anr			
Calcium	2000	1000	anr			
Chromium	20	10	anr			
Cobalt	100	50	anr			
Copper	50	25	anr			
Iron	600	300	anr			
Lead	10	5.0	anr			
Magnesium	10000	5000	anr			
Manganese	30	15	anr			
Molybdenum	100	50				
Nickel	80	40	anr			
Potassium	20000	10000	anr			
Selenium	20	10	anr			
Silver	20	10	anr			
Sodium	20000	10000	anr			
Strontium	20	10				
Thallium	20	10	anr			
Tin	100	50				
Titanium	20	10				
Vanadium	100	50	anr			
Zinc	40	20	anr			

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: F93131
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

File ID: SB053012M1.ICP Date Analyzed: 05/30/12 Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery Run ID: MA9826 Units: ug/l

Time:			09:18		09:25		18:36		18:40	
Sample ID:	ICSA	ICSAB	ICSA1		ICSAB1		ICSA2		ICSAB2	
Metal	True	True	Results	% Rec	Results	% Rec	Results	% Rec	Results	% Rec
Aluminum	500000	500000	495000	99.0	500000	100.0	474000	94.8	478000	95.6
Antimony		1000	1.5		993	99.3	-1.5		963	96.3
Arsenic		1000	1.0		999	99.9	0.0		968	96.8
Barium		500	1.1		532	106.4	0.80		534	106.8
Beryllium		500	0.10		492	98.4	0.10		444	88.8
Cadmium		1000	0.0		942	94.2	-0.30		932	93.2
Calcium	500000	500000	465000	93.0	466000	93.2	465000	93.0	457000	91.4
Chromium		500	0.20		508	101.6	0.0		511	102.2
Cobalt		500	0.0		469	93.8	-2.2		462	92.4
Copper		500	0.0		551	110.2	1.8		545	109.0
Iron	200000	200000	181000	90.5	179000	89.5	187000	93.5	184000	92.0
Lead		1000	0.10		938	93.8	-2.7		908	90.8
Magnesium	500000	500000	496000	99.2	494000	98.8	490000	98.0	489000	97.8
Manganese		500	-0.40		496	99.2	-0.30		479	95.8
Molybdenum		1000	-0.40		955	95.5	-3.2		898	89.8
Nickel		1000	0.20		927	92.7	1.2		878	87.8
Potassium			39.6		28.5		32.3		-15	
Selenium		1000	0.0		995	99.5	1.6		964	96.4
Silver		1000	0.10		1070	107.0	0.20		1070	107.0
Sodium			104		109		66.0		56.2	
Strontium		1000	2.6		1020	102.0	2.0		980	98.0
Thallium		1000	0.0		941	94.1	-13		865	86.5
Tin		1000	-0.60		867	86.7	-0.80		842	84.2
Titanium		1000	0.50		986	98.6	0.0		969	96.9
Vanadium		500	-0.70		497	99.4	-0.20		492	98.4
Zinc		1000	0.20		896	89.6	-0.40		828	82.8

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: F93131
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

QC Batch ID: MP22908
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 05/30/12

Metal	RL	IDL	MDL	MB raw	final
Aluminum	10	1.2	1.2		
Antimony	1.0	.05	.1		
Arsenic	0.50	.05	.1	-0.040	<0.50
Barium	10	.2	.5		
Beryllium	0.25	.005	.05		
Cadmium	0.20	.005	.05		
Calcium	250	2.5	5		
Chromium	0.50	.05	.05		
Cobalt	2.5	.05	.05		
Copper	1.3	.05	.1		
Iron	15	1.2	1.7		
Lead	1.0	.05	.05		
Magnesium	250	2.5	5		
Manganese	0.75	.05	.05		
Molybdenum	2.5	.05	.05		
Nickel	2.0	.05	.05		
Potassium	500	2.5	25		
Selenium	1.0	.1	.2		
Silver	0.50	.05	.05		
Sodium	500	43	55		
Strontium	0.50	.05	.05		
Thallium	0.50	.075	.13		
Tin	2.5	.05	.05		
Titanium	0.50	.05	.1		
Vanadium	2.5	.05	.05		
Zinc	1.0	.05	.25		

Associated samples MP22908: F93131-1, F93131-2, F93131-3, F93131-4, F93131-5, F93131-6

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F93131
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

QC Batch ID: MP22908
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date:			05/30/12					05/30/12	
Metal	F93387-1 Original	DUP	RPD	QC Limits	F93387-1 Original	MS	Spikelot MPFLICP1	% Rec	QC Limits
Aluminum	anr								
Antimony	anr								
Arsenic	0.22	0.21	4.7	0-20	0.22	80.7	87.8	91.7	80-120
Barium	anr								
Beryllium	anr								
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	anr								
Lead	anr								
Magnesium	anr								
Manganese	anr								
Molybdenum									
Nickel	anr								
Potassium	anr								
Selenium	anr								
Silver	anr								
Sodium	anr								
Strontium									
Thallium	anr								
Tin									
Titanium									
Vanadium	anr								
Zinc	anr								

Associated samples MP22908: F93131-1, F93131-2, F93131-3, F93131-4, F93131-5, F93131-6

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F93131
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

QC Batch ID: MP22908
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 05/30/12

Metal	F93387-1 Original	MSD	Spikelot MPFLICP1	% Rec	MSD RPD	QC Limit
Aluminum	anr					
Antimony	anr					
Arsenic	0.22	68.9	76.5	89.8	15.8	20
Barium	anr					
Beryllium	anr					
Cadmium	anr					
Calcium	anr					
Chromium	anr					
Cobalt	anr					
Copper	anr					
Iron	anr					
Lead	anr					
Magnesium	anr					
Manganese	anr					
Molybdenum						
Nickel	anr					
Potassium	anr					
Selenium	anr					
Silver	anr					
Sodium	anr					
Strontium						
Thallium	anr					
Tin						
Titanium						
Vanadium	anr					
Zinc	anr					

Associated samples MP22908: F93131-1, F93131-2, F93131-3, F93131-4, F93131-5, F93131-6

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: F93131
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

QC Batch ID: MP22908
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 05/30/12

Metal	BSP Result	Spikelot MPFLICP1	% Rec	QC Limits
Aluminum	anr			
Antimony	anr			
Arsenic	98.4	100	98.4	80-120
Barium	anr			
Beryllium	anr			
Cadmium	anr			
Calcium	anr			
Chromium	anr			
Cobalt	anr			
Copper	anr			
Iron	anr			
Lead	anr			
Magnesium	anr			
Manganese	anr			
Molybdenum				
Nickel	anr			
Potassium	anr			
Selenium	anr			
Silver	anr			
Sodium	anr			
Strontium				
Thallium	anr			
Tin				
Titanium				
Vanadium	anr			
Zinc	anr			

Associated samples MP22908: F93131-1, F93131-2, F93131-3, F93131-4, F93131-5, F93131-6

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: F93131
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

QC Batch ID: MP22908
Matrix Type: SOLID

Methods: SW846 6010C
Units: ug/l

Prep Date: 05/30/12

Metal	F93387-1 Original	SDL 1:5	%DIF	QC Limits
Aluminum	anr			
Antimony	anr			
Arsenic	5.50	5.00	9.1	0-10
Barium	anr			
Beryllium	anr			
Cadmium	anr			
Calcium	anr			
Chromium	anr			
Cobalt	anr			
Copper	anr			
Iron	anr			
Lead	anr			
Magnesium	anr			
Manganese	anr			
Molybdenum				
Nickel	anr			
Potassium	anr			
Selenium	anr			
Silver	anr			
Sodium	anr			
Strontium				
Thallium	anr			
Tin				
Titanium				
Vanadium	anr			
Zinc	anr			

Associated samples MP22908: F93131-1, F93131-2, F93131-3, F93131-4, F93131-5, F93131-6

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

POST DIGESTATE SPIKE SUMMARY

Login Number: F93131
Account: TETTNOAK - Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

QC Batch ID: MP22908
Matrix Type: SOLID

Methods: SW846 6010C
Units: ug/l

Prep Date: 05/30/12

Metal	Sample ml	Final ml	F93387-1 Raw	Corr.**	PS ug/l	Spike ml	Spike ug/ml	Spike ug/l	% Rec	QC Limits
Aluminum										
Antimony										
Arsenic	9.8	10	5.5	5.39	99.2	0.2	5	100	93.8	80-120
Barium										
Beryllium										
Cadmium										
Calcium										
Chromium										
Cobalt										
Copper										
Iron										
Lead										
Magnesium										
Manganese										
Molybdenum										
Nickel										
Potassium										
Selenium										
Silver										
Sodium										
Strontium										
Thallium										
Tin										
Titanium										
Vanadium										
Zinc										

Associated samples MP22908: F93131-1, F93131-2, F93131-3, F93131-4, F93131-5, F93131-6

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested

Southeast ACCUTEST LABORATORIES

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Percent Solids Raw Data Summary

Percent Solids Raw Data Summary

Job Number: F93131
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: F93131-1 **Analyzed:** 17-MAY-12 by VK **Method:** SM19 2540G
ClientID: SS39-OXD-FL04E

Wet Weight (Total)	8.71	g
Tare Weight	1.03	g
Dry Weight (Total)	7.19	g
Solids, Percent	80.2	%

Sample: F93131-2 **Analyzed:** 17-MAY-12 by VK **Method:** SM19 2540G
ClientID: SS39-OXD-SW03G

Wet Weight (Total)	8.84	g
Tare Weight	.96	g
Dry Weight (Total)	6.69	g
Solids, Percent	72.7	%

Sample: F93131-3 **Analyzed:** 17-MAY-12 by VK **Method:** SM19 2540G
ClientID: SS39-OXD-FL04F

Wet Weight (Total)	8.82	g
Tare Weight	1.04	g
Dry Weight (Total)	7.33	g
Solids, Percent	80.8	%

Sample: F93131-4 **Analyzed:** 17-MAY-12 by VK **Method:** SM19 2540G
ClientID: SS39-OXD-SW03H

Wet Weight (Total)	8.5	g
Tare Weight	.96	g
Dry Weight (Total)	6.9	g
Solids, Percent	78.8	%

Sample: F93131-5 **Analyzed:** 17-MAY-12 by VK **Method:** SM19 2540G
ClientID: SS39-OXD-FL03G

Wet Weight (Total)	8.4	g
Tare Weight	.99	g
Dry Weight (Total)	7.45	g
Solids, Percent	87.2	%

Sample: F93131-6 **Analyzed:** 17-MAY-12 by VK **Method:** SM19 2540G
ClientID: SS39-OXD-SW03I

Wet Weight (Total)	8.33	g
Tare Weight	1.03	g
Dry Weight (Total)	7.28	g
Solids, Percent	85.6	%

Data Review Checklist

Project Name:	Holloman AFB/SS39	SDG/Report No.:	F91608
Project No.:	100-TEN-T93002-1	Lab ID:	Accutest
No. of Samples:	9 and 1 TB	Matrix:	Soil

Area Reviewed	**Reviewed**	**Anomalies**		**Qualification Required**
		Yes	No	Y or N (or N/A)
1. Hold Time/Preservation.	Yes		X	N
2. Instrument Performance Check	Yes		X	N
3. Calibrations	Yes		X	N
4. Blanks (Method and/or Field QC)	Yes	X		Y
5. Surrogates	Yes		X	N
6. MS/MSD	Yes	X		Y
7. LCS	Yes		X	N
8. Internal Standards	Yes		X	N
9. Duplicates (field, lab)	Yes		X	N
10. Serial Dilution	Yes	X		N
11. Laboratory Case Narrative	Yes		X	N
12. Completeness of Data Package	Yes		X	N
13. Other issues	Yes	X		Y

The following section is intended to specify areas evaluated and to provide an explanation (where applicable) for those areas where problems were identified during review. Only applicable methods are listed.

Comments/Discussion:

1. **Hold Time/Preservation**.
Cooler temperature at receipt was 3.2 degrees C.
Samples were prepared and analyzed within holding times.
2. **Instrument Performance Check (Method and/or Field QC)**
6010B: Interference check samples' recoveries were acceptable.
8260B: BFB abundances were acceptable.
3. **Calibrations (Initial and Continuing)**
6010B: Initial calibration verification (ICV) and continuing calibration verification (CCV) recoveries were between 90% and 110% for analytes of interest.
8015C-GRO: Initial calibration (ICAL) % relative standard deviation (% RSD) < 15%. CCV % difference (%D) < 20%.
8015C-TPH (C10-C28): Criteria were met. ICAL %RSD < 15% or r>0.99; CCV %D < 20.
8260B: Criteria were met. ICAL %RSD < 15% or r>0.99; CCV %D < 20.
4. **Blanks (Method and/or Field QC)**
6010B: No metals were detected in the calibration blanks or the method blank.
8015C-GRO: Gasoline range organics were not detected in the blank above the RL.
8015C-TPH (C10-C28): Total petroleum hydrocarbons were not detected in the blank above the RL.
8260B: Methylene chloride was detected in trip blank SS39-TB-032812-1 (12.8 ug/kg). The laboratory

case narrative indicated that the methylene chloride detection in SS39-SUMP2-FL12 is a suspected lab contaminant. Methylene chloride is considered non-detect and will be qualified "U" in the following samples: SS39-SUMP1-SW08, SS39-SUMP1-SW11, SS39-SUMP2-FL12, SS39-SUMP2-SW05, and SS39-SUMP2-SW11.
5. **Surrogates**
8015C-GRO: Recoveries and retention times were within limits for the samples.
8015C-TPH (C10-C28): Recoveries and retention times were within limits for the samples.
8260B: Recoveries were within limits for all samples.
6. **MS/MSD**
6010B: MS/MSD ran on SS39-PDB-SW01B (F91658). Recoveries and RPDs were acceptable.
8015C-GRO: MS/MSD ran on an unrelated sample. Recoveries and RPDs were within limits.
8015C-TPH (C10-C28): MS/MSD ran on an unrelated sample. Recoveries exceeded the control limits. Project data are not affected. No qualification is needed.
8260B: MS/MSD ran on SS39-SUMP1-FL12 and SS39-SUMP3-SW01B (F91658). Recoveries for the following compounds were below the lab's control limits in SS39-SUMP1-FL12: 1,1-dichloropropene (MSD only), 1,3,5-trimethylbenzene (MS only), 1-chlorohexane, 2,2-dichloropropane, benzyl chloride, ethyl methacrylate, ethylbenzene, hexachlorobutadiene, hexane, n-butylbenzene, n-propylbenzene (MS only), p-isopropyltoluene, sec-butylbenzene, and tert-butylbenzene (MS only). 1-Chlorohexane, 2,2-dichloropropane, benzyl chloride, ethyl methacrylate, ethylbenzene, hexachlorobutadiene, hexane, n-butylbenzene, p-isopropyltoluene (cymene), and sec-butylbenzene will be qualified "UJ" in SS39-SUMP1-FL12.
7. **LCS (and LCS duplicate, if applicable)**
6010B: Recoveries were within limits.
8015C-GRO: Recovery was within limits.
8015C-TPH (C10-C28): Recovery was within limits.
8260B: Recoveries were within the lab's control limits.
8. **Internal Standards**
8260B: Areas and retention times were within limits for the project samples.
9. **Duplicates (field, lab)**
6010B: Ran on SS39-PDB-SW01B (F91658). RPDs were acceptable or not calculated because the analyte was not detected. No qualification is needed.
8015C-GRO: Ran on an unrelated sample. RPD was not determined because GRO not detected in the sample or the duplicate.
10. **Serial Dilution**
6010B: Ran on SS39-PDB-SW01B (F91658) and SS39-PDB-SW01B-032912 (F91658). %Ds were high for chromium and lead in SS39-PDB-SW01B and lead in SS39-PDB-SW01B-032912. %Ds are allowable because the initial sample concentrations are < 50 times IDL. No qualification is needed.
11. **Laboratory Case Narrative**
Acceptable
12. **Completeness of Data Package**

Acceptable
13. **Other Issues**
All: Detections between the method detection limits and reporting limits are estimated and qualified “J”.
6010: There were elevated reporting limits because of matrix interference.
Overall: Useable as qualified.

Reviewed by: Maureen McMyler 09/18/12

Data Review Checklist

Project Name:	Holloman AFB/SS39	SDG/Report No.:	F91658
Project No.:	100-TEN-T93002-1	Lab ID:	Accutest
No. of Samples:	8 and 1 TB	Matrix:	Soil

Area Reviewed	**Reviewed**	**Anomalies**		**Qualification Required**
		Yes	No	Y or N (or N/A)
1. Hold Time/Preservation.	Yes		X	N
2. Instrument Performance Check	Yes		X	N
3. Calibrations	Yes		X	N
4. Blanks (Method and/or Field QC)	Yes	X		Y
5. Surrogates	Yes		X	N
6. MS/MSD	Yes	X		Y
7. LCS	Yes	X		N
8. Internal Standards	Yes		X	N
9. Duplicates (field, lab)	Yes	X		Y
10. Serial Dilution	Yes	X		N
11. Laboratory Case Narrative	Yes		X	N
12. Completeness of Data Package	Yes		X	N
13. Other issues	Yes	X		Y

The following section is intended to specify areas evaluated and to provide an explanation (where applicable) for those areas where problems were identified during review. Only applicable methods are listed.

Comments/Discussion:

1. **Hold Time/Preservation**.
Cooler temperature at receipt was 3.0 degrees C.
Samples were prepared and analyzed within holding times.
2. **Instrument Performance Check (Method and/or Field QC)**
6010B: Interference check samples' recoveries were acceptable.
8260B: BFB abundances were acceptable.
3. **Calibrations (Initial and Continuing)**
6010B: Initial calibration verification (ICV) and continuing calibration verification (CCV) recoveries were between 90% and 110% for analytes of interest.
8015C-GRO: Initial calibration (ICAL) % relative standard deviation (% RSD) < 15%. CCV % difference (%D) < 20%.
8015C-TPH (C10-C28): Criteria were met. ICAL %RSD < 15% or r>0.99; CCV %D < 20.
8260B: Criteria were met. ICAL %RSD < 15% or r>0.99; CCV %D < 20.
4. **Blanks (Method and/or Field QC)**
6010B: No metals were detected in the calibration blanks or the method blank above the RL.
8015C-GRO: Gasoline range organics were not detected in the blank or trip blank above the RL.
8015C-TPH (C10-C28): Total petroleum hydrocarbons were not detected in the blanks above the RL.
8260B: Methylene chloride was detected in trip blank SS39-TB02-032912 (5.4 ug/kg). The laboratory

case narrative indicated that the methylene is a suspected lab contaminant. Methylene chloride should be considered non-detect and will be qualified "U" in the following samples: SS39-OXD-SW01, SS39-PDB-SW01B, and SS39-PDB-SW01B-032912.
5. **Surrogates**
8015C-GRO: Recoveries and retention times were within limits.
8015C-TPH (C10-C28): Recoveries and retention times were within limit.
8260B: Recoveries were within limits for all samples.
6. **MS/MSD**
6010B: MS/MSD ran on SS39-PDB-SW01B and SS39-PDB-SW01B-032912. Recoveries were acceptable. RPDs were high in SS39-PDB-SW01B-032912. Arsenic was not detected. Lead will be qualified "J" for imprecision in SS39-PDB-SW01B-032912. Sample may not be homogenous.
8015C-GRO: MS/MSD ran on SS39-PDB-SW01B-032912. Recoveries and RPD were acceptable.
8015C-TPH (C10-C28): MS/MSD ran on SS39-PDB-SW01B and SS39-PDB-SW01B-032912. Recoveries and RPDs were within limits.
8260B: MS/MSD ran on SS39-PDB-SW01B-032912 analytical batch VH2787. Several MSD recoveries and RPDs were outside control limits. The internal standard recoveries for the MSD, which are used in quantitating recoveries, are elevated. This would explain the difference in recoveries. The recoveries of the following compounds are outside limits in both samples: 1,2,3-trichlorobenzene, 1,2,4-trichlorobenzene, ethyl methacrylate, hexachlorobutadiene, and methyl methacrylate (high). 1,2,3-Trichlorobenzene, 1,2,4-trichlorobenzene, ethyl methacrylate, and hexachlorobutadiene will be qualified "UJ" in SS39-PDB-SW01B-032912. Methyl methacrylate was not detected in the sample, so there can be no high bias.
7. **LCS (and LCS duplicate, if applicable)**
6010B: Recoveries were within limits.
8015C-GRO: Recovery was within limits.
8015C-TPH (C10-C28): Recoveries were within limits.
8260B: Recoveries were within the lab's control limits in batch VH2786. Methyl methacrylate recovery was high in the LCS VH2787-BS. The compound was not detected in the associated sample, so high bias is not possible. No qualification.
8. **Internal Standards**
8260B: Areas and retention times were within limits for the project samples.
9. **Duplicates (field, lab)**
One field duplicate pair was analyzed: SS39-PDB-SW01B-032912 and SS39-FD01-032912. Lead RPD exceeded 50%. Lead will be qualified "J" in SS39-PDB-SW01B-032912 and SS39-FD01-032912.
6010B: DUP ran on SS39-PDB-SW01B and SS39-PDB-SW01B-032912. RPDs were acceptable or not calculated because the analyte was not detected. No qualification is needed.
10. **Serial Dilution**
6010B: Ran on SS39-PDB-SW01B and SS39-PDB-SW01B-032912. %Ds were high for lead in both samples. %Ds are allowable because the initial sample concentrations are < 50 times IDL. No qualification is needed.

11. **Laboratory Case Narrative**
Acceptable
12. **Completeness of Data Package**
Acceptable
13. **Other Issues**
All: Detections between the method detection limits and reporting limits are estimated and qualified “J”.
COC: Samples and COC were mislabeled. The error was caught and corrections made. No qualification.
6010: There were elevated reporting limits because of matrix interference.
Overall: Useable as qualified.

Reviewed by: Maureen McMyler 09/19/12

Data Review Checklist

Project Name:	Holloman AFB/SS39	SDG/Report No.:	F92354
Project No.:	100-TEN-T93002-1	Lab ID:	Accutest
No. of Samples:	11	Matrix:	Soil

Area Reviewed	Reviewed	Anomalies		Qualification Required
		Yes	No	Y or N (or N/A)
1. Hold Time/Preservation.	Yes		X	N
2. Instrument Performance Check	Yes		X	N
3. Calibrations	Yes		X	N
4. Blanks (Method and/or Field QC)	Yes	X		N
5. Surrogates	N/A	---	---	N/A
6. MS/MSD	Yes	X		Y
7. LCS	Yes		X	N
8. Internal Standards	N/A	---	---	N/A
9. Duplicates (field, lab)	Yes		X	N
10. Serial Dilution	Yes		X	N
11. Laboratory Case Narrative	Yes		X	N
12. Completeness of Data Package	Yes		X	N
13. Other issues	Yes		X	N

The following section is intended to specify areas evaluated and to provide an explanation (where applicable) for those areas where problems were identified during review. Only applicable methods are listed.

Comments/Discussion:

1. **Hold Time/Preservation**.
Cooler temperature at receipt was 4.2 degrees C.
Samples were prepared and analyzed within holding times.
2. **Instrument Performance Check (Method and/or Field QC)**
6010B: Interference check samples' recoveries were acceptable.
3. **Calibrations (Initial and Continuing)**
6010B: Initial calibration verification (ICV) and continuing calibration verification (CCV) recoveries were between 90% and 110% for analytes of interest.
4. **Blanks (Method and/or Field QC)**
6010B: Arsenic was not detected in the calibration blanks or the method blank above the RL. Arsenic was detected at -0.24 mg/kg. The absolute value is above the MDL. All sample results are above the RL. Project data are not affected. No qualification.
5. **Surrogates**
N/A

6. **MS/MSD**
6010B: MS/MSD ran on SS39-OXD-FL04B. Recoveries were acceptable. RPD was high. Arsenic will be qualified "J" for imprecision in SS39-OXD-FL04B. Sample may not be homogenous.
7. **LCS (and LCS duplicate, if applicable)**
6010B: Recovery was within limits.
8. **Internal Standards**
N/A
9. **Duplicates (field, lab)**
6010B: DUP ran on SS39-OXD-FL04B. Arsenic RPD was within acceptable limits.
10. **Serial Dilution**
6010B: Ran on SS39-OXD-FL04B. %D was within acceptable limits.
11. **Laboratory Case Narrative**
Acceptable
12. **Completeness of Data Package**
Acceptable
13. **Other Issues**
None
Overall: Useable as qualified.

Reviewed by: Maureen McMyler 09/19/12

Data Review Checklist

Project Name:	Holloman AFB/SS39	SDG/Report No.:	F92354R
Project No.:	100-TEN-T93002-1	Lab ID:	Accutest
No. of Samples:	1	Matrix:	Soil

Area Reviewed	Reviewed	Anomalies		Qualification Required
		Yes	No	Y or N (or N/A)
1. Hold Time/Preservation.	Yes		X	N
2. Instrument Performance Check	Yes		X	N
3. Calibrations	Yes		X	N
4. Blanks (Method and/or Field QC)	Yes	X		N
5. Surrogates	N/A	---	---	N/A
6. MS/MSD	Yes	X		N
7. LCS	Yes		X	N
8. Internal Standards	N/A	---	---	N/A
9. Duplicates (field, lab)	Yes	X		N
10. Serial Dilution	Yes	X		N
11. Laboratory Case Narrative	Yes		X	N
12. Completeness of Data Package	Yes		X	N
13. Other issues	Yes		X	N

The following section is intended to specify areas evaluated and to provide an explanation (where applicable) for those areas where problems were identified during review. Only applicable methods are listed.

Comments/Discussion:

1. **Hold Time/Preservation**.
Cooler temperature at receipt was 4.2 degrees C.
Samples were prepared and analyzed within holding times.
2. **Instrument Performance Check (Method and/or Field QC)**
6010B: Interference check samples' recoveries were acceptable.
3. **Calibrations (Initial and Continuing)**
6010B: Initial calibration verification (ICV) and continuing calibration verification (CCV) recoveries were between 90% and 110% for analytes of interest.
4. **Blanks (Method and/or Field QC)**
6010B: Arsenic was not detected in the calibration blanks or the method blank above the RL. Arsenic was detected at -0.16 mg/kg. The absolute value is above the MDL. The sample result is above the RL. Project data are not affected. No qualification.
5. **Surrogates**
N/A

6. **MS/MSD**
6010B: MS/MSD ran on an unrelated sample. MS recovery was low. Project data are not affected. No qualification.
7. **LCS (and LCS duplicate, if applicable)**
6010B: Recovery was within limits.
8. **Internal Standards**
N/A
9. **Duplicates (field, lab)**
6010B: DUP ran on an unrelated sample. Arsenic RPD was above acceptable limits. Project data are not affected. No qualification.
10. **Serial Dilution**
6010B: Ran on an unrelated sample. %D was above acceptable limits. Initial sample concentration was <50x the IDL, so %D is allowed. Project data are not affected. No qualification.
11. **Laboratory Case Narrative**
Acceptable
12. **Completeness of Data Package**
Acceptable
13. **Other Issues**
None
Overall: Useable as reported.

Reviewed by: Maureen McMyler 09/19/12

Data Review Checklist

Project Name:	Holloman AFB/SS39	SDG/Report No.:	F92814
Project No.:	100-TEN-T93002-1	Lab ID:	Accutest
No. of Samples:	9	Matrix:	Soil

Area Reviewed	Reviewed	Anomalies		Qualification Required
		Yes	No	Y or N (or N/A)
1. Hold Time/Preservation.	Yes		X	N
2. Instrument Performance Check	Yes		X	N
3. Calibrations	Yes		X	N
4. Blanks (Method and/or Field QC)	Yes	X		N
5. Surrogates	N/A	---	---	N/A
6. MS/MSD	Yes	X		N
7. LCS	Yes		X	N
8. Internal Standards	N/A	---	---	N/A
9. Duplicates (field, lab)	Yes		X	N
10. Serial Dilution	Yes	X		N
11. Laboratory Case Narrative	Yes		X	N
12. Completeness of Data Package	Yes		X	N
13. Other issues	Yes		X	N

The following section is intended to specify areas evaluated and to provide an explanation (where applicable) for those areas where problems were identified during review. Only applicable methods are listed.

Comments/Discussion:

1. **Hold Time/Preservation**.
Cooler temperature at receipt was 3.2 degrees C.
Samples were prepared and analyzed within holding times.
2. **Instrument Performance Check (Method and/or Field QC)**
6010B: Interference check samples' recoveries were acceptable.
3. **Calibrations (Initial and Continuing)**
6010B: Initial calibration verification (ICV) and continuing calibration verification (CCV) recoveries were between 90% and 110% for analytes of interest.
4. **Blanks (Method and/or Field QC)**
6010B: Arsenic was not detected in the calibration blanks above the RL. Arsenic was detected at -0.10 mg/kg in the blank of batch MP22736 and at -0.19 mg/kg in the blank of batch MP22748. The absolute values are equal to or greater than the MDL. All sample results are above the RL. Project data are not affected. No qualification.

5. **Surrogates**
N/A
6. **MS/MSD**
6010B: MS/MSD ran on unrelated samples. RPD was outside limits in batch MP22748. Project data are not affected. No qualification.
7. **LCS (and LCS duplicate, if applicable)**
6010B: Recoveries were within limits.
8. **Internal Standards**
N/A
9. **Duplicates (field, lab)**
6010B: DUP ran on unrelated samples. RPDs were within acceptable limits.
10. **Serial Dilution**
6010B: Ran on unrelated samples. %Ds were above acceptable limits. Initial sample concentrations were <50x the IDL, so %Ds are allowed. Project data are not affected. No qualification.
11. **Laboratory Case Narrative**
Acceptable
12. **Completeness of Data Package**
Acceptable
13. **Other Issues**
None
Overall: Useable as reported.

Reviewed by: Maureen McMyler 09/19/12

Data Review Checklist

Project Name:	Holloman AFB/SS39	SDG/Report No.:	F93131
Project No.:	100-TEN-T93002-1	Lab ID:	Accutest
No. of Samples:	6	Matrix:	Soil

Area Reviewed	Reviewed	Anomalies		Qualification Required
		Yes	No	Y or N (or N/A)
1. Hold Time/Preservation.	Yes		X	N
2. Instrument Performance Check	Yes		X	N
3. Calibrations	Yes		X	N
4. Blanks (Method and/or Field QC)	Yes		X	N
5. Surrogates	N/A	---	---	N/A
6. MS/MSD	Yes		X	N
7. LCS	Yes		X	N
8. Internal Standards	N/A	---	---	N/A
9. Duplicates (field, lab)	Yes		X	N
10. Serial Dilution	Yes		X	N
11. Laboratory Case Narrative	Yes		X	N
12. Completeness of Data Package	Yes		X	N
13. Other issues	Yes		X	N

The following section is intended to specify areas evaluated and to provide an explanation (where applicable) for those areas where problems were identified during review. Only applicable methods are listed.

Comments/Discussion:

1. **Hold Time/Preservation**.
Cooler temperature at receipt was 4.0 degrees C.
Samples were prepared and analyzed within holding times.
2. **Instrument Performance Check (Method and/or Field QC)**
6010B: Interference check samples' recoveries were acceptable.
3. **Calibrations (Initial and Continuing)**
6010B: Initial calibration verification (ICV) and continuing calibration verification (CCV) recoveries were between 90% and 110% for analytes of interest.
4. **Blanks (Method and/or Field QC)**
6010B: Arsenic was not detected in the calibration blanks above the RL or in the method blank.
5. **Surrogates**
N/A

6. **MS/MSD**
6010B: MS/MSD ran on an unrelated sample. Recoveries and RPD were within acceptable limits.
7. **LCS (and LCS duplicate, if applicable)**
6010B: Recovery was within limits.
8. **Internal Standards**
N/A
9. **Duplicates (field, lab)**
6010B: DUP ran on an unrelated sample. RPD was within acceptable limits.
10. **Serial Dilution**
6010B: Ran on an unrelated sample. %D was within acceptable limits.
11. **Laboratory Case Narrative**
Acceptable
12. **Completeness of Data Package**
Acceptable
13. **Other Issues**
None
Overall: Useable as reported.

Reviewed by: Maureen McMyler 09/19/12

APPENDIX C

ANALYTICAL DATA TABLES

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Table C-1
Excavation Confirmation Soil Samples - Sumps 1, 2, and 3 (SWMUs 177 and 181)
SS-39, Holloman Air Force Base, New Mexico

			Area:	SS-39	SS-39	SS-39	SS-39	SS-39
			SubArea:	Sumps	Sumps	Sumps	Sumps	Sumps
			Sample Date:	3/28/2012	3/28/2012	3/28/2012	3/28/2012	3/28/2012
			SampleID:	SS39-SUMP1-FL12	SS39-SUMP1-SW11	SS39-SUMP1-SW08	SS39-SUMP2-FL12	SS39-SUMP2-SW11
			Depth (ft bgs):	12 to 12.5	10 to 12	7 to 9	12 to 12.5	10 to 12
			QCType	N	N	N	N	N
Test Group	Parameter	SSL[1]	VI[2]	Result Qual	Result Qual	Result Qual	Result Qual	Result Qual
Gen Chem	% Solid	n/a	n/a	88.2	89.8	83.1	82.3	82.8
Hydrocarbons	TPHs C10-C28	1000	n/a				70	23
Hydrocarbons	TPH-GRO (C6-C10)	n/a	n/a				7.1 U	7.9 U
Metals, Total	Arsenic	3.9	n/a					
Metals, Total	Chromium	117000	n/a				14.7	4.5
Metals, Total	Lead	400	n/a				4 J	12.3
VOCs	1,1,1,2-Tetrachloroethane	29.1	n/a	0.0067 U	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	1,1,1-Trichloroethane	15600	5.814	0.0067 U	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	1,1,2,2-Tetrachloroethane	8.02	n/a	0.0067 U	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	1,1,2-Trichloro-1,2,2-trifluoroethane	72100	n/a	0.0067 U	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	1,1,2-Trichloroethane	2.81	0.056	0.0067 U	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	1,1-Dichloroethane	64.5	1.676	0.0067 U	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	1,1-Dichloroethene	449	0.287	0.0067 U	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	1,1-Dichloropropene	n/a	n/a	0.0067 U	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	1,2,3-Trichlorobenzene	49	n/a	0.0067 U	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	1,2,3-Trichloropropane	0.0497	n/a	0.0067 U	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	1,2,4-Trichlorobenzene	73	n/a	0.0067 U	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	1,2,4-Trimethylbenzene	62	n/a	0.0067 U	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	1,2-Dibromo-3-chloropropane	1.86	n/a	0.0067 U	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	1,2-Dibromoethane (EDB)	0.588	n/a	0.0067 U	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	1,2-Dichlorobenzene	2310	n/a	0.0067 U	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	1,2-Dichloroethane	7.89	0.011	0.0067 U	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	1,2-Dichloropropane	15.2	n/a	0.0067 U	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	1,3,5-Trimethylbenzene (Mesitylene)	780	n/a	0.0067 U	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	1,3-Dichlorobenzene	n/a	n/a	0.0067 U	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	1,3-Dichloropropane	1600	n/a	0.0067 U	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	1,4-Dichlorobenzene	31.7	n/a	0.0067 U	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	1-Chlorohexane	n/a	n/a	0.0067 UJ	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	2,2-Dichloropropane	n/a	n/a	0.0067 UJ	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	2-Butanone	37100	n/a	0.034 U	0.034 U	0.037 U	0.029 U	0.032 U
VOCs	2-Chloroethyl vinyl ether	n/a	n/a	0.034 U	0.034 U	0.037 U	0.029 U	0.032 U

Table C-1
Excavation Confirmation Soil Samples - Sumps 1, 2, and 3 (SWMUs 177 and 181)
SS-39, Holloman Air Force Base, New Mexico

			Area:	SS-39	SS-39	SS-39	SS-39	SS-39
			SubArea:	Sumps	Sumps	Sumps	Sumps	Sumps
			Sample Date:	3/28/2012	3/28/2012	3/28/2012	3/28/2012	3/28/2012
			SampleID:	SS39-SUMP1-FL12	SS39-SUMP1-SW11	SS39-SUMP1-SW08	SS39-SUMP2-FL12	SS39-SUMP2-SW11
			Depth (ft bgs):	12 to 12.5	10 to 12	7 to 9	12 to 12.5	10 to 12
			QCType	N	N	N	N	N
Test Group	Parameter	SSL[1]	VI[2]	Result Qual	Result Qual	Result Qual	Result Qual	Result Qual
VOCs	2-Chlorotoluene	1560	n/a	0.0067 U	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	2-Hexanone	210	n/a	0.034 U	0.034 U	0.037 U	0.029 U	0.032 U
VOCs	4-Chlorotoluene	1600	n/a	0.0067 U	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	4-Methyl-2-pentanone	5820	n/a	0.034 U	0.034 U	0.037 U	0.029 U	0.032 U
VOCs	Acetone	66600	65.881	0.067 U	0.069 U	0.073 U	0.058 U	0.065 U
VOCs	Acetonitrile	870	n/a	0.067 U	0.069 U	0.073 U	0.058 U	0.065 U
VOCs	Acrolein	0.404	n/a	0.034 U	0.034 U	0.037 U	0.029 U	0.032 U
VOCs	Acrylonitrile	4.55	n/a	0.034 U	0.034 U	0.037 U	0.029 U	0.032 U
VOCs	Allyl chloride (3-Chloropopene)	1.8	n/a	0.034 U	0.034 U	0.037 U	0.029 U	0.032 U
VOCs	Benzene	15.4	n/a	0.0067 U	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	Benzyl Chloride	10	n/a	0.0067 UJ	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	Bromobenzene	300	n/a	0.0067 U	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	Bromochloromethane	160	n/a	0.0067 U	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	Bromodichloromethane	5.41	n/a	0.0067 U	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	Bromoform	616	n/a	0.0067 U	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	Bromomethane	16.5	n/a	0.0067 U	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	Carbon disulfide	1530	n/a	0.0067 U	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	Carbon tetrachloride	10.8	n/a	0.0067 U	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	Chlorobenzene	376	n/a	0.0067 U	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	Chloroethane	29800	n/a	0.0067 U	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	Chloroform	5.86	n/a	0.0067 U	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	Chloromethane	275	0.033	0.0067 U	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	Cis-1,2-dichloroethene	156	n/a	0.0067 U	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	Cis-1,3-dichloropropene	n/a	n/a	0.0067 U	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	cis-1,4-Dichloro-2-butene	0.069	n/a	0.034 U	0.034 U	0.037 U	0.029 U	0.032 U
VOCs	Cymene	n/a	n/a	0.0067 UJ	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	Dibromochloromethane	12.1	n/a	0.0067 U	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	Dibromomethane	51.6	n/a	0.0067 U	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	Dichlorodifluoromethane	168	n/a	0.0067 U	0.0069 U	0.0073 U	0.0058 U	0.0065 U

Table C-1
Excavation Confirmation Soil Samples - Sumps 1, 2, and 3 (SWMUs 177 and 181)
SS-39, Holloman Air Force Base, New Mexico

			Area:	SS-39	SS-39	SS-39	SS-39	SS-39
			SubArea:	Sumps	Sumps	Sumps	Sumps	Sumps
			Sample Date:	3/28/2012	3/28/2012	3/28/2012	3/28/2012	3/28/2012
			SampleID:	SS39-SUMP1-FL12	SS39-SUMP1-SW11	SS39-SUMP1-SW08	SS39-SUMP2-FL12	SS39-SUMP2-SW11
			Depth (ft bgs):	12 to 12.5	10 to 12	7 to 9	12 to 12.5	10 to 12
			QCType	N	N	N	N	N
Test Group	Parameter	SSL[1]	VI[2]	Result Qual	Result Qual	Result Qual	Result Qual	Result Qual
VOCs	Ether, tert-butyl methyl	901	n/a	0.0067 U	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	Ethyl Methacrylate	4550	n/a	0.034 UJ	0.034 U	0.037 U	0.029 U	0.032 U
VOCs	Ethylbenzene	68.4	44.266	0.0067 UJ	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	Hexachlorobutadiene	61.1	n/a	0.0067 UJ	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	Hexane	938	n/a	0.0067 UJ	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	Iodomethane	n/a	n/a	0.013 U	0.014 U	0.015 U	0.012 U	0.013 U
VOCs	Isopropylbenzene	2430	n/a	0.0067 U	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	m,p-Xylene	n/a	n/a	0.013 U	0.014 U	0.015 U	0.012 U	0.013 U
VOCs	Methacrylonitrile	4.84	n/a	0.034 U	0.034 U	0.037 U	0.029 U	0.032 U
VOCs	Methyl methacrylate	11200	n/a	0.0067 U	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	Methylene chloride	409	0.254	0.013 U	0.014 U	0.015 U	0.012 U	0.013 U
VOCs	Naphthalene	43	4.753	0.0067 U	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	n-Butylbenzene	3900	n/a	0.0067 UJ	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	n-Propylbenzene	3400	n/a	0.0067 U	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	o-Xylene	898	2.027	0.0067 U	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	Pentachloroethane	54	n/a	0.034 U	0.034 U	0.037 U	0.029 U	0.032 U
VOCs	Propane Nitrile (Propionitrile)	n/a	n/a	0.067 U	0.069 U	0.073 U	0.058 U	0.065 U
VOCs	sec-Butylbenzene	n/a	n/a	0.0067 UJ	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	Styrene	7280	n/a	0.0067 U	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	tert-Butylbenzene	n/a	n/a	0.0067 U	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	Tetrachloroethene	7.02	0.013	0.0067 U	0.0069 U	0.0073 U	**1.61**	**0.069**
VOCs	Toluene	5270	3.443	0.0067 U	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	Trans-1,2-dichloroethene	270	n/a	0.0067 U	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	Trans-1,3-dichloropropene	n/a	n/a	0.0067 U	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	trans-1,4-Dichloro-2-butene	0.069	n/a	0.034 U	0.034 U	0.037 U	0.029 U	0.032 U
VOCs	Trichloroethene	8.77	0.001	0.0067 U	0.0069 U	0.0073 U	**0.0016 J**	0.0065 U
VOCs	Trichlorofluoromethane	1410	n/a	0.0067 U	0.0069 U	0.0073 U	0.0058 U	0.0065 U
VOCs	Vinyl acetate	2560	n/a	0.034 U	0.034 U	0.037 U	0.029 U	0.032 U
VOCs	Vinyl chloride	0.728	n/a	0.0067 U	0.0069 U	0.0073 U	0.0058 U	0.0065 U

Table C-1
Excavation Confirmation Soil Samples - Sumps 1, 2, and 3 (SWMUs 177 and 181)
SS-39, Holloman Air Force Base, New Mexico

			Area:	SS-39	SS-39	SS-39	SS-39
			SubArea:	Sumps	Sumps	Sumps	Sumps
			Sample Date:	3/28/2012	3/28/2012	3/28/2012	3/28/2012
			SampleID:	SS39-SUMP2-SW05	SS39-SUMP3-FL02	SS39-SUMP3-SW01A	SS39-SUMP3-SW01B
			Depth (ft bgs):	4 to 6	2 to 2.5	0 to 2	0 to 2
			QCType	N	N	N	N
Test Group	Parameter	SSL[1]	VI[2]	Result Qual	Result Qual	Result Qual	Result Qual
Gen Chem	% Solid	n/a	n/a	83.2	82.7	83.4	82.8
Hydrocarbons	TPHs C10-C28	1000	n/a	14.1	45.3	39.8	18.2
Hydrocarbons	TPH-GRO (C6-C10)	n/a	n/a	6.8 U	8.2 U	7.8 U	4.67 J
Metals, Total	Arsenic	3.9	n/a		1.1 U	1.1 U	1.2 U
Metals, Total	Chromium	117000	n/a	6.6			
Metals, Total	Lead	400	n/a	7.2 J			
VOCs	1,1,1,2-Tetrachloroethane	29.1	n/a	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	1,1,1-Trichloroethane	15600	5.814	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	1,1,2,2-Tetrachloroethane	8.02	n/a	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	1,1,2-Trichloro-1,2,2-trifluoroethane	72100	n/a	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	1,1,2-Trichloroethane	2.81	0.056	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	1,1-Dichloroethane	64.5	1.676	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	1,1-Dichloroethene	449	0.287	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	1,1-Dichloropropene	n/a	n/a	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	1,2,3-Trichlorobenzene	49	n/a	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	1,2,3-Trichloropropane	0.0497	n/a	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	1,2,4-Trichlorobenzene	73	n/a	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	1,2,4-Trimethylbenzene	62	n/a	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	1,2-Dibromo-3-chloropropane	1.86	n/a	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	1,2-Dibromoethane (EDB)	0.588	n/a	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	1,2-Dichlorobenzene	2310	n/a	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	1,2-Dichloroethane	7.89	0.011	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	1,2-Dichloropropane	15.2	n/a	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	1,3,5-Trimethylbenzene (Mesitylene)	780	n/a	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	1,3-Dichlorobenzene	n/a	n/a	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	1,3-Dichloropropane	1600	n/a	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	1,4-Dichlorobenzene	31.7	n/a	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	1-Chlorohexane	n/a	n/a	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	2,2-Dichloropropane	n/a	n/a	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	2-Butanone	37100	n/a	0.031 U	0.034 U	0.037 U	0.037 U
VOCs	2-Chloroethyl vinyl ether	n/a	n/a	0.031 U	0.034 U	0.037 U	0.037 U

Table C-1
Excavation Confirmation Soil Samples - Sumps 1, 2, and 3 (SWMUs 177 and 181)
SS-39, Holloman Air Force Base, New Mexico

			Area:	SS-39	SS-39	SS-39	SS-39
			SubArea:	Sumps	Sumps	Sumps	Sumps
			Sample Date:	3/28/2012	3/28/2012	3/28/2012	3/28/2012
			SampleID:	SS39-SUMP2-SW05	SS39-SUMP3-FL02	SS39-SUMP3-SW01A	SS39-SUMP3-SW01B
			Depth (ft bgs):	4 to 6	2 to 2.5	0 to 2	0 to 2
			QCType	N	N	N	N
Test Group	Parameter	SSL[1]	VI [2]	Result Qual	Result Qual	Result Qual	Result Qual
VOCs	2-Chlorotoluene	1560	n/a	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	2-Hexanone	210	n/a	0.031 U	0.034 U	0.037 U	0.037 U
VOCs	4-Chlorotoluene	1600	n/a	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	4-Methyl-2-pentanone	5820	n/a	0.031 U	0.034 U	0.037 U	0.037 U
VOCs	Acetone	66600	65.881	0.062 U	0.068 U	0.074 U	0.074 U
VOCs	Acetonitrile	870	n/a	0.062 U	0.068 U	0.074 U	0.074 U
VOCs	Acrolein	0.404	n/a	0.031 U	0.034 U	0.037 U	0.037 U
VOCs	Acrylonitrile	4.55	n/a	0.031 U	0.034 U	0.037 U	0.037 U
VOCs	Allyl chloride (3-Chloropopene)	1.8	n/a	0.031 U	0.034 U	0.037 U	0.037 U
VOCs	Benzene	15.4	n/a	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	Benzyl Chloride	10	n/a	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	Bromobenzene	300	n/a	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	Bromochloromethane	160	n/a	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	Bromodichloromethane	5.41	n/a	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	Bromoform	616	n/a	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	Bromomethane	16.5	n/a	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	Carbon disulfide	1530	n/a	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	Carbon tetrachloride	10.8	n/a	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	Chlorobenzene	376	n/a	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	Chloroethane	29800	n/a	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	Chloroform	5.86	n/a	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	Chloromethane	275	0.033	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	Cis-1,2-dichloroethene	156	n/a	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	Cis-1,3-dichloropropene	n/a	n/a	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	cis-1,4-Dichloro-2-butene	0.069	n/a	0.031 U	0.034 U	0.037 U	0.037 U
VOCs	Cymene	n/a	n/a	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	Dibromochloromethane	12.1	n/a	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	Dibromomethane	51.6	n/a	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	Dichlorodifluoromethane	168	n/a	0.0062 U	0.0068 U	0.0074 U	0.0074 U

Table C-1
Excavation Confirmation Soil Samples - Sumps 1, 2, and 3 (SWMUs 177 and 181)
SS-39, Holloman Air Force Base, New Mexico

			Area:	SS-39	SS-39	SS-39	SS-39
			SubArea:	Sumps	Sumps	Sumps	Sumps
			Sample Date:	3/28/2012	3/28/2012	3/28/2012	3/28/2012
			SampleID:	SS39-SUMP2-SW05	SS39-SUMP3-FL02	SS39-SUMP3-SW01A	SS39-SUMP3-SW01B
			Depth (ft bgs):	4 to 6	2 to 2.5	0 to 2	0 to 2
			QCType	N	N	N	N
Test Group	Parameter	SSL[1]	VI [2]	Result Qual	Result Qual	Result Qual	Result Qual
VOCs	Ether, tert-butyl methyl	901	n/a	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	Ethyl Methacrylate	4550	n/a	0.031 U	0.034 U	0.037 U	0.037 U
VOCs	Ethylbenzene	68.4	44.266	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	Hexachlorobutadiene	61.1	n/a	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	Hexane	938	n/a	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	Iodomethane	n/a	n/a	0.012 U	0.014 U	0.015 U	0.015 U
VOCs	Isopropylbenzene	2430	n/a	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	m,p-Xylene	n/a	n/a	0.012 U	0.014 U	0.015 U	0.015 U
VOCs	Methacrylonitrile	4.84	n/a	0.031 U	0.034 U	0.037 U	0.037 U
VOCs	Methyl methacrylate	11200	n/a	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	Methylene chloride	409	0.254	0.012 U	0.014 U	0.015 U	0.015 U
VOCs	Naphthalene	43	4.753	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	n-Butylbenzene	3900	n/a	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	n-Propylbenzene	3400	n/a	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	o-Xylene	898	2.027	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	Pentachloroethane	54	n/a	0.031 U	0.034 U	0.037 U	0.037 U
VOCs	Propane Nitrile (Propionitrile)	n/a	n/a	0.062 U	0.068 U	0.074 U	0.074 U
VOCs	sec-Butylbenzene	n/a	n/a	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	Styrene	7280	n/a	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	tert-Butylbenzene	n/a	n/a	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	Tetrachloroethene	7.02	0.013	**0.0143**	0.0068 U	0.0074 U	0.0074 U
VOCs	Toluene	5270	3.443	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	Trans-1,2-dichloroethene	270	n/a	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	Trans-1,3-dichloropropene	n/a	n/a	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	trans-1,4-Dichloro-2-butene	0.069	n/a	0.031 U	0.034 U	0.037 U	0.037 U
VOCs	Trichloroethene	8.77	0.001	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	Trichlorofluoromethane	1410	n/a	0.0062 U	0.0068 U	0.0074 U	0.0074 U
VOCs	Vinyl acetate	2560	n/a	0.031 U	0.034 U	0.037 U	0.037 U
VOCs	Vinyl chloride	0.728	n/a	0.0062 U	0.0068 U	0.0074 U	0.0074 U

Notes:
All units are mg/kg, except % soilds.
Data Screening Levels:
[1] NMED 2012 Table A-1 Residential SSLs; underline indicates EPA Residential Soil RSL May 2012 adjusted to 10-5 c Risk
[2] Vapor Intrusion 10^{-5} calculated risk level for detected VOCs
n/a - not applicable
Data Qualifiers:
B - (Metals) Analyte detected between method detection limit and reporting limit; quantity estimated.
J - Estimated quantity
U - Analyte not detected above reporting detection limit that is shown
Red indicates > Residential SSLs for direct contact
Yellow shade indicates > 10^{-5} VI risk level for indoor air

Table C-2
Excavation Confirmation Soil Samples - Propellant Pipe Discharge Box (SWMU 179)
SS-39, Holloman Air Force Base, New Mexico

			Area:	SS-39	SS-39	SS-39	SS-39	SS-39
			SubArea:	Propellant Discharge Box	Propellant Discharge Box	Propellant Discharge Box	Propellant Discharge Box	Propellant Discharge Box
			Sample Date:	3/28/2012	3/28/2012	3/28/2012	3/29/2012	3/29/2012
			SampleID:	SS39-PDB-FL02	SS39-PDB-SW01A	SS39-PDB-SW01B	SS39-FD01-032912	SS39-PDB-SW01B-032912
			Depth (ft bgs):	2 to 2.5	0 to 2	0 to 2	0 to 2	0 to 2
			QCType	N	N	N	FD	N
TestGroup	Parameter	SSL[1]	VI [2]	Result Qual	Result Qual	Result Qual	Result Qual	Result Qual
Gen Chem	% Solid	n/a	n/a	86.3	84.5	82.2	82.3	81.9
Hydrocarbons	Petroleum Hydrocarbons C10-C28	1000	n/a	9.21 J	4.63 J	10 U	10 U	10 U
Hydrocarbons	TPH-GRO (C6-C10)	n/a	n/a	6.9 U	6.6 U	7.3 U	9.1 U	8.3 U
Metals, Total	Arsenic	3.9	n/a	1.6 U	1.6 U	2 U	1.7 U	1.1 U
Metals, Total	Lead	400	n/a	31.8	11.8 J	9.5 J	4.9 J	10.3 J
VOCs	1,1,1,2-Tetrachloroethane	29.1	n/a	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	1,1,1-Trichloroethane	15600	5.8135	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	1,1,2,2-Tetrachloroethane	8.02	n/a	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	1,1,2-Trichloro-1,2,2-trifluoroethane	72100	n/a	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	1,1,2-Trichloroethane	2.81	0.0561	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	1,1-Dichloroethane	64.5	1.6762	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	1,1-Dichloroethene	449	0.2865	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	1,1-Dichloropropene	n/a	n/a	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	1,2,3-Trichlorobenzene	49	n/a	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 UJ
VOCs	1,2,3-Trichloropropane	0.0497	n/a	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	1,2,4-Trichlorobenzene	73	n/a	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 UJ
VOCs	1,2,4-Trimethylbenzene	62	n/a	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	1,2-Dibromo-3-chloropropane	1.86	n/a	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	1,2-Dibromoethane (EDb)	0.588	n/a	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	1,2-Dichlorobenzene	2310	n/a	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	1,2-Dichloroethane	7.89	0.0113	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	1,2-Dichloropropane	15.2	n/a	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	1,3,5-Trimethylbenzene (Mesitylene)	780	n/a	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	1,3-Dichlorobenzene	n/a	n/a	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	1,3-Dichloropropane	1600	n/a	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	1,4-Dichlorobenzene	31.7	n/a	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	1-Chlorohexane	n/a	n/a	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	2,2-Dichloropropane	n/a	n/a	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	2-Butanone	37100	n/a	0.033 U	0.033 U	0.033 U	0.031 U	0.034 U
VOCs	2-Chloroethyl vinyl ether	n/a	n/a	0.033 U	0.033 U	0.033 U	0.031 U	0.034 U

Table C-2
Excavation Confirmation Soil Samples - Propellant Pipe Discharge Box (SWMU 179)
SS-39, Holloman Air Force Base, New Mexico

			Area:	SS-39	SS-39	SS-39	SS-39	SS-39
			SubArea:	Propellant Discharge Box	Propellant Discharge Box	Propellant Discharge Box	Propellant Discharge Box	Propellant Discharge Box
			Sample Date:	3/28/2012	3/28/2012	3/28/2012	3/29/2012	3/29/2012
			SampleID:	SS39-PDB-FL02	SS39-PDB-SW01A	SS39-PDB-SW01B	SS39-FD01-032912	SS39-PDB-SW01B-032912
			Depth (ft bgs):	2 to 2.5	0 to 2	0 to 2	0 to 2	0 to 2
			QCType	N	N	N	FD	N
TestGroup	Parameter	SSL[1]	VI [2]	Result Qual	Result Qual	Result Qual	Result Qual	Result Qual
VOCs	2-Chlorotoluene	1560	n/a	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	2-Hexanone	210	n/a	0.033 U	0.033 U	0.033 U	0.031 U	0.034 U
VOCs	4-Chlorotoluene	1600	n/a	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	4-Methyl-2-pentanone	5820	n/a	0.033 U	0.033 U	0.033 U	0.031 U	0.034 U
VOCs	Acetone	66600	65.8809	0.066 U	0.066 U	0.066 U	0.062 U	0.068 U
VOCs	Acetonitrile	870	n/a	0.066 U	0.066 U	0.066 U	0.062 U	0.068 U
VOCs	Acrolein	0.404	n/a	0.033 U	0.033 U	0.033 U	0.031 U	0.034 U
VOCs	Acrylonitrile	4.55	n/a	0.033 U	0.033 U	0.033 U	0.031 U	0.034 U
VOCs	Allyl chloride (3-Chloropopene)	1.8	n/a	0.033 U	0.033 U	0.033 U	0.031 U	0.034 U
VOCs	Benzene	15.4	n/a	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	Benzyl Chloride	10	n/a	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	Bromobenzene	300	n/a	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	Bromochloromethane	160	n/a	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	Bromodichloromethane	5.41	n/a	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	Bromoform	616	n/a	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	Bromomethane	16.5	n/a	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	Carbon disulfide	1530	n/a	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	Carbon tetrachloride	10.8	n/a	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	Chlorobenzene	376	n/a	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	Chloroethane	29800	n/a	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	Chloroform	5.86	n/a	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	Chloromethane	275	0.0330	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	Cis-1,2-dichloroethene	156	n/a	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	Cis-1,3-dichloropropene	n/a	n/a	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	cis-1,4-Dichloro-2-butene	0.069	n/a	0.033 U	0.033 U	0.033 U	0.031 U	0.034 U
VOCs	Cymene	n/a	n/a	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	Dibromochloromethane	12.1	n/a	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	Dibromomethane	51.6	n/a	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	Dichlorodifluoromethane	168	n/a	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	Ether, tert-butyl methyl	901	n/a	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	Ethyl Methacrylate	4550	n/a	0.033 U	0.033 U	0.033 U	0.031 U	0.034 UJ
VOCs	Ethylbenzene	68.4	44.2663	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	Hexachlorobutadiene	61.1	n/a	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 UJ

Table C-2
Excavation Confirmation Soil Samples - Propellant Pipe Discharge Box (SWMU 179)
SS-39, Holloman Air Force Base, New Mexico

			Area:	SS-39	SS-39	SS-39	SS-39	SS-39
			SubArea:	Propellant Discharge Box	Propellant Discharge Box	Propellant Discharge Box	Propellant Discharge Box	Propellant Discharge Box
			Sample Date:	3/28/2012	3/28/2012	3/28/2012	3/29/2012	3/29/2012
			SampleID:	SS39-PDB-FL02	SS39-PDB-SW01A	SS39-PDB-SW01B	SS39-FD01-032912	SS39-PDB-SW01B-032912
			Depth (ft bgs):	2 to 2.5	0 to 2	0 to 2	0 to 2	0 to 2
			QCType	N	N	N	FD	N
TestGroup	Parameter	SSL[1]	VI [2]	Result Qual	Result Qual	Result Qual	Result Qual	Result Qual
VOCs	Hexane	938	n/a	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	Iodomethane	n/a	n/a	0.013 U	0.013 U	0.013 U	0.012 U	0.014 U
VOCs	Isopropylbenzene	2430	n/a	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	m,p-Xylene	n/a	n/a	0.013 U	0.013 U	0.013 U	0.012 U	0.014 U
VOCs	Methacrylonitrile	4.84	n/a	0.033 U	0.033 U	0.033 U	0.031 U	0.034 U
VOCs	Methyl methacrylate	11200	n/a	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	Methylene chloride	409	0.2544	0.013 U	0.013 U	0.013 U	0.012 U	0.014 U
VOCs	Naphthalene	43	4.7531	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	n-Butylbenzene	3900	n/a	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	n-Propylbenzene	3400	n/a	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	o-Xylene	898	2.0267	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	Pentachloroethane	54	n/a	0.033 U	0.033 U	0.033 U	0.031 U	0.034 U
VOCs	Propane Nitrile (Propionitrile)	n/a	n/a	0.066 U	0.066 U	0.066 U	0.062 U	0.068 U
VOCs	sec-Butylbenzene	n/a	n/a	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	Styrene	7280	n/a	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	tert-Butylbenzene	n/a	n/a	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	Tetrachloroethene	7.02	0.0130	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	Toluene	5270	3.4429	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	Trans-1,2-dichloroethene	270	n/a	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	Trans-1,3-dichloropropene	n/a	n/a	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	trans-1,4-Dichloro-2-butene	0.069	n/a	0.033 U	0.033 U	0.033 U	0.031 U	0.034 U
VOCs	Trichloroethene	8.77	0.0011	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	Trichlorofluoromethane	1410	n/a	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U
VOCs	Vinyl acetate	2560	n/a	0.033 U	0.033 U	0.033 U	0.031 U	0.034 U
VOCs	Vinyl chloride	0.728	n/a	0.0066 U	0.0066 U	0.0066 U	0.0062 U	0.0068 U

Notes:
All units are mg/kg, except % soilds.
Data Screening Levels:
[1] NMED 2012 Table A-1 Residential SSLs; underline indicates EPA Residential Soil RSL May 2012 adjusted to 10-5 c Risk
[2] Vapor Intrusion 10^{-5} calculated risk level for detected VOCs
n/a - not applicable
Data Qualifiers:
B - (Metals) Analyte detected between method detection limit and reporting limit; quantity estimated.
J - Estimated quantity
U - Analyte not detected above reporting detection limit that is shown
Red indicates > Residential SSLs for direct contact
Yellow shade indicates > 10^{-5} VI risk level for indoor air

Table C-3
Excavation Confirmation Soil Samples - Oxidizer Spill Pipe Discharge Area
SS-39, Holloman Air Force Base, New Mexico

			Area:	SS-39	SS-39	SS-39	SS-39	SS-39	SS-39
			SubArea:	Oxidizer Spill Pipe	Oxidizer Spill Pipe	Oxidizer Spill Pipe	Oxidizer Spill Pipe	Oxidizer Spill Pipe	Oxidizer Spill Pipe
			Sample Date:	3/28/2012	3/28/2012	3/28/2012	4/19/2012	4/19/2012	4/19/2012
			SampleID:	SS39-OXD-FL02	SS39-OXD-SW03	SS39-OXD-SW01	SS39-OXD-FL04A	SS39-OXD-FL04B	SS39-OXD-FL04C
			Depth (ft bgs):	2 to 2.5	2 to 4	0 to 2	4 to 4.5	4 to 4.5	4 to 4.5
			QCType	N	N	N	N	N	N
TestGroup	Parameter	SSL[1]	VI[2]	Result Qual	Result Qual	Result Qual	Result Qual	Result Qual	Result Qual
Gen Chem	% Solid	n/a	n/a	88	87.4	88.4	82.5	85.2	85.2
Metals, Total	Arsenic	3.9	n/a	1.4 U	**25.1**	1.6 U		0.62 J	
VOCs	1,1,1,2-Tetrachloroethane	29.1	n/a	0.0064 U	0.0067 U	0.0058 U			
VOCs	1,1,1-Trichloroethane	15600	5.8135	0.0064 U	0.0067 U	0.0058 U			
VOCs	1,1,2,2-Tetrachloroethane	8.02	n/a	0.0064 U	0.0067 U	0.0058 U			
VOCs	1,1,2-Trichloro-1,2,2-trifluoroethane	72100	n/a	0.0064 U	0.0067 U	0.0058 U			
VOCs	1,1,2-Trichloroethane	2.81	0.0561	0.0064 U	0.0067 U	0.0058 U			
VOCs	1,1-Dichloroethane	64.5	1.6762	0.0064 U	0.0067 U	0.0058 U			
VOCs	1,1-Dichloroethene	449	0.2865	0.0064 U	0.0067 U	0.0058 U			
VOCs	1,1-Dichloropropene	n/a	n/a	0.0064 U	0.0067 U	0.0058 U			
VOCs	1,2,3-Trichlorobenzene	49	n/a	0.0064 U	0.0067 U	0.0058 U			
VOCs	1,2,3-Trichloropropane	0.0497	n/a	0.0064 U	0.0067 U	0.0058 U			
VOCs	1,2,4-Trichlorobenzene	73	n/a	0.0064 U	0.0067 U	0.0058 U			
VOCs	1,2,4-Trimethylbenzene	62	n/a	0.0064 U	0.0067 U	0.0058 U			
VOCs	1,2-Dibromo-3-chloropropane	1.86	n/a	0.0064 U	0.0067 U	0.0058 U			
VOCs	1,2-Dibromoethane (EDB)	0.588	n/a	0.0064 U	0.0067 U	0.0058 U			
VOCs	1,2-Dichlorobenzene	2310	n/a	0.0064 U	0.0067 U	0.0058 U			
VOCs	1,2-Dichloroethane	7.89	0.0113	0.0064 U	0.0067 U	0.0058 U			
VOCs	1,2-Dichloropropane	15.2	n/a	0.0064 U	0.0067 U	0.0058 U			
VOCs	1,3,5-Trimethylbenzene (Mesitylene)	780	n/a	0.0064 U	0.0067 U	0.0058 U			
VOCs	1,3-Dichlorobenzene	n/a	n/a	0.0064 U	0.0067 U	0.0058 U			
VOCs	1,3-Dichloropropane	1600	n/a	0.0064 U	0.0067 U	0.0058 U			
VOCs	1,4-Dichlorobenzene	31.7	n/a	0.0064 U	0.0067 U	0.0058 U			
VOCs	1-Chlorohexane	n/a	n/a	0.0064 U	0.0067 U	0.0058 U			
VOCs	2,2-Dichloropropane	n/a	n/a	0.0064 U	0.0067 U	0.0058 U			
VOCs	2-Butanone	37100	n/a	0.032 U	0.034 U	0.029 U			
VOCs	2-Chloroethyl vinyl ether	n/a	n/a	0.032 U	0.034 U	0.029 U			
VOCs	2-Chlorotoluene	1560	n/a	0.0064 U	0.0067 U	0.0058 U			
VOCs	2-Hexanone	210	n/a	0.032 U	0.034 U	0.029 U			
VOCs	4-Chlorotoluene	1600	n/a	0.0064 U	0.0067 U	0.0058 U			
VOCs	4-Methyl-2-pentanone	5820	n/a	0.032 U	0.034 U	0.029 U			
VOCs	Acetone	66600	65.8809	0.064 U	0.067 U	0.058 U			
VOCs	Acetonitrile	870	n/a	0.064 U	0.067 U	0.058 U			
VOCs	Acrolein	0.404	n/a	0.032 U	0.034 U	0.029 U			
VOCs	Acrylonitrile	4.55	n/a	0.032 U	0.034 U	0.029 U			
VOCs	Allyl chloride (3-Chloropopene)	1.8	n/a	0.032 U	0.034 U	0.029 U			
VOCs	Benzene	15.4	n/a	0.0064 U	0.0067 U	0.0058 U			
VOCs	Benzyl Chloride	10	n/a	0.0064 U	0.0067 U	0.0058 U			
VOCs	Bromobenzene	300	n/a	0.0064 U	0.0067 U	0.0058 U			
VOCs	Bromochloromethane	160	n/a	0.0064 U	0.0067 U	0.0058 U			
VOCs	Bromodichloromethane	5.41	n/a	0.0064 U	0.0067 U	0.0058 U			
VOCs	Bromoform	616	n/a	0.0064 U	0.0067 U	0.0058 U			
VOCs	Bromomethane	16.5	n/a	0.0064 U	0.0067 U	0.0058 U			
VOCs	Carbon disulfide	1530	n/a	0.0064 U	0.0067 U	0.0058 U			
VOCs	Carbon tetrachloride	10.8	n/a	0.0064 U	0.0067 U	0.0058 U			
VOCs	Chlorobenzene	376	n/a	0.0064 U	0.0067 U	0.0058 U			

Table C-3
Excavation Confirmation Soil Samples - Oxidizer Spill Pipe Discharge Area
SS-39, Holloman Air Force Base, New Mexico

			Area:	SS-39	SS-39	SS-39	SS-39	SS-39	SS-39
			SubArea:	Oxidizer Spill Pipe	Oxidizer Spill Pipe	Oxidizer Spill Pipe	Oxidizer Spill Pipe	Oxidizer Spill Pipe	Oxidizer Spill Pipe
			Sample Date:	4/19/2012	4/19/2012	4/19/2012	4/19/2012	4/19/2012	4/19/2012
			SampleID:	SS39-OXD-SW03A	SS39-OXD-SW03B	SS39-OXD-SW03C	SS39-OXD-SW03D	SS39-OXD-SW03E	SS39-OXD-FL04D
			Depth (ft bgs):	2 to 4	2 to 4	2 to 4	2 to 4	2 to 4	4 to 4.5
			QCType	N	N	N	N	N	N
TestGroup	Parameter	SSL[1]	VI[2]	Result Qual	Result Qual	Result Qual	Result Qual	Result Qual	Result Qual
Gen Chem	% Solid	n/a	n/a	82.1	83.2	81.9	81.6	83.4	84.1
Metals, Total	Arsenic	3.9	n/a		0.74				0.83
VOCs	1,1,1,2-Tetrachloroethane	29.1	n/a						
VOCs	1,1,1-Trichloroethane	15600	5.8135						
VOCs	1,1,2,2-Tetrachloroethane	8.02	n/a						
VOCs	1,1,2-Trichloro-1,2,2-trifluoroethane	72100	n/a						
VOCs	1,1,2-Trichloroethane	2.81	0.0561						
VOCs	1,1-Dichloroethane	64.5	1.6762						
VOCs	1,1-Dichloroethene	449	0.2865						
VOCs	1,1-Dichloropropene	n/a	n/a						
VOCs	1,2,3-Trichlorobenzene	49	n/a						
VOCs	1,2,3-Trichloropropane	0.0497	n/a						
VOCs	1,2,4-Trichlorobenzene	73	n/a						
VOCs	1,2,4-Trimethylbenzene	62	n/a						
VOCs	1,2-Dibromo-3-chloropropane	1.86	n/a						
VOCs	1,2-Dibromoethane (EDB)	0.588	n/a						
VOCs	1,2-Dichlorobenzene	2310	n/a						
VOCs	1,2-Dichloroethane	7.89	0.0113						
VOCs	1,2-Dichloropropane	15.2	n/a						
VOCs	1,3,5-Trimethylbenzene (Mesitylene)	780	n/a						
VOCs	1,3-Dichlorobenzene	n/a	n/a						
VOCs	1,3-Dichloropropane	1600	n/a						
VOCs	1,4-Dichlorobenzene	31.7	n/a						
VOCs	1-Chlorohexane	n/a	n/a						
VOCs	2,2-Dichloropropane	n/a	n/a						
VOCs	2-Butanone	37100	n/a						
VOCs	2-Chloroethyl vinyl ether	n/a	n/a						
VOCs	2-Chlorotoluene	1560	n/a						
VOCs	2-Hexanone	210	n/a						
VOCs	4-Chlorotoluene	1600	n/a						
VOCs	4-Methyl-2-pentanone	5820	n/a						
VOCs	Acetone	66600	65.8809						
VOCs	Acetonitrile	870	n/a						
VOCs	Acrolein	0.404	n/a						
VOCs	Acrylonitrile	4.55	n/a						
VOCs	Allyl chloride (3-Chloropopene)	1.8	n/a						
VOCs	Benzene	15.4	n/a						
VOCs	Benzyl Chloride	10	n/a						
VOCs	Bromobenzene	300	n/a						
VOCs	Bromochloromethane	160	n/a						
VOCs	Bromodichloromethane	5.41	n/a						
VOCs	Bromoform	616	n/a						
VOCs	Bromomethane	16.5	n/a						
VOCs	Carbon disulfide	1530	n/a						
VOCs	Carbon tetrachloride	10.8	n/a						
VOCs	Chlorobenzene	376	n/a						

Table C-3
Excavation Confirmation Soil Samples - Oxidizer Spill Pipe Discharge Area
SS-39, Holloman Air Force Base, New Mexico

			Area:	SS-39	SS-39	SS-39	SS-39	SS-39	SS-39	SS-39
			SubArea:	Oxidizer Spill Pipe	Oxidizer Spill Pipe	Oxidizer Spill Pipe	Oxidizer Spill Pipe	Oxidizer Spill Pipe	Oxidizer Spill Pipe	Oxidizer Spill Pipe
			Sample Date:	4/19/2012	5/14/2012	5/14/2012	5/14/2012	5/14/2012	5/14/2012	5/14/2012
			SampleID:	SS39-OXD-SW03F	SS39-OXD-FL04E	SS39-OXD-SW03G	SS39-OXD-FL04F	SS39-OXD-SW03H	SS39-OXD-FL03G	SS39-OXD-SW03I
			Depth (ft bgs):	2 to 4	4 to 4.5	2 to 4	4 to 4.5	2 to 4	3 to 3.5	2 to 4
			QCType	N	N	N	N	N	N	N
TestGroup	Parameter	SSL[1]	VI[2]	Result Qual	Result Qual	Result Qual	Result Qual	Result Qual	Result Qual	Result Qual
Gen Chem	% Solid	n/a	n/a	87.5	80.2	72.7	80.8	78.8	87.2	85.6
Metals, Total	Arsenic	3.9	n/a	**17.1**	1.7	1.9	1.4	3.6	**5.2**	**4.9**
VOCs	1,1,1,2-Tetrachloroethane	29.1	n/a							
VOCs	1,1,1-Trichloroethane	15600	5.8135							
VOCs	1,1,2,2-Tetrachloroethane	8.02	n/a							
VOCs	1,1,2-Trichloro-1,2,2-trifluoroethane	72100	n/a							
VOCs	1,1,2-Trichloroethane	2.81	0.0561							
VOCs	1,1-Dichloroethane	64.5	1.6762							
VOCs	1,1-Dichloroethene	449	0.2865							
VOCs	1,1-Dichloropropene	n/a	n/a							
VOCs	1,2,3-Trichlorobenzene	49	n/a							
VOCs	1,2,3-Trichloropropane	0.0497	n/a							
VOCs	1,2,4-Trichlorobenzene	73	n/a							
VOCs	1,2,4-Trimethylbenzene	62	n/a							
VOCs	1,2-Dibromo-3-chloropropane	1.86	n/a							
VOCs	1,2-Dibromoethane (EDB)	0.588	n/a							
VOCs	1,2-Dichlorobenzene	2310	n/a							
VOCs	1,2-Dichloroethane	7.89	0.0113							
VOCs	1,2-Dichloropropane	15.2	n/a							
VOCs	1,3,5-Trimethylbenzene (Mesitylene)	780	n/a							
VOCs	1,3-Dichlorobenzene	n/a	n/a							
VOCs	1,3-Dichloropropane	1600	n/a							
VOCs	1,4-Dichlorobenzene	31.7	n/a							
VOCs	1-Chlorohexane	n/a	n/a							
VOCs	2,2-Dichloropropane	n/a	n/a							
VOCs	2-Butanone	37100	n/a							
VOCs	2-Chloroethyl vinyl ether	n/a	n/a							
VOCs	2-Chlorotoluene	1560	n/a							
VOCs	2-Hexanone	210	n/a							
VOCs	4-Chlorotoluene	1600	n/a							
VOCs	4-Methyl-2-pentanone	5820	n/a							
VOCs	Acetone	66600	65.8809							
VOCs	Acetonitrile	870	n/a							
VOCs	Acrolein	0.404	n/a							
VOCs	Acrylonitrile	4.55	n/a							
VOCs	Allyl chloride (3-Chloropopene)	1.8	n/a							
VOCs	Benzene	15.4	n/a							
VOCs	Benzyl Chloride	10	n/a							
VOCs	Bromobenzene	300	n/a							
VOCs	Bromochloromethane	160	n/a							
VOCs	Bromodichloromethane	5.41	n/a							
VOCs	Bromoform	616	n/a							
VOCs	Bromomethane	16.5	n/a							
VOCs	Carbon disulfide	1530	n/a							
VOCs	Carbon tetrachloride	10.8	n/a							
VOCs	Chlorobenzene	376	n/a							

Table C-3
Excavation Confirmation Soil Samples - Oxidizer Spill Pipe Discharge Area
SS-39, Holloman Air Force Base, New Mexico

			Area:	SS-39	SS-39	SS-39	SS-39	SS-39	SS-39
			SubArea:	Oxidizer Spill Pipe	Oxidizer Spill Pipe	Oxidizer Spill Pipe	Oxidizer Spill Pipe	Oxidizer Spill Pipe	Oxidizer Spill Pipe
			Sample Date:	3/28/2012	3/28/2012	3/28/2012	4/19/2012	4/19/2012	4/19/2012
			SampleID:	SS39-OXD-FL02	SS39-OXD-SW03	SS39-OXD-SW01	SS39-OXD-FL04A	SS39-OXD-FL04B	SS39-OXD-FL04C
			Depth (ft bgs):	2 to 2.5	2 to 4	0 to 2	4 to 4.5	4 to 4.5	4 to 4.5
			QCType	N	N	N	N	N	N
TestGroup	Parameter	SSL[1]	VI[2]	Result Qual	Result Qual	Result Qual	Result Qual	Result Qual	Result Qual
VOCs	Chloroethane	29800	n/a	0.0064 U	0.0067 U	0.0058 U			
VOCs	Chloroform	5.86	n/a	0.0064 U	0.0067 U	0.0058 U			
VOCs	Chloromethane	275	0.0330	0.0064 U	0.0067 U	0.0058 U			
VOCs	Cis-1,2-dichloroethene	156	n/a	0.0064 U	0.0067 U	0.0058 U			
VOCs	Cis-1,3-dichloropropene	n/a	n/a	0.0064 U	0.0067 U	0.0058 U			
VOCs	cis-1,4-Dichloro-2-butene	0.069	n/a	0.032 U	0.034 U	0.029 U			
VOCs	Cymene	n/a	n/a	0.0064 U	0.0067 U	0.0058 U			
VOCs	Dibromochloromethane	12.1	n/a	0.0064 U	0.0067 U	0.0058 U			
VOCs	Dibromomethane	51.6	n/a	0.0064 U	0.0067 U	0.0058 U			
VOCs	Dichlorodifluoromethane	168	n/a	0.0064 U	0.0067 U	0.0058 U			
VOCs	Ether, tert-butyl methyl	901	n/a	0.0064 U	0.0067 U	0.0058 U			
VOCs	Ethyl Methacrylate	4550	n/a	0.032 U	0.034 U	0.029 U			
VOCs	Ethylbenzene	68.4	44.2663	0.0064 U	0.0067 U	0.0058 U			
VOCs	Hexachlorobutadiene	61.1	n/a	0.0064 U	0.0067 U	0.0058 U			
VOCs	Hexane	938	n/a	0.0064 U	0.0067 U	0.0058 U			
VOCs	Iodomethane	n/a	n/a	0.013 U	0.013 U	0.012 U			
VOCs	Isopropylbenzene	2430	n/a	0.0064 U	0.0067 U	0.0058 U			
VOCs	m,p-Xylene	n/a	n/a	0.013 U	0.013 U	0.012 U			
VOCs	Methacrylonitrile	4.84	n/a	0.032 U	0.034 U	0.029 U			
VOCs	Methyl methacrylate	11200	n/a	0.0064 U	0.0067 U	0.0058 U			
VOCs	Methylene chloride	409	0.2544	0.013 U	0.013 U	0.012 U			
VOCs	Naphthalene	43	4.7531	0.0064 U	0.0067 U	0.0058 U			
VOCs	n-Butylbenzene	3900	n/a	0.0064 U	0.0067 U	0.0058 U			
VOCs	n-Propylbenzene	3400	n/a	0.0064 U	0.0067 U	0.0058 U			
VOCs	o-Xylene	898	2.0267	0.0064 U	0.0067 U	0.0058 U			
VOCs	Pentachloroethane	54	n/a	0.032 U	0.034 U	0.029 U			
VOCs	Propane Nitrile (Propionitrile)	n/a	n/a	0.064 U	0.067 U	0.058 U			
VOCs	sec-Butylbenzene	n/a	n/a	0.0064 U	0.0067 U	0.0058 U			
VOCs	Styrene	7280	n/a	0.0064 U	0.0067 U	0.0058 U			
VOCs	tert-Butylbenzene	n/a	n/a	0.0064 U	0.0067 U	0.0058 U			
VOCs	Tetrachloroethene	7.02	0.0130	0.0064 U	0.0067 U	0.0058 U			
VOCs	Toluene	5270	3.4429	0.0064 U	0.0067 U	0.0058 U			
VOCs	Trans-1,2-dichloroethene	270	n/a	0.0064 U	0.0067 U	0.0058 U			
VOCs	Trans-1,3-dichloropropene	n/a	n/a	0.0064 U	0.0067 U	0.0058 U			
VOCs	trans-1,4-Dichloro-2-butene	0.069	n/a	0.032 U	0.034 U	0.029 U			
VOCs	Trichloroethene	8.77	0.0011	0.0064 U	0.0067 U	0.0058 U			
VOCs	Trichlorofluoromethane	1410	n/a	0.0064 U	0.0067 U	0.0058 U			
VOCs	Vinyl acetate	2560	n/a	0.032 U	0.034 U	0.029 U			
VOCs	Vinyl chloride	0.728	n/a	0.0064 U	0.0067 U	0.0058 U			

Table C-3
Excavation Confirmation Soil Samples - Oxidizer Spill Pipe Discharge Area
SS-39, Holloman Air Force Base, New Mexico

			Area:	SS-39	SS-39	SS-39	SS-39	SS-39	SS-39
			SubArea:	Oxidizer Spill Pipe	Oxidizer Spill Pipe	Oxidizer Spill Pipe	Oxidizer Spill Pipe	Oxidizer Spill Pipe	Oxidizer Spill Pipe
			Sample Date:	4/19/2012	4/19/2012	4/19/2012	4/19/2012	4/19/2012	4/19/2012
			SampleID:	SS39-OXD-SW03A	SS39-OXD-SW03B	SS39-OXD-SW03C	SS39-OXD-SW03D	SS39-OXD-SW03E	SS39-OXD-FL04D
			Depth (ft bgs):	2 to 4	2 to 4	2 to 4	2 to 4	2 to 4	4 to 4.5
			QCType	N	N	N	N	N	N
TestGroup	Parameter	SSL[1]	VI[2]	Result Qual	Result Qual	Result Qual	Result Qual	Result Qual	Result Qual
VOCs	Chloroethane	29800	n/a						
VOCs	Chloroform	5.86	n/a						
VOCs	Chloromethane	275	0.0330						
VOCs	Cis-1,2-dichloroethene	156	n/a						
VOCs	Cis-1,3-dichloropropene	n/a	n/a						
VOCs	cis-1,4-Dichloro-2-butene	0.069	n/a						
VOCs	Cymene	n/a	n/a						
VOCs	Dibromochloromethane	12.1	n/a						
VOCs	Dibromomethane	51.6	n/a						
VOCs	Dichlorodifluoromethane	168	n/a						
VOCs	Ether, tert-butyl methyl	901	n/a						
VOCs	Ethyl Methacrylate	4550	n/a						
VOCs	Ethylbenzene	68.4	44.2663						
VOCs	Hexachlorobutadiene	61.1	n/a						
VOCs	Hexane	938	n/a						
VOCs	Iodomethane	n/a	n/a						
VOCs	Isopropylbenzene	2430	n/a						
VOCs	m,p-Xylene	n/a	n/a						
VOCs	Methacrylonitrile	4.84	n/a						
VOCs	Methyl methacrylate	11200	n/a						
VOCs	Methylene chloride	409	0.2544						
VOCs	Naphthalene	43	4.7531						
VOCs	n-Butylbenzene	3900	n/a						
VOCs	n-Propylbenzene	3400	n/a						
VOCs	o-Xylene	898	2.0267						
VOCs	Pentachloroethane	54	n/a						
VOCs	Propane Nitrile (Propionitrile)	n/a	n/a						
VOCs	sec-Butylbenzene	n/a	n/a						
VOCs	Styrene	7280	n/a						
VOCs	tert-Butylbenzene	n/a	n/a						
VOCs	Tetrachloroethene	7.02	0.0130						
VOCs	Toluene	5270	3.4429						
VOCs	Trans-1,2-dichloroethene	270	n/a						
VOCs	Trans-1,3-dichloropropene	n/a	n/a						
VOCs	trans-1,4-Dichloro-2-butene	0.069	n/a						
VOCs	Trichloroethene	8.77	0.0011						
VOCs	Trichlorofluoromethane	1410	n/a						
VOCs	Vinyl acetate	2560	n/a						
VOCs	Vinyl chloride	0.728	n/a						

Table C-3
Excavation Confirmation Soil Samples - Oxidizer Spill Pipe Discharge Area
SS-39, Holloman Air Force Base, New Mexico

			Area:	SS-39	SS-39	SS-39	SS-39	SS-39	SS-39	SS-39
			SubArea:	Oxidizer Spill Pipe	Oxidizer Spill Pipe	Oxidizer Spill Pipe	Oxidizer Spill Pipe	Oxidizer Spill Pipe	Oxidizer Spill Pipe	Oxidizer Spill Pipe
			Sample Date:	4/19/2012	5/14/2012	5/14/2012	5/14/2012	5/14/2012	5/14/2012	5/14/2012
			SampleID:	SS39-OXD-SW03F	SS39-OXD-FL04E	SS39-OXD-SW03G	SS39-OXD-FL04F	SS39-OXD-SW03H	SS39-OXD-FL03G	SS39-OXD-SW03I
			Depth (ft bgs):	2 to 4	4 to 4.5	2 to 4	4 to 4.5	2 to 4	3 to 3.5	2 to 4
			QCType	N	N	N	N	N	N	N
TestGroup	Parameter	SSL[1]	VI[2]	Result Qual	Result Qual	Result Qual	Result Qual	Result Qual	Result Qual	Result Qual
VOCs	Chloroethane	29800	n/a							
VOCs	Chloroform	5.86	n/a							
VOCs	Chloromethane	275	0.0330							
VOCs	Cis-1,2-dichloroethene	156	n/a							
VOCs	Cis-1,3-dichloropropene	n/a	n/a							
VOCs	cis-1,4-Dichloro-2-butene	0.069	n/a							
VOCs	Cymene	n/a	n/a							
VOCs	Dibromochloromethane	12.1	n/a							
VOCs	Dibromomethane	51.6	n/a							
VOCs	Dichlorodifluoromethane	168	n/a							
VOCs	Ether, tert-butyl methyl	901	n/a							
VOCs	Ethyl Methacrylate	4550	n/a							
VOCs	Ethylbenzene	68.4	44.2663							
VOCs	Hexachlorobutadiene	61.1	n/a							
VOCs	Hexane	938	n/a							
VOCs	Iodomethane	n/a	n/a							
VOCs	Isopropylbenzene	2430	n/a							
VOCs	m,p-Xylene	n/a	n/a							
VOCs	Methacrylonitrile	4.84	n/a							
VOCs	Methyl methacrylate	11200	n/a							
VOCs	Methylene chloride	409	0.2544							
VOCs	Naphthalene	43	4.7531							
VOCs	n-Butylbenzene	3900	n/a							
VOCs	n-Propylbenzene	3400	n/a							
VOCs	o-Xylene	898	2.0267							
VOCs	Pentachloroethane	54	n/a							
VOCs	Propane Nitrile (Propionitrile)	n/a	n/a							
VOCs	sec-Butylbenzene	n/a	n/a							
VOCs	Styrene	7280	n/a							
VOCs	tert-Butylbenzene	n/a	n/a							
VOCs	Tetrachloroethene	7.02	0.0130							
VOCs	Toluene	5270	3.4429							
VOCs	Trans-1,2-dichloroethene	270	n/a							
VOCs	Trans-1,3-dichloropropene	n/a	n/a							
VOCs	trans-1,4-Dichloro-2-butene	0.069	n/a							
VOCs	Trichloroethene	8.77	0.0011							
VOCs	Trichlorofluoromethane	1410	n/a							
VOCs	Vinyl acetate	2560	n/a							
VOCs	Vinyl chloride	0.728	n/a							

Notes:
All units are mg/kg, except % soilds.
Data Screening Levels:
[1] NMED 2012 Table A-1 Residential SSLs; underline indicates EPA Residential Soil RSL May 2012 adjusted to 10-5 c Risk
[2] Vapor Intrusion 10^{-5} calculated risk level for detected VOCs
n/a - not applicable
Data Qualifiers:
B - (Metals) Analyte detected between method detection limit and reporting limit; quantity estimated.
J - Estimated quantity
U - Analyte not detected above reporting detection limit that is shown
Red indicates > Residential SSLs for direct contact
Yellow shade indicates > 10^{-5} VI risk level for indoor air

Table C-4
Pre-Excavation Arsenic Delineation Soil Samples - Oxidizer Spill Pipe Discharge Area
SS-39, Holloman Air Force Base, New Mexico

			Area:	SS-39	SS-39	SS-39	SS-39	SS-39	SS-39	SS-39	SS-39	SS-39	SS-39
			SubArea:	Oxidizer Spill Pipe	Oxidizer Spill Pipe	Oxidizer Spill Pipe	Oxidizer Spill Pipe	Oxidizer Spill Pipe	Oxidizer Spill Pipe	Oxidizer Spill Pipe	Oxidizer Spill Pipe	Oxidizer Spill Pipe	Oxidizer Spill Pipe
			Sample Date:	4/19/2012	5/3/2012	5/3/2012	5/3/2012	5/3/2012	5/3/2012	5/3/2012	5/3/2012	5/3/2012	5/3/2012
			SampleID:	SS39-OXD-HA01	SS39-OXD-HA02	SS39-OXD-HA03	SS39-OXD-HA04	SS39-OXD-HA05	SS39-OXD-HA06	SS39-OXD-HA07	SS39-OXD-HA08	SS39-OXD-HA09	SS39-OXD-HA10
			Depth (ft bgs):	2 to 4	1.5 to 3.5	1.5 to 3.5	1.5 to 3.5	1.5 to 3.5	1.5 to 3.5	1.5 to 3.5	1.5 to 3.5	1.5 to 3.5	1.5 to 3.5
			QCType	N	N	N	N	N	N	N	N	N	N
TestGroup	Parameter	SSL[1]	VI [2]	Result Qual	Result Qual	Result Qual	Result Qual	Result Qual	Result Qual	Result Qual	Result Qual	Result Qual	Result Qual
Gen Chem	% Solid	n/a	n/a	87.5	87.3	86.4	86.7	89	82.6	73.9	82.8	81.1	82.3
Metals, Total	Arsenic	3.9	n/a	**13.4**	**7.2**	**12.4**	**9**	**10.7**	**12.6**	3	**5.3**	2.4	1.1

Notes:
All units are mg/kg, except % soilds.
Data Screening Levels:
[1] NMED 2012 Table A-1 Residential SSLs; underline indicates
EPA Residential Soil RSL May 2012 adjusted to 10-5 c Risk
[2] Vapor Intrusion 10^{-5} calculated risk level for detected VOCs
n/a - not applicable
Data Qualifiers:
B - (Metals) Analyte detected between method detection limit and reporting limit; quantity estimated.
J - Estimated quantity
U - Analyte not detected above reporting detection limit that is shown
Red indicates > Residential SSLs for direct contact
Yellow shade indicates > 10^{-5} VI risk level for indoor air

APPENDIX D

WASTE PROFILE SAMPLE DATA

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Table D-1
Waste Profile TCLP Sample Results
SS-39, Holloman Air Force Base, New Mexico

			Area	SS-39		SS-39		SS-39		SS-39	
			SubArea	Rolloff Boxes		Rolloff Boxes		Rolloff Boxes		Rolloff Boxes	
			SampleID	SS39-RB01-032912		SS39-RB02-032912		SS39-RB03-032912		SS39-RB04-032912	
			Depth (ft bgs)	0 to 2		1 to 3		2 to 4		3 to 5	
			QCType	N		N		N		N	
TestGroup	Units	TCLP (ug/L)	Parameter	Result	Qual	Result	Qual	Result	Qual	Result	Qual
General Chem	percent	n/a	% Solid	84.2		84.5		73.9		87.1	
General Chem	Deg F	n/a	Ignitability (Flashpoint)	200	>	200	>	200	>	200	>
Hydrocarbons	mg/kg	n/a	TPH (C10-C28)	156		38.3		123		16.1	
Hydrocarbons	mg/kg	n/a	TPH (C6-C10)	22.7		8.3	U	10	U	7.6	U
SW9012A	mg/kg	n/a	Cyanide	2.7	U	1.6	U	1	U	0.86	U
SW9034	mg/kg	n/a	Sulfide	180	U	100	U	66	U	57	U
SW9041	STD UNIT	n/a	pH	6.6		6.8		6.7		6.7	
TCLP Metals	ug/L	5,000	Arsenic	20	U	20	U	20	U	20	U
TCLP Metals	ug/L	100,000	Barium	120	B	110	B	140	B	92	B
TCLP Metals	ug/L	1,000	Cadmium	94		18	B	28	B	10	U
TCLP Metals	ug/L	5,000	Chromium	15	B	10	U	10	U	10	U
TCLP Metals	ug/L	5,000	Lead	10	U	10	U	920		160	B
TCLP Metals	ug/L	200	Mercury	0.5	U	0.5	U	0.5	U	0.5	U
TCLP Metals	ug/L	1,000	Selenium	20	U	28	B	28	B	20	U
TCLP Metals	ug/L	5,000	Silver	10	U	10	U	10	U	10	U
TCLPSW8260	ug/L	700	1,1-Dichloroethene	10	U	10	U	10	U	10	U
TCLPSW8260	ug/L	500	1,2-Dichloroethane	10	U	10	U	10	U	10	U
TCLPSW8260	ug/L	7,500	1,4-Dichlorobenzene	10	U	10	U	10	U	10	U
TCLPSW8260	ug/L	200,000	2-Butanone	50	U	50	U	50	U	50	U
TCLPSW8260	ug/L	500	Benzene	10	U	10	U	10	U	10	U
TCLPSW8260	ug/L	500	Carbon tetrachloride	10	U	10	U	10	U	10	U
TCLPSW8260	ug/L	100,000	Chlorobenzene	10	U	10	U	10	U	10	U
TCLPSW8260	ug/L	6,000	Chloroform	10	U	10	U	10	U	10	U
TCLPSW8260	ug/L	700	Tetrachloroethene	3.6	J	10	U	10	U	10	U
TCLPSW8260	ug/L	500	Trichloroethene	10	U	10	U	10	U	10	U
TCLPSW8260	ug/L	200	Vinyl chloride	10	U	10	U	10	U	10	U
TCLPSW8270	ug/L	7,500	1,4-Dichlorobenzene	50	U	50	U	50	U	50	U
TCLPSW8270	ug/L	400,000	2,4,5-Trichlorophenol	50	U	50	U	50	U	50	U
TCLPSW8270	ug/L	2,000	2,4,6-Trichlorophenol	50	U	50	U	50	U	50	U
TCLPSW8270	ug/L	130	2,4-Dinitrotoluene	50	U	50	U	50	U	50	U
TCLPSW8270	ug/L	200,000	4-Methylphenol	50	U	50	U	50	U	50	U
TCLPSW8270	ug/L	130	Hexachlorobenzene	50	U	50	U	50	U	50	U
TCLPSW8270	ug/L	500	Hexachlorobutadiene	50	U	50	U	50	U	50	U
TCLPSW8270	ug/L	3,000	Hexachloroethane	50	U	50	U	50	U	50	U
TCLPSW8270	ug/L	n/a	M,P-Cresol	50	U	50	U	50	U	50	U
TCLPSW8270	ug/L	2,000	Nitrobenzene	50	U	50	U	50	U	50	U
TCLPSW8270	ug/L	100,000	Pentachlorophenol	250	U	250	U	250	U	250	U
TCLPSW8270	ug/L	5,000	Pyridine	100	U	100	U	100	U	100	U

APPENDIX E

WASTE MANIFESTS

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CAMINO REAL LANDFILL

P.O. Box 580 Sunland Park, N.M. 88063 (575) 589-9440

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

№ 72831

NON HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

MANIFEST DOCUMENT NO. 032712-01

2. Page 1 of 1 CRE1178

3. Generator's Name and Mailing Address
Holloman Air Force Base
49 CES/CEVR, 550 Tabosa Ave.
Holloman AFB, NM 88330
SS-39
Building 1176
HAFB, NM

4. Generator's Phone (575) 572-5395

A. State Manifest Document Number

B. State Generator's ID

5. Transporter 1 Company Name: Rhino Environmental Services, Inc.

6. Address: PO Box 310, Canutillo, TX

C. State Transporter's ID

D. Transporter's Phone (915) 886-1355 or (800) 762-0241

7. Transporter 2 Company Name: NA

8. Address: NA

E. State Transporter's ID

F. Transporter's Phone

9. Designated Facility Name and Site Address
Camino Real Environmental Center
Camino Real Blvd.
Sunland Park, NM

10. US EPA ID Number: NA

G. State Facility's ID SWM-030738
State ID #SW0665P

H. Facility's Phone (575) 589-9440

11A HM	11. US DOT Description (including Proper Shipping Name, Non Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol.	I. Waste No.
	a. Non-Hazardous Soils	1	Dump	20	yd³	
	b.					
	c.					
	d.					

J. Additional Descriptions for Materials Listed Above
Non-Hazardous Soil

K. Handling codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, including applicable state regulations.
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GENERATOR

Printed/Typed Name: JAMES B. HUNT
Signature: James B. Hunt
Month 03 Day 27 Year 12

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Gustavo Espinoza
Signature: Gustavo Espinoza
Date: Month 03 Day 28 Year 12

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name:
Signature:
Date: Month Day Year

FACILITY

19. Discrepancy Indication Space
454527 20 yd

20. Facility Owner or Operator: Certification of receipt of non-hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: FRANCISCO CEJA
Signature: Francisco Ceja
Date: Month 3 Day 28 Year 12

White - Original Green - TSD Facility Canary - Transporter II Pink - Transporter I Gold-Rod - Generator's first copy

CAMINO REAL LANDFILL

P.O. Box 580 Sunland Park, N.M. 88063 (575) 589-9440

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

№ 72845

NON HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

MANIFEST DOCUMENT NO. 041912-01

2. Page 1 of 1 CRE1184

3. Generator's Name and Mailing Address: Holloman Air Force Base, 49 CES/CEVR, 550 Tabosa Ave., Holloman AFB, NM 88330 — SS-39, Test Track Near Bldg 1645, HAFB, NM

4. Generator's Phone ( ) 575 572-5395

A. State Manifest Document Number

B. State Generator's ID

5. Transporter 1 Company Name: Rhino Environmental Services, Inc.

6. Address: PO Box 310, Canutillo, TX

C. State Transporter's ID

D. Transporter's Phone (915) 886-4355

7. Transporter 2 Company Name

8. Address

E. State Transporter's ID

F. Transporter's Phone

9. Designated Facility Name and Site Address: Camino Real Environmental Center, Camino Real Blvd., Sunland Park, NM

10. US EPA ID Number: NA

G. State Facility's ID State ID #SW9605P (575) 589-9440 Swm-030738

H. Facility's Phone

11A HM	11. US DOT Description (including Proper Shipping Name, Non Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol.	I. Waste No.
	a. Non-Hazardous Soils	1	Dump	~~20~~ 12	yd³	
	b.					
	c.					
	d.					

J. Additional Descriptions for Materials Listed Above: Non-Hazardous Soil / OXIDIZER

K. Handling codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, including applicable state regulations.
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GENERATOR

Printed/Typed Name: JAMES B. HUNT — Signature: James B. Hunt — Month 04 Day 19 Year 2012

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials — Date

Printed/Typed Name: Danny Herrera — Signature: Danny Herrera — Month 4 Day 19 Year 12

18. Transporter 2 Acknowledgement of Receipt of Materials — Date

Printed/Typed Name: Gustavo Esparza — Signature: Gustavo Esparza — Month 04 Day 20 Year 12

FACILITY

19. Discrepancy Indication Space

#460465 12yd

20. Facility Owner or Operator: Certification of receipt of non-hazardous materials covered by this manifest except as noted in Item 19. — Date

Printed/Typed Name: Juan Cordova — Signature: [illegible] — Month 4 Day 20 Year 12

White - Original Green - TSD Facility Canary - Transporter II Pink - Transporter I Gold-Rod - Generator's first copy

CAMINO REAL LANDFILL

P.O. Box 580 Sunland Park, N.M. 88063 (575) 589-9440

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

№ 72846

NON HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

MANIFEST DOCUMENT NO. 041912-02

2. Page 1 of 1 CRE 1184

3. Generator's Name and Mailing Address
Holloman Air Force Base SS-39
49 CES/CEVR, 550 Tabosa Ave. Test Track Near Bldg. 1645
Holloman AFB, NM 88330 HAFB, NM

4. Generator's Phone (575) 572-5395

A. State Manifest Document Number

B. State Generator's ID

5. Transporter 1 Company Name: Chemical Transportation, Inc.

6. Address: 400 Inglewood Dr., Ste. E, EP, TX

C. State Transporter's ID (915) 860-1161

D. Transporter's Phone

7. Transporter 2 Company Name

8. Address

E. State Transporter's ID

F. Transporter's Phone State ID #SW9605P

9. Designated Facility Name and Site Address
Camino Real Environmental Center
Camino Real Blvd.
Sunland Park, NM

10. US EPA ID Number: NA

G. State Facility's ID (575) 589-9440

H. Facility's Phone

11A HM	11. US DOT Description (including Proper Shipping Name, Non Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol.	I. Waste No.
	a. Non-Hazardous Soils	1	Dump	20	yd³	
	b.					
	c.					
	d.					

J. Additional Descriptions for Materials Listed Above
Non-Hazardous Soil / OXIDIZER

K. Handling codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
BIN 1191 Charge to Rhino

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, including applicable state regulations.
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Printed/Typed Name: JAMES B. HUNT Signature: James B. Hunt Month 04 Day 19 Year 2012

GENERATOR

17. Transporter 1 Acknowledgement of Receipt of Materials — Date

Printed/Typed Name: Jose Luis Saucedo Signature: [signature] Month 04 Day 19 Year 2012

18. Transporter 2 Acknowledgement of Receipt of Materials — Date

Printed/Typed Name Signature Month Day Year

TRANSPORTER

19. Discrepancy Indication Space
#460596 2 yds

20. Facility Owner or Operator: Certification of receipt of non-hazardous materials covered by this manifest except as noted in Item 19. — Date

Printed/Typed Name: Edgar Cordova Signature: [signature] Month 4 Day 20 Year 12

FACILITY

White - Original Green - TSD Facility Canary - Transporter II Pink - Transporter I Gold-Rod - Generator's first copy

CAMINO REAL LANDFILL

P.O. Box 580 Sunland Park, N.M. 88063 (575) 589-9440

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

№ 72847

NON HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.:
MANIFEST DOCUMENT NO.: 041912-03
2. Page 1 of 1: CRE1183

3. Generator's Name and Mailing Address:
Holloman Air Force Base SS-39
49 CES/CEVR, 550 Tabosa Ave. Test Track Near Bldg. 1645
Holloman AFB, NM 88330 HAFB, NM

4. Generator's Phone (575) 572-5395

A. State Manifest Document Number
B. State Generator's ID

5. Transporter 1 Company Name: Chemical Transportation, Inc.
6. Address: 400 Inglewood Dr., Ste. E, EP, TX
C. State Transporter's ID
D. Transporter's Phone: (915) 860-1161

7. Transporter 2 Company Name:
8. Address:
E. State Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address:
Camino Real Environmental Center
Camino Real Blvd.
Sunland Park, NM
10. US EPA ID Number: NA
G. State Facility's ID: State ID #SW3605P (575) 589-9440
H. Facility's Phone

11A HM	11. US DOT Description (including Proper Shipping Name, Non Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol.	I. Waste No.
	a. Non-Hazardous Soils	1	Dump	20	yd	
	b.					
	c.					
	d.					

J. Additional Descriptions for Materials Listed Above: Non-Hazardous Soil / PROPELLANT

K. Handling codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information: 2-20 yds. Box 1192 Change To RHND

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, including applicable state regulations.
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Printed/Typed Name: JAMES B. HUNT
Signature: James B. Hunt
Date: Month 04 Day 19 Year 2012

GENERATOR

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: CHEMICAL TRANSPORT INC.
Signature: [signature]
Date: Month 04 Day 19 Year 12

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name:
Signature:
Date: Month Day Year

FACILITY

19. Discrepancy Indication Space: # 460494 20 yd

20. Facility Owner or Operator: Certification of receipt of non-hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: Juan Cordova
Signature: [signature]
Date: Month 4 Day 20 Year 12

White - Original Green - TSD Facility Canary - Transporter II Pink - Transporter I Gold-Rod - Generator's first copy

CAMINO REAL LANDFILL

P.O. Box 580 Sunland Park, N.M. 88063 (575) 589-9440

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

№ 72848

NON HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.:
MANIFEST DOCUMENT NO.: 041912-05
2. Page 1 of 1: CRE1182

3. Generator's Name and Mailing Address: Holloman Air Force Base SS-39, 49 CES/CEVR, 550 Tabosa Ave. Bldg. 1176, Holloman AFB, NM 88330 HAFB, NM

4. Generator's Phone (575) 572-5395

A. State Manifest Document Number:
B. State Generator's ID:

5. Transporter 1 Company Name: Chemical Transportation, Inc.
6. Address: 400 Inglewood Dr., Ste. E, EP, TX
C. State Transporter's ID:
D. Transporter's Phone: (915) 860-1161

7. Transporter 2 Company Name:
8. Address:
E. State Transporter's ID:
F. Transporter's Phone:

9. Designated Facility Name and Site Address: Camino Real Environmental Center, Camino Real Blvd., Sunland Park, NM
10. US EPA ID Number: NA
G. State Facility's ID: State ID #SW0605P
H. Facility's Phone: (575) 589-9440

11A HM	11. US DOT Description (including Proper Shipping Name, Non Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol.	I. Waste No.
	a. Non-Hazardous Soils	1	Dump	20	yd³	
	b.					
	c.					
	d.					

J. Additional Descriptions for Materials Listed Above: Non-Hazardous Soil

K. Handling codes for Wastes Listed Above:

15. Special Handling Instructions and Additional Information: Box 1184 Charge to Rhino

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, including applicable state regulations.
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Printed/Typed Name: JAMES B. HUNT
Signature: James B. Hunt
Date: Month 04 Day 19 Year 2012

GENERATOR

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Jose Luis Saucedo
Signature:
Date: Month 04 Day 19 Year 2012

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name:
Signature:
Date: Month Day Year

TRANSPORTER

19. Discrepancy Indication Space: #460595 20yds

20. Facility Owner or Operator: Certification of receipt of non-hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: Edgar Cordova
Signature:
Date: Month 4 Day 20 Year 12

FACILITY

White - Original Green - TSD Facility Canary - Transporter II Pink - Transporter I Gold-Rod - Generator's first copy

CAMINO REAL LANDFILL

P.O. Box 580 Sunland Park, N.M. 88063 (575) 589-9440

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

№ 72850

NON HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.:
MANIFEST DOCUMENT NO.: 041912-04
2. Page 1 of 1: CRE1182

3. Generator's Name and Mailing Address: Holloman Air Force Base, 49 CES/CEVR, 550 Tabosa Ave., Holloman AFB, NM 88330; SS-39, Bldg. 1176, HAFB, NM

4. Generator's Phone (575) 572-5395

A. State Manifest Document Number:
B. State Generator's ID:

5. Transporter 1 Company Name: Chemical Transportation, Inc.
6. Address: 400 Inglewood Dr., Ste. E, EP, TX
C. State Transporter's ID:
D. Transporter's Phone: (915) 860-1161

7. Transporter 2 Company Name:
8. Address:
E. State Transporter's ID:
F. Transporter's Phone:

9. Designated Facility Name and Site Address: Camino Real Environmental Center, Camino Real Blvd., Sunland Park, NM
10. US EPA ID Number: NA
G. State Facility's ID: State ID #SW9605P (575) 589-9440
H. Facility's Phone:

11A HM	11. US DOT Description (including Proper Shipping Name, Non Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol.	I. Waste No.
	a. Non-Hazardous Soils	1	Dump	20	yd³	
	b.					
	c.					
	d.					

J. Additional Descriptions for Materials Listed Above: Non-Hazardous Soil

K. Handling codes for Wastes Listed Above:

15. Special Handling Instructions and Additional Information: Box 699 Change to Rhino

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, including applicable state regulations.
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Printed/Typed Name: JAMES B. HUNT
Signature: James B. Hunt
Month 04 Day 19 Year 2012

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Chemical Transport Inc.
Signature:
Date: Month 04 Day 19 Year 12

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name:
Signature:
Date: Month Day Year

FACILITY

19. Discrepancy Indication Space: #460484 2 - 20 yd³

20. Facility Owner or Operator: Certification of receipt of non-hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: Juan Cordova
Signature:
Date: Month 4 Day 20 Year 12

White - Original Green - TSD Facility Canary - Transporter II Pink - Transporter I Gold-Rod - Generator's first copy

CAMINO REAL LANDFILL

P.O. Box 580 Sunland Park, N.M. 88063 (575) 589-9440

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

No. 72332

NON HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

MANIFEST DOCUMENT NO.

2. Page 1 of CRE 1184

3. Generator's Name and Mailing Address

4. Generator's Phone ( )

A. State Manifest Document Number

B. State Generator's ID

5. Transporter 1 Company Name

6. Address

C. State Transporter's ID

D. Transporter's Phone

7. Transporter 2 Company Name

Gomez Tile

8. Address

E. State Transporter's ID

F. Transporter's Phone

9. Designated Facility Name and Site Address

10. US EPA ID Number

G. State Facility's ID

H. Facility's Phone

GENERATOR

11A HM	11. US DOT Description (including Proper Shipping Name, Non Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol.	I. Waste No.
	a.					
	b.					
	c.					
	d.					

J. Additional Descriptions for Materials Listed Above

Tech Tracks Near Bldg 1145

K. Handling codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

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Printed/Typed Name: JAMES B. HUNT

Signature: James B. Hunt

Month 05 Day 14 Year 12

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Date

Printed/Typed Name

Signature

Month Day Year

18. Transporter 2 Acknowledgement of Receipt of Materials

Date

Printed/Typed Name #05

Signature

Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of non-hazardous materials covered by this manifest except as noted in Item 19.

Date

Printed/Typed Name

Signature

Month Day Year

White - Original Green - TSD Facility Canary - Transporter II Pink - Transporter I Gold-Rod - Generator's first copy

CAMINO REAL LANDFILL

P.O. Box 580 Sunland Park, N.M. 88063 (575) 589-9440

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

No. 72335

NON HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

MANIFEST DOCUMENT NO.

2. Page 1 of CRL 1154

3. Generator's Name and Mailing Address

4. Generator's Phone ( )

A. State Manifest Document Number

B. State Generator's ID

5. Transporter 1 Company Name

6. Address

C. State Transporter's ID

D. Transporter's Phone

7. Transporter 2 Company Name Gomez Trucking

8. Address

E. State Transporter's ID

F. Transporter's Phone

9. Designated Facility Name and Site Address

10. US EPA ID Number

G. State Facility's ID

H. Facility's Phone

11A HM	11. US DOT Description (including Proper Shipping Name, Non Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol.	I. Waste No.
	a.					
	b.					
	c.					
	d.					

J. Additional Descriptions for Materials Listed Above

Rail Track Nav. Bldg 1145
S-39 Fertilizer

K. Handling codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, including applicable state regulations.
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Printed/Typed Name: JAMES B. HUNT

Signature: James B Hunt

Date: Month 05 Day 14 Year 12

GENERATOR

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Date: Month Day Year

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name 17410 #15

Signature

Date: Month 5 Day 14 Year 12

TRANSPORTER

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of non-hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name

Signature

Date: Month Day Year

FACILITY

White - Original Green - TSD Facility Canary - Transporter II Pink - Transporter I Gold-Rod - Generator's first copy

CAMINO REAL LANDFILL

P.O. Box 580 Sunland Park, N.M. 88063 (575) 589-9440

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

№ 72836

NON HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

MANIFEST DOCUMENT NO.

2. Page 1 of CRE1154

3. Generator's Name and Mailing Address

4. Generator's Phone ( )

A. State Manifest Document Number

B. State Generator's ID

5. Transporter 1 Company Name Gomez Trucking

6. Address

C. State Transporter's ID

D. Transporter's Phone

7. Transporter 2 Company Name

8. Address

E. State Transporter's ID

F. Transporter's Phone

9. Designated Facility Name and Site Address

10. US EPA ID Number

G. State Facility's ID

H. Facility's Phone

11A HM	11. US DOT Description (including Proper Shipping Name, Non Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol.	I. Waste No.
	a.					
	b.					
	c.					
	d.					

J. Additional Descriptions for Materials Listed Above

Test Trap Mgr 1145 9/11/12

K. Handling codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, including applicable state regulations.
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Printed/Typed Name: JAMES B. HUNT

Signature: James B. Hunt

Month 05 Day 14 Year 12

GENERATOR

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Date

Printed/Typed Name

Signature

Month Day Year

#15

18. Transporter 2 Acknowledgement of Receipt of Materials

Date

Printed/Typed Name

Signature

Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of non-hazardous materials covered by this manifest except as noted in Item 19.

Date

Printed/Typed Name

Signature

Month Day Year

White - Original Green - TSD Facility Canary - Transporter II Pink - Transporter I Gold-Rod - Generator's first copy

CAMINO REAL LANDFILL

P.O. Box 580 Sunland Park, N.M. 88063 (575) 589-9440

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

No. 72337

NON HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

MANIFEST DOCUMENT NO.

2. Page 1 of CRL 1134

3. Generator's Name and Mailing Address

4. Generator's Phone ( )

A. State Manifest Document Number

B. State Generator's ID

5. Transporter 1 Company Name Gomez Trucking

6. Address

C. State Transporter's ID

D. Transporter's Phone

7. Transporter 2 Company Name

8. Address

E. State Transporter's ID

F. Transporter's Phone

9. Designated Facility Name and Site Address

10. US EPA ID Number

G. State Facility's ID

H. Facility's Phone

11A HM	11. US DOT Description (including Proper Shipping Name, Non Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol.	I. Waste No.
	a.					
	b.					
	c.					
	d.					

J. Additional Descriptions for Materials Listed Above

K. Handling codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, including applicable state regulations.
If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: JAMES B. HUNT | Signature: James B. Hunt | Month 05 Day 14 Year 12

GENERATOR

17. Transporter 1 Acknowledgement of Receipt of Materials | Date

Printed/Typed Name | Signature | Month Day Year

18. Transporter 2 Acknowledgement of Receipt of Materials | Date

Printed/Typed Name #05 | Signature | Month Day Year

TRANSPORTER

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of non-hazardous materials covered by this manifest except as noted in Item 19. | Date

Printed/Typed Name | Signature | Month Day Year

FACILITY

White - Original Green - TSD Facility Canary - Transporter II Pink - Transporter I Gold-Rod - Generator's first copy

CAMINO REAL LANDFILL

P.O. Box 580 Sunland Park, N.M. 88063 (575) 589-9440

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

No. 72888

NON HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

MANIFEST DOCUMENT NO.

2. Page 1 of CRL 1184

3. Generator's Name and Mailing Address

4. Generator's Phone ( )

A. State Manifest Document Number

B. State Generator's ID

5. Transporter 1 Company Name

6. Address

C. State Transporter's ID

D. Transporter's Phone

7. Transporter 2 Company Name

8. Address

E. State Transporter's ID

F. Transporter's Phone

9. Designated Facility Name and Site Address

10. US EPA ID Number

G. State Facility's ID

H. Facility's Phone

11A HM	11. US DOT Description (including Proper Shipping Name, Non Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol.	I. Waste No.
	a.					
	b.					
	c.					
	d.					

J. Additional Descriptions for Materials Listed Above

Int Track Nr 1145

K. Handling codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, including applicable state regulations.
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Printed/Typed Name: JAMES B. HUNT | Signature: James B Hunt | Month 05 Day 14 Year 12

GENERATOR

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials | Date

Printed/Typed Name: Gustavo Esquivel 525 | Signature: Gustavo Esquivel | Month 05 Day 15 Year 12

18. Transporter 2 Acknowledgement of Receipt of Materials | Date

Printed/Typed Name | Signature | Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of non-hazardous materials covered by this manifest except as noted in Item 19. | Date

Printed/Typed Name | Signature | Month Day Year

White - Original Green - TSD Facility Canary - Transporter II Pink - Transporter I Gold-Rod - Generator's first copy

CAMINO REAL LANDFILL

P.O. Box 580 Sunland Park, N.M. 88063 (575) 589-9440

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

№ 72839

NON HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

MANIFEST DOCUMENT NO.

2. Page 1 of CRL 1184

3. Generator's Name and Mailing Address

4. Generator's Phone ( )

A. State Manifest Document Number

B. State Generator's ID

5. Transporter 1 Company Name

6. Address

C. State Transporter's ID

D. Transporter's Phone

7. Transporter 2 Company Name

8. Address

E. State Transporter's ID

F. Transporter's Phone

9. Designated Facility Name and Site Address

10. US EPA ID Number

G. State Facility's ID

H. Facility's Phone

11A HM	11. US DOT Description (including Proper Shipping Name, Non Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol.	I. Waste No.
	a.					
	b.					
	c.					
	d.					

J. Additional Descriptions for Materials Listed Above

TLT LUCK LAR LUC 1145 1/CYANIDIZLP

K. Handling codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, including applicable state regulations.
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Printed/Typed Name: JAMES B. HUNT | Signature: James B. Hunt | Month 09 Day 14 Year 12

GENERATOR

17. Transporter 1 Acknowledgement of Receipt of Materials | Date

Printed/Typed Name: Gustavo Espinoza S.S. | Signature: Gustavo Espinoza | Month 09 Day 14 Year 12

18. Transporter 2 Acknowledgement of Receipt of Materials | Date

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of non-hazardous materials covered by this manifest except as noted in Item 19. | Date

Printed/Typed Name | Signature | Month | Day | Year

FACILITY

White - Original Green - TSD Facility Canary - Transporter II Pink - Transporter I Gold-Rod - Generator's first copy

CAMINO REAL LANDFILL

P.O. Box 580 Sunland Park, N.M. 88063 (575) 589-9440

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

No. 72340

GENERATOR

NON HAZARDOUS WASTE MANIFEST	1. Generator's US EPA ID No.	MANIFEST DOCUMENT NO.	2. Page 1 of	CRE 1184

3. Generator's Name and Mailing Address 4. Generator's Phone ( )	A. State Manifest Document Number B. State Generator's ID
5. Transporter 1 Company Name / 6. Address	C. State Transporter's ID D. Transporter's Phone
7. Transporter 2 Company Name / 8. Address	E. State Transporter's ID F. Transporter's Phone
9. Designated Facility Name and Site Address / 10. US EPA ID Number	G. State Facility's ID H. Facility's Phone

11A HM	11. US DOT Description (including Proper Shipping Name, Non Hazard Class, and ID Number)	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt/Vol.	I. Waste No.
	a.			12		
	b.					
	c.					
	d.					

J. Additional Descriptions for Materials Listed Above	K. Handling codes for Wastes Listed Above
Test track near Bldg-1145 SS-29 / Oxidizer	

15. Special Handling Instructions and Additional Information

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, including applicable state regulations.
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Printed/Typed Name	Signature	Month	Day	Year
JAMES B. HUNT	James B. Hunt		5	12

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials		Date		
Printed/Typed Name	Signature	Month	Day	Year
Danny Meyers #527	Danny Meyers	5	15	12

18. Transporter 2 Acknowledgement of Receipt of Materials		Date		
Printed/Typed Name	Signature	Month	Day	Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of non-hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Date Month	Day	Year

White - Original Green - TSD Facility Canary - Transporter II Pink - Transporter I Gold-Rod - Generator's first copy