DEPARTMENT OF THE AIR FORCE

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HOLLOMAN AIR FORCE BASE, NEW MEXICO

ENTERED

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Chief, Holloman AFB Environmental
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0-16-2013 A11:07

New Mexico Environment Department
Attn: Mr. John Kieling, Chief
Hazardous Waste Bureau
2905 Rodeo Park Drive East, Building 1
Santa Fe NM

Dear Mr. Kieling

Holloman Air Force Base is pleased to submit the Final Long Term Monitoring Report 2012-2013 for SD-27 Pad 9 Drainage Pit (SWMU 141) 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 me at at (575) 572-3931 or by e-mail at deanna.rothhaupt@holloman.af.mil.

Sincerely

DEANNA ROTHHAUPT, GS-12, DAF

Attachment:
Final Long Term Monitoring Report 2012-2013 for SD-27 Pad 9 Drainage Pit (SWMU 141)

cc:

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Mr. David Strasser	Mr. Will Moats	Mr. Chuck Hendrickson
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TETRA TECH

09 October 2013 T93002

Ms. DeAnna Rothhaupt
49 CES/CEIE
Holloman Air Force Base
New Mexico 88330

Subject: Submittal of the Final Long-Term Monitoring Report, 2012 – 2013 for SD-27 (SWMU 141), Holloman Air Force Base, Alamogordo, New Mexico, October 2013. Milestone Task: 9.17

Reference: Contract No. FA4890-06-D-0009, Task DBR2 5002

Dear Ms. Rothhaupt:

Please find attached three hard copies and three electronic copies of the Final Long-Term Monitoring Report, 2012 – 2013 for SD-27 (SWMU 141), Holloman Air Force Base, Alamogordo, New Mexico, dated September 2013, for the referenced task order. This final report incorporates revisions to the draft document based on comments received from Mr. David Rizzuto via email dated October 1, 2013. A response to comments is attached to this letter.

If you have any questions or concerns regarding this report, please feel free to contact me at (865) 220-4753 (frank.bogle@tetratech.com). We appreciate the opportunity to be of service to AFCEE and HAFB.

Respectfully Submitted,
TETRA TECH, INC.

Frank R. Bogle

Frank R. Bogle, PG, CPG
Project Manager

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Responses to Government Review Comments

DRAFT Long-Term Monitoring Report (2012-2013)
SD-27 Pad 9 Drainage Pit (SWMU 141)
Holloman Air Force Base, New Mexico
(Contract: FA4890-06-D-0009, Task Order 5002)
Prepared by: Tetra Tech.
Report dated September 2013

1. Respondent Concurs (C), Does not Concur (D), takes Exception (E), or Comment Noted (N).
2. Commentator Agrees (A) with response or Does not Agree (D) with response.

Comment #	Page/Section/Paragraph/Line	Comment	C,D, E, or N (1)	Response	A or D (2)
Reviewer: D.Rizzuto					
1	3-1/3.0/1/6	States that Method 8015 was used for VOCs?	C	LTM groundwater samples collected between 2010 and 2011 included analyses for TPH using Method 8015C that by definition includes various VOC compounds. However, in the context of the cited text, and since TPH is listed in a subsequent bullet, the reference to 8015C in the first bullet has been removed to avoid confusion.	
2	3-3/3.5/1/3	In the last sentence of pharagraph 1, please explain that remedial actions were not completed prior to the last sampling event.	C	The cited paragraph has been revised as suggested.	
3	4-1/4.1/2/5	"measured" should be "measuring" ??	C	The cited paragraph has been revised as suggested.	

Responses to Government Review Comments - Continued

Comment #	Page/Section/Paragraph/Line	Comment	C,D, E, or N (1)	Response	A or D (2)
4	Table 4-3, note1	This note indicates that the EPA MCL was used only if no NMWQCC standard exists. Module 4, Appendix 4-F, Section III.1 of the RCRA Part B permit states that: "If both the WQCC ground water standard and an MCL have been established for an individual hazardous waste and/or constituents, then the lower of the two levels will be the cleanup level for that hazardous waste and/or constituent." Note that Benzene, Ethylbenzene and Toluene have lower MCLs. **(All Tables in document affected)** Please revise "SV" Colum to the lower of the two levels. **(All Tables in document affected)** Please clarify/revise note for organic constituents as there are no background levels for these. Where did the (SV) level for Trichloroethene (100 ug/l) come from?	C	The screening values (SV) have been revised to use the lower of the NMWQCC and MCL criteria. In addition, screening criteria for TPH have been added based on NMED guidance. All tables impacted by the revisions (Tables 4-3 and 4-4) have been corrected. Also, text in Sections 3.2, 4.3, 4.3.1, and 4.3.2 and Figure 4-3 were revised to reflect the revisions to the screening criteria. The use of HAFB background as a SV has been revised in the text and Table 4-4 to clarify that it applies only to inorganic constituents. Trichloroethene is a pseudonym for 1,1,2-Trichloroethelyene for which NMWQCC set the criteria as 100 µg/L (NMAC 20.6.2.3103). However, the MCL is lower at 5 µg/L and is used as the SV.	

- *David L. Rizzuto, Restoration* Contractor *575-572-5395 david.rizzuto.ctr@holloman.af.mil*
- *Charlie Lawton, Restoration Contractor, Charlie.Lawton@holloman.af.mil*

FINAL
LONG-TERM MONITORING REPORT
2012 – 2013
FOR
SD-27 PAD 9 DRAINAGE PIT (SWMU 141)
HOLLOMAN AIR FORCE BASE, NEW MEXICO
EPA ID# NM6572124422

Prepared for:

Air Force Civil Engineering Center
San Antonio, Texas

Prepared by:

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Contract No. FA4890-06-D-0009
Task Order No. 5002

OCTOBER 2013

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ACRONYMS

ACC	Air Combat Command
ACM	Accelerated Corrective Measures
ACMWP	Accelerated Corrective Measures Work Plan
AMC	Air Materiel Command
bgs	below ground surface
DO	dissolved oxygen
DRO	diesel range organics
EPA	U.S. Environmental Protection Agency
GRO	gasoline range organics
ft	foot or feet
HAFB	Holloman Air Force Base
HGL	HydroGeoLogic, Inc.
LTM	long-term monitoring
MCL(s)	maximum contaminant level(s)
µg/L	micrograms per liter
mg/L	milligrams per liter
mS/cm	milliSiemens per centimeter
NFA	no further action
NMAC	New Mexico Administrative Code
NMED	New Mexico Environment Department
NMWQCC	New Mexico Water Quality Control Commission
NTU(s)	nephelometric turbidity unit(s)
ORP	oxidation-reduction potential
PA/SI	preliminary assessment/site investigation
Radian	Radian Corporation
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investigation
RFI	RCRA Facility Investigation
SSL(s)	soil screening level(s)
SVOC(s)	semivolatile organic compound(s)
SWMU	Solid Waste Management Unit
TDS	total dissolved solids
Tetra Tech	Tetra Tech, Inc.

TPH	total petroleum hydrocarbons
USACE	U.S. Army Corp of Engineers
VOC(s)	volatile organic compound(s)

1.0 INTRODUCTION

This Long-Term Monitoring (LTM) Report was prepared by Tetra Tech, Inc. (Tetra Tech) on behalf of Holloman Air Force Base (HAFB). Groundwater LTM activities were conducted at the Environmental Restoration Program site SD-27 – Pad 9 Drainage Pit (Solid Waste Management Unit [SWMU] 141). Tetra Tech has prepared this document under contract to the U.S. Air Force Center for Engineering and the Environment Contract No. FA4890-06-D-0009, Task Order Number 5002, in accordance with the New Mexico Environment Department (NMED) Hazardous and Radioactive Materials Bureau position paper on *General Reporting Requirements for Routine Groundwater Monitoring at RCRA Sites* (NMED, 2003).

This report presents the results, analysis, and recommendations for only site SD-27. The sampling results for all LTM sampling events conducted under Task Order Number 5002 since November 2011 at site SD-27 are included in this LTM report. Quarterly LTM sampling at SD-27 was suspended following the July 2011 sample event with NMED concurrence (in anticipation of site remedial efforts); it was resumed in October 2012 and completed in August 2013 under Task Order Number 5002.

1.1 BASIS FOR LONG-TERM MONITORING

In the 1990s, a remedial investigation (RI) was conducted at SD-27. In 2001, a site close-out petition recommending No Further Action (NFA) was developed for SD-27 and submitted to NMED. NMED subsequently requested that additional site characterization be performed for SD-27 based upon historical soil and groundwater sample results. A supplemental Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) work plan that included site SD-27 was submitted to NMED in July 2005 to address additional characterization requirements (HydroGeoLogic [HGL], 2005). The supplemental RFI at SD-27 was conducted in 2006 with the results presented in a Supplemental RFI report submitted to NMED in July 2007 (HGL, 2007).

An Accelerated Corrective Measures Work Plan (ACMWP) for SD-27 was submitted to NMED in April 2009 (Tetra Tech, 2009). The ACMWP proposed continuation of quarterly groundwater LTM sampling and reinstated the sampling program in November 2010. Subsequent LTM events were conducted in January, April, and July of 2011. LTM sampling was suspended in 2011 in anticipation of remedial actions at the site (Tetra Tech, 2012). In January 2012, an ACMWP Addendum for SD-27 was submitted to NMED (and subsequently approved), which proposed excavation of impacted vadose and shallow saturated soil as the remedial action for both soil and shallow groundwater. As of late 2012, the remedial effort had not been initiated; therefore, quarterly sampling was restarted in October 2012 with

the goal of completing the contract-required eight quarters of sampling before the period of performance ended on September 30, 2013.

1.2 PURPOSE

This LTM Report is part of the ongoing effort to monitor groundwater quality at SD-27 and determine when the objectives for groundwater cleanup have been met and are sustainable. The overall objective of this LTM program is to support regulatory site closure for SD-27.

1.3 REPORT ORGANIZATION

This 2012 – 2013 LTM Report presents site-specific background information, groundwater sampling procedures, analytical results, and recommendations for SD-27. The document contains six sections providing an introduction and presentation of the site background, sampling procedures used for LTM activities, the results of the groundwater monitoring, summary and recommendations, and references.

The tables and figures referenced in this LTM report are included following Section 7.0. This report also includes four appendices that provide information and forms for activities conducted and data collected since the previous LTM report (Tetra Tech, 2012b), including:

- Appendix A - laboratory data review checklists,
- Appendix B - chain of custody records,
- Appendix C - laboratory reports (provided on the attached CD or DVD), and
- Appendix D - field data forms

2.0 BACKGROUND

The following sections present location and background information for HAFB and for site SD-27 that is addressed in this LTM Report.

2.1 FACILITY BACKGROUND

HAFB is situated in south-central New Mexico, in the northwest-central part of Otero County, approximately 75 miles northeast of El Paso, Texas, and 7 miles west of Alamogordo, New Mexico. HAFB occupies approximately 50,000 acres in the northeast quarter of section Township 17 South, Range 8 East. Adjacent land extending northward and southward from HAFB is occupied by the White Sands Missile Range testing facilities. An installation location map is included as Figure 2-1. The location of SD-27 with respect to the surrounding area is shown on Figure 2-2.

HAFB, formally Alamogordo Army Airfield, was initiated as a temporary facility during World War II, with construction commencing on February 6, 1942. Its status, mission, and Command have periodically changed over its 68-year history.

Prior to 1942, the property occupied by HAFB was undeveloped rangeland. The Alamogordo Army Airfield was established in 1942 and deactivated in 1945. The facility was reactivated in 1945 and 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; however, the facility identification changed several times during the 20-year span as follows:

- Air Force Missile Test Center (1951-1952),
- Holloman Air Development Center (1952-1957), and
- Air Force Missile Test Center (1957-1971).

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 Air Combat Command (ACC) and currently operates under the Command of the ACC.

2.2 SITE-SPECIFIC BACKGROUND

The SD-27 Pad 9 Drainage Pit (SWMU 141), as shown on Figure 2-3, is located within the airfield, east of Taxiway F near former Building T884. SD-27 is an inactive washrack area that consists of the following:

- A circular concrete pad that is approximately 150 feet (ft) in diameter;
- A concrete-constructed sump that is approximately 4 ft wide, 7 ft long, and 1 to 1.5 ft deep;
- An associated concrete-lined drainage gallery that is 0.5 ft wide and 0.5 feet deep and runs the radius of the concrete washrack;
- A former unlined drainage pit that is approximately 50 ft in diameter and 12 ft deep; and
- A buried drainage pipe leading from the sump southward to the former drainage pit.

The concrete pad slopes gently to the center toward the grate covered drainage gallery. Wash water in the gallery flows through a trough in the pad to the sump discharge pipe, which extends to the unlined drainage pit approximately 215 ft south of the concrete pad. The drainage pit is no longer used; it has been backfilled to within 2 to 3 ft of grade and can be identified only as a small depression. The backfilled pit supports a thick concentration of shrubs.

The area immediately surrounding SD-27 is unpaved, undeveloped, and currently used as a safety buffer for Base runway operations. An active taxiway, Taxiway F, is located approximately 200 ft west of SD-27.

The SD-27 Pad 9 Washrack Area was used to wash down drones and manned aircraft that had flown through clouds of nuclear test blast materials in the late 1940s and early 1950s. No information is available regarding the exact year when washrack activities ceased at SD-27. However, according to former military personnel, no aircraft maintenance activities occurred at SD-27 after the cessation of washing down potentially radioactive contaminated drones and manned aircraft (Radian Corporation [Radian], 1993).

In May 1976, a radiation site screening was conducted at SD-27. Based upon the results of this investigation, it was determined that no radiation above background was present in soils within the discharge pit, and the pit was backfilled to grade (Radian, 1993). During a Preliminary Assessment/Site Investigation (PA/SI) conducted by Radian in 1993, four soil borings were advanced within the former

drainage pit adjacent to Pad 9 and within the footprint of a former transformer. Stained soils and fuel odors were encountered within the drainage pit between 6 and 16 ft below ground surface (bgs), at and below the top of the water table. Results from samples collected within the drainage pit included total petroleum hydrocarbons (TPH), ethylbenzene, toluene, and xylenes. None of these analytes exceeded applicable NMED soil screening levels (SSLs) at that time. Based on the results of the PA/SI, a Phase II RI was conducted, which included the advancement of one boring through the discharge pit to a depth of 16 ft bgs. Volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), and total recoverable petroleum hydrocarbons were detected in the three samples collected from this soil boring. These results were not compared to SSLs due to the samples being collected below the water table. In December 2001, a Site Close-Out Petition letter was submitted to NMED requesting NFA at SD-27. In March 2002, NMED responded to the letter requesting additional soil and groundwater characterization. Between May and June 2006, Supplemental RFI activities were conducted by HGL, which included sediment sampling from the drainage gallery/sump, soil sampling throughout the site, and groundwater grab sampling. Based on the results of the Supplemental RFI, further investigation of SD-27 was recommended by HGL to determine appropriate remedial actions, if necessary.

In November 2010 and March 2011, Tetra Tech conducted additional investigation activities at SD-27 as part of the accelerated corrective measures (ACM). During investigation activities, 31 soil borings were advanced to a maximum depth of 25 ft bgs and five permanent flush-mount monitoring wells (MW27-01 through MW27-05) were installed to depths ranging from 15.24 to 19.91 ft bgs. During the two sampling events, 80 soil samples were collected and sent to an off-site laboratory for analysis of VOCs, SVOCs, TPH-diesel range organics (DRO), TPH-gasoline range organics (GRO), total and dissolved RCRA metals, and various radioactive isotopes including lead-210, radium-226 and -228, isotopic thorium, and isotopic uranium. The soil data results showed that petroleum hydrocarbons (VOCs, TPH-DRO, and TPH-GRO) are the primary soil contaminants at SD-27. VOCs, TPH-DRO, and TPH-GRO concentrations above NMED residential and industrial SSLs were observed within and downgradient of the former drainage pit.

The five site wells were first sampled in November 2010; this event initiated a planned eight-quarter LTM sampling program for SD-27. Information regarding the groundwater LTM sampling methods and the results are included in the following sections.

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3.0 SAMPLING PROCEDURES

The approved LTM Program protocol for HAFB was first established for baseline sampling conducted in 1995 and was subsequently implemented base wide in 2003 (U.S. Army Corp of Engineers [USACE], 2003). The same sampling protocols used during these earlier sampling events were incorporated into the ACMWP (Tetra Tech, 2009). All analytical procedures followed SW-846 methods, with groundwater samples being analyzed using the following methodologies:

- VOCs by U.S. Environmental Protection Agency (EPA) Method 8260B,
- SVOCs by EPA Method 8270D,
- TPH-DRO and -GRO by EPA Method 8015C,
- Metals by EPA Method 6010C and 7470A, and
- Total Dissolved Solids (TDS) by Method SM19 2540C.

Groundwater monitoring and sampling activities conducted during 2012 and 2013 were conducted in accordance with the site-specific work plan for SD-27 (Tetra Tech, 2009). Variations from the specified procedures are discussed in the following section.

3.1 VARIATIONS FROM THE WORK PLAN

The sampling procedures and analytical protocol presented in the LTM Work Plan (USACE, 2003; Tetra Tech, 2009) were followed; however, deviations occurred based on the issues presented below:

- Based on additional site characterization, evaluation of exposure pathways and risk, and clean-up goals for SD-27, the ACMWP Addendum (Tetra Tech, 2012a) approved by NMED recommended monitoring for only VOCs in groundwater. Thus, groundwater samples collected during LTM sampling beginning in December 2012 and ending in August 2013 were analyzed for VOCs only.

- Because VOCs are the primary constituent of concern in groundwater, following purging using a peristaltic pump, the sample was retrieved from the well using one of two methods described below other than the direct fill method stipulated in the work plan (Tetra Tech, 2009):

    - At the end of purging, the peristaltic pump was stopped, the tubing was crimped and removed from the well, and the sample was discharged out the bottom of the tubing with minimal agitation into the sample container (i.e., the straw method), or

- At the completion of purging, the peristaltic pump was stopped, the tubing was crimped and removed from the well, and the well was allowed to recharge (typically overnight for dewatered wells). During purging, if the well was not dewatered below the top of the screen interval, then the tubing intake was raised to the top of the water column during purging to ensure that stagnant water was removed. Subsequently, the sample was retrieved using a new, clean, disposable Teflon bailer and new nylon cord and was bottom discharged from the bailer into the sample containers with minimal agitation.

3.2 DATA EVALUATION

Analytical results from the 2012 and 2013 sampling events were reviewed and compared with the results of the previous LTM events (Tetra Tech, 2010, 2011, and 2012b) to determine groundwater quality and to assess trends in the plume. Although historical groundwater grab-sample data date back to the Supplemental RFI conducted in May 2006, only quarterly samples from monitoring wells installed in 2010 that currently represent the site conditions are included in this report.

The ACMWP documented that natural background TDS levels in the groundwater at SD-27 are above 10,000 milligrams per liter (mg/L) (Tetra Tech, 2012a), and thus are above the threshold at which groundwater is considered not to be a potential domestic or agricultural water supply (New Mexico Administrative Code [NMAC], 20.6.2.3101). Although groundwater is considered non-potable at site SD-27, the New Mexico Water Quality Control Commission (NMWQCC) standards for groundwater containing less than 10,000 mg/L (NMAC 20.6.2.3103), supplemented by NMED guidance for investigations and remediation (NMED, 2012b), the NMED-approved HAFB background values (NMED, 2012a), and EPA maximum contaminant levels (MCLs) (EPA, 2012) are used for screening to determine where groundwater has been impacted and to assess site conditions. However, these criteria are not used to define cleanup objectives.

In addition, to be consistent with the ACMWP Addendum (Tetra Tech, 2012a), the LTM data have also been screened against remediation goals to prevent vapor intrusion risk due to the presence of VOCs in the groundwater. The criteria used are the EPA 10^{-5} risk level default values for vapor intrusion from groundwater to indoor air (EPA, 2002) and NMED guidance for TPH (NMED, 2012b).

Finally, the previous LTM report (Tetra Tech, 2012b) used the NMED 2012 tap water screening levels listed in the *Risk Assessment Guidance for Site Investigations and Remediation, Table A-1* as screening

criteria for groundwater (NMED, 2012b). However, NMED does not currently use tap water criteria to regulate groundwater; thus, the NMWQCC standards as described above are used in this report.

3.3 DATA VALIDATION

Detailed information regarding laboratory methods and data quality is provided on the data review checklists included in Appendix A and the laboratory analytical data deliverable packages included on a CD or DVD as Appendix C. The Chain of Custody Record for all samples is included in Appendix B. Data completeness for the analytical results for all samples collected at SD-27 was determined to meet the project data quality objectives. Based on the data review and validation, the analytical data were determined to be acceptable, representative, comparable, and useable for their intended purpose.

3.4 WATER LEVEL MEASUREMENTS

Prior to each groundwater sampling event, static water levels are obtained from the five permanent monitoring wells (MW27-01 through MW27-05) at SD-27. Monitoring well construction and survey information for the monitoring wells at SD-27 are summarized in Table 3-1. Water level measurements were collected by lowering an electronic water level probe into the well until the alarm sounded, indicating the water surface in the well. The corresponding value on the tape, measured to the nearest 0.01 ft from the top of the well casing, was then recorded as depth to water. For the first several measurement events, the alarm was then turned off, and the probe was lowered to the bottom of the well to determine the total well depth, to the nearest 0.01 ft, for each well. Because of consistent total depths and lack of observed sediment accumulation in the bottom of the wells, total depth was not re-measured during subsequent events.

3.5 GROUNDWATER PURGING AND SAMPLING

The monitoring wells at SD-27 were monitored quarterly in November 2010 through July 2011. The quarterly LTM sampling at SD-27 was suspended after the July 2011 event with the goal of commencing after completion of the pending remedial action at the site. Quarterly sampling was restarted in October 2012 and completed in August 2013 to meet the contract-required eight sampling events. It is noted that remedial action at the site was not completed prior to the final sampling event.

All wells were purged during each event using a peristaltic pump fitted with disposable tubing and employing low-flow purging and sampling methods. During the purging process, water quality

parameters (pH, specific conductance, temperature, dissolved oxygen [DO], oxidation-reduction potential [ORP], turbidity, and salinity) were measured using a flow-through cell and water quality meter. Well purging was considered complete when a minimum of three tubing and flow-cell volumes had been purged and stabilization of the water quality parameters was achieved in accordance with the work plan and the NMED position paper regarding the use of low-flow sampling techniques (USACE, 2003 and NMED, 2001). In general, stabilization of water quality parameters was achieved after purging approximately one to three casing volumes from each well. However, due to the low permeability of the shallow aquifer and low yield of the monitoring wells, the water level in four of the five wells (all except MW27-01) would frequently draw down to the bottom of the well (i.e., dry well) at low flow rates (200 milliliters per minute or less). After achieving stabilization, and if the well did not go dry, the appropriate sample containers were filled using direct fill (events one through four) and the 'straw method' (events five through eight). If the well was purged to dryness, then the well was allowed to recharge, typically overnight, and the sample was collected the following morning using a new, dedicated, Teflon bailer with new cord.

Groundwater samples collected at SD-27 for events one through four (2010-2011) were submitted to an off-site laboratory and analyzed for VOCs, SVOCs, TPH- DRO, and TPH- GRO, TDS, total and dissolved RCRA metals. Samples from only the first event (November 2010) were also analyzed for radionuclides (gross alpha, gross beta). Groundwater samples collected at SD-27 for events five through eight (2012-2013) were submitted to an off-site laboratory and analyzed for VOCs only.

4.0 GROUNDWATER MONITORING RESULTS

The following sections present a summary of the findings from the fieldwork conducted at site SD-27 for the December 2012 through August 2013 LTM sampling events. Historical data and references to prior LTM events are incorporated where relevant.

4.1 HYDROGEOLOGY

A summary of the groundwater measurements and calculated groundwater elevations for all eight LTM events is provided in Table 4-1. Depths to water level below the top of the well casings were recorded on the individual sample data sheets included in Appendix D. The depth data were converted to groundwater elevations based on the surveyed top of well casing elevations. The calculated groundwater elevations for the water table aquifer were used to prepare a groundwater potentiometric surface map for the August 2013 data (Figure 4-1). As shown on Figure 4-1, the groundwater potentiometric surface at SD-27 is nearly flat, with an overall slight gradient to the south-southwest. The August 2013 water level data demonstrate a groundwater flow gradient (0.007) and direction consistent with all four 2012-2013 measurement events.

The well hydrographs provided on Figure 4-2 indicate that the groundwater elevations varied by up to approximately 2 feet over the historical monitoring period. The November 2010 groundwater elevation data show a departure from the remaining seven measurement events with four of five wells exhibiting lower than normal elevations and well MW27-05 showing the highest elevation. This is likely a result of measuring the November 2010 water levels shortly after the wells were installed; it is surmised that the wells had not equilibrated following installation due to formation disturbance and the low permeability of the shallow aquifer. Measurements since November 2010 exhibit a consistent pattern on the hydrographs and the depth to groundwater at SD-27 ranged from approximately 9.2 to approximately 10.8 ft bgs.

Groundwater elevations for all wells were falling from January 2011 through June 2013, with a rise in August 2013. This trend is likely explained by a prolonged drought (low recharge) during this period, with total rainfall amounts at HAFB of 2.59 inches in July and 0.57 inches in August before the August 2013 measurement event. As indicated above, the rise and fall of the water table had little to no observable effect on the hydraulic gradient and groundwater flow direction at the site.

4.2 WATER QUALITY

Water quality parameters were collected during well purging, and the final values are presented on Table 4-2. Groundwater quality parameter measurements obtained during the purging process were recorded on groundwater field sampling data sheets that are included in Appendix D. The range of the groundwater quality parameters for the 2012-2013 LTM events are summarized below.

- The groundwater pH ranged from 6.55 to 7.50 standard units. The data are consistent with historical LTM groundwater pH and suggest a consistent near-neutral condition.
- Specific conductance ranged from 14.3 to 46 milliSiemens per centimeter (mS/cm), excluding a spurious result of 151 mS/cm at well MW27-01in March 2013. The data are consistent with historical LTM results and suggest brackish groundwater conditions consistent with known high concentrations of TDS (> 10,000 mg/L) in site groundwater.
- The groundwater temperature varied from 17.6 to 24 degrees Celsius, reflecting the different seasons during which measurements were conducted, ranging from summer to late winter. Temperatures were consistent with historical LTM events.
- Turbidity in the monitoring wells at SD-27 ranged from 0 to 21.3 nephelometric turbidity units (NTUs) and is consistent with historical LTM data, with one exception. The exceptional result of 130 NTUs at well MW27-03 in March 2013 reflects the end of purging at a time when the well quickly went dry and is not representative of the clear, colorless sample collected following well recharge. The turbidity measurement of 0 NTU for all wells during the December 2012 event suggests the field meter was faulty.
- The ORP of groundwater ranged from -316 to 127 millivolts and is consistent with historical LTM data. Overall negative ORP values were observed in all monitoring wells except upgradient well MW27-01. The data indicate that reducing conditions are present in and around the former drainage pit where the groundwater plume is present.
- DO concentrations ranged from 0.00 to 10.3 mg/L across the site. Historically, only upgradient well MW27-01 contained DO greater than 1 mg/L; wells near the former drainage pit where the groundwater plume exists historically showed concentrations less than 1 mg/L, providing evidence that reducing conditions are present in and around the plume area. Other than lower water levels, there is no known change in 2012-2013 site conditions compared to historical LTM events that correlate with the apparent increase in DO across the site.

4.3 GROUNDWATER SAMPLING RESULTS

Groundwater was sampled from all five permanent monitoring wells (MW27-01 through MW27-05) at the site during each of four LTM events conducted between December 2012 and August 2013. All samples were analyzed for VOCs only. The groundwater sample data sheets for these events are included in Appendix D.

Table 4-3 provides the results for all VOC-chemicals detected in groundwater during the December 2012 through August 2013 LTM sampling events. Only VOCs are shown on the table since the ACMWP Addendum (Tetra Tech, 2012a) demonstrated that VOCs were the primary contaminant risk drivers in groundwater at the site. All groundwater analytical results from all LTM sampling events (eight events between November 2010 and August 2013) are presented in Table 4-4. As discussed in Section 3.2, NMWQCC standards for groundwater supplemented by NEMD guidance, EPA MCLs, and HAFB background, where applicable, and EPA and NMED default vapor intrusion criteria are used in these tables for screening detected chemical concentrations in groundwater. Exceedances of these criteria are shown in the table using formatting explained in the table footnotes. The HAFB background values are used as the screening value for inorganics in the tables where background is higher than the remaining criteria.

4.3.1 VOCs

Twenty VOCs were detected in groundwater samples collected at SD-27 during the 2012-2013 LTM events (see Table 4-3). The VOC chemicals that exceed the screening criteria, the well locations, and the concentrations observed are shown on Figure 4-3. Of the detected VOCs, only 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, benzene, ethylbenzene, isopropylbenzene, methylene chloride, and naphthalene were detected at concentrations that exceeded one or both of the screening values, as summarized below:

- 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene were detected at wells MW27-02, MW27-03, and MW27-05 only; only the concentrations at well MW27-05 exceeded the criteria for vapor intrusion. The maximum concentration of 1,2,4-trimethylbenzene exceeded the vapor intrusion criteria by a factor of approximately 16 times; the maximum concentrations of 1,3,5-trimethylbenzene exceeded the vapor intrusion criteria by a factor of approximately 4 times.
- Benzene was detected at wells MW27-02 and MW27-05 only. Only the concentrations of benzene at well MW27-05 exceeded the screening criteria. The maximum concentration of benzene at well MW27-05 (i.e., 736 µg/L in June 2013) exceeded the vapor intrusion criterion was exceeded by a factor of approximately 53 times.

- Ethylbenzene was detected at wells MW27-02, MW27-04, and MW27-05; only the maximum concentration (i.e., 865 µg/L in June 2013) at well MW27-05 exceeded the screening criteria. The vapor intrusion criterion was exceeded by a factor of approximately 1.3 times.
- Isopropylbenzene was detected at wells MW27-02, MW27-03, MW27-04, and MW27-05 only; the concentrations at wells MW27-02, MW27-04 (December 2010 only), and MW27-05 exceeded the criteria for vapor intrusion. The maximum concentration of isopropylbenzene (76.5 µg/L) exceeded the vapor intrusion criteria by a factor of approximately 9 times.
- Methylene chloride was detected once at well MW27-01 (4 J µg/L in December 2012) and once at well MW27-05 (March 2013 in both parent and duplicate samples). Only the maximum concentration detected at well MW27-05 (61.3 µg/L) exceeded the screening criteria. However, the criterion for vapor intrusion was not exceeded.
- Naphthalene was detected at well MW27-05 only. The maximum concentration of naphthalene at well MW27-05 (38 µg/L in June 2013) did not exceed the vapor intrusion criterion.

For all LTM events conducted between November 2010 and August 2013 (see Table 4-4), VOC exceedances of the screening criteria have primarily occurred in samples collected from monitoring well MW27-05, located northeast of the former drainage pit along the buried pipeline coming from the washrack, and well MW27-02, located southwest of the former drainage pit. The source of VOCs at monitoring well MW27-05 is attributed to either leakage in the pipe (pipe joint at the bend in the drainage pipe) or radial contaminant flow from the former pit during historic, episodic buildup of water (i.e., hydraulic head) in the pit. Based on the south-southwest direction of groundwater flow and the presence of VOCs at well MW27-02 and MW27-04, it appears that VOC contamination has migrated with groundwater flow downgradient of the former drainage pit and the pipeline (area of well MW27-05). Concentration trends for benzene and isopropylbenzene in groundwater, the VOCs that that have been detected at the highest concentrations and that most frequently exceed the VI SVs, respectively, are shown in Figures 4-4 and 4-5.

4.3.2 Other Parameters

As noted, sampling events conducted from December 2012 through August 2013 included analyses of groundwater for VOCs only. Prior LTM events included analyses for SVOCs, TPH, metals, radionuclides, and general chemistry; however, the previous LTM report (Tetra Tech, 2013b) screened the results using the NMED tap water screening levels (NMED, 2012b). General statements about these parameters for all previous LTM events (2010-2011) based on the screening values used in this report (e.g., NMWQCC standards) are included below for reference, and the data are shown in Table 4-4.

- TDS was analyzed for all well samples; all samples exceeded 10,000 mg/L on all sampling dates.
- Alkalinity, nitrate, and sulfate were analyzed only for samples from wells MW27-01 and MW27-02 during the April 2011 LTM event. Only nitrate exceeded the screening criteria (both wells). MW27-01 is located upgradient of the former drainage pit and shows no other site-related contamination, suggesting that nitrate is a background issue.
- Three SVOCs exceeded the screening criteria:1-methylnapthalene, naphthalene, and phenol. All exceedances occurred in wells MW27-02 and MW27-05 and are co-located with the VOC plume.
- TPH-DRO and TPH-GRO were detected in samples collected from monitoring wells MW27-02 through MW27-05 during all sampling events. A relatively low, estimated concentration of TPH-DRO was observed in a sample collected from monitoring well MW27-01 during the November 2010 sampling event, but has not subsequently observed. The highest concentrations of TPH-DRO (maximum 1,230 µg/L) and TPH-GRO (maximum 3,310J µg/L) were observed in monitoring wells MW27-02 and MW27-05 and exceeded the screening criteria. The vapor intrusion criteria were not exceeded.
- No RCRA metals exceeded the screening criteria.
- Gross alpha and beta were analyzed as a one-time event in groundwater samples collected during November 2010. Due to high total solids content, these samples were not amenable to the procedures used to analyze gross alpha and beta; thus, the sample results were rejected. Based on the results of the radiation protection program and sample analyses, SD-27 is not a source of radiation contamination (Tetra Tech, 2012a).

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5.0 SUMMARY AND RECOMMENDATIONS

This 2012 – 2013 LTM report presents the procedures and results for the four LTM sampling events conducted between December 2012 and August 2013 at SD-27. Groundwater samples were submitted to an off-site laboratory for site-specific chemical analysis, and the analytical results are presented and evaluated against criteria applicable to the proposed site cleanup. Results were consistent with previous LTM sampling events. A site-specific summary and recommendations are provided below.

5.1 SUMMARY

VOCs associated with petroleum hydrocarbon contamination (e.g., benzene, ethylbenzene, naphthalene) that exceed groundwater screening criteria have been limited to samples collected from monitoring wells MW27-05, located northeast of the former drainage pit, and MW27-02, located southwest of the former drainage pit. The site history and contaminant signature indicate that the source of contamination was a past release of petroleum fuels (e.g., jet fuel, avgas). The source of VOCs at monitoring well MW27-05 is attributed either to a leak from the drainage pipe that transported wash water from the drainage gallery to the former drainage pit or episodic radial flow of contaminated groundwater away from the former drainage pit during historical high head conditions (i.e., pooling in the pit). Due to the presence of VOCs at monitoring well MW27-05 and the direction of groundwater to the south and southwest toward MW27-02, it is concluded that VOCs have migrated with groundwater flow downgradient of the former drainage pit and pipe. As shown by the data provided on Figure 4-3, the concentrations of VOCs in groundwater at SD-27 have remained relatively consistent throughout the four 2012-2013 quarterly sampling events and are consistent with all LTM samples conducted since November 2010 (see Table 4-4). These results indicate that no new contributions of contamination are entering the groundwater. The groundwater gradient is low (as seen on Figure 4-1), and the groundwater velocity has been estimated to be 1 ft per year (Tetra Tech, 2012a). The near-neutral pH, oxidizing conditions, and historically low DO concentrations in the groundwater at the site (see Section 4-2), coupled with the stable concentration trends and low groundwater velocity, indicate that the plume of petroleum fuel contaminants is likely stable at the site.

5.2 RECOMMENDATIONS

Based on the above information, it is recommended that LTM continue at SD-27 to monitor the trends and potential movement of VOC contaminants at the site. However, because of the low groundwater

velocity and relative chemical trend stability observed, it is recommended that sampling be conducted at a reduced frequency (e.g., annual) until the impacted soil within and adjacent to the former drainage pit is remediated (e.g., per approved ACMWP Addendum, Tetra Tech, 2012a). Once impacted soil is addressed at SD-27, one year of quarterly sampling is recommended to monitor short-term impacts to groundwater and to ensure re-stabilization of local groundwater geochemistry following soil remediation activities. Subsequently, because of the low groundwater velocity at the site, the groundwater monitoring frequency may be reduced if additional sampling is necessary to demonstrate that SD-27 meets the criteria for site closure.

6.0 REFERENCES

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TABLES

Table 3-1
Monitoring Well Construction Details for SD-27
Holloman AFB, New Mexico

Well ID	Installation Date	Survey Data					Boring Information		Well Construction Information						
		Northing[1]	Easting[1]	Elevation (ft amsl)			Borehole Depth (ft bgs)	Borehole Diameter (in)	Total Well Depth (ft bgs)	PVC Diameter (in)	Length of Riser Pipe (ft)[3]	Screen Slot Size (in)	Length of Screen (ft)	Screened Interval (ft bgs)	
				Top of Casing[2]	Top of Monument[2]	Ground[2]								Top	Bottom
MW27-01	11/10/2010	673935.93	1684057.36	4063.93	NA	4063.84	18.03	3.25	17.99	2	8.08	0.01	10.0	7.99	17.69
MW27-02	11/6/2010	673560.57	1683937.63	4063.20	NA	4063.33	17.33	3.25	17.29	2	7.16	0.01	10.0	7.29	16.99
MW27-03	11/5/2010	673541.52	1683974.40	4063.08	NA	4063.24	15.28	3.25	15.24	2	7.58	0.01	7.5	7.74	14.94
MW27-04	11/6/2010	673586.15	1684019.49	4063.43	NA	4063.52	17.44	3.25	17.43	2	7.34	0.01	10.0	7.43	17.13
MW27-05	11/9/2010	673654.29	1684003.46	4063.58	NA	4063.59	19.95	3.25	19.91	2	9.90	0.01	10.0	9.91	19.61

Notes:
[1] All locations are in NAD 83 State Plane New Mexico C Grid with the exception of well MW30&33-05R whose location is in US survey feet.
[2] EGM96.
[3] Includes stickup

amsl - above mean sea level
bgs - below ground surface
EGM96 - Earth Gravitational Model 1996
ft - feet
ID - identification
in - inches
NA - not applicable
NAD 83 - North American Datum 1983
NAVD 88 - North American Vertical Datum 1988
NP - not provided
PVC - polyvinyl chloride

Table 4-1
Groundwater Level Measurements for SD-27
Holloman AFB, New Mexico

Well	Ground Surface Elevation (ft)	Water Level Data							
		Nov-10		Jan-11		Apr-11		Jul-11	
		Depth to Water * (ft btoc)	Groundwater Elevation* (ft amsl)	Depth to Water (ft btoc)	Groundwater Elevation (ft amsl)	Depth to Water (ft btoc)	Groundwater Elevation (ft amsl)	Depth to Water (ft btoc)	Groundwater Elevation (ft amsl)
MW27-01	4063.93	10.12	4053.81	8.51	4055.42	8.65	4055.28	9.14	4054.79
MW27-02	4063.20	11.48	4051.72	8.95	4054.25	9.07	4054.13	9.83	4053.37
MW27-03	4063.08	10.76	4052.32	8.88	4054.20	8.94	4054.14	9.71	4053.37
MW27-04	4063.43	11.26	4052.17	8.94	4054.49	9.1	4054.33	9.71	4053.72
MW27-05	4063.58	8.65	4054.93	8.58	4055.00	8.91	4054.67	9.47	4054.11

Well	Ground Surface Elevation (ft)	Water Level Data							
		Dec-12		Mar-13		Jun-13		Aug-13	
		Depth to Water (ft btoc)	Groundwater Elevation (ft amsl)	Depth to Water (ft btoc)	Groundwater Elevation (ft amsl)	Depth to Water (ft btoc)	Groundwater Elevation (ft amsl)	Depth to Water (ft btoc)	Groundwater Elevation (ft amsl)
MW27-01	4063.93	9.76	4054.17	9.85	4054.08	10.14	4053.79	9.21	4054.72
MW27-02	4063.20	10.34	4052.86	10.4	4052.80	10.76	4052.44	9.96	4053.24
MW27-03	4063.08	10.18	4052.90	10.25	4052.83	10.5	4052.58	9.77	4053.31
MW27-04	4063.43	10.25	4053.18	10.31	4053.12	10.57	4052.86	9.75	4053.68
MW27-05	4063.58	9.93	4053.65	10.07	4053.51	10.36	4053.22	9.58	4054.00

Notes:
amsl - above mean sea level
btoc - below top of casing
ft - feet
***** - groundwater level measurements were collected prior to development of well.

Table 4-2
Groundwater Quality Parameters for SD-27
Holloman AFB, New Mexico

Field Parameter	Date	MW27-01	MW27-02	MW27-03	MW27-04	MW27-05
pH	November 2010	7.68	7.57	7.33	7.51	7.74
	January 2011	6.98	7.11	7.24	7.51	6.87
	April 2011	7.02	6.78	7.16	6.89	6.74
	July 2011	7.13	6.90	6.92	7.14	6.74
	December 2012	7.45	7.27	7.50	7.34	7.14
	March 2013	6.81	7.13	7.09	6.61	6.55
	June 2013	7.10	7.14	7.04	6.98	7.03
	August 2013	6.99	6.89	6.97	6.99	6.86
Specific Conductance (mS/cm)	November 2010	27.4	21.0	34.4	35.7	23.1
	January 2011	32.0	33.4	43.8	45.9	32.0
	April 2011	27.7	22.1	36.2	45.5	23.1
	July 2011	32.0	21.2	31.0	47.0	23.2
	December 2012	40.7	30.7	38.2	46.0	34.9
	March 2013	151	23.9	24.8	14.7	14.3
	June 2013	19.6	16.0	18.8	21.3	17.0
	August 2013	19.1	16.6	19.2	22.0	16.4
Temperature (ºC)	November 2010	22.85	18.33	19.40	20.42	18.43
	January 2011	19.84	17.86	18.17	17.89	20.30
	April 2011	21.62	17.84	20.20	20.44	17.71
	July 2011	23.22	22.50	22.20	21.60	20.10
	December 2012	20.46	21.12	19.95	19.32	17.61
	March 2013	'a'	20.09	18.70	'a'	'a'
	June 2013	21.80	20.60	20.70	23.40	21.80
	August 2013	24.01	20.18	21.95	21.92	20.92
Turbidity (NTU)	November 2010	37.3	4.3	80.7	147	14.1
	January 2011	42.4	74.2	43.7	20.1	15.9
	April 2011	37.4	0.0	107	4.7	1.4
	July 2011	97.0	0.0	'a'	26.8	8.2
	December 2012	0.0	0.0	0.0	0.0	0.0
	March 2013	12.1	2.4	130	17.4	6.0
	June 2013	3.9	0.9	1.7	11.8	6.6
	August 2013	1.9	0.7	21.3	2.0	13.6
Oxidation Reduction Potential (mV)	November 2010	102	-248	-113	-185	48
	January 2011	117	-233	-106	-214	-98
	April 2011	82	-257	-101	-87	-97
	July 2011	152	-280	-77	-184	-253
	December 2012	127	-210	-8	-134	-220
	March 2013	112	-239	61	-81	-195
	June 2013	-8	-313	8	-87	-316
	August 2013	92	-305	-119	-141	-259
Dissolved Oxygen (mg/L)	November 2010	0.00	0.00	0.00	0.00	0.00
	January 2011	5.31	0.00	0.00	0.00	0.00
	April 2011	4.97	0.52	0.00	0.80	0.00
	July 2011	5.98	0.00	0.18	0.27	0.00
	December 2012	10.32	6.37	2.93	3.40	10.20
	March 2013	'a'	0.00	6.15	1.13	3.00
	June 2013	5.89	4.15	6.67	5.16	4.34
	August 2013	0.09	0.43	0.22	0.20	2.01

Notes:
ºC - degrees Celsius; mg/L - milligrams per liter; mV - millivolt; NTU - nephelometric turbidity unit
S/m - siemens per meter; % - percent; NC - not collected
'a' - probe malflunction

Table 4-3. VOC Exceedances in Groundwater at SD-27 (2012 - 2013)
Holloman AFB, Alamogorodo, NM

		Well:	SD27-MW01		SD27-MW01		SD27-MW01		SD27-MW01		SD27-MW02		SD27-MW02		SD27-MW02	
		Collection Date:	12/13/2012		3/6/2013		6/26/2013		8/28/2013		12/12/2012		12/12/2012		3/6/2013	
		SampleID:	SD27-MW01-13122012		MW27-01-030613		MW27-01-062613		MW27-01-082013		SD27-MW02-12122012		SD27-MW02-DUP 01		MW27-02-030613	
		QCType:	N		N		N		N		N		FD		N	
Parameter	SV (1)	VI SV (2)														
1,2,4-Trimethylbenzene	n/a	24	2	U	2	U	2	U	2	U	2	U	2	U	2	U
1,3,5-Trimethylbenzene	n/a	25	2	U	2	U	2	U	2	U	5.3		4.7		4.4	
Acetone	n/a	220000	25	U	25	U	25	U	25	U	25	U	25	U	25	U
Benzene	5	14	1	U	1	U	1	U	1	U	3.8		3.6		4.5	
Carbon disulfide	n/a	560	2	U	2	U	2	U	2	U	2	U	2	U	2	U
Chloroform	81	80	1	U	1	U	1	U	1	U	1	U	1	U	0.41	J
Cymene	n/a	n/a	1	U	1	U	1	U	1	U	0.4	J	0.38	J	0.3	J
Ethylbenzene	700	700	1	U	1	U	1	U	1	U	0.4	J	1	U	1	U
Isopropylbenzene	n/a	8.4	1	U	1	U	1	U	1	U	12.1		10.8		9	
m,p-Xylene	620	22000	2	U	2	U	2	U	2	U	2	U	2	U	2	U
Methyl methacrylate	n/a	51000	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Methylene chloride	5	580	4	J	5	U	5	U	5	U	5	U	5	U	5	U
Naphthalene	30	150	5	U	5	U	5	U	5	U	5	U	5	U	5	U
n-Butylbenzene	n/a	260	1	U	1	U	1	U	1	U	0.25	J	1	U	1	U
n-Propylbenzene	n/a	320	1	U	1	U	1	U	1	U	15.5		14.1		12.7	
o-Xylene	620	33000	1	U	1	U	1	U	1	U	1	U	1	U	1	U
sec-Butylbenzene	n/a	250	1	U	1	U	1	U	1	U	5.2		4.5		3.9	
tert-Butylbenzene	n/a	290	1	U	1	U	1	U	1	U	0.51	J	1	U	0.3	J
Toluene	750	1500	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Trichloroethene	5	5	1	U	1	U	1	U	1	U	1	U	1	U	1	U

Table 4-3. VOC Exceedances in Groundwater at SD-27 (2012 - 2013)
Holloman AFB, Alamogorodo, NM

		Well:	SD27-MW02		SD27-MW02		SD27-MW03		SD27-MW03		SD27-MW03		SD27-MW03		SD27-MW04	
		Collection Date:	6/26/2013		8/28/2013		12/13/2012		3/7/2013		6/26/2013		8/28/2013		12/12/2012	
		SampleID:	MW27-02-062613		MW27-02-082013		SD27-MW03-13122012		MW27-03-030713		MW27-03-062613		MW27-03-082013		SD27-MW04-12122012	
		QCType:	N		N		N		N		N		N		N	
Parameter	SV (1)	VI SV (2)														
1,2,4-Trimethylbenzene	n/a	24	1.5	J	1.5	J	2	U	2	U	2	U	2	U	2	U
1,3,5-Trimethylbenzene	n/a	25	5		5.3		2	U	0.28	J	2	U	2	U	2	U
Acetone	n/a	220000	25	U	25	U	25	U	25	U	25	U	25	U	25	U
Benzene	5	14	**5.9**		3.7		1	U	1	U	1	U	1	U	1	U
Carbon disulfide	n/a	560	2	U	2	U	2	U	2	U	2	U	2	U	2	U
Chloroform	81	80	0.47	J	0.45	J	1	U	1	U	1	U	1	U	1	U
Cymene	n/a	n/a	1		1.1		1	U	1	U	1	U	1	U	1	U
Ethylbenzene	700	700	1.5		4.6		1	U	1	U	1	U	1	U	1.6	
Isopropylbenzene	n/a	8.4	12.2		10.6		0.28	J	0.33	J	1	U	0.28	J	11.2	
m,p-Xylene	620	22000	0.38	J	1.2	J	2	U	2	U	2	U	2	U	2	U
Methyl methacrylate	n/a	51000	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Methylene chloride	5	580	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Naphthalene	30	150	5	U	5	U	5	U	5	U	5	U	5	U	5	U
n-Butylbenzene	n/a	260	1	U	0.24	J	1	U	1	U	1	U	1	U	1	U
n-Propylbenzene	n/a	320	16		14.6		1	U	0.27	J	1	U	1	U	12.1	
o-Xylene	620	33000	1	U	0.53	J	1	U	1	U	1	U	1	U	0.22	J
sec-Butylbenzene	n/a	250	6.2		4.9		1	U	1	U	1	U	1	U	7.9	
tert-Butylbenzene	n/a	290	0.59	J	0.42	J	1	U	1	U	1	U	1	U	0.63	J
Toluene	750	1500	0.49	U	1	U	1	U	1	U	0.32	U	1	U	1	U
Trichloroethene	5	5	1	U	1	U	1	U	1	U	1	U	1	U	1	U

Table 4-3. VOC Exceedances in Groundwater at SD-27 (2012 - 2013)
Holloman AFB, Alamogorodo, NM

		Well:	SD27-MW04		SD27-MW04		SD27-MW04		SD27-MW05		SD27-MW05		SD27-MW05		SD27-MW05	
		Collection Date:	3/7/2013		6/26/2013		8/28/2013		12/11/2012		3/7/2013		3/7/2013		6/26/2013	
		SampleID:	MW27-04-030713		MW27-04-062613		MW27-04-082013		SD27-MW05-11122012		MW27-05-030713		MW27-DUP01-030713		MW27-05-062613	
		QCType:	N		N		N		N		N		FD		N	
Parameter	SV (1)	VI SV (2)														
1,2,4-Trimethylbenzene	n/a	24	2	U	2	U	2	U	40.8		244		242		194	J
1,3,5-Trimethylbenzene	n/a	25	2	U	2	U	2	U	12.4		64.2		55.6		51.5	J
Acetone	n/a	220000	25	U	25	U	25	U	25	U	130	U	50	U	130	U
Benzene	5	14	1	U	1	U	1	U	**152**		**426**		**516**		**537**	**J**
Carbon disulfide	n/a	560	2	U	2	U	2	U	1.4	J	10	U	1.3	J	10	U
Chloroform	81	80	1	U	1	U	1	U	1	U	5	U	2	U	5	U
Cymene	n/a	n/a	1	U	1	U	1	U	1.4		5.8		5.5		5.3	J
Ethylbenzene	700	700	1	U	0.39	J	1	U	105		480		568		656	J
Isopropylbenzene	n/a	8.4	3.6		4		1.1		10.7		49.5		47.2		46.5	J
m,p-Xylene	620	22000	2	U	2	U	2	U	6.7		47.1		42.1		69.8	J
Methyl methacrylate	n/a	51000	5	U	5	U	5	U	5	U	25	U	10	U	25	U
Methylene chloride	5	580	5	U	5	U	5	U	5	U	**61.3**	**J**	**12.2**	**J**	25	U
Naphthalene	30	150	5	U	5	U	5	U	5.8		21.9	J	25.6		17.9	J
n-Butylbenzene	n/a	260	1	U	1	U	1	U	1	U	1	J	0.74	J	5	U
n-Propylbenzene	n/a	320	3.7		3.9		0.72	J	9.2		52.4		49.3		45	J
o-Xylene	620	33000	1	U	1	U	1	U	47.4		220		258		323	
sec-Butylbenzene	n/a	250	3.1		3		0.76	J	2.4		9.4		8.2		11.5	J
tert-Butylbenzene	n/a	290	0.41	J	0.32	J	1	U	1	U	5	U	0.95	J	5	U
Toluene	750	1500	1	U	0.36	U	1	U	28.1		102		98.8		160	J
Trichloroethene	5	5	1	U	1	U	1	U	1	U	5	U	2	U	5	U

Table 4-3. VOC Exceedances in Groundwater at SD-27 (2012 - 2013)
Holloman AFB, Alamogorodo, NM

		Well:	SD27-MW05		SD27-MW05		SD27-MW05	
		Collection Date:	6/26/2013		8/28/2013		8/28/2013	
		SampleID:	MW27-DUP01-062613		MW27-05-082013		MW27-DUP01-082013	
		QCType:	FD		N		FD	
Parameter	SV (1)	VI SV (2)						
1,2,4-Trimethylbenzene	n/a	24	372	J	213		220	
1,3,5-Trimethylbenzene	n/a	25	94.9	J	52.8		54.8	
Acetone	n/a	220000	630	U	130	U	130	U
Benzene	5	14	**736**	**J**	**461**		**443**	
Carbon disulfide	n/a	560	50	U	2.9	J	2.5	J
Chloroform	81	80	25	U	5	U	5	U
Cymene	n/a	n/a	9	J	5.3		5.2	
Ethylbenzene	700	700	**895**	**J**	499		469	
Isopropylbenzene	n/a	8.4	76.5	J	49.7		50.5	
m,p-Xylene	620	22000	100	J	54		56.5	
Methyl methacrylate	n/a	51000	130	U	25	U	25	U
Methylene chloride	5	580	130	U	25	U	25	U
Naphthalene	30	150	**38**	**J**	9.8	J	11	J
n-Butylbenzene	n/a	260	25	U	5	U	5	U
n-Propylbenzene	n/a	320	90.7	J	52.8		54.3	
o-Xylene	620	33000	366		249		258	
sec-Butylbenzene	n/a	250	13.6	J	8.1		8.4	
tert-Butylbenzene	n/a	290	25	U	5	U	5	U
Toluene	750	1500	292	J	189		190	
Trichloroethene	5	5	25	U	5	U	5	U

Table 4-3. VOC Exceedances in Groundwater at SD-27 (2012 - 2013)
Holloman AFB, Alamogorodo, NM

Notes:
All units are microgram per liter (µg/L).
(1) Screening Value (SV) is the lower of the New Mexico Environment Department, Water Quality Control Commission (NMWQCC), STANDARDS FOR GROUND WATER (NMAC 20.6.2.3103) and EPA MCLs. For inorganics, if HAFB Background is greater than NMWQCC and EPA criteria, then the background value is used as the SV.
(2) Vapor Intrusion (VI) SV is the $1e^{-5}$ risk level value listed in EPA OSWER Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils (Subsurface Vapor Intrusion Guidance), Table 2b, November 2002.
Bold red indicates > SV
Highlighted indicates > VI SV
Not analyzed.
n/a = not applicable
U = Analyte not detected above reporting detection limit shown.
J = Estimated quantity.

Table 4-4. Analytical Results for Groundwater at SD-27 (2010 - 2013)
Holloman AFB, Alamogorodo, NM

		Well:	SD27-MW01		SD27-MW01		SD27-MW01		SD27-MW01		SD27-MW01		SD27-MW01		SD27-MW01		SD27-MW01		SD27-MW02		SD27-MW02	
		Collection Date:	11/11/2010		1/25/2011		4/7/2011		7/11/2011		12/13/2012		3/6/2013		6/26/2013		8/28/2013		11/10/2010		11/10/2010	
		SampleID:	SD27-TTMW-01		MW27-01-012511		MW27-01-040711		MW27-01-071111		SD27-MW01-13122012		MW27-01-030613		MW27-01-062613		MW27-01-082013		SD27-TTMW-02		SD27-TTMW-02-FD	
		QCType:	N		N		N		N		N		N		N		N		N		FD	
Parameter	SV (1)	VI SV (2)																				
Dissolved Gases																						
Carbon dioxide	n/a	n/a					121000															
Methane	n/a	n/a					0.16	U														
General Chemistry																						
Alkalinity, total	387000	n/a					111000															
Nitrate	10000	n/a					**51400**	**J**														
Solids, total dissolved	1000	n/a	**21700**		**16500**	**J**	**12300**	**J**	**21200**										**16300**		**16700**	
Sulfate	17419000	n/a					2E+06															
Hydrocarbons																						
TPH (C10-C28)	550	18,500	129	J	95	U	96	U	96	U									**1380**		**1160**	
TPH-GRO (C6-C10)	550	18,500	50	U	50	U	50	U	50	U									**3310**		**3550**	
Metals, Dissolved																						
Arsenic	10	n/a	8	U	2	U	**12**		4.8	J									7.7	J	5.4	J
Barium	1000	n/a	48.9	J	27.1	J	23	J	23.7	J									29.2	J	25.6	J
Cadmium	5	n/a	4	U	1	U	1	U	1	U									1	U	1	U
Chromium	50	n/a	4	U	5	U	4	U	4	U									4	U	4	U
Lead	15	n/a	4	U	5	U	4	U	4	U									4	U	4	U
Mercury	2	0.68	0.05	U	0.05	U	0.05	U	0.17	J									0.056	J	0.051	J
Selenium	50	n/a	8	U	10	U	9.6	J	8	U									9.4	J	8	U
Silver	50	n/a	1	U	1	U	1	U	1	U									1	U	1	U
Metals, Total																						
Arsenic	10	n/a	**16.8**	**J**	6.5	J	**14**		6.4	J									8	U	8	U
Barium	1000	n/a	290	J	25.2	J	24.9	J	22.2	J									46.9	J	37.5	J
Cadmium	5	n/a	5	U	1	U	1	U	1	U									4	U	4	U
Chromium	50	n/a	23.2	J	5	U	4	U	4	U									7.6	J	4.2	J
Lead	15	n/a	11.9	J	5	U	4	U	4	U									4	U	4	U
Mercury	2	0.68	0.05	U	0.05	U	0.05	U	0.05	U									0.086	J	0.05	U
Selenium	50	n/a	10	U	10	U	10.2	J	8	U									8	U	8	U
Silver	50	n/a	1	U	1	U	1	U	1	U									1	U	1	U

Table 4-4. Analytical Results for Groundwater at SD-27 (2010 - 2013)
Holloman AFB, Alamogorodo, NM

		Well:	SD27-MW02		SD27-MW02		SD27-MW02		SD27-MW02		SD27-MW02		SD27-MW02		SD27-MW02		SD27-MW02		SD27-MW02		SD27-MW02	
		Collection Date:	1/25/2011		1/25/2011		4/7/2011		4/7/2011		7/11/2011		7/11/2011		12/12/2012		12/12/2012		3/6/2013		6/26/2013	
		SampleID:	MW27-02-012511		MW27-DUP01-012511		MW27-02-040711		MW27-DUP01-040711		MW27-02-071111		MW27-DUP01-071111		SD27-MW02-12122012		SD27-MW02-DUP 01		MW27-02-030613		MW27-02-062613	
		QCType:	N		FD		N		FD		N		FD		N		FD		N		N	
Parameter	SV (1)	VI SV (2)																				
Dissolved Gases																						
Carbon dioxide	n/a	n/a					148000															
Methane	n/a	n/a					1.17		1.45													
General Chemistry																						
Alkalinity, total	387000	n/a					138000															
Nitrate	10000	n/a					**73100**		**71700**													
Solids, total dissolved	1000	n/a	**11100**		**13300**		**16700**		**13400**		**20700**		**17800**									
Sulfate	17419000	n/a					1E+06		2E+06													
Hydrocarbons																						
TPH (C10-C28)	550	18,500	**609**		**584**		524		**574**		377	J	515	J								
TPH-GRO (C6-C10)	550	18,500	**1150**		**1250**		**658**		**859**		**755**		**784**									
Metals, Dissolved																						
Arsenic	10	n/a	2	U	2	U	7.1	J	7.6	J	2	U	2	U								
Barium	1000	n/a	24.1	J	23.6	J	22.9	J	21.8	J	22.4	J	22.3	J								
Cadmium	5	n/a	1	U	1	U	1	U	1	U	1	U	1	U								
Chromium	50	n/a	5	U	5	U	4	U	4	U	4	U	4	U								
Lead	15	n/a	5	U	5	U	4	U	4	U	4	U	4	U								
Mercury	2	0.68	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U								
Selenium	50	n/a	10	U	10	U	8	U	8	U	8	U	8	U								
Silver	50	n/a	1	U	1	U	1	U	1	U	1	U	1	U								
Metals, Total																						
Arsenic	10	n/a	2.3	J	2	U	5.8	J	6.2	J	2.1	J	2	U								
Barium	1000	n/a	23.9	J	24.2	J	22.2	J	21.9	J	21.3	J	21.5	J								
Cadmium	5	n/a	1	U	1	U	1	U	1	U	1	U	1	U								
Chromium	50	n/a	5	U	5	U	4	U	4	U	4	U	4	U								
Lead	15	n/a	5	U	5	U	4	U	4	U	4	U	4	U								
Mercury	2	0.68	0.05	U	0.05	U	0.05	U	0.05	U	0.056	J	0.064	J								
Selenium	50	n/a	10	U	10	U	8	U	8	U	8	U	8	U								
Silver	50	n/a	1	U	1	U	1	U	1	U	1	U	1	U								

Table 4-4. Analytical Results for Groundwater at SD-27 (2010 - 2013)
Holloman AFB, Alamogorodo, NM

		Well:	SD27-MW02		SD27-MW03		SD27-MW03		SD27-MW03		SD27-MW03		SD27-MW03		SD27-MW03		SD27-MW03		SD27-MW03		SD27-MW04	
		Collection Date:	8/28/2013		11/10/2010		1/25/2011		4/6/2011		7/12/2011		12/13/2012		3/7/2013		6/26/2013		8/28/2013		11/10/2010	
		SampleID:	MW27-02-082013		SD27-TTMW-03		MW27-03-012511		MW27-03-040611		MW27-03-071211		SD27-MW03-13122012		MW27-03-030713		MW27-03-062613		MW27-03-082013		SD27-TTMW-04	
		QCType:	N		N		N		N		N		N		N		N		N		N	
Parameter	SV (1)	VI SV (2)																				
Dissolved Gases																						
Carbon dioxide	n/a	n/a																				
Methane	n/a	n/a																				
General Chemistry																						
Alkalinity, total	387000	n/a																				
Nitrate	10000	n/a																				
Solids, total dissolved	1000	n/a			**28200**		**25800**		**19100**	**J**	**22700**										**29600**	
Sulfate	17419000	n/a																				
Hydrocarbons																						
TPH (C10-C28)	550	18,500			247		226	J	190	J	170	J									446	
TPH-GRO (C6-C10)	550	18,500			217		82.1	J	50	U	50	U									427	
Metals, Dissolved																						
Arsenic	10	n/a			2.5	J	2	U	3.8	J											6.9	J
Barium	1000	n/a			55.9	J	35.7	J	31.3	J											22.4	J
Cadmium	5	n/a			1	U	1	U	1	U											1	U
Chromium	50	n/a			4	U	5	U	4	U											4	U
Lead	15	n/a			4	U	5	U	4	U											4	U
Mercury	2	0.68			0.05	U	0.05	U	0.05	U											0.05	U
Selenium	50	n/a			8	U	10	U	8	U											8	U
Silver	50	n/a			1	U	1	U	1	U											1	U
Metals, Total																						
Arsenic	10	n/a			8	U	3.3	J	7	J	2	U									8	U
Barium	1000	n/a			67.9	J	35.8	J	32.6	J	30.9	J									24.9	J
Cadmium	5	n/a			4	U	1	U	1	U	1	U									4	U
Chromium	50	n/a			4	U	5	U	4	U	4	U									4	U
Lead	15	n/a			5	U	5	U	4	U	4	U									5	U
Mercury	2	0.68			0.05	U	0.05	U	0.05	U	0.05	U									0.05	U
Selenium	50	n/a			8	U	10	U	8.8	J	8	U									8	U
Silver	50	n/a			4	U	1	U	1	U	1	U									4	U

Table 4-4. Analytical Results for Groundwater at SD-27 (2010 - 2013)
Holloman AFB, Alamogorodo, NM

		Well:	SD27-MW04		SD27-MW04		SD27-MW04		SD27-MW04		SD27-MW04		SD27-MW04		SD27-MW04		SD27-MW05		SD27-MW05	
		Collection Date:	1/25/2011		4/6/2011		7/11/2011		12/12/2012		3/7/2013		6/26/2013		8/28/2013		11/11/2010		1/25/2011	
		SampleID:	MW27-04-012511		MW27-04-040611		MW27-04-071111		SD27-MW04-12122012		MW27-04-030713		MW27-04-062613		MW27-04-082013		SD27-TTMW-05		MW27-05-012511	
		QCType:	N		N		N		N		N		N		N		N		N	
Parameter	SV (1)	VI SV (2)																		
Dissolved Gases																				
Carbon dioxide	n/a	n/a																		
Methane	n/a	n/a																		
General Chemistry																				
Alkalinity, total	387000	n/a																		
Nitrate	10000	n/a																		
Solids, total dissolved	1000	n/a	**28300**		**18300**	**J**	**30800**										**15300**		**14000**	
Sulfate	17419000	n/a																		
Hydrocarbons																				
TPH (C10-C28)	550	18,500	149	J	104	J	107	J									**1320**		**1160**	
TPH-GRO (C6-C10)	550	18,500	128		50	U	98	J									**6100**		**4380**	
Metals, Dissolved																				
Arsenic	10	n/a	2	U	**14.3**		8	U									6.4	J	2	U
Barium	1000	n/a	20.5	J	19.3	J	18.4	J									48.6	J	27.5	J
Cadmium	5	n/a	1	U	1	U	4	U									1	U	1	U
Chromium	50	n/a	5	U	4	U	4	U									4	U	5	U
Lead	15	n/a	5	U	4	U	10	U									4	U	5	U
Mercury	2	0.68	0.05	U	0.05	U	0.05	U									0.05	U	0.05	U
Selenium	50	n/a	10	U	8	U	8	U									8	U	10	U
Silver	50	n/a	1	U	1	U	4	U									1	U	1	U
Metals, Total																				
Arsenic	10	n/a	7.8	J	**15.2**		8	U									10	U	9.3	J
Barium	1000	n/a	21.4	J	21.5	J	18.8	J									69.4	J	30.6	J
Cadmium	5	n/a	1	U	1	U	4	U									5	U	1	U
Chromium	50	n/a	5	U	4	U	7.4	J									5	U	6.4	J
Lead	15	n/a	5	U	4	U	50	U									5	U	5	U
Mercury	2	0.68	0.05	U	0.05	U	0.05	U									0.05	U	0.055	J
Selenium	50	n/a	10	U	8	U	8	U									10	U	10	U
Silver	50	n/a	1	U	1	U	4	U									1	U	1	U

Table 4-4. Analytical Results for Groundwater at SD-27 (2010 - 2013)
Holloman AFB, Alamogorodo, NM

		Well:	SD27-MW05		SD27-MW05		SD27-MW05		SD27-MW05		SD27-MW05		SD27-MW05		SD27-MW05		SD27-MW05		SD27-MW05	
		Collection Date:	4/7/2011		7/11/2011		12/11/2012		3/7/2013		3/7/2013		6/26/2013		6/26/2013		8/28/2013		8/28/2013	
		SampleID:	MW27-05-040711		MW27-05-071111		SD27-MW05-11122012		MW27-05-030713		MW27-DUP01-030713		MW27-05-062613		MW27-DUP01-062613		MW27-05-082013		MW27-DUP01-082013	
		QCType:	N		N		N		N		FD		N		FD		N		FD	
Parameter	SV (1)	VI SV (2)																		
Dissolved Gases																				
Carbon dioxide	n/a	n/a																		
Methane	n/a	n/a																		
General Chemistry																				
Alkalinity, total	387000	n/a																		
Nitrate	10000	n/a																		
Solids, total dissolved	1000	n/a	**16300**		**18500**															
Sulfate	17419000	n/a																		
Hydrocarbons																				
TPH (C10-C28)	550	18,500	**1230**		470															
TPH-GRO (C6-C10)	550	18,500	**3310**	**J**	**1100**															
Metals, Dissolved																				
Arsenic	10	n/a	6.2	J	2	U														
Barium	1000	n/a	25.1	J	23.4	J														
Cadmium	5	n/a	1	U	1	U														
Chromium	50	n/a	4	U	4	U														
Lead	15	n/a	4	U	4	U														
Mercury	2	0.68	0.05	U	0.05	U														
Selenium	50	n/a	8	U	8	U														
Silver	50	n/a	1	U	1	U														
Metals, Total																				
Arsenic	10	n/a	8	J	2	U														
Barium	1000	n/a	25.8	J	24.1	J														
Cadmium	5	n/a	1	U	1	U														
Chromium	50	n/a	25	J	4	U														
Lead	15	n/a	4	U	4	U														
Mercury	2	0.68	0.05	U	0.05	U														
Selenium	50	n/a	8	U	8	U														
Silver	50	n/a	1	U	1	U														

Table 4-4. Analytical Results for Groundwater at SD-27 (2010 - 2013)
Holloman AFB, Alamogorodo, NM

		Well:	SD27-MW01		SD27-MW01		SD27-MW01		SD27-MW01		SD27-MW01		SD27-MW01		SD27-MW01		SD27-MW01		SD27-MW02		SD27-MW02	
		Collection Date:	11/11/2010		1/25/2011		4/7/2011		7/11/2011		12/13/2012		3/6/2013		6/26/2013		8/28/2013		11/10/2010		11/10/2010	
		SampleID:	SD27-TTMW-01		MW27-01-012511		MW27-01-040711		MW27-01-071111		SD27-MW01-13122012		MW27-01-030613		MW27-01-062613		MW27-01-082013		SD27-TTMW-02		SD27-TTMW-02-FD	
		QCType:	N		N		N		N		N		N		N		N		N		FD	
Radiochemistry																						
Alpha, gross	15	n/a	129.46	R															0	R	17.718	R
Beta, gross	50	n/a	117.55	R															35.148	R	24.581	R
SVOCs																						
1,2,4-Trichlorobenzene	70	3400	0.48	U	0.49	U													1.9	U	1.9	U
1,2-Dichlorobenzene	600	2600	0.95	U	0.98	U													3.8	U	3.8	U
1,2-Diphenylhydrazine	n/a	n/a	0.48	U	0.49	U													1.9	U	1.9	U
1,3-Dichlorobenzene	n/a	830	0.95	U	0.98	U													3.8	U	3.8	U
1,4-Dichlorobenzene	75	8200	0.95	U	0.98	U													3.8	U	3.8	U
1-Methylnaphthalene	30	n/a	0.48	U	0.49	U	0.49	U	0.48	U									**41**		**32.4**	
2,4,5-Trichlorophenol	n/a	n/a	0.48	U	0.49	U													1.9	U	1.9	U
2,4,6-Trichlorophenol	n/a	n/a	0.48	U	0.49	U													1.9	U	1.9	U
2,4-Dichlorophenol	n/a	n/a	0.48	U	0.49	U													1.9	U	1.9	U
2,4-Dimethylphenol	n/a	n/a	1	U	1.1	U													4.2	U	4.2	U
2,4-Dinitrophenol	n/a	n/a	9.5	U	9.8	U													38	U	38	U
2,4-Dinitrotoluene	n/a	n/a	0.48	U	0.49	U													1.9	U	1.9	U
2,6-Dinitrotoluene	n/a	n/a	0.48	U	0.49	U													1.9	U	1.9	U
2-Chloronaphthalene	n/a	n/a	0.48	U	0.49	U													1.9	U	1.9	U
2-Chlorophenol	n/a	1100	0.48	U	0.49	U													1.9	U	1.9	U
2-Methylnaphthalene	30	3300	0.54	U	0.56	U	0.56	U	0.55	U									11.3	J	9.8	J
2-Nitroaniline	n/a	n/a	0.48	U	0.49	U													1.9	U	1.9	U
2-Nitrophenol	n/a	n/a	0.51	U	0.53	U													2.1	U	2.1	U
3,3'-Dichlorobenzidine	n/a	n/a	0.95	U	0.98	U													3.8	U	3.8	U
3-Nitroaniline	n/a	n/a	0.48	U	0.49	U													1.9	U	1.9	U
4,6-Dinitro-2-methylphenol	n/a	n/a	1.9	U	2	U													7.6	U	7.6	U
4-Bromophenyl phenyl ether	n/a	n/a	0.48	U	0.49	U													1.9	U	1.9	U
4-Chloro-3-methylphenol	n/a	n/a	0.48	U	0.49	U													1.9	U	1.9	U
4-Chloroaniline	n/a	n/a	0.48	U	0.49	U													1.9	U	1.9	U
4-Chlorophenyl phenyl ether	n/a	n/a	0.48	U	0.49	U													1.9	U	1.9	U
4-Methylphenol	n/a	n/a	0.51	U	0.53	U													2.1	U	2.1	U
4-Nitroaniline	n/a	n/a	0.48	U	0.49	U													1.9	U	1.9	U
4-Nitrophenol	n/a	n/a	4.8	U	4.9	U													19	U	19	U
Acenaphthene	n/a	n/a	0.48	U	0.49	U	0.49	U	0.48	U									1.9	U	1.9	U
Acenaphthylene	n/a	n/a	0.48	U	0.49	U	0.49	U	0.48	U									1.9	U	1.9	U
Aniline	n/a	n/a	0.5	U	0.51	U													2	U	2	U
Anthracene	n/a	n/a	0.48	U	0.49	U	0.49	U	0.48	U									1.9	U	1.9	U

Table 4-4. Analytical Results for Groundwater at SD-27 (2010 - 2013)
Holloman AFB, Alamogorodo, NM

		Well:	SD27-MW02		SD27-MW02		SD27-MW02		SD27-MW02		SD27-MW02		SD27-MW02		SD27-MW02		SD27-MW02		SD27-MW02		SD27-MW02	
		Collection Date:	1/25/2011		1/25/2011		4/7/2011		4/7/2011		7/11/2011		7/11/2011		12/12/2012		12/12/2012		3/6/2013		6/26/2013	
		SampleID:	MW27-02-012511		MW27-DUP01-012511		MW27-02-040711		MW27-DUP01-040711		MW27-02-071111		MW27-DUP01-071111		SD27-MW02-12122012		SD27-MW02-DUP 01		MW27-02-030613		MW27-02-062613	
		QCType:	N		FD		N		FD		N		FD		N		FD		N		N	
Radiochemistry																						
Alpha, gross	15	n/a																				
Beta, gross	50	n/a																				
SVOCs																						
1,2,4-Trichlorobenzene	70	3400	0.48	U	0.48	U																
1,2-Dichlorobenzene	600	2600	0.96	U	0.96	U																
1,2-Diphenylhydrazine	n/a	n/a	0.48	U	0.48	U																
1,3-Dichlorobenzene	n/a	830	0.96	U	0.96	U																
1,4-Dichlorobenzene	75	8200	0.96	U	0.96	U																
1-Methylnaphthalene	30	n/a	12.5		14.4		10.2		10.8		11.8		11.2									
2,4,5-Trichlorophenol	n/a	n/a	0.48	U	0.48	U																
2,4,6-Trichlorophenol	n/a	n/a	0.48	U	0.48	U																
2,4-Dichlorophenol	n/a	n/a	0.48	U	0.48	U																
2,4-Dimethylphenol	n/a	n/a	1.1	U	1.1	U																
2,4-Dinitrophenol	n/a	n/a	9.6	U	9.6	U																
2,4-Dinitrotoluene	n/a	n/a	0.48	U	0.48	U																
2,6-Dinitrotoluene	n/a	n/a	0.48	U	0.48	U																
2-Chloronaphthalene	n/a	n/a	0.48	U	0.48	U																
2-Chlorophenol	n/a	1100	0.48	U	0.48	U																
2-Methylnaphthalene	30	3300	0.69	J	0.74	J	0.55	U	0.54	U	0.55	U	0.55	U								
2-Nitroaniline	n/a	n/a	0.48	U	0.48	U																
2-Nitrophenol	n/a	n/a	0.52	U	0.52	U																
3,3'-Dichlorobenzidine	n/a	n/a	0.96	U	0.96	U																
3-Nitroaniline	n/a	n/a	0.48	U	0.48	U																
4,6-Dinitro-2-methylphenol	n/a	n/a	1.9	U	1.9	U																
4-Bromophenyl phenyl ether	n/a	n/a	0.48	U	0.48	U																
4-Chloro-3-methylphenol	n/a	n/a	0.48	U	0.48	U																
4-Chloroaniline	n/a	n/a	0.48	U	0.48	U																
4-Chlorophenyl phenyl ether	n/a	n/a	0.48	U	0.48	U																
4-Methylphenol	n/a	n/a	0.52	U	0.52	U																
4-Nitroaniline	n/a	n/a	0.48	U	0.48	U																
4-Nitrophenol	n/a	n/a	4.8	U	4.8	U																
Acenaphthene	n/a	n/a	0.48	U	0.48	U	0.48	U	0.48	U	0.49	U	0.49	U								
Acenaphthylene	n/a	n/a	0.48	U	0.48	U	0.48	U	0.48	U	0.49	U	0.49	U								
Aniline	n/a	n/a	0.5	U	0.5	U																
Anthracene	n/a	n/a	0.48	U	0.48	U	0.48	U	0.48	U	0.49	U	0.49	U								

Table 4-4. Analytical Results for Groundwater at SD-27 (2010 - 2013)
Holloman AFB, Alamogorodo, NM

		Well:	SD27-MW02		SD27-MW03		SD27-MW03		SD27-MW03		SD27-MW03		SD27-MW03		SD27-MW03		SD27-MW03		SD27-MW03		SD27-MW04	
		Collection Date:	8/28/2013		11/10/2010		1/25/2011		4/6/2011		7/12/2011		12/13/2012		3/7/2013		6/26/2013		8/28/2013		11/10/2010	
		SampleID:	MW27-02-082013		SD27-TTMW-03		MW27-03-012511		MW27-03-040611		MW27-03-071211		SD27-MW03-13122012		MW27-03-030713		MW27-03-062613		MW27-03-082013		SD27-TTMW-04	
		QCType:	N		N		N		N		N		N		N		N		N		N	
Radiochemistry																						
Alpha, gross	15	n/a			-10.17	R															54.732	R
Beta, gross	50	n/a			50.1	R															-21.55	R
SVOCs																						
1,2,4-Trichlorobenzene	70	3400			0.48	U	0.49	U													0.48	U
1,2-Dichlorobenzene	600	2600			0.95	U	0.98	U													0.95	U
1,2-Diphenylhydrazine	n/a	n/a			0.48	U	0.49	U													0.48	U
1,3-Dichlorobenzene	n/a	830			0.95	U	0.98	U													0.95	U
1,4-Dichlorobenzene	75	8200			0.95	U	0.98	U													0.95	U
1-Methylnaphthalene	30	n/a			2	J	1.7	J	2.7	J	0.48	U									11	
2,4,5-Trichlorophenol	n/a	n/a			0.48	U	0.49	U													0.48	U
2,4,6-Trichlorophenol	n/a	n/a			0.48	U	0.49	U													0.48	U
2,4-Dichlorophenol	n/a	n/a			0.48	U	0.49	U													0.48	U
2,4-Dimethylphenol	n/a	n/a			1	U	1.1	U													1	U
2,4-Dinitrophenol	n/a	n/a			9.5	U	9.8	U													9.5	U
2,4-Dinitrotoluene	n/a	n/a			0.48	U	0.49	U													0.48	U
2,6-Dinitrotoluene	n/a	n/a			0.48	U	0.49	U													0.48	U
2-Chloronaphthalene	n/a	n/a			0.48	U	0.49	U													0.48	U
2-Chlorophenol	n/a	1100			0.48	U	0.49	U													0.48	U
2-Methylnaphthalene	30	3300			0.54	U	0.56	U	0.54	U	0.55	U									1.6	J
2-Nitroaniline	n/a	n/a			0.48	U	0.49	U													0.48	U
2-Nitrophenol	n/a	n/a			0.51	U	0.53	U													0.51	U
3,3'-Dichlorobenzidine	n/a	n/a			0.95	U	0.98	U													0.95	U
3-Nitroaniline	n/a	n/a			0.48	U	0.49	U													0.48	U
4,6-Dinitro-2-methylphenol	n/a	n/a			1.9	U	2	U													1.9	U
4-Bromophenyl phenyl ether	n/a	n/a			0.48	U	0.49	U													0.48	U
4-Chloro-3-methylphenol	n/a	n/a			0.48	U	0.49	U													0.48	U
4-Chloroaniline	n/a	n/a			0.48	U	0.49	U													0.48	U
4-Chlorophenyl phenyl ether	n/a	n/a			0.48	U	0.49	U													0.48	U
4-Methylphenol	n/a	n/a			0.51	U	0.53	U													0.51	U
4-Nitroaniline	n/a	n/a			0.48	U	0.49	U													0.48	U
4-Nitrophenol	n/a	n/a			4.8	U	4.9	U													4.8	U
Acenaphthene	n/a	n/a			0.48	U	0.49	U	0.48	U	0.48	U									0.48	U
Acenaphthylene	n/a	n/a			0.48	U	0.49	U	0.48	U	0.48	U									0.48	U
Aniline	n/a	n/a			0.5	U	0.51	U													0.5	U
Anthracene	n/a	n/a			0.48	U	0.49	U	0.48	U	0.48	U									0.48	U

Table 4-4. Analytical Results for Groundwater at SD-27 (2010 - 2013)
Holloman AFB, Alamogorodo, NM

		Well:	SD27-MW04		SD27-MW04		SD27-MW04		SD27-MW04		SD27-MW04		SD27-MW04		SD27-MW04		SD27-MW05		SD27-MW05	
		Collection Date:	1/25/2011		4/6/2011		7/11/2011		12/12/2012		3/7/2013		6/26/2013		8/28/2013		11/11/2010		1/25/2011	
		SampleID:	MW27-04-012511		MW27-04-040611		MW27-04-071111		SD27-MW04-12122012		MW27-04-030713		MW27-04-062613		MW27-04-082013		SD27-TTMW-05		MW27-05-012511	
		QCType:	N		N		N		N		N		N		N		N		N	
Radiochemistry																				
Alpha, gross	15	n/a															24.592	R		
Beta, gross	50	n/a															119.2	R		
SVOCs																				
1,2,4-Trichlorobenzene	70	3400	0.49	U													2	U	0.48	U
1,2-Dichlorobenzene	600	2600	0.97	U													4	U	0.95	U
1,2-Diphenylhydrazine	n/a	n/a	0.49	U													2	U	0.48	U
1,3-Dichlorobenzene	n/a	830	0.97	U													4	U	0.95	U
1,4-Dichlorobenzene	75	8200	0.97	U													4	U	0.95	U
1-Methylnaphthalene	30	n/a	2.2	J	0.49	U	2	J									24.7		14.1	
2,4,5-Trichlorophenol	n/a	n/a	0.49	U													2	U	0.48	U
2,4,6-Trichlorophenol	n/a	n/a	0.49	U													2	U	0.48	U
2,4-Dichlorophenol	n/a	n/a	0.49	U													2	U	0.48	U
2,4-Dimethylphenol	n/a	n/a	1.1	U													4.5	J	7.2	
2,4-Dinitrophenol	n/a	n/a	9.7	U													40	U	9.5	U
2,4-Dinitrotoluene	n/a	n/a	0.49	U													2	U	0.48	U
2,6-Dinitrotoluene	n/a	n/a	0.49	U													2	U	0.48	U
2-Chloronaphthalene	n/a	n/a	0.49	U													2	U	0.48	U
2-Chlorophenol	n/a	1100	0.49	U													2	U	0.48	U
2-Methylnaphthalene	30	3300	0.55	U	0.55	U	0.56	U									26.7		13.9	
2-Nitroaniline	n/a	n/a	0.49	U													2	U	0.48	U
2-Nitrophenol	n/a	n/a	0.52	U													2.2	U	0.51	U
3,3'-Dichlorobenzidine	n/a	n/a	0.97	U													4	U	0.95	U
3-Nitroaniline	n/a	n/a	0.49	U													2	U	0.48	U
4,6-Dinitro-2-methylphenol	n/a	n/a	1.9	U													8	U	1.9	U
4-Bromophenyl phenyl ether	n/a	n/a	0.49	U													2	U	0.48	U
4-Chloro-3-methylphenol	n/a	n/a	0.49	U													2	U	0.48	U
4-Chloroaniline	n/a	n/a	0.49	U													2	U	0.48	U
4-Chlorophenyl phenyl ether	n/a	n/a	0.49	U													2	U	0.48	U
4-Methylphenol	n/a	n/a	0.52	U													5.5	J	5.6	
4-Nitroaniline	n/a	n/a	0.49	U													2	U	0.48	U
4-Nitrophenol	n/a	n/a	4.9	U													20	U	4.8	U
Acenaphthene	n/a	n/a	0.49	U	0.49	U	0.49	U									2	U	0.48	U
Acenaphthylene	n/a	n/a	0.49	U	0.49	U	0.49	U									2	U	0.48	U
Aniline	n/a	n/a	0.5	U													2.1	U	0.5	U
Anthracene	n/a	n/a	0.49	U	0.49	U	0.49	U									2	U	0.48	U

Table 4-4. Analytical Results for Groundwater at SD-27 (2010 - 2013)
Holloman AFB, Alamogorodo, NM

		Well:	SD27-MW05		SD27-MW05		SD27-MW05		SD27-MW05		SD27-MW05		SD27-MW05		SD27-MW05		SD27-MW05		SD27-MW05	
		Collection Date:	4/7/2011		7/11/2011		12/11/2012		3/7/2013		3/7/2013		6/26/2013		6/26/2013		8/28/2013		8/28/2013	
		SampleID:	MW27-05-040711		MW27-05-071111		SD27-MW05-11122012		MW27-05-030713		MW27-DUP01-030713		MW27-05-062613		MW27-DUP01-062613		MW27-05-082013		MW27-DUP01-082013	
		QCType:	N		N		N		N		FD		N		FD		N		FD	
Radiochemistry																				
Alpha, gross	15	n/a																		
Beta, gross	50	n/a																		
SVOCs																				
1,2,4-Trichlorobenzene	70	3400																		
1,2-Dichlorobenzene	600	2600																		
1,2-Diphenylhydrazine	n/a	n/a																		
1,3-Dichlorobenzene	n/a	830																		
1,4-Dichlorobenzene	75	8200																		
1-Methylnaphthalene	30	n/a	14		11.3															
2,4,5-Trichlorophenol	n/a	n/a																		
2,4,6-Trichlorophenol	n/a	n/a																		
2,4-Dichlorophenol	n/a	n/a																		
2,4-Dimethylphenol	n/a	n/a																		
2,4-Dinitrophenol	n/a	n/a																		
2,4-Dinitrotoluene	n/a	n/a																		
2,6-Dinitrotoluene	n/a	n/a																		
2-Chloronaphthalene	n/a	n/a																		
2-Chlorophenol	n/a	1100																		
2-Methylnaphthalene	30	3300	13		10.7															
2-Nitroaniline	n/a	n/a																		
2-Nitrophenol	n/a	n/a																		
3,3'-Dichlorobenzidine	n/a	n/a																		
3-Nitroaniline	n/a	n/a																		
4,6-Dinitro-2-methylphenol	n/a	n/a																		
4-Bromophenyl phenyl ether	n/a	n/a																		
4-Chloro-3-methylphenol	n/a	n/a																		
4-Chloroaniline	n/a	n/a																		
4-Chlorophenyl phenyl ether	n/a	n/a																		
4-Methylphenol	n/a	n/a																		
4-Nitroaniline	n/a	n/a																		
4-Nitrophenol	n/a	n/a																		
Acenaphthene	n/a	n/a	0.5	U	0.48	U														
Acenaphthylene	n/a	n/a	0.5	U	0.48	U														
Aniline	n/a	n/a																		
Anthracene	n/a	n/a	0.5	U	0.48	U														

Table 4-4. Analytical Results for Groundwater at SD-27 (2010 - 2013)
Holloman AFB, Alamogorodo, NM

		Well:	SD27-MW01		SD27-MW01		SD27-MW01		SD27-MW01		SD27-MW01		SD27-MW01		SD27-MW01		SD27-MW01		SD27-MW02		SD27-MW02	
		Collection Date:	11/11/2010		1/25/2011		4/7/2011		7/11/2011		12/13/2012		3/6/2013		6/26/2013		8/28/2013		11/10/2010		11/10/2010	
		SampleID:	SD27-TTMW-01		MW27-01-012511		MW27-01-040711		MW27-01-071111		SD27-MW01-13122012		MW27-01-030613		MW27-01-062613		MW27-01-082013		SD27-TTMW-02		SD27-TTMW-02-FD	
		QCType:	N		N		N		N		N		N		N		N		N		FD	
SVOCs																						
Benzidine	n/a	n/a	4.5	U	4.6	U													18	U	18	U
Benzo(a)anthracene	n/a	n/a	0.48	U	0.49	U	0.49	U	0.48	U									1.9	U	1.9	U
Benzo(a)pyrene	0.2	n/a	0.48	U	0.49	U	0.49	U	0.48	U									1.9	U	1.9	U
Benzo(b)fluoranthene	n/a	n/a	0.48	U	0.49	U	0.49	U	0.48	U									1.9	U	1.9	U
Benzo(ghi)perylene	n/a	n/a	0.48	U	0.49	U	0.49	U	0.48	U									1.9	U	1.9	U
Benzo(k)fluoranthene	n/a	n/a	0.48	U	0.49	U	0.49	U	0.48	U									1.9	U	1.9	U
Benzoic acid	n/a	n/a	9.5	U	9.8	U													38	U	38	U
Benzyl alcohol	n/a	n/a	0.95	U	0.98	U													3.8	U	3.8	U
Bis(2-chloroethoxy)methane	n/a	n/a	0.48	U	0.49	U													1.9	U	1.9	U
Bis(2-chloroethyl)ether	n/a	100	0.51	U	0.53	U													2.1	U	2.1	U
Bis(2-chloroisopropyl)ether	n/a	510	0.51	U	0.53	U													2.1	U	2.1	U
Bis(2-ethylhexyl)phthalate	6	n/a	1	U	1.1	U													4.2	U	4.2	U
Butyl benzyl phthalate	n/a	n/a	1	U	1.1	U													4.2	U	4.2	U
Carbazole	n/a	n/a	0.48	U	0.49	U													1.9	U	1.9	U
Chrysene	n/a	n/a	0.48	U	0.49	U	0.49	U	0.48	U									1.9	U	1.9	U
Dibenz(a,h)anthracene	n/a	n/a	0.5	U	0.51	U	0.51	U	0.5	U									2	U	2	U
Dibenzofuran	n/a	n/a	0.48	U	0.49	U													1.9	U	1.9	U
Diethyl phthalate	n/a	n/a	1	U	1.1	U													4.2	U	4.2	U
Dimethyl phthalate	n/a	n/a	0.94	U	0.97	U													3.8	U	3.8	U
Di-n-butyl phthalate	n/a	n/a	1.9	J	0.85	U													3.3	U	3.3	U
Di-n-octyl phthalate	n/a	n/a	1	U	1.1	U													4.2	U	4.2	U
Fluoranthene	n/a	n/a	0.48	U	0.49	U	0.49	U	0.48	U									1.9	U	1.9	U
Fluorene	n/a	n/a	0.48	U	0.49	U	0.49	U	0.48	U									1.9	U	1.9	U
Hexachlorobenzene	1	1	0.53	U	0.55	U													2.1	U	2.1	U
Hexachlorobutadiene	n/a	3.3	0.95	U	0.98	U													3.8	U	3.8	U
Hexachlorocyclopentadiene	50	50	1.8	U	1.9	U													7.2	U	7.2	U
Hexachloroethane	n/a	38	0.95	U	0.98	U													3.8	U	3.8	U
Indeno(1,2,3-cd)pyrene	n/a	n/a	0.48	U	0.49	U	0.49	U	0.48	U									1.9	U	1.9	U
Isophorone	n/a	n/a	0.48	U	0.49	U													1.9	U	1.9	U
M,P-Cresol	n/a	n/a	1	U	1.1	U													4.2	U	4.2	U
Naphthalene	30	150	0.76	U	0.78	U	0.78	U	0.77	U									7.7	J	6.2	J
Nitrobenzene	n/a	2000	0.56	U	0.58	U													2.2	U	2.2	U
N-Nitrosodimethylamine	n/a	n/a	2.3	U	2.4	U													9.1	U	9.1	U
N-Nitroso-di-n-propylamine	n/a	n/a	0.48	U	0.49	U													1.9	U	1.9	U
N-Nitrosodiphenylamine	n/a	n/a	0.95	U	0.98	U													3.8	U	3.8	U

Table 4-4. Analytical Results for Groundwater at SD-27 (2010 - 2013)
Holloman AFB, Alamogorodo, NM

		Well:	SD27-MW02		SD27-MW02		SD27-MW02		SD27-MW02		SD27-MW02		SD27-MW02		SD27-MW02		SD27-MW02		SD27-MW02		SD27-MW02	
		Collection Date:	1/25/2011		1/25/2011		4/7/2011		4/7/2011		7/11/2011		7/11/2011		12/12/2012		12/12/2012		3/6/2013		6/26/2013	
		SampleID:	MW27-02-012511		MW27-DUP01-012511		MW27-02-040711		MW27-DUP01-040711		MW27-02-071111		MW27-DUP01-071111		SD27-MW02-12122012		SD27-MW02-DUP 01		MW27-02-030613		MW27-02-062613	
		QCType:	N		FD		N		FD		N		FD		N		FD		N		N	
SVOCs																						
Benzidine	n/a	n/a	4.5	U	4.5	U																
Benzo(a)anthracene	n/a	n/a	0.48	U	0.48	U	0.48	U	0.48	U	0.49	U	0.49	U								
Benzo(a)pyrene	0.2	n/a	0.48	U	0.48	U	0.48	U	0.48	U	0.49	U	0.49	U								
Benzo(b)fluoranthene	n/a	n/a	0.48	U	0.48	U	0.48	U	0.48	U	0.49	U	0.49	U								
Benzo(ghi)perylene	n/a	n/a	0.48	U	0.48	U	0.48	U	0.48	U	0.49	U	0.49	U								
Benzo(k)fluoranthene	n/a	n/a	0.48	U	0.48	U	0.48	U	0.48	U	0.49	U	0.49	U								
Benzoic acid	n/a	n/a	9.6	U	9.6	U																
Benzyl alcohol	n/a	n/a	0.96	U	0.96	U																
Bis(2-chloroethoxy)methane	n/a	n/a	0.48	U	0.48	U																
Bis(2-chloroethyl)ether	n/a	100	0.52	U	0.52	U																
Bis(2-chloroisopropyl)ether	n/a	510	0.52	U	0.52	U																
Bis(2-ethylhexyl)phthalate	6	n/a	1.1	U	1.1	U																
Butyl benzyl phthalate	n/a	n/a	1.1	U	1.1	U																
Carbazole	n/a	n/a	0.48	U	0.48	U																
Chrysene	n/a	n/a	0.48	U	0.48	U	0.48	U	0.48	U	0.49	U	0.49	U								
Dibenz(a,h)anthracene	n/a	n/a	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U								
Dibenzofuran	n/a	n/a	0.48	U	0.48	U																
Diethyl phthalate	n/a	n/a	1.1	U	1.1	U																
Dimethyl phthalate	n/a	n/a	0.95	U	0.95	U																
Di-n-butyl phthalate	n/a	n/a	0.84	U	0.84	U																
Di-n-octyl phthalate	n/a	n/a	1.1	U	1.1	U																
Fluoranthene	n/a	n/a	0.48	U	0.48	U	0.48	U	0.48	U	0.49	U	0.49	U								
Fluorene	n/a	n/a	0.48	U	0.48	U	0.48	U	0.48	U	0.49	U	0.49	U								
Hexachlorobenzene	1	1	0.54	U	0.54	U																
Hexachlorobutadiene	n/a	3.3	0.96	U	0.96	U																
Hexachlorocyclopentadiene	50	50	1.8	U	1.8	U																
Hexachloroethane	n/a	38	0.96	U	0.96	U																
Indeno(1,2,3-cd)pyrene	n/a	n/a	0.48	U	0.48	U	0.48	U	0.48	U	0.49	U	0.49	U								
Isophorone	n/a	n/a	0.48	U	0.48	U																
M,P-Cresol	n/a	n/a	1.1	U	1.1	U																
Naphthalene	30	150	0.9	J	0.95	J	0.77	U	0.76	U	0.78	U	0.78	U								
Nitrobenzene	n/a	2000	0.57	U	0.57	U																
N-Nitrosodimethylamine	n/a	n/a	2.3	U	2.3	U																
N-Nitroso-di-n-propylamine	n/a	n/a	0.48	U	0.48	U																
N-Nitrosodiphenylamine	n/a	n/a	0.96	U	0.96	U																

Table 4-4. Analytical Results for Groundwater at SD-27 (2010 - 2013)
Holloman AFB, Alamogorodo, NM

		Well:	SD27-MW02		SD27-MW03		SD27-MW03		SD27-MW03		SD27-MW03		SD27-MW03		SD27-MW03		SD27-MW03		SD27-MW03		SD27-MW04	
		Collection Date:	8/28/2013		11/10/2010		1/25/2011		4/6/2011		7/12/2011		12/13/2012		3/7/2013		6/26/2013		8/28/2013		11/10/2010	
		SampleID:	MW27-02-082013		SD27-TTMW-03		MW27-03-012511		MW27-03-040611		MW27-03-071211		SD27-MW03-13122012		MW27-03-030713		MW27-03-062613		MW27-03-082013		SD27-TTMW-04	
		QCType:	N		N		N		N		N		N		N		N		N		N	
SVOCs																						
Benzidine	n/a	n/a			4.5	U	4.6	U													4.5	U
Benzo(a)anthracene	n/a	n/a			0.48	U	0.49	U	0.48	U	0.48	U									0.48	U
Benzo(a)pyrene	0.2	n/a			0.48	U	0.49	U	0.48	U	0.48	U									0.48	U
Benzo(b)fluoranthene	n/a	n/a			0.48	U	0.49	U	0.48	U	0.48	U									0.48	U
Benzo(ghi)perylene	n/a	n/a			0.48	U	0.49	U	0.48	U	0.48	U									0.48	U
Benzo(k)fluoranthene	n/a	n/a			0.48	U	0.49	U	0.48	U	0.48	U									0.48	U
Benzoic acid	n/a	n/a			9.5	U	9.8	U													9.5	U
Benzyl alcohol	n/a	n/a			0.95	U	0.98	U													0.95	U
Bis(2-chloroethoxy)methane	n/a	n/a			0.48	U	0.49	U													0.48	U
Bis(2-chloroethyl)ether	n/a	100			0.51	U	0.53	U													0.51	U
Bis(2-chloroisopropyl)ether	n/a	510			0.51	U	0.53	U													0.51	U
Bis(2-ethylhexyl)phthalate	6	n/a			1	U	1.1	U													1	U
Butyl benzyl phthalate	n/a	n/a			1	U	1.1	U													1	U
Carbazole	n/a	n/a			0.48	U	0.49	U													0.48	U
Chrysene	n/a	n/a			0.48	U	0.49	U	0.48	U	0.48	U									0.48	U
Dibenz(a,h)anthracene	n/a	n/a			0.5	U	0.51	U	0.5	U	0.5	U									0.5	U
Dibenzofuran	n/a	n/a			0.48	U	0.49	U													0.48	U
Diethyl phthalate	n/a	n/a			1	U	1.1	U													1	U
Dimethyl phthalate	n/a	n/a			0.94	U	0.97	U													0.94	U
Di-n-butyl phthalate	n/a	n/a			0.83	U	0.85	U													0.83	U
Di-n-octyl phthalate	n/a	n/a			1	U	1.1	U													1	U
Fluoranthene	n/a	n/a			0.48	U	0.49	U	0.48	U	0.48	U									0.48	U
Fluorene	n/a	n/a			0.48	U	0.49	U	0.48	U	0.48	U									0.48	U
Hexachlorobenzene	1	1			0.53	U	0.55	U													0.53	U
Hexachlorobutadiene	n/a	3.3			0.95	U	0.98	U													0.95	U
Hexachlorocyclopentadiene	50	50			1.8	U	1.9	U													1.8	U
Hexachloroethane	n/a	38			0.95	U	0.98	U													0.95	U
Indeno(1,2,3-cd)pyrene	n/a	n/a			0.48	U	0.49	U	0.48	U	0.48	U									0.48	U
Isophorone	n/a	n/a			0.48	U	0.49	U													0.48	U
M,P-Cresol	n/a	n/a			1	U	1.1	U													1	U
Naphthalene	30	150			0.76	U	0.78	U	0.76	U	0.77	U									0.76	U
Nitrobenzene	n/a	2000			0.56	U	0.58	U													0.56	U
N-Nitrosodimethylamine	n/a	n/a			2.3	U	2.4	U													2.3	U
N-Nitroso-di-n-propylamine	n/a	n/a			0.48	U	0.49	U													0.48	U
N-Nitrosodiphenylamine	n/a	n/a			0.95	U	0.98	U													0.95	U

Table 4-4. Analytical Results for Groundwater at SD-27 (2010 - 2013)
Holloman AFB, Alamogorodo, NM

		Well:	SD27-MW04		SD27-MW04		SD27-MW04		SD27-MW04		SD27-MW04		SD27-MW04		SD27-MW04		SD27-MW05		SD27-MW05	
		Collection Date:	1/25/2011		4/6/2011		7/11/2011		12/12/2012		3/7/2013		6/26/2013		8/28/2013		11/11/2010		1/25/2011	
		SampleID:	MW27-04-012511		MW27-04-040611		MW27-04-071111		SD27-MW04-12122012		MW27-04-030713		MW27-04-062613		MW27-04-082013		SD27-TTMW-05		MW27-05-012511	
		QCType:	N		N		N		N		N		N		N		N		N	
SVOCs																				
Benzidine	n/a	n/a	4.6	U													19	U	4.5	U
Benzo(a)anthracene	n/a	n/a	0.49	U	0.49	U	0.49	U									2	U	0.48	U
Benzo(a)pyrene	0.2	n/a	0.49	U	0.49	U	0.49	U									2	U	0.48	U
Benzo(b)fluoranthene	n/a	n/a	0.49	U	0.49	U	0.49	U									2	U	0.48	U
Benzo(ghi)perylene	n/a	n/a	0.49	U	0.49	U	0.49	U									2	U	0.48	U
Benzo(k)fluoranthene	n/a	n/a	0.49	U	0.49	U	0.49	U									2	U	0.48	U
Benzoic acid	n/a	n/a	9.7	U													40	U	9.5	U
Benzyl alcohol	n/a	n/a	0.97	U													4	U	0.95	U
Bis(2-chloroethoxy)methane	n/a	n/a	0.49	U													2	U	0.48	U
Bis(2-chloroethyl)ether	n/a	100	0.52	U													2.2	U	0.51	U
Bis(2-chloroisopropyl)ether	n/a	510	0.52	U													2.2	U	0.51	U
Bis(2-ethylhexyl)phthalate	6	n/a	1.1	U													4.4	U	1	U
Butyl benzyl phthalate	n/a	n/a	1.1	U													4.4	U	1	U
Carbazole	n/a	n/a	0.49	U													2	U	0.48	U
Chrysene	n/a	n/a	0.49	U	0.49	U	0.49	U									2	U	0.48	U
Dibenz(a,h)anthracene	n/a	n/a	0.5	U	0.5	U	0.51	U									2.1	U	0.5	U
Dibenzofuran	n/a	n/a	0.49	U													2	U	0.48	U
Diethyl phthalate	n/a	n/a	1.1	U													4.4	U	1	U
Dimethyl phthalate	n/a	n/a	0.96	U													4	U	0.94	U
Di-n-butyl phthalate	n/a	n/a	0.84	U													3.5	U	0.84	J
Di-n-octyl phthalate	n/a	n/a	1.1	U													4.4	U	1	U
Fluoranthene	n/a	n/a	0.49	U	0.49	U	0.49	U									2	U	0.48	U
Fluorene	n/a	n/a	0.49	U	0.49	U	0.49	U									2	U	0.48	U
Hexachlorobenzene	1	1	0.54	U													2.2	U	0.53	U
Hexachlorobutadiene	n/a	3.3	0.97	U													4	U	0.95	U
Hexachlorocyclopentadiene	50	50	1.8	U													7.6	U	1.8	U
Hexachloroethane	n/a	38	0.97	U													4	U	0.95	U
Indeno(1,2,3-cd)pyrene	n/a	n/a	0.49	U	0.49	U	0.49	U									2	U	0.48	U
Isophorone	n/a	n/a	0.49	U													2	U	0.48	U
M,P-Cresol	n/a	n/a	1.1	U													4.4	U	7.1	
Naphthalene	30	150	0.78	U	0.78	U	0.78	U									**60**		27	
Nitrobenzene	n/a	2000	0.57	U													2.4	U	0.56	U
N-Nitrosodimethylamine	n/a	n/a	2.3	U													9.6	U	2.3	U
N-Nitroso-di-n-propylamine	n/a	n/a	0.49	U													2	U	0.48	U
N-Nitrosodiphenylamine	n/a	n/a	0.97	U													4	U	0.95	U

Table 4-4. Analytical Results for Groundwater at SD-27 (2010 - 2013)
Holloman AFB, Alamogorodo, NM

		Well:	SD27-MW05		SD27-MW05		SD27-MW05		SD27-MW05		SD27-MW05		SD27-MW05		SD27-MW05		SD27-MW05		SD27-MW05	
		Collection Date:	4/7/2011		7/11/2011		12/11/2012		3/7/2013		3/7/2013		6/26/2013		6/26/2013		8/28/2013		8/28/2013	
		SampleID:	MW27-05-040711		MW27-05-071111		SD27-MW05-11122012		MW27-05-030713		MW27-DUP01-030713		MW27-05-062613		MW27-DUP01-062613		MW27-05-082013		MW27-DUP01-082013	
		QCType:	N		N		N		N		FD		N		FD		N		FD	
SVOCs																				
Benzidine	n/a	n/a																		
Benzo(a)anthracene	n/a	n/a	0.5	U	0.48	U														
Benzo(a)pyrene	0.2	n/a	0.5	U	0.48	U														
Benzo(b)fluoranthene	n/a	n/a	0.5	U	0.48	U														
Benzo(ghi)perylene	n/a	n/a	0.5	U	0.48	U														
Benzo(k)fluoranthene	n/a	n/a	0.5	U	0.48	U														
Benzoic acid	n/a	n/a																		
Benzyl alcohol	n/a	n/a																		
Bis(2-chloroethoxy)methane	n/a	n/a																		
Bis(2-chloroethyl)ether	n/a	100																		
Bis(2-chloroisopropyl)ether	n/a	510																		
Bis(2-ethylhexyl)phthalate	6	n/a																		
Butyl benzyl phthalate	n/a	n/a																		
Carbazole	n/a	n/a																		
Chrysene	n/a	n/a	0.5	U	0.48	U														
Dibenz(a,h)anthracene	n/a	n/a	0.52	U	0.5	U														
Dibenzofuran	n/a	n/a																		
Diethyl phthalate	n/a	n/a																		
Dimethyl phthalate	n/a	n/a																		
Di-n-butyl phthalate	n/a	n/a																		
Di-n-octyl phthalate	n/a	n/a																		
Fluoranthene	n/a	n/a	0.5	U	0.48	U														
Fluorene	n/a	n/a	0.5	U	0.48	U														
Hexachlorobenzene	1	1																		
Hexachlorobutadiene	n/a	3.3																		
Hexachlorocyclopentadiene	50	50																		
Hexachloroethane	n/a	38																		
Indeno(1,2,3-cd)pyrene	n/a	n/a	0.5	U	0.48	U														
Isophorone	n/a	n/a																		
M,P-Cresol	n/a	n/a																		
Naphthalene	30	150	22.2		18.6															
Nitrobenzene	n/a	2000																		
N-Nitrosodimethylamine	n/a	n/a																		
N-Nitroso-di-n-propylamine	n/a	n/a																		
N-Nitrosodiphenylamine	n/a	n/a																		

Table 4-4. Analytical Results for Groundwater at SD-27 (2010 - 2013)
Holloman AFB, Alamogorodo, NM

		Well:	SD27-MW01		SD27-MW01		SD27-MW01		SD27-MW01		SD27-MW01		SD27-MW01		SD27-MW01		SD27-MW01		SD27-MW02		SD27-MW02	
		Collection Date:	11/11/2010		1/25/2011		4/7/2011		7/11/2011		12/13/2012		3/6/2013		6/26/2013		8/28/2013		11/10/2010		11/10/2010	
		SampleID:	SD27-TTMW-01		MW27-01-012511		MW27-01-040711		MW27-01-071111		SD27-MW01-13122012		MW27-01-030613		MW27-01-062613		MW27-01-082013		SD27-TTMW-02		SD27-TTMW-02-FD	
		QCType:	N		N		N		N		N		N		N		N		N		FD	
SVOCs																						
Pentachlorophenol	1	n/a	5.1	U	5.3	U													21	U	21	U
Phenanthrene	n/a	n/a	0.48	U	0.49	U	0.49	U	0.48	U									1.9	U	1.9	U
Phenol	5	n/a	0.48	U	0.49	U													1.9	U	1.9	U
Pyrene	n/a	n/a	0.48	U	0.49	U	0.49	U	0.48	U									1.9	U	1.9	U
Pyridine	n/a	n/a	1.5	U	1.6	U													6.1	U	6.1	U
VOCs																						
1,1,1,2-Tetrachloroethane	n/a	33	0.2	U	0.2	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U	0.4	UJ	0.4	UJ
1,1,1-Trichloroethane	60	3100	0.2	U	0.2	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U	0.4	UJ	0.4	UJ
1,1,2,2-Tetrachloroethane	10	30	0.23	U	0.23	U	0.23	U	0.23	U	1	U	1	U	1	U	1	U	0.46	UJ	0.46	UJ
1,1,2-Trichloro-1,2,2-trifluoroethane	n/a	1500	0.47	U	0.47	U	0.47	U	0.47	U	1	U	1	U	1	U	1	U	0.94	UJ	0.94	UJ
1,1,2-Trichloroethane	5	41	0.22	U	0.22	U	0.22	U	0.22	U	1	U	1	U	1	U	1	U	0.44	UJ	0.44	UJ
1,1-Dichloroethane	25	2200	0.25	U	0.25	U	0.25	U	0.25	U	1	U	1	U	1	U	1	U	0.5	UJ	0.5	UJ
1,1-Dichloroethene	5	190	0.23	U	0.23	U	0.23	U	0.23	U	1	U	1	U	1	U	1	U	0.46	UJ	0.46	UJ
1,1-Dichloropropene	n/a	n/a	0.28	U	0.28	U	0.28	U	0.28	U	1	U	1	U	1	U	1	U	0.56	UJ	0.56	UJ
1,2,3-Trichlorobenzene	n/a	n/a	0.5	U	0.5	U	0.5	U	0.5	U	1	U	1	U	1	U	1	U	1	UJ	1	UJ
1,2,3-Trichloropropane	n/a	290	0.3	U	0.3	U	0.3	U	0.3	U	2	U	2	U	2	U	2	U	0.6	UJ	0.6	UJ
1,2,4-Trichlorobenzene	70	3400	0.5	U	0.5	U	0.5	U	0.5	U	1	U	1	U	1	U	1	U	1	UJ	1	UJ
1,2,4-Trimethylbenzene	n/a	24	0.27	U	0.27	U	0.27	U	0.27	U	2	U	2	U	2	U	2	U	168	J	190	J
1,2-Dibromo-3-chloropropane	0.2	33	0.5	U	0.5	U	0.5	U	0.5	U	2	U	2	U	2	U	2	U	1	UJ	1	UJ
1,2-Dibromoethane	0.05	3.6	0.37	U	0.37	U	0.37	U	0.37	U	1	U	1	U	1	U	1	U	0.74	UJ	0.74	UJ
1,2-Dichlorobenzene	600	2600	0.25	U	0.25	U	0.25	U	0.25	U	1	U	1	U	1	U	1	U	0.5	UJ	0.5	UJ
1,2-Dichloroethane	5	23	0.2	U	0.2	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U	0.4	UJ	0.4	UJ
1,2-Dichloropropane	5	35	0.25	U	0.25	U	0.25	U	0.25	U	1	U	1	U	1	U	1	U	0.5	UJ	0.5	UJ
1,3,5-Trimethylbenzene	n/a	25	0.21	U	0.21	U	0.21	U	0.21	U	2	U	2	U	2	U	2	U	50.6	J	56.7	J
1,3-Dichlorobenzene	n/a	830	0.2	U	0.2	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U	0.4	UJ	0.4	UJ
1,3-Dichloropropane	n/a	n/a	0.2	U	0.2	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U	0.4	UJ	0.4	UJ
1,4-Dichlorobenzene	75	8200	0.23	U	0.23	U	0.23	U	0.23	U	1	U	1	U	1	U	1	U	0.46	UJ	0.46	UJ
1-Chlorohexane	n/a	n/a	0.25	U	0.25	U	0.25	U	0.25	U	2	U	2	U	2	U	2	U	0.5	UJ	0.5	UJ
2,2-Dichloropropane	n/a	n/a	0.44	U	0.44	U	0.44	U	0.44	U	1	U	1	U	1	U	1	U	0.88	UJ	0.88	UJ
2-Butanone	n/a	440000	2	U	2	U	2	U	2	U	5	U	5	U	5	U	5	U	4	UJ	4	UJ
2-Chloroethyl vinyl ether	n/a	n/a	1.2	UJ	1.2	U	1.2	UJ	1.2	UJ	5	U	5	UJ	5	U	5	U	2.4	UJ	2.4	UJ
2-Chlorotoluene	n/a	n/a	0.22	U	0.22	U	0.22	U	0.22	U	1	U	1	U	1	U	1	U	0.44	UJ	0.44	UJ
2-Hexanone	n/a	n/a	4	U	4	U	4	U	4	U	10	U	10	U	10	U	10	U	8	UJ	8	UJ
4-Chlorotoluene	n/a	n/a	0.2	U	0.2	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U	0.4	UJ	0.4	UJ
4-Methyl-2-pentanone	n/a	14000	2	U	2	U	2	U	2	U	5	U	5	U	5	U	5	U	4	UJ	4	UJ

Table 4-4. Analytical Results for Groundwater at SD-27 (2010 - 2013)
Holloman AFB, Alamogorodo, NM

		Well:	SD27-MW02		SD27-MW02		SD27-MW02		SD27-MW02		SD27-MW02		SD27-MW02		SD27-MW02		SD27-MW02		SD27-MW02		SD27-MW02	
		Collection Date:	1/25/2011		1/25/2011		4/7/2011		4/7/2011		7/11/2011		7/11/2011		12/12/2012		12/12/2012		3/6/2013		6/26/2013	
		SampleID:	MW27-02-012511		MW27-DUP01-012511		MW27-02-040711		MW27-DUP01-040711		MW27-02-071111		MW27-DUP01-071111		SD27-MW02-12122012		SD27-MW02-DUP 01		MW27-02-030613		MW27-02-062613	
		QCType:	N		FD		N		FD		N		FD		N		FD		N		N	
SVOCs																						
Pentachlorophenol	1	n/a	5.2	U	5.2	U																
Phenanthrene	n/a	n/a	0.48	U	0.48	U	0.48	U	0.48	U	0.49	U	0.49	U								
Phenol	5	n/a	0.48	U	0.48	U																
Pyrene	n/a	n/a	0.48	U	0.48	U	0.48	U	0.48	U	0.49	U	0.49	U								
Pyridine	n/a	n/a	1.5	U	1.5	U																
VOCs																						
1,1,1,2-Tetrachloroethane	n/a	33	0.4	U	0.4	U	0.4	U	0.4	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U
1,1,1-Trichloroethane	60	3100	0.4	U	0.4	U	0.4	U	0.4	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U
1,1,2,2-Tetrachloroethane	10	30	0.46	U	0.46	U	0.46	U	0.46	U	0.23	U	0.23	U	1	U	1	U	1	U	1	U
1,1,2-Trichloro-1,2,2-trifluoroethane	n/a	1500	0.94	U	0.94	U	0.94	U	0.94	U	0.47	U	0.47	U	1	U	1	U	1	U	1	U
1,1,2-Trichloroethane	5	41	0.44	U	0.44	U	0.44	U	0.44	U	0.22	U	0.22	U	1	U	1	U	1	U	1	U
1,1-Dichloroethane	25	2200	0.5	U	0.5	U	0.5	U	0.5	U	0.25	U	0.25	U	1	U	1	U	1	U	1	U
1,1-Dichloroethene	5	190	0.46	U	0.46	U	0.46	U	0.46	U	0.23	U	0.23	U	1	U	1	U	1	U	1	U
1,1-Dichloropropene	n/a	n/a	0.56	U	0.56	U	0.56	U	0.56	U	0.28	U	0.28	U	1	U	1	U	1	U	1	U
1,2,3-Trichlorobenzene	n/a	n/a	1	U	1	U	1	U	1	U	0.5	U	0.5	U	1	U	1	U	1	U	1	U
1,2,3-Trichloropropane	n/a	290	0.6	U	0.6	U	0.6	U	0.6	U	0.3	U	0.3	U	2	U	2	U	2	U	2	U
1,2,4-Trichlorobenzene	70	3400	1	U	1	U	1	U	1	U	0.5	U	0.5	U	1	U	1	U	1	U	1	U
1,2,4-Trimethylbenzene	n/a	24	101		97		81.8		79.3		87.1		89.4		2	U	2	U	2	U	1.5	J
1,2-Dibromo-3-chloropropane	0.2	33	1	U	1	U	1	U	1	U	0.5	U	0.5	U	2	U	2	U	2	U	2	U
1,2-Dibromoethane	0.05	3.6	0.74	U	0.74	U	0.74	U	0.74	U	0.37	U	0.37	U	1	U	1	U	1	U	1	U
1,2-Dichlorobenzene	600	2600	0.5	U	0.5	U	0.5	U	0.5	U	0.25	U	0.25	U	1	U	1	U	1	U	1	U
1,2-Dichloroethane	5	23	0.4	U	0.4	U	0.4	U	0.4	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U
1,2-Dichloropropane	5	35	0.5	U	0.5	U	0.5	U	0.5	U	0.25	U	0.25	U	1	U	1	U	1	U	1	U
1,3,5-Trimethylbenzene	n/a	25	41		40.2		22.3		22.7		30.1		30.9		5.3		4.7		4.4		5	
1,3-Dichlorobenzene	n/a	830	0.4	U	0.4	U	0.4	U	0.4	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U
1,3-Dichloropropane	n/a	n/a	0.4	U	0.4	U	0.4	U	0.4	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U
1,4-Dichlorobenzene	75	8200	0.46	U	0.46	U	0.46	U	0.46	U	0.23	U	0.23	U	1	U	1	U	1	U	1	U
1-Chlorohexane	n/a	n/a	0.5	U	0.5	U	0.5	U	0.5	U	0.25	U	0.25	U	2	U	2	U	2	U	2	U
2,2-Dichloropropane	n/a	n/a	0.88	U	0.88	U	0.88	U	0.88	U	0.44	U	0.44	U	1	U	1	U	1	U	1	U
2-Butanone	n/a	440000	4	U	4	U	4	U	4	U	2	U	2	U	5	U	5	U	5	U	5	U
2-Chloroethyl vinyl ether	n/a	n/a	2.4	U	2.4	U	2.4	U	2.4	U	1.2	U	1.2	U	5	U	5	U	5	UJ	5	U
2-Chlorotoluene	n/a	n/a	0.44	U	0.44	U	0.44	U	0.44	U	0.22	U	0.22	U	1	U	1	U	1	U	1	U
2-Hexanone	n/a	n/a	8	U	8	U	8	U	8	U	4	U	4	U	10	U	10	U	10	U	10	U
4-Chlorotoluene	n/a	n/a	0.4	U	0.4	U	0.4	U	0.4	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U
4-Methyl-2-pentanone	n/a	14000	4	U	4	U	4	U	4	U	2	U	2	U	5	U	5	U	5	U	5	U

Table 4-4. Analytical Results for Groundwater at SD-27 (2010 - 2013)
Holloman AFB, Alamogorodo, NM

		Well:	SD27-MW02		SD27-MW03		SD27-MW03		SD27-MW03		SD27-MW03		SD27-MW03		SD27-MW03		SD27-MW03		SD27-MW03		SD27-MW04	
		Collection Date:	8/28/2013		11/10/2010		1/25/2011		4/6/2011		7/12/2011		12/13/2012		3/7/2013		6/26/2013		8/28/2013		11/10/2010	
		SampleID:	MW27-02-082013		SD27-TTMW-03		MW27-03-012511		MW27-03-040611		MW27-03-071211		SD27-MW03-13122012		MW27-03-030713		MW27-03-062613		MW27-03-082013		SD27-TTMW-04	
		QCType:	N		N		N		N		N		N		N		N		N		N	
SVOCs																						
Pentachlorophenol	1	n/a			5.1	U	5.3	U													5.1	U
Phenanthrene	n/a	n/a			0.48	U	0.49	U	0.48	U	0.48	U									0.48	U
Phenol	5	n/a			0.48	U	0.49	U													0.48	U
Pyrene	n/a	n/a			0.48	U	0.49	U	0.48	U	0.48	U									0.48	U
Pyridine	n/a	n/a			1.5	U	1.6	U													1.5	U
VOCs																						
1,1,1,2-Tetrachloroethane	n/a	33	1	U	0.2	UJ	0.2	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U	0.2	UJ
1,1,1-Trichloroethane	60	3100	1	U	0.2	UJ	0.2	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U	0.2	UJ
1,1,2,2-Tetrachloroethane	10	30	1	U	0.23	UJ	0.23	U	0.23	U	0.23	U	1	U	1	U	1	U	1	U	0.23	UJ
1,1,2-Trichloro-1,2,2-trifluoroethane	n/a	1500	1	U	0.47	UJ	0.47	U	0.47	U	0.47	U	1	U	1	U	1	U	1	U	0.47	UJ
1,1,2-Trichloroethane	5	41	1	U	0.22	UJ	0.22	U	0.22	U	0.22	U	1	U	1	U	1	U	1	U	0.22	UJ
1,1-Dichloroethane	25	2200	1	U	0.25	UJ	0.25	U	0.25	U	0.25	U	1	U	1	U	1	U	1	U	0.25	UJ
1,1-Dichloroethene	5	190	1	U	0.23	UJ	0.23	U	0.23	U	0.23	U	1	U	1	U	1	U	1	U	0.23	UJ
1,1-Dichloropropene	n/a	n/a	1	U	0.28	UJ	0.28	U	0.28	U	0.28	U	1	U	1	U	1	U	1	U	0.28	UJ
1,2,3-Trichlorobenzene	n/a	n/a	1	U	0.5	UJ	0.5	U	0.5	U	0.5	U	1	U	1	U	1	U	1	U	0.5	UJ
1,2,3-Trichloropropane	n/a	290	2	U	0.3	UJ	0.3	U	0.3	U	0.3	U	2	U	2	U	2	U	2	U	0.3	UJ
1,2,4-Trichlorobenzene	70	3400	1	U	0.5	UJ	0.5	U	0.5	U	0.5	U	1	U	1	U	1	U	1	U	0.5	UJ
1,2,4-Trimethylbenzene	n/a	24	1.5	J	2	J	0.27	U	0.27	U	0.27	U	2	U	2	U	2	U	2	U	4.2	J
1,2-Dibromo-3-chloropropane	0.2	33	2	U	0.5	UJ	0.5	U	0.5	U	0.5	U	2	U	2	U	2	U	2	U	0.5	UJ
1,2-Dibromoethane	0.05	3.6	1	U	0.37	UJ	0.37	U	0.37	U	0.37	U	1	U	1	U	1	U	1	U	0.37	UJ
1,2-Dichlorobenzene	600	2600	1	U	0.25	UJ	0.25	U	0.25	U	0.25	U	1	U	1	U	1	U	1	U	0.25	UJ
1,2-Dichloroethane	5	23	1	U	0.2	UJ	0.2	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U	0.2	UJ
1,2-Dichloropropane	5	35	1	U	0.25	UJ	0.25	U	0.25	U	0.25	U	1	U	1	U	1	U	1	U	0.25	UJ
1,3,5-Trimethylbenzene	n/a	25	5.3		3.5	J	2.1		3.9		1.5	J	2	U	0.28	J	2	U	2	U	1.1	J
1,3-Dichlorobenzene	n/a	830	1	U	0.2	UJ	0.2	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U	0.2	UJ
1,3-Dichloropropane	n/a	n/a	1	U	0.2	UJ	0.2	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U	0.2	UJ
1,4-Dichlorobenzene	75	8200	1	U	0.23	UJ	0.23	U	0.23	U	0.23	U	1	U	1	U	1	U	1	U	0.23	UJ
1-Chlorohexane	n/a	n/a	2	U	0.25	UJ	0.25	U	0.25	U	0.25	U	2	U	2	U	2	U	2	U	0.25	UJ
2,2-Dichloropropane	n/a	n/a	1	U	0.44	UJ	0.44	U	0.44	U	0.44	U	1	U	1	U	1	U	1	U	0.44	UJ
2-Butanone	n/a	440000	5	U	2	UJ	2	U	2	U	2	U	5	U	5	U	5	U	5	U	2	UJ
2-Chloroethyl vinyl ether	n/a	n/a	5	U	1.2	UJ	1.2	U	1.2	U	1.2	U	5	U	5	UJ	5	U	5	U	1.2	UJ
2-Chlorotoluene	n/a	n/a	1	U	0.22	UJ	0.22	U	0.22	U	0.22	U	1	U	1	U	1	U	1	U	0.22	UJ
2-Hexanone	n/a	n/a	10	U	4	UJ	4	U	4	U	4	U	10	U	10	U	10	U	10	U	4	UJ
4-Chlorotoluene	n/a	n/a	1	U	0.2	UJ	0.2	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U	0.2	UJ
4-Methyl-2-pentanone	n/a	14000	5	U	2	UJ	2	U	2	U	2	U	5	U	5	U	5	U	5	U	2	UJ

Table 4-4. Analytical Results for Groundwater at SD-27 (2010 - 2013)
Holloman AFB, Alamogorodo, NM

		Well:	SD27-MW04		SD27-MW04		SD27-MW04		SD27-MW04		SD27-MW04		SD27-MW04		SD27-MW04		SD27-MW05		SD27-MW05	
		Collection Date:	1/25/2011		4/6/2011		7/11/2011		12/12/2012		3/7/2013		6/26/2013		8/28/2013		11/11/2010		1/25/2011	
		SampleID:	MW27-04-012511		MW27-04-040611		MW27-04-071111		SD27-MW04-12122012		MW27-04-030713		MW27-04-062613		MW27-04-082013		SD27-TTMW-05		MW27-05-012511	
		QCType:	N		N		N		N		N		N		N		N		N	
SVOCs																				
Pentachlorophenol	1	n/a	5.2	U													22	U	5.1	U
Phenanthrene	n/a	n/a	0.49	U	0.49	U	0.49	U									2	U	0.48	U
Phenol	5	n/a	0.49	U													2	U	**18.1**	
Pyrene	n/a	n/a	0.49	U	0.49	U	0.49	U									2	U	0.48	U
Pyridine	n/a	n/a	1.6	U													6.4	U	1.5	U
VOCs																				
1,1,1,2-Tetrachloroethane	n/a	33	0.2	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U	2	UJ	2	U
1,1,1-Trichloroethane	60	3100	0.2	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U	2	UJ	2	U
1,1,2,2-Tetrachloroethane	10	30	0.23	U	0.23	U	0.23	U	1	U	1	U	1	U	1	U	2.3	UJ	2.3	U
1,1,2-Trichloro-1,2,2-trifluoroethane	n/a	1500	0.47	U	0.47	U	0.47	U	1	U	1	U	1	U	1	U	4.7	UJ	4.7	U
1,1,2-Trichloroethane	5	41	0.22	U	0.22	U	0.22	U	1	U	1	U	1	U	1	U	2.2	UJ	2.2	U
1,1-Dichloroethane	25	2200	0.25	U	0.25	U	0.25	U	1	U	1	U	1	U	1	U	2.5	UJ	2.5	U
1,1-Dichloroethene	5	190	0.23	U	0.23	U	0.23	U	1	U	1	U	1	U	1	U	2.3	UJ	2.3	U
1,1-Dichloropropene	n/a	n/a	0.28	U	0.28	U	0.28	U	1	U	1	U	1	U	1	U	2.8	UJ	2.8	U
1,2,3-Trichlorobenzene	n/a	n/a	0.5	U	0.5	U	0.5	U	1	U	1	U	1	U	1	U	5	UJ	5	U
1,2,3-Trichloropropane	n/a	290	0.3	U	0.3	U	0.3	U	2	U	2	U	2	U	2	U	3	UJ	3	U
1,2,4-Trichlorobenzene	70	3400	0.5	U	0.5	U	0.5	U	1	U	1	U	1	U	1	U	5	UJ	5	U
1,2,4-Trimethylbenzene	n/a	24	2.8		0.33	J	2.9		2	U	2	U	2	U	2	U	223	J	255	
1,2-Dibromo-3-chloropropane	0.2	33	0.5	U	0.5	U	0.5	U	2	U	2	U	2	U	2	U	5	UJ	5	U
1,2-Dibromoethane	0.05	3.6	0.37	U	0.37	U	0.37	U	1	U	1	U	1	U	1	U	3.7	UJ	3.7	U
1,2-Dichlorobenzene	600	2600	0.25	U	0.25	U	0.25	U	1	U	1	U	1	U	1	U	2.5	UJ	2.5	U
1,2-Dichloroethane	5	23	0.2	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U	2	UJ	2	U
1,2-Dichloropropane	5	35	0.25	U	0.25	U	0.25	U	1	U	1	U	1	U	1	U	2.5	UJ	2.5	U
1,3,5-Trimethylbenzene	n/a	25	0.97	J	0.21	U	0.83	J	2	U	2	U	2	U	2	U	53.5	J	91.6	
1,3-Dichlorobenzene	n/a	830	0.2	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U	2	UJ	2	U
1,3-Dichloropropane	n/a	n/a	0.2	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U	2	UJ	2	U
1,4-Dichlorobenzene	75	8200	0.23	U	0.23	U	0.23	U	1	U	1	U	1	U	1	U	2.3	UJ	2.3	U
1-Chlorohexane	n/a	n/a	0.25	U	0.25	U	0.25	U	2	U	2	U	2	U	2	U	2.5	UJ	2.5	U
2,2-Dichloropropane	n/a	n/a	0.44	U	0.44	U	0.44	U	1	U	1	U	1	U	1	U	4.4	UJ	4.4	U
2-Butanone	n/a	440000	2	U	2	U	2	U	5	U	5	U	5	U	5	U	20	UJ	20	U
2-Chloroethyl vinyl ether	n/a	n/a	1.2	U	1.2	U	1.2	U	5	UJ	5	UJ	5	U	5	UJ	12	UJ	12	U
2-Chlorotoluene	n/a	n/a	0.22	U	0.22	U	0.22	U	1	U	1	U	1	U	1	U	2.2	UJ	2.2	U
2-Hexanone	n/a	n/a	4	U	4	U	4	U	10	U	10	U	10	U	10	U	40	UJ	40	U
4-Chlorotoluene	n/a	n/a	0.2	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U	2	UJ	2	U
4-Methyl-2-pentanone	n/a	14000	2	U	2	U	2	U	5	U	5	U	5	U	5	U	20	UJ	20	U

Table 4-4. Analytical Results for Groundwater at SD-27 (2010 - 2013)
Holloman AFB, Alamogorodo, NM

		Well:	SD27-MW05		SD27-MW05		SD27-MW05		SD27-MW05		SD27-MW05		SD27-MW05		SD27-MW05		SD27-MW05		SD27-MW05	
		Collection Date:	4/7/2011		7/11/2011		12/11/2012		3/7/2013		3/7/2013		6/26/2013		6/26/2013		8/28/2013		8/28/2013	
		SampleID:	MW27-05-040711		MW27-05-071111		SD27-MW05-11122012		MW27-05-030713		MW27-DUP01-030713		MW27-05-062613		MW27-DUP01-062613		MW27-05-082013		MW27-DUP01-082013	
		QCType:	N		N		N		N		FD		N		FD		N		FD	
SVOCs																				
Pentachlorophenol	1	n/a																		
Phenanthrene	n/a	n/a	0.5	U	0.48	U														
Phenol	5	n/a																		
Pyrene	n/a	n/a	0.5	U	0.48	U														
Pyridine	n/a	n/a																		
VOCs																				
1,1,1,2-Tetrachloroethane	n/a	33	2	U	1	U	1	U	5	U	2	U	5	U	25	U	5	U	5	U
1,1,1-Trichloroethane	60	3100	2	U	1	U	1	U	5	U	2	U	5	U	25	U	5	U	5	U
1,1,2,2-Tetrachloroethane	10	30	2.3	U	1.2	U	1	U	5	U	2	U	5	U	25	U	5	U	5	U
1,1,2-Trichloro-1,2,2-trifluoroethane	n/a	1500	4.7	U	2.4	U	1	U	5	U	2	U	5	U	25	U	5	U	5	U
1,1,2-Trichloroethane	5	41	2.2	U	1.1	U	1	U	5	U	2	U	5	U	25	U	5	U	5	U
1,1-Dichloroethane	25	2200	2.5	U	1.3	U	1	U	5	U	2	U	5	U	25	U	5	U	5	U
1,1-Dichloroethene	5	190	2.3	U	1.2	U	1	U	5	U	2	U	5	U	25	U	5	U	5	U
1,1-Dichloropropene	n/a	n/a	2.8	U	1.4	U	1	U	5	U	2	U	5	U	25	U	5	U	5	U
1,2,3-Trichlorobenzene	n/a	n/a	5	U	2.5	U	1	U	5	U	2	U	5	U	25	U	5	U	5	U
1,2,3-Trichloropropane	n/a	290	3	U	1.5	U	2	U	10	U	4	U	10	U	50	U	10	U	10	U
1,2,4-Trichlorobenzene	70	3400	5	U	2.5	U	1	U	5	U	2	U	5	U	25	U	5	U	5	U
1,2,4-Trimethylbenzene	n/a	24	227		87.5		40.8		244		242		194	J	372	J	213		220	
1,2-Dibromo-3-chloropropane	0.2	33	5	U	2.5	U	2	U	10	U	4	U	10	U	50	U	10	U	10	U
1,2-Dibromoethane	0.05	3.6	3.7	U	1.9	U	1	U	5	U	2	U	5	U	25	U	5	U	5	U
1,2-Dichlorobenzene	600	2600	2.5	U	1.3	U	1	U	5	U	2	U	5	U	25	U	5	U	5	U
1,2-Dichloroethane	5	23	2	U	1	U	1	U	5	U	2	U	5	U	25	U	5	U	5	U
1,2-Dichloropropane	5	35	2.5	U	1.3	U	1	U	5	U	2	U	5	U	25	U	5	U	5	U
1,3,5-Trimethylbenzene	n/a	25	61.1		26.4		12.4		64.2		55.6		51.5	J	94.9	J	52.8		54.8	
1,3-Dichlorobenzene	n/a	830	2	U	1	U	1	U	5	U	2	U	5	U	25	U	5	U	5	U
1,3-Dichloropropane	n/a	n/a	2	U	1	U	1	U	5	U	2	U	5	U	25	U	5	U	5	U
1,4-Dichlorobenzene	75	8200	2.3	U	1.2	U	1	U	5	U	2	U	5	U	25	U	5	U	5	U
1-Chlorohexane	n/a	n/a	2.5	U	1.3	U	2	U	10	U	4	U	10	U	50	U	10	U	10	U
2,2-Dichloropropane	n/a	n/a	4.4	U	2.2	U	1	U	5	U	2	U	5	U	25	U	5	U	5	U
2-Butanone	n/a	440000	20	U	10	U	5	U	25	U	10	U	25	U	130	U	25	U	25	U
2-Chloroethyl vinyl ether	n/a	n/a	12	U	6	U	5	U	25	UJ	10	UJ	50	U	130	U	25	UJ	25	UJ
2-Chlorotoluene	n/a	n/a	2.2	U	1.1	U	1	U	5	U	2	U	5	U	25	U	5	U	5	U
2-Hexanone	n/a	n/a	40	U	20	U	10	U	50	U	20	U	50	U	250	U	50	U	50	U
4-Chlorotoluene	n/a	n/a	2	U	1	U	1	U	5	U	2	U	5	U	25	U	5	U	5	U
4-Methyl-2-pentanone	n/a	14000	20	U	10	U	5	U	25	U	10	U	25	U	130	U	25	U	25	U

Table 4-4. Analytical Results for Groundwater at SD-27 (2010 - 2013)
Holloman AFB, Alamogorodo, NM

		Well:	SD27-MW01		SD27-MW01		SD27-MW01		SD27-MW01		SD27-MW01		SD27-MW01		SD27-MW01		SD27-MW01		SD27-MW02		SD27-MW02	
		Collection Date:	11/11/2010		1/25/2011		4/7/2011		7/11/2011		12/13/2012		3/6/2013		6/26/2013		8/28/2013		11/10/2010		11/10/2010	
		SampleID:	SD27-TTMW-01		MW27-01-012511		MW27-01-040711		MW27-01-071111		SD27-MW01-13122012		MW27-01-030613		MW27-01-062613		MW27-01-082013		SD27-TTMW-02		SD27-TTMW-02-FD	
		QCType:	N		N		N		N		N		N		N		N		N		FD	
VOCs																						
Acetone	n/a	220000	10	UJ	10	U	10	U	10	U	25	U	25	U	25	U	25	U	24.6	J	25.8	J
Acetonitrile	n/a	42000	5	U	5	U	5	U	5	U	20	U	20	U	20	U	20	U	10	UJ	10	UJ
Acrolein	n/a	4	5	U	5	U	5	U	5	U	20	U	20	U	20	U	20	U	10	UJ	10	UJ
Acrylonitrile	n/a	85	3	U	3	U	3	U	3	U	10	U	10	U	10	U	10	U	6	UJ	6	UJ
Allyl chloride (3-Chloropopene)	n/a	n/a	0.3	U	0.3	U	0.3	U	0.3	U	2	U	2	U	2	U	2	U	0.6	UJ	0.6	UJ
Benzene	5	14	0.2	U	0.2	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U	**6.4**	**J**	**6.7**	**J**
Benzyl Chloride	n/a	30	0.5	U	0.5	U	0.5	U	0.5	U	2	U	2	U	2	U	2	U	1	UJ	1	UJ
Bromobenzene	n/a	n/a	0.25	U	0.25	U	0.25	U	0.25	U	1	U	1	U	1	U	1	U	0.5	UJ	0.5	UJ
Bromochloromethane	n/a	n/a	0.22	U	0.22	U	0.22	U	0.22	U	1	U	1	U	1	U	1	U	0.44	UJ	0.44	UJ
Bromodichloromethane	81	21	0.2	U	0.2	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U	0.4	UJ	0.4	UJ
Bromoform	81	0.083	0.2	U	0.2	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U	0.4	UJ	0.4	UJ
Bromomethane	n/a	20	0.5	U	0.5	U	0.5	U	0.5	U	2	U	2	U	2	U	2	U	1	UJ	1	UJ
Carbon disulfide	n/a	560	0.5	U	0.5	U	0.5	U	0.5	U	2	U	2	U	2	U	2	U	1	UJ	1	UJ
Carbon tetrachloride	5	5	0.25	U	0.25	U	0.25	U	0.25	U	1	U	1	U	1	U	1	U	0.5	UJ	0.5	UJ
Chlorobenzene	100	390	0.2	U	0.2	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U	0.4	UJ	0.4	UJ
Chloroethane	n/a	28000	0.5	U	0.5	U	0.5	U	0.5	U	2	U	2	U	2	U	2	U	1	UJ	1	UJ
Chloroform	81	80	0.22	U	0.22	U	0.22	U	0.22	U	1	U	1	U	1	U	1	U	3.1	J	3.4	J
Chloromethane	n/a	67	0.5	U	0.5	U	0.5	U	0.5	U	2	U	2	U	2	UJ	2	U	1	UJ	1	UJ
Cis-1,2-dichloroethene	70	210	0.26	U	0.26	U	0.26	U	0.26	U	1	U	1	U	1	U	1	U	0.52	UJ	0.52	UJ
Cis-1,3-dichloropropene	n/a	n/a	0.2	U	0.2	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U	0.4	UJ	0.4	UJ
cis-1,4-Dichloro-2-butene	n/a	n/a	1	U	1	U	1	U	1	UJ	10	U	10	U	10	UJ	10	U	2	UJ	2	UJ
Cymene	n/a	n/a	0.21	U	0.21	U	0.21	U	0.21	U	1	U	1	U	1	U	1	U	30.7	J	32.5	J
Dibromochloromethane	82	32	0.2	U	0.2	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U	0.4	UJ	0.4	UJ
Dibromomethane	n/a	990	0.25	U	0.25	U	0.25	U	0.25	U	2	U	2	U	2	U	2	U	0.5	UJ	0.5	UJ
Dichlorodifluoromethane	n/a	14	0.5	U	0.5	U	0.5	U	0.5	U	2	U	2	U	2	UJ	2	U	1	UJ	1	UJ
Ether, tert-butyl methyl	n/a	120000	0.34	U	0.34	U	0.34	U	0.34	U	1	U	1	U	1	U	1	U	0.68	UJ	0.68	UJ
Ethyl Methacrylate	n/a	9100	1	U	1	U	1	U	1	U	5	U	5	U	5	U	5	U	2	UJ	2	UJ
Ethylbenzene	700	700	0.2	U	0.2	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U	168	J	140	J
Hexachlorobutadiene	n/a	3.3	0.8	U	0.8	U	0.8	U	0.8	U	2	U	2	U	2	U	2	U	1.6	UJ	1.6	UJ
Hexane	n/a	2.9	0.59	U	0.59	U	0.59	U	0.59	U	2	U	2	U	2	U	2	U	1.2	UJ	1.2	UJ
Iodomethane	n/a	n/a	0.2	U	0.2	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U	0.4	UJ	0.4	UJ
Isopropylbenzene	n/a	8.4	0.2	U	0.2	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U	48.7	J	53.2	J
m,p-Xylene	620	22000	0.32	U	0.32	U	0.32	U	0.32	U	2	U	2	U	2	U	2	U	147	J	182	J
Methacrylonitrile	n/a	69	5	U	5	U	5	U	5	U	20	U	20	U	20	U	20	U	10	UJ	10	UJ
Methyl methacrylate	n/a	51000	1	U	1	U	1	U	1	U	5	U	5	U	5	U	5	U	2	UJ	2	UJ

Table 4-4. Analytical Results for Groundwater at SD-27 (2010 - 2013)
Holloman AFB, Alamogorodo, NM

		Well:	SD27-MW02		SD27-MW02		SD27-MW02		SD27-MW02		SD27-MW02		SD27-MW02		SD27-MW02		SD27-MW02		SD27-MW02		SD27-MW02	
		Collection Date:	1/25/2011		1/25/2011		4/7/2011		4/7/2011		7/11/2011		7/11/2011		12/12/2012		12/12/2012		3/6/2013		6/26/2013	
		SampleID:	MW27-02-012511		MW27-DUP01-012511		MW27-02-040711		MW27-DUP01-040711		MW27-02-071111		MW27-DUP01-071111		SD27-MW02-12122012		SD27-MW02-DUP 01		MW27-02-030613		MW27-02-062613	
		QCType:	N		FD		N		FD		N		FD		N		FD		N		N	
VOCs																						
Acetone	n/a	220000	20	U	20	U	20	U	20	U	10	U	10	U	25	U	25	U	25	U	25	U
Acetonitrile	n/a	42000	10	U	10	U	10	U	10	U	5	U	5	U	20	U	20	U	20	U	20	U
Acrolein	n/a	4	10	U	10	U	10	U	10	U	5	U	5	U	20	U	20	U	20	U	20	U
Acrylonitrile	n/a	85	6	U	6	U	6	U	6	U	3	U	3	U	10	U	10	U	10	U	10	U
Allyl chloride (3-Chloropopene)	n/a	n/a	0.6	U	0.6	U	0.6	U	0.6	U	0.3	U	0.3	U	2	U	2	U	2	U	2	U
Benzene	5	14	**9.6**		**8.9**		**7.1**		**7.5**		**9.9**		**11.1**		3.8		3.6		4.5		**5.9**	
Benzyl Chloride	n/a	30	1	U	1	U	1	U	1	U	0.5	U	0.5	U	2	U	2	U	2	U	2	U
Bromobenzene	n/a	n/a	0.5	U	0.5	U	0.5	U	0.5	U	0.25	U	0.25	U	1	U	1	U	1	U	1	U
Bromochloromethane	n/a	n/a	0.44	U	0.44	U	0.44	U	0.44	U	0.22	U	0.22	U	1	U	1	U	1	U	1	U
Bromodichloromethane	81	21	0.4	U	0.4	U	0.4	U	0.4	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U
Bromoform	81	0.083	0.4	U	0.4	U	0.4	U	0.4	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U
Bromomethane	n/a	20	1	U	1	U	1	U	1	U	0.5	U	0.5	U	2	U	2	U	2	U	2	U
Carbon disulfide	n/a	560	1	U	1	U	1	U	1	U	0.5	U	0.5	U	2	U	2	U	2	U	2	U
Carbon tetrachloride	5	5	0.5	U	0.5	U	0.5	U	0.5	U	0.25	U	0.25	U	1	U	1	U	1	U	1	U
Chlorobenzene	100	390	0.4	U	0.4	U	0.4	U	0.4	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U
Chloroethane	n/a	28000	1	U	1	U	1	U	1	U	0.5	U	0.5	U	2	U	2	U	2	U	2	U
Chloroform	81	80	0.44	U	0.44	U	0.44	U	0.44	U	0.56	J	0.49	J	1	U	1	U	0.41	J	0.47	J
Chloromethane	n/a	67	1	U	1	U	1	U	1	U	0.5	U	0.5	U	2	U	2	U	2	U	2	UJ
Cis-1,2-dichloroethene	70	210	0.52	U	0.52	U	0.52	U	0.52	U	0.26	U	0.26	U	1	U	1	U	1	U	1	U
Cis-1,3-dichloropropene	n/a	n/a	0.4	U	0.4	U	0.4	U	0.4	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U
cis-1,4-Dichloro-2-butene	n/a	n/a	2	U	2	U	2	U	2	U	1	UJ	1	UJ	10	U	10	U	10	U	10	UJ
Cymene	n/a	n/a	15.8		15.2		8.6		8.7		7.7	J	7.9	J	0.4	J	0.38	J	0.3	J	1	
Dibromochloromethane	82	32	0.4	U	0.4	U	0.4	U	0.4	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U
Dibromomethane	n/a	990	0.5	U	0.5	U	0.5	U	0.5	U	0.25	U	0.25	U	2	U	2	U	2	U	2	U
Dichlorodifluoromethane	n/a	14	1	U	1	U	1	U	1	U	0.5	U	0.5	U	2	U	2	U	2	U	2	UJ
Ether, tert-butyl methyl	n/a	120000	0.68	U	0.68	U	0.68	U	0.68	U	0.34	U	0.34	U	1	U	1	U	1	U	1	U
Ethyl Methacrylate	n/a	9100	2	U	2	U	2	U	2	U	1	U	1	U	5	U	5	U	5	U	5	U
Ethylbenzene	700	700	122		130		117		114		92.9		91.9		0.4	J	1	U	1	U	1.5	
Hexachlorobutadiene	n/a	3.3	1.6	U	1.6	U	1.6	U	1.6	U	0.8	U	0.8	U	2	U	2	U	2	U	2	U
Hexane	n/a	2.9	1.2	U	1.2	U	1.2	U	1.2	U	0.59	U	0.59	U	2	U	2	U	2	U	2	U
Iodomethane	n/a	n/a	0.4	U	0.4	U	0.4	U	0.4	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U
Isopropylbenzene	n/a	8.4	31.8		31.1		22.8		22.9		29	J	30	J	12.1		10.8		9		12.2	
m,p-Xylene	620	22000	23.8		21		1.1	J	0.97	J	5.2		4.5		2	U	2	U	2	U	0.38	J
Methacrylonitrile	n/a	69	10	U	10	U	10	U	10	U	5	U	5	U	20	U	20	U	20	U	20	U
Methyl methacrylate	n/a	51000	2	U	2	U	2	U	2	U	1.5	J	1.7	J	5	U	5	U	5	U	5	U

Table 4-4. Analytical Results for Groundwater at SD-27 (2010 - 2013)
Holloman AFB, Alamogorodo, NM

		Well:	SD27-MW02		SD27-MW03		SD27-MW03		SD27-MW03		SD27-MW03		SD27-MW03		SD27-MW03		SD27-MW03		SD27-MW03		SD27-MW04	
		Collection Date:	8/28/2013		11/10/2010		1/25/2011		4/6/2011		7/12/2011		12/13/2012		3/7/2013		6/26/2013		8/28/2013		11/10/2010	
		SampleID:	MW27-02-082013		SD27-TTMW-03		MW27-03-012511		MW27-03-040611		MW27-03-071211		SD27-MW03-13122012		MW27-03-030713		MW27-03-062613		MW27-03-082013		SD27-TTMW-04	
		QCType:	N		N		N		N		N		N		N		N		N		N	
VOCs																						
Acetone	n/a	220000	25	U	43.6	J	10	U	10	U	10	U	25	U	25	U	25	U	25	U	10	UJ
Acetonitrile	n/a	42000	20	U	5	UJ	5	U	5	U	5	U	20	U	20	U	20	U	20	U	5	UJ
Acrolein	n/a	4	20	U	5	UJ	5	U	5	U	5	U	20	U	20	U	20	U	20	U	5	UJ
Acrylonitrile	n/a	85	10	U	3	UJ	3	U	3	U	3	U	10	U	10	U	10	U	10	U	3	UJ
Allyl chloride (3-Chloropopene)	n/a	n/a	2	U	0.3	UJ	0.3	U	0.3	U	0.3	U	2	U	2	U	2	U	2	U	0.3	UJ
Benzene	5	14	3.7		0.46	J	0.88	J	1.4		0.2	U	1	U	1	U	1	U	1	U	0.34	J
Benzyl Chloride	n/a	30	2	U	0.5	UJ	0.5	U	0.5	U	0.5	U	2	U	2	U	2	U	2	U	0.5	UJ
Bromobenzene	n/a	n/a	1	U	0.25	UJ	0.25	U	0.25	U	0.25	U	1	U	1	U	1	U	1	U	0.25	UJ
Bromochloromethane	n/a	n/a	1	U	0.22	UJ	0.22	U	0.22	U	0.22	U	1	U	1	U	1	U	1	U	0.22	UJ
Bromodichloromethane	81	21	1	U	0.2	UJ	0.2	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U	0.2	UJ
Bromoform	81	0.083	1	U	0.2	UJ	0.2	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U	0.2	UJ
Bromomethane	n/a	20	2	U	0.5	UJ	0.5	U	0.5	U	0.5	U	2	U	2	U	2	U	2	U	0.5	UJ
Carbon disulfide	n/a	560	2	U	0.5	UJ	0.5	U	0.5	U	0.5	U	2	U	2	U	2	U	2	U	0.5	UJ
Carbon tetrachloride	5	5	1	U	0.25	UJ	0.25	U	0.25	U	0.25	U	1	U	1	U	1	U	1	U	0.25	UJ
Chlorobenzene	100	390	1	U	0.2	UJ	0.2	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U	0.2	UJ
Chloroethane	n/a	28000	2	U	0.5	UJ	0.5	U	0.5	U	0.5	U	2	U	2	U	2	U	2	U	0.5	UJ
Chloroform	81	80	0.45	J	0.22	UJ	0.22	U	0.22	U	0.22	U	1	U	1	U	1	U	1	U	0.22	UJ
Chloromethane	n/a	67	2	U	0.5	UJ	0.5	U	0.5	U	0.5	U	2	U	2	U	2	UJ	2	U	0.5	UJ
Cis-1,2-dichloroethene	70	210	1	U	0.26	UJ	0.26	U	0.26	U	0.26	U	1	U	1	U	1	U	1	U	0.26	UJ
Cis-1,3-dichloropropene	n/a	n/a	1	U	0.2	UJ	0.2	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U	0.2	UJ
cis-1,4-Dichloro-2-butene	n/a	n/a	10	U	1	UJ	1	U	1	U	1	UJ	10	U	10	U	10	UJ	10	U	1	UJ
Cymene	n/a	n/a	1.1		0.79	J	0.21	U	0.21	U	0.21	U	1	U	1	U	1	U	1	U	0.6	J
Dibromochloromethane	82	32	1	U	0.2	UJ	0.2	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U	0.2	UJ
Dibromomethane	n/a	990	2	U	0.25	UJ	0.25	U	0.25	U	0.25	U	2	U	2	U	2	U	2	U	0.25	UJ
Dichlorodifluoromethane	n/a	14	2	U	0.5	UJ	0.5	U	0.5	U	0.5	U	2	U	2	U	2	UJ	2	U	0.5	UJ
Ether, tert-butyl methyl	n/a	120000	1	U	0.34	UJ	0.34	U	0.34	U	0.34	U	1	U	1	U	1	U	1	U	0.34	UJ
Ethyl Methacrylate	n/a	9100	5	U	1	UJ	1	U	1	U	1	U	5	U	5	U	5	U	5	U	1	UJ
Ethylbenzene	700	700	4.6		0.2	UJ	0.2	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U	2.7	J
Hexachlorobutadiene	n/a	3.3	2	U	0.8	UJ	0.8	U	0.8	U	0.8	U	2	U	2	U	2	U	2	U	0.8	UJ
Hexane	n/a	2.9	2	U	0.59	UJ	0.59	U	0.59	U	0.59	U	2	U	2	U	2	U	2	U	0.59	UJ
Iodomethane	n/a	n/a	1	U	0.2	UJ	0.2	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U	0.2	UJ
Isopropylbenzene	n/a	8.4	10.6		2	J	5.8		5.1		0.69	J	0.28	J	0.33	J	1	U	0.28	J	15.1	J
m,p-Xylene	620	22000	1.2	J	0.32	UJ	0.32	U	0.32	U	0.32	U	2	U	2	U	2	U	2	U	0.32	UJ
Methacrylonitrile	n/a	69	20	U	5	UJ	5	U	5	U	5	U	20	U	20	U	20	U	20	U	5	UJ
Methyl methacrylate	n/a	51000	5	U	1	UJ	1	U	1	U	1	U	5	U	5	U	5	U	5	U	1	UJ

Table 4-4. Analytical Results for Groundwater at SD-27 (2010 - 2013)
Holloman AFB, Alamogorodo, NM

		Well:	SD27-MW04		SD27-MW04		SD27-MW04		SD27-MW04		SD27-MW04		SD27-MW04		SD27-MW04		SD27-MW05		SD27-MW05	
		Collection Date:	1/25/2011		4/6/2011		7/11/2011		12/12/2012		3/7/2013		6/26/2013		8/28/2013		11/11/2010		1/25/2011	
		SampleID:	MW27-04-012511		MW27-04-040611		MW27-04-071111		SD27-MW04-12122012		MW27-04-030713		MW27-04-062613		MW27-04-082013		SD27-TTMW-05		MW27-05-012511	
		QCType:	N		N		N		N		N		N		N		N		N	
VOCs																				
Acetone	n/a	220000	10	U	10	U	10	U	25	U	25	U	25	U	25	U	100	UJ	100	U
Acetonitrile	n/a	42000	5	U	5	U	5	U	20	U	20	U	20	U	20	U	50	UJ	50	U
Acrolein	n/a	4	5	U	5	U	5	U	20	UJ	20	U	20	U	20	U	50	UJ	50	U
Acrylonitrile	n/a	85	3	U	3	U	3	U	10	U	10	U	10	U	10	U	30	UJ	30	U
Allyl chloride (3-Chloropopene)	n/a	n/a	0.3	U	0.3	U	0.3	U	2	U	2	U	2	U	2	U	3	UJ	3	U
Benzene	5	14	0.2	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U	**371**	**J**	**776**	
Benzyl Chloride	n/a	30	0.5	U	0.5	U	0.5	U	2	U	2	U	2	U	2	U	5	UJ	5	U
Bromobenzene	n/a	n/a	0.25	U	0.25	U	0.25	U	1	U	1	U	1	U	1	U	2.5	UJ	2.5	U
Bromochloromethane	n/a	n/a	0.22	U	0.22	U	0.22	U	1	U	1	U	1	U	1	U	2.2	UJ	2.2	U
Bromodichloromethane	81	21	0.2	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U	2	UJ	2	U
Bromoform	81	0.083	0.2	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U	2	UJ	2	U
Bromomethane	n/a	20	0.5	U	0.5	U	0.5	U	2	U	2	U	2	U	2	U	5	UJ	5	U
Carbon disulfide	n/a	560	0.5	U	0.5	U	0.5	U	2	U	2	U	2	U	2	U	5	UJ	5	U
Carbon tetrachloride	5	5	0.25	U	0.25	U	0.25	U	1	U	1	U	1	U	1	U	2.5	UJ	2.5	U
Chlorobenzene	100	390	0.2	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U	2	UJ	2	U
Chloroethane	n/a	28000	0.5	U	0.5	U	0.5	U	2	U	2	U	2	U	2	U	5	UJ	5	U
Chloroform	81	80	0.22	U	0.22	U	0.22	U	1	U	1	U	1	U	1	U	2.2	UJ	2.2	U
Chloromethane	n/a	67	0.5	U	0.5	U	0.5	U	2	U	2	U	2	UJ	2	U	5	UJ	5	U
Cis-1,2-dichloroethene	70	210	0.26	U	0.26	U	0.26	U	1	U	1	U	1	U	1	U	2.6	UJ	2.6	U
Cis-1,3-dichloropropene	n/a	n/a	0.2	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U	2	UJ	2	U
cis-1,4-Dichloro-2-butene	n/a	n/a	1	U	1	U	1	UJ	10	U	10	U	10	UJ	10	UJ	10	UJ	10	U
Cymene	n/a	n/a	0.3	J	0.21	U	0.29	J	1	U	1	U	1	U	1	U	6.4	J	8.4	J
Dibromochloromethane	82	32	0.2	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U	2	UJ	2	U
Dibromomethane	n/a	990	0.25	U	0.25	U	0.25	U	2	U	2	U	2	U	2	U	2.5	UJ	2.5	U
Dichlorodifluoromethane	n/a	14	0.5	U	0.5	U	0.5	U	2	U	2	U	2	UJ	2	U	5	UJ	5	U
Ether, tert-butyl methyl	n/a	120000	0.34	U	0.34	U	0.34	U	1	U	1	U	1	U	1	U	3.4	UJ	3.4	U
Ethyl Methacrylate	n/a	9100	1	U	1	U	1	U	5	U	5	U	5	U	5	U	10	UJ	10	U
Ethylbenzene	700	700	1.5		0.2	U	2.5		1.6		1	U	0.39	J	1	U	504	J	41	
Hexachlorobutadiene	n/a	3.3	0.8	U	0.8	U	0.8	U	2	U	2	U	2	U	2	U	8	UJ	8	U
Hexane	n/a	2.9	0.59	U	0.59	U	0.59	U	2	U	2	U	2	U	2	U	5.9	UJ	5.9	U
Iodomethane	n/a	n/a	0.2	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U	2	UJ	2	U
Isopropylbenzene	n/a	8.4	4.1		0.5	J	11.5	J	11.2		3.6		4		1.1		51.8	J	9.1	J
m,p-Xylene	620	22000	0.32	U	0.32	U	0.32	U	2	U	2	U	2	U	2	U	145	J	221	
Methacrylonitrile	n/a	69	5	U	5	U	5	U	20	U	20	U	20	U	20	U	50	UJ	50	U
Methyl methacrylate	n/a	51000	1	U	1	U	1	J	5	U	5	U	5	U	5	U	10	UJ	10	U

Table 4-4. Analytical Results for Groundwater at SD-27 (2010 - 2013)
Holloman AFB, Alamogorodo, NM

		Well:	SD27-MW05		SD27-MW05		SD27-MW05		SD27-MW05		SD27-MW05		SD27-MW05		SD27-MW05		SD27-MW05		SD27-MW05	
		Collection Date:	4/7/2011		7/11/2011		12/11/2012		3/7/2013		3/7/2013		6/26/2013		6/26/2013		8/28/2013		8/28/2013	
		SampleID:	MW27-05-040711		MW27-05-071111		SD27-MW05-11122012		MW27-05-030713		MW27-DUP01-030713		MW27-05-062613		MW27-DUP01-062613		MW27-05-082013		MW27-DUP01-082013	
		QCType:	N		N		N		N		FD		N		FD		N		FD	
VOCs																				
Acetone	n/a	220000	100	U	50	U	25	U	130	U	50	U	130	U	630	U	130	U	130	U
Acetonitrile	n/a	42000	50	U	25	U	20	U	100	U	40	U	100	U	500	U	100	U	100	U
Acrolein	n/a	4	50	U	25	U	20	U	100	U	40	U	100	U	500	U	100	U	100	U
Acrylonitrile	n/a	85	30	U	15	U	10	U	50	U	20	U	50	U	250	U	50	U	50	U
Allyl chloride (3-Chloropopene)	n/a	n/a	3	U	1.5	U	2	U	10	U	4	U	10	U	50	U	10	U	10	U
Benzene	5	14	**550**		**217**		**152**		**426**		**516**		**537**	**J**	**736**	**J**	**461**		**443**	
Benzyl Chloride	n/a	30	5	U	2.5	U	2	U	10	U	4	U	10	U	50	U	10	U	10	U
Bromobenzene	n/a	n/a	2.5	U	1.3	U	1	U	5	U	2	U	5	U	25	U	5	U	5	U
Bromochloromethane	n/a	n/a	2.2	U	1.1	U	1	U	5	U	2	U	5	U	25	U	5	U	5	U
Bromodichloromethane	81	21	2	U	1	U	1	U	5	U	2	U	5	U	25	U	5	U	5	U
Bromoform	81	0.083	2	U	1	U	1	U	5	U	2	U	5	U	25	U	5	U	5	U
Bromomethane	n/a	20	5	U	2.5	U	2	U	10	U	4	U	10	U	50	U	10	U	10	U
Carbon disulfide	n/a	560	5	U	2.5	U	1.4	J	10	U	1.3	J	10	U	50	U	2.9	J	2.5	J
Carbon tetrachloride	5	5	2.5	U	1.3	U	1	U	5	U	2	U	5	U	25	U	5	U	5	U
Chlorobenzene	100	390	2	U	1	U	1	U	5	U	2	U	5	U	25	U	5	U	5	U
Chloroethane	n/a	28000	5	U	2.5	U	2	U	10	U	4	U	10	U	50	U	10	U	10	U
Chloroform	81	80	2.2	U	1.1	U	1	U	5	U	2	U	5	U	25	U	5	U	5	U
Chloromethane	n/a	67	5	U	2.5	U	2	U	10	U	4	U	10	UJ	50	UJ	10	U	10	U
Cis-1,2-dichloroethene	70	210	2.6	U	1.3	U	1	U	5	U	2	U	5	U	25	U	5	U	5	U
Cis-1,3-dichloropropene	n/a	n/a	2	U	1	U	1	U	5	U	2	U	5	U	25	U	5	U	5	U
cis-1,4-Dichloro-2-butene	n/a	n/a	10	U	5	UJ	10	U	50	U	20	U	100	UJ	250	UJ	50	U	50	U
Cymene	n/a	n/a	6.6	J	3.8	J	1.4		5.8		5.5		5.3	J	9	J	5.3		5.2	
Dibromochloromethane	82	32	2	U	1	U	1	U	5	U	2	U	5	U	25	U	5	U	5	U
Dibromomethane	n/a	990	2.5	U	1.3	U	2	U	10	U	4	U	10	U	50	U	10	U	10	U
Dichlorodifluoromethane	n/a	14	5	U	2.5	U	2	U	10	U	4	U	10	UJ	50	UJ	10	U	10	U
Ether, tert-butyl methyl	n/a	120000	3.4	U	1.7	U	1	U	5	U	2	U	5	U	25	U	5	U	5	U
Ethyl Methacrylate	n/a	9100	10	U	5	U	5	U	25	U	10	U	25	U	130	U	25	U	25	U
Ethylbenzene	700	700	15.1		107		105		480		568		656	J	**895**	**J**	499		469	
Hexachlorobutadiene	n/a	3.3	8	U	4	U	2	U	10	U	4	U	10	U	50	U	10	U	10	U
Hexane	n/a	2.9	5.9	U	3	U	2	U	10	U	4	U	10	U	50	U	10	U	10	U
Iodomethane	n/a	n/a	2	U	1	U	1	U	5	U	2	U	5	U	25	U	5	U	5	U
Isopropylbenzene	n/a	8.4	2	U	15.9	J	10.7		49.5		47.2		46.5	J	76.5	J	49.7		50.5	
m,p-Xylene	620	22000	94.2		7.2	J	6.7		47.1		42.1		69.8	J	100	J	54		56.5	
Methacrylonitrile	n/a	69	50	U	25	U	20	U	100	U	40	U	100	U	500	U	100	U	100	U
Methyl methacrylate	n/a	51000	10	U	5	U	5	U	25	U	10	U	25	U	130	U	25	U	25	U

Table 4-4. Analytical Results for Groundwater at SD-27 (2010 - 2013)
Holloman AFB, Alamogorodo, NM

		Well:	SD27-MW01		SD27-MW01		SD27-MW01		SD27-MW01		SD27-MW01		SD27-MW01		SD27-MW01		SD27-MW01		SD27-MW02		SD27-MW02	
		Collection Date:	11/11/2010		1/25/2011		4/7/2011		7/11/2011		12/13/2012		3/6/2013		6/26/2013		8/28/2013		11/10/2010		11/10/2010	
		SampleID:	SD27-TTMW-01		MW27-01-012511		MW27-01-040711		MW27-01-071111		SD27-MW01-13122012		MW27-01-030613		MW27-01-062613		MW27-01-082013		SD27-TTMW-02		SD27-TTMW-02-FD	
		QCType:	N		N		N		N		N		N		N		N		N		FD	
VOCs																						
Methylene chloride	5	580	2	U	2	U	2	U	2	U	4	J	5	U	5	U	5	U	4	UJ	4	UJ
Naphthalene	30	150	1	U	1	U	1	U	1	U	5	U	5	U	5	U	5	U	5.4	J	6.6	J
n-Butylbenzene	n/a	260	0.26	UJ	0.26	U	0.26	U	0.26	U	1	U	1	U	1	U	1	U	3.9	J	4.2	J
n-Propylbenzene	n/a	320	0.2	U	0.2	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U	57	J	64.2	J
o-Xylene	620	33000	0.2	U	0.2	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U	74.5	J	90.4	J
Pentachloroethane	n/a	n/a	2	U	2	U	2	U	2	U	10	U	10	U	10	U	10	UJ	4	UJ	4	UJ
Propane Nitrile (Propionitrile)	n/a	n/a	5	U	5	U	5	U	5	U	20	U	20	U	20	U	20	U	10	UJ	10	UJ
sec-Butylbenzene	n/a	250	0.22	U	0.22	U	0.22	U	0.22	U	1	U	1	U	1	U	1	U	20	J	21	J
Styrene	100	8900	0.2	U	0.2	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U	0.4	UJ	0.4	UJ
tert-Butylbenzene	n/a	290	0.27	U	0.27	U	0.27	U	0.27	U	1	U	1	U	1	U	1	U	0.54	UJ	0.54	UJ
Tetrachloroethene	5	11	0.25	U	0.25	U	0.25	U	0.25	U	1	U	1	U	1	U	1	U	0.5	UJ	0.5	UJ
Toluene	750	1500	0.2	U	0.2	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U	4.5	J	5.8	J
Trans-1,2-dichloroethene	100	180	0.35	U	0.35	U	0.35	U	0.35	U	1	U	1	U	1	U	1	U	0.7	UJ	0.7	UJ
Trans-1,3-dichloropropene	n/a	n/a	0.2	U	0.2	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U	0.4	UJ	0.4	UJ
trans-1,4-Dichloro-2-butene	n/a	n/a	2	U	2	U	2	U	2	U	10	U	10	U	10	UJ	10	U	4	UJ	4	UJ
Trichloroethene	5	5	0.26	U	0.26	U	0.26	U	0.26	U	1	U	1	U	1	U	1	U	0.52	UJ	0.52	UJ
Trichlorofluoromethane	n/a	180	0.5	UJ	0.5	U	0.5	U	0.5	U	2	U	2	U	2	UJ	2	U	1	UJ	1	UJ
Vinyl acetate	n/a	9600	2	U	2	U	2	U	2	U	10	U	10	UJ	10	U	10	U	4	UJ	4	UJ
Vinyl chloride	1	2.5	0.22	U	0.22	U	0.22	U	0.22	U	1	U	1	U	1	U	1	U	0.44	UJ	0.44	UJ

Table 4-4. Analytical Results for Groundwater at SD-27 (2010 - 2013)
Holloman AFB, Alamogorodo, NM

		Well:	SD27-MW02		SD27-MW02		SD27-MW02		SD27-MW02		SD27-MW02		SD27-MW02		SD27-MW02		SD27-MW02		SD27-MW02		SD27-MW02	
		Collection Date:	1/25/2011		1/25/2011		4/7/2011		4/7/2011		7/11/2011		7/11/2011		12/12/2012		12/12/2012		3/6/2013		6/26/2013	
		SampleID:	MW27-02-012511		MW27-DUP01-012511		MW27-02-040711		MW27-DUP01-040711		MW27-02-071111		MW27-DUP01-071111		SD27-MW02-12122012		SD27-MW02-DUP 01		MW27-02-030613		MW27-02-062613	
		QCType:	N		FD		N		FD		N		FD		N		FD		N		N	
VOCs																						
Methylene chloride	5	580	4	U	4	U	**7.1**	**J**	**7.2**	**J**	2	U	2	U	5	U	5	U	5	U	5	U
Naphthalene	30	150	2.3	J	2.6	J	2	U	2	U	1	U	1	U	5	U	5	U	5	U	5	U
n-Butylbenzene	n/a	260	2.4		2.1		1.7	J	1.7	J	1.6		1.5		0.25	J	1	U	1	U	1	U
n-Propylbenzene	n/a	320	36.4		35.2		23.6		24.1		32.1		33.9		15.5		14.1		12.7		16	
o-Xylene	620	33000	7.3		6.6		3.5		3.5		13.6		12		1	U	1	U	1	U	1	U
Pentachloroethane	n/a	n/a	4	U	4	U	4	U	4	U	2	U	2	U	10	U	10	U	10	U	10	U
Propane Nitrile (Propionitrile)	n/a	n/a	10	U	10	U	10	U	10	U	5	U	5	U	20	U	20	U	20	U	20	U
sec-Butylbenzene	n/a	250	11.8		11		7.4		7.5		10.6		11.3		5.2		4.5		3.9		6.2	
Styrene	100	8900	0.4	U	0.4	U	0.4	U	0.4	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U
tert-Butylbenzene	n/a	290	0.86	J	0.98	J	0.54	U	0.55	J	0.87	J	0.84	J	0.51	J	1	U	0.3	J	0.59	J
Tetrachloroethene	5	11	0.5	U	0.5	U	0.5	U	0.5	U	0.25	U	0.25	U	1	U	1	U	1	U	1	U
Toluene	750	1500	0.4	U	0.4	U	0.4	U	0.4	U	0.61	J	0.54	J	1	U	1	U	1	U	0.49	U
Trans-1,2-dichloroethene	100	180	0.7	U	0.7	U	0.7	U	0.7	U	0.35	U	0.35	U	1	U	1	U	1	U	1	U
Trans-1,3-dichloropropene	n/a	n/a	0.4	U	0.4	U	0.4	U	0.4	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U
trans-1,4-Dichloro-2-butene	n/a	n/a	4	U	4	U	4	U	4	U	2	U	2	U	10	U	10	U	10	U	10	UJ
Trichloroethene	5	5	0.52	U	0.52	U	0.52	U	0.52	U	1.9		1.8		1	U	1	U	1	U	1	U
Trichlorofluoromethane	n/a	180	1	U	1	U	1	U	1	U	0.5	U	0.5	U	2	U	2	U	2	U	2	UJ
Vinyl acetate	n/a	9600	4	U	4	U	4	U	4	U	2	U	2	U	10	U	10	U	10	UJ	10	U
Vinyl chloride	1	2.5	0.44	U	0.44	U	0.44	U	0.44	U	0.22	U	0.22	U	1	U	1	U	1	U	1	U

Table 4-4. Analytical Results for Groundwater at SD-27 (2010 - 2013)
Holloman AFB, Alamogorodo, NM

		Well:	SD27-MW02		SD27-MW03		SD27-MW03		SD27-MW03		SD27-MW03		SD27-MW03		SD27-MW03		SD27-MW03		SD27-MW03		SD27-MW04	
		Collection Date:	8/28/2013		11/10/2010		1/25/2011		4/6/2011		7/12/2011		12/13/2012		3/7/2013		6/26/2013		8/28/2013		11/10/2010	
		SampleID:	MW27-02-082013		SD27-TTMW-03		MW27-03-012511		MW27-03-040611		MW27-03-071211		SD27-MW03-13122012		MW27-03-030713		MW27-03-062613		MW27-03-082013		SD27-TTMW-04	
		QCType:	N		N		N		N		N		N		N		N		N		N	
VOCs																						
Methylene chloride	5	580	5	U	2	UJ	2	U	2	U	2	U	5	U	5	U	5	U	5	U	2	UJ
Naphthalene	30	150	5	U	1	UJ	1	U	1	U	1	U	5	U	5	U	5	U	5	U	1	UJ
n-Butylbenzene	n/a	260	0.24	J	0.26	UJ	0.26	U	0.26	U	0.26	U	1	U	1	U	1	U	1	U	0.26	UJ
n-Propylbenzene	n/a	320	14.6		1.1	J	2.8		3.6		0.2	U	1	U	0.27	J	1	U	1	U	11.5	J
o-Xylene	620	33000	0.53	J	0.2	UJ	0.2	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U	0.27	J
Pentachloroethane	n/a	n/a	10	UJ	2	UJ	2	U	2	U	2	U	10	U	10	U	10	U	10	UJ	2	UJ
Propane Nitrile (Propionitrile)	n/a	n/a	20	U	5	UJ	5	U	5	U	5	U	20	U	20	U	20	U	20	U	5	UJ
sec-Butylbenzene	n/a	250	4.9		2.1	J	2.5		1.8		0.31	J	1	U	1	U	1	U	1	U	6.8	J
Styrene	100	8900	1	U	0.2	UJ	0.2	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U	0.2	UJ
tert-Butylbenzene	n/a	290	0.42	J	0.39	J	0.44	J	0.27	U	0.27	U	1	U	1	U	1	U	1	U	0.27	UJ
Tetrachloroethene	5	11	1	U	0.25	UJ	0.25	U	0.25	U	0.25	U	1	U	1	U	1	U	1	U	0.25	UJ
Toluene	750	1500	1	U	0.2	UJ	0.2	U	0.2	U	0.2	U	1	U	1	U	0.32	U	1	U	0.2	UJ
Trans-1,2-dichloroethene	100	180	1	U	0.35	UJ	0.35	U	0.35	U	0.35	U	1	U	1	U	1	U	1	U	0.35	UJ
Trans-1,3-dichloropropene	n/a	n/a	1	U	0.2	UJ	0.2	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U	0.2	UJ
trans-1,4-Dichloro-2-butene	n/a	n/a	10	U	2	UJ	2	U	2	U	2	U	10	U	10	U	10	UJ	10	U	2	UJ
Trichloroethene	5	5	1	U	0.26	UJ	0.26	U	0.26	U	0.26	U	1	U	1	U	1	U	1	U	0.26	UJ
Trichlorofluoromethane	n/a	180	2	U	0.5	UJ	0.5	U	0.5	U	0.5	U	2	U	2	U	2	UJ	2	U	0.5	UJ
Vinyl acetate	n/a	9600	10	U	2	UJ	2	U	2	U	2	U	10	U	10	UJ	10	U	10	U	2	UJ
Vinyl chloride	1	2.5	1	U	0.22	UJ	0.22	U	0.22	U	0.22	U	1	U	1	U	1	U	1	U	0.22	UJ

Table 4-4. Analytical Results for Groundwater at SD-27 (2010 - 2013)
Holloman AFB, Alamogorodo, NM

		Well:	SD27-MW04		SD27-MW04		SD27-MW04		SD27-MW04		SD27-MW04		SD27-MW04		SD27-MW04		SD27-MW05		SD27-MW05	
		Collection Date:	1/25/2011		4/6/2011		7/11/2011		12/12/2012		3/7/2013		6/26/2013		8/28/2013		11/11/2010		1/25/2011	
		SampleID:	MW27-04-012511		MW27-04-040611		MW27-04-071111		SD27-MW04-12122012		MW27-04-030713		MW27-04-062613		MW27-04-082013		SD27-TTMW-05		MW27-05-012511	
		QCType:	N		N		N		N		N		N		N		N		N	
VOCs																				
Methylene chloride	5	580	2	U	2	U	2	U	5	U	5	U	5	U	5	U	20	UJ	20	U
Naphthalene	30	150	1	U	1	U	1	U	5	U	5	U	5	U	5	U	**57.4**	**J**	**48.5**	**J**
n-Butylbenzene	n/a	260	0.26	U	0.26	U	0.26	U	1	U	1	U	1	U	1	U	2.6	UJ	2.6	U
n-Propylbenzene	n/a	320	2.3		0.25	J	6.9		12.1		3.7		3.9		0.72	J	50.1	J	4.3	J
o-Xylene	620	33000	0.2	U	0.2	U	0.2	U	0.22	J	1	U	1	U	1	U	332	J	376	
Pentachloroethane	n/a	n/a	2	U	2	U	2	U	10	U	10	U	10	U	10	UJ	20	UJ	20	U
Propane Nitrile (Propionitrile)	n/a	n/a	5	U	5	U	5	U	20	U	20	U	20	U	20	U	50	UJ	50	U
sec-Butylbenzene	n/a	250	2.5		0.35	J	5.2		7.9		3.1		3		0.76	J	7.8	J	3	J
Styrene	100	8900	0.2	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U	2	UJ	2	U
tert-Butylbenzene	n/a	290	0.28	J	0.27	U	0.44	J	0.63	J	0.41	J	0.32	J	1	U	2.7	UJ	2.7	U
Tetrachloroethene	5	11	0.25	U	0.25	U	0.25	U	1	U	1	U	1	U	1	U	2.5	UJ	2.5	U
Toluene	750	1500	0.2	U	0.2	U	0.2	U	1	U	1	U	0.36	U	1	U	279	J	104	
Trans-1,2-dichloroethene	100	180	0.35	U	0.35	U	0.35	U	1	U	1	U	1	U	1	U	3.5	UJ	3.5	U
Trans-1,3-dichloropropene	n/a	n/a	0.2	U	0.2	U	0.2	U	1	U	1	U	1	U	1	U	2	UJ	2	U
trans-1,4-Dichloro-2-butene	n/a	n/a	2	U	2	U	2	U	10	U	10	U	10	UJ	10	UJ	20	UJ	20	U
Trichloroethene	5	5	0.26	U	0.26	U	0.26	U	1	U	1	U	1	U	1	U	2.6	UJ	2.6	U
Trichlorofluoromethane	n/a	180	0.5	U	0.5	U	0.5	U	2	U	2	U	2	UJ	2	U	5	UJ	5	U
Vinyl acetate	n/a	9600	2	U	2	U	2	U	10	U	10	UJ	10	U	10	U	20	UJ	20	U
Vinyl chloride	1	2.5	0.22	U	0.22	U	0.22	U	1	U	1	U	1	U	1	U	2.2	UJ	2.2	U

Table 4-4. Analytical Results for Groundwater at SD-27 (2010 - 2013)
Holloman AFB, Alamogorodo, NM

		Well:	SD27-MW05		SD27-MW05		SD27-MW05		SD27-MW05		SD27-MW05		SD27-MW05		SD27-MW05		SD27-MW05		SD27-MW05	
		Collection Date:	4/7/2011		7/11/2011		12/11/2012		3/7/2013		3/7/2013		6/26/2013		6/26/2013		8/28/2013		8/28/2013	
		SampleID:	MW27-05-040711		MW27-05-071111		SD27-MW05-11122012		MW27-05-030713		MW27-DUP01-030713		MW27-05-062613		MW27-DUP01-062613		MW27-05-082013		MW27-DUP01-082013	
		QCType:	N		N		N		N		FD		N		FD		N		FD	
VOCs																				
Methylene chloride	5	580	**27.6**	**J**	**11.7**	**J**	5	U	**61.3**	**J**	**12.2**	**J**	25	U	130	U	25	U	25	U
Naphthalene	30	150	**34.3**	**J**	19.1	J	5.8		21.9	J	25.6		17.9	J	**38**	**J**	9.8	J	11	J
n-Butylbenzene	n/a	260	2.6	U	1.3	U	1	U	1	J	0.74	J	5	U	25	U	5	U	5	U
n-Propylbenzene	n/a	320	2	U	10.8		9.2		52.4		49.3		45	J	90.7	J	52.8		54.3	
o-Xylene	620	33000	329		103		47.4		220		258		323		366		249		258	
Pentachloroethane	n/a	n/a	20	U	10	U	10	U	50	U	20	U	50	U	250	U	50	UJ	50	UJ
Propane Nitrile (Propionitrile)	n/a	n/a	50	U	25	U	20	U	100	U	40	U	100	U	500	U	100	U	100	U
sec-Butylbenzene	n/a	250	2.2	U	4.4	J	2.4		9.4		8.2		11.5	J	13.6	J	8.1		8.4	
Styrene	100	8900	2	U	1	U	1	U	5	U	2	U	5	U	25	U	5	U	5	U
tert-Butylbenzene	n/a	290	2.7	U	1.4	U	1	U	5	U	0.95	J	5	U	25	U	5	U	5	U
Tetrachloroethene	5	11	2.5	U	1.3	U	1	U	5	U	2	U	5	U	25	U	5	U	5	U
Toluene	750	1500	104		33.9		28.1		102		98.8		160	J	292	J	189		190	
Trans-1,2-dichloroethene	100	180	3.5	U	1.8	U	1	U	5	U	2	U	5	U	25	U	5	U	5	U
Trans-1,3-dichloropropene	n/a	n/a	2	U	1	U	1	U	5	U	2	U	5	U	25	U	5	U	5	U
trans-1,4-Dichloro-2-butene	n/a	n/a	20	U	10	U	10	U	50	U	20	U	100	UJ	250	UJ	50	U	50	U
Trichloroethene	5	5	2.6	U	1.3	U	1	U	5	U	2	U	5	U	25	U	5	U	5	U
Trichlorofluoromethane	n/a	180	5	U	2.5	U	2	U	10	U	4	U	10	UJ	50	UJ	10	U	10	U
Vinyl acetate	n/a	9600	20	U	10	U	10	U	50	UJ	20	UJ	50	U	250	U	50	U	50	U
Vinyl chloride	1	2.5	2.2	U	1.1	U	1	U	5	U	2	U	5	U	25	U	5	U	5	U

Table 4-4. Analytical Results for Groundwater at SD-27 (2010 - 2013)
Holloman AFB, Alamogorodo, NM

Notes:
All units are microgram per liter, except: TDS is milligrams per liter, and Radiochemistry is picocuries per liter.

(1) Screening Value (SV) is the lower of the New Mexico Environment Department, Water Quality Control Commission (NMWQCC), STANDARDS FOR GROUND WATER (NMAC 20.6.2.3103) and EPA MCLs (April 2012). For inorganics, if HAFB Background (NMED, 2012a) is greater than NMWQCC and EPA criteria, then the background value is used as the SV. For TPH, the NMED GW-1 standard for Kerosene and Jet Fuel are used (NMED, 2012b).

(2) Vapor Intrusion (VI) SV for volatile chemicals is the $1e^{-5}$ risk level value listed in EPA OSWER Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils (Subsurface Vapor Intrusion Guidance), Table 2b, November 2002. For TPH, the NMED GW-2 standard for kerosene and jet fuel is used (NMED, 2012b).

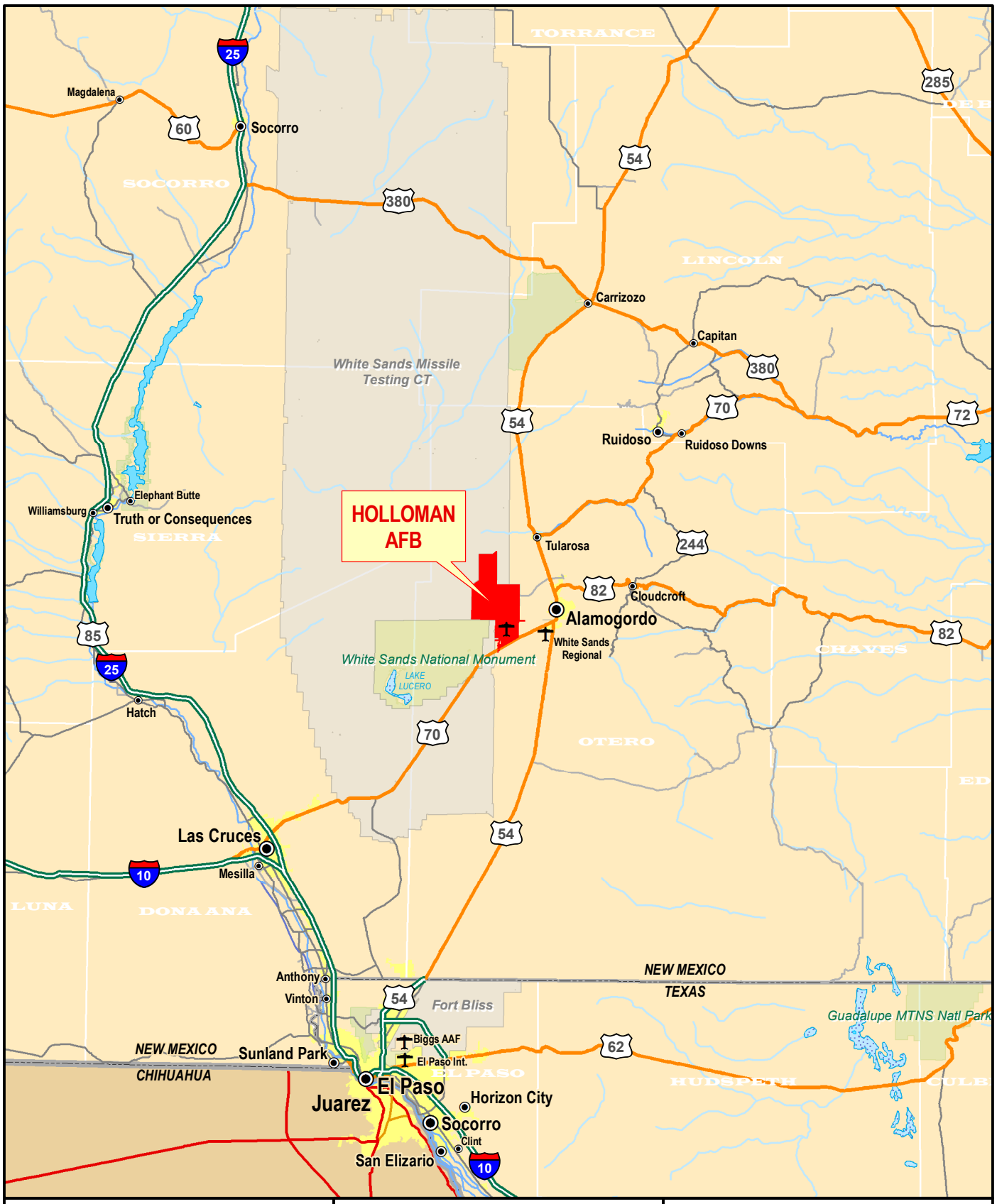
Bold red indicates > SV

Highlighted indicates > VI SV

Not analyzed.

n/a = not applicable
U = Analyte not detected above reporting detection limit shown.
J = Estimated quantity.
B = (Inorganic parameters) Analyte detected between method detection limit and reporting limit; quantity estimated.
R = Rejected
NM - normal sample (parent), FD - field duplicate sample.

FIGURES



File: K:\GIS\Holloman\LTM2013\Fig2-1_HAFB LocMap.mxd
Long Term Monitoring Report 2013
Revised: 09/5/2013
Map Source: Holloman AFB
State Plane Coordinate System, NAD83, NM Central, US Feet

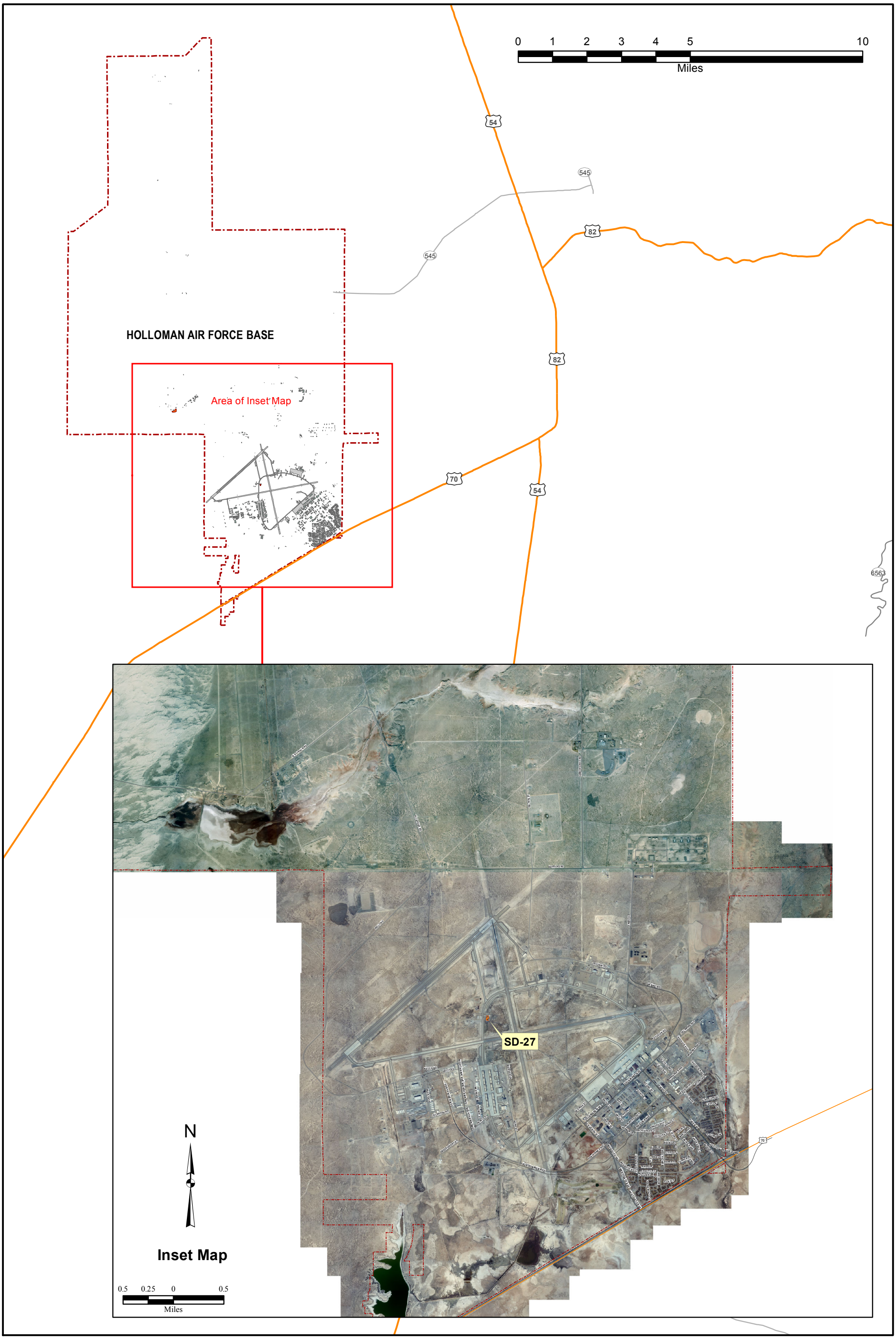
TETRA TECH
OAK RIDGE, TN

N

0 10 20 40
Miles

FIGURE 2-1

HOLLOMAN AIR FORCE BASE INSTALLATION LOCATION ALAMAGORDO, NEW MEXICO



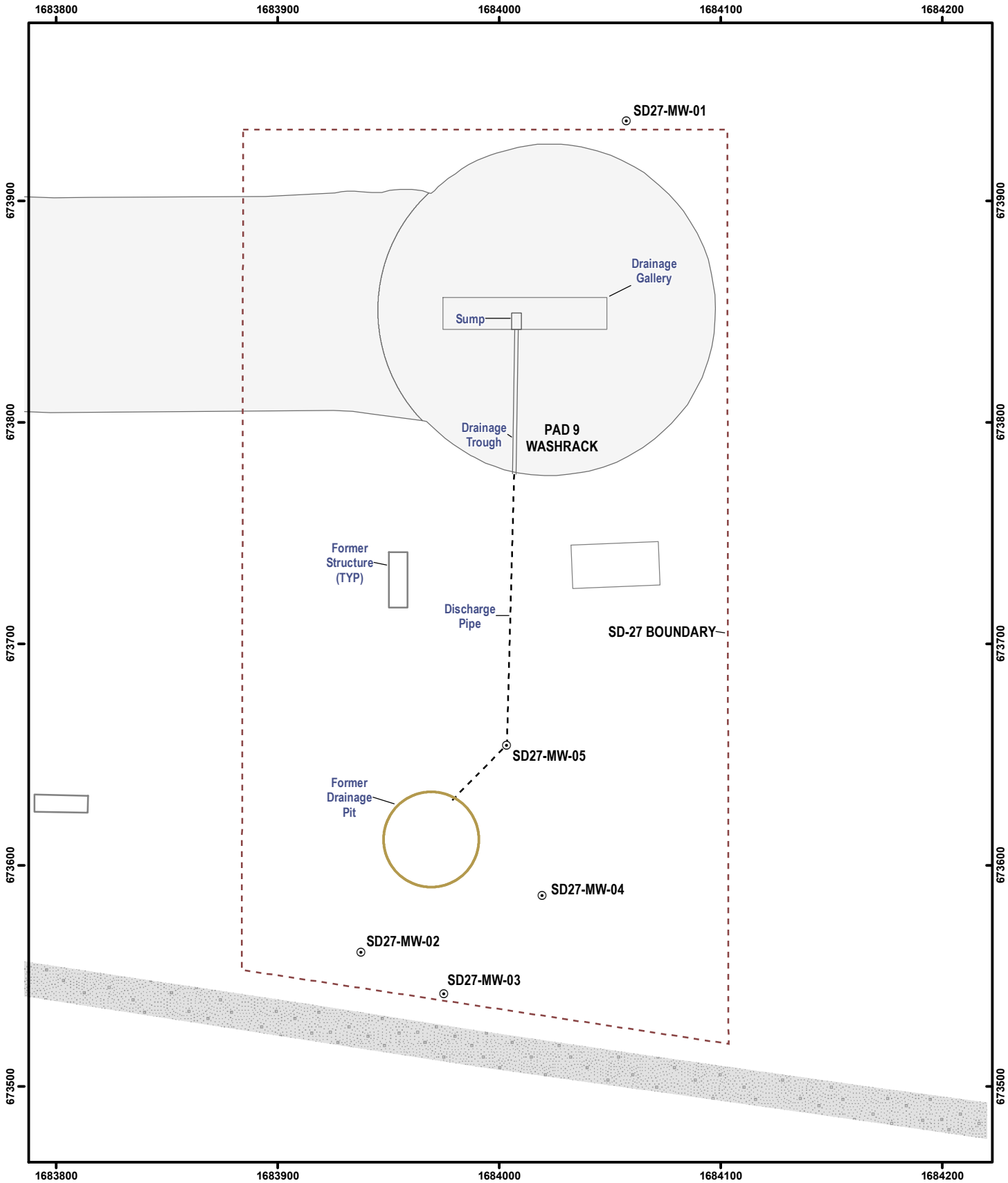
File: K:\GIS\Holloman\LTM2013\Fig2-2_SD-27 LocMap.mxd
Long Term Monitoring Report 2013
Revised: 09/5/2013
Map Source: Holloman AFB
State Plane Coordinate System, NAD83, NM Central, US Feet

TETRA TECH
OAK RIDGE, TN

LEGEND

- HIGHWAY
- AIRFIELD
- BASE BOUNDARY
- SITE

FIGURE 2-2
HOLLOMAN AIR FORCE BASE
SITE LOCATION



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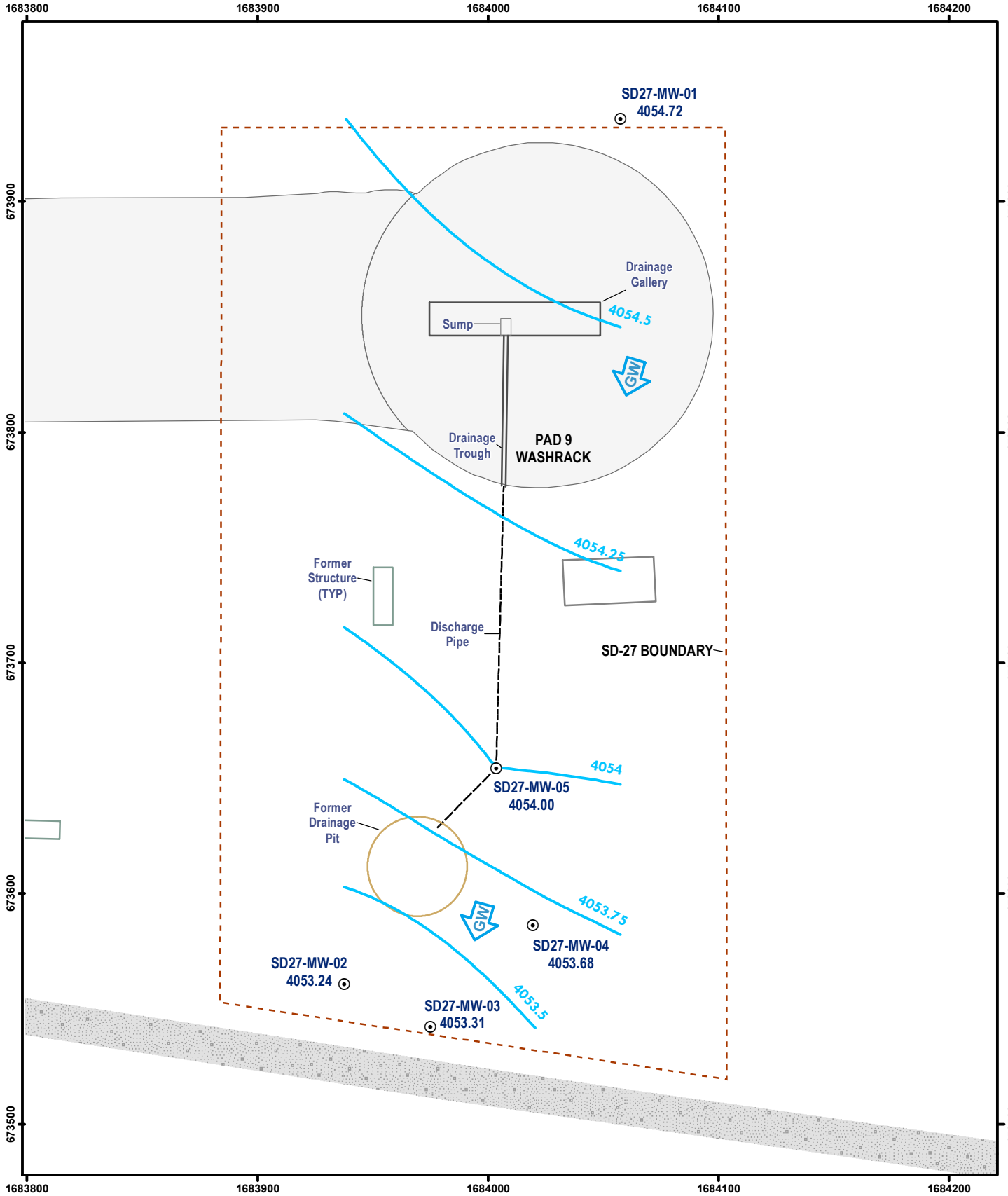
Long Term Monitoring Report 2013
Revised: 09/5/2013
Map Source: Holloman AFB
NAD83, State Plane - New Mexico Central, FIPS 3002, US Feet

TETRA TECH
OAK RIDGE, TN

LEGEND

- MONITORING WELL
- AIRFIELD SURFACE
- ROAD/PARKING (Gravel)

FIGURE 2-3
SD-27 SITE LAYOUT



File: K:\GIS\Holloman\LTM2013
Fig4-1_SD-27 GW Potentio09-2013.mxd
Long Term Monitoring Report 2013
Revised: 09/05/2013
Map Source: Holloman AFB
NAD83, State Plane - New Mexico Central, FIPS 3002, US Feet

TETRA TECH
OAK RIDGE, TN

LEGEND

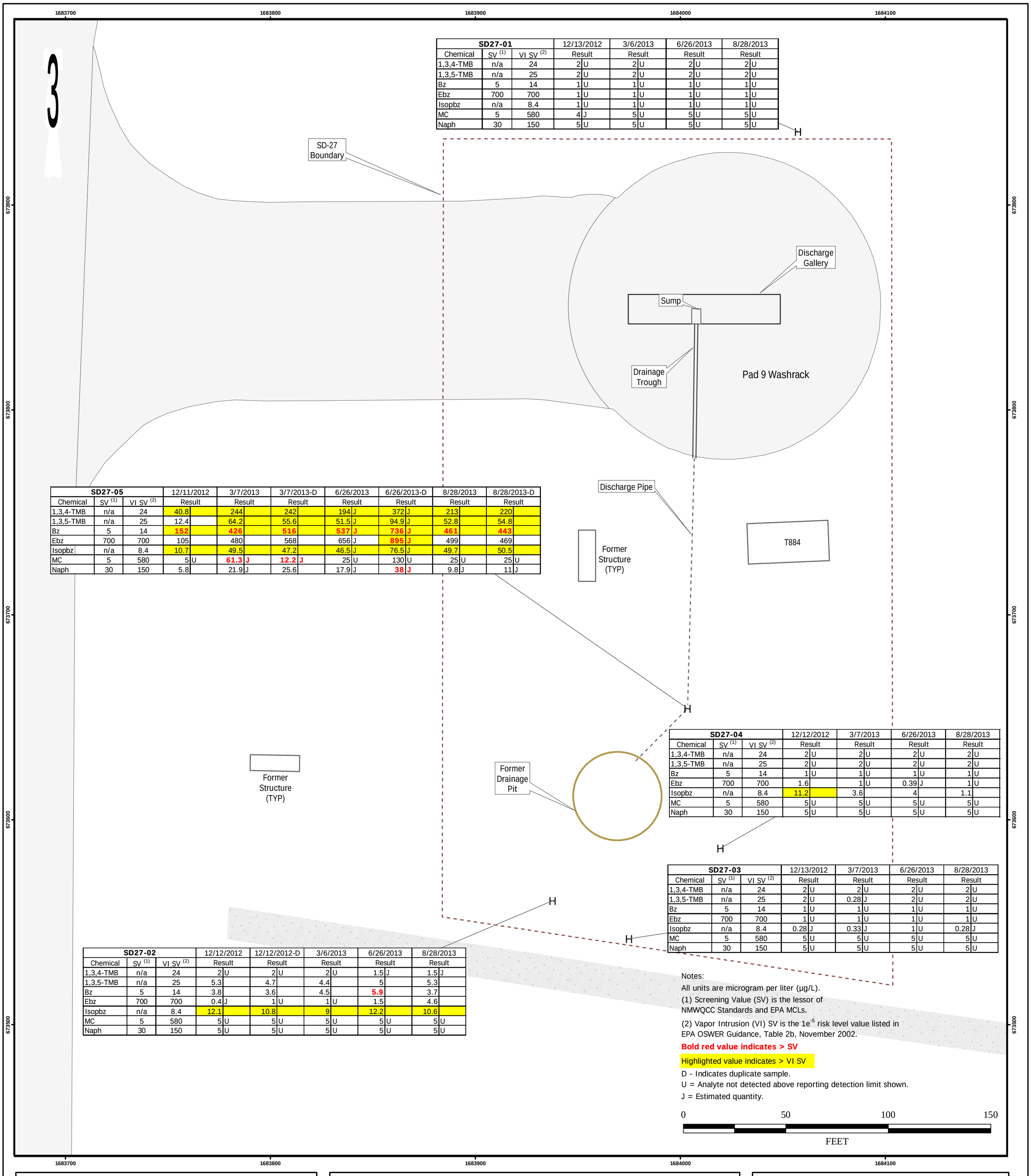
- Groundwater Contour
- MONITORING WELL
- AIRFIELD SURFACE
- ROAD/PARKING (Gravel)

Note:
1) Groundwater elevations in feet above mean sea level (ft AMSL).

FIGURE 4-1

GROUNDWATER POTENTIOMETRIC SURFACE MAP (AUGUST 2013)

Figure 4-2. Hydrographs for Monitoirng Wells
SD-27, Holloman AFB, Alamogordo, New Mexico



SD27-01			12/13/2012		3/6/2013		6/26/2013		8/28/2013	
Chemical	SV (1)	VI SV (2)	Result		Result		Result		Result	
1,3,4-TMB	n/a	24	2	U	2	U	2	U	2	U
1,3,5-TMB	n/a	25	2	U	2	U	2	U	2	U
Bz	5	14	1	U	1	U	1	U	1	U
Ebz	700	700	1	U	1	U	1	U	1	U
Isopbz	n/a	8.4	1	U	1	U	1	U	1	U
MC	5	580	4	J	5	U	5	U	5	U
Naph	30	150	5	U	5	U	5	U	5	U

SD27-05			12/11/2012		3/7/2013		3/7/2013-D		6/26/2013		6/26/2013-D		8/28/2013		8/28/2013-D	
Chemical	SV (1)	VI SV (2)	Result		Result		Result		Result		Result		Result		Result	
1,3,4-TMB	n/a	24	40.8		244		242		194	J	372	J	213		220	
1,3,5-TMB	n/a	25	12.4		64.2		55.6		51.5	J	94.9	J	52.8		54.8	
Bz	5	14	**152**		**426**		**516**		**537**	**J**	**736**	**J**	**461**		**443**	
Ebz	700	700	105		480		568		656	J	**895**	**J**	499		469	
Isopbz	n/a	8.4	10.7		49.5		47.2		46.5	J	76.5	J	49.7		50.5	
MC	5	580	5	U	**61.3**	**J**	**12.2**	**J**	25	U	130	U	25	U	25	U
Naph	30	150	5.8		21.9	J	25.6		17.9	J	**38**	**J**	9.8	J	11	J

SD27-04			12/12/2012		3/7/2013		6/26/2013		8/28/2013	
Chemical	SV (1)	VI SV (2)	Result		Result		Result		Result	
1,3,4-TMB	n/a	24	2	U	2	U	2	U	2	U
1,3,5-TMB	n/a	25	2	U	2	U	2	U	2	U
Bz	5	14	1	U	1	U	1	U	1	U
Ebz	700	700	1.6		1	U	0.39	J	1	U
Isopbz	n/a	8.4	11.2		3.6		4		1.1	
MC	5	580	5	U	5	U	5	U	5	U
Naph	30	150	5	U	5	U	5	U	5	U

SD27-03			12/13/2012		3/7/2013		6/26/2013		8/28/2013	
Chemical	SV (1)	VI SV (2)	Result		Result		Result		Result	
1,3,4-TMB	n/a	24	2	U	2	U	2	U	2	U
1,3,5-TMB	n/a	25	2	U	0.28	J	2	U	2	U
Bz	5	14	1	U	1	U	1	U	1	U
Ebz	700	700	1	U	1	U	1	U	1	U
Isopbz	n/a	8.4	0.28	J	0.33	J	1	U	0.28	J
MC	5	580	5	U	5	U	5	U	5	U
Naph	30	150	5	U	5	U	5	U	5	U

SD27-02			12/12/2012		12/12/2012-D		3/6/2013		6/26/2013		8/28/2013	
Chemical	SV (1)	VI SV (2)	Result		Result		Result		Result		Result	
1,3,4-TMB	n/a	24	2	U	2	U	2	U	1.5	J	1.5	J
1,3,5-TMB	n/a	25	5.3		4.7		4.4		5		5.3	
Bz	5	14	3.8		3.6		4.5		**5.9**		3.7	
Ebz	700	700	0.4	J	1	U	1	U	1.5		4.6	
Isopbz	n/a	8.4	12.1		10.8		9		12.2		10.6	
MC	5	580	5	U	5	U	5	U	5	U	5	U
Naph	30	150	5	U	5	U	5	U	5	U	5	U

Notes:
All units are microgram per liter (µg/L).
(1) Screening Value (SV) is the lessor of NMWQCC Standards and EPA MCLs.
(2) Vapor Intrusion (VI) SV is the $1e^{-5}$ risk level value listed in EPA OSWER Guidance, Table 2b, November 2002.
Bold red value indicates > SV
Highlighted value indicates > VI SV
D - Indicates duplicate sample.
U = Analyte not detected above reporting detection limit shown.
J = Estimated quantity.

0 50 100 150
FEET

File: K:\GIS\Holloman\LTM2013
Fig4-3_SD-27 GW Exc-Contam.mxd
Long Term Monitoring Report 2013
Revised: 09/5/2013
Map Source: Holloman AFB
State Plane Coordinate System, NAD83, NM Central, US Feet

TETRA TECH
OAK RIDGE, TN

Chemical	Acronym
1,2,4-Trimethylbenzene	1,3,4-TMB
1,3,5-Trimethylbenzene	1,3,5-TMB
Benzene	Bz
Ethylbenzene	Ebz
Isopropylbenzene	Isopbz
Methylene Chloride	MC
Naphthalene	Naph

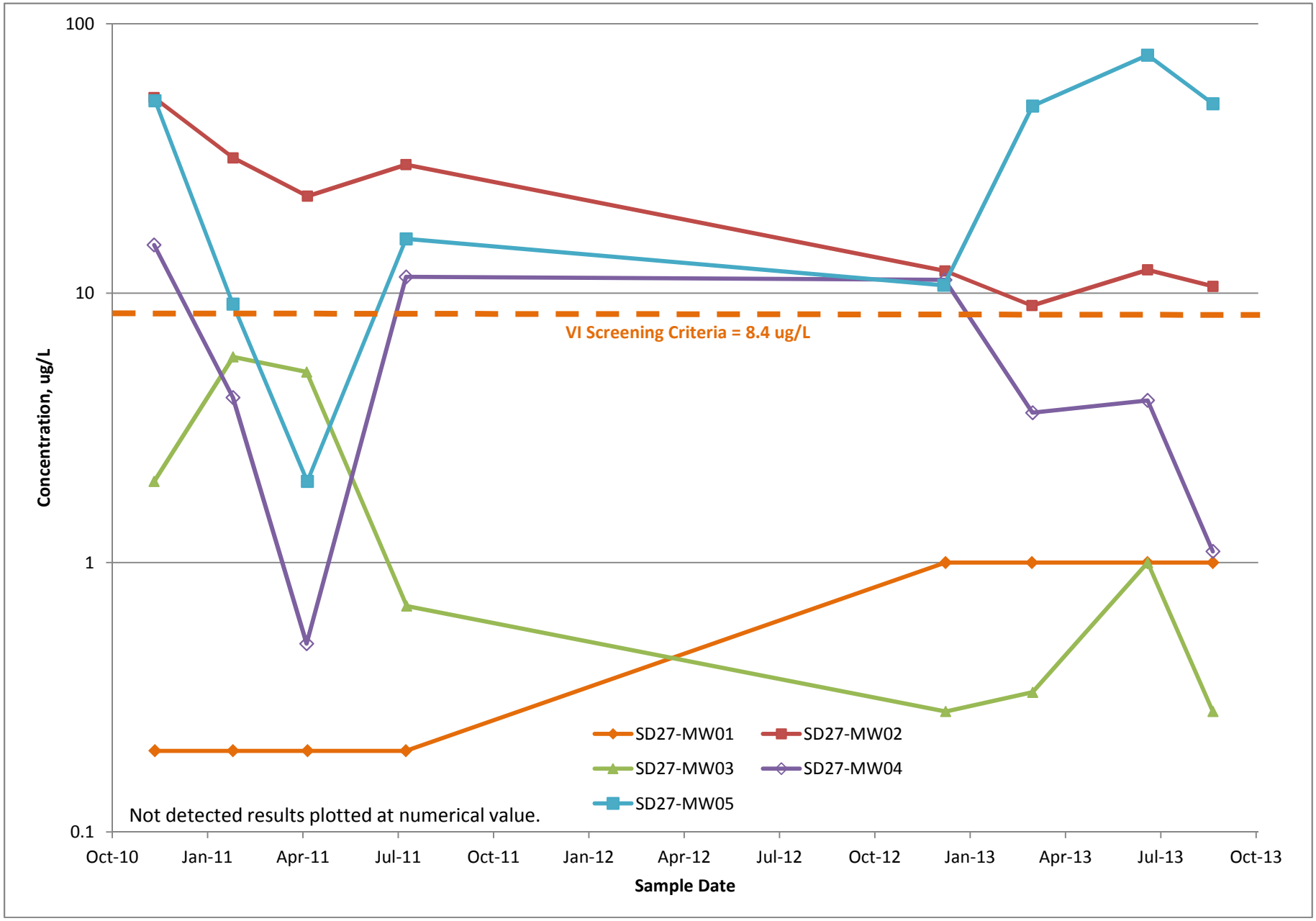
LEGEND

H MONITORING WELL
CHAIN-LINK FENCE
AIRFIELD SURFACE
ROAD/PARKING (Gravel)

FIGURE 4-3
VOC EXCEEDANCES IN GROUNDWATER AT SD-27 (2012 - 2013)

Figure 4-4. Benzene Concentration Trend in Groundwater
SD-27, Holloman AFB, Alamogordo, New Mexico

Figure 4-5. Isopropylbenzene Concentration Trend in Groundwater SD-27, Holloman AFB, Alamogordo, New Mexico



APPENDIX A

DATA REVIEW CHECKLISTS

DECEMBER 2012 DATA REVIEW CHECKLIST

Data Review Checklist

Project Name:	Holloman AFB	SDG/Report No.:	FA21
Project No.:	100-TEN-T93002-1	Lab ID:	Accutest
No. of Samples:	6 GW and 1 TB	Matrix:	Water

Area Reviewed	**Reviewed**	**Anomalies**		**Qualification Required**
		Yes	No	Y or N (or
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	Yes	X		N
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	N/A	---	---	N/A
11. Laboratory Case Narrative	Yes		X	N
12. Completeness of Data Package	Yes		X	N
13. Other	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 2.8 degrees C.
8260B: Six samples were preserved and analyzed within 14 days of collection.
2. **Instrument Performance Check**
8260B: BFB abundances were acceptable for calibrations and sample runs.
3. **Calibrations (Initial and Continuing)**
8260B: Initial calibration (ICAL) percent relative standard deviation (%RSD) were < 15% and correlation coefficients were >0.99. Continuing calibration (CCAL) verification (CCV) percent differences (%D) were < 20% for all compounds.
4. **Blanks (Method and/or Field QC)**
8260B: Volatile organic compounds were not detected in the method blanks. Toluene was detected in trip blank SD27-TB01 (0.49 ug/L). Toluene was detected in one of the associated samples at > 5x the concentration in the trip blank. Project data are not affected.

5. **Surrogates**
8260B: Recoveries were within limits.
6. **MS/MSD**
8260B: In batch VP495, the lab used SD27-MW04-12122012 for the MS/MSD. All RPDs were acceptable. The following recoveries were outside the lab's control limits: 2-chloroethyl vinyl ether (low), acrolein (low), isopropylbenzene (high), n-propylbenzene (high in MS), pentachloroethane (high in MS), sec-butylbenzene (high in MS), cis-1,3-dichloropropene (low in MSD), and trans-1,3-dichloropropene (low in MSD). Compounds with one recovery outside limits will not be qualified. 2-Chloroethyl vinyl ether and acrolein may be biased low. They will be qualified "UJ" in SD27-MW04-12122012. In batch VP497, the lab used an unrelated sample for the MS/MSD. Only benzene and ethylbenzene were analyzed. Recoveries and RPDs were within the lab's control limits.
7. **LCS**
8260B: In batch VP495, the following compounds had recoveries above the lab's control limits: acetone and pentachloroethane. The compounds were not detected in the associated samples, so no high bias is possible. No qualification is needed. In batch VP497, only benzene and ethylbenzene were analyzed. Recoveries were within limits.
8. **Internal Standards**
8260B: Areas and retention times were within limits.
9. **Duplicates (field, lab)**
8260B: One field duplicate pair was analyzed SD27-MW02-12122012 and SD27-MW02-DUP 01. Six compounds were detected in both samples. Three compounds were detected in the original sample, but not in the FD. The concentrations were below the reporting limit. For compounds detected in both sample, RPDs were within acceptable limits, less than 30%, for all compounds.
10. **Serial Dilution**
N/A
11. **Laboratory Case Narrative**
Acceptable
12. **Completeness of Data Package**
Acceptable
13. **Other**
All: Detections between the method detection limits and reporting limits are estimated and qualified "J".
Overall: Useable as qualified.

Reviewed by: Maureen McMyler 09/10/13

MARCH 2013 DATA REVIEW CHECKLIST

Data Review Checklist

Project Name:	Holloman AFB	SDG/Report No.:	FA2476
Project No.:	100-TEN-T93002-1	Lab ID:	Accutest
No. of Samples:	6 GW and 1 TB	Matrix:	Water

Area Reviewed	**Reviewed**	**Anomalies**		**Qualification Required**
		Yes	No	Y or N (or
1. Hold Time/Preservation.	Yes		X	N
2. Instrument Performance Check	Yes		X	N
3. Calibrations	Yes	X		Y
4. Blanks (Method and/or Field	Yes	X		N
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	N/A	---	---	N/A
11. Laboratory Case Narrative	Yes		X	N
12. Completeness of Data Package	Yes		X	N
13. Other	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 2.6 degrees C.
8260B: Six samples were preserved and analyzed within 14 days of collection.
2. **Instrument Performance Check**
8260B: BFB abundances were acceptable for calibrations and sample runs.
3. **Calibrations (Initial and Continuing)**
8260B: Initial calibration (ICAL) percent relative standard deviation (%RSD) were < 15% and correlation coefficients were >0.99. Continuing calibration (CCAL) verification (CCV) percent differences (%D) were < 20% for all compounds.
Initial Calibration Verification for vinyl acetate failed, biased low. Vinyl acetate was qualified “UJ” in all samples.

4. **Blanks (Method and/or Field QC)**
8260B: 1,2,3-Trichlorobenzene and 1,2,4-trichlorobenzene were detected in associated method blanks. The compounds were not detected in the associated samples. No compounds were detected in the trip blank. No qualification was applied.
5. **Surrogates**
8260B: Recoveries were within limits.
6. **MS/MSD**
8260B: 2-Chloroethyl vinyl ether recoveries were 0% in the MS/MSD. All samples were qualified "UJ".
7. **LCS**
8260B: All recoveries were within the lab's control limits.
8. **Internal Standards**
8260B: Areas and retention times were within limits.
9. **Duplicates (field, lab)**
8260B: One field duplicate pair was analyzed MW27-05-030713 and MW27-DUP01-030713. Methylene chloride RPD was > than 30%. Methylene chloride was qualified "J" in MW27-05-030713 and MW27-DUP01-030713.
10. **Serial Dilution**
N/A
11. **Laboratory Case Narrative**
Acceptable
12. **Completeness of Data Package**
Acceptable
13. **Other**
None
Overall: Useable as qualified.

Data Reviewed by: Paul Smith April 2013

JUNE 2013 DATA REVIEW CHECKLIST

Data Review Checklist

Project Name:	Holloman AFB	SDG/Report No.:	FA5972
Project No.:	100-TEN-T93002-1	Lab ID:	Accutest
No. of Samples:	6 GW and 1 TB	Matrix:	Water

Area Reviewed	**Reviewed**	**Anomalies**		**Qualification Required**
		Yes	No	Y or N (or
1. Hold Time/Preservation.	Yes		X	N
2. Instrument Performance Check	Yes		X	N
3. Calibrations	Yes	X		Y
4. Blanks (Method and/or Field	Yes	X		Y
5. Surrogates	Yes		X	N
6. MS/MSD	Yes	X		N
7. LCS	Yes	X		N
8. Internal Standards	Yes		X	N
9. Duplicates (field, lab)	Yes	X		Y
10. Serial Dilution	N/A	---	---	N/A
11. Laboratory Case Narrative	Yes		X	N
12. Completeness of Data Package	Yes		X	N
13. Other	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 2.8 degrees C.
8260B: Samples were preserved and analyzed within 14 days of collection.
2. **Instrument Performance Check**
8260B: BFB abundances were acceptable for calibrations and sample runs.
3. **Calibrations (Initial and Continuing)**
8260B: Initial calibration (ICAL) percent relative standard deviation (%RSD) were < 15% and correlation coefficients were >0.99. Continuing calibration (CCAL) verification (CCV) percent differences (%D) were < 20% for most compounds. In CCV VJ4427-CC4425, cis-1,4-dichloro-2-butene and trans-1,4-dichloro-2-butene %Ds were > 20%, biased high. In CCV VP664-CC659, chloromethane (methyl chloride), dichlorodifluoromethane, and trichlorofluoromethane were > 20%, biased high. The compounds were not detected in the samples, but will be qualified "UJ" based on validation guidelines.

4. **Blanks (Method and/or Field QC)**
8260B: Volatile organic compounds were not detected in the method blank. Toluene was detected in trip blank SD27-TB01-062613 (1.1 ug/L). Toluene was detected in five of the associated samples in varying concentrations. Toluene will be qualified "U" in three samples where the concentrations were <5x the concentration in the trip blank. Toluene should be considered non-detect at the reporting limit in MW27-02-062613, MW27-03-062613, and MW27-04-062613.
5. **Surrogates**
8260B: Recoveries were within limits.
6. **MS/MSD**
8260B: In batch VP664, MS/MSD ran on MW27-04-062613. The following recoveries were outside acceptable limits: isopropylbenzene (high in MS) and styrene (low in MSD). Since only one recovery was out and LCS recovery is acceptable, no qualification will be applied. RPDs were high for ethyl methacrylate and styrene, but the compounds were not detected in the sample. No qualification is needed. In batch VJ4427, MS/MSD ran on an unrelated sample. The following recoveries were outside acceptable limits: benzene (high in MS) and 2-chloroethyl vinyl ether (low). The RPD for 2-chloroethyl vinyl ether was high. Project data are not affected. No qualification is needed.
7. **LCS**
8260B: Most volatile organic compounds' recoveries were within limits in batches VJ4427 and VP664. Acrolein recovery was high in the LCS of batch VP664. The compound was not detected in the associated samples, so no high bias is possible. No qualification is needed.
8. **Internal Standards**
8260B: Areas and retention times were within limits.
9. **Duplicates (field, lab)**
8260B: One field duplicate pair was analyzed: MW27-05-062613 and MW27-DUP01-062613. Eleven compounds were detected in both samples. RPDs were outside acceptable limits, greater than 30%, in 10 compounds. The following analytes will be qualified "J" in MW27-05-062613 and MW27-DUP01-062613: benzene, ethylbenzene, isopropylbenzene, p-isopropyltoluene, naphthalene, n-propylbenzene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, toluene, and m,p-xylene.
10. **Serial Dilution**
N/A
11. **Laboratory Case Narrative**
Acceptable
12. **Completeness of Data Package**

Acceptable
13. **Other**
All: Detections between the method detection limits and reporting limits are estimated and qualified “J”.
Overall: Useable as qualified.

Reviewed by: Maureen McMyler 07/18/13

AUGUST 2013 DATA REVIEW CHECKLIST

Data Review Checklist

Project Name:	Holloman AFB	SDG/Report No.:	FA7671
Project No.:	100-TEN-T93002-1	Lab ID:	Accutest
No. of Samples:	6 GW and 1 TB	Matrix:	Water

Area Reviewed	Reviewed	Anomalies		Qualification Required
		Yes	No	Y or N (or
1. Hold Time/Preservation.	Yes		X	N
2. Instrument Performance Check	Yes		X	N
3. Calibrations	Yes	X		Y
4. Blanks (Method and/or Field	Yes	X		N
5. Surrogates	Yes		X	N
6. MS/MSD	Yes	X		Y
7. LCS	Yes	X		Y
8. Internal Standards	Yes		X	N
9. Duplicates (field, lab)	Yes		X	N
10. Serial Dilution	N/A	---	---	N/A
11. Laboratory Case Narrative	Yes		X	N
12. Completeness of Data Package	Yes		X	N
13. Other	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 2.8 degrees C.
8260B: Six samples were preserved and analyzed within 14 days of collection.
2. **Instrument Performance Check**
8260B: BFB abundances were acceptable for calibrations and sample runs.
3. **Calibrations (Initial and Continuing)**
8260B: Initial calibration (ICAL) percent relative standard deviation (%RSD) were < 15% and correlation coefficients were >0.99. Continuing calibration (CCAL) verification (CCV) percent differences (%D) were < 20% for most compounds. In CCV VO740-CC739 and in CCV VO742-CC739, pentachloroethane %Ds were > 20% (27.4% and 20.8%, respectively), biased high. The compound was not detected in the samples, but will be qualified "UJ" based on validation guidelines.

4. **Blanks (Method and/or Field QC)**

8260B: 1,2,3-Trichlorobenzene was detected in method blank VO740-MB analyzed on 08/30/13 (0.63 ug/L). 1,2,3-Trichlorobenzene was not detected in the associated samples. Project data are not affected. Toluene was detected in trip blank SD27-TB01-062613 (0.33 ug/L). Toluene was detected in three of the associated samples in varying concentrations. Toluene will be qualified "U" in one sample where the concentration was <5x the concentration in the trip blank. Toluene should be considered non-detect at the reporting limit in MW27-02-082013.

5. **Surrogates**

8260B: Recoveries were within limits.

6. **MS/MSD**

8260B: In batch VO740, the lab used MW27-04-082013 for the MS/MSD. All RPDs were acceptable. The following recoveries were below limits in the MSD only: allyl chloride, cis-1,3-dichloropropene, trans-1,3-dichloropropene, and styrene. Since only one recovery was out and LCS recoveries are acceptable, no qualification will be applied. The following recoveries were outside control limits in both the MS and MSD: 2-chloroethyl vinyl ether (low), 2-hexanone (high), 4-methyl-2-pentanone (high), cis-1,4-dichloro-2-butene (low), and trans-1,4-dichloro-2-butene (low).
None of the compounds was detected in the parent sample. Recoveries for the following compounds may be biased low: 2-chloroethyl vinyl ether, cis-1,4-dichloro-2-butene, and trans-1,4-dichloro-2-butene. They will be qualified "UJ" in MW27-04-082013.

In batch VO742, the lab used MW27-05-082013 for the MS/MSD. MS/MSD recoveries for 2-chloroethyl vinyl ether were low. The following recoveries were below limits in the MSD only: allyl chloride, cis-1,3-dichloropropene, cis-1,4-dichloro-2-butene, trans-1,3-dichloropropene, and trans-1,4-dichloro-2-butene. The following RPDs were high: 2-chloroethyl vinyl ether, cis-1,4-dichloro-2-butene and trans-1,4-dichloro-2-butene. Since the compounds were not detected, the sample will not be qualified because of RPDs. 2-Chloroethyl vinyl ether will be qualified "UJ" in MW27-05-082013 and MW27-DUP01-082013.

In batch VB3795, the lab used an unrelated sample for the MS/MSD. Acetone was the only compounds spiked. Recoveries and RPD were acceptable.

7. **LCS**

8260B: Acetone recovery was within limits in the LCS of batch VB3795. That was the only compound analyzed. Several volatile organic compounds' recoveries were outside limits in batches VO740 and VO742. In batch VO740, the following compounds were above limits: acetone, 2-hexanone, methyl ethyl ketone. The compounds were not detected in the associated samples, so no high bias is possible. No qualification is needed. In batch VO742, the following compounds were outside limits: acetone (high), 2-chloroethyl vinyl ether (low), dichlorodifluoromethane (high). Acetone and dichlorodifluoromethane were not detected in the associated samples, so no high bias is possible. No qualification is needed for them. 2-chloroethyl vinyl ether results should be considered estimated, biased low in MW27-05-082013 and MW27-DUP01-082013 and qualified "UJ".

8. **Internal Standards**
8260B: Areas and retention times were within limits.
9. **Duplicates (field, lab)**
8260B: One field duplicate pair was analyzed MW27-05-082013 and MW27-DUP01-082013. Thirteen compounds were detected in both samples. RPDs were within acceptable limits, less than 30%, for all compounds. All results agreed.
10. **Serial Dilution**
N/A
11. **Laboratory Case Narrative**
Acceptable
12. **Completeness of Data Package**
Acceptable
13. **Other**
All: Detections between the method detection limits and reporting limits are estimated and qualified "J".
Overall: Useable as qualified.

Reviewed by: Maureen McMyler 09/06/13

APPENDIX B

CHAIN OF CUSTODY RECORDS

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 # PAGE 1 OF 1

Accutest Quote # SKIFF#

Client / Reporting Information

Company Name: Tetra Tech
Address: 800 Oak Ridge Tpk
City: Oak Ridge State: TN Zip: 37830
Project Contact: Frank.bogle@tetratech.com E-mail:
Phone#: 865-483-9900
Sampler(s) Name(s) (Printed): Allan Jenkins

Project Information

Project Name: HAFB SD-27
Street:
City: Alamogordo State: NM
Project #: T93202-1
Fax #:
Client Purchase Order #:

Analytical Information

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	VOCs 8260										LAB USE ONLY
	SD27-MW05	12/11/12	1550	AJ	GW	3			✓							X										
	SD27-MW02	12/12/12	1535			3			✓							X										
	SD27-MW02-DUP01	12/12/12	1535			3			✓							X										
	SD27-MW04	12/12/12	1607			3			✓							X										
	SD27-MW04-MS	12/12/12	1607			3			✓							X										
	SD27-MW04-MSD	12/12/12	1607			3			✓							X										
	SD27-MW01	12/13/12	1102			3			✓							X										
	SD27-MW03	12/13/12	1127			3			✓							X										
	~~SD27-TB01~~	~~12/11/12~~	~~1550~~		~~W~~	~~3~~			~~✓~~							~~X~~										
	SD27-TB01	11/21/12	0800	AJ	W	2										X										

99. 12/13/12

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 T. Jenkins	12/14/12	2 Fedx Store	3		4
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: _____

Tetra Tech, Inc.
800 Oak Ridge Turnpike, Ste A-600
Oak Ridge, TN 37830
865/283-9900

HAFB-SD-27-GW

CHAIN-OF-CUSTODY

Laboratory Name: **Accutest Laboratories** Address: **4405 Vineland Rd. Suite C-15 Orlando, FL 32811** Contact: **Sue Bell (813/741-3338)**

Project Name Holloman AFB Project Location **Holloman AFB, New Mexico**

Project No. **SD-27 (Groundwater)** Project Contact **Maureen McMyler** Site Telephone No.

Report to: Maureen McMyler 800 Oak Ridge Turnpike 865/535-2030

Bill to: Sheila Hall, 800 Oak Ridge Turnpike 865/283-9900

Project Manager/Supervisor **Frank Bogle**

Analysis and Method Desired

Item No.	Sample Number	Date	Time	Comp	Grab	Matrix	Sample Description, Location	Number of Containers	VOCs by SW8260B						Notes
1	**MW27-01-030613**	3/6/2013	1615		X	GW	**SD27-MW01**	3	3						
2	**MW27-02-030613**	3/6/2013	1555		X	GW	**SD27-MW02**	3	3						
3	**MW27-03-030713**	3/7/2013	805		X	GW	**SD27-MW03**	3	3						
4	**MW27-04-030713**	3/7/2013	814		X	GW	**SD27-MW04**	3	3						
5	**MW27-04-030713-MS**	3/7/2013	814		X	GW	**SD27-MW04**	3	3						Matrix Spike
6	**MW27-04-030713-MSD**	3/7/2013	814		X	GW	**SD27-MW04**	3	3						Matrix Spike Duplicate
7	**MW27-05-030713**	3/7/2013	830		X	GW	**SD27-MW05**	3	3						
8	**MW27-DUP01-030713**	3/7/2013	830		X	GW	**SD27-MW05**	3	3						
9	**SD27-TB01-030613**	3/6/2013	800		X	WQ	**TRIP BLANK**	2	2						
10															
11															

Transfers Relinquished By (Signature)	Date/Time	Transfers Accepted By (Signature)	Date/Time
	3-7-13/1500		
		Laboratory	

Special Instructions:

FedEx Airbill No.: 8017 3227 9116

Sampler's Signature

TAT: __X__ Standard _____ Rush Due: _____ Seals Intact? _____ Y _____ N Received Good Condition _____ Y _____ N _____ Cold

Tetra Tech, Inc.
800 Oak Ridge Turnpike, Ste A-600
Oak Ridge, TN 37830
865/283-9900

HAFB-SD-27-GW

CHAIN-OF-CUSTODY

Laboratory Name: **Accutest Laboratories** Address: **4405 Vineland Rd. Suite C-15 Orlando, FL 32811** Contact: **Sue Bell (813/741-3338)**

Project Name Holloman AFB Project Location **Holloman AFB, New Mexico**

Project No. **SD-27 (Groundwater)** Project Contact **Maureen McMyler** Site Telephone No.

Report to: Maureen McMyler 800 Oak Ridge Turnpike 865/535-2030

Bill to: Sheila Hall, 800 Oak Ridge Turnpike 865/283-9900

Project Manager/Supervisor **Frank Bogle**

Analysis and Method Desired

Item No.	Sample Number	Date	Time	Comp	Grab	Matrix	Sample Description, Location	Number of Containers	VOCs by SW8260B						Notes
1	**MW27-01-062013**	6/26/2013	0745		X	GW	**SD27-MW01**	3	3						
2	**MW27-02-062013**	6/26/2013	0752		X	GW	**SD27-MW02**	3	3						
3	**MW27-03-062013**	6/26/2013	0800		X	GW	**SD27-MW03**	3	3						
4	**MW27-04-062013**	6/26/2013	0810		X	GW	**SD27-MW04**	3	3						
5	**MW27-04-062013-MS**	6/26/2013	0810		X	GW	**SD27-MW04**	3	3						Matrix Spike
6	**MW27-04-062013-MSD**	6/26/2013	0810		X	GW	**SD27-MW04**	3	3						Matrix Spike Duplicate
7	**MW27-05-062013**	6/26/2013	0822		X	GW	**SD27-MW05**	3	3						
8	**MW27-DUP01-062013**	6/26/2013	0822		X	GW	**SD27-MW05**	3	3						
9	**SD27-TB01-062013**	6/26/2013	0745		X	WQ	**TRIP BLANK**	2	2						
10															

Transfers Relinquished By (Signature)	Date/Time	Transfers Accepted By (Signature)	Date/Time
Albert Jenkins	6/26/13		
		Laboratory	

Special Instructions:

FedEx Airbill No.:

Sampler's Signature

TAT: X Standard ____ Rush Due: _____ Seals Intact? ✓ Y N Received Good Condition Y N Cold

HAFB-SD-27-GW

Tetra Tech, Inc.
800 Oak Ridge Turnpike, Ste A-600
Oak Ridge, TN 37830
865/283-9900

CHAIN-OF-CUSTODY

Laboratory Name **Accutest Laboratories** Address **4405 Vineland Rd. Suite C-15 Orlando, FL 32811** Contact: **Sue Bell (813/741-3338)**

Project Name **Holloman AFB** Project Location **Holloman AFB, New Mexico**

Project No **SD-27 (Groundwater)** Project Contact **Maureen McMyler** Site Telephone No.

Report to Maureen McMyler 800 Oak Ridge Turnpike 865/535-2030

Bill to Sheila Hall, 800 Oak Ridge Turnpike 865/283-9900

Project Manager/Supervisor **Frank Bogle**

Analysis and Method Desired: Number of Containers; VOCs by SW8260B

Item No	Sample Number	Date	Time	Comp	Grab	Matrix	Sample Description, Location	Number of Containers	VOCs by SW8260B	Notes
1	MW27-01-082013	8/28/2013	809		X	GW	SD27-MW01	3	3	
2	MW27-02-082013	8/28/2013	745		X	GW	SD27-MW02	3	3	
3	MW27-03-082013	8/28/2013	739		X	GW	SD27-MW03	3	3	
4	MW27-04-082013	8/28/2013	730		X	GW	SD27-MW04	3	3	
5	MW27-04-082013-MS	8/28/2013	730		X	GW	SD27-MW04	3	3	Matrix Spike
6	MW27-04-082013-MSD	8/28/2013	730		X	GW	SD27-MW04	3	3	Matrix Spike Duplicate
7	MW27-05-082013	8/28/2013	757		X	GW	SD27-MW05	3	3	
8	MW27-DUP01-082013	8/28/2013	757		X	GW	SD27-MW05	3	3	
9	SD27-TB01-082013	8/28/2013	630		X	WQ	TRIP BLANK	2	2	
10										

Transfers Relinquished By (Signature)	Date/Time	Transfers Accepted By (Signature)	Date/Time
[signature]	8/28/13 1410		
		Laboratory	

Special Instructions: **3 Day Turnaround**

FedEx Airbill No.: 8033 5737 1950

Sampler's Signature: [signature]

TAT 3 Day Standard ____ Rush Due ____ Seals Intact? ____ Y ____ N Received Good Condition ____ Y ____ N ____ Cold

APPENDIX C

LABORATORY ANALYTICAL DATA
(ATTACHED CD-ROM)

Southeast ACCUTEST LABORATORIES

12/27/12

Technical Report for

Tetra Tech, Inc

Holloman AFB; Alamogordo, NM

T93002-1, Sub Agreement: 1071181

Accutest Job Number: FA21

Sampling Dates: 12/11/12 - 12/13/12

Report to:

Tetra Tech
800 Oak Ridge Tpk Suite A600
Oak Ridge, TN 37830
Frank.Bogle@tetratech.com; Maureen.McMyler@tetratech.com;
Valerie.Bogle@tetratech.com
ATTN: Frank Bogle

Total number of pages in report: **67**

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.

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Sample Summary

Tetra Tech, Inc

Job No: FA21

Holloman AFB; Alamogordo, NM
Project No: T93002-1, Sub Agreement: 1071181

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
FA21-1	12/11/12	15:50	AJ	12/15/12	AQ	Ground Water	SD27-MW05
FA21-2	12/12/12	15:35	AJ	12/15/12	AQ	Ground Water	SD27-MW02
FA21-3	12/12/12	15:35	AJ	12/15/12	AQ	Ground Water	SD27-MW02-DUP 01
FA21-4	12/12/12	16:07	AJ	12/15/12	AQ	Ground Water	SD27-MW04
FA21-4D	12/12/12	16:07	AJ	12/15/12	AQ	Water Dup/MSD	SD27-MW04
FA21-4S	12/12/12	16:07	AJ	12/15/12	AQ	Water Matrix Spike	SD27-MW04
FA21-5	12/13/12	11:02	AJ	12/15/12	AQ	Ground Water	SD27-MW01
FA21-6	12/13/12	11:27	AJ	12/15/12	AQ	Ground Water	SD27-MW03
FA21-7	12/13/12	08:00	AJ	12/15/12	AQ	Trip Blank Water	SD27-TB01

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Tetra Tech, Inc **Job No:** FA21

Site: Holloman AFB; Alamogordo, NM **Report Date:** 12/27/2012 4:42:23 PM

6 Samples and 1 Trip Blank were collected on/between 12/11/2012 and 12/13/2012 and were received at Accutest SE on 12/15/2012 properly preserved, at 2.8 Deg. C and intact. These Samples received an Accutest job number of FA21. 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: AQ **Batch ID:** VP495

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA21-4MS, FA21-4MSD were used as the QC samples indicated.

Blank Spike Recovery(s) for Acetone, Pentachloroethane are outside control limits. Recoveries biased high, but samples were ND for Acetone, Pentachloroethane.

Matrix Spike Recovery(s) for 2-Chloroethyl vinyl ether, Acrolein, Isopropylbenzene, n-Propylbenzene, Pentachloroethane, sec-Butylbenzene are outside control limits. Probable cause is due to matrix interference.

Matrix Spike Duplicate Recovery(s) for 2-Chloroethyl vinyl ether, Acrolein, cis-1,3-Dichloropropene, Isopropylbenzene, trans-1,3-Dichloropropene are outside control limits. Probable cause is due to matrix interference.

FA21-1 for Acetone: Associated BS recovery outside control limits.

FA21-1 for Pentachloroethane: Associated BS recovery outside control limits.

FA21-2 for Acetone: Associated BS recovery outside control limits.

FA21-2 for Pentachloroethane: Associated BS recovery outside control limits.

FA21-3 for Acetone: Associated BS recovery outside control limits.

FA21-3 for Pentachloroethane: Associated BS recovery outside control limits.

FA21-4 for Acetone: Associated BS recovery outside control limits.

FA21-4 for Pentachloroethane: Associated BS recovery outside control limits.

FA21-5 for Acetone: Associated BS recovery outside control limits.

FA21-5 for Pentachloroethane: Associated BS recovery outside control limits.

FA21-6 for Acetone: Associated BS recovery outside control limits.

FA21-6 for Pentachloroethane: Associated BS recovery outside control limits.

FA21-7 for Acetone: Associated BS recovery outside control limits.

FA21-7 for Pentachloroethane: Associated BS recovery outside control limits.

Matrix: AQ **Batch ID:** VP497

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) F99901-2MS, F99901-2MSD were used as the QC samples indicated.

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: December 27, 2012

Kim Benham, Client Services (signature on file)

Summary of Hits

Job Number: FA21
Account: Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM
Collected: 12/11/12 thru 12/13/12

3

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
FA21-1	**SD27-MW05**					
Benzene		152	5.0	1.1	ug/l	SW846 8260B
sec-Butylbenzene		2.4	1.0	0.21	ug/l	SW846 8260B
Carbon disulfide		1.4 J	2.0	0.49	ug/l	SW846 8260B
Ethylbenzene		105	5.0	1.5	ug/l	SW846 8260B
Isopropylbenzene		10.7	1.0	0.20	ug/l	SW846 8260B
p-Isopropyltoluene		1.4	1.0	0.20	ug/l	SW846 8260B
Naphthalene		5.8	5.0	1.0	ug/l	SW846 8260B
n-Propylbenzene		9.2	1.0	0.23	ug/l	SW846 8260B
1,2,4-Trimethylbenzene		40.8	2.0	0.20	ug/l	SW846 8260B
1,3,5-Trimethylbenzene		12.4	2.0	0.20	ug/l	SW846 8260B
Toluene		28.1	1.0	0.20	ug/l	SW846 8260B
m,p-Xylene		6.7	2.0	0.30	ug/l	SW846 8260B
o-Xylene		47.4	1.0	0.20	ug/l	SW846 8260B
FA21-2	**SD27-MW02**					
Benzene		3.8	1.0	0.21	ug/l	SW846 8260B
n-Butylbenzene		0.25 J	1.0	0.20	ug/l	SW846 8260B
sec-Butylbenzene		5.2	1.0	0.21	ug/l	SW846 8260B
tert-Butylbenzene		0.51 J	1.0	0.29	ug/l	SW846 8260B
Ethylbenzene		0.40 J	1.0	0.29	ug/l	SW846 8260B
Isopropylbenzene		12.1	1.0	0.20	ug/l	SW846 8260B
p-Isopropyltoluene		0.40 J	1.0	0.20	ug/l	SW846 8260B
n-Propylbenzene		15.5	1.0	0.23	ug/l	SW846 8260B
1,3,5-Trimethylbenzene		5.3	2.0	0.20	ug/l	SW846 8260B
FA21-3	**SD27-MW02-DUP 01**					
Benzene		3.6	1.0	0.21	ug/l	SW846 8260B
sec-Butylbenzene		4.5	1.0	0.21	ug/l	SW846 8260B
Isopropylbenzene		10.8	1.0	0.20	ug/l	SW846 8260B
p-Isopropyltoluene		0.38 J	1.0	0.20	ug/l	SW846 8260B
n-Propylbenzene		14.1	1.0	0.23	ug/l	SW846 8260B
1,3,5-Trimethylbenzene		4.7	2.0	0.20	ug/l	SW846 8260B
FA21-4	**SD27-MW04**					
sec-Butylbenzene		7.9	1.0	0.21	ug/l	SW846 8260B
tert-Butylbenzene		0.63 J	1.0	0.29	ug/l	SW846 8260B
Ethylbenzene		1.6	1.0	0.29	ug/l	SW846 8260B
Isopropylbenzene		11.2	1.0	0.20	ug/l	SW846 8260B
n-Propylbenzene		12.1	1.0	0.23	ug/l	SW846 8260B
o-Xylene		0.22 J	1.0	0.20	ug/l	SW846 8260B

Summary of Hits

Job Number: FA21
Account: Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM
Collected: 12/11/12 thru 12/13/12

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
FA21-5	**SD27-MW01**					
Methylene chloride		4.0 J	5.0	2.0	ug/l	SW846 8260B
FA21-6	**SD27-MW03**					
Isopropylbenzene		0.28 J	1.0	0.20	ug/l	SW846 8260B
FA21-7	**SD27-TB01**					
Toluene		0.49 J	1.0	0.20	ug/l	SW846 8260B

Southeast ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	SD27-MW05		
Lab Sample ID:	FA21-1	**Date Sampled:**	12/11/12
Matrix:	AQ - Ground Water	**Date Received:**	12/15/12
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	P12633.D	1	12/21/12	EG	n/a	n/a	VP495
Run #2	P12680.D	5	12/23/12	JG	n/a	n/a	VP497

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone [a]	ND	25	10	ug/l	
75-05-8	Acetonitrile	ND	20	3.7	ug/l	
107-02-8	Acrolein	ND	20	6.9	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
107-05-1	Allyl chloride	ND	2.0	0.56	ug/l	
71-43-2	Benzene	152 [b]	5.0	1.1	ug/l	
100-44-7	Benzyl Chloride	ND	2.0	0.38	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.22	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.34	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.20	ug/l	
135-98-8	sec-Butylbenzene	2.4	1.0	0.21	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.29	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.26	ug/l	
544-10-5	1-Chlorohexane	ND	2.0	0.20	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.21	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.20	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.3	ug/l	
75-15-0	Carbon disulfide	1.4	2.0	0.49	ug/l	J
56-23-5	Carbon tetrachloride	ND	1.0	0.31	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.25	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.71	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.30	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.26	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.27	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.25	ug/l	

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:	SD27-MW05		
Lab Sample ID:	FA21-1	**Date Sampled:**	12/11/12
Matrix:	AQ - Ground Water	**Date Received:**	12/15/12
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	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	10	1.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.25	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.20	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.23	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	105 [b]	5.0	1.5	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.50	ug/l	
76-13-1	Freon 113	ND	1.0	0.33	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.50	ug/l	
110-54-3	Hexane	ND	2.0	0.88	ug/l	
98-82-8	Isopropylbenzene	10.7	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	1.4	1.0	0.20	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.3	ug/l	
126-98-7	Methacrylonitrile	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.79	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.50	ug/l	
74-88-4	Methyl iodide	ND	1.0	0.25	ug/l	
80-62-6	Methyl methacrylate	ND	5.0	0.50	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.34	ug/l	
75-09-2	Methylene chloride	ND	5.0	2.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	3.1	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.21	ug/l	
91-20-3	Naphthalene	5.8	5.0	1.0	ug/l	
76-01-7	Pentachloroethane [a]	ND	10	1.0	ug/l	
107-12-0	Propionitrile	ND	20	5.0	ug/l	
103-65-1	n-Propylbenzene	9.2	1.0	0.23	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.23	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.24	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.56	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	

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:	SD27-MW05		
Lab Sample ID:	FA21-1	**Date Sampled:**	12/11/12
Matrix:	AQ - Ground Water	**Date Received:**	12/15/12
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	40.8	2.0	0.20	ug/l	
108-67-8	1,3,5-Trimethylbenzene	12.4	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.32	ug/l	
108-88-3	Toluene	28.1	1.0	0.20	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.31	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	10	2.1	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.44	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.1	ug/l	
	m,p-Xylene	6.7	2.0	0.30	ug/l	
95-47-6	o-Xylene	47.4	1.0	0.20	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%	106%	87-116%
17060-07-0	1,2-Dichloroethane-D4	105%	111%	76-127%
2037-26-5	Toluene-D8	100%	100%	86-112%
460-00-4	4-Bromofluorobenzene	101%	103%	84-120%

(a) Associated BS recovery outside control limits.
(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:	SD27-MW02		
Lab Sample ID:	FA21-2	**Date Sampled:**	12/12/12
Matrix:	AQ - Ground Water	**Date Received:**	12/15/12
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	P12634.D	1	12/21/12	EG	n/a	n/a	VP495
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone [a]	ND	25	10	ug/l	
75-05-8	Acetonitrile	ND	20	3.7	ug/l	
107-02-8	Acrolein	ND	20	6.9	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
107-05-1	Allyl chloride	ND	2.0	0.56	ug/l	
71-43-2	Benzene	3.8	1.0	0.21	ug/l	
100-44-7	Benzyl Chloride	ND	2.0	0.38	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.22	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.34	ug/l	
104-51-8	n-Butylbenzene	0.25	1.0	0.20	ug/l	J
135-98-8	sec-Butylbenzene	5.2	1.0	0.21	ug/l	
98-06-6	tert-Butylbenzene	0.51	1.0	0.29	ug/l	J
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.26	ug/l	
544-10-5	1-Chlorohexane	ND	2.0	0.20	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.21	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.20	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.3	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.49	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.31	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.25	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.71	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.30	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.26	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.27	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.25	ug/l	

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:	SD27-MW02		
Lab Sample ID:	FA21-2	**Date Sampled:**	12/12/12
Matrix:	AQ - Ground Water	**Date Received:**	12/15/12
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	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	10	1.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.25	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.20	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.23	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	0.40	1.0	0.29	ug/l	J
97-63-2	Ethyl methacrylate	ND	5.0	0.50	ug/l	
76-13-1	Freon 113	ND	1.0	0.33	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.50	ug/l	
110-54-3	Hexane	ND	2.0	0.88	ug/l	
98-82-8	Isopropylbenzene	12.1	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	0.40	1.0	0.20	ug/l	J
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.3	ug/l	
126-98-7	Methacrylonitrile	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.79	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.50	ug/l	
74-88-4	Methyl iodide	ND	1.0	0.25	ug/l	
80-62-6	Methyl methacrylate	ND	5.0	0.50	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.34	ug/l	
75-09-2	Methylene chloride	ND	5.0	2.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	3.1	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.21	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
76-01-7	Pentachloroethane [a]	ND	10	1.0	ug/l	
107-12-0	Propionitrile	ND	20	5.0	ug/l	
103-65-1	n-Propylbenzene	15.5	1.0	0.23	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.23	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.24	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.56	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	

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:	SD27-MW02		
Lab Sample ID:	FA21-2	**Date Sampled:**	12/12/12
Matrix:	AQ - Ground Water	**Date Received:**	12/15/12
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	2.0	0.20	ug/l	
108-67-8	1,3,5-Trimethylbenzene	5.3	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.32	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.31	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	10	2.1	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.44	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.1	ug/l	
	m,p-Xylene	ND	2.0	0.30	ug/l	
95-47-6	o-Xylene	ND	1.0	0.20	ug/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	102%		86-112%
460-00-4	4-Bromofluorobenzene	104%		84-120%

(a) Associated BS recovery outside control limits.

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:	SD27-MW02-DUP 01		
Lab Sample ID:	FA21-3	**Date Sampled:**	12/12/12
Matrix:	AQ - Ground Water	**Date Received:**	12/15/12
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	P12635.D	1	12/21/12	EG	n/a	n/a	VP495
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone [a]	ND	25	10	ug/l	
75-05-8	Acetonitrile	ND	20	3.7	ug/l	
107-02-8	Acrolein	ND	20	6.9	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
107-05-1	Allyl chloride	ND	2.0	0.56	ug/l	
71-43-2	Benzene	3.6	1.0	0.21	ug/l	
100-44-7	Benzyl Chloride	ND	2.0	0.38	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.22	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.34	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.20	ug/l	
135-98-8	sec-Butylbenzene	4.5	1.0	0.21	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.29	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.26	ug/l	
544-10-5	1-Chlorohexane	ND	2.0	0.20	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.21	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.20	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.3	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.49	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.31	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.25	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.71	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.30	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.26	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.27	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.25	ug/l	

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:	SD27-MW02-DUP 01		
Lab Sample ID:	FA21-3	**Date Sampled:**	12/12/12
Matrix:	AQ - Ground Water	**Date Received:**	12/15/12
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	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	10	1.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.25	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.20	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.23	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.29	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.50	ug/l	
76-13-1	Freon 113	ND	1.0	0.33	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.50	ug/l	
110-54-3	Hexane	ND	2.0	0.88	ug/l	
98-82-8	Isopropylbenzene	10.8	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	0.38	1.0	0.20	ug/l	J
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.3	ug/l	
126-98-7	Methacrylonitrile	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.79	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.50	ug/l	
74-88-4	Methyl iodide	ND	1.0	0.25	ug/l	
80-62-6	Methyl methacrylate	ND	5.0	0.50	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.34	ug/l	
75-09-2	Methylene chloride	ND	5.0	2.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	3.1	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.21	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
76-01-7	Pentachloroethane [a]	ND	10	1.0	ug/l	
107-12-0	Propionitrile	ND	20	5.0	ug/l	
103-65-1	n-Propylbenzene	14.1	1.0	0.23	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.23	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.24	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.56	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	

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:	SD27-MW02-DUP 01		
Lab Sample ID:	FA21-3	**Date Sampled:**	12/12/12
Matrix:	AQ - Ground Water	**Date Received:**	12/15/12
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	2.0	0.20	ug/l	
108-67-8	1,3,5-Trimethylbenzene	4.7	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.32	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.31	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	10	2.1	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.44	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.1	ug/l	
	m,p-Xylene	ND	2.0	0.30	ug/l	
95-47-6	o-Xylene	ND	1.0	0.20	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		87-116%
17060-07-0	1,2-Dichloroethane-D4	105%		76-127%
2037-26-5	Toluene-D8	102%		86-112%
460-00-4	4-Bromofluorobenzene	103%		84-120%

(a) Associated BS recovery outside control limits.

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:	SD27-MW04		
Lab Sample ID:	FA21-4	**Date Sampled:**	12/12/12
Matrix:	AQ - Ground Water	**Date Received:**	12/15/12
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	P12624.D	1	12/21/12	EG	n/a	n/a	VP495
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone [a]	ND	25	10	ug/l	
75-05-8	Acetonitrile	ND	20	3.7	ug/l	
107-02-8	Acrolein	ND	20	6.9	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
107-05-1	Allyl chloride	ND	2.0	0.56	ug/l	
71-43-2	Benzene	ND	1.0	0.21	ug/l	
100-44-7	Benzyl Chloride	ND	2.0	0.38	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.22	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.34	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.20	ug/l	
135-98-8	sec-Butylbenzene	7.9	1.0	0.21	ug/l	
98-06-6	tert-Butylbenzene	0.63	1.0	0.29	ug/l	J
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.26	ug/l	
544-10-5	1-Chlorohexane	ND	2.0	0.20	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.21	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.20	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.3	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.49	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.31	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.25	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.71	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.30	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.26	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.27	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.25	ug/l	

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:	SD27-MW04		
Lab Sample ID:	FA21-4	**Date Sampled:**	12/12/12
Matrix:	AQ - Ground Water	**Date Received:**	12/15/12
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	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	10	1.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.25	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.20	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.23	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	1.6	1.0	0.29	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.50	ug/l	
76-13-1	Freon 113	ND	1.0	0.33	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.50	ug/l	
110-54-3	Hexane	ND	2.0	0.88	ug/l	
98-82-8	Isopropylbenzene	11.2	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.20	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.3	ug/l	
126-98-7	Methacrylonitrile	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.79	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.50	ug/l	
74-88-4	Methyl iodide	ND	1.0	0.25	ug/l	
80-62-6	Methyl methacrylate	ND	5.0	0.50	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.34	ug/l	
75-09-2	Methylene chloride	ND	5.0	2.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	3.1	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.21	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
76-01-7	Pentachloroethane [a]	ND	10	1.0	ug/l	
107-12-0	Propionitrile	ND	20	5.0	ug/l	
103-65-1	n-Propylbenzene	12.1	1.0	0.23	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.23	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.24	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.56	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	

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:	SD27-MW04		
Lab Sample ID:	FA21-4	**Date Sampled:**	12/12/12
Matrix:	AQ - Ground Water	**Date Received:**	12/15/12
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	2.0	0.20	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.32	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.31	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	10	2.1	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.44	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.1	ug/l	
	m,p-Xylene	ND	2.0	0.30	ug/l	
95-47-6	o-Xylene	0.22	1.0	0.20	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		87-116%
17060-07-0	1,2-Dichloroethane-D4	106%		76-127%
2037-26-5	Toluene-D8	101%		86-112%
460-00-4	4-Bromofluorobenzene	101%		84-120%

(a) Associated BS recovery outside control limits.

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:	SD27-MW01		
Lab Sample ID:	FA21-5	**Date Sampled:**	12/13/12
Matrix:	AQ - Ground Water	**Date Received:**	12/15/12
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	P12636.D	1	12/21/12	EG	n/a	n/a	VP495
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone [a]	ND	25	10	ug/l	
75-05-8	Acetonitrile	ND	20	3.7	ug/l	
107-02-8	Acrolein	ND	20	6.9	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
107-05-1	Allyl chloride	ND	2.0	0.56	ug/l	
71-43-2	Benzene	ND	1.0	0.21	ug/l	
100-44-7	Benzyl Chloride	ND	2.0	0.38	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.22	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.34	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.20	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.21	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.29	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.26	ug/l	
544-10-5	1-Chlorohexane	ND	2.0	0.20	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.21	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.20	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.3	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.49	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.31	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.25	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.71	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.30	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.26	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.27	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.25	ug/l	

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:	SD27-MW01		
Lab Sample ID:	FA21-5	**Date Sampled:**	12/13/12
Matrix:	AQ - Ground Water	**Date Received:**	12/15/12
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	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	10	1.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.25	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.20	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.23	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.29	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.50	ug/l	
76-13-1	Freon 113	ND	1.0	0.33	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.50	ug/l	
110-54-3	Hexane	ND	2.0	0.88	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.20	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.3	ug/l	
126-98-7	Methacrylonitrile	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.79	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.50	ug/l	
74-88-4	Methyl iodide	ND	1.0	0.25	ug/l	
80-62-6	Methyl methacrylate	ND	5.0	0.50	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.34	ug/l	
75-09-2	Methylene chloride	4.0	5.0	2.0	ug/l	J
78-93-3	Methyl ethyl ketone	ND	5.0	3.1	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.21	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
76-01-7	Pentachloroethane [a]	ND	10	1.0	ug/l	
107-12-0	Propionitrile	ND	20	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.23	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.23	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.24	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.56	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	

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:	SD27-MW01		
Lab Sample ID:	FA21-5	**Date Sampled:**	12/13/12
Matrix:	AQ - Ground Water	**Date Received:**	12/15/12
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	2.0	0.20	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.32	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.31	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	10	2.1	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.44	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.1	ug/l	
	m,p-Xylene	ND	2.0	0.30	ug/l	
95-47-6	o-Xylene	ND	1.0	0.20	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		87-116%
17060-07-0	1,2-Dichloroethane-D4	107%		76-127%
2037-26-5	Toluene-D8	102%		86-112%
460-00-4	4-Bromofluorobenzene	103%		84-120%

(a) Associated BS recovery outside control limits.

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:	SD27-MW03		
Lab Sample ID:	FA21-6	**Date Sampled:**	12/13/12
Matrix:	AQ - Ground Water	**Date Received:**	12/15/12
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	P12637.D	1	12/21/12	EG	n/a	n/a	VP495
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone [a]	ND	25	10	ug/l	
75-05-8	Acetonitrile	ND	20	3.7	ug/l	
107-02-8	Acrolein	ND	20	6.9	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
107-05-1	Allyl chloride	ND	2.0	0.56	ug/l	
71-43-2	Benzene	ND	1.0	0.21	ug/l	
100-44-7	Benzyl Chloride	ND	2.0	0.38	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.22	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.34	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.20	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.21	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.29	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.26	ug/l	
544-10-5	1-Chlorohexane	ND	2.0	0.20	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.21	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.20	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.3	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.49	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.31	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.25	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.71	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.30	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.26	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.27	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.25	ug/l	

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:	SD27-MW03		
Lab Sample ID:	FA21-6	**Date Sampled:**	12/13/12
Matrix:	AQ - Ground Water	**Date Received:**	12/15/12
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	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	10	1.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.25	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.20	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.23	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.29	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.50	ug/l	
76-13-1	Freon 113	ND	1.0	0.33	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.50	ug/l	
110-54-3	Hexane	ND	2.0	0.88	ug/l	
98-82-8	Isopropylbenzene	0.28	1.0	0.20	ug/l	J
99-87-6	p-Isopropyltoluene	ND	1.0	0.20	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.3	ug/l	
126-98-7	Methacrylonitrile	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.79	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.50	ug/l	
74-88-4	Methyl iodide	ND	1.0	0.25	ug/l	
80-62-6	Methyl methacrylate	ND	5.0	0.50	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.34	ug/l	
75-09-2	Methylene chloride	ND	5.0	2.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	3.1	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.21	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
76-01-7	Pentachloroethane [a]	ND	10	1.0	ug/l	
107-12-0	Propionitrile	ND	20	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.23	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.23	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.24	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.56	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	

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:	SD27-MW03		
Lab Sample ID:	FA21-6	**Date Sampled:**	12/13/12
Matrix:	AQ - Ground Water	**Date Received:**	12/15/12
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	2.0	0.20	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.32	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.31	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	10	2.1	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.44	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.1	ug/l	
	m,p-Xylene	ND	2.0	0.30	ug/l	
95-47-6	o-Xylene	ND	1.0	0.20	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		87-116%
17060-07-0	1,2-Dichloroethane-D4	107%		76-127%
2037-26-5	Toluene-D8	102%		86-112%
460-00-4	4-Bromofluorobenzene	104%		84-120%

(a) Associated BS recovery outside control limits.

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:	SD27-TB01		
Lab Sample ID:	FA21-7	**Date Sampled:**	12/13/12
Matrix:	AQ - Trip Blank Water	**Date Received:**	12/15/12
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	P12617.D	1	12/21/12	EG	n/a	n/a	VP495
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone [a]	ND	25	10	ug/l	
75-05-8	Acetonitrile	ND	20	3.7	ug/l	
107-02-8	Acrolein	ND	20	6.9	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
107-05-1	Allyl chloride	ND	2.0	0.56	ug/l	
71-43-2	Benzene	ND	1.0	0.21	ug/l	
100-44-7	Benzyl Chloride	ND	2.0	0.38	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.22	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.34	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.20	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.21	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.29	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.26	ug/l	
544-10-5	1-Chlorohexane	ND	2.0	0.20	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.21	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.20	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.3	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.49	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.31	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.25	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.71	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.30	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.26	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.27	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.25	ug/l	

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:	SD27-TB01		
Lab Sample ID:	FA21-7	**Date Sampled:**	12/13/12
Matrix:	AQ - Trip Blank Water	**Date Received:**	12/15/12
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	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	10	1.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.25	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.20	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.23	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.29	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.50	ug/l	
76-13-1	Freon 113	ND	1.0	0.33	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.50	ug/l	
110-54-3	Hexane	ND	2.0	0.88	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.20	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.3	ug/l	
126-98-7	Methacrylonitrile	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.79	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.50	ug/l	
74-88-4	Methyl iodide	ND	1.0	0.25	ug/l	
80-62-6	Methyl methacrylate	ND	5.0	0.50	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.34	ug/l	
75-09-2	Methylene chloride	ND	5.0	2.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	3.1	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.21	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
76-01-7	Pentachloroethane [a]	ND	10	1.0	ug/l	
107-12-0	Propionitrile	ND	20	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.23	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.23	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.24	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.56	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	

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:	SD27-TB01		
Lab Sample ID:	FA21-7	**Date Sampled:**	12/13/12
Matrix:	AQ - Trip Blank Water	**Date Received:**	12/15/12
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	2.0	0.20	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.32	ug/l	
108-88-3	Toluene	0.49	1.0	0.20	ug/l	J
79-01-6	Trichloroethylene	ND	1.0	0.31	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	10	2.1	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.44	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.1	ug/l	
	m,p-Xylene	ND	2.0	0.30	ug/l	
95-47-6	o-Xylene	ND	1.0	0.20	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		87-116%
17060-07-0	1,2-Dichloroethane-D4	100%		76-127%
2037-26-5	Toluene-D8	103%		86-112%
460-00-4	4-Bromofluorobenzene	101%		84-120%

(a) Associated BS recovery outside control limits.

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
- Chain of Custody

Parameter Certification Exceptions

Job Number: FA21
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

The following parameters included in this report are exceptions to NELAC certification.
The certification status of each is indicated below.

Parameter	CAS#	Method	Mat	Certification Status
Freon 113	76-13-1	**SW846 8260B**	AQ	Certified by SOP MS005

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 # FA21 PAGE 1 OF 1

Accutest Quote #

SKIFF#

Client / Reporting Information

Company Name: Tetra Tech
Address: 800 Oak Ridge Tpk
City: Oak Ridge State: TN Zip: 37830
Project Contact: Frank.bosle@tetratech.com E-mail
Phone#: 865-483-9900
Sampler(s) Name(s) (Printed): Allan Jenkins

Project Information

Project Name: HAFB SD-27
Street
City: Alamogordo State: NM
Project #: T93002-1
Fax #
Client Purchase Order #

Analytical Information

VOCs 8260

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 - Wipes

Accutest Sample #	Field ID / Point of Collection	Date	Time	Sampled By	Matrix	Total # of Bottles	Other	None	HCl	NaOH	HNO3	H2SO4	NaOH+ZnAc	DI Water	MeOH	VOCs 8260	Lab Use Only
1	SD27-MW05	12/11/12	1550	AJ	GW	3			✓							X	
2	SD27-MW02	12/12/12	1535			3			✓							X	
3	SD27-MW02-DUP01	12/12/12	1535			3			✓							X	
4	SD27-MW04	12/12/12	1607			3			✓							X	
	SD27-MW04-MS	12/12/12	1607			3			✓							X	
	SD27-MW04-MSD	12/12/12	1607			3			✓							X	
5	SD27-MW01	12/13/12	1102			3			✓							X	
6	SD27-MW03	12/13/12	1127		↓	3			✓							X	
	~~SD27-TB01~~	~~12/11/12~~	~~1550~~	✓	~~W~~	~~3~~			✓							~~X~~	
7	SD27-TB01	12/11/12	0800	AJ	W	2			✓							X	

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 Samples:	Date Time:	Received By:	Relinquished by:	Date Time:	Received By:
1 Allan T. Jenkins	12/14/12	2 Fedx store	3 FX	12-15-12	4 J. Gomez (A 186) 10:30
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: 1 Cooler Temperature (s) Celsius: 2.8

5.2 5

FA21: Chain of Custody
Page 1 of 2

SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: F A 21 CLIENT: TETRA TECH PROJECT: MAFB SD-27

DATE/TIME RECEIVED: 12-15-12 10:20 {MM/DD/YY 24:00} NUMBER OF COOLERS RECEIVED: 1

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

AIRBILL NUMBERS: 8013 5709 0379

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 ? ____

NUMBER OF LAB FILTERED METALS ? ____

TEMPERATURE INFORMATION

- [ ] IR THERM ID 3 CORR. FACTOR +0.4
- [ ] OBSERVED TEMPS: 2.4
- [ ] CORRECTED TEMPS: 2.8

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: Date #7 12-13-12

TECHNICIAN SIGNATURE/DATE [signature] 12-15-12 REVIEWER SIGNATURE/DATE [signature] 12-15-12

NF 12/10

receipt confirmation 122910.xls

5.2

5

FA21: 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

Method Blank Summary

Job Number: FA21
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VP495-MB	P12616.D	1	12/21/12	EG	n/a	n/a	VP495

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

FA21-1, FA21-2, FA21-3, FA21-4, FA21-5, FA21-6, FA21-7

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
75-05-8	Acetonitrile	ND	20	3.7	ug/l	
107-02-8	Acrolein	ND	20	6.9	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
107-05-1	Allyl chloride	ND	2.0	0.56	ug/l	
71-43-2	Benzene	ND	1.0	0.21	ug/l	
100-44-7	Benzyl Chloride	ND	2.0	0.38	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.22	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.34	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.20	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.21	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.29	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.26	ug/l	
544-10-5	1-Chlorohexane	ND	2.0	0.20	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.21	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.20	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.3	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.49	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.31	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.25	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.71	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.30	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.26	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.27	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.25	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.22	ug/l	

Method Blank Summary

Job Number: FA21
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VP495-MB	P12616.D	1	12/21/12	EG	n/a	n/a	VP495

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

FA21-1, FA21-2, FA21-3, FA21-4, FA21-5, FA21-6, FA21-7

CAS No.	Compound	Result	RL	MDL	Units	Q
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	10	1.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.25	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.20	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.23	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.29	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.50	ug/l	
76-13-1	Freon 113	ND	1.0	0.33	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.50	ug/l	
110-54-3	Hexane	ND	2.0	0.88	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.20	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.3	ug/l	
126-98-7	Methacrylonitrile	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.79	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.50	ug/l	
74-88-4	Methyl iodide	ND	1.0	0.25	ug/l	
80-62-6	Methyl methacrylate	ND	5.0	0.50	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.34	ug/l	
75-09-2	Methylene chloride	ND	5.0	2.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	3.1	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.21	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
76-01-7	Pentachloroethane	ND	10	1.0	ug/l	
107-12-0	Propionitrile	ND	20	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.23	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.23	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.24	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.56	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	

Method Blank Summary

Job Number: FA21
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VP495-MB	P12616.D	1	12/21/12	EG	n/a	n/a	VP495

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

FA21-1, FA21-2, FA21-3, FA21-4, FA21-5, FA21-6, FA21-7

CAS No.	Compound	Result	RL	MDL	Units	Q
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.20	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.32	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.31	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	10	2.1	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.44	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.1	ug/l	
	m,p-Xylene	ND	2.0	0.30	ug/l	
95-47-6	o-Xylene	ND	1.0	0.20	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	102%	87-116%
17060-07-0	1,2-Dichloroethane-D4	102%	76-127%
2037-26-5	Toluene-D8	103%	86-112%
460-00-4	4-Bromofluorobenzene	101%	84-120%

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

Method Blank Summary

Job Number: FA21
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VP497-MB	P12674.D	1	12/23/12	JG	n/a	n/a	VP497

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

FA21-1

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.29	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	106%	87-116%
17060-07-0	1,2-Dichloroethane-D4	110%	76-127%
2037-26-5	Toluene-D8	100%	86-112%
460-00-4	4-Bromofluorobenzene	103%	84-120%

Blank Spike Summary

Job Number: FA21
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VP495-BS	P12615.D	1	12/21/12	EG	n/a	n/a	VP495

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

FA21-1, FA21-2, FA21-3, FA21-4, FA21-5, FA21-6, FA21-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	125	173	138*	59-134
75-05-8	Acetonitrile	250	249	100	57-123
107-02-8	Acrolein	125	81.0	65	33-157
107-13-1	Acrylonitrile	125	112	90	62-124
107-05-1	Allyl chloride	25	28.5	114	48-136
71-43-2	Benzene	25	27.3	109	83-124
100-44-7	Benzyl Chloride	25	24.5	98	61-118
108-86-1	Bromobenzene	25	25.6	102	83-115
74-97-5	Bromochloromethane	25	25.2	101	78-112
75-27-4	Bromodichloromethane	25	26.3	105	76-116
75-25-2	Bromoform	25	23.3	93	68-128
104-51-8	n-Butylbenzene	25	28.0	112	84-124
135-98-8	sec-Butylbenzene	25	30.4	122	86-127
98-06-6	tert-Butylbenzene	25	29.4	118	83-126
108-90-7	Chlorobenzene	25	27.4	110	87-115
75-00-3	Chloroethane	25	24.3	97	54-166
67-66-3	Chloroform	25	25.8	103	85-123
544-10-5	1-Chlorohexane	25	25.6	102	87-128
95-49-8	o-Chlorotoluene	25	28.7	115	84-121
106-43-4	p-Chlorotoluene	25	29.3	117	84-120
110-75-8	2-Chloroethyl vinyl ether	125	89.9	72	63-125
75-15-0	Carbon disulfide	25	28.7	115	67-147
56-23-5	Carbon tetrachloride	25	28.1	112	74-139
75-34-3	1,1-Dichloroethane	25	26.7	107	82-127
75-35-4	1,1-Dichloroethylene	25	28.5	114	75-133
563-58-6	1,1-Dichloropropene	25	28.4	114	87-127
96-12-8	1,2-Dibromo-3-chloropropane	25	23.8	95	61-118
106-93-4	1,2-Dibromoethane	25	25.6	102	80-115
107-06-2	1,2-Dichloroethane	25	25.8	103	76-122
78-87-5	1,2-Dichloropropane	25	26.1	104	81-120
142-28-9	1,3-Dichloropropane	25	24.1	96	81-113
594-20-7	2,2-Dichloropropane	25	28.0	112	77-138
124-48-1	Dibromochloromethane	25	26.0	104	74-116
75-71-8	Dichlorodifluoromethane	25	27.7	111	34-158
156-59-2	cis-1,2-Dichloroethylene	25	26.1	104	81-114
10061-01-5	cis-1,3-Dichloropropene	25	24.7	99	83-119

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA21
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VP495-BS	P12615.D	1	12/21/12	EG	n/a	n/a	VP495

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

FA21-1, FA21-2, FA21-3, FA21-4, FA21-5, FA21-6, FA21-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
1476-11-5	cis-1,4-Dichloro-2-Butene	25	27.0	108	41-130
541-73-1	m-Dichlorobenzene	25	28.6	114	86-115
95-50-1	o-Dichlorobenzene	25	27.2	109	85-115
106-46-7	p-Dichlorobenzene	25	25.5	102	87-113
156-60-5	trans-1,2-Dichloroethylene	25	26.9	108	82-126
10061-02-6	trans-1,3-Dichloropropene	25	25.9	104	87-123
100-41-4	Ethylbenzene	25	27.5	110	87-118
97-63-2	Ethyl methacrylate	25	25.1	100	68-110
76-13-1	Freon 113	25	26.1	104	74-139
591-78-6	2-Hexanone	125	128	102	58-125
87-68-3	Hexachlorobutadiene	25	29.4	118	71-133
110-54-3	Hexane	25	25.7	103	71-134
98-82-8	Isopropylbenzene	25	30.3	121	87-131
99-87-6	p-Isopropyltoluene	25	29.9	120	83-125
108-10-1	4-Methyl-2-pentanone	125	119	95	62-125
126-98-7	Methacrylonitrile	250	270	108	62-133
74-83-9	Methyl bromide	25	23.5	94	55-151
74-87-3	Methyl chloride	25	24.1	96	55-173
74-88-4	Methyl iodide	25	25.1	100	72-125
80-62-6	Methyl methacrylate	25	27.6	110	63-115
74-95-3	Methylene bromide	25	24.7	99	81-116
75-09-2	Methylene chloride	25	25.0	100	69-125
78-93-3	Methyl ethyl ketone	125	126	101	61-127
1634-04-4	Methyl Tert Butyl Ether	25	23.5	94	75-116
91-20-3	Naphthalene	25	25.6	102	59-125
76-01-7	Pentachloroethane	25	31.0	124*	82-111
107-12-0	Propionitrile	250	252	101	69-119
103-65-1	n-Propylbenzene	25	29.3	117	86-125
100-42-5	Styrene	25	27.0	108	78-118
630-20-6	1,1,1,2-Tetrachloroethane	25	27.6	110	81-119
71-55-6	1,1,1-Trichloroethane	25	27.7	111	79-133
79-34-5	1,1,2,2-Tetrachloroethane	25	23.8	95	71-120
79-00-5	1,1,2-Trichloroethane	25	25.1	100	80-114
87-61-6	1,2,3-Trichlorobenzene	25	25.2	101	64-126
96-18-4	1,2,3-Trichloropropane	25	24.5	98	77-115
120-82-1	1,2,4-Trichlorobenzene	25	26.7	107	68-123

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA21
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VP495-BS	P12615.D	1	12/21/12	EG	n/a	n/a	VP495

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

FA21-1, FA21-2, FA21-3, FA21-4, FA21-5, FA21-6, FA21-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
95-63-6	1,2,4-Trimethylbenzene	25	27.2	109	82-120
108-67-8	1,3,5-Trimethylbenzene	25	27.0	108	83-123
127-18-4	Tetrachloroethylene	25	27.5	110	80-131
108-88-3	Toluene	25	26.4	106	86-116
79-01-6	Trichloroethylene	25	28.0	112	85-124
75-69-4	Trichlorofluoromethane	25	26.7	107	66-156
110-57-6	Trans-1,4-Dichloro-2-Butene	25	25.3	101	51-137
75-01-4	Vinyl chloride	25	28.2	113	57-153
108-05-4	Vinyl Acetate	125	125	100	38-159
	m,p-Xylene	50	57.8	116	86-121
95-47-6	o-Xylene	25	28.5	114	83-121

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	103%	87-116%
17060-07-0	1,2-Dichloroethane-D4	102%	76-127%
2037-26-5	Toluene-D8	101%	86-112%
460-00-4	4-Bromofluorobenzene	100%	84-120%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA21
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VP497-BS	P12673.D	1	12/23/12	JG	n/a	n/a	VP497

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

FA21-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	25.8	103	83-124
100-41-4	Ethylbenzene	25	26.1	104	87-118

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	102%	87-116%
17060-07-0	1,2-Dichloroethane-D4	107%	76-127%
2037-26-5	Toluene-D8	103%	86-112%
460-00-4	4-Bromofluorobenzene	100%	84-120%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA21
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA21-4MS	P12639.D	1	12/21/12	EG	n/a	n/a	VP495
FA21-4MSD	P12640.D	1	12/21/12	EG	n/a	n/a	VP495
FA21-4	P12624.D	1	12/21/12	EG	n/a	n/a	VP495

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

FA21-1, FA21-2, FA21-3, FA21-4, FA21-5, FA21-6, FA21-7

CAS No.	Compound	FA21-4 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		125	118	94	126	101	7	59-134/14
75-05-8	Acetonitrile	ND		250	222	89	211	84	5	57-123/15
107-02-8	Acrolein	ND		125	25.4	20*	29.6	24*	15	33-157/21
107-13-1	Acrylonitrile	ND		125	111	89	116	93	4	62-124/13
107-05-1	Allyl chloride	ND		25	21.7	87	20.6	82	5	48-136/13
71-43-2	Benzene	ND		25	25.8	103	25.2	101	2	83-124/11
100-44-7	Benzyl Chloride	ND		25	23.9	96	22.5	90	6	61-118/12
108-86-1	Bromobenzene	ND		25	23.9	96	23.7	95	1	83-115/10
74-97-5	Bromochloromethane	ND		25	24.1	96	23.4	94	3	78-112/10
75-27-4	Bromodichloromethane	ND		25	25.4	102	23.3	93	9	76-116/10
75-25-2	Bromoform	ND		25	22.7	91	22.5	90	1	68-128/11
104-51-8	n-Butylbenzene	ND		25	26.2	105	25.3	101	3	84-124/10
135-98-8	sec-Butylbenzene	7.9		25	40.4	130*	39.0	124	4	86-127/10
98-06-6	tert-Butylbenzene	0.63	J	25	29.9	117	29.0	113	3	83-126/10
108-90-7	Chlorobenzene	ND		25	26.2	105	26.2	105	0	87-115/9
75-00-3	Chloroethane	ND		25	28.8	115	31.8	127	10	54-166/20
67-66-3	Chloroform	ND		25	25.2	101	24.9	100	1	85-123/10
544-10-5	1-Chlorohexane	ND		25	24.0	96	24.2	97	1	87-128/10
95-49-8	o-Chlorotoluene	ND		25	27.6	110	26.4	106	4	84-121/10
106-43-4	p-Chlorotoluene	ND		25	28.3	113	27.4	110	3	84-120/10
110-75-8	2-Chloroethyl vinyl ether	ND		125	ND	0*	ND	0*	nc	63-125/24
75-15-0	Carbon disulfide	ND		25	24.1	96	22.7	91	6	67-147/12
56-23-5	Carbon tetrachloride	ND		25	27.3	109	25.0	100	9	74-139/13
75-34-3	1,1-Dichloroethane	ND		25	25.0	100	25.0	100	0	82-127/10
75-35-4	1,1-Dichloroethylene	ND		25	25.8	103	25.4	102	2	75-133/13
563-58-6	1,1-Dichloropropene	ND		25	27.1	108	26.2	105	3	87-127/10
96-12-8	1,2-Dibromo-3-chloropropane	ND		25	28.9	116	28.2	113	2	61-118/15
106-93-4	1,2-Dibromoethane	ND		25	25.2	101	25.0	100	1	80-115/10
107-06-2	1,2-Dichloroethane	ND		25	25.8	103	25.7	103	0	76-122/11
78-87-5	1,2-Dichloropropane	ND		25	24.8	99	24.2	97	2	81-120/11
142-28-9	1,3-Dichloropropane	ND		25	23.9	96	24.1	96	1	81-113/11
594-20-7	2,2-Dichloropropane	ND		25	24.9	100	24.7	99	1	77-138/12
124-48-1	Dibromochloromethane	ND		25	24.3	97	23.5	94	3	74-116/11
75-71-8	Dichlorodifluoromethane	ND		25	27.1	108	31.5	126	15	34-158/22
156-59-2	cis-1,2-Dichloroethylene	ND		25	25.0	100	24.3	97	3	81-114/10
10061-01-5	cis-1,3-Dichloropropene	ND		25	21.0	84	19.8	79*	6	83-119/10

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA21
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA21-4MS	P12639.D	1	12/21/12	EG	n/a	n/a	VP495
FA21-4MSD	P12640.D	1	12/21/12	EG	n/a	n/a	VP495
FA21-4	P12624.D	1	12/21/12	EG	n/a	n/a	VP495

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

FA21-1, FA21-2, FA21-3, FA21-4, FA21-5, FA21-6, FA21-7

CAS No.	Compound	FA21-4 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
1476-11-5	cis-1,4-Dichloro-2-Butene	ND		25	14.1	56	11.6	46	19	41-130/33
541-73-1	m-Dichlorobenzene	ND		25	26.7	107	26.4	106	1	86-115/9
95-50-1	o-Dichlorobenzene	ND		25	26.4	106	26.5	106	0	85-115/9
106-46-7	p-Dichlorobenzene	ND		25	24.6	98	23.7	95	4	87-113/10
156-60-5	trans-1,2-Dichloroethylene	ND		25	25.1	100	24.7	99	2	82-126/10
10061-02-6	trans-1,3-Dichloropropene	ND		25	22.6	90	21.5	86*	5	87-123/10
100-41-4	Ethylbenzene	1.6		25	28.3	107	27.8	105	2	87-118/10
97-63-2	Ethyl methacrylate	ND		25	25.2	101	25.2	101	0	68-110/11
76-13-1	Freon 113	ND		25	23.8	95	23.1	92	3	74-139/13
591-78-6	2-Hexanone	ND		125	141	113	154	123	9	58-125/14
87-68-3	Hexachlorobutadiene	ND		25	25.8	103	25.9	104	0	71-133/12
110-54-3	Hexane	ND		25	21.6	86	21.9	88	1	71-134/11
98-82-8	Isopropylbenzene	11.2		25	44.8	134*	46.5	141*	4	87-131/10
99-87-6	p-Isopropyltoluene	ND		25	28.6	114	27.4	110	4	83-125/9
108-10-1	4-Methyl-2-pentanone	ND		125	141	113	150	120	6	62-125/13
126-98-7	Methacrylonitrile	ND		250	250	100	248	99	1	62-133/17
74-83-9	Methyl bromide	ND		25	26.4	106	28.2	113	7	55-151/21
74-87-3	Methyl chloride	ND		25	30.4	122	31.3	125	3	55-173/22
74-88-4	Methyl iodide	ND		25	22.5	90	22.2	89	1	72-125/11
80-62-6	Methyl methacrylate	ND		25	28.6	114	28.2	113	1	63-115/10
74-95-3	Methylene bromide	ND		25	24.5	98	24.7	99	1	81-116/10
75-09-2	Methylene chloride	ND		25	24.5	98	24.4	98	0	69-125/11
78-93-3	Methyl ethyl ketone	ND		125	125	100	134	107	7	61-127/13
1634-04-4	Methyl Tert Butyl Ether	ND		25	23.0	92	23.8	95	3	75-116/10
91-20-3	Naphthalene	ND		25	31.3	125	30.5	122	3	59-125/15
76-01-7	Pentachloroethane	ND		25	28.2	113*	26.3	105	7	82-111/8
107-12-0	Propionitrile	ND		250	249	100	251	100	1	69-119/12
103-65-1	n-Propylbenzene	12.1		25	44.5	130*	42.3	121	5	86-125/10
100-42-5	Styrene	ND		25	20.9	84	19.4	78	7	78-118/11
630-20-6	1,1,1,2-Tetrachloroethane	ND		25	26.3	105	25.8	103	2	81-119/10
71-55-6	1,1,1-Trichloroethane	ND		25	26.9	108	26.7	107	1	79-133/11
79-34-5	1,1,2,2-Tetrachloroethane	ND		25	26.1	104	25.3	101	3	71-120/11
79-00-5	1,1,2-Trichloroethane	ND		25	26.7	107	25.8	103	3	80-114/11
87-61-6	1,2,3-Trichlorobenzene	ND		25	25.4	102	24.9	100	2	64-126/16
96-18-4	1,2,3-Trichloropropane	ND		25	25.9	104	26.0	104	0	77-115/12
120-82-1	1,2,4-Trichlorobenzene	ND		25	26.5	106	26.5	106	0	68-123/11

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA21
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA21-4MS	P12639.D	1	12/21/12	EG	n/a	n/a	VP495
FA21-4MSD	P12640.D	1	12/21/12	EG	n/a	n/a	VP495
FA21-4	P12624.D	1	12/21/12	EG	n/a	n/a	VP495

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

FA21-1, FA21-2, FA21-3, FA21-4, FA21-5, FA21-6, FA21-7

CAS No.	Compound	FA21-4 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
95-63-6	1,2,4-Trimethylbenzene	ND		25	26.3	105	25.1	100	5	82-120/10
108-67-8	1,3,5-Trimethylbenzene	ND		25	26.7	107	25.4	102	5	83-123/10
127-18-4	Tetrachloroethylene	ND		25	25.2	101	24.8	99	2	80-131/12
108-88-3	Toluene	ND		25	25.3	101	25.1	100	1	86-116/10
79-01-6	Trichloroethylene	ND		25	26.4	106	27.0	108	2	85-124/10
75-69-4	Trichlorofluoromethane	ND		25	27.5	110	28.7	115	4	66-156/15
110-57-6	Trans-1,4-Dichloro-2-Butene	ND		25	19.4	78	17.2	69	12	51-137/24
75-01-4	Vinyl chloride	ND		25	34.3	137	34.5	138	1	57-153/22
108-05-4	Vinyl Acetate	ND		125	134	107	135	108	1	38-159/11
	m,p-Xylene	ND		50	54.9	110	54.6	109	1	86-121/10
95-47-6	o-Xylene	0.22	J	25	28.0	111	28.7	114	2	83-121/10

CAS No.	Surrogate Recoveries	MS	MSD	FA21-4	Limits
1868-53-7	Dibromofluoromethane	103%	101%	103%	87-116%
17060-07-0	1,2-Dichloroethane-D4	105%	106%	106%	76-127%
2037-26-5	Toluene-D8	100%	101%	101%	86-112%
460-00-4	4-Bromofluorobenzene	100%	102%	101%	84-120%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA21
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F99901-2MS	P12678.D	20	12/23/12	JG	n/a	n/a	VP497
F99901-2MSD	P12679.D	20	12/23/12	JG	n/a	n/a	VP497
F99901-2	P12677.D	20	12/23/12	JG	n/a	n/a	VP497

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

FA21-1

CAS No.	Compound	F99901-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		500	513	103	495	99	4	83-124/11
100-41-4	Ethylbenzene	ND		500	523	105	504	101	4	87-118/10

CAS No.	Surrogate Recoveries	MS	MSD	F99901-2	Limits
1868-53-7	Dibromofluoromethane	106%	105%	104%	87-116%
17060-07-0	1,2-Dichloroethane-D4	111%	110%	109%	76-127%
2037-26-5	Toluene-D8	99%	100%	101%	86-112%
460-00-4	4-Bromofluorobenzene	101%	101%	101%	84-120%

* = Outside of Control Limits.

Instrument Performance Check (BFB)

Job Number: FA21
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VP494-BFB
Lab File ID: P12586.D
Instrument ID: GCMSP
Injection Date: 12/20/12
Injection Time: 13:23

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	36426	20.6		Pass
75	30.0 - 60.0% of mass 95	88789	50.2		Pass
95	Base peak, 100% relative abundance	176832	100.0		Pass
96	5.0 - 9.0% of mass 95	11735	6.64		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 100.0% of mass 95	145045	82.0		Pass
175	5.0 - 9.0% of mass 174	10737	6.07	(7.40) [a]	Pass
176	95.0 - 101.0% of mass 174	138554	78.4	(95.5) [a]	Pass
177	5.0 - 9.0% of mass 176	9445	5.34	(6.82) [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
VP494-IC494	P12587.D	12/20/12	13:43	00:20	Initial cal 1
VP494-IC494	P12588.D	12/20/12	14:05	00:42	Initial cal 2
VP494-IC494	P12589.D	12/20/12	14:28	01:05	Initial cal 3
VP494-ICC494	P12590.D	12/20/12	14:51	01:28	Initial cal 4
VP494-IC494	P12591.D	12/20/12	15:18	01:55	Initial cal 5
VP494-IC494	P12592.D	12/20/12	15:41	02:18	Initial cal 6
VP494-ICV494	P12594.D	12/20/12	17:00	03:37	Initial cal verification 4
VP494-BS	P12596.D	12/20/12	18:04	04:41	Blank Spike
VP494-MB	P12598.D	12/20/12	18:50	05:27	Method Blank
ZZZZZZ	P12599.D	12/20/12	19:12	05:49	(unrelated sample)
ZZZZZZ	P12600.D	12/20/12	19:35	06:12	(unrelated sample)
ZZZZZZ	P12601.D	12/20/12	19:58	06:35	(unrelated sample)
ZZZZZZ	P12602.D	12/20/12	20:20	06:57	(unrelated sample)
ZZZZZZ	P12603.D	12/20/12	20:43	07:20	(unrelated sample)
ZZZZZZ	P12604.D	12/20/12	21:06	07:43	(unrelated sample)
ZZZZZZ	P12605.D	12/20/12	21:29	08:06	(unrelated sample)
ZZZZZZ	P12606.D	12/20/12	21:52	08:29	(unrelated sample)
F99809-35	P12607.D	12/20/12	22:14	08:51	(used for QC only; not part of job FA21)
F99809-35MS	P12608.D	12/20/12	22:37	09:14	Matrix Spike
F99809-35MSD	P12609.D	12/20/12	23:00	09:37	Matrix Spike Duplicate

Instrument Performance Check (BFB)

Job Number: FA21
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VP495-BFB
Lab File ID: P12613.D
Instrument ID: GCMSP
Injection Date: 12/21/12
Injection Time: 08:40

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	37509	21.8		Pass
75	30.0 - 60.0% of mass 95	88640	51.5		Pass
95	Base peak, 100% relative abundance	172160	100.0		Pass
96	5.0 - 9.0% of mass 95	11607	6.74		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 100.0% of mass 95	132741	77.1		Pass
175	5.0 - 9.0% of mass 174	9921	5.76	(7.47) [a]	Pass
176	95.0 - 101.0% of mass 174	130538	75.8	(98.3) [a]	Pass
177	5.0 - 9.0% of mass 176	9093	5.28	(6.97) [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
VP495-CC494	P12614.D	12/21/12	09:00	00:20	Continuing cal 4
VP495-BS	P12615.D	12/21/12	09:32	00:52	Blank Spike
VP495-MB	P12616.D	12/21/12	10:17	01:37	Method Blank
FA21-7	P12617.D	12/21/12	11:00	02:20	SD27-TB01
ZZZZZZ	P12618.D	12/21/12	11:25	02:45	(unrelated sample)
F99901-4	P12619.D	12/21/12	11:56	03:16	(used for QC only; not part of job FA21)
ZZZZZZ	P12620.D	12/21/12	12:18	03:38	(unrelated sample)
ZZZZZZ	P12622.D	12/21/12	12:41	04:01	(unrelated sample)
ZZZZZZ	P12621.D	12/21/12	13:04	04:24	(unrelated sample)
ZZZZZZ	P12623.D	12/21/12	13:27	04:47	(unrelated sample)
FA21-4	P12624.D	12/21/12	13:50	05:10	SD27-MW04
F99901-4MS	P12625.D	12/21/12	14:17	05:37	Matrix Spike
F99901-4MSD	P12626.D	12/21/12	14:40	06:00	Matrix Spike Duplicate
ZZZZZZ	P12627.D	12/21/12	15:02	06:22	(unrelated sample)
ZZZZZZ	P12628.D	12/21/12	15:25	06:45	(unrelated sample)
ZZZZZZ	P12629.D	12/21/12	15:48	07:08	(unrelated sample)
ZZZZZZ	P12630.D	12/21/12	16:10	07:30	(unrelated sample)
ZZZZZZ	P12631.D	12/21/12	16:33	07:53	(unrelated sample)
ZZZZZZ	P12632.D	12/21/12	16:56	08:16	(unrelated sample)
FA21-1	P12633.D	12/21/12	17:19	08:39	SD27-MW05
FA21-2	P12634.D	12/21/12	17:41	09:01	SD27-MW02
FA21-3	P12635.D	12/21/12	18:04	09:24	SD27-MW02-DUP 01
FA21-5	P12636.D	12/21/12	18:27	09:47	SD27-MW01
FA21-6	P12637.D	12/21/12	18:49	10:09	SD27-MW03

Instrument Performance Check (BFB)

Job Number: FA21
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VP495-BFB
Lab File ID: P12613.D
Instrument ID: GCMSP
Injection Date: 12/21/12
Injection Time: 08:40

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
ZZZZZZ	P12638.D	12/21/12	19:12	10:32	(unrelated sample)
FA21-4MS	P12639.D	12/21/12	19:35	10:55	Matrix Spike
FA21-4MSD	P12640.D	12/21/12	19:57	11:17	Matrix Spike Duplicate

Instrument Performance Check (BFB)

Job Number: FA21
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VP497-BFB
Lab File ID: P12670.D
Instrument ID: GCMSP
Injection Date: 12/23/12
Injection Time: 09:24

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	34424	21.7		Pass
75	30.0 - 60.0% of mass 95	82797	52.1		Pass
95	Base peak, 100% relative abundance	158890	100.0		Pass
96	5.0 - 9.0% of mass 95	10487	6.60		Pass
173	Less than 2.0% of mass 174	678	0.43	(0.56) [a]	Pass
174	50.0 - 100.0% of mass 95	120888	76.1		Pass
175	5.0 - 9.0% of mass 174	9122	5.74	(7.55) [a]	Pass
176	95.0 - 101.0% of mass 174	115501	72.7	(95.5) [a]	Pass
177	5.0 - 9.0% of mass 176	6979	4.39	(6.04) [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
VP497-CC494	P12672.D	12/23/12	10:33	01:09	Continuing cal 4
VP497-BS	P12673.D	12/23/12	11:08	01:44	Blank Spike
VP497-MB	P12674.D	12/23/12	11:30	02:06	Method Blank
ZZZZZZ	P12675.D	12/23/12	12:12	02:48	(unrelated sample)
ZZZZZZ	P12676.D	12/23/12	12:34	03:10	(unrelated sample)
F99901-2	P12677.D	12/23/12	13:13	03:49	(used for QC only; not part of job FA21)
F99901-2MS	P12678.D	12/23/12	13:35	04:11	Matrix Spike
F99901-2MSD	P12679.D	12/23/12	13:58	04:34	Matrix Spike Duplicate
FA21-1	P12680.D	12/23/12	14:21	04:57	SD27-MW05
ZZZZZZ	P12681.D	12/23/12	14:44	05:20	(unrelated sample)
ZZZZZZ	P12682.D	12/23/12	15:07	05:43	(unrelated sample)
ZZZZZZ	P12683.D	12/23/12	15:30	06:06	(unrelated sample)
ZZZZZZ	P12684.D	12/23/12	15:52	06:28	(unrelated sample)
ZZZZZZ	P12685.D	12/23/12	16:15	06:51	(unrelated sample)
ZZZZZZ	P12686.D	12/23/12	16:38	07:14	(unrelated sample)
ZZZZZZ	P12687.D	12/23/12	17:01	07:37	(unrelated sample)
ZZZZZZ	P12688.D	12/23/12	17:24	08:00	(unrelated sample)
ZZZZZZ	P12689.D	12/23/12	17:46	08:22	(unrelated sample)
ZZZZZZ	P12690.D	12/23/12	18:09	08:45	(unrelated sample)
ZZZZZZ	P12691.D	12/23/12	18:32	09:08	(unrelated sample)
ZZZZZZ	P12692.D	12/23/12	18:55	09:31	(unrelated sample)
ZZZZZZ	P12693.D	12/23/12	19:18	09:54	(unrelated sample)
ZZZZZZ	P12694.D	12/23/12	19:40	10:16	(unrelated sample)
ZZZZZZ	P12695.D	12/23/12	20:03	10:39	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: FA21
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample:	VP497-BFB	**Injection Date:**	12/23/12
Lab File ID:	P12670.D	**Injection Time:**	09:24
Instrument ID:	GCMSP		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
ZZZZZZ	P12696.D	12/23/12	20:26	11:02	(unrelated sample)

Volatile Internal Standard Area Summary

Job Number: FA21
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Check Std:	VP495-CC494	**Injection Date:**	12/21/12
Lab File ID:	P12614.D	**Injection Time:**	09:00
Instrument ID:	GCMSP	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
Initial Cal [a]	825794	7.50	633545	10.60	357735	12.96	95864	5.09
Check Std [b]	773581	7.50	586667	10.60	336661	12.96	89298	5.09
Upper Limit [c]	1547162	8.00	1173334	11.10	673322	13.46	178596	5.59
Lower Limit [d]	386791	7.00	293334	10.10	168331	12.46	44649	4.59

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
VP495-BS	774684	7.50	596511	10.60	334247	12.96	90241	5.09
VP495-MB	772579	7.50	563588	10.60	307383	12.96	89713	5.10
FA21-7	757333	7.50	559290	10.60	306889	12.96	67898	5.08
ZZZZZZ	738767	7.50	547515	10.60	299260	12.96	66654	5.09
F99901-4	738046	7.50	548594	10.60	303478	12.96	74301	5.09
ZZZZZZ	733653	7.50	546592	10.60	297303	12.96	76881	5.09
ZZZZZZ	715079	7.50	539119	10.60	293508	12.96	80645	5.08
ZZZZZZ	697047	7.51	533023	10.60	287426	12.96	79710	5.09
ZZZZZZ	715784	7.50	534827	10.60	294301	12.96	99077	5.09
FA21-4	706124	7.51	540946	10.60	304855	12.96	98223	5.09
F99901-4MS	729770	7.51	565062	10.60	315535	12.96	81071	5.09
F99901-4MSD	742241	7.50	569146	10.60	319392	12.96	94835	5.09
ZZZZZZ	722362	7.50	546014	10.60	295469	12.96	78670	5.08
ZZZZZZ	720221	7.51	541075	10.60	290684	12.96	78859	5.09
ZZZZZZ	717205	7.50	544669	10.60	296002	12.96	76384	5.09
ZZZZZZ	702346	7.50	536692	10.60	291568	12.96	74575	5.09
ZZZZZZ	703578	7.50	531050	10.60	287642	12.96	74348	5.09
ZZZZZZ	702521	7.50	531258	10.60	291103	12.96	76025	5.09
FA21-1	680442	7.51	510932	10.60	286906	12.96	88782	5.10
FA21-2	708449	7.50	540974	10.60	300976	12.96	97647	5.08
FA21-3	709656	7.51	542220	10.60	299844	12.96	93953	5.09
FA21-5	704840	7.50	534095	10.60	297268	12.96	97868	5.08
FA21-6	701203	7.50	530259	10.60	287574	12.96	93399	5.09
ZZZZZZ	717032	7.50	541936	10.60	302148	12.96	109149	5.10
FA21-4MS	698301	7.50	539663	10.60	299176	12.96	92401	5.09
FA21-4MSD	703449	7.50	544330	10.60	325428	12.96	105866	5.08

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

(a) Initial Cal is: VP494-ICC494 P12590.D 12/20/12 14:51

Volatile Internal Standard Area Summary

Job Number: FA21
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Check Std:	VP495-CC494	**Injection Date:**	12/21/12
Lab File ID:	P12614.D	**Injection Time:**	09:00
Instrument ID:	GCMSP	**Method:**	SW846 8260B

Lab	IS 1		IS 2		IS 3		IS 4	
Sample ID	**AREA**	**RT**	**AREA**	**RT**	**AREA**	**RT**	**AREA**	**RT**

(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: FA21
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Check Std:	VP497-CC494	**Injection Date:**	12/23/12
Lab File ID:	P12672.D	**Injection Time:**	10:33
Instrument ID:	GCMSP	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
Initial Cal [a]	825794	7.50	633545	10.60	357735	12.96	95864	5.09
Check Std [b]	690810	7.50	543802	10.60	317336	12.96	80100	5.09
Upper Limit [c]	1381620	8.00	1087604	11.10	634672	13.46	160200	5.59
Lower Limit [d]	345405	7.00	271901	10.10	158668	12.46	40050	4.59

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
VP497-BS	640852	7.50	498006	10.60	280674	12.96	72448	5.09
VP497-MB	624733	7.50	484871	10.60	261262	12.96	68809	5.09
ZZZZZZ	624403	7.50	479338	10.60	258141	12.96	71214	5.08
ZZZZZZ	598772	7.50	464074	10.60	252380	12.96	69699	5.09
F99901-2	595883	7.50	463913	10.60	254596	12.96	93491	5.09
F99901-2MS	542937	7.50	442586	10.60	255989	12.96	57007	5.08
F99901-2MSD	546841	7.50	435948	10.60	251999	12.96	63033	5.09
FA21-1	538966	7.50	421583	10.60	239870	12.96	59420	5.09
ZZZZZZ	530836	7.50	404940	10.60	226042	12.96	55440	5.10
ZZZZZZ	522748	7.50	405015	10.60	229459	12.96	54452	5.08
ZZZZZZ	523280	7.50	396627	10.60	231972	12.96	53149	5.09
ZZZZZZ	547684	7.50	536303	10.60	289491	12.96	74047	5.09
ZZZZZZ	511781	7.50	388919	10.60	232689	12.96	55178	5.10
ZZZZZZ	489879	7.50	390378	10.60	219626	12.96	48764	5.09
ZZZZZZ	502404	7.50	385262	10.60	220273	12.96	46893	5.09
ZZZZZZ	493442	7.50	385298	10.60	223477	12.96	49683	5.09
ZZZZZZ	485759	7.50	379387	10.60	219721	12.96	48260	5.08
ZZZZZZ	496188	7.50	390793	10.60	215456	12.96	50939	5.10
ZZZZZZ	488442	7.50	376741	10.60	210532	12.96	50154	5.09
ZZZZZZ	485786	7.50	378843	10.60	219346	12.96	51987	5.08
ZZZZZZ	484960	7.50	378278	10.60	212252	12.96	53490	5.09
ZZZZZZ	488732	7.50	378292	10.60	211868	12.96	49687	5.09
ZZZZZZ	482598	7.50	377962	10.60	218323	12.96	50931	5.10
ZZZZZZ	478013	7.50	381564	10.60	214333	12.96	49536	5.09

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

(a) Initial Cal is: VP494-ICC494 P12590.D 12/20/12 14:51
(b) Check Std Limit = -50 to + 100% of initial cal area.
(c) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.

Volatile Internal Standard Area Summary

Job Number: FA21
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Check Std:	VP497-CC494	**Injection Date:**	12/23/12
Lab File ID:	P12672.D	**Injection Time:**	10:33
Instrument ID:	GCMSP	**Method:**	SW846 8260B

Lab	IS 1		IS 2		IS 3		IS 4	
Sample ID	**AREA**	**RT**	**AREA**	**RT**	**AREA**	**RT**	**AREA**	**RT**

(d) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Volatile Surrogate Recovery Summary

Job Number: FA21
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Method: SW846 8260B **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
FA21-1	P12680.D	106.0	111.0	100.0	103.0
FA21-1	P12633.D	101.0	105.0	100.0	101.0
FA21-2	P12634.D	102.0	106.0	102.0	104.0
FA21-3	P12635.D	103.0	105.0	102.0	103.0
FA21-4	P12624.D	103.0	106.0	101.0	101.0
FA21-5	P12636.D	105.0	107.0	102.0	103.0
FA21-6	P12637.D	104.0	107.0	102.0	104.0
FA21-7	P12617.D	102.0	100.0	103.0	101.0
F99901-2MS	P12678.D	106.0	111.0	99.0	101.0
F99901-2MSD	P12679.D	105.0	110.0	100.0	101.0
FA21-4MS	P12639.D	103.0	105.0	100.0	100.0
FA21-4MSD	P12640.D	101.0	106.0	101.0	102.0
VP495-BS	P12615.D	103.0	102.0	101.0	100.0
VP495-MB	P12616.D	102.0	102.0	103.0	101.0
VP497-BS	P12673.D	102.0	107.0	103.0	100.0
VP497-MB	P12674.D	106.0	110.0	100.0	103.0

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: FA21
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VP494-ICC494
Lab FileID: P12590.D

Response Factor Report MSVOA13

Method : C:\msdchem\1\METHODS\122012APP9-P.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Thu Dec 20 17:33:01 2012
Response via : Initial Calibration

Calibration Files
1 =P12587.D 2 =P12588.D 3 =P12589.D 4 =P12590.D
5 =P12591.D 6 =P12592.D

		Compound	1	2	3	4	5	6	Avg	%RSD
1)	I	Fluorobenzene	----------ISTD----------							
2)		Dichlorodifluoromet	0.300	0.282	0.343	0.310	0.316	0.317	0.311	6.47
3)	P	Chloromethane	0.507	0.431	0.495	0.478	0.485	0.493	0.481	5.56
4)	C	Vinyl Chloride	0.338	0.325	0.392	0.387	0.389	0.392	0.371	8.21
5)		Bromomethane	0.204	0.210	0.244	0.229	0.232	0.230	0.225	6.62
6)		Chloroethane	0.191	0.211	0.242	0.236	0.239	0.233	0.225	9.00
7)		Trichlorofluorometh	0.464	0.416	0.511	0.485	0.490	0.492	0.476	7.01
8)		Ethyl Ether	0.305	0.267	0.277	0.281	0.280	0.278	0.281	4.46
9)		1,2-Dichlorotrifluo	0.322	0.322	0.374	0.356	0.355	0.357	0.347	6.01
10)	C	1,1-Dichloroethene	0.406	0.408	0.471	0.459	0.456	0.460	0.443	6.49
11)		Freon 113	0.264	0.248	0.314	0.305	0.301	0.301	0.289	9.10
12)		Carbon Disulfide	0.790	0.706	0.833	0.811	0.803	0.809	0.792	5.58
13)		Iodomethane	0.414	0.428	0.477	0.478	0.469	0.477	0.457	6.24
14)		Allyl chloride	0.515	0.469	0.521	0.497	0.496	0.497	0.499	3.65
15)		Methylene Chloride	2.311	0.752	0.595	0.521	0.493	0.475	0.858	83.82
		---- Linear regr., Force(0,0) ---- Coefficient = 0.9992								
		Response Ratio = 0.00000 + 0.48796 *A								
16)		Acetone	0.152	0.095	0.090	0.087	0.085	0.083	0.099	26.90
		---- Linear regr., Force(0,0) ---- Coefficient = 0.9996								
		Response Ratio = 0.00000 + 0.08394 *A								
17)		Methyl acetate	0.296	0.250	0.244	0.239	0.233	0.225	0.248	10.17
18)		trans-1,2-Dichloroe	0.428	0.384	0.459	0.450	0.441	0.438	0.433	6.07
19)		Hexane	0.344	0.271	0.339	0.336	0.317	0.314	0.320	8.39
20)		Methyl Tert Butyl E	0.902	0.875	0.917	0.884	0.885	0.879	0.890	1.78
21)		Acetonitrile	0.025	0.024	0.023	0.022	0.022	0.021	0.023	5.68
22)		Di-isopropyl ether	1.136	1.031	1.143	1.143	1.151	1.130	1.122	4.02
23)		Chloroprene	0.404	0.395	0.483	0.459	0.463	0.458	0.444	7.97
24)	P	1,1-Dichloroethane	0.496	0.479	0.549	0.531	0.522	0.515	0.515	4.85
25)		Acrylonitrile	0.121	0.109	0.106	0.106	0.106	0.105	0.109	5.45
26)		ETBE	0.858	0.885	0.946	0.948	0.942	0.937	0.919	4.15
27)		Vinyl acetate	0.454	0.464	0.495	0.486	0.473	0.457	0.471	3.52
28)		cis-1,2-Dichloroeth	0.282	0.262	0.289	0.284	0.284	0.282	0.281	3.36
29)		2,2-Dichloropropane	0.387	0.381	0.452	0.445	0.440	0.427	0.422	7.34
30)		Bromochloromethane	0.137	0.150	0.142	0.140	0.140	0.139	0.141	3.25
31)		Cyclohexane	0.420	0.419	0.544	0.543	0.533	0.538	0.499	12.47
32)	C	Chloroform	0.479	0.478	0.531	0.521	0.502	0.501	0.502	4.33
33)		Ethyl acetate	0.258	0.254	0.261	0.255	0.248	0.246	0.254	2.28
34)		Tetrahydrofuran	0.100	0.103	0.091	0.087	0.085	0.085	0.092	8.24
35)	S	Dibromofluoromethan	0.265	0.260	0.262	0.262	0.254	0.254	0.259	1.72
36)		Carbon Tetrachlorid	0.385	0.360	0.428	0.430	0.428	0.415	0.408	7.03
37)		1,1,1-Trichloroetha	0.412	0.409	0.497	0.479	0.472	0.468	0.456	8.05
38)		2-Butanone	0.135	0.137	0.138	0.133	0.133	0.132	0.135	1.66
39)		1,1-Dichloropropene	0.297	0.309	0.380	0.374	0.370	0.371	0.350	10.47
40)		Propionitrile	0.038	0.040	0.037	0.037	0.037	0.036	0.038	3.27

Initial Calibration Summary

Job Number: FA21 **Sample:** VP494-ICC494
Account: TETTNOAK Tetra Tech, Inc **Lab FileID:** P12590.D
Project: Holloman AFB; Alamogordo, NM

41)		Methacrylonitrile	0.164	0.169	0.175	0.170	0.169	0.164	0.169	2.48
42)		Benzene	0.946	0.937	1.061	1.058	1.029	1.015	1.008	5.38
43)		TAME	0.706	0.758	0.802	0.813	0.815	0.813	0.785	5.63
44)	S	1,2-Dichloroethane-	0.333	0.327	0.330	0.329	0.321	0.316	0.326	1.95
45)		1,2-Dichloroethane	0.392	0.374	0.401	0.397	0.384	0.382	0.388	2.64
46)		Trichloroethene	0.248	0.253	0.298	0.287	0.281	0.281	0.275	7.24
47)		Methylcyclohexane	0.413	0.405	0.532	0.527	0.512	0.519	0.485	12.17
48)		Dibromomethane	0.179	0.165	0.173	0.170	0.170	0.166	0.171	2.95
49)	C	1,2-Dichloropropane	0.268	0.257	0.301	0.292	0.287	0.288	0.282	5.76
50)		Bromodichloromethan	0.369	0.358	0.386	0.385	0.376	0.380	0.376	2.82
51)		Methyl methacrylate	0.197	0.192	0.214	0.218	0.227	0.232	0.213	7.53
52)		2-Chloroethyl vinyl	0.136	0.158	0.181	0.182	0.182	0.181	0.170	11.40

---- Linear regr., Force(0,0) ---- Coefficient = 1.0000
Response Ratio = 0.00000 + 0.18161 *A

53)		cis-1,3-Dichloropro	0.441	0.435	0.485	0.488	0.487	0.490	0.471	5.39
54)	I	Chlorobenzene-d5	----------ISTD----------							
55)	S	Toluene-d8	1.286	1.272	1.259	1.258	1.224	1.228	1.255	1.94
56)	C	Toluene	1.548	1.410	1.559	1.519	1.485	1.472	1.499	3.68
57)		2-Nitropropane	0.088	0.091	0.090	0.090	0.091	0.091	0.090	1.39
58)		4-Methyl-2-pentanon	0.339	0.361	0.365	0.354	0.351	0.344	0.353	2.80
59)		trans-1,3-Dichlorop	0.521	0.520	0.566	0.562	0.563	0.561	0.549	4.02
60)		Tetrachloroethene	0.356	0.351	0.411	0.411	0.394	0.400	0.387	6.97
61)		Ethyl methacrylate	0.391	0.392	0.428	0.431	0.443	0.446	0.422	5.84
62)		1,1,2-Trichloroetha	0.261	0.244	0.259	0.254	0.250	0.251	0.253	2.48
63)		Dibromochloromethan	0.368	0.368	0.372	0.383	0.371	0.382	0.374	1.78
64)		1,3-Dichloropropane	0.570	0.535	0.543	0.536	0.533	0.541	0.543	2.54
65)		1,2-Dibromoethane	0.313	0.301	0.312	0.298	0.308	0.305	0.306	1.93
66)		2-hexanone	0.225	0.233	0.245	0.249	0.248	0.244	0.241	4.02
67)		1-Chlorohexane	0.327	0.390	0.509	0.520	0.516	0.521	0.464	18.15

---- Linear regr., Force(0,0) ---- Coefficient = 0.9999
Response Ratio = 0.00000 + 0.51899 *A

68)	C	Ethylbenzene	1.583	1.576	1.818	1.768	1.720	1.708	1.696	5.77
69)	P	Chlorobenzene	1.004	0.935	1.006	0.957	0.953	0.941	0.966	3.22
70)		1,1,1,2-Tetrachloro	0.341	0.351	0.395	0.396	0.392	0.395	0.378	6.68
71)		m,p-Xylene	1.069	1.151	1.334	1.321	1.291	1.255	1.237	8.52
72)		o-Xylene	1.109	1.092	1.297	1.326	1.322	1.317	1.244	8.96
73)		Styrene	0.802	0.890	1.076	1.074	1.084	1.083	1.002	12.35
74)	P	Bromoform	0.262	0.264	0.263	0.260	0.266	0.268	0.264	1.01
75)		Isopropylbenzene	1.222	1.324	1.627	1.635	1.620	1.604	1.505	12.17
76)	I	1,4-Dichlorobenzene-d	----------ISTD----------							
77)	S	4-Bromofluorobenzen	0.732	0.721	0.717	0.708	0.702	0.703	0.714	1.65
78)		cis-1,4-Dichloro-2-	0.270	0.248	0.247	0.243	0.247	0.245	0.250	3.96
79)		n-Propylbenzene	3.148	3.105	3.611	3.472	3.443	3.325	3.351	5.86
80)		Bromobenzene	0.998	0.776	0.809	0.805	0.805	0.788	0.830	10.01
81)	P	1,1,2,2-Tetrachloro	0.783	0.752	0.734	0.703	0.701	0.693	0.728	4.84
82)		1,3,5-Trimethylbenz	2.112	2.290	2.796	2.738	2.743	2.679	2.560	11.18
83)		2-Chlorotoluene	2.172	2.184	2.527	2.443	2.423	2.382	2.355	6.17
84)		trans-1,4-Dichloro-	0.237	0.261	0.251	0.263	0.261	0.257	0.255	3.82
85)		1,2,3-Trichloroprop	0.257	0.233	0.220	0.221	0.222	0.219	0.229	6.41
86)		Cyclohexanone	0.018	0.021	0.021	0.022	0.024	0.022	0.021	8.99
87)		4-Chlorotoluene	1.836	1.973	2.237	2.196	2.191	2.164	2.100	7.57
88)		tert-Butylbenzene	1.139	1.240	1.554	1.552	1.553	1.534	1.429	13.17
89)		1,2,4-Trimethylbenz	2.181	2.364	2.870	2.819	2.800	2.758	2.632	10.89
90)		Pentachloroethane	0.355	0.433	0.452	0.434	0.451	0.432	0.426	8.43

---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9995
Response Ratio = 0.00000 + 0.45711 *A + -0.01144 *A^2

Initial Calibration Summary

Job Number: FA21
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VP494-ICC494
Lab FileID: P12590.D

91)		sec-Butylbenzene	2.575	2.737	3.402	3.374	3.335	3.210	3.105	11.53
92)		4-Isopropyltoluene	2.080	2.364	2.980	2.948	2.938	2.865	2.696	14.09
93)		1,3-Dichlorobenzene	1.422	1.438	1.537	1.521	1.513	1.503	1.489	3.17
94)		1,4-Dichlorobenzene	1.745	1.718	1.728	1.685	1.687	1.651	1.702	2.01
95)		n-Butylbenzene	1.443	1.438	1.754	1.757	1.783	1.743	1.653	9.99
96)		Benzyl Chloride	0.317	0.339	0.357	0.357	0.372	0.366	0.351	5.70
97)		1,2-Dichlorobenzene	1.554	1.407	1.516	1.485	1.472	1.464	1.483	3.36
98)		1,2-Dibromo-3-Chlor	0.202	0.154	0.152	0.144	0.151	0.145	0.158	14.02
99)		Hexachlorobutadiene	0.554	0.572	0.630	0.599	0.611	0.583	0.591	4.66
100)		1,2,4-Trichlorobenz	1.036	1.123	1.173	1.171	1.166	1.126	1.133	4.62
101)		Naphthalene	2.459	2.494	2.571	2.584	2.558	2.427	2.516	2.58
102)		1,2,3-Trichlorobenz	1.087	1.049	1.102	1.065	1.046	0.989	1.057	3.72
103)	I	Tert Butyl Alcohol-d1 ----------ISTD----------								
104)		Ethanol	0.137	0.104	0.101	0.101	0.093	0.098	0.106	14.86
		---- Linear regr., Force(0,0) ---- Coefficient = 0.9984								
		Response Ratio = 0.00000 + 0.09717 *A								
105)		Acrolein	0.256	0.228	0.230	0.227	0.221	0.224	0.231	5.50
		---- Linear regr., Force(0,0) ---- Coefficient = 0.9998								
		Response Ratio = 0.00000 + 0.22343 *A								
106)		Tert Butyl Alcohol	0.258	0.262	0.246	0.246	0.232	0.240	0.247	4.45
107)		Isobutyl alcohol	0.055	0.065	0.062	0.063	0.064	0.066	0.062	6.57
108)		Tert Amyl Alcohol	0.153	0.168	0.171	0.178	0.170	0.178	0.170	5.47
109)		1,4-Dioxane	0.026	0.021	0.020	0.021	0.020	0.021	0.022	10.09

(#) = Out of Range

122012APP9-P.M Fri Dec 21 09:10:07 2012

Initial Calibration Verification

Job Number: FA21
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VP494-ICV494
Lab FileID: P12594.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\122012\P12594.D Vial: 8
Acq On : 20 Dec 2012 5:00 pm Operator: eileeng
Sample : icv494-4 Inst : MSVOA13
Misc : MS22975,VP494,,,,, Multiplr: 1.00
MS Integration Params: med.p

Method : C:\msdchem\1\METHODS\122012APP9-P.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Thu Dec 20 17:33:01 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	107	0.00	7.50
2		Dichlorodifluoromethane	0.311	0.320	-2.9	110	0.02	2.62
3	P	Chloromethane	0.481	0.433	10.0	97	0.00	2.82
4	C	Vinyl Chloride	0.371	0.382	-3.0	105	0.00	2.95
5		Bromomethane	0.225	0.196	12.9	91	0.00	3.34
6		Chloroethane	0.225	0.207	8.0	94	0.00	3.48
7		Trichlorofluoromethane	0.476	0.441	7.4	97	0.00	3.69
8		Ethyl Ether	0.281	0.256	8.9	97	0.00	3.95
9		1,2-Dichlorotrifluoroetha	0.347	0.330	4.9	99	0.00	4.18
10	C	1,1-Dichloroethene	0.443	0.448	-1.1	104	0.00	4.22
11		Freon 113	0.289	0.274	5.2	96	0.00	4.26
12		Carbon Disulfide	0.792	0.823	-3.9	108	0.00	4.28
13		Iodomethane	0.457	0.421	7.9	94	0.00	4.39
14		Allyl chloride	0.499	0.530	-6.2	114	0.00	4.72
		----------	Amount	Calc.	%Drift		----------	
15		Methylene Chloride	40.000	38.759	3.1	97	0.00	4.84
16		Acetone	200.000	213.920	-7.0	111	0.00	4.87
		----------	AvgRF	CCRF	%Dev		----------	
17		Methyl acetate	0.248	0.223	10.1	99	0.00	4.99
18		trans-1,2-Dichloroethene	0.433	0.432	0.2	102	0.00	5.00
19		Hexane	0.320	0.292	8.8	93	0.00	5.06
20		Methyl Tert Butyl Ether	0.890	0.832	6.5	100	0.00	5.11
21		Acetonitrile	0.023	0.020	13.0	95	0.00	5.48
22		Di-isopropyl ether	1.122	1.093	2.6	102	0.00	5.48
23		Chloroprene	0.444	0.451	-1.6	105	0.00	5.63
24	P	1,1-Dichloroethane	0.515	0.522	-1.4	105	0.00	5.66
25		Acrylonitrile	0.109	0.103	5.5	104	0.00	5.71
26		ETBE	0.919	0.898	2.3	101	0.00	5.87
27		Vinyl acetate	0.471	0.503	-6.8	110	0.00	5.88
28		cis-1,2-Dichloroethene	0.281	0.284	-1.1	107	0.00	6.22
29		2,2-Dichloropropane	0.422	0.432	-2.4	103	0.00	6.36
30		Bromochloromethane	0.141	0.140	0.7	106	0.00	6.44
31		Cyclohexane	0.499	0.538	-7.8	105	0.00	6.46
32	C	Chloroform	0.502	0.494	1.6	101	0.00	6.49
33		Ethyl acetate	0.254	0.251	1.2	105	0.00	6.58
34		Tetrahydrofuran	0.092	0.083	9.8	101	0.00	6.66
35	S	Dibromofluoromethane	0.259	0.260	-0.4	106	0.00	6.68
36		Carbon Tetrachloride	0.408	0.413	-1.2	102	0.00	6.66
37		1,1,1-Trichloroethane	0.456	0.452	0.9	101	0.00	6.74
38		2-Butanone	0.135	0.139	-3.0	111	0.00	6.79

Initial Calibration Verification

Job Number: FA21
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VP494-ICV494
Lab FileID: P12594.D

39		1,1-Dichloropropene	0.350	0.371	-6.0	106	0.00	6.84
40		Propionitrile	0.038	0.037	2.6	107	0.00	7.11
41		Methacrylonitrile	0.169	0.180	-6.5	113	0.00	7.13
42		Benzene	1.008	1.038	-3.0	105	0.00	7.10
43		TAME	0.785	0.823	-4.8	108	0.00	7.18
44	S	1,2-Dichloroethane-d4	0.326	0.320	1.8	104	0.00	7.23
45		1,2-Dichloroethane	0.388	0.382	1.5	103	0.00	7.30
46		Trichloroethene	0.275	0.281	-2.2	104	0.00	7.67
47		Methylcyclohexane	0.485	0.469	3.3	95	0.00	7.68
48		Dibromomethane	0.171	0.164	4.1	103	0.00	8.10
49	C	1,2-Dichloropropane	0.282	0.289	-2.5	105	0.00	8.20
50		Bromodichloromethane	0.376	0.379	-0.8	105	0.00	8.24
51		Methyl methacrylate	0.213	0.241	-13.1	118	0.00	8.35
		----------	Amount	Calc.	%Drift	----------		
52		2-Chloroethyl vinyl ether	200.000	146.018	27.0#	78	0.00	8.77
		----------	AvgRF	CCRF	%Dev	----------		
53		cis-1,3-Dichloropropene	0.471	0.456	3.2	100	0.00	8.86
54	I	Chlorobenzene-d5	1.000	1.000	0.0	104	0.00	10.60
55	S	Toluene-d8	1.255	1.274	-1.5	105	0.00	9.05
56	C	Toluene	1.499	1.530	-2.1	105	0.00	9.10
57		2-Nitropropane	0.090	0.085	5.6	98	0.00	9.33
58		4-Methyl-2-pentanone	0.353	0.356	-0.8	104	0.00	9.45
59		trans-1,3-Dichloropropene	0.549	0.584	-6.4	108	0.00	9.50
60		Tetrachloroethene	0.387	0.389	-0.5	99	0.00	9.50
61		Ethyl methacrylate	0.422	0.441	-4.5	106	0.00	9.61
62		1,1,2-Trichloroethane	0.253	0.256	-1.2	105	0.00	9.66
63		Dibromochloromethane	0.374	0.391	-4.5	106	0.00	9.85
64		1,3-Dichloropropane	0.543	0.548	-0.9	107	0.00	9.95
65		1,2-Dibromoethane	0.306	0.316	-3.3	110	0.00	10.11
66		2-hexanone	0.241	0.247	-2.5	103	0.00	10.27
		----------	Amount	Calc.	%Drift	----------		
67		1-Chlorohexane	40.000	38.709	3.2	101	0.00	10.55
		----------	AvgRF	CCRF	%Dev	----------		
68	C	Ethylbenzene	1.696	1.771	-4.4	104	0.00	10.62
69	P	Chlorobenzene	0.966	1.025	-6.1	112	0.00	10.61
70		1,1,1,2-Tetrachloroethane	0.378	0.402	-6.3	106	0.00	10.67
71		m,p-Xylene	1.237	1.359	-9.9	107	0.00	10.76
72		o-Xylene	1.244	1.397	-12.3	110	0.00	11.20
73		Styrene	1.002	1.087	-8.5	105	0.00	11.25
74	P	Bromoform	0.264	0.261	1.1	104	0.00	11.30
75		Isopropylbenzene	1.505	1.732	-15.1	110	0.00	11.50
76	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	102	0.00	12.96
77	S	4-Bromofluorobenzene	0.714	0.727	-1.8	105	0.00	11.81
78		cis-1,4-Dichloro-2-butene	0.250	0.269	-7.6	113	0.00	11.86
79		n-Propylbenzene	3.351	3.778	-12.7	111	0.00	11.92
80		Bromobenzene	0.830	0.822	1.0	104	0.00	11.93
81	P	1,1,2,2-Tetrachloroethane	0.728	0.729	-0.1	106	0.00	11.99
82		1,3,5-Trimethylbenzene	2.560	2.708	-5.8	101	0.00	12.11
83		2-Chlorotoluene	2.355	2.609	-10.8	109	0.00	12.11
84		trans-1,4-Dichloro-2-Bute	0.255	0.255	0.0	99	0.00	12.17
85		1,2,3-Trichloropropane	0.229	0.226	1.3	105	0.00	12.15
86		Cyclohexanone	0.021	0.023	-9.5	106	0.00	12.21
87		4-Chlorotoluene	2.100	2.436	-16.0	113	0.00	12.28
88		tert-Butylbenzene	1.429	1.627	-13.9	107	0.00	12.45

Initial Calibration Verification

Job Number: FA21
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VP494-ICV494
Lab FileID: P12594.D

89	1,2,4-Trimethylbenzene	2.632	2.794	-6.2	101	0.00	12.52
	----------	Amount	Calc.	%Drift	----------		
90	Pentachloroethane	40.000	48.430	-21.1#	127	0.00	12.49
	----------	AvgRF	CCRF	%Dev	----------		
91	sec-Butylbenzene	3.105	3.560	-14.7	108	0.00	12.63
92	4-Isopropyltoluene	2.696	3.019	-12.0	105	0.00	12.77
93	1,3-Dichlorobenzene	1.489	1.626	-9.2	109	0.00	12.89
94	1,4-Dichlorobenzene	1.702	1.706	-0.2	103	0.00	12.98
95	n-Butylbenzene	1.653	1.725	-4.4	100	0.00	13.21
96	Benzyl Chloride	0.351	0.356	-1.4	102	0.00	13.22
97	1,2-Dichlorobenzene	1.483	1.609	-8.5	111	0.00	13.41
98	1,2-Dibromo-3-Chloropropa	0.158	0.156	1.3	111	0.00	14.17
99	Hexachlorobutadiene	0.591	0.609	-3.0	104	0.00	14.72
100	1,2,4-Trichlorobenzene	1.133	1.211	-6.9	106	0.00	14.76
101	Naphthalene	2.516	2.655	-5.5	105	0.00	15.05
102	1,2,3-Trichlorobenzene	1.057	1.061	-0.4	102	0.00	15.21
103 I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	109	0.00	5.09
	----------	Amount	Calc.	%Drift	----------		
104	Ethanol	800.000	754.544	5.7	99	0.00	3.95
105	Acrolein	200.000	137.209	31.4#	74	0.00	4.56
	----------	AvgRF	CCRF	%Dev	----------		
106	Tert Butyl Alcohol	0.247	0.241	2.4	107	0.00	5.17
107	Isobutyl alcohol	0.062	0.061	1.6	106	0.00	7.23
108	Tert Amyl Alcohol	0.170	0.178	-4.7	109	0.00	7.34
109	1,4-Dioxane	0.022	0.020	9.1	109	0.00	8.43

(#) = Out of Range SPCC's out = 0 CCC's out = 0
P12590.D 122012APP9-P.M Fri Dec 21 09:09:42 2012

Continuing Calibration Summary

Job Number: FA21
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VP495-CC494
Lab FileID: P12614.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\122112\P12614.D Vial: 1
Acq On : 21 Dec 2012 9:00 am Operator: EileenG
Sample : cc494-4 Inst : MSVOA13
Misc : MS22975,VP495,,,,, Multiplr: 1.00
MS Integration Params: med.p

Method : C:\msdchem\1\METHODS\122012APP9-P.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Thu Dec 20 17:33:01 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	94	0.00	7.50
2		Dichlorodifluoromethane	0.311	0.319	-2.6	96	0.01	2.62
3	P	Chloromethane	0.481	0.463	3.7	91	-0.01	2.81
4	C	Vinyl Chloride	0.371	0.374	-0.8	90	-0.02	2.94
5		Bromomethane	0.225	0.234	-4.0	96	0.00	3.34
6		Chloroethane	0.225	0.235	-4.4	93	0.00	3.48
7		Trichlorofluoromethane	0.476	0.498	-4.6	96	0.00	3.69
8		Ethyl Ether	0.281	0.273	2.8	91	0.00	3.95
9		1,2-Dichlorotrifluoroetha	0.347	0.355	-2.3	93	0.00	4.18
10	C	1,1-Dichloroethene	0.443	0.457	-3.2	93	0.00	4.21
11		Freon 113	0.289	0.297	-2.8	91	0.00	4.26
12		Carbon Disulfide	0.792	0.816	-3.0	94	0.00	4.27
13		Iodomethane	0.457	0.470	-2.8	92	0.00	4.39
14		Allyl chloride	0.499	0.506	-1.4	95	0.00	4.71
		----------	Amount	Calc.	%Drift		----------	
15		Methylene Chloride	40.000	38.574	3.6	85	0.00	4.83
16		Acetone	200.000	217.630	-8.8	99	0.00	4.87
		----------	AvgRF	CCRF	%Dev		----------	
17		Methyl acetate	0.248	0.232	6.5	91	0.00	4.98
18		trans-1,2-Dichloroethene	0.433	0.443	-2.3	92	0.00	5.00
19		Hexane	0.320	0.314	1.9	88	0.00	5.06
20		Methyl Tert Butyl Ether	0.890	0.868	2.5	92	0.00	5.11
21		Acetonitrile	0.023	0.020	13.0	84	0.00	5.48
22		Di-isopropyl ether	1.122	1.113	0.8	91	0.00	5.48
23		Chloroprene	0.444	0.463	-4.3	95	0.00	5.62
24	P	1,1-Dichloroethane	0.515	0.524	-1.7	92	0.00	5.65
25		Acrylonitrile	0.109	0.104	4.6	91	0.00	5.70
26		ETBE	0.919	0.939	-2.2	93	0.00	5.87
27		Vinyl acetate	0.471	0.458	2.8	88	0.00	5.88
28		cis-1,2-Dichloroethene	0.281	0.282	-0.4	93	0.00	6.22
29		2,2-Dichloropropane	0.422	0.442	-4.7	93	0.00	6.35
30		Bromochloromethane	0.141	0.143	-1.4	95	0.00	6.43
31		Cyclohexane	0.499	0.537	-7.6	93	0.00	6.46
32	C	Chloroform	0.502	0.519	-3.4	93	0.00	6.49
33		Ethyl acetate	0.254	0.243	4.3	89	0.00	6.57
34		Tetrahydrofuran	0.092	0.082	10.9	88	0.00	6.66
35	S	Dibromofluoromethane	0.259	0.261	-0.8	93	0.00	6.68
36		Carbon Tetrachloride	0.408	0.440	-7.8	96	0.00	6.66
37		1,1,1-Trichloroethane	0.456	0.480	-5.3	94	0.00	6.73
38		2-Butanone	0.135	0.123	8.9	87	0.00	6.79

Continuing Calibration Summary

Job Number: FA21 **Sample:** VP495-CC494
Account: TETTNOAK Tetra Tech, Inc **Lab FileID:** P12614.D
Project: Holloman AFB; Alamogordo, NM

39		1,1-Dichloropropene	0.350	0.368	-5.1	92	0.00	6.85
40		Propionitrile	0.038	0.035	7.9	90	0.00	7.11
41		Methacrylonitrile	0.169	0.165	2.4	91	0.00	7.13
42		Benzene	1.008	1.029	-2.1	91	0.00	7.10
43		TAME	0.785	0.796	-1.4	92	0.00	7.18
44	S	1,2-Dichloroethane-d4	0.326	0.332	-1.8	95	0.00	7.23
45		1,2-Dichloroethane	0.388	0.387	0.3	91	0.00	7.30
46		Trichloroethene	0.275	0.282	-2.5	92	0.00	7.67
47		Methylcyclohexane	0.485	0.515	-6.2	92	0.00	7.68
48		Dibromomethane	0.171	0.167	2.3	92	0.00	8.10
49	C	1,2-Dichloropropane	0.282	0.282	0.0	90	0.00	8.20
50		Bromodichloromethane	0.376	0.377	-0.3	92	0.00	8.24
51		Methyl methacrylate	0.213	0.203	4.7	87	0.00	8.35
		----------	Amount	Calc.	%Drift		----------	
52		2-Chloroethyl vinyl ether	200.000	192.527	3.7	90	0.00	8.77
		----------	AvgRF	CCRF	%Dev		----------	
53		cis-1,3-Dichloropropene	0.471	0.475	-0.8	91	0.00	8.86
54	I	Chlorobenzene-d5	1.000	1.000	0.0	93	0.00	10.60
55	S	Toluene-d8	1.255	1.276	-1.7	94	0.00	9.05
56	C	Toluene	1.499	1.500	-0.1	91	0.00	9.10
57		2-Nitropropane	0.090	0.089	1.1	92	0.00	9.33
58		4-Methyl-2-pentanone	0.353	0.336	4.8	88	0.00	9.45
59		trans-1,3-Dichloropropene	0.549	0.546	0.5	90	0.00	9.50
60		Tetrachloroethene	0.387	0.392	-1.3	88	0.00	9.49
61		Ethyl methacrylate	0.422	0.414	1.9	89	0.00	9.61
62		1,1,2-Trichloroethane	0.253	0.247	2.4	90	0.00	9.66
63		Dibromochloromethane	0.374	0.372	0.5	90	0.00	9.85
64		1,3-Dichloropropane	0.543	0.529	2.6	91	0.00	9.94
65		1,2-Dibromoethane	0.306	0.299	2.3	93	0.00	10.11
66		2-hexanone	0.241	0.244	-1.2	91	0.00	10.26
		----------	Amount	Calc.	%Drift		----------	
67		1-Chlorohexane	40.000	39.086	2.3	90	0.00	10.56
		----------	AvgRF	CCRF	%Dev		----------	
68	C	Ethylbenzene	1.696	1.769	-4.3	93	0.00	10.62
69	P	Chlorobenzene	0.966	0.960	0.6	93	0.00	10.62
70		1,1,1,2-Tetrachloroethane	0.378	0.398	-5.3	93	0.00	10.67
71		m,p-Xylene	1.237	1.317	-6.5	92	0.00	10.76
72		o-Xylene	1.244	1.312	-5.5	92	0.00	11.20
73		Styrene	1.002	1.072	-7.0	92	0.00	11.25
74	P	Bromoform	0.264	0.259	1.9	92	0.00	11.30
75		Isopropylbenzene	1.505	1.625	-8.0	92	0.00	11.50
76	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	94	0.00	12.96
77	S	4-Bromofluorobenzene	0.714	0.714	0.0	95	0.00	11.81
78		cis-1,4-Dichloro-2-butene	0.250	0.245	2.0	95	0.00	11.86
79		n-Propylbenzene	3.351	3.450	-3.0	94	0.00	11.92
80		Bromobenzene	0.830	0.809	2.5	95	0.00	11.94
81	P	1,1,2,2-Tetrachloroethane	0.728	0.679	6.7	91	0.00	11.99
82		1,3,5-Trimethylbenzene	2.560	2.749	-7.4	94	0.00	12.11
83		2-Chlorotoluene	2.355	2.411	-2.4	93	0.00	12.11
84		trans-1,4-Dichloro-2-Bute	0.255	0.260	-2.0	93	0.00	12.17
85		1,2,3-Trichloropropane	0.229	0.216	5.7	92	0.00	12.15
86		Cyclohexanone	0.021	0.021	0.0	92	0.00	12.22
87		4-Chlorotoluene	2.100	2.190	-4.3	94	0.00	12.28
88		tert-Butylbenzene	1.429	1.538	-7.6	93	0.00	12.45

Continuing Calibration Summary

Job Number: FA21
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VP495-CC494
Lab FileID: P12614.D

89	1,2,4-Trimethylbenzene	2.632	2.798	-6.3	93	0.00	12.52
	----------	Amount	Calc.	%Drift	----------		
90	Pentachloroethane	40.000	40.722	-1.8	99	0.00	12.50
	----------	AvgRF	CCRF	%Dev	----------		
91	sec-Butylbenzene	3.105	3.290	-6.0	92	0.00	12.64
92	4-Isopropyltoluene	2.696	2.930	-8.7	94	0.00	12.77
93	1,3-Dichlorobenzene	1.489	1.524	-2.4	94	0.00	12.89
94	1,4-Dichlorobenzene	1.702	1.718	-0.9	96	0.00	12.98
95	n-Butylbenzene	1.653	1.748	-5.7	94	0.00	13.21
96	Benzyl Chloride	0.351	0.358	-2.0	94	0.00	13.22
97	1,2-Dichlorobenzene	1.483	1.468	1.0	93	0.00	13.41
98	1,2-Dibromo-3-Chloropropa	0.158	0.143	9.5	94	0.00	14.17
99	Hexachlorobutadiene	0.591	0.626	-5.9	98	0.00	14.72
100	1,2,4-Trichlorobenzene	1.133	1.155	-1.9	93	0.00	14.76
101	Naphthalene	2.516	2.474	1.7	90	0.00	15.05
102	1,2,3-Trichlorobenzene	1.057	1.032	2.4	91	0.00	15.21
103 I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	93	0.00	5.09
	----------	Amount	Calc.	%Drift	----------		
104	Ethanol	800.000	797.051	0.4	90	0.00	3.95
105	Acrolein	200.000	188.809	5.6	86	0.00	4.56
	----------	AvgRF	CCRF	%Dev	----------		
106	Tert Butyl Alcohol	0.247	0.236	4.5	90	0.00	5.16
107	Isobutyl alcohol	0.062	0.060	3.2	88	0.00	7.23
108	Tert Amyl Alcohol	0.170	0.167	1.8	87	0.00	7.34
109	1,4-Dioxane	0.022	0.020	9.1	91	0.00	8.43

(#) = Out of Range SPCC's out = 0 CCC's out = 0
P12590.D 122012APP9-P.M Sun Dec 23 15:36:28 2012

Continuing Calibration Summary

Job Number: FA21
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VP497-CC494
Lab FileID: P12672.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\122312\P12672.D Vial: 1
Acq On : 23 Dec 2012 10:33 am Operator: JuanG
Sample : cc494-4 Inst : MSVOA13
Misc : MS23011,VP497,,,,, Multiplr: 1.00
MS Integration Params: med.p

Method : C:\msdchem\1\METHODS\122012APP9-P.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Thu Dec 20 17:33:01 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	84	0.00	7.50
2		Dichlorodifluoromethane	0.311	0.368	-18.3	99	0.00	2.61
3	P	Chloromethane	0.481	0.620	-28.9#	109	0.00	2.81
4	C	Vinyl Chloride	0.371	0.480	-29.4#	104	0.00	2.95
5		Bromomethane	0.225	0.288	-28.0#	105	0.00	3.34
6		Chloroethane	0.225	0.290	-28.9#	103	0.00	3.48
7		Trichlorofluoromethane	0.476	0.553	-16.2	95	0.00	3.68
8		Ethyl Ether	0.281	0.273	2.8	81	0.00	3.95
9		1,2-Dichlorotrifluoroetha	0.347	0.359	-3.5	85	0.00	4.18
10	C	1,1-Dichloroethene	0.443	0.465	-5.0	85	0.00	4.21
11		Freon 113	0.289	0.301	-4.2	83	0.00	4.26
12		Carbon Disulfide	0.792	0.789	0.4	81	0.00	4.27
13		Iodomethane	0.457	0.462	-1.1	81	0.00	4.39
14		Allyl chloride	0.499	0.460	7.8	77	0.00	4.71
		----------	Amount	Calc.	%Drift		----------	
15		Methylene Chloride	40.000	37.182	7.0	73	0.00	4.83
16		Acetone	200.000	215.341	-7.7	87	0.00	4.87
		----------	AvgRF	CCRF	%Dev		----------	
17		Methyl acetate	0.248	0.245	1.2	86	0.00	4.98
18		trans-1,2-Dichloroethene	0.433	0.429	0.9	80	0.00	5.00
19		Hexane	0.320	0.318	0.6	79	0.00	5.06
20		Methyl Tert Butyl Ether	0.890	0.890	0.0	84	0.00	5.11
21		Acetonitrile	0.023	0.021	8.7	77	0.00	5.48
22		Di-isopropyl ether	1.122	1.123	-0.1	82	0.00	5.48
23		Chloroprene	0.444	0.456	-2.7	83	0.00	5.62
24	P	1,1-Dichloroethane	0.515	0.514	0.2	81	0.00	5.65
25		Acrylonitrile	0.109	0.102	6.4	80	0.00	5.70
26		ETBE	0.919	0.919	0.0	81	0.00	5.87
27		Vinyl acetate	0.471	0.392	16.8	67	0.00	5.87
28		cis-1,2-Dichloroethene	0.281	0.272	3.2	80	0.00	6.22
29		2,2-Dichloropropane	0.422	0.439	-4.0	82	0.00	6.35
30		Bromochloromethane	0.141	0.137	2.8	82	0.00	6.43
31		Cyclohexane	0.499	0.511	-2.4	79	0.00	6.46
32	C	Chloroform	0.502	0.499	0.6	80	0.00	6.49
33		Ethyl acetate	0.254	0.239	5.9	78	0.00	6.57
34		Tetrahydrofuran	0.092	0.075	18.5	72	0.00	6.66
35	S	Dibromofluoromethane	0.259	0.268	-3.5	86	0.00	6.68
36		Carbon Tetrachloride	0.408	0.434	-6.4	84	0.00	6.66
37		1,1,1-Trichloroethane	0.456	0.479	-5.0	84	0.00	6.73
38		2-Butanone	0.135	0.127	5.9	80	0.00	6.79

Continuing Calibration Summary

Job Number: FA21 **Sample:** VP497-CC494
Account: TETTNOAK Tetra Tech, Inc **Lab FileID:** P12672.D
Project: Holloman AFB; Alamogordo, NM

39		1,1-Dichloropropene	0.350	0.357	-2.0	80	0.00	6.84
40		Propionitrile	0.038	0.033	13.2	77	0.00	7.11
41		Methacrylonitrile	0.169	0.159	5.9	78	0.00	7.13
42		Benzene	1.008	0.985	2.3	78	0.00	7.09
43		TAME	0.785	0.796	-1.4	82	0.00	7.18
44	S	1,2-Dichloroethane-d4	0.326	0.339	-4.0	86	0.00	7.23
45		1,2-Dichloroethane	0.388	0.391	-0.8	82	0.00	7.30
46		Trichloroethene	0.275	0.274	0.4	80	0.00	7.67
47		Methylcyclohexane	0.485	0.499	-2.9	79	0.00	7.68
48		Dibromomethane	0.171	0.166	2.9	82	0.00	8.10
49	C	1,2-Dichloropropane	0.282	0.269	4.6	77	0.00	8.20
50		Bromodichloromethane	0.376	0.379	-0.8	82	0.00	8.24
51		Methyl methacrylate	0.213	0.201	5.6	77	0.00	8.35
		----------	Amount	Calc.	%Drift		----------	
52		2-Chloroethyl vinyl ether	200.000	195.304	2.3	82	0.00	8.77
		----------	AvgRF	CCRF	%Dev		----------	
53		cis-1,3-Dichloropropene	0.471	0.466	1.1	80	0.00	8.86
54	I	Chlorobenzene-d5	1.000	1.000	0.0	86	0.00	10.60
55	S	Toluene-d8	1.255	1.246	0.7	85	0.00	9.05
56	C	Toluene	1.499	1.398	6.7	79	0.00	9.10
57		2-Nitropropane	0.090	0.091	-1.1	87	0.00	9.33
58		4-Methyl-2-pentanone	0.353	0.327	7.4	79	0.00	9.45
59		trans-1,3-Dichloropropene	0.549	0.530	3.5	81	0.00	9.50
60		Tetrachloroethene	0.387	0.384	0.8	80	0.00	9.49
61		Ethyl methacrylate	0.422	0.395	6.4	79	0.00	9.61
62		1,1,2-Trichloroethane	0.253	0.238	5.9	80	0.00	9.66
63		Dibromochloromethane	0.374	0.363	2.9	81	0.00	9.85
64		1,3-Dichloropropane	0.543	0.507	6.6	81	0.00	9.94
65		1,2-Dibromoethane	0.306	0.289	5.6	83	0.00	10.11
66		2-hexanone	0.241	0.231	4.1	80	0.00	10.26
		----------	Amount	Calc.	%Drift		----------	
67		1-Chlorohexane	40.000	37.811	5.5	81	0.00	10.56
		----------	AvgRF	CCRF	%Dev		----------	
68	C	Ethylbenzene	1.696	1.672	1.4	81	0.00	10.62
69	P	Chlorobenzene	0.966	0.924	4.3	83	0.00	10.62
70		1,1,1,2-Tetrachloroethane	0.378	0.373	1.3	81	0.00	10.67
71		m,p-Xylene	1.237	1.266	-2.3	82	0.00	10.76
72		o-Xylene	1.244	1.247	-0.2	81	0.00	11.20
73		Styrene	1.002	1.041	-3.9	83	0.00	11.25
74	P	Bromoform	0.264	0.256	3.0	84	0.00	11.30
75		Isopropylbenzene	1.505	1.551	-3.1	81	0.00	11.50
76	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	89	0.00	12.96
77	S	4-Bromofluorobenzene	0.714	0.705	1.3	88	0.00	11.81
78		cis-1,4-Dichloro-2-butene	0.250	0.147	41.2#	54	0.00	11.86
79		n-Propylbenzene	3.351	3.269	2.4	84	0.00	11.92
80		Bromobenzene	0.830	0.760	8.4	84	0.00	11.94
81	P	1,1,2,2-Tetrachloroethane	0.728	0.628	13.7	79	0.00	11.99
82		1,3,5-Trimethylbenzene	2.560	2.580	-0.8	84	0.00	12.11
83		2-Chlorotoluene	2.355	2.272	3.5	82	0.00	12.11
84		trans-1,4-Dichloro-2-Bute	0.255	0.169	33.7#	57	0.00	12.17
85		1,2,3-Trichloropropane	0.229	0.203	11.4	82	0.00	12.15
86		Cyclohexanone	0.021	0.021	0.0	84	0.00	12.22
87		4-Chlorotoluene	2.100	2.080	1.0	84	0.00	12.28
88		tert-Butylbenzene	1.429	1.455	-1.8	83	0.00	12.45

Continuing Calibration Summary

Job Number: FA21
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VP497-CC494
Lab FileID: P12672.D

89	1,2,4-Trimethylbenzene	2.632	2.681	-1.9	84	0.00	12.52
	----------	Amount	Calc.	%Drift	----------		
90	Pentachloroethane	40.000	35.868	10.3	82	0.00	12.50
	----------	AvgRF	CCRF	%Dev	----------		
91	sec-Butylbenzene	3.105	3.067	1.2	81	0.00	12.63
92	4-Isopropyltoluene	2.696	2.788	-3.4	84	0.00	12.77
93	1,3-Dichlorobenzene	1.489	1.455	2.3	85	0.00	12.89
94	1,4-Dichlorobenzene	1.702	1.594	6.3	84	0.00	12.98
95	n-Butylbenzene	1.653	1.646	0.4	83	0.00	13.21
96	Benzyl Chloride	0.351	0.345	1.7	86	0.00	13.22
97	1,2-Dichlorobenzene	1.483	1.409	5.0	84	0.00	13.41
98	1,2-Dibromo-3-Chloropropa	0.158	0.136	13.9	84	0.00	14.17
99	Hexachlorobutadiene	0.591	0.571	3.4	85	0.00	14.72
100	1,2,4-Trichlorobenzene	1.133	1.099	3.0	83	0.00	14.76
101	Naphthalene	2.516	2.402	4.5	82	0.00	15.05
102	1,2,3-Trichlorobenzene	1.057	0.998	5.6	83	0.00	15.21
103 I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	84	0.00	5.09
	----------	Amount	Calc.	%Drift	----------		
104	Ethanol	800.000	796.490	0.4	80	0.00	3.94
105	Acrolein	200.000	142.084	29.0#	58	0.00	4.56
	----------	AvgRF	CCRF	%Dev	----------		
106	Tert Butyl Alcohol	0.247	0.243	1.6	83	0.00	5.16
107	Isobutyl alcohol	0.062	0.061	1.6	80	0.00	7.22
108	Tert Amyl Alcohol	0.170	0.171	-0.6	80	0.00	7.34
109	1,4-Dioxane	0.022	0.020	9.1	82	0.00	8.43

(#) = Out of Range SPCC's out = 0 CCC's out = 1
P12590.D 122012APP9-P.M Mon Dec 24 14:56:01 2012

6.7.4

6

Southeast ACCUTEST LABORATORIES

03/21/13

Technical Report for

Tetra Tech, Inc

Holloman AFB; Alamogordo, NM

SD-27, Sub Agreement: 1071181, MOD 2

Accutest Job Number: FA2476

Sampling Dates: 03/06/13 - 03/07/13

Report to:

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Total number of pages in report: **110**

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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Accutest Laboratories

Sample Summary

Tetra Tech, Inc

Job No: FA2476

Holloman AFB; Alamogordo, NM
Project No: SD-27, Sub Agreement: 1071181, MOD 2

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
FA2476-1	03/06/13	16:15	JW	03/08/13	AQ	Ground Water	MW27-01-030613
FA2476-2	03/06/13	15:55	JW	03/08/13	AQ	Ground Water	MW27-02-030613
FA2476-3	03/07/13	08:05	JW	03/08/13	AQ	Ground Water	MW27-03-030713
FA2476-4	03/07/13	08:14	JW	03/08/13	AQ	Ground Water	MW27-04-030713
FA2476-4D	03/07/13	08:14	JW	03/08/13	AQ	Water Dup/MSD	MW27-04-030713
FA2476-4S	03/07/13	08:14	JW	03/08/13	AQ	Water Matrix Spike	MW27-04-030713
FA2476-5	03/07/13	08:30	JW	03/08/13	AQ	Ground Water	MW27-05-030713
FA2476-6	03/07/13	08:30	JW	03/08/13	AQ	Ground Water	MW27-DUP01-030713
FA2476-7	03/06/13	08:00	JW	03/08/13	AQ	Trip Blank Water	SD27-TB01-030613

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Tetra Tech, Inc **Job No:** FA2476

Site: Holloman AFB; Alamogordo, NM **Report Date:** 3/21/2013 6:04:27 PM

6 Samples and 1 Trip Blank were collected on/between 03/06/2013 and 03/07/2013 and were received at Accutest SE on 03/08/2013 properly preserved, at 2.6 Deg. C and intact. These Samples received an Accutest job number of FA2476. 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: AQ **Batch ID:** VJ4318

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA2476-4MS, FA2476-4MSD were used as the QC samples indicated.

Matrix Spike Recovery(s) for 2-Chloroethyl vinyl ether, cis-1,3-Dichloropropene, trans-1,3-Dichloropropene are outside control limits. Probable cause is due to matrix interference. For method performance in a clean matrix, refer to Blank Spike.

Matrix Spike Duplicate Recovery(s) for 2-Chloroethyl vinyl ether, cis-1,3-Dichloropropene, Propionitrile, Styrene, trans-1,3-Dichloropropene are outside control limits. Probable cause is due to matrix interference. For method performance in a clean matrix, refer to Blank Spike.

RPD(s) for MSD for Styrene are outside control limits for sample FA2476-4MSD. Probable cause is due to sample non-homogeneity.

FA2476-6 for Methylene chloride: Suspected laboratory contaminant.

Matrix: AQ **Batch ID:** VJ4320

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA2605-11MS, FA2605-11MSD were used as the QC samples indicated.

Matrix Spike Recovery(s) for 2-Chloroethyl vinyl ether, Benzyl Chloride, cis-1,3-Dichloropropene are outside control limits. Probable cause is due to matrix interference. For method performance in a clean matrix, refer to Blank Spike.

Matrix Spike Duplicate Recovery(s) for 1,1,1,2-Tetrachloroethane, 2-Chloroethyl vinyl ether, Benzyl Chloride, Bromoform, cis-1,3-Dichloropropene, trans-1,3-Dichloropropene are outside control limits. Probable cause is due to matrix interference. For method performance in a clean matrix, refer to Blank Spike.

Matrix Spike Recovery(s)/Matrix Spike Duplicate Recovery(s) for Trichloroethylene 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.

RPD(s) for MSD for 1,1,1,2-Tetrachloroethane, Allyl chloride, Bromodichloromethane, Bromoform, Carbon disulfide, Carbon tetrachloride, cis-1,3-Dichloropropene, Dibromochloromethane, Pentachloroethane, trans-1,3-Dichloropropene are outside control limits for sample FA2605-11MSD. Probable cause is due to sample non-homogeneity.

FA2476-5 for Methylene chloride: Suspected laboratory contaminant.

Matrix: AQ **Batch ID:** VO604

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA2707-2MS, FA2707-2MSD were used as the QC samples indicated.

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: March 21, 2013

Kim Benham, Client Services (signature on file)

Summary of Hits

Job Number: FA2476
Account: Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM
Collected: 03/06/13 thru 03/07/13

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
FA2476-1	**MW27-01-030613**					
No hits reported in this sample.						
FA2476-2	**MW27-02-030613**					
Benzene		4.5	1.0	0.21	ug/l	SW846 8260B
sec-Butylbenzene		3.9	1.0	0.21	ug/l	SW846 8260B
tert-Butylbenzene		0.30 J	1.0	0.29	ug/l	SW846 8260B
Chloroform		0.41 J	1.0	0.26	ug/l	SW846 8260B
Isopropylbenzene		9.0	1.0	0.20	ug/l	SW846 8260B
p-Isopropyltoluene		0.30 J	1.0	0.20	ug/l	SW846 8260B
n-Propylbenzene		12.7	1.0	0.23	ug/l	SW846 8260B
1,3,5-Trimethylbenzene		4.4	2.0	0.20	ug/l	SW846 8260B
FA2476-3	**MW27-03-030713**					
Isopropylbenzene		0.33 J	1.0	0.20	ug/l	SW846 8260B
n-Propylbenzene		0.27 J	1.0	0.23	ug/l	SW846 8260B
1,3,5-Trimethylbenzene		0.28 J	2.0	0.20	ug/l	SW846 8260B
FA2476-4	**MW27-04-030713**					
sec-Butylbenzene		3.1	1.0	0.21	ug/l	SW846 8260B
tert-Butylbenzene		0.41 J	1.0	0.29	ug/l	SW846 8260B
Isopropylbenzene		3.6	1.0	0.20	ug/l	SW846 8260B
n-Propylbenzene		3.7	1.0	0.23	ug/l	SW846 8260B
FA2476-5	**MW27-05-030713**					
Benzene		426	5.0	1.1	ug/l	SW846 8260B
n-Butylbenzene		1.0 J	5.0	1.0	ug/l	SW846 8260B
sec-Butylbenzene		9.4	5.0	1.1	ug/l	SW846 8260B
Ethylbenzene		480	5.0	1.5	ug/l	SW846 8260B
Isopropylbenzene		49.5	5.0	1.0	ug/l	SW846 8260B
p-Isopropyltoluene		5.8	5.0	1.0	ug/l	SW846 8260B
Methylene chloride [a]		61.3	25	10	ug/l	SW846 8260B
Naphthalene		21.9 J	25	5.0	ug/l	SW846 8260B
n-Propylbenzene		52.4	5.0	1.1	ug/l	SW846 8260B
1,2,4-Trimethylbenzene		244	10	1.0	ug/l	SW846 8260B
1,3,5-Trimethylbenzene		64.2	10	1.0	ug/l	SW846 8260B
Toluene		102	5.0	1.0	ug/l	SW846 8260B
m,p-Xylene		47.1	10	1.5	ug/l	SW846 8260B
o-Xylene		220	5.0	1.0	ug/l	SW846 8260B

Summary of Hits

Job Number: FA2476
Account: Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM
Collected: 03/06/13 thru 03/07/13

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
FA2476-6	**MW27-DUP01-030713**					
Benzene		516	10	2.1	ug/l	SW846 8260B
n-Butylbenzene		0.74 J	2.0	0.40	ug/l	SW846 8260B
sec-Butylbenzene		8.2	2.0	0.42	ug/l	SW846 8260B
tert-Butylbenzene		0.95 J	2.0	0.59	ug/l	SW846 8260B
Carbon disulfide		1.3 J	4.0	0.99	ug/l	SW846 8260B
Ethylbenzene		568	10	2.9	ug/l	SW846 8260B
Isopropylbenzene		47.2	2.0	0.40	ug/l	SW846 8260B
p-Isopropyltoluene		5.5	2.0	0.40	ug/l	SW846 8260B
Methylene chloride [a]		12.2	10	4.0	ug/l	SW846 8260B
Naphthalene		25.6	10	2.0	ug/l	SW846 8260B
n-Propylbenzene		49.3	2.0	0.45	ug/l	SW846 8260B
1,2,4-Trimethylbenzene		242	20	2.0	ug/l	SW846 8260B
1,3,5-Trimethylbenzene		55.6	4.0	0.40	ug/l	SW846 8260B
Toluene		98.8	2.0	0.40	ug/l	SW846 8260B
m,p-Xylene		42.1	4.0	0.59	ug/l	SW846 8260B
o-Xylene		258	10	2.0	ug/l	SW846 8260B

FA2476-7 **SD27-TB01-030613**

No hits reported in this sample.

(a) Suspected laboratory contaminant.

Southeast ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	MW27-01-030613		
Lab Sample ID:	FA2476-1	**Date Sampled:**	03/06/13
Matrix:	AQ - Ground Water	**Date Received:**	03/08/13
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	J084590.D	1	03/18/13	MM	n/a	n/a	VJ4318
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
75-05-8	Acetonitrile	ND	20	3.7	ug/l	
107-02-8	Acrolein	ND	20	6.9	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
107-05-1	Allyl chloride	ND	2.0	0.56	ug/l	
71-43-2	Benzene	ND	1.0	0.21	ug/l	
100-44-7	Benzyl Chloride	ND	2.0	0.38	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.22	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.34	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.20	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.21	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.29	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.26	ug/l	
544-10-5	1-Chlorohexane	ND	2.0	0.20	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.21	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.20	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.3	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.49	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.31	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.25	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.71	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.30	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.26	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.27	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.25	ug/l	

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:	MW27-01-030613		
Lab Sample ID:	FA2476-1	**Date Sampled:**	03/06/13
Matrix:	AQ - Ground Water	**Date Received:**	03/08/13
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	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	10	1.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.25	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.20	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.23	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.29	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.50	ug/l	
76-13-1	Freon 113	ND	1.0	0.33	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.50	ug/l	
110-54-3	Hexane	ND	2.0	0.88	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.20	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.3	ug/l	
126-98-7	Methacrylonitrile	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.79	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.50	ug/l	
74-88-4	Methyl iodide	ND	1.0	0.25	ug/l	
80-62-6	Methyl methacrylate	ND	5.0	0.50	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.34	ug/l	
75-09-2	Methylene chloride	ND	5.0	2.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	3.1	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.21	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
76-01-7	Pentachloroethane	ND	10	1.0	ug/l	
107-12-0	Propionitrile	ND	20	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.23	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.23	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.24	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.56	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	

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:	MW27-01-030613		
Lab Sample ID:	FA2476-1	**Date Sampled:**	03/06/13
Matrix:	AQ - Ground Water	**Date Received:**	03/08/13
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	2.0	0.20	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.32	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.31	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	10	2.1	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.44	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.1	ug/l	
	m,p-Xylene	ND	2.0	0.30	ug/l	
95-47-6	o-Xylene	ND	1.0	0.20	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		87-116%
17060-07-0	1,2-Dichloroethane-D4	103%		76-127%
2037-26-5	Toluene-D8	101%		86-112%
460-00-4	4-Bromofluorobenzene	108%		84-120%

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:	MW27-02-030613		
Lab Sample ID:	FA2476-2	**Date Sampled:**	03/06/13
Matrix:	AQ - Ground Water	**Date Received:**	03/08/13
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	J084591.D	1	03/18/13	MM	n/a	n/a	VJ4318
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
75-05-8	Acetonitrile	ND	20	3.7	ug/l	
107-02-8	Acrolein	ND	20	6.9	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
107-05-1	Allyl chloride	ND	2.0	0.56	ug/l	
71-43-2	Benzene	4.5	1.0	0.21	ug/l	
100-44-7	Benzyl Chloride	ND	2.0	0.38	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.22	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.34	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.20	ug/l	
135-98-8	sec-Butylbenzene	3.9	1.0	0.21	ug/l	
98-06-6	tert-Butylbenzene	0.30	1.0	0.29	ug/l	J
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
67-66-3	Chloroform	0.41	1.0	0.26	ug/l	J
544-10-5	1-Chlorohexane	ND	2.0	0.20	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.21	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.20	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.3	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.49	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.31	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.25	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.71	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.30	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.26	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.27	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.25	ug/l	

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:	MW27-02-030613		
Lab Sample ID:	FA2476-2	**Date Sampled:**	03/06/13
Matrix:	AQ - Ground Water	**Date Received:**	03/08/13
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	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	10	1.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.25	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.20	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.23	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.29	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.50	ug/l	
76-13-1	Freon 113	ND	1.0	0.33	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.50	ug/l	
110-54-3	Hexane	ND	2.0	0.88	ug/l	
98-82-8	Isopropylbenzene	9.0	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	0.30	1.0	0.20	ug/l	J
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.3	ug/l	
126-98-7	Methacrylonitrile	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.79	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.50	ug/l	
74-88-4	Methyl iodide	ND	1.0	0.25	ug/l	
80-62-6	Methyl methacrylate	ND	5.0	0.50	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.34	ug/l	
75-09-2	Methylene chloride	ND	5.0	2.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	3.1	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.21	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
76-01-7	Pentachloroethane	ND	10	1.0	ug/l	
107-12-0	Propionitrile	ND	20	5.0	ug/l	
103-65-1	n-Propylbenzene	12.7	1.0	0.23	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.23	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.24	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.56	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	

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:	MW27-02-030613		
Lab Sample ID:	FA2476-2	**Date Sampled:**	03/06/13
Matrix:	AQ - Ground Water	**Date Received:**	03/08/13
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	2.0	0.20	ug/l	
108-67-8	1,3,5-Trimethylbenzene	4.4	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.32	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.31	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	10	2.1	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.44	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.1	ug/l	
	m,p-Xylene	ND	2.0	0.30	ug/l	
95-47-6	o-Xylene	ND	1.0	0.20	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		87-116%
17060-07-0	1,2-Dichloroethane-D4	104%		76-127%
2037-26-5	Toluene-D8	102%		86-112%
460-00-4	4-Bromofluorobenzene	111%		84-120%

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:	MW27-03-030713		
Lab Sample ID:	FA2476-3	**Date Sampled:**	03/07/13
Matrix:	AQ - Ground Water	**Date Received:**	03/08/13
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	J084592.D	1	03/18/13	MM	n/a	n/a	VJ4318
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
75-05-8	Acetonitrile	ND	20	3.7	ug/l	
107-02-8	Acrolein	ND	20	6.9	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
107-05-1	Allyl chloride	ND	2.0	0.56	ug/l	
71-43-2	Benzene	ND	1.0	0.21	ug/l	
100-44-7	Benzyl Chloride	ND	2.0	0.38	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.22	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.34	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.20	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.21	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.29	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.26	ug/l	
544-10-5	1-Chlorohexane	ND	2.0	0.20	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.21	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.20	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.3	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.49	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.31	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.25	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.71	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.30	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.26	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.27	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.25	ug/l	

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:	MW27-03-030713		
Lab Sample ID:	FA2476-3	**Date Sampled:**	03/07/13
Matrix:	AQ - Ground Water	**Date Received:**	03/08/13
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	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	10	1.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.25	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.20	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.23	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.29	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.50	ug/l	
76-13-1	Freon 113	ND	1.0	0.33	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.50	ug/l	
110-54-3	Hexane	ND	2.0	0.88	ug/l	
98-82-8	Isopropylbenzene	0.33	1.0	0.20	ug/l	J
99-87-6	p-Isopropyltoluene	ND	1.0	0.20	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.3	ug/l	
126-98-7	Methacrylonitrile	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.79	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.50	ug/l	
74-88-4	Methyl iodide	ND	1.0	0.25	ug/l	
80-62-6	Methyl methacrylate	ND	5.0	0.50	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.34	ug/l	
75-09-2	Methylene chloride	ND	5.0	2.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	3.1	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.21	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
76-01-7	Pentachloroethane	ND	10	1.0	ug/l	
107-12-0	Propionitrile	ND	20	5.0	ug/l	
103-65-1	n-Propylbenzene	0.27	1.0	0.23	ug/l	J
100-42-5	Styrene	ND	1.0	0.20	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.23	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.24	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.56	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	

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:	MW27-03-030713		
Lab Sample ID:	FA2476-3	**Date Sampled:**	03/07/13
Matrix:	AQ - Ground Water	**Date Received:**	03/08/13
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	2.0	0.20	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.28	2.0	0.20	ug/l	J
127-18-4	Tetrachloroethylene	ND	1.0	0.32	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.31	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	10	2.1	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.44	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.1	ug/l	
	m,p-Xylene	ND	2.0	0.30	ug/l	
95-47-6	o-Xylene	ND	1.0	0.20	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		87-116%
17060-07-0	1,2-Dichloroethane-D4	105%		76-127%
2037-26-5	Toluene-D8	99%		86-112%
460-00-4	4-Bromofluorobenzene	111%		84-120%

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:	MW27-04-030713		
Lab Sample ID:	FA2476-4	**Date Sampled:**	03/07/13
Matrix:	AQ - Ground Water	**Date Received:**	03/08/13
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	J084593.D	1	03/18/13	MM	n/a	n/a	VJ4318
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
75-05-8	Acetonitrile	ND	20	3.7	ug/l	
107-02-8	Acrolein	ND	20	6.9	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
107-05-1	Allyl chloride	ND	2.0	0.56	ug/l	
71-43-2	Benzene	ND	1.0	0.21	ug/l	
100-44-7	Benzyl Chloride	ND	2.0	0.38	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.22	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.34	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.20	ug/l	
135-98-8	sec-Butylbenzene	3.1	1.0	0.21	ug/l	
98-06-6	tert-Butylbenzene	0.41	1.0	0.29	ug/l	J
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.26	ug/l	
544-10-5	1-Chlorohexane	ND	2.0	0.20	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.21	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.20	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.3	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.49	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.31	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.25	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.71	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.30	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.26	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.27	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.25	ug/l	

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:	MW27-04-030713		
Lab Sample ID:	FA2476-4	**Date Sampled:**	03/07/13
Matrix:	AQ - Ground Water	**Date Received:**	03/08/13
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	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	10	1.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.25	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.20	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.23	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.29	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.50	ug/l	
76-13-1	Freon 113	ND	1.0	0.33	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.50	ug/l	
110-54-3	Hexane	ND	2.0	0.88	ug/l	
98-82-8	Isopropylbenzene	3.6	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.20	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.3	ug/l	
126-98-7	Methacrylonitrile	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.79	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.50	ug/l	
74-88-4	Methyl iodide	ND	1.0	0.25	ug/l	
80-62-6	Methyl methacrylate	ND	5.0	0.50	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.34	ug/l	
75-09-2	Methylene chloride	ND	5.0	2.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	3.1	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.21	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
76-01-7	Pentachloroethane	ND	10	1.0	ug/l	
107-12-0	Propionitrile	ND	20	5.0	ug/l	
103-65-1	n-Propylbenzene	3.7	1.0	0.23	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.23	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.24	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.56	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	

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:	MW27-04-030713		
Lab Sample ID:	FA2476-4	**Date Sampled:**	03/07/13
Matrix:	AQ - Ground Water	**Date Received:**	03/08/13
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	2.0	0.20	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.32	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.31	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	10	2.1	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.44	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.1	ug/l	
	m,p-Xylene	ND	2.0	0.30	ug/l	
95-47-6	o-Xylene	ND	1.0	0.20	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		87-116%
17060-07-0	1,2-Dichloroethane-D4	103%		76-127%
2037-26-5	Toluene-D8	101%		86-112%
460-00-4	4-Bromofluorobenzene	111%		84-120%

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:	MW27-05-030713		
Lab Sample ID:	FA2476-5	**Date Sampled:**	03/07/13
Matrix:	AQ - Ground Water	**Date Received:**	03/08/13
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	J084639.D	5	03/20/13	MM	n/a	n/a	VJ4320
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	130	50	ug/l	
75-05-8	Acetonitrile	ND	100	18	ug/l	
107-02-8	Acrolein	ND	100	35	ug/l	
107-13-1	Acrylonitrile	ND	50	10	ug/l	
107-05-1	Allyl chloride	ND	10	2.8	ug/l	
71-43-2	Benzene	426	5.0	1.1	ug/l	
100-44-7	Benzyl Chloride	ND	10	1.9	ug/l	
108-86-1	Bromobenzene	ND	5.0	1.1	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.1	ug/l	
75-27-4	Bromodichloromethane	ND	5.0	1.0	ug/l	
75-25-2	Bromoform	ND	5.0	1.7	ug/l	
104-51-8	n-Butylbenzene	1.0	5.0	1.0	ug/l	J
135-98-8	sec-Butylbenzene	9.4	5.0	1.1	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	1.5	ug/l	
108-90-7	Chlorobenzene	ND	5.0	1.0	ug/l	
75-00-3	Chloroethane	ND	10	2.5	ug/l	
67-66-3	Chloroform	ND	5.0	1.3	ug/l	
544-10-5	1-Chlorohexane	ND	10	1.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	1.1	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	1.0	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	25	6.4	ug/l	
75-15-0	Carbon disulfide	ND	10	2.5	ug/l	
56-23-5	Carbon tetrachloride	ND	5.0	1.6	ug/l	
75-34-3	1,1-Dichloroethane	ND	5.0	1.1	ug/l	
75-35-4	1,1-Dichloroethylene	ND	5.0	1.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	1.2	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	3.6	ug/l	
106-93-4	1,2-Dibromoethane	ND	5.0	1.5	ug/l	
107-06-2	1,2-Dichloroethane	ND	5.0	1.1	ug/l	
78-87-5	1,2-Dichloropropane	ND	5.0	1.3	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	1.3	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.2	ug/l	

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:	MW27-05-030713		
Lab Sample ID:	FA2476-5	**Date Sampled:**	03/07/13
Matrix:	AQ - Ground Water	**Date Received:**	03/08/13
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/l	
75-71-8	Dichlorodifluoromethane	ND	10	2.5	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	5.0	1.2	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	5.0	1.1	ug/l	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	50	5.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	5.0	1.3	ug/l	
95-50-1	o-Dichlorobenzene	ND	5.0	1.1	ug/l	
106-46-7	p-Dichlorobenzene	ND	5.0	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	5.0	1.1	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	5.0	1.0	ug/l	
100-41-4	Ethylbenzene	480	5.0	1.5	ug/l	
97-63-2	Ethyl methacrylate	ND	25	2.5	ug/l	
76-13-1	Freon 113	ND	5.0	1.6	ug/l	
591-78-6	2-Hexanone	ND	50	10	ug/l	
87-68-3	Hexachlorobutadiene	ND	10	2.5	ug/l	
110-54-3	Hexane	ND	10	4.4	ug/l	
98-82-8	Isopropylbenzene	49.5	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	5.8	5.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	25	11	ug/l	
126-98-7	Methacrylonitrile	ND	100	25	ug/l	
74-83-9	Methyl bromide	ND	10	3.9	ug/l	
74-87-3	Methyl chloride	ND	10	2.5	ug/l	
74-88-4	Methyl iodide	ND	5.0	1.2	ug/l	
80-62-6	Methyl methacrylate	ND	25	2.5	ug/l	
74-95-3	Methylene bromide	ND	10	1.7	ug/l	
75-09-2	Methylene chloride [a]	61.3	25	10	ug/l	
78-93-3	Methyl ethyl ketone	ND	25	16	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	5.0	1.1	ug/l	
91-20-3	Naphthalene	21.9	25	5.0	ug/l	J
76-01-7	Pentachloroethane	ND	50	5.0	ug/l	
107-12-0	Propionitrile	ND	100	25	ug/l	
103-65-1	n-Propylbenzene	52.4	5.0	1.1	ug/l	
100-42-5	Styrene	ND	5.0	1.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	1.2	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	5.0	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	5.0	1.2	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	5.0	1.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	2.5	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	10	2.8	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	2.5	ug/l	

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:	MW27-05-030713		
Lab Sample ID:	FA2476-5	**Date Sampled:**	03/07/13
Matrix:	AQ - Ground Water	**Date Received:**	03/08/13
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	244	10	1.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	64.2	10	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	5.0	1.6	ug/l	
108-88-3	Toluene	102	5.0	1.0	ug/l	
79-01-6	Trichloroethylene	ND	5.0	1.6	ug/l	
75-69-4	Trichlorofluoromethane	ND	10	2.5	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	50	11	ug/l	
75-01-4	Vinyl chloride	ND	5.0	2.2	ug/l	
108-05-4	Vinyl Acetate	ND	50	16	ug/l	
	m,p-Xylene	47.1	10	1.5	ug/l	
95-47-6	o-Xylene	220	5.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	94%		87-116%
17060-07-0	1,2-Dichloroethane-D4	96%		76-127%
2037-26-5	Toluene-D8	98%		86-112%
460-00-4	4-Bromofluorobenzene	97%		84-120%

(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:	MW27-DUP01-030713		
Lab Sample ID:	FA2476-6	**Date Sampled:**	03/07/13
Matrix:	AQ - Ground Water	**Date Received:**	03/08/13
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	J084595.D	2	03/18/13	MM	n/a	n/a	VJ4318
Run #2	O14602.D	10	03/19/13	MM	n/a	n/a	VO604

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	50	20	ug/l	
75-05-8	Acetonitrile	ND	40	7.3	ug/l	
107-02-8	Acrolein	ND	40	14	ug/l	
107-13-1	Acrylonitrile	ND	20	4.0	ug/l	
107-05-1	Allyl chloride	ND	4.0	1.1	ug/l	
71-43-2	Benzene	516 [a]	10	2.1	ug/l	
100-44-7	Benzyl Chloride	ND	4.0	0.75	ug/l	
108-86-1	Bromobenzene	ND	2.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	2.0	0.45	ug/l	
75-27-4	Bromodichloromethane	ND	2.0	0.40	ug/l	
75-25-2	Bromoform	ND	2.0	0.69	ug/l	
104-51-8	n-Butylbenzene	0.74	2.0	0.40	ug/l	J
135-98-8	sec-Butylbenzene	8.2	2.0	0.42	ug/l	
98-06-6	tert-Butylbenzene	0.95	2.0	0.59	ug/l	J
108-90-7	Chlorobenzene	ND	2.0	0.40	ug/l	
75-00-3	Chloroethane	ND	4.0	1.0	ug/l	
67-66-3	Chloroform	ND	2.0	0.53	ug/l	
544-10-5	1-Chlorohexane	ND	4.0	0.40	ug/l	
95-49-8	o-Chlorotoluene	ND	2.0	0.43	ug/l	
106-43-4	p-Chlorotoluene	ND	2.0	0.40	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	10	2.5	ug/l	
75-15-0	Carbon disulfide	1.3	4.0	0.99	ug/l	J
56-23-5	Carbon tetrachloride	ND	2.0	0.63	ug/l	
75-34-3	1,1-Dichloroethane	ND	2.0	0.43	ug/l	
75-35-4	1,1-Dichloroethylene	ND	2.0	0.40	ug/l	
563-58-6	1,1-Dichloropropene	ND	2.0	0.50	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	4.0	1.4	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	0.60	ug/l	
107-06-2	1,2-Dichloroethane	ND	2.0	0.44	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.52	ug/l	
142-28-9	1,3-Dichloropropane	ND	2.0	0.54	ug/l	
594-20-7	2,2-Dichloropropane	ND	2.0	0.49	ug/l	

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:	MW27-DUP01-030713		
Lab Sample ID:	FA2476-6	**Date Sampled:**	03/07/13
Matrix:	AQ - Ground Water	**Date Received:**	03/08/13
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	2.0	0.40	ug/l	
75-71-8	Dichlorodifluoromethane	ND	4.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	2.0	0.47	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.44	ug/l	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	20	2.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	2.0	0.51	ug/l	
95-50-1	o-Dichlorobenzene	ND	2.0	0.43	ug/l	
106-46-7	p-Dichlorobenzene	ND	2.0	0.40	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	2.0	0.46	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.42	ug/l	
100-41-4	Ethylbenzene	568 [a]	10	2.9	ug/l	
97-63-2	Ethyl methacrylate	ND	10	1.0	ug/l	
76-13-1	Freon 113	ND	2.0	0.66	ug/l	
591-78-6	2-Hexanone	ND	20	4.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	4.0	1.0	ug/l	
110-54-3	Hexane	ND	4.0	1.8	ug/l	
98-82-8	Isopropylbenzene	47.2	2.0	0.40	ug/l	
99-87-6	p-Isopropyltoluene	5.5	2.0	0.40	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	10	4.5	ug/l	
126-98-7	Methacrylonitrile	ND	40	10	ug/l	
74-83-9	Methyl bromide	ND	4.0	1.6	ug/l	
74-87-3	Methyl chloride	ND	4.0	1.0	ug/l	
74-88-4	Methyl iodide	ND	2.0	0.49	ug/l	
80-62-6	Methyl methacrylate	ND	10	1.0	ug/l	
74-95-3	Methylene bromide	ND	4.0	0.69	ug/l	
75-09-2	Methylene chloride [b]	12.2	10	4.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	10	6.2	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	2.0	0.42	ug/l	
91-20-3	Naphthalene	25.6	10	2.0	ug/l	
76-01-7	Pentachloroethane	ND	20	2.0	ug/l	
107-12-0	Propionitrile	ND	40	10	ug/l	
103-65-1	n-Propylbenzene	49.3	2.0	0.45	ug/l	
100-42-5	Styrene	ND	2.0	0.40	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.0	0.46	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	2.0	0.40	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	0.48	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	2.0	0.40	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	2.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	4.0	1.1	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	1.0	ug/l	

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:	MW27-DUP01-030713		
Lab Sample ID:	FA2476-6	**Date Sampled:**	03/07/13
Matrix:	AQ - Ground Water	**Date Received:**	03/08/13
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	242 [a]	20	2.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	55.6	4.0	0.40	ug/l	
127-18-4	Tetrachloroethylene	ND	2.0	0.64	ug/l	
108-88-3	Toluene	98.8	2.0	0.40	ug/l	
79-01-6	Trichloroethylene	ND	2.0	0.63	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	1.0	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	20	4.2	ug/l	
75-01-4	Vinyl chloride	ND	2.0	0.88	ug/l	
108-05-4	Vinyl Acetate	ND	20	6.3	ug/l	
	m,p-Xylene	42.1	4.0	0.59	ug/l	
95-47-6	o-Xylene	258 [a]	10	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%	100%	87-116%
17060-07-0	1,2-Dichloroethane-D4	100%	100%	76-127%
2037-26-5	Toluene-D8	98%	99%	86-112%
460-00-4	4-Bromofluorobenzene	105%	101%	84-120%

(a) Result is from Run# 2
(b) 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:	SD27-TB01-030613		
Lab Sample ID:	FA2476-7	**Date Sampled:**	03/06/13
Matrix:	AQ - Trip Blank Water	**Date Received:**	03/08/13
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	J084638.D	1	03/20/13	MM	n/a	n/a	VJ4320
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
75-05-8	Acetonitrile	ND	20	3.7	ug/l	
107-02-8	Acrolein	ND	20	6.9	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
107-05-1	Allyl chloride	ND	2.0	0.56	ug/l	
71-43-2	Benzene	ND	1.0	0.21	ug/l	
100-44-7	Benzyl Chloride	ND	2.0	0.38	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.22	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.34	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.20	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.21	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.29	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.26	ug/l	
544-10-5	1-Chlorohexane	ND	2.0	0.20	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.21	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.20	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.3	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.49	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.31	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.25	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.71	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.30	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.26	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.27	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.25	ug/l	

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:	SD27-TB01-030613		
Lab Sample ID:	FA2476-7	**Date Sampled:**	03/06/13
Matrix:	AQ - Trip Blank Water	**Date Received:**	03/08/13
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	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	10	1.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.25	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.20	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.23	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.29	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.50	ug/l	
76-13-1	Freon 113	ND	1.0	0.33	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.50	ug/l	
110-54-3	Hexane	ND	2.0	0.88	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.20	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.3	ug/l	
126-98-7	Methacrylonitrile	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.79	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.50	ug/l	
74-88-4	Methyl iodide	ND	1.0	0.25	ug/l	
80-62-6	Methyl methacrylate	ND	5.0	0.50	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.34	ug/l	
75-09-2	Methylene chloride	ND	5.0	2.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	3.1	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.21	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
76-01-7	Pentachloroethane	ND	10	1.0	ug/l	
107-12-0	Propionitrile	ND	20	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.23	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.23	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.24	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.56	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	

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:	SD27-TB01-030613		
Lab Sample ID:	FA2476-7	**Date Sampled:**	03/06/13
Matrix:	AQ - Trip Blank Water	**Date Received:**	03/08/13
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	2.0	0.20	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.32	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.31	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	10	2.1	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.44	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.1	ug/l	
	m,p-Xylene	ND	2.0	0.30	ug/l	
95-47-6	o-Xylene	ND	1.0	0.20	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		87-116%
17060-07-0	1,2-Dichloroethane-D4	104%		76-127%
2037-26-5	Toluene-D8	101%		86-112%
460-00-4	4-Bromofluorobenzene	101%		84-120%

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
- Chain of Custody

Parameter Certification Exceptions

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

The following parameters included in this report are exceptions to NELAC certification.
The certification status of each is indicated below.

Parameter	CAS#	Method	Mat	Certification Status
Freon 113	76-13-1	**SW846 8260B**	AQ	Certified by SOP MS005

Tetra Tech, Inc.
800 Oak Ridge Turnpike, Ste A-600
Oak Ridge, TN 37830
865/283-9900

HAFB-SD-27-GW

CHAIN-OF-CUSTODY

FA 2476

Laboratory Name: Accutest Laboratories
Address: 4405 Vineland Rd. Suite C-15 Orlando, FL 32811
Contact: Sue Bell (813/741-3338)

Project Name Holloman AFB
Project Location Holloman AFB, New Mexico
Project No. SD-27 (Groundwater)
Project Contact Maureen McMyler
Site Telephone No.
Report to: Maureen McMyler 800 Oak Ridge Turnpike 865/635-2030
Bill to: Sheila Hall, 800 Oak Ridge Turnpike 865/283-9900
Project Manager/Supervisor Frank Bogle

Analysis and Method Desired

Item No.	Sample Number	Date	Time	Comp	Grab	Matrix	Sample Description, Location	Number of Containers	VOCs by SW8260B						Remarks: Notes
1	MW27-01-030613	3/6/2013	1615		X	GW	SD27-MW01	3	3						
2	MW27-02-030613	3/6/2013	1555		X	GW	SD27-MW02	3	3						
3	MW27-03-030713	3/7/2013	805		X	GW	SD27-MW03	3	3						
4	MW27-04-030713	3/7/2013	814		X	GW	SD27-MW04	3	3						
5	MW27-04-030713-MS	3/7/2013	814		X	GW	SD27-MW04	3	3						Matrix Spike
6	MW27-04-030713-MSD	3/7/2013	814		X	GW	SD27-MW04	3	3						Matrix Spike Duplicate
7	MW27-05-030713	3/7/2013	830		X	GW	SD27-MW05	3	3						
8	MW27-DUP01-030713	3/7/2013	830		X	GW	SD27-MW05	3	3						
9	SD27-TB01-030613	3/6/2013	800		X	WQ	TRIP BLANK	2	2						
10															
11															

Transfers Relinquished By (Signature)	Date/Time	Transfers Accepted By (Signature)	Date/Time
	3-7-13/1500	FX	10:00
FX			3-8-13
		Laboratory	

Special Instructions:
FedEx Airbill No.: 8017 3227 9116
Sampler's Signature:

TAT: X Standard ____ Rush Due: _____ Seals Intact? ____ Y ____ N Received Good Condition ____ Y ____ N ____ Cold

2.6

FA2476: Chain of Custody
Page 1 of 2

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: FA 2476 CLIENT: TETRA TECH PROJECT: IAAAP

DATE/TIME RECEIVED: 3-8-13 10:00 {MM/DD/YY 24:00} NIMBER OF COOLERS RECEIVED: 1

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

AIRBILL NUMBERS: 8017 3227 9116

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 ? _____

NUMBER OF LAB FILTERED METALS ? _____

TEMPERATURE INFORMATION

- [ ] IR THERM ID 3 CORR. FACTOR +0.4
- [ ] OBSERVED TEMPS: 2.2
- [ ] CORRECTED TEMPS: 2.6

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 3-8-13 REVIEWER SIGNATURE/DATE 03/08/13

NF 12/10 receipt confirmation 122910.xls

5.2 5

FA2476: 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

Method Blank Summary

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ4318-MB	J084579.D	1	03/18/13	MM	n/a	n/a	VJ4318

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

FA2476-1, FA2476-2, FA2476-3, FA2476-4, FA2476-6

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
75-05-8	Acetonitrile	ND	20	3.7	ug/l	
107-02-8	Acrolein	ND	20	6.9	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
107-05-1	Allyl chloride	ND	2.0	0.56	ug/l	
71-43-2	Benzene	ND	1.0	0.21	ug/l	
100-44-7	Benzyl Chloride	ND	2.0	0.38	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.22	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.34	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.20	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.21	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.29	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.26	ug/l	
544-10-5	1-Chlorohexane	ND	2.0	0.20	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.21	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.20	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.3	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.49	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.31	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.25	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.71	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.30	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.26	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.27	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.25	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.22	ug/l	

Method Blank Summary

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ4318-MB	J084579.D	1	03/18/13	MM	n/a	n/a	VJ4318

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

FA2476-1, FA2476-2, FA2476-3, FA2476-4, FA2476-6

CAS No.	Compound	Result	RL	MDL	Units	Q
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	10	1.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.25	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.20	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.23	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.29	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.50	ug/l	
76-13-1	Freon 113	ND	1.0	0.33	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.50	ug/l	
110-54-3	Hexane	ND	2.0	0.88	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.20	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.3	ug/l	
126-98-7	Methacrylonitrile	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.79	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.50	ug/l	
74-88-4	Methyl iodide	ND	1.0	0.25	ug/l	
80-62-6	Methyl methacrylate	ND	5.0	0.50	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.34	ug/l	
75-09-2	Methylene chloride	ND	5.0	2.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	3.1	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.21	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
76-01-7	Pentachloroethane	ND	10	1.0	ug/l	
107-12-0	Propionitrile	ND	20	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.23	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.23	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.24	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	0.87	1.0	0.50	ug/l	J
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.56	ug/l	
120-82-1	1,2,4-Trichlorobenzene	0.56	1.0	0.50	ug/l	J

Method Blank Summary

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ4318-MB	J084579.D	1	03/18/13	MM	n/a	n/a	VJ4318

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

FA2476-1, FA2476-2, FA2476-3, FA2476-4, FA2476-6

CAS No.	Compound	Result	RL	MDL	Units	Q
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.20	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.32	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.31	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	10	2.1	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.44	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.1	ug/l	
	m,p-Xylene	ND	2.0	0.30	ug/l	
95-47-6	o-Xylene	ND	1.0	0.20	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	100%	87-116%
17060-07-0	1,2-Dichloroethane-D4	105%	76-127%
2037-26-5	Toluene-D8	100%	86-112%
460-00-4	4-Bromofluorobenzene	110%	84-120%

Method Blank Summary

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VO604-MB	O14600.D	1	03/19/13	MM	n/a	n/a	VO604

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

FA2476-6

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.29	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.20	ug/l	
95-47-6	o-Xylene	ND	1.0	0.20	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	99%	87-116%
17060-07-0	1,2-Dichloroethane-D4	99%	76-127%
2037-26-5	Toluene-D8	101%	86-112%
460-00-4	4-Bromofluorobenzene	100%	84-120%

Method Blank Summary

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ4320-MB	J084637.D	1	03/20/13	MM	n/a	n/a	VJ4320

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

FA2476-5, FA2476-7

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
75-05-8	Acetonitrile	ND	20	3.7	ug/l	
107-02-8	Acrolein	ND	20	6.9	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
107-05-1	Allyl chloride	ND	2.0	0.56	ug/l	
71-43-2	Benzene	ND	1.0	0.21	ug/l	
100-44-7	Benzyl Chloride	ND	2.0	0.38	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.22	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.34	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.20	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.21	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.29	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.26	ug/l	
544-10-5	1-Chlorohexane	ND	2.0	0.20	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.21	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.20	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.3	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.49	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.31	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.25	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.71	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.30	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.26	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.27	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.25	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.22	ug/l	

Method Blank Summary

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ4320-MB	J084637.D	1	03/20/13	MM	n/a	n/a	VJ4320

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

FA2476-5, FA2476-7

CAS No.	Compound	Result	RL	MDL	Units	Q
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	10	1.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.25	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.20	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.23	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.29	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.50	ug/l	
76-13-1	Freon 113	ND	1.0	0.33	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.50	ug/l	
110-54-3	Hexane	ND	2.0	0.88	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.20	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.3	ug/l	
126-98-7	Methacrylonitrile	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.79	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.50	ug/l	
74-88-4	Methyl iodide	ND	1.0	0.25	ug/l	
80-62-6	Methyl methacrylate	ND	5.0	0.50	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.34	ug/l	
75-09-2	Methylene chloride	ND	5.0	2.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	3.1	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.21	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
76-01-7	Pentachloroethane	ND	10	1.0	ug/l	
107-12-0	Propionitrile	ND	20	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.23	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.23	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.24	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	0.76	1.0	0.50	ug/l	J
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.56	ug/l	
120-82-1	1,2,4-Trichlorobenzene	0.52	1.0	0.50	ug/l	J

Method Blank Summary

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ4320-MB	J084637.D	1	03/20/13	MM	n/a	n/a	VJ4320

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

FA2476-5, FA2476-7

CAS No.	Compound	Result	RL	MDL	Units	Q
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.20	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.32	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.31	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	10	2.1	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.44	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.1	ug/l	
	m,p-Xylene	ND	2.0	0.30	ug/l	
95-47-6	o-Xylene	ND	1.0	0.20	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	101%	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	101%	84-120%

Blank Spike Summary

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ4318-BS	J084578.D	1	03/18/13	MM	n/a	n/a	VJ4318

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

FA2476-1, FA2476-2, FA2476-3, FA2476-4, FA2476-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	125	131	105	59-134
75-05-8	Acetonitrile	250	247	99	57-123
107-02-8	Acrolein	125	121	97	33-157
107-13-1	Acrylonitrile	125	109	87	62-124
107-05-1	Allyl chloride	25	27.3	109	48-136
71-43-2	Benzene	25	28.3	113	83-124
100-44-7	Benzyl Chloride	25	23.0	92	61-118
108-86-1	Bromobenzene	25	26.3	105	83-115
74-97-5	Bromochloromethane	25	26.0	104	78-112
75-27-4	Bromodichloromethane	25	27.7	111	76-116
75-25-2	Bromoform	25	24.6	98	68-128
104-51-8	n-Butylbenzene	25	26.0	104	84-124
135-98-8	sec-Butylbenzene	25	28.8	115	86-127
98-06-6	tert-Butylbenzene	25	29.2	117	83-126
108-90-7	Chlorobenzene	25	28.8	115	87-115
75-00-3	Chloroethane	25	26.6	106	54-166
67-66-3	Chloroform	25	27.8	111	85-123
544-10-5	1-Chlorohexane	25	26.4	106	87-128
95-49-8	o-Chlorotoluene	25	28.4	114	84-121
106-43-4	p-Chlorotoluene	25	29.4	118	84-120
110-75-8	2-Chloroethyl vinyl ether	125	116	93	63-125
75-15-0	Carbon disulfide	25	31.4	126	67-147
56-23-5	Carbon tetrachloride	25	27.0	108	74-139
75-34-3	1,1-Dichloroethane	25	29.0	116	82-127
75-35-4	1,1-Dichloroethylene	25	32.4	130	75-133
563-58-6	1,1-Dichloropropene	25	28.7	115	87-127
96-12-8	1,2-Dibromo-3-chloropropane	25	23.4	94	61-118
106-93-4	1,2-Dibromoethane	25	27.0	108	80-115
107-06-2	1,2-Dichloroethane	25	27.9	112	76-122
78-87-5	1,2-Dichloropropane	25	27.4	110	81-120
142-28-9	1,3-Dichloropropane	25	26.5	106	81-113
594-20-7	2,2-Dichloropropane	25	30.0	120	77-138
124-48-1	Dibromochloromethane	25	26.8	107	74-116
75-71-8	Dichlorodifluoromethane	25	29.3	117	34-158
156-59-2	cis-1,2-Dichloroethylene	25	28.1	112	81-114
10061-01-5	cis-1,3-Dichloropropene	25	24.7	99	83-119

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ4318-BS	J084578.D	1	03/18/13	MM	n/a	n/a	VJ4318

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

FA2476-1, FA2476-2, FA2476-3, FA2476-4, FA2476-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
1476-11-5	cis-1,4-Dichloro-2-Butene	25	28.2	113	41-130
541-73-1	m-Dichlorobenzene	25	28.5	114	86-115
95-50-1	o-Dichlorobenzene	25	27.8	111	85-115
106-46-7	p-Dichlorobenzene	25	25.9	104	87-113
156-60-5	trans-1,2-Dichloroethylene	25	28.5	114	82-126
10061-02-6	trans-1,3-Dichloropropene	25	25.7	103	87-123
100-41-4	Ethylbenzene	25	28.1	112	87-118
97-63-2	Ethyl methacrylate	25	23.2	93	68-110
76-13-1	Freon 113	25	27.3	109	74-139
591-78-6	2-Hexanone	125	122	98	58-125
87-68-3	Hexachlorobutadiene	25	26.6	106	71-133
110-54-3	Hexane	25	28.0	112	71-134
98-82-8	Isopropylbenzene	25	29.3	117	87-131
99-87-6	p-Isopropyltoluene	25	27.5	110	83-125
108-10-1	4-Methyl-2-pentanone	125	124	99	62-125
126-98-7	Methacrylonitrile	250	253	101	62-133
74-83-9	Methyl bromide	25	28.5	114	55-151
74-87-3	Methyl chloride	25	28.9	116	55-173
74-88-4	Methyl iodide	25	26.5	106	72-125
80-62-6	Methyl methacrylate	25	24.0	96	63-115
74-95-3	Methylene bromide	25	25.7	103	81-116
75-09-2	Methylene chloride	25	27.5	110	69-125
78-93-3	Methyl ethyl ketone	125	148	118	61-127
1634-04-4	Methyl Tert Butyl Ether	25	25.5	102	75-116
91-20-3	Naphthalene	25	27.1	108	59-125
76-01-7	Pentachloroethane	25	24.1	96	82-111
107-12-0	Propionitrile	250	237	95	69-119
103-65-1	n-Propylbenzene	25	30.1	120	86-125
100-42-5	Styrene	25	25.4	102	78-118
630-20-6	1,1,1,2-Tetrachloroethane	25	25.4	102	81-119
71-55-6	1,1,1-Trichloroethane	25	27.0	108	79-133
79-34-5	1,1,2,2-Tetrachloroethane	25	24.1	96	71-120
79-00-5	1,1,2-Trichloroethane	25	26.1	104	80-114
87-61-6	1,2,3-Trichlorobenzene	25	26.8	107	64-126
96-18-4	1,2,3-Trichloropropane	25	24.8	99	77-115
120-82-1	1,2,4-Trichlorobenzene	25	27.2	109	68-123

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ4318-BS	J084578.D	1	03/18/13	MM	n/a	n/a	VJ4318

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

FA2476-1, FA2476-2, FA2476-3, FA2476-4, FA2476-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
95-63-6	1,2,4-Trimethylbenzene	25	26.2	105	82-120
108-67-8	1,3,5-Trimethylbenzene	25	25.6	102	83-123
127-18-4	Tetrachloroethylene	25	26.2	105	80-131
108-88-3	Toluene	25	27.6	110	86-116
79-01-6	Trichloroethylene	25	28.7	115	85-124
75-69-4	Trichlorofluoromethane	25	27.7	111	66-156
110-57-6	Trans-1,4-Dichloro-2-Butene	25	22.5	90	51-137
75-01-4	Vinyl chloride	25	28.3	113	57-153
108-05-4	Vinyl Acetate	125	88.6	71	38-159
	m,p-Xylene	50	54.7	109	86-121
95-47-6	o-Xylene	25	28.5	114	83-121

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	97%	87-116%
17060-07-0	1,2-Dichloroethane-D4	103%	76-127%
2037-26-5	Toluene-D8	101%	86-112%
460-00-4	4-Bromofluorobenzene	107%	84-120%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VO604-BS	O14599.D	1	03/19/13	MM	n/a	n/a	VO604

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

FA2476-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	25.1	100	83-124
100-41-4	Ethylbenzene	25	24.8	99	87-118
95-63-6	1,2,4-Trimethylbenzene	25	23.2	93	82-120
95-47-6	o-Xylene	25	24.6	98	83-121

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	102%	87-116%
17060-07-0	1,2-Dichloroethane-D4	98%	76-127%
2037-26-5	Toluene-D8	98%	86-112%
460-00-4	4-Bromofluorobenzene	99%	84-120%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ4320-BS	J084636.D	1	03/20/13	MM	n/a	n/a	VJ4320

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

FA2476-5, FA2476-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	125	129	103	59-134
75-05-8	Acetonitrile	250	248	99	57-123
107-02-8	Acrolein	125	126	101	33-157
107-13-1	Acrylonitrile	125	121	97	62-124
107-05-1	Allyl chloride	25	29.0	116	48-136
71-43-2	Benzene	25	26.7	107	83-124
100-44-7	Benzyl Chloride	25	21.6	86	61-118
108-86-1	Bromobenzene	25	26.7	107	83-115
74-97-5	Bromochloromethane	25	24.3	97	78-112
75-27-4	Bromodichloromethane	25	27.0	108	76-116
75-25-2	Bromoform	25	23.3	93	68-128
104-51-8	n-Butylbenzene	25	28.5	114	84-124
135-98-8	sec-Butylbenzene	25	30.2	121	86-127
98-06-6	tert-Butylbenzene	25	29.3	117	83-126
108-90-7	Chlorobenzene	25	27.9	112	87-115
75-00-3	Chloroethane	25	23.0	92	54-166
67-66-3	Chloroform	25	25.6	102	85-123
544-10-5	1-Chlorohexane	25	27.5	110	87-128
95-49-8	o-Chlorotoluene	25	28.8	115	84-121
106-43-4	p-Chlorotoluene	25	29.5	118	84-120
110-75-8	2-Chloroethyl vinyl ether	125	103	82	63-125
75-15-0	Carbon disulfide	25	30.9	124	67-147
56-23-5	Carbon tetrachloride	25	27.9	112	74-139
75-34-3	1,1-Dichloroethane	25	27.7	111	82-127
75-35-4	1,1-Dichloroethylene	25	30.4	122	75-133
563-58-6	1,1-Dichloropropene	25	29.1	116	87-127
96-12-8	1,2-Dibromo-3-chloropropane	25	26.7	107	61-118
106-93-4	1,2-Dibromoethane	25	25.7	103	80-115
107-06-2	1,2-Dichloroethane	25	26.4	106	76-122
78-87-5	1,2-Dichloropropane	25	27.3	109	81-120
142-28-9	1,3-Dichloropropane	25	26.1	104	81-113
594-20-7	2,2-Dichloropropane	25	27.9	112	77-138
124-48-1	Dibromochloromethane	25	26.5	106	74-116
75-71-8	Dichlorodifluoromethane	25	31.5	126	34-158
156-59-2	cis-1,2-Dichloroethylene	25	26.1	104	81-114
10061-01-5	cis-1,3-Dichloropropene	25	25.5	102	83-119

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ4320-BS	J084636.D	1	03/20/13	MM	n/a	n/a	VJ4320

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

FA2476-5, FA2476-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
1476-11-5	cis-1,4-Dichloro-2-Butene	25	27.6	110	41-130
541-73-1	m-Dichlorobenzene	25	28.4	114	86-115
95-50-1	o-Dichlorobenzene	25	27.6	110	85-115
106-46-7	p-Dichlorobenzene	25	26.1	104	87-113
156-60-5	trans-1,2-Dichloroethylene	25	28.6	114	82-126
10061-02-6	trans-1,3-Dichloropropene	25	28.7	115	87-123
100-41-4	Ethylbenzene	25	27.4	110	87-118
97-63-2	Ethyl methacrylate	25	24.3	97	68-110
76-13-1	Freon 113	25	25.9	104	74-139
591-78-6	2-Hexanone	125	121	97	58-125
87-68-3	Hexachlorobutadiene	25	27.7	111	71-133
110-54-3	Hexane	25	26.0	104	71-134
98-82-8	Isopropylbenzene	25	28.3	113	87-131
99-87-6	p-Isopropyltoluene	25	27.8	111	83-125
108-10-1	4-Methyl-2-pentanone	125	121	97	62-125
126-98-7	Methacrylonitrile	250	247	99	62-133
74-83-9	Methyl bromide	25	24.6	98	55-151
74-87-3	Methyl chloride	25	29.0	116	55-173
74-88-4	Methyl iodide	25	25.3	101	72-125
80-62-6	Methyl methacrylate	25	25.9	104	63-115
74-95-3	Methylene bromide	25	25.2	101	81-116
75-09-2	Methylene chloride	25	27.4	110	69-125
78-93-3	Methyl ethyl ketone	125	137	110	61-127
1634-04-4	Methyl Tert Butyl Ether	25	24.6	98	75-116
91-20-3	Naphthalene	25	24.7	99	59-125
76-01-7	Pentachloroethane	25	26.2	105	82-111
107-12-0	Propionitrile	250	242	97	69-119
103-65-1	n-Propylbenzene	25	30.1	120	86-125
100-42-5	Styrene	25	24.8	99	78-118
630-20-6	1,1,1,2-Tetrachloroethane	25	25.4	102	81-119
71-55-6	1,1,1-Trichloroethane	25	27.7	111	79-133
79-34-5	1,1,2,2-Tetrachloroethane	25	25.2	101	71-120
79-00-5	1,1,2-Trichloroethane	25	25.1	100	80-114
87-61-6	1,2,3-Trichlorobenzene	25	25.4	102	64-126
96-18-4	1,2,3-Trichloropropane	25	26.0	104	77-115
120-82-1	1,2,4-Trichlorobenzene	25	27.2	109	68-123

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ4320-BS	J084636.D	1	03/20/13	MM	n/a	n/a	VJ4320

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

FA2476-5, FA2476-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
95-63-6	1,2,4-Trimethylbenzene	25	27.5	110	82-120
108-67-8	1,3,5-Trimethylbenzene	25	27.5	110	83-123
127-18-4	Tetrachloroethylene	25	26.7	107	80-131
108-88-3	Toluene	25	26.9	108	86-116
79-01-6	Trichloroethylene	25	28.4	114	85-124
75-69-4	Trichlorofluoromethane	25	27.6	110	66-156
110-57-6	Trans-1,4-Dichloro-2-Butene	25	23.0	92	51-137
75-01-4	Vinyl chloride	25	28.1	112	57-153
108-05-4	Vinyl Acetate	125	87.9	70	38-159
	m,p-Xylene	50	57.4	115	86-121
95-47-6	o-Xylene	25	27.0	108	83-121

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	101%	87-116%
17060-07-0	1,2-Dichloroethane-D4	104%	76-127%
2037-26-5	Toluene-D8	100%	86-112%
460-00-4	4-Bromofluorobenzene	101%	84-120%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA2476-4MS	J084602.D	1	03/19/13	MM	n/a	n/a	VJ4318
FA2476-4MSD	J084603.D	1	03/19/13	MM	n/a	n/a	VJ4318
FA2476-4	J084593.D	1	03/18/13	MM	n/a	n/a	VJ4318

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

FA2476-1, FA2476-2, FA2476-3, FA2476-4, FA2476-6

CAS No.	Compound	FA2476-4 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		125	139	111	145	116	4	59-134/14
75-05-8	Acetonitrile	ND		250	279	112	292	117	5	57-123/15
107-02-8	Acrolein	ND		125	77.1	62	67.2	54	14	33-157/21
107-13-1	Acrylonitrile	ND		125	126	101	123	98	2	62-124/13
107-05-1	Allyl chloride	ND		25	22.2	89	20.2	81	9	48-136/13
71-43-2	Benzene	ND		25	28.1	112	27.7	111	1	83-124/11
100-44-7	Benzyl Chloride	ND		25	15.5	62	15.2	61	2	61-118/12
108-86-1	Bromobenzene	ND		25	23.8	95	23.9	96	0	83-115/10
74-97-5	Bromochloromethane	ND		25	26.6	106	26.3	105	1	78-112/10
75-27-4	Bromodichloromethane	ND		25	26.9	108	24.7	99	9	76-116/10
75-25-2	Bromoform	ND		25	20.9	84	20.0	80	4	68-128/11
104-51-8	n-Butylbenzene	ND		25	21.6	86	22.4	90	4	84-124/10
135-98-8	sec-Butylbenzene	3.1		25	28.8	103	29.3	105	2	86-127/10
98-06-6	tert-Butylbenzene	0.41	J	25	25.7	101	26.3	104	2	83-126/10
108-90-7	Chlorobenzene	ND		25	26.3	105	26.1	104	1	87-115/9
75-00-3	Chloroethane	ND		25	30.9	124	30.3	121	2	54-166/20
67-66-3	Chloroform	ND		25	27.8	111	27.8	111	0	85-123/10
544-10-5	1-Chlorohexane	ND		25	22.9	92	22.8	91	0	87-128/10
95-49-8	o-Chlorotoluene	ND		25	25.3	101	25.5	102	1	84-121/10
106-43-4	p-Chlorotoluene	ND		25	25.5	102	25.8	103	1	84-120/10
110-75-8	2-Chloroethyl vinyl ether	ND		125	ND	0*	ND	0*	nc	63-125/24
75-15-0	Carbon disulfide	ND		25	26.7	107	25.3	101	5	67-147/12
56-23-5	Carbon tetrachloride	ND		25	25.9	104	24.0	96	8	74-139/13
75-34-3	1,1-Dichloroethane	ND		25	28.2	113	28.2	113	0	82-127/10
75-35-4	1,1-Dichloroethylene	ND		25	30.6	122	30.2	121	1	75-133/13
563-58-6	1,1-Dichloropropene	ND		25	27.8	111	27.4	110	1	87-127/10
96-12-8	1,2-Dibromo-3-chloropropane	ND		25	24.7	99	26.6	106	7	61-118/15
106-93-4	1,2-Dibromoethane	ND		25	26.0	104	25.4	102	2	80-115/10
107-06-2	1,2-Dichloroethane	ND		25	27.4	110	28.2	113	3	76-122/11
78-87-5	1,2-Dichloropropane	ND		25	27.4	110	27.1	108	1	81-120/11
142-28-9	1,3-Dichloropropane	ND		25	24.1	96	24.4	98	1	81-113/11
594-20-7	2,2-Dichloropropane	ND		25	23.5	94	23.4	94	0	77-138/12
124-48-1	Dibromochloromethane	ND		25	23.1	92	21.6	86	7	74-116/11
75-71-8	Dichlorodifluoromethane	ND		25	30.7	123	30.8	123	0	34-158/22
156-59-2	cis-1,2-Dichloroethylene	ND		25	27.9	112	27.4	110	2	81-114/10
10061-01-5	cis-1,3-Dichloropropene	ND		25	20.4	82*	19.7	79*	3	83-119/10

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA2476-4MS	J084602.D	1	03/19/13	MM	n/a	n/a	VJ4318
FA2476-4MSD	J084603.D	1	03/19/13	MM	n/a	n/a	VJ4318
FA2476-4	J084593.D	1	03/18/13	MM	n/a	n/a	VJ4318

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

FA2476-1, FA2476-2, FA2476-3, FA2476-4, FA2476-6

CAS No.	Compound	FA2476-4 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
1476-11-5	cis-1,4-Dichloro-2-Butene	ND		25	16.2	65	15.3	61	6	41-130/33
541-73-1	m-Dichlorobenzene	ND		25	25.3	101	24.9	100	2	86-115/9
95-50-1	o-Dichlorobenzene	ND		25	24.1	96	24.9	100	3	85-115/9
106-46-7	p-Dichlorobenzene	ND		25	22.9	92	22.5	90	2	87-113/10
156-60-5	trans-1,2-Dichloroethylene	ND		25	28.6	114	28.4	114	1	82-126/10
10061-02-6	trans-1,3-Dichloropropene	ND		25	19.5	78*	18.6	74*	5	87-123/10
100-41-4	Ethylbenzene	ND		25	25.4	102	25.7	103	1	87-118/10
97-63-2	Ethyl methacrylate	ND		25	23.5	94	22.0	88	7	68-110/11
76-13-1	Freon 113	ND		25	26.5	106	25.9	104	2	74-139/13
591-78-6	2-Hexanone	ND		125	143	114	149	119	4	58-125/14
87-68-3	Hexachlorobutadiene	ND		25	21.6	86	22.4	90	4	71-133/12
110-54-3	Hexane	ND		25	25.8	103	25.3	101	2	71-134/11
98-82-8	Isopropylbenzene	3.6		25	30.2	106	29.9	105	1	87-131/10
99-87-6	p-Isopropyltoluene	ND		25	24.0	96	24.1	96	0	83-125/9
108-10-1	4-Methyl-2-pentanone	ND		125	141	113	147	118	4	62-125/13
126-98-7	Methacrylonitrile	ND		250	286	114	281	112	2	62-133/17
74-83-9	Methyl bromide	ND		25	31.0	124	30.5	122	2	55-151/21
74-87-3	Methyl chloride	ND		25	31.7	127	30.8	123	3	55-173/22
74-88-4	Methyl iodide	ND		25	25.4	102	25.4	102	0	72-125/11
80-62-6	Methyl methacrylate	ND		25	27.9	112	26.9	108	4	63-115/10
74-95-3	Methylene bromide	ND		25	26.2	105	26.4	106	1	81-116/10
75-09-2	Methylene chloride	ND		25	26.3	105	26.7	107	2	69-125/11
78-93-3	Methyl ethyl ketone	ND		125	147	118	156	125	6	61-127/13
1634-04-4	Methyl Tert Butyl Ether	ND		25	26.5	106	27.2	109	3	75-116/10
91-20-3	Naphthalene	ND		25	27.0	108	29.1	116	7	59-125/15
76-01-7	Pentachloroethane	ND		25	22.0	88	20.7	83	6	82-111/8
107-12-0	Propionitrile	ND		250	295	118	309	124*	5	69-119/12
103-65-1	n-Propylbenzene	3.7		25	29.8	104	30.1	106	1	86-125/10
100-42-5	Styrene	ND		25	19.6	78	16.1	64*	20*	78-118/11
630-20-6	1,1,1,2-Tetrachloroethane	ND		25	22.2	89	21.6	86	3	81-119/10
71-55-6	1,1,1-Trichloroethane	ND		25	27.2	109	27.1	108	0	79-133/11
79-34-5	1,1,2,2-Tetrachloroethane	ND		25	23.5	94	24.9	100	6	71-120/11
79-00-5	1,1,2-Trichloroethane	ND		25	25.5	102	25.5	102	0	80-114/11
87-61-6	1,2,3-Trichlorobenzene	ND		25	22.9	92	24.8	99	8	64-126/16
96-18-4	1,2,3-Trichloropropane	ND		25	24.3	97	25.7	103	6	77-115/12
120-82-1	1,2,4-Trichlorobenzene	ND		25	23.0	92	24.9	100	8	68-123/11

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA2476-4MS	J084602.D	1	03/19/13	MM	n/a	n/a	VJ4318
FA2476-4MSD	J084603.D	1	03/19/13	MM	n/a	n/a	VJ4318
FA2476-4	J084593.D	1	03/18/13	MM	n/a	n/a	VJ4318

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

FA2476-1, FA2476-2, FA2476-3, FA2476-4, FA2476-6

CAS No.	Compound	FA2476-4 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
95-63-6	1,2,4-Trimethylbenzene	ND		25	22.6	90	21.9	88	3	82-120/10
108-67-8	1,3,5-Trimethylbenzene	ND		25	22.7	91	22.8	91	0	83-123/10
127-18-4	Tetrachloroethylene	ND		25	22.9	92	23.0	92	0	80-131/12
108-88-3	Toluene	ND		25	24.4	98	24.9	100	2	86-116/10
79-01-6	Trichloroethylene	ND		25	28.5	114	30.2	121	6	85-124/10
75-69-4	Trichlorofluoromethane	ND		25	29.2	117	28.9	116	1	66-156/15
110-57-6	Trans-1,4-Dichloro-2-Butene	ND		25	15.9	64	15.3	61	4	51-137/24
75-01-4	Vinyl chloride	ND		25	29.3	117	28.1	112	4	57-153/22
108-05-4	Vinyl Acetate	ND		125	93.5	75	92.6	74	1	38-159/11
	m,p-Xylene	ND		50	48.7	97	48.2	96	1	86-121/10
95-47-6	o-Xylene	ND		25	25.7	103	25.5	102	1	83-121/10

CAS No.	Surrogate Recoveries	MS	MSD	FA2476-4	Limits
1868-53-7	Dibromofluoromethane	101%	99%	99%	87-116%
17060-07-0	1,2-Dichloroethane-D4	104%	104%	103%	76-127%
2037-26-5	Toluene-D8	95%	96%	101%	86-112%
460-00-4	4-Bromofluorobenzene	106%	105%	111%	84-120%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA2707-2MS	O14621.D	20	03/20/13	MM	n/a	n/a	VO604
FA2707-2MSD	O14622.D	20	03/20/13	MM	n/a	n/a	VO604
FA2707-2	O14607.D	20	03/19/13	MM	n/a	n/a	VO604

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

FA2476-6

CAS No.	Compound	FA2707-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	429		500	951	104	918	98	4	83-124/11
100-41-4	Ethylbenzene	263		500	769	101	743	96	3	87-118/10
95-63-6	1,2,4-Trimethylbenzene	1010		500	1510	100	1460	90	3	82-120/10
95-47-6	o-Xylene	830		500	1350	104	1310	96	3	83-121/10

CAS No.	Surrogate Recoveries	MS	MSD	FA2707-2	Limits
1868-53-7	Dibromofluoromethane	104%	104%	99%	87-116%
17060-07-0	1,2-Dichloroethane-D4	98%	99%	98%	76-127%
2037-26-5	Toluene-D8	96%	96%	100%	86-112%
460-00-4	4-Bromofluorobenzene	96%	96%	99%	84-120%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA2605-11MS	J084658.D	10	03/20/13	MM	n/a	n/a	VJ4320
FA2605-11MSD	J084659.D	10	03/21/13	MM	n/a	n/a	VJ4320
FA2605-11	J084656.D	10	03/20/13	MM	n/a	n/a	VJ4320

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

FA2476-5, FA2476-7

CAS No.	Compound	FA2605-11 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		1250	1050	84	1110	89	6	59-134/14
75-05-8	Acetonitrile	ND		2500	2220	89	2310	92	4	57-123/15
107-02-8	Acrolein	ND		1250	1140	91	989	79	14	33-157/21
107-13-1	Acrylonitrile	ND		1250	1110	89	1100	88	1	62-124/13
107-05-1	Allyl chloride	ND		250	227	91	193	77	16*	48-136/13
71-43-2	Benzene	ND		250	250	100	244	98	2	83-124/11
100-44-7	Benzyl Chloride	ND		250	134	54*	119	48*	12	61-118/12
108-86-1	Bromobenzene	ND		250	232	93	225	90	3	83-115/10
74-97-5	Bromochloromethane	ND		250	215	86	208	83	3	78-112/10
75-27-4	Bromodichloromethane	ND		250	228	91	198	79	14*	76-116/10
75-25-2	Bromoform	ND		250	180	72	151	60*	18*	68-128/11
104-51-8	n-Butylbenzene	ND		250	239	96	240	96	0	84-124/10
135-98-8	sec-Butylbenzene	ND		250	262	105	261	104	0	86-127/10
98-06-6	tert-Butylbenzene	ND		250	252	101	249	100	1	83-126/10
108-90-7	Chlorobenzene	ND		250	258	103	257	103	0	87-115/9
75-00-3	Chloroethane	ND		250	244	98	242	97	1	54-166/20
67-66-3	Chloroform	ND		250	231	92	226	90	2	85-123/10
544-10-5	1-Chlorohexane	ND		250	238	95	229	92	4	87-128/10
95-49-8	o-Chlorotoluene	ND		250	262	105	257	103	2	84-121/10
106-43-4	p-Chlorotoluene	ND		250	263	105	258	103	2	84-120/10
110-75-8	2-Chloroethyl vinyl ether	ND		1250	ND	0*	ND	0*	nc	63-125/24
75-15-0	Carbon disulfide	ND		250	231	92	178	71	26*	67-147/12
56-23-5	Carbon tetrachloride	ND		250	240	96	207	83	15*	74-139/13
75-34-3	1,1-Dichloroethane	ND		250	247	99	235	94	5	82-127/10
75-35-4	1,1-Dichloroethylene	ND		250	261	104	278	111	6	75-133/13
563-58-6	1,1-Dichloropropene	ND		250	250	100	240	96	4	87-127/10
96-12-8	1,2-Dibromo-3-chloropropane	ND		250	205	82	192	77	7	61-118/15
106-93-4	1,2-Dibromoethane	ND		250	233	93	237	95	2	80-115/10
107-06-2	1,2-Dichloroethane	ND		250	224	90	224	90	0	76-122/11
78-87-5	1,2-Dichloropropane	ND		250	241	96	238	95	1	81-120/11
142-28-9	1,3-Dichloropropane	ND		250	233	93	235	94	1	81-113/11
594-20-7	2,2-Dichloropropane	ND		250	195	78	192	77	2	77-138/12
124-48-1	Dibromochloromethane	ND		250	215	86	186	74	14*	74-116/11
75-71-8	Dichlorodifluoromethane	ND		250	244	98	248	99	2	34-158/22
156-59-2	cis-1,2-Dichloroethylene	14.8		250	243	91	251	94	3	81-114/10
10061-01-5	cis-1,3-Dichloropropene	ND		250	202	81*	175	70*	14*	83-119/10

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA2605-11MS	J084658.D	10	03/20/13	MM	n/a	n/a	VJ4320
FA2605-11MSD	J084659.D	10	03/21/13	MM	n/a	n/a	VJ4320
FA2605-11	J084656.D	10	03/20/13	MM	n/a	n/a	VJ4320

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

FA2476-5, FA2476-7

CAS No.	Compound	FA2605-11 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
1476-11-5	cis-1,4-Dichloro-2-Butene	ND		250	203	81	161	64	23	41-130/33
541-73-1	m-Dichlorobenzene	ND		250	243	97	240	96	1	86-115/9
95-50-1	o-Dichlorobenzene	ND		250	238	95	240	96	1	85-115/9
106-46-7	p-Dichlorobenzene	ND		250	224	90	225	90	0	87-113/10
156-60-5	trans-1,2-Dichloroethylene	ND		250	251	100	240	96	4	82-126/10
10061-02-6	trans-1,3-Dichloropropene	ND		250	235	94	204	82*	14*	87-123/10
100-41-4	Ethylbenzene	ND		250	248	99	246	98	1	87-118/10
97-63-2	Ethyl methacrylate	ND		250	210	84	215	86	2	68-110/11
76-13-1	Freon 113	ND		250	228	91	213	85	7	74-139/13
591-78-6	2-Hexanone	ND		1250	1090	87	1150	92	5	58-125/14
87-68-3	Hexachlorobutadiene	ND		250	208	83	219	88	5	71-133/12
110-54-3	Hexane	ND		250	222	89	215	86	3	71-134/11
98-82-8	Isopropylbenzene	ND		250	247	99	242	97	2	87-131/10
99-87-6	p-Isopropyltoluene	ND		250	237	95	238	95	0	83-125/9
108-10-1	4-Methyl-2-pentanone	ND		1250	1100	88	1150	92	4	62-125/13
126-98-7	Methacrylonitrile	ND		2500	2290	92	2360	94	3	62-133/17
74-83-9	Methyl bromide	ND		250	253	101	260	104	3	55-151/21
74-87-3	Methyl chloride	ND		250	252	101	250	100	1	55-173/22
74-88-4	Methyl iodide	ND		250	208	83	207	83	0	72-125/11
80-62-6	Methyl methacrylate	ND		250	227	91	228	91	0	63-115/10
74-95-3	Methylene bromide	ND		250	224	90	221	88	1	81-116/10
75-09-2	Methylene chloride	ND		250	244	98	244	98	0	69-125/11
78-93-3	Methyl ethyl ketone	ND		1250	984	79	1040	83	6	61-127/13
1634-04-4	Methyl Tert Butyl Ether	ND		250	208	83	213	85	2	75-116/10
91-20-3	Naphthalene	ND		250	192	77	219	88	13	59-125/15
76-01-7	Pentachloroethane	ND		250	234	94	204	82	14*	82-111/8
107-12-0	Propionitrile	ND		2500	2240	90	2410	96	7	69-119/12
103-65-1	n-Propylbenzene	ND		250	267	107	264	106	1	86-125/10
100-42-5	Styrene	ND		250	221	88	217	87	2	78-118/11
630-20-6	1,1,1,2-Tetrachloroethane	ND		250	224	90	200	80*	11*	81-119/10
71-55-6	1,1,1-Trichloroethane	ND		250	238	95	226	90	5	79-133/11
79-34-5	1,1,2,2-Tetrachloroethane	ND		250	231	92	240	96	4	71-120/11
79-00-5	1,1,2-Trichloroethane	ND		250	235	94	235	94	0	80-114/11
87-61-6	1,2,3-Trichlorobenzene	ND		250	191	76	214	86	11	64-126/16
96-18-4	1,2,3-Trichloropropane	ND		250	227	91	251	100	10	77-115/12
120-82-1	1,2,4-Trichlorobenzene	ND		250	209	84	224	90	7	68-123/11

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA2605-11MS	J084658.D	10	03/20/13	MM	n/a	n/a	VJ4320
FA2605-11MSD	J084659.D	10	03/21/13	MM	n/a	n/a	VJ4320
FA2605-11	J084656.D	10	03/20/13	MM	n/a	n/a	VJ4320

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

FA2476-5, FA2476-7

CAS No.	Compound	FA2605-11 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
95-63-6	1,2,4-Trimethylbenzene	ND		250	238	95	238	95	0	82-120/10
108-67-8	1,3,5-Trimethylbenzene	ND		250	238	95	236	94	1	83-123/10
127-18-4	Tetrachloroethylene	ND		250	231	92	220	88	5	80-131/12
108-88-3	Toluene	ND		250	248	99	249	100	0	86-116/10
79-01-6	Trichloroethylene	935		250	1110	70* [a]	1100	66* [a]	1	85-124/10
75-69-4	Trichlorofluoromethane	ND		250	269	108	249	100	8	66-156/15
110-57-6	Trans-1,4-Dichloro-2-Butene	ND		250	167	67	133	53	23	51-137/24
75-01-4	Vinyl chloride	ND		250	248	99	254	102	2	57-153/22
108-05-4	Vinyl Acetate	ND		1250	791	63	785	63	1	38-159/11
	m,p-Xylene	ND		500	519	104	516	103	1	86-121/10
95-47-6	o-Xylene	ND		250	242	97	236	94	3	83-121/10

CAS No.	Surrogate Recoveries	MS	MSD	FA2605-11	Limits
1868-53-7	Dibromofluoromethane	98%	100%	101%	87-116%
17060-07-0	1,2-Dichloroethane-D4	97%	98%	103%	76-127%
2037-26-5	Toluene-D8	99%	100%	102%	86-112%
460-00-4	4-Bromofluorobenzene	96%	98%	103%	84-120%

(a) Outside control limits due to high level in sample relative to spike amount.

* = Outside of Control Limits.

Instrument Performance Check (BFB)

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VJ4318-BFB
Lab File ID: J084565.D
Instrument ID: GCMSJ
Injection Date: 03/18/13
Injection Time: 11:02

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	28771	24.2		Pass
75	30.0 - 60.0% of mass 95	61477	51.6		Pass
95	Base peak, 100% relative abundance	119064	100.0		Pass
96	5.0 - 9.0% of mass 95	7891	6.63		Pass
173	Less than 2.0% of mass 174	328	0.28	(0.36) [a]	Pass
174	50.0 - 100.0% of mass 95	90672	76.2		Pass
175	5.0 - 9.0% of mass 174	6853	5.76	(7.56) [a]	Pass
176	95.0 - 101.0% of mass 174	89133	74.9	(98.3) [a]	Pass
177	5.0 - 9.0% of mass 176	5982	5.02	(6.71) [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
VJ4318-IC4318	J084569.D	03/18/13	13:30	02:28	Initial cal 1
VJ4318-IC4318	J084570.D	03/18/13	13:53	02:51	Initial cal 2
VJ4318-IC4318	J084571.D	03/18/13	14:16	03:14	Initial cal 3
VJ4318-ICC4318	J084572.D	03/18/13	14:40	03:38	Initial cal 4
VJ4318-IC4318	J084573.D	03/18/13	15:03	04:01	Initial cal 5
VJ4318-IC4318	J084574.D	03/18/13	15:26	04:24	Initial cal 6
VJ4318-ICV4318	J084575.D	03/18/13	15:48	04:46	Initial cal verification 7

Instrument Performance Check (BFB)

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VJ4318-BFB
Lab File ID: J084576.D
Instrument ID: GCMSJ
Injection Date: 03/18/13
Injection Time: 16:09

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	42893	25.2		Pass
75	30.0 - 60.0% of mass 95	91949	54.0		Pass
95	Base peak, 100% relative abundance	170133	100.0		Pass
96	5.0 - 9.0% of mass 95	11869	6.98		Pass
173	Less than 2.0% of mass 174	275	0.16	(0.21) [a]	Pass
174	50.0 - 100.0% of mass 95	131875	77.5		Pass
175	5.0 - 9.0% of mass 174	9795	5.76	(7.43) [a]	Pass
176	95.0 - 101.0% of mass 174	126917	74.6	(96.2) [a]	Pass
177	5.0 - 9.0% of mass 176	8096	4.76	(6.38) [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
VJ4318-CC4318	J084577.D	03/18/13	16:36	00:27	Continuing cal 4
VJ4318-BS	J084578.D	03/18/13	17:05	00:56	Blank Spike
VJ4318-MB	J084579.D	03/18/13	17:28	01:19	Method Blank
ZZZZZZ	J084580.D	03/18/13	17:53	01:44	(unrelated sample)
ZZZZZZ	J084581.D	03/18/13	18:16	02:07	(unrelated sample)
ZZZZZZ	J084582.D	03/18/13	18:39	02:30	(unrelated sample)
ZZZZZZ	J084583.D	03/18/13	19:02	02:53	(unrelated sample)
ZZZZZZ	J084584.D	03/18/13	19:25	03:16	(unrelated sample)
FA2477-1	J084585.D	03/18/13	19:48	03:39	(used for QC only; not part of job FA2476)
ZZZZZZ	J084586.D	03/18/13	20:11	04:02	(unrelated sample)
ZZZZZZ	J084587.D	03/18/13	20:34	04:25	(unrelated sample)
ZZZZZZ	J084588.D	03/18/13	20:57	04:48	(unrelated sample)
ZZZZZZ	J084589.D	03/18/13	21:20	05:11	(unrelated sample)
FA2476-1	J084590.D	03/18/13	21:43	05:34	MW27-01-030613
FA2476-2	J084591.D	03/18/13	22:06	05:57	MW27-02-030613
FA2476-3	J084592.D	03/18/13	22:29	06:20	MW27-03-030713
FA2476-4	J084593.D	03/18/13	22:52	06:43	MW27-04-030713
FA2476-6	J084595.D	03/18/13	23:38	07:29	MW27-DUP01-030713
ZZZZZZ	J084596.D	03/19/13	00:01	07:52	(unrelated sample)
ZZZZZZ	J084597.D	03/19/13	00:24	08:15	(unrelated sample)
ZZZZZZ	J084598.D	03/19/13	00:47	08:38	(unrelated sample)
ZZZZZZ	J084599.D	03/19/13	01:10	09:01	(unrelated sample)
FA2477-1MS	J084600.D	03/19/13	01:33	09:24	Matrix Spike
FA2477-1MSD	J084601.D	03/19/13	01:56	09:47	Matrix Spike Duplicate

Instrument Performance Check (BFB)

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VJ4318-BFB
Lab File ID: J084576.D
Instrument ID: GCMSJ
Injection Date: 03/18/13
Injection Time: 16:09

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
FA2476-4MS	J084602.D	03/19/13	02:19	10:10	Matrix Spike
FA2476-4MSD	J084603.D	03/19/13	02:42	10:33	Matrix Spike Duplicate

Instrument Performance Check (BFB)

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VJ4320-BFB
Lab File ID: J084624.D
Instrument ID: GCMSJ
Injection Date: 03/20/13
Injection Time: 09:06

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	32765	25.3		Pass
75	30.0 - 60.0% of mass 95	67653	52.3		Pass
95	Base peak, 100% relative abundance	129475	100.0		Pass
96	5.0 - 9.0% of mass 95	8621	6.66		Pass
173	Less than 2.0% of mass 174	535	0.41	(0.56) [a]	Pass
174	50.0 - 100.0% of mass 95	95395	73.7		Pass
175	5.0 - 9.0% of mass 174	6672	5.15	(6.99) [a]	Pass
176	95.0 - 101.0% of mass 174	92272	71.3	(96.7) [a]	Pass
177	5.0 - 9.0% of mass 176	5772	4.46	(6.26) [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
VJ4320-IC4320	J084625.D	03/20/13	09:35	00:29	Initial cal 1
VJ4320-IC4320	J084626.D	03/20/13	09:58	00:52	Initial cal 2
VJ4320-IC4320	J084627.D	03/20/13	10:21	01:15	Initial cal 3
VJ4320-ICC4320	J084628.D	03/20/13	10:44	01:38	Initial cal 4
VJ4320-IC4320	J084629.D	03/20/13	11:07	02:01	Initial cal 5
VJ4320-IC4320	J084630.D	03/20/13	11:31	02:25	Initial cal 6
VJ4320-ICV4320	J084631.D	03/20/13	11:53	02:47	Initial cal verification 4

Instrument Performance Check (BFB)

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VJ4320-BFB
Lab File ID: J084634.D
Instrument ID: GCMSJ
Injection Date: 03/20/13
Injection Time: 14:12

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	31747	26.2		Pass
75	30.0 - 60.0% of mass 95	65141	53.7		Pass
95	Base peak, 100% relative abundance	121355	100.0		Pass
96	5.0 - 9.0% of mass 95	8307	6.85		Pass
173	Less than 2.0% of mass 174	359	0.30	(0.39) [a]	Pass
174	50.0 - 100.0% of mass 95	92443	76.2		Pass
175	5.0 - 9.0% of mass 174	6435	5.30	(6.96) [a]	Pass
176	95.0 - 101.0% of mass 174	92339	76.1	(99.9) [a]	Pass
177	5.0 - 9.0% of mass 176	6295	5.19	(6.82) [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
VJ4320-CC4320	J084635.D	03/20/13	14:40	00:28	Continuing cal 4
VJ4320-BS	J084636.D	03/20/13	15:09	00:57	Blank Spike
VJ4320-MB	J084637.D	03/20/13	15:32	01:20	Method Blank
FA2476-7	J084638.D	03/20/13	16:05	01:53	SD27-TB01-030613
FA2476-5	J084639.D	03/20/13	16:28	02:16	MW27-05-030713
ZZZZZZ	J084640.D	03/20/13	16:51	02:39	(unrelated sample)
ZZZZZZ	J084641.D	03/20/13	17:14	03:02	(unrelated sample)
ZZZZZZ	J084642.D	03/20/13	17:38	03:26	(unrelated sample)
ZZZZZZ	J084643.D	03/20/13	18:01	03:49	(unrelated sample)
ZZZZZZ	J084644.D	03/20/13	18:24	04:12	(unrelated sample)
ZZZZZZ	J084645.D	03/20/13	18:47	04:35	(unrelated sample)
ZZZZZZ	J084646.D	03/20/13	19:10	04:58	(unrelated sample)
ZZZZZZ	J084647.D	03/20/13	19:33	05:21	(unrelated sample)
ZZZZZZ	J084648.D	03/20/13	19:56	05:44	(unrelated sample)
ZZZZZZ	J084649.D	03/20/13	20:19	06:07	(unrelated sample)
ZZZZZZ	J084650.D	03/20/13	20:42	06:30	(unrelated sample)
ZZZZZZ	J084651.D	03/20/13	21:04	06:52	(unrelated sample)
ZZZZZZ	J084652.D	03/20/13	21:27	07:15	(unrelated sample)
ZZZZZZ	J084653.D	03/20/13	21:50	07:38	(unrelated sample)
ZZZZZZ	J084654.D	03/20/13	22:13	08:01	(unrelated sample)
ZZZZZZ	J084655.D	03/20/13	22:36	08:24	(unrelated sample)
FA2605-11	J084656.D	03/20/13	22:59	08:47	(used for QC only; not part of job FA2476)
ZZZZZZ	J084657.D	03/20/13	23:22	09:10	(unrelated sample)
FA2605-11MS	J084658.D	03/20/13	23:45	09:33	Matrix Spike

Instrument Performance Check (BFB)

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VJ4320-BFB
Lab File ID: J084634.D
Instrument ID: GCMSJ
Injection Date: 03/20/13
Injection Time: 14:12

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
FA2605-11MSD	J084659.D	03/21/13	00:08	09:56	Matrix Spike Duplicate
VJ4321-BS	J084664.D	03/21/13	10:16	20:04	Blank Spike

Instrument Performance Check (BFB)

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VO593-BFB
Lab File ID: O14292.D
Instrument ID: GCMSO
Injection Date: 03/05/13
Injection Time: 13:14

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	22101	16.7		Pass
75	30.0 - 60.0% of mass 95	61117	46.2		Pass
95	Base peak, 100% relative abundance	132387	100.0		Pass
96	5.0 - 9.0% of mass 95	9647	7.29		Pass
173	Less than 2.0% of mass 174	474	0.36	(0.46) [a]	Pass
174	50.0 - 100.0% of mass 95	103299	78.0		Pass
175	5.0 - 9.0% of mass 174	7333	5.54	(7.10) [a]	Pass
176	95.0 - 101.0% of mass 174	100088	75.6	(96.9) [a]	Pass
177	5.0 - 9.0% of mass 176	6461	4.88	(6.46) [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
VO593-IC593	O14293.D	03/05/13	13:58	00:44	Initial cal 1
VO593-IC593	O14294.D	03/05/13	14:19	01:05	Initial cal 2
VO593-IC593	O14295.D	03/05/13	14:41	01:27	Initial cal 3
VO593-ICC593	O14296.D	03/05/13	15:41	02:27	Initial cal 4
VO593-IC593	O14297.D	03/05/13	16:03	02:49	Initial cal 5
VO593-ICV593	O14299.D	03/05/13	16:47	03:33	Initial cal verification 4
VO593-IC593	O14300.D	03/05/13	17:12	03:58	Initial cal 6
VO593-BS	O14301.D	03/05/13	17:58	04:44	Blank Spike
VO593-MB	O14303.D	03/05/13	18:39	05:25	Method Blank
ZZZZZZ	O14304.D	03/05/13	19:12	05:58	(unrelated sample)
ZZZZZZ	O14305.D	03/05/13	19:33	06:19	(unrelated sample)
ZZZZZZ	O14306.D	03/05/13	19:54	06:40	(unrelated sample)
ZZZZZZ	O14307.D	03/05/13	20:16	07:02	(unrelated sample)
ZZZZZZ	O14308.D	03/05/13	20:37	07:23	(unrelated sample)
ZZZZZZ	O14309.D	03/05/13	20:58	07:44	(unrelated sample)
ZZZZZZ	O14311.D	03/05/13	21:40	08:26	(unrelated sample)
ZZZZZZ	O14312.D	03/05/13	22:01	08:47	(unrelated sample)
ZZZZZZ	O14313.D	03/05/13	22:23	09:09	(unrelated sample)
ZZZZZZ	O14314.D	03/05/13	22:44	09:30	(unrelated sample)
ZZZZZZ	O14315.D	03/05/13	23:05	09:51	(unrelated sample)
ZZZZZZ	O14316.D	03/05/13	23:27	10:13	(unrelated sample)
FA2325-7	O14317.D	03/05/13	23:48	10:34	(used for QC only; not part of job FA2476)
ZZZZZZ	O14318.D	03/06/13	00:09	10:55	(unrelated sample)
FA2325-7MS	O14319.D	03/06/13	00:30	11:16	Matrix Spike

Instrument Performance Check (BFB)

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample:	VO593-BFB	**Injection Date:**	03/05/13
Lab File ID:	O14292.D	**Injection Time:**	13:14
Instrument ID:	GCMSO		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
FA2325-7MSD	O14320.D	03/06/13	00:52	11:38	Matrix Spike Duplicate

Instrument Performance Check (BFB)

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VO604-BFB
Lab File ID: O14597.D
Instrument ID: GCMSO
Injection Date: 03/19/13
Injection Time: 19:01

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	27128	16.2		Pass
75	30.0 - 60.0% of mass 95	76472	45.8		Pass
95	Base peak, 100% relative abundance	167048	100.0		Pass
96	5.0 - 9.0% of mass 95	11476	6.87		Pass
173	Less than 2.0% of mass 174	671	0.40	(0.49) [a]	Pass
174	50.0 - 100.0% of mass 95	136579	81.8		Pass
175	5.0 - 9.0% of mass 174	9510	5.69	(6.96) [a]	Pass
176	95.0 - 101.0% of mass 174	133093	79.7	(97.4) [a]	Pass
177	5.0 - 9.0% of mass 176	8442	5.05	(6.34) [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
VO604-CC593	O14598.D	03/19/13	19:23	00:22	Continuing cal 4
VO604-BS	O14599.D	03/19/13	19:45	00:44	Blank Spike
VO604-MB	O14600.D	03/19/13	20:07	01:06	Method Blank
ZZZZZZ	O14601.D	03/19/13	20:29	01:28	(unrelated sample)
FA2476-6	O14602.D	03/19/13	20:52	01:51	MW27-DUP01-030713
ZZZZZZ	O14603.D	03/19/13	21:13	02:12	(unrelated sample)
ZZZZZZ	O14604.D	03/19/13	21:34	02:33	(unrelated sample)
ZZZZZZ	O14605.D	03/19/13	21:55	02:54	(unrelated sample)
ZZZZZZ	O14606.D	03/19/13	22:16	03:15	(unrelated sample)
FA2707-2	O14607.D	03/19/13	22:37	03:36	(used for QC only; not part of job FA2476)
ZZZZZZ	O14609.D	03/19/13	23:20	04:19	(unrelated sample)
ZZZZZZ	O14611.D	03/20/13	00:02	05:01	(unrelated sample)
ZZZZZZ	O14612.D	03/20/13	00:23	05:22	(unrelated sample)
ZZZZZZ	O14613.D	03/20/13	00:44	05:43	(unrelated sample)
ZZZZZZ	O14614.D	03/20/13	01:05	06:04	(unrelated sample)
ZZZZZZ	O14615.D	03/20/13	01:26	06:25	(unrelated sample)
ZZZZZZ	O14616.D	03/20/13	01:48	06:47	(unrelated sample)
ZZZZZZ	O14617.D	03/20/13	02:09	07:08	(unrelated sample)
ZZZZZZ	O14618.D	03/20/13	02:30	07:29	(unrelated sample)
ZZZZZZ	O14619.D	03/20/13	02:51	07:50	(unrelated sample)
ZZZZZZ	O14620.D	03/20/13	03:12	08:11	(unrelated sample)
FA2707-2MS	O14621.D	03/20/13	03:33	08:32	Matrix Spike
FA2707-2MSD	O14622.D	03/20/13	03:54	08:53	Matrix Spike Duplicate

Volatile Internal Standard Area Summary

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Check Std:	VJ4318-CC4318	**Injection Date:**	03/18/13
Lab File ID:	J084577.D	**Injection Time:**	16:36
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]	633943	7.82	689342	10.91	410658	13.27	116695	5.36
Check Std [b]	667990	7.82	783997	10.91	466514	13.27	147145	5.35
Upper Limit [c]	1335980	8.32	1567994	11.41	933028	13.77	294290	5.85
Lower Limit [d]	333995	7.32	391999	10.41	233257	12.77	73573	4.85

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
VJ4318-BS	682029	7.82	750133	10.91	452964	13.27	145216	5.35
VJ4318-MB	609516	7.82	682430	10.91	397615	13.27	128678	5.34
ZZZZZZ	593540	7.82	654428	10.91	374817	13.27	123559	5.35
ZZZZZZ	563748	7.82	631810	10.91	351913	13.27	112341	5.35
ZZZZZZ	542737	7.82	606380	10.91	346673	13.27	106362	5.35
ZZZZZZ	536422	7.82	606950	10.91	345265	13.27	106758	5.35
ZZZZZZ	555008	7.82	623796	10.91	354112	13.27	110719	5.35
FA2477-1	537238	7.82	611189	10.91	347326	13.27	154853	5.35
ZZZZZZ	538129	7.82	612391	10.91	345525	13.27	154063	5.34
ZZZZZZ	534994	7.82	598110	10.91	340488	13.27	144247	5.35
ZZZZZZ	515092	7.82	585803	10.91	329747	13.27	142943	5.34
ZZZZZZ	487869	7.82	555278	10.91	307822	13.27	137089	5.35
FA2476-1	489413	7.82	564226	10.91	317069	13.27	128808	5.35
FA2476-2	484448	7.82	558203	10.91	320804	13.27	125487	5.35
FA2476-3	511852	7.82	594018	10.91	333820	13.27	140691	5.35
FA2476-4	513019	7.82	591000	10.91	336021	13.27	134105	5.35
FA2476-6	517927	7.82	614515	10.91	373164	13.27	119004	5.34
ZZZZZZ	519501	7.82	614517	10.91	373060	13.27	109525	5.35
ZZZZZZ	531783	7.82	632578	10.91	382616	13.27	127404	5.35
ZZZZZZ	537429	7.82	628220	10.91	365822	13.27	123558	5.35
ZZZZZZ	538688	7.82	648712	10.91	385762	13.27	116850	5.35
FA2477-1MS	591945	7.82	720134	10.91	443583	13.27	210507	5.35
FA2477-1MSD	590878	7.82	714647	10.91	439374	13.27	202901	5.35
FA2476-4MS	596073	7.82	731789	10.91	448715	13.27	181746	5.35
FA2476-4MSD	596785	7.82	736169	10.91	444392	13.27	191225	5.36

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

(a) Initial Cal is: VJ4318-ICC4318 J084572.D 03/18/13 14:40
(b) Check Std Limit = -50 to + 100% of initial cal area.

Volatile Internal Standard Area Summary

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Check Std:	VJ4318-CC4318	**Injection Date:**	03/18/13
Lab File ID:	J084577.D	**Injection Time:**	16:36
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 Internal Standard Area Summary

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Check Std:	VJ4320-CC4320	**Injection Date:**	03/20/13
Lab File ID:	J084635.D	**Injection Time:**	14:40
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]	679495	7.82	490784	10.91	255961	13.27	82324	5.35
Check Std [b]	769338	7.82	551333	10.91	291699	13.27	101362	5.35
Upper Limit [c]	1538676	8.32	1102666	11.41	583398	13.77	202724	5.85
Lower Limit [d]	384669	7.32	275667	10.41	145850	12.77	50681	4.85

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
VJ4320-BS	703840	7.82	502147	10.91	259926	13.27	89508	5.35
VJ4320-MB	685051	7.82	494416	10.91	240871	13.27	86336	5.34
FA2476-7	669889	7.82	468631	10.91	234096	13.27	83767	5.34
FA2476-5	667529	7.82	483245	10.91	248930	13.27	78620	5.34
ZZZZZZ	613152	7.82	431038	10.91	211029	13.27	74644	5.34
ZZZZZZ	606962	7.82	436312	10.91	209848	13.27	73053	5.35
ZZZZZZ	646851	7.82	459163	10.91	222875	13.27	75133	5.34
ZZZZZZ	591294	7.82	417279	10.91	206497	13.27	71325	5.34
ZZZZZZ	651022	7.82	463993	10.91	226393	13.27	76894	5.35
ZZZZZZ	607291	7.82	430825	10.91	207093	13.27	73495	5.33
ZZZZZZ	595547	7.82	415733	10.91	203802	13.27	66627	5.33
ZZZZZZ	607391	7.82	426766	10.91	203792	13.27	68978	5.35
ZZZZZZ	550519	7.82	401056	10.91	193476	13.27	67857	5.34
ZZZZZZ	539132	7.82	382821	10.91	182879	13.27	65001	5.35
ZZZZZZ	572174	7.82	408431	10.91	196328	13.27	62393	5.35
ZZZZZZ	583097	7.82	413861	10.91	192577	13.27	65511	5.35
ZZZZZZ	550648	7.82	382068	10.91	187642	13.27	62807	5.35
ZZZZZZ	526511	7.82	363336	10.91	175480	13.27	63790	5.34
ZZZZZZ	559705	7.82	383346	10.91	183977	13.27	65744	5.35
ZZZZZZ	548406	7.82	384780	10.91	183818	13.27	66416	5.34
FA2605-11	525140	7.82	370645	10.91	177444	13.27	61563	5.35
ZZZZZZ	565984	7.82	397653	10.91	188995	13.27	65166	5.35
FA2605-11MS	602728	7.82	423779	10.91	220468	13.27	71022	5.35
FA2605-11MSD	629893	7.82	435160	10.91	225490	13.27	77224	5.35
VJ4321-BS	697501	7.82	485807	10.91	248366	13.27	80509	5.35

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

(a) Initial Cal is: VJ4320-ICC4320 J084628.D 03/20/13 10:44
(b) Check Std Limit = -50 to + 100% of initial cal area.

Volatile Internal Standard Area Summary

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Check Std:	VJ4320-CC4320	**Injection Date:**	03/20/13
Lab File ID:	J084635.D	**Injection Time:**	14:40
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 Internal Standard Area Summary

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Check Std:	VO604-CC593	**Injection Date:**	03/19/13
Lab File ID:	O14598.D	**Injection Time:**	19:23
Instrument ID:	GCMSO	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
Initial Cal [a]	895415	7.50	691022	10.65	360958	13.12	77044	5.12
Check Std [b]	819887	7.51	645164	10.65	328320	13.12	63571	5.13
Upper Limit [c]	1639774	8.01	1290328	11.15	656640	13.62	127142	5.63
Lower Limit [d]	409944	7.01	322582	10.15	164160	12.62	31786	4.63

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
VO604-BS	856401	7.51	658675	10.65	324970	13.12	64384	5.12
VO604-MB	833092	7.51	613381	10.65	296173	13.12	58346	5.12
ZZZZZZ	794944	7.51	582354	10.65	276501	13.12	54085	5.12
FA2476-6	781809	7.50	590208	10.65	287883	13.12	52792	5.12
ZZZZZZ	777339	7.51	579964	10.65	281054	13.12	54369	5.12
ZZZZZZ	766440	7.51	567402	10.65	273035	13.12	53752	5.12
ZZZZZZ	778016	7.50	582488	10.65	283323	13.12	56320	5.12
ZZZZZZ	825325	7.50	615670	10.65	312039	13.12	61616	5.12
FA2707-2	933984	7.51	693462	10.65	346449	13.12	69751	5.12
ZZZZZZ	937291	7.50	714077	10.65	359851	13.12	69199	5.12
ZZZZZZ	924155	7.50	688972	10.65	345210	13.12	65379	5.12
ZZZZZZ	958872	7.50	714973	10.65	358300	13.12	70353	5.12
ZZZZZZ	941743	7.50	695462	10.65	359964	13.12	73971	5.12
ZZZZZZ	924239	7.50	683987	10.65	352413	13.12	73208	5.12
ZZZZZZ	920976	7.50	686715	10.65	345833	13.12	71083	5.12
ZZZZZZ	911423	7.50	676575	10.65	332508	13.12	67943	5.12
ZZZZZZ	895482	7.50	655917	10.65	333733	13.12	74232	5.13
ZZZZZZ	965503	7.50	732241	10.65	361260	13.12	65217	5.12
ZZZZZZ	919142	7.50	701319	10.65	356528	13.12	72421	5.12
ZZZZZZ	1031625	7.50	789142	10.65	400045	13.12	85813	5.12
FA2707-2MS	1034907	7.50	803485	10.65	415556	13.12	87489	5.12
FA2707-2MSD	1055336	7.50	823641	10.65	425097	13.12	93154	5.12

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

(a) Initial Cal is: VO593-ICC593 O14296.D 03/05/13 15:41
(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.

Volatile Surrogate Recovery Summary

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Method: SW846 8260B **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
FA2476-1	J084590.D	100.0	103.0	101.0	108.0
FA2476-2	J084591.D	100.0	104.0	102.0	111.0
FA2476-3	J084592.D	102.0	105.0	99.0	111.0
FA2476-4	J084593.D	99.0	103.0	101.0	111.0
FA2476-5	J084639.D	94.0	96.0	98.0	97.0
FA2476-6	O14602.D	100.0	100.0	99.0	101.0
FA2476-6	J084595.D	100.0	100.0	98.0	105.0
FA2476-7	J084638.D	102.0	104.0	101.0	101.0
FA2476-4MS	J084602.D	101.0	104.0	95.0	106.0
FA2476-4MSD	J084603.D	99.0	104.0	96.0	105.0
FA2605-11MS	J084658.D	98.0	97.0	99.0	96.0
FA2605-11MSD	J084659.D	100.0	98.0	100.0	98.0
FA2707-2MS	O14621.D	104.0	98.0	96.0	96.0
FA2707-2MSD	O14622.D	104.0	99.0	96.0	96.0
VJ4318-BS	J084578.D	97.0	103.0	101.0	107.0
VJ4318-MB	J084579.D	100.0	105.0	100.0	110.0
VJ4320-BS	J084636.D	101.0	104.0	100.0	101.0
VJ4320-MB	J084637.D	101.0	105.0	98.0	101.0
VO604-BS	O14599.D	102.0	98.0	98.0	99.0
VO604-MB	O14600.D	99.0	99.0	101.0	100.0

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: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VJ4318-ICC4318
Lab FileID: J084572.D

Response Factor Report MSVOA6

Method : C:\MSDchem\1\METHODS\a-msjncoxy.m (RTE Integrator)
Title : SW-846 Method 5030B/8260B & EPA 624
Last Update : Mon Mar 18 16:02:56 2013
Response via : Initial Calibration

Calibration Files
1 =J084569.D 2 =J084570.D 3 =J084571.D 4 =J084572.D
5 =J084573.D 6 =J084574.D

		Compound	1	2	3	4	5	6	Avg	%RSD
1)	I	Fluorobenzene	----------ISTD----------							
2)		Dichlorodifluoromet	0.434	0.382	0.425	0.419	0.391	0.417	0.411	4.93
3)	P	Chloromethane	0.640	0.547	0.552	0.555	0.521	0.576	0.565	7.15
4)	C	Vinyl Chloride	0.636	0.568	0.569	0.559	0.509	0.549	0.565	7.32
5)		1,3-Butadiene	0.619	0.552	0.562	0.542	0.509	0.547	0.555	6.47
6)		Bromomethane	0.718	0.348	0.323	0.299	0.256	0.268	0.369	47.28
		---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9954								
		Response Ratio = 0.00000 + 0.29785 *A + -0.01722 *A^2								
7)		Chloroethane	0.411	0.297	0.285	0.266	0.206	0.173	0.273	30.33
		---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9982								
		Response Ratio = 0.00000 + 0.31232 *A + -0.07074 *A^2								
8)		Trichlorofluorometh	0.773	0.717	0.704	0.699	0.655	0.727	0.713	5.40
9)		Ethyl Ether	0.301	0.408	0.406	0.382	0.409	0.417	0.387	11.26
10)		1,2-Dichlorotrifluo	0.386	0.531	0.535	0.505	0.526	0.531	0.502	11.55
11)	C	1,1-Dichloroethene	0.432	0.666	0.622	0.590	0.637	0.643	0.598	14.24
12)		Freon 113	0.289	0.452	0.433	0.398	0.419	0.416	0.401	14.43
13)		Carbon Disulfide	0.834	1.113	1.068	0.999	1.056	1.069	1.023	9.73
14)		Iodomethane	0.497	0.641	0.625	0.575	0.647	0.664	0.608	10.27
15)		Allyl chloride	0.678	0.580	0.652	0.640	0.674	0.691	0.653	6.13
16)		Methylene Chloride	4.548	1.355	0.850	0.684	0.688	0.681	1.468	104.33
		---- Linear regr., Force(0,0) ---- Coefficient = 0.9987								
		Response Ratio = 0.00000 + 0.68862 *A								
17)		Acetone	0.056	0.041	0.036	0.034	0.036	0.037	0.040	20.21
		---- Linear regr., Force(0,0) ---- Coefficient = 0.9986								
		Response Ratio = 0.00000 + 0.03655 *A								
18)		Methyl acetate	0.052	0.066	0.065	0.059	0.063	0.065	0.062	8.87
19)		trans-1,2-Dichloroe	0.474	0.671	0.612	0.584	0.624	0.625	0.598	11.19
20)		Hexane	0.313	0.451	0.456	0.425	0.448	0.442	0.422	12.97
21)		Methyl Tert Butyl E	1.009	1.193	1.163	1.117	1.174	1.233	1.148	6.78
22)		Acetonitrile	0.035	0.027	0.030	0.029	0.029	0.029	0.030	9.41
23)		Di-isopropyl ether	1.214	1.496	1.556	1.517	1.577	1.608	1.495	9.59
24)		Chloroprene	0.643	0.583	0.679	0.666	0.703	0.730	0.667	7.63
25)	P	1,1-Dichloroethane	0.558	0.789	0.809	0.737	0.795	0.796	0.747	12.83
26)		Acrylonitrile	0.161	0.168	0.162	0.155	0.164	0.166	0.163	2.80
27)		ETBE	1.009	1.452	1.416	1.362	1.459	1.517	1.369	13.42
28)		Vinyl acetate	0.878	0.991	0.995	0.947	0.947	0.910	0.945	4.82
29)		cis-1,2-Dichloroeth	0.293	0.393	0.398	0.365	0.391	0.394	0.372	10.92
30)		2,2-Dichloropropane	0.393	0.554	0.541	0.527	0.571	0.573	0.526	12.88
31)		Bromochloromethane	0.141	0.197	0.196	0.182	0.195	0.197	0.185	12.14
32)		Cyclohexane	0.515	0.777	0.787	0.741	0.795	0.784	0.733	14.82
33)	C	Chloroform	0.507	0.699	0.708	0.649	0.684	0.698	0.657	11.62
34)		Ethyl acetate	0.368	0.394	0.394	0.380	0.397	0.394	0.388	3.00

Initial Calibration Summary

Job Number: FA2476 **Sample:** VJ4318-ICC4318
Account: TETTNOAK Tetra Tech, Inc **Lab FileID:** J084572.D
Project: Holloman AFB; Alamogordo, NM

```
35)      Tetrahydrofuran      0.209 0.139 0.123 0.126 0.126 0.130 0.142  23.37
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9993
               Response Ratio = 0.00000 + 0.12854 *A

36) S    Dibromofluoromethan 0.307 0.314 0.317 0.299 0.322 0.320 0.313   2.81
37)      Carbon Tetrachlorid 0.316 0.498 0.494 0.501 0.527 0.524 0.477  16.78
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9997
               Response Ratio = 0.00000 + 0.52201 *A

38)      1,1,1-Trichloroetha 0.385 0.590 0.576 0.585 0.583 0.579 0.550  14.66
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9999
               Response Ratio = 0.00000 + 0.58057 *A

39)      2-Butanone          0.192 0.178 0.188 0.189 0.188 0.192 0.188   2.77
40)      1,1-Dichloropropene 0.340 0.522 0.522 0.522 0.524 0.515 0.491  15.01
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9998
               Response Ratio = 0.00000 + 0.51817 *A

41)      tert-Butyl Formate  0.216 0.287 0.304 0.324 0.337 0.347 0.303  15.70
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9992
               Response Ratio = 0.00000 + 0.34064 *A

42)      Propionitrile       0.057 0.054 0.062 0.064 0.063 0.064 0.061   6.92
43)      Methacrylonitrile   0.256 0.253 0.265 0.267 0.256 0.248 0.258   2.86
44)      Benzene             1.121 1.531 1.486 1.461 1.458 1.461 1.420  10.49
45)      TAME                0.853 1.128 1.145 1.157 1.165 1.205 1.109  11.54
46) S    1,2-Dichloroethane- 0.402 0.422 0.419 0.387 0.429 0.444 0.417   4.82
             ---- Linear regression ----  Coefficient =  0.9975
               Response Ratio = -0.09097 + 0.48374 *A

47)      1,2-Dichloroethane  0.467 0.613 0.591 0.607 0.599 0.620 0.583   9.85
48)      Trichloroethene     0.250 0.368 0.376 0.370 0.372 0.370 0.351  14.16
49)      Methylcyclohexane   0.459 0.685 0.708 0.709 0.721 0.698 0.663  15.20
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9995
               Response Ratio = 0.00000 + 0.70588 *A

50)      Dibromomethane      0.153 0.251 0.247 0.244 0.242 0.246 0.230  16.49
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9999
               Response Ratio = 0.00000 + 0.24444 *A

51) C    1,2-Dichloropropane 0.322 0.438 0.419 0.428 0.432 0.434 0.412  10.88
52)      Bromodichloromethan 0.354 0.479 0.467 0.483 0.480 0.499 0.460  11.53
53)      Methyl methacrylate 0.277 0.314 0.351 0.381 0.380 0.399 0.350  13.26
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9989
               Response Ratio = 0.00000 + 0.39014 *A

54)      2-Chloroethyl vinyl 0.205 0.284 0.290 0.294 0.295 0.297 0.277  12.85
55)      cis-1,3-Dichloropro 0.418 0.588 0.613 0.636 0.645 0.651 0.592  14.92
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9999
               Response Ratio = 0.00000 + 0.64675 *A


56) I    Chlorobenzene-d5       ----------------ISTD---------------------
57) S    Toluene-d8          1.103 1.097 1.058 1.082 1.065 1.057 1.077   1.85
58) C    Toluene             1.085 1.418 1.341 1.325 1.300 1.275 1.291   8.68
59)      2-Nitropropane      0.078 0.094 0.099 0.107 0.110 0.111 0.100  12.36
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9996
               Response Ratio = 0.00000 + 0.11013 *A

60)      4-Methyl-2-pentanon 0.332 0.373 0.366 0.377 0.372 0.370 0.365   4.54
```

Initial Calibration Summary

Job Number: FA2476 **Sample:** VJ4318-ICC4318
Account: TETTNOAK Tetra Tech, Inc **Lab FileID:** J084572.D
Project: Holloman AFB; Alamogordo, NM

```
61)      trans-1,3-Dichlorop 0.337 0.478 0.497 0.514 0.520 0.528 0.479  15.02
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9999
               Response Ratio = 0.00000 + 0.52354 *A

62)      Tetrachloroethene   0.211 0.312 0.322 0.325 0.339 0.331 0.306  15.61
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9996
               Response Ratio = 0.00000 + 0.33227 *A

63)      Ethyl methacrylate  0.293 0.343 0.424 0.456 0.463 0.474 0.409  18.11
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9996
               Response Ratio = 0.00000 + 0.46754 *A

64)      1,1,2-Trichloroetha 0.205 0.268 0.262 0.263 0.260 0.258 0.253   9.34
65)      Dibromochloromethan 0.234 0.293 0.304 0.317 0.328 0.333 0.301  11.98
66)      1,3-Dichloropropane 0.430 0.558 0.522 0.544 0.531 0.535 0.520   8.81
67)      1,2-Dibromoethane   0.251 0.302 0.305 0.304 0.307 0.313 0.297   7.77
68)      2-hexanone          0.229 0.264 0.252 0.263 0.263 0.265 0.256   5.46
69)      1-Chlorohexane      0.274 0.461 0.457 0.480 0.488 0.475 0.439  18.62
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9996
               Response Ratio = 0.00000 + 0.47904 *A

70) C    Ethylbenzene        1.161 1.574 1.460 1.493 1.468 1.427 1.430   9.86
71) P    Chlorobenzene       0.639 0.856 0.815 0.836 0.826 0.833 0.801  10.04
72)      1,1,1,2-Tetrachloro 0.210 0.306 0.310 0.322 0.324 0.332 0.301  15.10
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9997
               Response Ratio = 0.00000 + 0.32804 *A

73)      m,p-Xylene          0.760 1.150 1.110 1.120 1.088 1.041 1.045  13.80
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9999
               Response Ratio = 0.00000 + 1.16937 *A + -0.03155 *A^2

74)      o-Xylene            0.728 1.177 1.130 1.135 1.149 1.136 1.076  15.93
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9999
               Response Ratio = 0.00000 + 1.13936 *A

75)      Styrene             0.504 0.854 0.902 0.937 0.948 0.946 0.849  20.32
             ---- Linear regr., Force(0,0) ----  Coefficient =  1.0000
               Response Ratio = 0.00000 + 0.94470 *A

76) P    Bromoform           0.162 0.175 0.195 0.214 0.226 0.235 0.201  14.54
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9999
               Response Ratio = 0.00000 + 0.19725 *A + 0.01944 *A^2

77)      Isopropylbenzene    0.783 1.376 1.400 1.433 1.423 1.390 1.301  19.57
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9996
               Response Ratio = 0.00000 + 1.40385 *A


78) I    1,4-Dichlorobenzene-d ----------------ISTD---------------------
79) S    4-Bromofluorobenzen 0.977 0.904 0.840 0.924 0.821 0.831 0.883   7.06
80)      cis-1,4-Dichloro-2- 0.144 0.184 0.201 0.218 0.219 0.226 0.199  15.59
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9998
               Response Ratio = 0.00000 + 0.20555 *A + 0.01018 *A^2

81)      n-Propylbenzene     1.982 2.896 2.888 2.808 2.719 2.647 2.657  12.96
82)      Bromobenzene        0.460 0.649 0.619 0.634 0.619 0.626 0.601  11.61
83) P    1,1,2,2-Tetrachloro 0.728 0.760 0.699 0.706 0.668 0.682 0.707   4.64
84)      1,3,5-Trimethylbenz 1.404 2.196 2.189 2.225 2.186 2.161 2.060  15.62
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9998
               Response Ratio = 0.00000 + 2.17490 *A
```

```
 85)     2-Chlorotoluene     1.421 2.056 1.978 1.953 1.882 1.883 1.862  12.13
 86)     trans-1,4-Dichloro- 0.151 0.231 0.227 0.242 0.240 0.249 0.223  16.23
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9994
               Response Ratio = 0.00000 + 0.24529 *A

 87)     1,2,3-Trichloroprop 0.168 0.204 0.194 0.187 0.187 0.194 0.189   6.41
 88)     Cyclohexanone       0.011 0.019 0.020 0.021 0.021 0.023 0.019  22.61
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9996
               Response Ratio = 0.00000 + 0.01899 *A + 0.00041 *A^2

 89)     4-Chlorotoluene     1.272 1.878 1.778 1.739 1.692 1.699 1.676  12.49
 90)     a-Methyl Styrene    0.807 0.937 1.113 1.170 1.149 1.183 1.060  14.44
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9996
               Response Ratio = 0.00000 + 1.16974 *A

 91)     tert-Butylbenzene   0.837 1.278 1.215 1.189 1.193 1.187 1.150  13.64
 92)     1,2,4-Trimethylbenz 1.423 2.251 2.225 2.233 2.159 2.137 2.071  15.49
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9996
               Response Ratio = 0.00000 + 2.15502 *A

 93)     Pentachloroethane   0.307 0.323 0.386 0.407 0.402 0.427 0.376  13.01
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9986
               Response Ratio = 0.00000 + 0.41699 *A

 94)     sec-Butylbenzene    1.635 2.774 2.726 2.697 2.640 2.575 2.508  17.28
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9994
               Response Ratio = 0.00000 + 2.60893 *A

 95)     4-Isopropyltoluene  1.228 2.034 2.149 2.160 2.099 2.093 1.961  18.44
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9998
               Response Ratio = 0.00000 + 2.10234 *A

 96)     1,3-Dichlorobenzene 0.761 1.104 1.110 1.107 1.073 1.089 1.041  13.23
 97)     1,4-Dichlorobenzene 1.001 1.266 1.206 1.204 1.156 1.182 1.169   7.69
 98)     n-Butylbenzene      0.880 1.318 1.376 1.368 1.371 1.368 1.280  15.39
             ---- Linear regr., Force(0,0) ----  Coefficient =  1.0000
               Response Ratio = 0.00000 + 1.36876 *A

 99)     Benzyl Chloride     0.138 0.193 0.229 0.246 0.258 0.264 0.221  21.78
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9999
               Response Ratio = 0.00000 + 0.23337 *A + 0.01555 *A^2

100)     1,2-Dichlorobenzene 0.821 1.166 1.066 1.073 1.048 1.075 1.041  11.12
101)     1,2-Dibromo-3-Chlor 0.125 0.113 0.111 0.123 0.123 0.132 0.121   6.31
102)     Hexachlorobutadiene 0.283 0.423 0.440 0.456 0.449 0.473 0.421  16.56
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9990
               Response Ratio = 0.00000 + 0.46369 *A

103)     1,2,4-Trichlorobenz 0.629 0.749 0.764 0.798 0.809 0.840 0.765   9.68
104)     Naphthalene         1.387 1.628 1.721 1.798 1.759 1.815 1.685   9.53
105)     1,2,3-Trichlorobenz 0.543 0.681 0.680 0.733 0.708 0.746 0.682  10.74

106) I   Tert Butyl Alcohol-d1 ----------------ISTD---------------------
107)     Ethanol             0.171 0.155 0.122 0.130 0.117 0.114 0.135  17.07
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9990
               Response Ratio = 0.00000 + 0.13281 *A + -0.00238 *A^2

108)     acrolein            2.397 2.019 2.061 2.214 2.073 2.045 2.135   6.81
109)     Tert Butyl Alcohol  1.234 1.083 1.074 1.063 1.024 1.054 1.089   6.79
```

Initial Calibration Summary

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VJ4318-ICC4318
Lab FileID: J084572.D

```
110)     tert Amyl alcohol   0.698 0.717 0.780 0.839 0.792 0.820 0.774   7.22
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9992
               Response Ratio = 0.00000 + 0.79451 *A + 0.00537 *A^2

111)     Isobutyl alcohol    0.115 0.111 0.132 0.131 0.118 0.113 0.120   7.71
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9995
               Response Ratio = 0.00000 + 0.13765 *A + -0.00316 *A^2

112)     1,4-Dioxane         0.084 0.102 0.103 0.108 0.098 0.095 0.099   8.70
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9994
               Response Ratio = 0.00000 + 0.11094 *A + -0.00200 *A^2

113)     3,3-Dimethyl-1-buta 0.494 0.711 0.802 0.911 0.891 0.933 0.790  21.14
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9989
               Response Ratio = 0.00000 + 0.91526 *A

 ---------------------------------------------------------------------------
 (#) = Out of Range

          a-msjncoxy.m        Tue Mar 19 12:06:45 2013
```

Initial Calibration Verification

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VJ4318-ICV4318
Lab FileID: J084575.D

Evaluate Continuing Calibration Report

Data File : C:\MSDchem\1\DATA\031813\J084575.D Vial: 7
Acq On : 18 Mar 2013 3:48 pm Operator: MELISSAM
Sample : ICV4318-7 Inst : MSVOA6
Misc : MS23674,VJ4318,,,,, Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDchem\1\METHODS\a-msjncoxy.m (RTE Integrator)
Title : SW-846 Method 5030B/8260B & EPA 624
Last Update : Mon Mar 18 16:02:56 2013
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	110	0.00	7.82
2		Dichlorodifluoromethane	0.411	0.428	-4.1	113	-0.01	2.66
3	P	Chloromethane	0.565	0.573	-1.4	114	-0.01	2.89
4	C	Vinyl Chloride	0.565	0.540	4.4	106	0.00	3.05
5		1,3-Butadiene	0.555	0.010	98.2#	2#	-0.01	3.03
			Amount	Calc.	%Drift			
6		Bromomethane	40.000	38.963	2.6	102	-0.01	3.47
7		Chloroethane	40.000	37.143	7.1	100	0.00	3.62
			AvgRF	CCRF	%Dev			
8		Trichlorofluoromethane	0.713	0.699	2.0	110	0.00	3.85
9		Ethyl Ether	0.387	0.390	-0.8	112	0.00	4.15
10		1,2-Dichlorotrifluoroetha	0.502	0.424	15.5	92	-0.01	4.39
11	C	1,1-Dichloroethene	0.598	0.641	-7.2	120	0.00	4.43
12		Freon 113	0.401	0.365	9.0	101	0.00	4.48
13		Carbon Disulfide	1.023	1.095	-7.0	121	0.00	4.51
14		Iodomethane	0.608	0.577	5.1	111	0.00	4.62
15		Allyl chloride	0.653	0.683	-4.6	117	0.00	4.97
			Amount	Calc.	%Drift			
16		Methylene Chloride	40.000	40.817	-2.0	113	0.00	5.09
17		Acetone	200.000	209.494	-4.7	123	0.00	5.12
			AvgRF	CCRF	%Dev			
18		Methyl acetate	0.062	0.064	-3.2	119	0.00	5.24
19		trans-1,2-Dichloroethene	0.598	0.606	-1.3	114	0.00	5.27
20		Hexane	0.422	0.404	4.3	105	0.00	5.34
21		Methyl Tert Butyl Ether	1.148	1.187	-3.4	117	0.00	5.38
22		Acetonitrile	0.030	0.031	-3.3	118	0.00	5.65
23		Di-isopropyl ether	1.495	1.535	-2.7	112	0.00	5.77
24		Chloroprene	0.667	0.645	3.3	107	0.00	5.92
25	P	1,1-Dichloroethane	0.747	0.772	-3.3	115	0.00	5.95
26		Acrylonitrile	0.163	0.151	7.4	107	0.00	5.99
27		ETBE	1.369	1.396	-2.0	113	0.00	6.17
28		Vinyl acetate	0.945	0.699	26.0#	81	0.00	6.17
29		cis-1,2-Dichloroethene	0.372	0.391	-5.1	118	0.00	6.53
30		2,2-Dichloropropane	0.526	0.550	-4.6	115	0.00	6.67
31		Bromochloromethane	0.185	0.187	-1.1	113	0.00	6.75
32		Cyclohexane	0.733	0.726	1.0	108	0.00	6.79
33	C	Chloroform	0.657	0.674	-2.6	114	0.00	6.80
34		Ethyl acetate	0.388	0.368	5.2	107	0.00	6.87

Initial Calibration Verification

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VJ4318-ICV4318
Lab FileID: J084575.D

			Amount	Calc.	%Drift			
35		Tetrahydrofuran	40.000	39.786	0.5	112	0.00	6.98
			AvgRF	CCRF	%Dev			
36	S	Dibromofluoromethane	0.313	0.301	3.8	111	0.00	6.99
			Amount	Calc.	%Drift			
37		Carbon Tetrachloride	40.000	36.329	9.2	104	0.00	6.99
38		1,1,1-Trichloroethane	40.000	37.612	6.0	103	0.00	7.05
			AvgRF	CCRF	%Dev			
39		2-Butanone	0.188	0.209	-11.2	122	0.00	7.09
			Amount	Calc.	%Drift			
40		1,1-Dichloropropene	40.000	38.919	2.7	107	0.00	7.16
41		tert-Butyl Formate	400.000	458.565	-14.6	133	0.00	7.25
			AvgRF	CCRF	%Dev			
42		Propionitrile	0.061	0.064	-4.9	109	0.00	7.41
43		Methacrylonitrile	0.258	0.269	-4.3	111	0.00	7.43
44		Benzene	1.420	1.442	-1.5	109	0.00	7.42
45		TAME	1.109	1.172	-5.7	112	0.00	7.49
			Amount	Calc.	%Drift			
46	S	1,2-Dichloroethane-d4	50.000	50.687	-1.4	114	0.00	7.54
			AvgRF	CCRF	%Dev			
47		1,2-Dichloroethane	0.583	0.634	-8.7	115	0.00	7.62
48		Trichloroethene	0.351	0.363	-3.4	108	0.00	7.99
			Amount	Calc.	%Drift			
49		Methylcyclohexane	40.000	36.748	8.1	101	0.00	8.01
50		Dibromomethane	40.000	39.790	0.5	110	0.00	8.42
			AvgRF	CCRF	%Dev			
51	C	1,2-Dichloropropane	0.412	0.430	-4.4	111	0.00	8.52
52		Bromodichloromethane	0.460	0.489	-6.3	112	0.00	8.56
			Amount	Calc.	%Drift			
53		Methyl methacrylate	40.000	40.536	-1.3	114	0.00	8.66
			AvgRF	CCRF	%Dev			
54		2-Chloroethyl vinyl ether	0.277	0.263	5.1	99	0.00	9.07
			Amount	Calc.	%Drift			
55		cis-1,3-Dichloropropene	40.000	37.756	5.6	106	0.00	9.17
			AvgRF	CCRF	%Dev			
56	I	Chlorobenzene-d5	1.000	1.000	0.0	113	0.00	10.91
57	S	Toluene-d8	1.077	1.071	0.6	112	0.00	9.36
58	C	Toluene	1.291	1.274	1.3	108	0.00	9.42
			Amount	Calc.	%Drift			
59		2-Nitropropane	200.000	206.757	-3.4	120	0.00	9.63
			AvgRF	CCRF	%Dev			
60		4-Methyl-2-pentanone	0.365	0.362	0.8	108	0.00	9.74

Initial Calibration Verification

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VJ4318-ICV4318
Lab FileID: J084575.D

			Amount	Calc.	%Drift			
61		trans-1,3-Dichloropropene	40.000	41.040	-2.6	118	0.00	9.80
62		Tetrachloroethene	40.000	37.449	6.4	108	0.00	9.81
63		Ethyl methacrylate	40.000	39.061	2.3	113	0.00	9.90
			AvgRF	CCRF	%Dev			
64		1,1,2-Trichloroethane	0.253	0.261	-3.2	112	0.00	9.97
65		Dibromochloromethane	0.301	0.323	-7.3	115	0.00	10.16
66		1,3-Dichloropropane	0.520	0.530	-1.9	110	0.00	10.25
67		1,2-Dibromoethane	0.297	0.315	-6.1	117	0.00	10.43
68		2-hexanone	0.256	0.250	2.3	107	0.00	10.56
			Amount	Calc.	%Drift			
69		1-Chlorohexane	40.000	35.818	10.5	101	0.00	10.86
			AvgRF	CCRF	%Dev			
70	C	Ethylbenzene	1.430	1.415	1.0	107	0.00	10.93
71	P	Chlorobenzene	0.801	0.851	-6.2	115	0.00	10.93
			Amount	Calc.	%Drift			
72		1,1,1,2-Tetrachloroethane	40.000	39.264	1.8	113	0.00	10.98
73		m,p-Xylene	80.000	78.522	1.8	111	0.00	11.07
74		o-Xylene	40.000	41.283	-3.2	117	0.00	11.50
75		Styrene	40.000	38.699	3.3	110	0.00	11.55
76	P	Bromoform	40.000	39.711	0.7	111	0.00	11.61
77		Isopropylbenzene	40.000	41.235	-3.1	114	0.00	11.81
			AvgRF	CCRF	%Dev			
78	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	111	0.00	13.27
79	S	4-Bromofluorobenzene	0.883	0.949	-7.5	114	0.00	12.12
			Amount	Calc.	%Drift			
80		cis-1,4-Dichloro-2-butene	40.000	47.758	-19.4	130	0.00	12.16
			AvgRF	CCRF	%Dev			
81		n-Propylbenzene	2.657	2.904	-9.3	114	0.00	12.23
82		Bromobenzene	0.601	0.637	-6.0	111	0.00	12.25
83	P	1,1,2,2-Tetrachloroethane	0.707	0.696	1.6	109	0.00	12.29
			Amount	Calc.	%Drift			
84		1,3,5-Trimethylbenzene	40.000	38.271	4.3	103	0.00	12.41
			AvgRF	CCRF	%Dev			
85		2-Chlorotoluene	1.862	2.007	-7.8	114	0.00	12.42
			Amount	Calc.	%Drift			
86		trans-1,4-Dichloro-2-Bute	40.000	38.726	3.2	109	0.00	12.47
			AvgRF	CCRF	%Dev			
87		1,2,3-Trichloropropane	0.189	0.194	-2.6	115	0.00	12.45
			Amount	Calc.	%Drift			
88		Cyclohexanone	200.000	308.376	-54.2#	174	0.00	12.52
			AvgRF	CCRF	%Dev			
89		4-Chlorotoluene	1.676	1.860	-11.0	118	0.00	12.59
			Amount	Calc.	%Drift			
90		a-Methyl Styrene	40.000	0.877	97.8#	2	0.08	12.76

Initial Calibration Verification

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VJ4318-ICV4318
Lab FileID: J084575.D

		AvgRF	CCRF	%Dev			
91	tert-Butylbenzene	1.150	1.219	-6.0	113	0.00	12.75
		Amount	Calc.	%Drift			
92	1,2,4-Trimethylbenzene	40.000	39.440	1.4	105	0.00	12.82
93	Pentachloroethane	40.000	40.375	-0.9	114	0.00	12.80
94	sec-Butylbenzene	40.000	42.020	-5.1	112	0.00	12.94
95	4-Isopropyltoluene	40.000	40.483	-1.2	109	0.00	13.07
		AvgRF	CCRF	%Dev			
96	1,3-Dichlorobenzene	1.041	1.150	-10.5	115	0.00	13.20
97	1,4-Dichlorobenzene	1.169	1.164	0.4	107	0.00	13.29
		Amount	Calc.	%Drift			
98	n-Butylbenzene	40.000	38.498	3.8	107	0.00	13.50
99	Benzyl Chloride	40.000	38.786	3.0	107	0.00	13.52
		AvgRF	CCRF	%Dev			
100	1,2-Dichlorobenzene	1.041	1.136	-9.1	117	0.00	13.71
101	1,2-Dibromo-3-Chloropropa	0.121	0.129	-6.6	116	0.00	14.44
		Amount	Calc.	%Drift			
102	Hexachlorobutadiene	40.000	37.038	7.4	104	0.00	14.98
		AvgRF	CCRF	%Dev			
103	1,2,4-Trichlorobenzene	0.765	0.839	-9.7	116	0.00	15.03
104	Naphthalene	1.685	1.906	-13.1	117	0.00	15.32
105	1,2,3-Trichlorobenzene	0.682	0.745	-9.2	112	0.00	15.49
106 I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	128	-0.01	5.35
		Amount	Calc.	%Drift			
107	Ethanol	800.000	785.182	1.9	121	-0.02	4.31
		AvgRF	CCRF	%Dev			
108	acrolein	2.135	2.280	-6.8	132	0.00	4.80
109	Tert Butyl Alcohol	1.089	1.035	5.0	124	0.00	5.43
		Amount	Calc.	%Drift			
110	tert Amyl alcohol	400.000	392.323	1.9	120	0.00	7.64
111	Isobutyl alcohol	800.000	706.574	11.7	111	0.00	7.43
112	1,4-Dioxane	800.000	780.416	2.4	120	0.00	8.74
113	3,3-Dimethyl-1-butanol	2000.000	1478.841	26.1#	95	0.00	10.50

(#) = Out of Range SPCC's out = 0 CCC's out = 0
J084572.D a-msjncoxy.m Tue Mar 19 12:06:13 2013

6.7.2

6

Continuing Calibration Summary

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VJ4318-CC4318
Lab FileID: J084577.D

Evaluate Continuing Calibration Report

```
Data File : C:\MSDchem\1\DATA\031813\J084577.D          Vial: 1
Acq On    : 18 Mar 2013   4:36 pm                   Operator: MELISSAM
Sample    : CC4318-4                                Inst    : MSVOA6
Misc      : MS23674,VJ4318,,,,,                     Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\MSDchem\1\METHODS\a-msjncoxy.m (RTE Integrator)
Title        : SW-846 Method 5030B/8260B & EPA 624
Last Update  : Mon Mar 18 16:02:56 2013
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	105	0.00	7.82
2		Dichlorodifluoromethane	0.411	0.427	-3.9	107	-0.01	2.66
3	P	Chloromethane	0.565	0.597	-5.7	113	-0.01	2.89
4	C	Vinyl Chloride	0.565	0.546	3.4	103	0.00	3.05
5		1,3-Butadiene	0.555	0.543	2.2	106	0.00	3.04
		----------	Amount	Calc.	%Drift	----------		
6		Bromomethane	40.000	42.072	-5.2	105	0.00	3.47
7		Chloroethane	40.000	39.474	1.3	100	0.00	3.62
		----------	AvgRF	CCRF	%Dev	----------		
8		Trichlorofluoromethane	0.713	0.659	7.6	99	0.00	3.86
9		Ethyl Ether	0.387	0.413	-6.7	114	0.00	4.15
10		1,2-Dichlorotrifluoroetha	0.502	0.541	-7.8	113	-0.01	4.39
11	C	1,1-Dichloroethene	0.598	0.666	-11.4	119	0.00	4.43
12		Freon 113	0.401	0.433	-8.0	115	0.00	4.48
13		Carbon Disulfide	1.023	1.084	-6.0	114	0.00	4.51
14		Iodomethane	0.608	0.648	-6.6	119	0.00	4.63
15		Allyl chloride	0.653	0.681	-4.3	112	0.00	4.97
		----------	Amount	Calc.	%Drift	----------		
16		Methylene Chloride	40.000	41.240	-3.1	109	0.00	5.09
17		Acetone	200.000	206.687	-3.3	116	0.00	5.12
		----------	AvgRF	CCRF	%Dev	----------		
18		Methyl acetate	0.062	0.064	-3.2	115	0.00	5.24
19		trans-1,2-Dichloroethene	0.598	0.641	-7.2	116	0.00	5.27
20		Hexane	0.422	0.457	-8.3	113	0.00	5.34
21		Methyl Tert Butyl Ether	1.148	1.209	-5.3	114	0.00	5.38
22		Acetonitrile	0.030	0.032	-6.7	115	0.00	5.65
23		Di-isopropyl ether	1.495	1.634	-9.3	113	0.00	5.77
24		Chloroprene	0.667	0.711	-6.6	112	0.00	5.92
25	P	1,1-Dichloroethane	0.747	0.812	-8.7	116	0.00	5.95
26		Acrylonitrile	0.163	0.166	-1.8	113	0.00	5.99
27		ETBE	1.369	1.498	-9.4	116	0.00	6.17
28		Vinyl acetate	0.945	1.012	-7.1	113	0.00	6.17
29		cis-1,2-Dichloroethene	0.372	0.405	-8.9	117	0.00	6.53
30		2,2-Dichloropropane	0.526	0.599	-13.9	120	0.00	6.67
31		Bromochloromethane	0.185	0.190	-2.7	110	0.00	6.75
32		Cyclohexane	0.733	0.810	-10.5	115	0.00	6.79
33	C	Chloroform	0.657	0.708	-7.8	115	0.00	6.80
34		Ethyl acetate	0.388	0.410	-5.7	114	0.00	6.87

Continuing Calibration Summary

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VJ4318-CC4318
Lab FileID: J084577.D

			Amount	Calc.	%Drift			
35		Tetrahydrofuran	40.000	40.433	-1.1	109	0.00	6.98
			AvgRF	CCRF	%Dev			
36	S	Dibromofluoromethane	0.313	0.306	2.2	108	0.00	6.99
			Amount	Calc.	%Drift			
37		Carbon Tetrachloride	40.000	39.486	1.3	108	0.00	6.99
38		1,1,1-Trichloroethane	40.000	40.126	-0.3	105	0.00	7.05
			AvgRF	CCRF	%Dev			
39		2-Butanone	0.188	0.199	-5.9	111	0.00	7.09
			Amount	Calc.	%Drift			
40		1,1-Dichloropropene	40.000	41.156	-2.9	108	0.00	7.16
41		tert-Butyl Formate	400.000	410.831	-2.7	114	0.00	7.25
			AvgRF	CCRF	%Dev			
42		Propionitrile	0.061	0.065	-6.6	107	0.00	7.41
43		Methacrylonitrile	0.258	0.274	-6.2	108	0.00	7.43
44		Benzene	1.420	1.466	-3.2	106	0.00	7.41
45		TAME	1.109	1.191	-7.4	108	0.00	7.49
			Amount	Calc.	%Drift			
46	S	1,2-Dichloroethane-d4	50.000	51.732	-3.5	111	0.00	7.54
			AvgRF	CCRF	%Dev			
47		1,2-Dichloroethane	0.583	0.625	-7.2	109	0.00	7.62
48		Trichloroethene	0.351	0.360	-2.6	103	0.00	7.99
			Amount	Calc.	%Drift			
49		Methylcyclohexane	40.000	40.268	-0.7	106	0.00	8.01
50		Dibromomethane	40.000	39.821	0.4	105	0.00	8.42
			AvgRF	CCRF	%Dev			
51	C	1,2-Dichloropropane	0.412	0.428	-3.9	105	0.00	8.52
52		Bromodichloromethane	0.460	0.486	-5.7	106	0.00	8.56
			Amount	Calc.	%Drift			
53		Methyl methacrylate	40.000	40.595	-1.5	110	0.00	8.66
			AvgRF	CCRF	%Dev			
54		2-Chloroethyl vinyl ether	0.277	0.314	-13.4	113	0.00	9.07
			Amount	Calc.	%Drift			
55		cis-1,3-Dichloropropene	40.000	41.858	-4.6	112	0.00	9.17
			AvgRF	CCRF	%Dev			
56	I	Chlorobenzene-d5	1.000	1.000	0.0	114	0.00	10.91
57	S	Toluene-d8	1.077	1.076	0.1	113	0.00	9.36
58	C	Toluene	1.291	1.295	-0.3	111	0.00	9.42
			Amount	Calc.	%Drift			
59		2-Nitropropane	200.000	196.044	2.0	115	0.00	9.63
			AvgRF	CCRF	%Dev			
60		4-Methyl-2-pentanone	0.365	0.368	-0.8	111	0.00	9.74

Continuing Calibration Summary

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VJ4318-CC4318
Lab FileID: J084577.D

			Amount	Calc.	%Drift			
61		trans-1,3-Dichloropropene	40.000	39.295	1.8	114	0.00	9.80
62		Tetrachloroethene	40.000	39.734	0.7	115	0.00	9.81
63		Ethyl methacrylate	40.000	37.771	5.6	110	0.00	9.90
			AvgRF	CCRF	%Dev			
64		1,1,2-Trichloroethane	0.253	0.254	-0.4	110	0.00	9.97
65		Dibromochloromethane	0.301	0.314	-4.3	113	0.00	10.16
66		1,3-Dichloropropane	0.520	0.527	-1.3	110	0.00	10.25
67		1,2-Dibromoethane	0.297	0.308	-3.7	115	0.00	10.43
68		2-hexanone	0.256	0.259	-1.2	112	0.00	10.56
			Amount	Calc.	%Drift			
69		1-Chlorohexane	40.000	39.530	1.2	112	0.00	10.86
			AvgRF	CCRF	%Dev			
70	C	Ethylbenzene	1.430	1.463	-2.3	111	0.00	10.93
71	P	Chlorobenzene	0.801	0.814	-1.6	111	0.00	10.93
			Amount	Calc.	%Drift			
72		1,1,1,2-Tetrachloroethane	40.000	38.208	4.5	111	0.00	10.98
73		m,p-Xylene	80.000	78.526	1.8	112	0.00	11.07
74		o-Xylene	40.000	40.074	-0.2	114	0.00	11.50
75		Styrene	40.000	38.890	2.8	111	0.00	11.55
76	P	Bromoform	40.000	40.323	-0.8	114	0.00	11.61
77		Isopropylbenzene	40.000	40.196	-0.5	112	0.00	11.81
			AvgRF	CCRF	%Dev			
78	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	114	0.00	13.27
79	S	4-Bromofluorobenzene	0.883	0.936	-6.0	115	0.00	12.12
			Amount	Calc.	%Drift			
80		cis-1,4-Dichloro-2-butene	40.000	40.698	-1.7	113	0.00	12.16
			AvgRF	CCRF	%Dev			
81		n-Propylbenzene	2.657	2.760	-3.9	112	0.00	12.23
82		Bromobenzene	0.601	0.615	-2.3	110	0.00	12.25
83	P	1,1,2,2-Tetrachloroethane	0.707	0.683	3.4	110	0.00	12.29
			Amount	Calc.	%Drift			
84		1,3,5-Trimethylbenzene	40.000	40.280	-0.7	112	0.00	12.41
			AvgRF	CCRF	%Dev			
85		2-Chlorotoluene	1.862	1.910	-2.6	111	0.00	12.42
			Amount	Calc.	%Drift			
86		trans-1,4-Dichloro-2-Bute	40.000	38.877	2.8	112	0.00	12.47
			AvgRF	CCRF	%Dev			
87		1,2,3-Trichloropropane	0.189	0.190	-0.5	116	0.00	12.45
			Amount	Calc.	%Drift			
88		Cyclohexanone	200.000	205.896	-2.9	115	0.00	12.53
			AvgRF	CCRF	%Dev			
89		4-Chlorotoluene	1.676	1.722	-2.7	112	0.00	12.59
			Amount	Calc.	%Drift			
90		a-Methyl Styrene	40.000	38.071	4.8	108	0.00	12.68

Continuing Calibration Summary

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VJ4318-CC4318
Lab FileID: J084577.D

		AvgRF	CCRF	%Dev			
91	tert-Butylbenzene	1.150	1.193	-3.7	114	0.00	12.76
		Amount	Calc.	%Drift			
92	1,2,4-Trimethylbenzene	40.000	40.847	-2.1	112	0.00	12.82
93	Pentachloroethane	40.000	38.501	3.7	112	0.00	12.80
94	sec-Butylbenzene	40.000	40.488	-1.2	111	0.00	12.94
95	4-Isopropyltoluene	40.000	40.647	-1.6	112	0.00	13.07
		AvgRF	CCRF	%Dev			
96	1,3-Dichlorobenzene	1.041	1.092	-4.9	112	0.00	13.20
97	1,4-Dichlorobenzene	1.169	1.181	-1.0	111	0.00	13.29
		Amount	Calc.	%Drift			
98	n-Butylbenzene	40.000	39.440	1.4	112	0.00	13.50
99	Benzyl Chloride	40.000	40.862	-2.2	116	0.00	13.52
		AvgRF	CCRF	%Dev			
100	1,2-Dichlorobenzene	1.041	1.065	-2.3	113	0.00	13.71
101	1,2-Dibromo-3-Chloropropa	0.121	0.123	-1.7	114	0.00	14.44
		Amount	Calc.	%Drift			
102	Hexachlorobutadiene	40.000	39.318	1.7	114	0.00	14.98
		AvgRF	CCRF	%Dev			
103	1,2,4-Trichlorobenzene	0.765	0.838	-9.5	119	0.00	15.03
104	Naphthalene	1.685	1.851	-9.9	117	0.00	15.32
105	1,2,3-Trichlorobenzene	0.682	0.743	-8.9	115	0.00	15.49
106 I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	126	0.00	5.35
		Amount	Calc.	%Drift			
107	Ethanol	800.000	741.113	7.4	113	0.00	4.34
		AvgRF	CCRF	%Dev			
108	acrolein	2.135	2.007	6.0	114	0.00	4.81
109	Tert Butyl Alcohol	1.089	0.995	8.6	118	0.00	5.43
		Amount	Calc.	%Drift			
110	tert Amyl alcohol	400.000	369.866	7.5	112	0.00	7.64
111	Isobutyl alcohol	800.000	690.998	13.6	107	0.00	7.43
112	1,4-Dioxane	800.000	699.802	12.5	107	0.00	8.74
113	3,3-Dimethyl-1-butanol	2000.000	1862.362	6.9	118	0.00	10.50

(#) = Out of Range SPCC's out = 0 CCC's out = 0
J084572.D a-msjncoxy.m Tue Mar 19 12:06:15 2013

6.7.3

6

Initial Calibration Summary

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VJ4320-ICC4320
Lab FileID: J084628.D

Response Factor Report MSVOA6

Method : C:\MSDchem\1\METHODS\a-msjncoxy.m (RTE Integrator)
Title : SW-846 Method 5030B/8260B & EPA 624
Last Update : Wed Mar 20 13:25:02 2013
Response via : Initial Calibration

Calibration Files
1 =J084625.D 2 =J084626.D 3 =J084627.D 4 =J084628.D
5 =J084629.D 6 =J084630.D

		Compound	1	2	3	4	5	6	Avg	%RSD
1)	I	Fluorobenzene	----------ISTD----------							
2)		Dichlorodifluoromet	0.361	0.332	0.375	0.376	0.384	0.383	0.368	5.35
3)	P	Chloromethane	0.530	0.459	0.510	0.537	0.512	0.516	0.511	5.35
4)	C	Vinyl Chloride	0.563	0.503	0.534	0.544	0.512	0.507	0.527	4.56
5)		1,3-Butadiene	0.519	0.498	0.474	0.497	0.491	0.492	0.495	2.92
6)		Bromomethane	0.557	0.320	0.300	0.295	0.260	0.239	0.328	35.22
		---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9996								
		Response Ratio = 0.00000 + 0.32239 *A + -0.04232 *A^2								
7)		Chloroethane	0.323	0.270	0.269	0.273	0.221	0.163	0.253	21.62
		---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9978								
		Response Ratio = 0.00000 + 0.33554 *A + -0.08533 *A^2								
8)		Trichlorofluorometh	0.626	0.614	0.649	0.698	0.660	0.642	0.648	4.53
9)		Ethyl Ether	0.395	0.329	0.355	0.380	0.386	0.389	0.372	6.87
10)		1,2-Dichlorotrifluo	0.450	0.484	0.509	0.481	0.495	0.504	0.487	4.38
11)	C	1,1-Dichloroethene	0.536	0.526	0.596	0.593	0.605	0.621	0.579	6.71
12)		Freon 113	0.383	0.370	0.403	0.385	0.395	0.395	0.389	2.99
13)		Carbon Disulfide	0.983	0.869	0.988	0.983	0.990	0.997	0.968	5.03
14)		Iodomethane	0.522	0.537	0.603	0.597	0.598	0.615	0.579	6.73
15)		Allyl chloride	0.581	0.565	0.581	0.601	0.628	0.654	0.602	5.56
16)		Methylene Chloride	1.253	0.648	0.644	0.618	0.619	0.622	0.734	34.70
		---- Linear regr., Force(0,0) ---- Coefficient = 0.9999								
		Response Ratio = 0.00000 + 0.62135 *A								
17)		Acetone	0.058	0.034	0.036	0.034	0.035	0.035	0.038	25.60
		---- Linear regr., Force(0,0) ---- Coefficient = 0.9997								
		Response Ratio = 0.00000 + 0.03455 *A								
18)		Methyl acetate	0.056	0.053	0.060	0.059	0.059	0.060	0.058	4.85
19)		trans-1,2-Dichloroe	0.538	0.533	0.575	0.576	0.592	0.592	0.568	4.55
20)		Hexane	0.473	0.386	0.419	0.419	0.425	0.421	0.424	6.59
21)		Methyl Tert Butyl E	1.226	0.969	1.102	1.098	1.106	1.118	1.103	7.39
22)		Acetonitrile	0.034	0.033	0.028	0.027	0.027	0.028	0.030	10.52
		---- Linear regr., Force(0,0) ---- Coefficient = 0.9992								
		Response Ratio = 0.00000 + 0.02807 *A								
23)		Di-isopropyl ether	1.429	1.308	1.459	1.445	1.490	1.506	1.440	4.88
24)		Chloroprene	0.555	0.577	0.591	0.622	0.674	0.691	0.618	8.82
25)	P	1,1-Dichloroethane	0.696	0.699	0.747	0.739	0.744	0.750	0.729	3.42
26)		Acrylonitrile	0.149	0.142	0.149	0.153	0.148	0.147	0.148	2.47
27)		ETBE	1.187	1.188	1.347	1.347	1.376	1.406	1.308	7.36
28)		Vinyl acetate	0.813	0.796	0.896	0.894	0.878	0.843	0.853	4.97
29)		cis-1,2-Dichloroeth	0.398	0.321	0.376	0.372	0.375	0.367	0.368	6.92
30)		2,2-Dichloropropane	0.568	0.447	0.534	0.537	0.543	0.551	0.530	7.98
31)		Bromochloromethane	0.186	0.172	0.178	0.177	0.185	0.181	0.180	2.97

Initial Calibration Summary

Job Number: FA2476 **Sample:** VJ4320-ICC4320
Account: TETTNOAK Tetra Tech, Inc **Lab FileID:** J084628.D
Project: Holloman AFB; Alamogordo, NM

```
32)      Cyclohexane          0.643 0.645 0.719 0.722 0.740 0.752 0.703   6.77
33) C    Chloroform           0.692 0.611 0.654 0.651 0.658 0.653 0.653   3.93
34)      Ethyl acetate        0.349 0.322 0.357 0.362 0.366 0.361 0.353   4.55
35)      Tetrahydrofuran      0.167 0.110 0.105 0.115 0.115 0.119 0.122  18.49
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9992
               Response Ratio = 0.00000 + 0.11715 *A

36) S    Dibromofluoromethan 0.267 0.278 0.285 0.263 0.284 0.293 0.278   4.09
             ---- Linear regression ----  Coefficient =  0.9992
               Response Ratio = -0.05242 + 0.31682 *A

37)      Carbon Tetrachlorid 0.387 0.414 0.479 0.475 0.488 0.504 0.458  10.09
38)      1,1,1-Trichloroetha 0.485 0.477 0.547 0.536 0.542 0.551 0.523   6.36
39)      2-Butanone           0.225 0.155 0.174 0.175 0.178 0.175 0.180  12.88
40)      1,1-Dichloropropene 0.453 0.412 0.478 0.482 0.498 0.498 0.470   7.02
41)      tert-Butyl Formate  0.256 0.252 0.317 0.311 0.320 0.325 0.297  11.36
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9997
               Response Ratio = 0.00000 + 0.32221 *A

42)      Propionitrile        0.055 0.056 0.056 0.055 0.057 0.057 0.056   1.61
43)      Methacrylonitrile    0.235 0.251 0.237 0.239 0.240 0.233 0.239   2.63
44)      Benzene              1.423 1.250 1.371 1.345 1.354 1.371 1.353   4.22
45)      TAME                 1.068 0.916 1.061 1.067 1.097 1.108 1.053   6.62
46) S    1,2-Dichloroethane- 0.378 0.389 0.389 0.366 0.405 0.418 0.391   4.76
             ---- Linear regression ----  Coefficient =  0.9963
               Response Ratio = -0.08832 + 0.45514 *A

47)      1,2-Dichloroethane  0.576 0.516 0.561 0.554 0.579 0.574 0.560   4.21
48)      Trichloroethene      0.333 0.297 0.340 0.344 0.344 0.345 0.334   5.52
49)      Methylcyclohexane    0.527 0.596 0.669 0.653 0.666 0.668 0.630   9.11
50)      Dibromomethane       0.227 0.191 0.226 0.225 0.232 0.229 0.222   6.88
51) C    1,2-Dichloropropane 0.362 0.361 0.387 0.395 0.404 0.410 0.386   5.43
52)      Bromodichloromethan 0.411 0.388 0.441 0.442 0.461 0.462 0.434   6.76
53)      Methyl methacrylate 0.292 0.298 0.312 0.342 0.356 0.369 0.328   9.74
54)      2-Chloroethyl vinyl 0.228 0.229 0.272 0.271 0.279 0.276 0.259   9.18
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9999
               Response Ratio = 0.00000 + 0.27609 *A

55)      cis-1,3-Dichloropro 0.522 0.485 0.570 0.596 0.611 0.646 0.572  10.42

56) I    Chlorobenzene-d5       ----------------ISTD---------------------
57) S    Toluene-d8           1.358 1.403 1.393 1.308 1.401 1.403 1.378   2.80
             ---- Linear regression ----  Coefficient =  0.9986
               Response Ratio = -0.13414 + 1.47653 *A

58) C    Toluene              2.044 1.753 1.902 1.872 1.900 1.815 1.881   5.21
59)      2-Nitropropane       0.125 0.108 0.138 0.145 0.161 0.152 0.138  13.88
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9977
               Response Ratio = 0.00000 + 0.15337 *A

60)      4-Methyl-2-pentanon 0.520 0.463 0.515 0.512 0.541 0.504 0.509   5.06
61)      trans-1,3-Dichlorop 0.562 0.582 0.697 0.714 0.761 0.742 0.676  12.41
62)      Tetrachloroethene    0.451 0.411 0.456 0.476 0.489 0.486 0.462   6.27
63)      Ethyl methacrylate   0.385 0.542 0.584 0.621 0.669 0.653 0.576  18.13
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9990
               Response Ratio = 0.00000 + 0.62164 *A + 0.01878 *A^2

64)      1,1,2-Trichloroetha 0.395 0.364 0.374 0.365 0.384 0.362 0.374   3.55
65)      Dibromochloromethan 0.372 0.371 0.432 0.447 0.482 0.474 0.430  11.31
66)      1,3-Dichloropropane 0.802 0.692 0.758 0.757 0.797 0.747 0.759   5.25
```

Initial Calibration Summary

Job Number: FA2476 **Sample:** VJ4320-ICC4320
Account: TETTNOAK Tetra Tech, Inc **Lab FileID:** J084628.D
Project: Holloman AFB; Alamogordo, NM

```
67)      1,2-Dibromoethane   0.418 0.382 0.433 0.439 0.463 0.445 0.430   6.48
68)      2-hexanone          0.341 0.319 0.363 0.356 0.383 0.359 0.353   6.07
69)      1-Chlorohexane      0.540 0.589 0.647 0.686 0.721 0.694 0.646  10.69
70) C    Ethylbenzene        2.035 1.946 2.136 2.078 2.196 2.051 2.074   4.16
71) P    Chlorobenzene       1.222 1.102 1.203 1.177 1.232 1.189 1.188   3.93
72)      1,1,1,2-Tetrachloro 0.318 0.405 0.435 0.453 0.478 0.468 0.426  13.82
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9995
               Response Ratio = 0.00000 + 0.46845 *A

73)      m,p-Xylene          1.506 1.455 1.596 1.592 1.620 1.496 1.544   4.35
74)      o-Xylene            1.471 1.436 1.617 1.640 1.689 1.608 1.577   6.36
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9993
               Response Ratio = 0.00000 + 1.70931 *A + -0.04501 *A^2

75)      Styrene             0.990 1.087 1.289 1.341 1.404 1.361 1.245  13.43
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9994
               Response Ratio = 0.00000 + 1.36931 *A

76) P    Bromoform           0.190 0.210 0.268 0.304 0.339 0.337 0.275  23.27
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9984
               Response Ratio = 0.00000 + 0.29092 *A + 0.02518 *A^2

77)      Isopropylbenzene    1.633 1.748 2.035 2.043 2.110 2.013 1.930   9.95
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9990
               Response Ratio = 0.00000 + 2.04376 *A


78) I    1,4-Dichlorobenzene-d ----------------ISTD---------------------
79) S    4-Bromofluorobenzen 1.013 1.076 1.069 0.975 1.093 1.067 1.049   4.30
             ---- Linear regression ----  Coefficient =  0.9962
               Response Ratio = -0.15762 + 1.16523 *A

80)      cis-1,4-Dichloro-2- 0.285 0.329 0.323 0.342 0.362 0.352 0.332   8.24
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9992
               Response Ratio = 0.00000 + 0.35328 *A

81)      n-Propylbenzene     4.187 4.274 4.609 4.612 4.543 4.289 4.419   4.29
82)      Bromobenzene        0.928 0.980 1.021 1.053 1.024 1.011 1.003   4.33
83) P    1,1,2,2-Tetrachloro 1.161 1.028 1.156 1.131 1.141 1.059 1.113   4.99
84)      1,3,5-Trimethylbenz 2.995 3.198 3.583 3.584 3.636 3.477 3.412   7.57
85)      2-Chlorotoluene     2.943 2.909 3.209 3.148 3.160 3.019 3.065   4.07
86)      trans-1,4-Dichloro- 0.318 0.282 0.361 0.384 0.410 0.387 0.357  13.54
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9982
               Response Ratio = 0.00000 + 0.39750 *A + -0.00296 *A^2

87)      1,2,3-Trichloroprop 0.249 0.298 0.305 0.305 0.307 0.293 0.293   7.60
88)      Cyclohexanone       0.022 0.027 0.033 0.033 0.036 0.034 0.031  16.84
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9985
               Response Ratio = 0.00000 + 0.03456 *A

89)      4-Chlorotoluene     2.660 2.715 2.895 2.855 2.870 2.737 2.789   3.48
90)      a-Methyl Styrene    1.179 1.523 1.704 1.841 1.889 1.885 1.670  16.66
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9998
               Response Ratio = 0.00000 + 1.87692 *A

91)      tert-Butylbenzene   1.725 1.757 1.976 1.942 2.007 1.913 1.886   6.23
92)      1,2,4-Trimethylbenz 3.032 3.179 3.658 3.616 3.601 3.419 3.417   7.60
93)      Pentachloroethane   0.469 0.575 0.605 0.616 0.659 0.662 0.598  11.96
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9997
               Response Ratio = 0.00000 + 0.60550 *A + 0.02985 *A^2
```

Initial Calibration Summary

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VJ4320-ICC4320
Lab FileID: J084628.D

```
 94)     sec-Butylbenzene    3.584 3.985 4.411 4.392 4.369 4.152 4.149   7.79
 95)     4-Isopropyltoluene  2.515 2.925 3.476 3.508 3.517 3.374 3.219  12.77
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9990
               Response Ratio = 0.00000 + 3.43005 *A

 96)     1,3-Dichlorobenzene 1.639 1.654 1.795 1.810 1.821 1.744 1.744   4.59
 97)     1,4-Dichlorobenzene 1.894 1.856 1.970 1.948 1.969 1.918 1.926   2.34
 98)     n-Butylbenzene      1.773 1.820 2.180 2.217 2.316 2.212 2.086  11.00
 99)     Benzyl Chloride     0.260 0.279 0.379 0.406 0.429 0.424 0.363  20.63
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9994
               Response Ratio = 0.00000 + 0.42242 *A

100)     1,2-Dichlorobenzene 1.793 1.502 1.745 1.767 1.773 1.729 1.718   6.30
101)     1,2-Dibromo-3-Chlor 0.148 0.157 0.181 0.181 0.205 0.203 0.179  12.94
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9987
               Response Ratio = 0.00000 + 0.17978 *A + 0.01261 *A^2

102)     Hexachlorobutadiene 0.672 0.613 0.681 0.694 0.768 0.763 0.699   8.46
103)     1,2,4-Trichlorobenz 1.130 1.084 1.195 1.272 1.336 1.342 1.227   8.78
104)     Naphthalene         2.190 2.211 2.648 2.823 2.958 2.851 2.614  12.82
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9991
               Response Ratio = 0.00000 + 2.87382 *A

105)     1,2,3-Trichlorobenz 1.173 0.987 1.090 1.127 1.210 1.192 1.130   7.34

106) I   Tert Butyl Alcohol-d1 ----------------ISTD---------------------
107)     Ethanol             0.201 0.251 0.181 0.178 0.167 0.172 0.192  16.40
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9990
               Response Ratio = 0.00000 + 0.17129 *A

108)     acrolein            2.587 2.695 2.951 3.102 3.121 2.947 2.901   7.47
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9993
               Response Ratio = 0.00000 + 3.23027 *A + -0.13063 *A^2

109)     Tert Butyl Alcohol  1.565 1.497 1.539 1.530 1.582 1.535 1.541   1.91
110)     tert Amyl alcohol   1.020 0.916 1.081 1.155 1.225 1.209 1.101  10.83
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9993
               Response Ratio = 0.00000 + 1.20529 *A

111)     Isobutyl alcohol    0.130 0.196 0.174 0.183 0.181 0.168 0.172  13.28
112)     1,4-Dioxane         0.156 0.124 0.136 0.149 0.148 0.144 0.143   8.10
113)     3,3-Dimethyl-1-buta 0.830 0.857 1.201 1.263 1.345 1.402 1.150  21.47
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9985
               Response Ratio = 0.00000 + 1.36682 *A

 ---------------------------------------------------------------------------
 (#) = Out of Range

           a-msjncoxy.m        Thu Mar 21 13:20:28 2013
```

Initial Calibration Verification

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VJ4320-ICV4320
Lab FileID: J084631.D

Evaluate Continuing Calibration Report

Data File : C:\MSDchem\1\DATA\032013\J084631.D Vial: 7
Acq On : 20 Mar 2013 11:53 am Operator: MELISSAM
Sample : ICV4320-4 Inst : MSVOA6
Misc : MS23674,VJ4320,,,,, Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDchem\1\METHODS\a-msjncoxy.m (RTE Integrator)
Title : SW-846 Method 5030B/8260B & EPA 624
Last Update : Wed Mar 20 13:25:02 2013
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	104	0.00	7.82
2	Dichlorodifluoromethane	0.368	0.426	-15.8	118	0.00	2.67
3 P	Chloromethane	0.511	0.568	-11.2	110	0.00	2.89
4 C	Vinyl Chloride	0.527	0.557	-5.7	107	0.00	3.04
5	1,3-Butadiene	0.495	0.017	96.6#	4#	-0.01	3.03
		Amount	Calc.	%Drift			
6	Bromomethane	40.000	37.691	5.8	97	0.00	3.47
7	Chloroethane	40.000	36.539	8.7	95	-0.01	3.62
		AvgRF	CCRF	%Dev			
8	Trichlorofluoromethane	0.648	0.684	-5.6	102	0.00	3.85
9	Ethyl Ether	0.372	0.368	1.1	101	-0.01	4.15
10	1,2-Dichlorotrifluoroetha	0.487	0.399	18.1	87	0.00	4.39
11 C	1,1-Dichloroethene	0.579	0.611	-5.5	107	0.00	4.43
12	Freon 113	0.389	0.340	12.6	92	0.00	4.48
13	Carbon Disulfide	0.968	1.028	-6.2	109	0.00	4.51
14	Iodomethane	0.579	0.538	7.1	94	0.00	4.62
15	Allyl chloride	0.602	0.650	-8.0	113	0.00	4.97
		Amount	Calc.	%Drift			
16	Methylene Chloride	40.000	41.269	-3.2	108	0.00	5.09
17	Acetone	200.000	205.710	-2.9	110	0.00	5.12
		AvgRF	CCRF	%Dev			
18	Methyl acetate	0.058	0.057	1.7	101	0.00	5.24
19	trans-1,2-Dichloroethene	0.568	0.581	-2.3	105	0.00	5.27
20	Hexane	0.424	0.375	11.6	93	0.00	5.34
21	Methyl Tert Butyl Ether	1.103	1.077	2.4	102	0.00	5.38
		Amount	Calc.	%Drift			
22	Acetonitrile	400.000	408.672	-2.2	109	0.00	5.65
		AvgRF	CCRF	%Dev			
23	Di-isopropyl ether	1.440	1.475	-2.4	106	0.00	5.77
24	Chloroprene	0.618	0.589	4.7	99	0.00	5.92
25 P	1,1-Dichloroethane	0.729	0.735	-0.8	104	0.00	5.95
26	Acrylonitrile	0.148	0.152	-2.7	104	0.00	5.99
27	ETBE	1.308	1.311	-0.2	102	0.00	6.17
28	Vinyl acetate	0.853	0.619	27.4#	72	0.00	6.17
29	cis-1,2-Dichloroethene	0.368	0.370	-0.5	104	0.00	6.53
30	2,2-Dichloropropane	0.530	0.534	-0.8	104	0.00	6.67

Initial Calibration Verification

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VJ4320-ICV4320
Lab FileID: J084631.D

31		Bromochloromethane	0.180	0.176	2.2	104	0.00	6.75
32		Cyclohexane	0.703	0.701	0.3	101	0.00	6.79
33	C	Chloroform	0.653	0.635	2.8	102	0.00	6.79
34		Ethyl acetate	0.353	0.330	6.5	95	0.00	6.87
		----------	Amount	Calc.	%Drift		----------	
35		Tetrahydrofuran	40.000	37.965	5.1	101	0.00	6.98
36	S	Dibromofluoromethane	50.000	50.032	-0.1	105	0.00	6.99
		----------	AvgRF	CCRF	%Dev		----------	
37		Carbon Tetrachloride	0.458	0.457	0.2	100	0.00	6.99
38		1,1,1-Trichloroethane	0.523	0.507	3.1	99	0.00	7.06
39		2-Butanone	0.180	0.197	-9.4	117	0.00	7.09
40		1,1-Dichloropropene	0.470	0.476	-1.3	103	0.00	7.16
		----------	Amount	Calc.	%Drift		----------	
41		tert-Butyl Formate	400.000	510.897	-27.7#	138	0.00	7.25
		----------	AvgRF	CCRF	%Dev		----------	
42		Propionitrile	0.056	0.058	-3.6	108	0.00	7.41
43		Methacrylonitrile	0.239	0.248	-3.8	108	0.00	7.43
44		Benzene	1.353	1.342	0.8	104	0.00	7.42
45		TAME	1.053	1.098	-4.3	107	0.00	7.49
		----------	Amount	Calc.	%Drift		----------	
46	S	1,2-Dichloroethane-d4	50.000	52.052	-4.1	110	0.00	7.54
		----------	AvgRF	CCRF	%Dev		----------	
47		1,2-Dichloroethane	0.560	0.590	-5.4	111	0.00	7.62
48		Trichloroethene	0.334	0.341	-2.1	103	0.00	7.99
49		Methylcyclohexane	0.630	0.591	6.2	94	0.00	8.01
50		Dibromomethane	0.222	0.230	-3.6	106	0.00	8.42
51	C	1,2-Dichloropropane	0.386	0.415	-7.5	109	0.00	8.52
52		Bromodichloromethane	0.434	0.459	-5.8	108	0.00	8.56
53		Methyl methacrylate	0.328	0.372	-13.4	113	0.00	8.66
		----------	Amount	Calc.	%Drift		----------	
54		2-Chloroethyl vinyl ether	200.000	178.592	10.7	95	0.00	9.08
		----------	AvgRF	CCRF	%Dev		----------	
55		cis-1,3-Dichloropropene	0.572	0.614	-7.3	107	0.00	9.17
56	I	Chlorobenzene-d5	1.000	1.000	0.0	110	0.00	10.91
		----------	Amount	Calc.	%Drift		----------	
57	S	Toluene-d8	50.000	49.538	0.9	112	0.00	9.36
		----------	AvgRF	CCRF	%Dev		----------	
58	C	Toluene	1.881	1.883	-0.1	111	0.00	9.42
		----------	Amount	Calc.	%Drift		----------	
59		2-Nitropropane	200.000	202.353	-1.2	118	0.00	9.63
		----------	AvgRF	CCRF	%Dev		----------	
60		4-Methyl-2-pentanone	0.509	0.495	2.8	107	0.00	9.74
61		trans-1,3-Dichloropropene	0.676	0.779	-15.2	120	0.00	9.80
62		Tetrachloroethene	0.462	0.454	1.7	105	0.00	9.81
		----------	Amount	Calc.	%Drift		----------	
63		Ethyl methacrylate	40.000	40.060	-0.2	113	0.00	9.90

Initial Calibration Verification

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VJ4320-ICV4320
Lab FileID: J084631.D

			AvgRF	CCRF	%Dev			
64		1,1,2-Trichloroethane	0.374	0.375	-0.3	113	0.00	9.97
65		Dibromochloromethane	0.430	0.471	-9.5	116	0.00	10.16
66		1,3-Dichloropropane	0.759	0.784	-3.3	114	0.00	10.25
67		1,2-Dibromoethane	0.430	0.454	-5.6	114	0.00	10.43
68		2-hexanone	0.353	0.342	3.1	106	0.00	10.56
69		1-Chlorohexane	0.646	0.626	3.1	101	0.00	10.86
70	C	Ethylbenzene	2.074	2.056	0.9	109	0.00	10.93
71	P	Chlorobenzene	1.188	1.261	-6.1	118	0.00	10.93
			Amount	Calc.	%Drift			
72		1,1,1,2-Tetrachloroethane	40.000	40.385	-1.0	115	0.00	10.98
			AvgRF	CCRF	%Dev			
73		m,p-Xylene	1.544	1.602	-3.8	111	0.00	11.07
			Amount	Calc.	%Drift			
74		o-Xylene	40.000	41.449	-3.6	116	0.00	11.50
75		Styrene	40.000	39.379	1.6	111	0.00	11.55
76	P	Bromoform	40.000	39.288	1.8	111	0.00	11.61
77		Isopropylbenzene	40.000	41.234	-3.1	114	0.00	11.81
			AvgRF	CCRF	%Dev			
78	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	113	0.00	13.27
			Amount	Calc.	%Drift			
79	S	4-Bromofluorobenzene	50.000	49.213	1.6	115	0.00	12.12
80		cis-1,4-Dichloro-2-butene	40.000	46.403	-16.0	136	0.00	12.16
			AvgRF	CCRF	%Dev			
81		n-Propylbenzene	4.419	4.599	-4.1	113	0.00	12.23
82		Bromobenzene	1.003	1.022	-1.9	110	0.00	12.25
83	P	1,1,2,2-Tetrachloroethane	1.113	1.090	2.1	109	0.00	12.29
84		1,3,5-Trimethylbenzene	3.412	3.311	3.0	105	0.00	12.41
85		2-Chlorotoluene	3.065	3.139	-2.4	113	0.00	12.42
			Amount	Calc.	%Drift			
86		trans-1,4-Dichloro-2-Bute	40.000	35.916	10.2	105	0.00	12.47
			AvgRF	CCRF	%Dev			
87		1,2,3-Trichloropropane	0.293	0.300	-2.4	111	0.00	12.45
			Amount	Calc.	%Drift			
88		Cyclohexanone	200.000	207.826	-3.9	122	0.00	12.53
			AvgRF	CCRF	%Dev			
89		4-Chlorotoluene	2.789	3.015	-8.1	120	0.00	12.59
			Amount	Calc.	%Drift			
90		a-Methyl Styrene	40.000	0.686	98.3#	2	0.08	12.75
			AvgRF	CCRF	%Dev			
91		tert-Butylbenzene	1.886	1.909	-1.2	111	0.00	12.76
92		1,2,4-Trimethylbenzene	3.417	3.374	1.3	106	0.00	12.82
			Amount	Calc.	%Drift			
93		Pentachloroethane	40.000	42.122	-5.3	122	0.00	12.81

Initial Calibration Verification

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VJ4320-ICV4320
Lab FileID: J084631.D

			AvgRF	CCRF	%Dev			
94	sec-Butylbenzene		4.149	4.287	-3.3	111	0.00	12.94
			Amount	Calc.	%Drift			
95	4-Isopropyltoluene		40.000	38.961	2.6	108	0.00	13.07
			AvgRF	CCRF	%Dev			
96	1,3-Dichlorobenzene		1.744	1.893	-8.5	118	0.00	13.20
97	1,4-Dichlorobenzene		1.926	1.913	0.7	111	0.00	13.29
98	n-Butylbenzene		2.086	2.076	0.5	106	0.00	13.50
			Amount	Calc.	%Drift			
99	Benzyl Chloride		40.000	35.621	10.9	105	0.00	13.52
			AvgRF	CCRF	%Dev			
100	1,2-Dichlorobenzene		1.718	1.833	-6.7	117	0.00	13.71
			Amount	Calc.	%Drift			
101	1,2-Dibromo-3-Chloropropa		40.000	40.447	-1.1	120	0.00	14.44
			AvgRF	CCRF	%Dev			
102	Hexachlorobutadiene		0.699	0.701	-0.3	114	0.00	14.98
103	1,2,4-Trichlorobenzene		1.227	1.288	-5.0	115	0.00	15.03
			Amount	Calc.	%Drift			
104	Naphthalene		40.000	40.244	-0.6	116	0.00	15.32
			AvgRF	CCRF	%Dev			
105	1,2,3-Trichlorobenzene		1.130	1.159	-2.6	116	0.00	15.49
106	I Tert Butyl Alcohol-d10		1.000	1.000	0.0	111	0.00	5.35
			Amount	Calc.	%Drift			
107	Ethanol		800.000	828.915	-3.6	111	0.00	4.32
108	acrolein		200.000	215.897	-7.9	121	0.00	4.80
			AvgRF	CCRF	%Dev			
109	Tert Butyl Alcohol		1.541	1.543	-0.1	112	0.00	5.43
			Amount	Calc.	%Drift			
110	tert Amyl alcohol		400.000	377.170	5.7	110	0.00	7.63
			AvgRF	CCRF	%Dev			
111	Isobutyl alcohol		0.172	0.168	2.3	102	0.00	7.43
112	1,4-Dioxane		0.143	0.147	-2.8	110	0.00	8.74
			Amount	Calc.	%Drift			
113	3,3-Dimethyl-1-butanol		2000.000	631.833	68.4#	38	0.00	10.50

(#) = Out of Range SPCC's out = 0 CCC's out = 0
J084628.D a-msjncoxy.m Thu Mar 21 13:51:55 2013

6.7.5

6

Continuing Calibration Summary

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VJ4320-CC4320
Lab FileID: J084635.D

Evaluate Continuing Calibration Report

Data File : C:\MSDchem\1\DATA\032013\J084635.D Vial: 1
Acq On : 20 Mar 2013 2:40 pm Operator: MELISSAM
Sample : CC4320-4 Inst : MSVOA6
Misc : MS23674,VJ4320,,,,, Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDchem\1\METHODS\a-msjncoxy.m (RTE Integrator)
Title : SW-846 Method 5030B/8260B & EPA 624
Last Update : Wed Mar 20 13:25:02 2013
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	113	0.00	7.82
2		Dichlorodifluoromethane	0.368	0.400	-8.7	121	0.00	2.67
3	P	Chloromethane	0.511	0.519	-1.6	109	0.00	2.90
4	C	Vinyl Chloride	0.527	0.535	-1.5	111	0.00	3.05
5		1,3-Butadiene	0.495	0.460	7.1	105	0.00	3.04
		----------	Amount	Calc.	%Drift		----------	
6		Bromomethane	40.000	39.789	0.5	110	0.00	3.47
7		Chloroethane	40.000	37.285	6.8	105	0.00	3.63
		----------	AvgRF	CCRF	%Dev		----------	
8		Trichlorofluoromethane	0.648	0.683	-5.4	111	0.00	3.86
9		Ethyl Ether	0.372	0.366	1.6	109	0.00	4.15
10		1,2-Dichlorotrifluoroetha	0.487	0.475	2.5	112	0.00	4.39
11	C	1,1-Dichloroethene	0.579	0.572	1.2	109	0.00	4.43
12		Freon 113	0.389	0.392	-0.8	115	0.00	4.49
13		Carbon Disulfide	0.968	0.960	0.8	111	0.00	4.51
14		Iodomethane	0.579	0.591	-2.1	112	0.00	4.63
15		Allyl chloride	0.602	0.591	1.8	111	0.00	4.97
		----------	Amount	Calc.	%Drift		----------	
16		Methylene Chloride	40.000	39.174	2.1	111	0.00	5.09
17		Acetone	200.000	201.099	-0.5	117	0.00	5.12
		----------	AvgRF	CCRF	%Dev		----------	
18		Methyl acetate	0.058	0.058	0.0	112	0.00	5.25
19		trans-1,2-Dichloroethene	0.568	0.562	1.1	110	0.00	5.27
20		Hexane	0.424	0.399	5.9	108	0.00	5.35
21		Methyl Tert Butyl Ether	1.103	1.103	0.0	114	0.00	5.38
		----------	Amount	Calc.	%Drift		----------	
22		Acetonitrile	400.000	389.066	2.7	113	0.00	5.65
		----------	AvgRF	CCRF	%Dev		----------	
23		Di-isopropyl ether	1.440	1.448	-0.6	113	0.00	5.77
24		Chloroprene	0.618	0.618	0.0	112	0.00	5.92
25	P	1,1-Dichloroethane	0.729	0.713	2.2	109	0.00	5.96
26		Acrylonitrile	0.148	0.149	-0.7	110	0.00	5.99
27		ETBE	1.308	1.335	-2.1	112	0.00	6.17
28		Vinyl acetate	0.853	0.871	-2.1	110	0.00	6.17
29		cis-1,2-Dichloroethene	0.368	0.361	1.9	110	0.00	6.53
30		2,2-Dichloropropane	0.530	0.540	-1.9	114	0.00	6.67

Continuing Calibration Summary

Job Number: FA2476 **Sample:** VJ4320-CC4320
Account: TETTNOAK Tetra Tech, Inc **Lab FileID:** J084635.D
Project: Holloman AFB; Alamogordo, NM

31		Bromochloromethane	0.180	0.181	-0.6	116	0.00	6.75
32		Cyclohexane	0.703	0.709	-0.9	111	0.00	6.79
33	C	Chloroform	0.653	0.636	2.6	111	0.00	6.80
34		Ethyl acetate	0.353	0.357	-1.1	112	0.00	6.87
		----------	Amount	Calc.	%Drift		----------	
35		Tetrahydrofuran	40.000	38.139	4.7	110	0.00	6.98
36	S	Dibromofluoromethane	50.000	50.149	-0.3	114	0.00	6.99
		----------	AvgRF	CCRF	%Dev		----------	
37		Carbon Tetrachloride	0.458	0.478	-4.4	114	0.00	6.99
38		1,1,1-Trichloroethane	0.523	0.522	0.2	110	0.00	7.06
39		2-Butanone	0.180	0.172	4.4	111	0.00	7.09
40		1,1-Dichloropropene	0.470	0.469	0.2	110	0.00	7.16
		----------	Amount	Calc.	%Drift		----------	
41		tert-Butyl Formate	400.000	398.063	0.5	117	0.00	7.25
		----------	AvgRF	CCRF	%Dev		----------	
42		Propionitrile	0.056	0.056	0.0	115	0.00	7.41
43		Methacrylonitrile	0.239	0.235	1.7	111	0.00	7.43
44		Benzene	1.353	1.304	3.6	110	0.00	7.42
45		TAME	1.053	1.076	-2.2	114	0.00	7.49
		----------	Amount	Calc.	%Drift		----------	
46	S	1,2-Dichloroethane-d4	50.000	51.980	-4.0	119	0.00	7.54
		----------	AvgRF	CCRF	%Dev		----------	
47		1,2-Dichloroethane	0.560	0.553	1.3	113	0.00	7.62
48		Trichloroethene	0.334	0.332	0.6	109	0.00	7.99
49		Methylcyclohexane	0.630	0.629	0.2	109	0.00	8.01
50		Dibromomethane	0.222	0.217	2.3	109	0.00	8.42
51	C	1,2-Dichloropropane	0.386	0.394	-2.1	113	0.00	8.52
52		Bromodichloromethane	0.434	0.430	0.9	110	0.00	8.56
53		Methyl methacrylate	0.328	0.339	-3.4	112	0.00	8.66
		----------	Amount	Calc.	%Drift		----------	
54		2-Chloroethyl vinyl ether	200.000	193.337	3.3	111	0.00	9.07
		----------	AvgRF	CCRF	%Dev		----------	
55		cis-1,3-Dichloropropene	0.572	0.583	-1.9	111	0.00	9.17
56	I	Chlorobenzene-d5	1.000	1.000	0.0	112	0.00	10.91
		----------	Amount	Calc.	%Drift		----------	
57	S	Toluene-d8	50.000	49.774	0.5	115	0.00	9.36
		----------	AvgRF	CCRF	%Dev		----------	
58	C	Toluene	1.881	1.810	3.8	109	0.00	9.42
		----------	Amount	Calc.	%Drift		----------	
59		2-Nitropropane	200.000	192.067	4.0	114	0.00	9.63
		----------	AvgRF	CCRF	%Dev		----------	
60		4-Methyl-2-pentanone	0.509	0.503	1.2	110	0.00	9.75
61		trans-1,3-Dichloropropene	0.676	0.712	-5.3	112	0.00	9.80
62		Tetrachloroethene	0.462	0.445	3.7	105	0.00	9.81
		----------	Amount	Calc.	%Drift		----------	
63		Ethyl methacrylate	40.000	38.221	4.4	110	0.00	9.90

Continuing Calibration Summary

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VJ4320-CC4320
Lab FileID: J084635.D

			AvgRF	CCRF	%Dev			
64		1,1,2-Trichloroethane	0.374	0.364	2.7	112	0.00	9.97
65		Dibromochloromethane	0.430	0.442	-2.8	111	0.00	10.16
66		1,3-Dichloropropane	0.759	0.745	1.8	111	0.00	10.25
67		1,2-Dibromoethane	0.430	0.426	0.9	109	0.00	10.43
68		2-hexanone	0.353	0.355	-0.6	112	0.00	10.56
69		1-Chlorohexane	0.646	0.672	-4.0	110	0.00	10.86
70	C	Ethylbenzene	2.074	2.008	3.2	109	0.00	10.93
71	P	Chlorobenzene	1.188	1.148	3.4	110	0.00	10.93
			Amount	Calc.	%Drift			
72		1,1,1,2-Tetrachloroethane	40.000	38.630	3.4	112	0.00	10.98
			AvgRF	CCRF	%Dev			
73		m,p-Xylene	1.544	1.525	1.2	108	0.00	11.07
			Amount	Calc.	%Drift			
74		o-Xylene	40.000	38.062	4.8	109	0.00	11.50
75		Styrene	40.000	37.912	5.2	109	0.00	11.55
76	P	Bromoform	40.000	39.697	0.8	114	0.00	11.61
77		Isopropylbenzene	40.000	38.339	4.2	108	0.00	11.81
			AvgRF	CCRF	%Dev			
78	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	114	0.00	13.27
			Amount	Calc.	%Drift			
79	S	4-Bromofluorobenzene	50.000	49.103	1.8	115	0.00	12.12
80		cis-1,4-Dichloro-2-butene	40.000	39.200	2.0	115	0.00	12.15
			AvgRF	CCRF	%Dev			
81		n-Propylbenzene	4.419	4.348	1.6	107	0.00	12.23
82		Bromobenzene	1.003	0.993	1.0	107	0.00	12.25
83	P	1,1,2,2-Tetrachloroethane	1.113	1.097	1.4	111	0.00	12.29
84		1,3,5-Trimethylbenzene	3.412	3.441	-0.8	109	0.00	12.41
85		2-Chlorotoluene	3.065	3.032	1.1	110	0.00	12.42
			Amount	Calc.	%Drift			
86		trans-1,4-Dichloro-2-Bute	40.000	38.358	4.1	112	0.00	12.47
			AvgRF	CCRF	%Dev			
87		1,2,3-Trichloropropane	0.293	0.299	-2.0	112	0.00	12.45
			Amount	Calc.	%Drift			
88		Cyclohexanone	200.000	197.826	1.1	117	0.00	12.52
			AvgRF	CCRF	%Dev			
89		4-Chlorotoluene	2.789	2.785	0.1	111	0.00	12.59
			Amount	Calc.	%Drift			
90		a-Methyl Styrene	40.000	37.717	5.7	110	0.00	12.68
			AvgRF	CCRF	%Dev			
91		tert-Butylbenzene	1.886	1.870	0.8	110	0.00	12.75
92		1,2,4-Trimethylbenzene	3.417	3.445	-0.8	109	0.00	12.82
			Amount	Calc.	%Drift			
93		Pentachloroethane	40.000	39.777	0.6	116	0.00	12.81

Continuing Calibration Summary

Job Number: FA2476 **Sample:** VJ4320-CC4320
Account: TETTNOAK Tetra Tech, Inc **Lab FileID:** J084635.D
Project: Holloman AFB; Alamogordo, NM

		AvgRF	CCRF	%Dev			
94	sec-Butylbenzene	4.149	4.168	-0.5	108	0.00	12.94
		Amount	Calc.	%Drift			
95	4-Isopropyltoluene	40.000	38.748	3.1	108	0.00	13.07
		AvgRF	CCRF	%Dev			
96	1,3-Dichlorobenzene	1.744	1.732	0.7	109	0.00	13.20
97	1,4-Dichlorobenzene	1.926	1.891	1.8	111	0.00	13.29
98	n-Butylbenzene	2.086	2.168	-3.9	111	0.00	13.50
		Amount	Calc.	%Drift			
99	Benzyl Chloride	40.000	38.255	4.4	113	0.00	13.52
		AvgRF	CCRF	%Dev			
100	1,2-Dichlorobenzene	1.718	1.706	0.7	110	0.00	13.71
		Amount	Calc.	%Drift			
101	1,2-Dibromo-3-Chloropropa	40.000	39.620	1.0	118	0.00	14.44
		AvgRF	CCRF	%Dev			
102	Hexachlorobutadiene	0.699	0.686	1.9	113	0.00	14.98
103	1,2,4-Trichlorobenzene	1.227	1.272	-3.7	114	0.00	15.03
		Amount	Calc.	%Drift			
104	Naphthalene	40.000	39.358	1.6	114	0.00	15.32
		AvgRF	CCRF	%Dev			
105	1,2,3-Trichlorobenzene	1.130	1.156	-2.3	117	0.00	15.49
106 I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	123	0.00	5.35
		Amount	Calc.	%Drift			
107	Ethanol	800.000	741.198	7.4	110	0.02	4.34
108	acrolein	200.000	176.055	12.0	110	0.00	4.81
		AvgRF	CCRF	%Dev			
109	Tert Butyl Alcohol	1.541	1.504	2.4	121	0.00	5.43
		Amount	Calc.	%Drift			
110	tert Amyl alcohol	400.000	357.110	10.7	115	0.00	7.63
		AvgRF	CCRF	%Dev			
111	Isobutyl alcohol	0.172	0.164	4.7	110	0.00	7.43
112	1,4-Dioxane	0.143	0.135	5.6	111	0.00	8.74
		Amount	Calc.	%Drift			
113	3,3-Dimethyl-1-butanol	2000.000	1723.856	13.8	115	0.00	10.50

(#) = Out of Range SPCC's out = 0 CCC's out = 0
J084628.D a-msjncoxy.m Thu Mar 21 13:20:09 2013

Initial Calibration Summary

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VO593-ICC593
Lab FileID: O14296.D

Response Factor Report MSVOA12

```
Method       : C:\msdchem\1\methods\msoNCOXY.m (RTE Integrator)
Title        : SW-846 Method 5030B/8260B & EPA 624
Last Update  : Wed Mar 06 11:30:54 2013
Response via : Initial Calibration

Calibration Files
1   =O14293.D    2   =O14294.D    3   =O14295.D    4   =O14296.D
5      =O14297.D     6      =O14300.D

      Compound              1     2     3     4     5     6     Avg    %RSD
-------------------------------------------------------------------------------

1) I   Fluorobenzene         ----------------ISTD---------------------
2)     Dichlorodifluoromet 0.285 0.303 0.335 0.346 0.326 0.335 0.322   7.20
3) P   Chloromethane       0.330 0.350 0.412 0.419 0.406 0.399 0.386   9.49
           ---- Linear regr., Force(0,0) ----  Coefficient =  0.9994
             Response Ratio = 0.00000 + 0.40301 *A

4)     1,3-Butadiene       0.339 0.407 0.405 0.414 0.406 0.400 0.395   7.09
5) C   Vinyl Chloride      0.426 0.429 0.480 0.497 0.466 0.462 0.460   6.07
6)     Bromomethane        0.403 0.407 0.472 0.476 0.430 0.404 0.432   7.91
           ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9996
             Response Ratio = 0.00000 + 0.50473 *A + -0.05075 *A^2

7)     Chloroethane        0.295 0.283 0.307 0.284 0.177 0.129 0.246  30.16
           ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9854
             Response Ratio = 0.00000 + 0.34964 *A + -0.11231 *A^2

8)     Trichlorofluorometh 0.638 0.650 0.694 0.801 0.746 0.753 0.714   8.93
           ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9989
             Response Ratio = 0.00000 + 0.76582 *A + -0.00709 *A^2

9)     Ethyl Ether         0.239 0.219 0.251 0.265 0.266 0.281 0.254   8.73
10)    1,2-Dichlorotrifluo 0.382 0.352 0.416 0.430 0.425 0.432 0.406   7.97
11) C  1,1-Dichloroethene  0.399 0.364 0.438 0.458 0.458 0.477 0.432   9.87
12)    Freon 113           0.305 0.302 0.365 0.375 0.376 0.390 0.352  10.91
13)    Carbon Disulfide    0.907 0.722 0.897 0.944 0.940 0.966 0.896   9.91
14)    Iodomethane         0.549 0.466 0.570 0.601 0.600 0.634 0.570  10.24
15)    Allyl chloride      0.274 0.322 0.348 0.374 0.365 0.386 0.345  11.98
           ---- Linear regr., Force(0,0) ----  Coefficient =  0.9988
             Response Ratio = 0.00000 + 0.37802 *A

16)    Methylene Chloride  1.651 0.511 0.454 0.439 0.412 0.407 0.646  76.49
           ---- Linear regr., Force(0,0) ----  Coefficient =  0.9995
             Response Ratio = 0.00000 + 0.41301 *A

17)    Acetone             0.035 0.019 0.021 0.022 0.021 0.022 0.023  24.26
           ---- Linear regr., Force(0,0) ----  Coefficient =  0.9981
             Response Ratio = 0.00000 + 0.02165 *A

18)    Methyl acetate      0.048 0.043 0.049 0.052 0.050 0.052 0.049   7.03
19)    trans-1,2-Dichloroe 0.420 0.377 0.452 0.475 0.464 0.485 0.446   9.03
           ---- Linear regr., Force(0,0) ----  Coefficient =  0.9992
             Response Ratio = 0.00000 + 0.47706 *A

20)    Hexane              0.256 0.203 0.245 0.248 0.233 0.263 0.241   8.85
21)    Methyl Tert Butyl E 0.838 0.708 0.837 0.884 0.858 0.888 0.835   7.90
22)    Acetonitrile        0.020 0.014 0.013 0.014 0.013 0.013 0.014  18.26
```

Initial Calibration Summary

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VO593-ICC593
Lab FileID: O14296.D

```
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9981
              Response Ratio = 0.00000 + 0.01322 *A + -0.00001 *A^2

23)     Di-isopropyl ether  0.871 0.735 0.902 0.944 0.933 0.943 0.888   8.99
24)     Chloroprene         0.271 0.344 0.389 0.423 0.425 0.457 0.385  17.60
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9996
              Response Ratio = 0.00000 + 0.37840 *A + 0.03859 *A^2

25) P   1,1-Dichloroethane  0.565 0.500 0.576 0.599 0.591 0.601 0.572   6.62
26)     Acrylonitrile       0.080 0.083 0.087 0.093 0.089 0.090 0.087   5.82
27)     ETBE                0.832 0.746 0.907 0.967 0.967 1.012 0.905  11.06
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9991
              Response Ratio = 0.00000 + 0.99203 *A

28)     Vinyl acetate       0.358 0.413 0.477 0.506 0.499 0.507 0.460  13.30
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9995
              Response Ratio = 0.00000 + 0.49929 *A

29)     cis-1,2-Dichloroeth 0.341 0.302 0.355 0.369 0.361 0.376 0.351   7.65
30)     2,2-Dichloropropane 0.410 0.372 0.460 0.467 0.461 0.499 0.445  10.28
31)     Bromochloromethane  0.178 0.153 0.181 0.188 0.187 0.199 0.181   8.68
32)     Cyclohexane         0.409 0.401 0.506 0.530 0.528 0.539 0.485  13.05
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9998
              Response Ratio = 0.00000 + 0.53358 *A

33) C   Chloroform          0.589 0.521 0.609 0.627 0.618 0.638 0.600   7.06
34)     Ethyl acetate       0.187 0.192 0.213 0.223 0.218 0.219 0.209   7.25
35)     Tetrahydrofuran     0.068 0.057 0.061 0.065 0.062 0.062 0.062   5.93
36) S   Dibromofluoromethan 0.267 0.283 0.296 0.278 0.309 0.325 0.293   7.35
            ---- Linear regression ----  Coefficient =  0.9923
              Response Ratio = -0.10438 + 0.36899 *A

37)     Carbon Tetrachlorid 0.390 0.366 0.452 0.468 0.475 0.502 0.442  11.93
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9998
              Response Ratio = 0.00000 + 0.43239 *A + 0.03421 *A^2

38)     1,1,1-Trichloroetha 0.459 0.412 0.492 0.511 0.511 0.530 0.486   8.94
39)     2-Butanone          0.102 0.084 0.095 0.101 0.097 0.100 0.097   6.97
40)     1,1-Dichloropropene 0.363 0.349 0.431 0.449 0.446 0.459 0.416  11.51
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9997
              Response Ratio = 0.00000 + 0.45351 *A

41)     tert-Butyl Formate  0.180 0.178 0.219 0.252 0.254 0.274 0.226  17.88
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9995
              Response Ratio = 0.00000 + 0.22080 *A + 0.00261 *A^2

42)     Propionitrile       0.027 0.034 0.035 0.038 0.037 0.038 0.035  12.09
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9993
              Response Ratio = 0.00000 + 0.03766 *A

43)     Methacrylonitrile   0.117 0.144 0.149 0.162 0.157 0.158 0.148  11.14
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9997
              Response Ratio = 0.00000 + 0.15813 *A

44)     Benzene             1.196 1.080 1.258 1.311 1.320 1.346 1.252   7.96
45)     TAME                0.824 0.735 0.873 0.923 0.912 0.941 0.868   8.92
46) S   1,2-Dichloroethane- 0.271 0.292 0.296 0.280 0.307 0.317 0.294   5.76
            ---- Linear regression ----  Coefficient =  0.9975
              Response Ratio = -0.08079 + 0.35283 *A
```

Initial Calibration Summary

Job Number: FA2476 **Sample:** VO593-ICC593
Account: TETTNOAK Tetra Tech, Inc **Lab FileID:** O14296.D
Project: Holloman AFB; Alamogordo, NM

```
47)      1,2-Dichloroethane  0.396 0.340 0.391 0.403 0.396 0.403 0.388   6.16
48)      Trichloroethene     0.319 0.290 0.344 0.360 0.370 0.383 0.344  10.09
49)      Methylcyclohexane   0.514 0.471 0.590 0.629 0.638 0.670 0.585  13.24
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9988
               Response Ratio = 0.00000 + 0.65454 *A

50)      Dibromomethane      0.213 0.184 0.213 0.225 0.222 0.226 0.214   7.32
51)  C   1,2-Dichloropropane 0.317 0.277 0.322 0.332 0.333 0.334 0.319   6.79
52)      Bromodichloromethan 0.346 0.328 0.402 0.425 0.436 0.445 0.397  12.32
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9996
               Response Ratio = 0.00000 + 0.43952 *A

53)      Methyl methacrylate 0.118 0.148 0.170 0.192 0.197 0.201 0.171  19.20
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9994
               Response Ratio = 0.00000 + 0.19817 *A

54)      2-Chloroethyl vinyl 0.156 0.155 0.205 0.229 0.234 0.239 0.203  18.90
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9997
               Response Ratio = 0.00000 + 0.21514 *A + 0.00243 *A^2

55)      cis-1,3-Dichloropro 0.433 0.421 0.528 0.557 0.573 0.585 0.516  13.91
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9996
               Response Ratio = 0.00000 + 0.57764 *A


56)  I   Chlorobenzene-d5      ----------------ISTD--------------------
57)  S   Toluene-d8          1.296 1.391 1.379 1.259 1.372 1.389 1.348   4.15
             ---- Linear regression ----  Coefficient =  0.9974
               Response Ratio = -0.20209 + 1.49638 *A

58)  C   Toluene             1.794 1.535 1.728 1.774 1.741 1.770 1.724   5.54
59)      2-Nitropropane      0.053 0.048 0.062 0.070 0.069 0.070 0.062  15.15
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9994
               Response Ratio = 0.00000 + 0.06940 *A

60)      4-Methyl-2-pentanon 0.247 0.233 0.279 0.304 0.292 0.294 0.275  10.31
61)      trans-1,3-Dichlorop 0.490 0.480 0.585 0.632 0.632 0.651 0.578  13.04
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9995
               Response Ratio = 0.00000 + 0.64188 *A

62)      Tetrachloroethene   0.403 0.385 0.449 0.472 0.487 0.512 0.451  10.89
63)      Ethyl methacrylate  0.238 0.375 0.440 0.499 0.494 0.512 0.426  24.65
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9993
               Response Ratio = 0.00000 + 0.50345 *A

64)      1,1,2-Trichloroetha 0.316 0.289 0.323 0.332 0.321 0.320 0.317   4.67
65)      Dibromochloromethan 0.344 0.323 0.400 0.435 0.439 0.454 0.399  13.65
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9994
               Response Ratio = 0.00000 + 0.44677 *A

66)      1,3-Dichloropropane 0.647 0.555 0.627 0.645 0.623 0.622 0.620   5.42
67)      1,2-Dibromoethane   0.354 0.325 0.374 0.396 0.385 0.388 0.370   7.26
68)      2-hexanone          0.169 0.167 0.201 0.218 0.207 0.212 0.196  11.29
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9994
               Response Ratio = 0.00000 + 0.21075 *A

69)      1-Chlorohexane      0.514 0.488 0.614 0.657 0.662 0.675 0.602  13.47
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9997
               Response Ratio = 0.00000 + 0.66791 *A
```

Initial Calibration Summary

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VO593-ICC593
Lab FileID: O14296.D

```
70) C   Ethylbenzene        1.983 1.728 2.012 2.110 2.141 2.206 2.030   8.35
71) P   Chlorobenzene       1.139 1.005 1.163 1.213 1.243 1.288 1.175   8.44
72)     1,1,1,2-Tetrachloro 0.367 0.333 0.402 0.424 0.423 0.438 0.398  10.12
73)     m,p-Xylene          1.279 1.222 1.489 1.575 1.625 1.676 1.478  12.67
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9993
              Response Ratio = 0.00000 + 1.64663 *A

74)     o-Xylene            1.211 1.135 1.410 1.481 1.486 1.520 1.374  11.75
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9997
              Response Ratio = 0.00000 + 1.50331 *A

75)     Styrene             0.769 0.798 1.099 1.214 1.239 1.284 1.067  21.41
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9992
              Response Ratio = 0.00000 + 1.25923 *A

76) P   Bromoform           0.183 0.180 0.242 0.284 0.286 0.304 0.246  22.10
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9994
              Response Ratio = 0.00000 + 0.25129 *A + 0.02622 *A^2

77)     Isopropylbenzene    1.363 1.372 1.713 1.825 1.838 1.891 1.667  14.35
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9996
              Response Ratio = 0.00000 + 1.86471 *A


78) I   1,4-Dichlorobenzene-d ----------------ISTD---------------------
79) S   4-Bromofluorobenzen 0.973 1.043 1.030 0.931 1.041 1.042 1.010   4.69
            ---- Linear regression ----  Coefficient =  0.9971
              Response Ratio = -0.17350 + 1.13776 *A

80)     cis-1,4-Dichloro-2- 0.097 0.114 0.137 0.175 0.164 0.184 0.145  23.92
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9971
              Response Ratio = 0.00000 + 0.14294 *A + 0.01961 *A^2

81)     n-Propylbenzene     3.767 3.589 4.363 4.517 4.665 4.748 4.275  11.32
82)     Bromobenzene        0.955 0.854 0.989 1.034 1.089 1.153 1.012  10.37
83) P   1,1,2,2-Tetrachloro 0.985 0.847 0.947 0.973 0.926 0.906 0.931   5.38
84)     1,3,5-Trimethylbenz 2.555 2.576 3.210 3.340 3.506 3.613 3.133  14.71
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9999
              Response Ratio = 0.00000 + 3.16238 *A + 0.22873 *A^2

85)     2-Chlorotoluene     2.628 2.446 2.927 3.009 3.132 3.185 2.888  10.11
86)     trans-1,4-Dichloro- 0.163 0.129 0.171 0.205 0.192 0.208 0.178  16.88
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9969
              Response Ratio = 0.00000 + 0.20216 *A

87)     1,2,3-Trichloroprop 0.231 0.223 0.243 0.253 0.241 0.239 0.238   4.23
88)     Cyclohexanone       0.011 0.015 0.018 0.019 0.018 0.018 0.017  16.83
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9998
              Response Ratio = 0.00000 + 0.01832 *A

89)     4-Chlorotoluene     2.382 2.175 2.559 2.629 2.627 2.649 2.504   7.53
90)     a-Methyl Styrene    0.814 1.188 1.537 1.715 1.815 1.928 1.500  28.26
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9999
              Response Ratio = 0.00000 + 1.52838 *A + 0.20115 *A^2

91)     tert-Butylbenzene   1.373 1.392 1.690 1.726 1.738 1.746 1.611  11.04
92)     1,2,4-Trimethylbenz 2.534 2.614 3.201 3.322 3.391 3.431 3.082  13.04
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9998
              Response Ratio = 0.00000 + 3.40225 *A
```

Initial Calibration Summary

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VO593-ICC593
Lab FileID: O14296.D

```
 93)     Pentachloroethane   0.410 0.515 0.552 0.583 0.591 0.630 0.547  14.11
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9982
               Response Ratio = 0.00000 + 0.60057 *A

 94)     sec-Butylbenzene    3.156 3.210 3.942 4.023 4.107 4.141 3.763  12.09
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9999
               Response Ratio = 0.00000 + 4.11370 *A

 95)     4-Isopropyltoluene  2.365 2.473 3.146 3.311 3.374 3.476 3.024  15.94
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9995
               Response Ratio = 0.00000 + 3.42169 *A

 96)     1,3-Dichlorobenzene 1.682 1.447 1.703 1.748 1.778 1.826 1.698   7.84
 97)     1,4-Dichlorobenzene 2.002 1.696 1.940 1.993 2.023 2.082 1.956   6.92
 98)     n-Butylbenzene      1.602 1.552 1.983 2.103 2.149 2.227 1.936  14.96
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9993
               Response Ratio = 0.00000 + 2.18598 *A

 99)     Benzyl Chloride     0.256 0.241 0.344 0.383 0.391 0.449 0.344  23.64
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9988
               Response Ratio = 0.00000 + 0.30781 *A + 0.06904 *A^2

100)     1,2-Dichlorobenzene 1.614 1.408 1.618 1.688 1.699 1.721 1.625   7.07
101)     1,2-Dibromo-3-Chlor 0.096 0.098 0.114 0.123 0.120 0.117 0.111  10.31
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9992
               Response Ratio = 0.00000 + 0.11824 *A

102)     Hexachlorobutadiene 0.574 0.468 0.587 0.629 0.650 0.661 0.595  11.90
103)     1,2,4-Trichlorobenz 1.196 0.956 1.174 1.250 1.281 1.255 1.185  10.04
104)     Naphthalene         2.401 1.780 2.305 2.543 2.477 2.290 2.299  11.85
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9987
               Response Ratio = 0.00000 + 2.66152 *A + -0.17582 *A^2

105)     1,2,3-Trichlorobenz 1.228 0.843 1.036 1.101 1.109 1.036 1.059  12.00

106) I   Tert Butyl Alcohol-d1 ----------------ISTD---------------------
107)     Ethanol                   0.153 0.122 0.125 0.122 0.118 0.128  11.02
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9992
               Response Ratio = 0.00000 + 0.12015 *A

108)     acrolein            2.562 2.398 2.022 1.880 2.024 1.846 2.122  13.72
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9963
               Response Ratio = 0.00000 + 1.90583 *A

109)     Tert Butyl Alcohol  1.463 1.299 1.378 1.410 1.363 1.371 1.381   3.93
110)     tert Amyl alcohol   0.851 0.903 1.044 1.089 1.089 1.089 1.011  10.54
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9999
               Response Ratio = 0.00000 + 1.08777 *A

111)     Isobutyl alcohol    0.243 0.319 0.327 0.344 0.345 0.332 0.318  12.05
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9992
               Response Ratio = 0.00000 + 0.33691 *A

112)     1,4-Dioxane         0.124 0.128 0.155 0.151 0.149 0.145 0.142   9.17
113)     3,3-Dimethyl-1-buta 0.829 0.839 1.135 1.271 1.314 1.388 1.129  21.53
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9997
               Response Ratio = 0.00000 + 1.14351 *A + 0.01225 *A^2

 ---------------------------------------------------------------------------
 (#) = Out of Range
```

6.7.7

6

Initial Calibration Summary

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VO593-ICC593
Lab FileID: O14296.D

msoNCOXY.m Wed Mar 06 13:27:32 2013

Initial Calibration Verification

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VO593-ICV593
Lab FileID: O14299.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\030513\O14299.D Vial: 7
Acq On : 5 Mar 2013 4:47 pm Operator: Melissam
Sample : ICv593-4 Inst : MSVOA12
Misc : MS23558,VO593,,,,, Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\msdchem\1\methods\msoNCOXY.m (RTE Integrator)
Title : SW-846 Method 5030B/8260B & EPA 624
Last Update : Wed Mar 06 11:30:54 2013
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	114	0.00	7.50
2	Dichlorodifluoromethane	0.322	0.349	-8.4	115	0.00	2.54
	----------	Amount	Calc.	%Drift		----------	
3 P	Chloromethane	40.000	37.876	5.3	104	-0.01	2.75
	----------	AvgRF	CCRF	%Dev		----------	
4	1,3-Butadiene	0.395	0.038	90.4#	11#	-0.03	2.87
5 C	Vinyl Chloride	0.460	0.470	-2.2	108	-0.02	2.89
	----------	Amount	Calc.	%Drift		----------	
6	Bromomethane	40.000	34.445	13.9	97	0.00	3.31
7	Chloroethane	40.000	28.656	28.4#	82	0.00	3.46
8	Trichlorofluoromethane	40.000	41.677	-4.2	113	0.00	3.67
	----------	AvgRF	CCRF	%Dev		----------	
9	Ethyl Ether	0.254	0.238	6.3	103	0.00	3.96
10	1,2-Dichlorotrifluoroetha	0.406	0.344	15.3	91	0.00	4.20
11 C	1,1-Dichloroethene	0.432	0.409	5.3	102	0.00	4.22
12	Freon 113	0.352	0.317	9.9	97	0.00	4.28
13	Carbon Disulfide	0.896	0.891	0.6	108	0.00	4.28
14	Iodomethane	0.570	0.523	8.2	99	0.00	4.40
	----------	Amount	Calc.	%Drift		----------	
15	Allyl chloride	40.000	36.924	7.7	107	0.00	4.73
16	Methylene Chloride	40.000	36.510	8.7	98	0.00	4.85
17	Acetone	200.000	208.580	-4.3	116	0.00	4.89
	----------	AvgRF	CCRF	%Dev		----------	
18	Methyl acetate	0.049	0.042	14.3	91	0.00	5.01
	----------	Amount	Calc.	%Drift		----------	
19	trans-1,2-Dichloroethene	40.000	32.971	17.6	95	0.00	5.02
	----------	AvgRF	CCRF	%Dev		----------	
20	Hexane	0.241	0.216	10.4	99	0.00	5.09
21	Methyl Tert Butyl Ether	0.835	0.795	4.8	103	0.00	5.13
	----------	Amount	Calc.	%Drift		----------	
22	Acetonitrile	400.000	388.824	2.8	105	0.00	5.40
	----------	AvgRF	CCRF	%Dev		----------	

Initial Calibration Verification

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VO593-ICV593
Lab FileID: O14299.D

23		Di-isopropyl ether	0.888	0.841	5.3	102	0.00	5.51
			Amount	Calc.	%Drift			
24		Chloroprene	40.000	35.230	11.9	97	0.00	5.64
			AvgRF	CCRF	%Dev			
25	P	1,1-Dichloroethane	0.572	0.515	10.0	98	0.00	5.67
26		Acrylonitrile	0.087	0.083	4.6	101	0.00	5.72
			Amount	Calc.	%Drift			
27		ETBE	40.000	34.422	13.9	101	0.00	5.89
28		Vinyl acetate	200.000	161.109	19.4	91	0.00	5.90
			AvgRF	CCRF	%Dev			
29		cis-1,2-Dichloroethene	0.351	0.326	7.1	101	0.00	6.23
30		2,2-Dichloropropane	0.445	0.418	6.1	102	0.00	6.36
31		Bromochloromethane	0.181	0.171	5.5	104	0.00	6.44
			Amount	Calc.	%Drift			
32		Cyclohexane	40.000	35.205	12.0	101	0.00	6.46
			AvgRF	CCRF	%Dev			
33	C	Chloroform	0.600	0.544	9.3	99	0.00	6.49
34		Ethyl acetate	0.209	0.199	4.8	102	0.00	6.58
35		Tetrahydrofuran	0.062	0.057	8.1	100	0.00	6.67
			Amount	Calc.	%Drift			
36	S	Dibromofluoromethane	50.000	51.515	-3.0	114	0.00	6.68
37		Carbon Tetrachloride	40.000	34.941	12.6	97	0.00	6.67
			AvgRF	CCRF	%Dev			
38		1,1,1-Trichloroethane	0.486	0.441	9.3	99	0.00	6.73
39		2-Butanone	0.097	0.097	0.0	110	0.00	6.79
			Amount	Calc.	%Drift			
40		1,1-Dichloropropene	40.000	34.050	14.9	98	0.00	6.84
41		tert-Butyl Formate	400.000	456.175	-14.0	127	0.00	6.95
42		Propionitrile	400.000	355.001	11.2	101	0.00	7.11
43		Methacrylonitrile	400.000	364.975	8.8	102	0.00	7.13
			AvgRF	CCRF	%Dev			
44		Benzene	1.252	1.155	7.7	101	0.00	7.10
45		TAME	0.868	0.850	2.1	105	0.00	7.18
			Amount	Calc.	%Drift			
46	S	1,2-Dichloroethane-d4	50.000	50.777	-1.6	114	0.00	7.23
			AvgRF	CCRF	%Dev			
47		1,2-Dichloroethane	0.388	0.371	4.4	105	0.00	7.30
48		Trichloroethene	0.344	0.316	8.1	100	0.00	7.67
			Amount	Calc.	%Drift			
49		Methylcyclohexane	40.000	32.590	18.5	97	0.00	7.68
			AvgRF	CCRF	%Dev			
50		Dibromomethane	0.214	0.199	7.0	101	0.00	8.10
51	C	1,2-Dichloropropane	0.319	0.296	7.2	102	0.00	8.20
			Amount	Calc.	%Drift			
52		Bromodichloromethane	40.000	36.091	9.8	107	0.00	8.24

Initial Calibration Verification

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VO593-ICV593
Lab FileID: O14299.D

53		Methyl methacrylate	40.000	36.257	9.4	107	0.00	8.36
54		2-Chloroethyl vinyl ether	200.000	167.313	16.3	93	0.00	8.79
55		cis-1,3-Dichloropropene	40.000	33.544	16.1	99	0.00	8.87
		----------	AvgRF	CCRF	%Dev	----------		
56	I	Chlorobenzene-d5	1.000	1.000	0.0	113	0.00	10.65
		----------	Amount	Calc.	%Drift	----------		
57	S	Toluene-d8	50.000	48.876	2.2	113	0.00	9.06
		----------	AvgRF	CCRF	%Dev	----------		
58	C	Toluene	1.724	1.593	7.6	101	0.00	9.12
		----------	Amount	Calc.	%Drift	----------		
59		2-Nitropropane	200.000	194.298	2.9	108	0.00	9.35
		----------	AvgRF	CCRF	%Dev	----------		
60		4-Methyl-2-pentanone	0.275	0.277	-0.7	103	0.00	9.47
		----------	Amount	Calc.	%Drift	----------		
61		trans-1,3-Dichloropropene	40.000	37.414	6.5	107	0.00	9.52
		----------	AvgRF	CCRF	%Dev	----------		
62		Tetrachloroethene	0.451	0.422	6.4	101	0.00	9.51
		----------	Amount	Calc.	%Drift	----------		
63		Ethyl methacrylate	40.000	35.544	11.1	101	0.00	9.64
		----------	AvgRF	CCRF	%Dev	----------		
64		1,1,2-Trichloroethane	0.317	0.311	1.9	106	0.00	9.69
		----------	Amount	Calc.	%Drift	----------		
65		Dibromochloromethane	40.000	36.922	7.7	107	0.00	9.88
		----------	AvgRF	CCRF	%Dev	----------		
66		1,3-Dichloropropane	0.620	0.593	4.4	104	0.00	9.98
67		1,2-Dibromoethane	0.370	0.370	0.0	105	0.00	10.14
		----------	Amount	Calc.	%Drift	----------		
68		2-hexanone	200.000	185.558	7.2	101	0.00	10.31
69		1-Chlorohexane	40.000	33.809	15.5	97	0.00	10.61
		----------	AvgRF	CCRF	%Dev	----------		
70	C	Ethylbenzene	2.030	1.897	6.6	101	0.00	10.67
71	P	Chlorobenzene	1.175	1.180	-0.4	110	0.00	10.66
72		1,1,1,2-Tetrachloroethane	0.398	0.409	-2.8	109	0.00	10.73
		----------	Amount	Calc.	%Drift	----------		
73		m,p-Xylene	80.000	71.397	10.8	105	0.00	10.82
74		o-Xylene	40.000	39.051	2.4	112	0.00	11.27
75		Styrene	40.000	35.270	11.8	103	0.00	11.33
76	P	Bromoform	40.000	38.777	3.1	105	0.00	11.38
77		Isopropylbenzene	40.000	38.357	4.1	110	0.00	11.60
		----------	AvgRF	CCRF	%Dev	----------		
78	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	111	0.00	13.12
		----------	Amount	Calc.	%Drift	----------		

Initial Calibration Verification

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VO593-ICV593
Lab FileID: O14299.D

79	S	4-Bromofluorobenzene	50.000	48.743	2.5	111	0.00	11.91
80		cis-1,4-Dichloro-2-butene	40.000	44.345	-10.9	113	0.00	11.96
		----------	AvgRF	CCRF	%Dev	----------		
81		n-Propylbenzene	4.275	4.440	-3.9	109	0.00	12.04
82		Bromobenzene	1.012	1.001	1.1	107	0.00	12.04
83	P	1,1,2,2-Tetrachloroethane	0.931	0.916	1.6	104	0.00	12.10
		----------	Amount	Calc.	%Drift	----------		
84		1,3,5-Trimethylbenzene	40.000	36.384	9.0	101	0.00	12.23
		----------	AvgRF	CCRF	%Dev	----------		
85		2-Chlorotoluene	2.888	2.950	-2.1	109	0.00	12.22
		----------	Amount	Calc.	%Drift	----------		
86		trans-1,4-Dichloro-2-Bute	40.000	37.901	5.2	103	0.00	12.30
		----------	AvgRF	CCRF	%Dev	----------		
87		1,2,3-Trichloropropane	0.238	0.242	-1.7	106	0.00	12.27
		----------	Amount	Calc.	%Drift	----------		
88		Cyclohexanone	200.000	656.407	-228.2#	360	0.00	12.33
		----------	AvgRF	CCRF	%Dev	----------		
89		4-Chlorotoluene	2.504	2.687	-7.3	113	0.00	12.40
		----------	Amount	Calc.	%Drift	----------		
90		a-Methyl Styrene	40.000	0.904	97.7#	2	0.08	12.59
		----------	AvgRF	CCRF	%Dev	----------		
91		tert-Butylbenzene	1.611	1.698	-5.4	109	0.00	12.58
		----------	Amount	Calc.	%Drift	----------		
92		1,2,4-Trimethylbenzene	40.000	36.386	9.0	103	0.00	12.66
93		Pentachloroethane	40.000	39.027	2.4	112	0.00	12.63
94		sec-Butylbenzene	40.000	39.405	1.5	112	0.00	12.78
95		4-Isopropyltoluene	40.000	37.247	6.9	107	0.00	12.93
		----------	AvgRF	CCRF	%Dev	----------		
96		1,3-Dichlorobenzene	1.698	1.819	-7.1	115	0.00	13.04
97		1,4-Dichlorobenzene	1.956	1.925	1.6	107	0.00	13.14
		----------	Amount	Calc.	%Drift	----------		
98		n-Butylbenzene	40.000	35.221	11.9	101	0.00	13.39
99		Benzyl Chloride	40.000	39.150	2.1	103	0.00	13.40
		----------	AvgRF	CCRF	%Dev	----------		
100		1,2-Dichlorobenzene	1.625	1.754	-7.9	115	0.00	13.61
		----------	Amount	Calc.	%Drift	----------		
101		1,2-Dibromo-3-Chloropropa	40.000	40.844	-2.1	109	0.00	14.49
		----------	AvgRF	CCRF	%Dev	----------		
102		Hexachlorobutadiene	0.595	0.586	1.5	103	0.00	15.21
103		1,2,4-Trichlorobenzene	1.185	1.267	-6.9	112	0.00	15.26
		----------	Amount	Calc.	%Drift	----------		
104		Naphthalene	40.000	40.564	-1.4	111	0.00	15.63
		----------	AvgRF	CCRF	%Dev	----------		

Initial Calibration Verification

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VO593-ICV593
Lab FileID: O14299.D

105	1,2,3-Trichlorobenzene	1.059	1.097	-3.6	110	0.00	15.85
106 I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	111	0.00	5.12
	----------	Amount	Calc.	%Drift	----------		
107	Ethanol	800.000	845.427	-5.7	112	-0.02	4.14
108	acrolein	200.000	134.553	32.7#	75	0.00	4.59
	----------	AvgRF	CCRF	%Dev	----------		
109	Tert Butyl Alcohol	1.381	1.379	0.1	108	0.00	5.20
	----------	Amount	Calc.	%Drift	----------		
110	tert Amyl alcohol	400.000	428.211	-7.1	118	0.00	7.35
111	Isobutyl alcohol	800.000	745.105	6.9	101	0.00	7.23
	----------	AvgRF	CCRF	%Dev	----------		
112	1,4-Dioxane	0.142	0.157	-10.6	115	0.00	8.43
	----------	Amount	Calc.	%Drift	----------		
113	3,3-Dimethyl-1-butanol	2000.000	1655.732	17.2	88	0.00	10.26

(#) = Out of Range SPCC's out = 0 CCC's out = 0
O14296.D msoNCOXY.m Wed Mar 06 13:29:08 2013

6.7.8

6

Continuing Calibration Summary

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VO604-CC593
Lab FileID: O14598.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\031913\O14598.D Vial: 26
Acq On : 19 Mar 2013 7:23 pm Operator: Melissam
Sample : CC593-4 Inst : MSVOA12
Misc : MS23708,VO604,,,,, Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\msdchem\1\methods\msoNCOXY.m (RTE Integrator)
Title : SW-846 Method 5030B/8260B & EPA 624
Last Update : Wed Mar 06 11:30:54 2013
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	92	0.00	7.51
2	Dichlorodifluoromethane	0.322	0.295	8.4	78	0.00	2.55
	----------	Amount	Calc.	%Drift		----------	
3 P	Chloromethane	40.000	35.116	12.2	77	0.00	2.76
	----------	AvgRF	CCRF	%Dev		----------	
4	1,3-Butadiene	0.395	0.376	4.8	83	0.00	2.90
5 C	Vinyl Chloride	0.460	0.426	7.4	79	0.00	2.90
	----------	Amount	Calc.	%Drift		----------	
6	Bromomethane	40.000	34.095	14.8	77	0.00	3.32
7	Chloroethane	40.000	34.635	13.4	76	0.00	3.46
8	Trichlorofluoromethane	40.000	39.498	1.3	86	0.00	3.67
	----------	AvgRF	CCRF	%Dev		----------	
9	Ethyl Ether	0.254	0.250	1.6	86	0.00	3.97
10	1,2-Dichlorotrifluoroetha	0.406	0.413	-1.7	88	0.00	4.21
11 C	1,1-Dichloroethene	0.432	0.419	3.0	84	0.00	4.23
12	Freon 113	0.352	0.361	-2.6	88	0.00	4.28
13	Carbon Disulfide	0.896	0.900	-0.4	87	0.00	4.28
14	Iodomethane	0.570	0.568	0.4	86	0.00	4.40
	----------	Amount	Calc.	%Drift		----------	
15	Allyl chloride	40.000	35.151	12.1	81	0.00	4.74
16	Methylene Chloride	40.000	39.143	2.1	84	0.00	4.86
17	Acetone	200.000	196.259	1.9	87	0.00	4.90
	----------	AvgRF	CCRF	%Dev		----------	
18	Methyl acetate	0.049	0.043	12.2	74	0.00	5.02
	----------	Amount	Calc.	%Drift		----------	
19	trans-1,2-Dichloroethene	40.000	36.664	8.3	84	0.00	5.03
	----------	AvgRF	CCRF	%Dev		----------	
20	Hexane	0.241	0.240	0.4	89	0.00	5.09
21	Methyl Tert Butyl Ether	0.835	0.821	1.7	85	0.00	5.13
	----------	Amount	Calc.	%Drift		----------	
22	Acetonitrile	400.000	403.071	-0.8	87	0.00	5.40
	----------	AvgRF	CCRF	%Dev		----------	

Continuing Calibration Summary

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VO604-CC593
Lab FileID: O14598.D

23		Di-isopropyl ether	0.888	0.892	-0.5	87	0.00	5.51
		----------	Amount	Calc.	%Drift			
24		Chloroprene	40.000	37.247	6.9	82	0.00	5.65
		----------	AvgRF	CCRF	%Dev			
25	P	1,1-Dichloroethane	0.572	0.567	0.9	87	0.00	5.68
26		Acrylonitrile	0.087	0.087	0.0	85	0.00	5.73
		----------	Amount	Calc.	%Drift			
27		ETBE	40.000	36.588	8.5	86	0.00	5.89
28		Vinyl acetate	200.000	215.699	-7.8	97	0.00	5.90
		----------	AvgRF	CCRF	%Dev			
29		cis-1,2-Dichloroethene	0.351	0.349	0.6	87	0.00	6.23
30		2,2-Dichloropropane	0.445	0.426	4.3	84	0.00	6.36
31		Bromochloromethane	0.181	0.184	-1.7	90	0.00	6.44
		----------	Amount	Calc.	%Drift			
32		Cyclohexane	40.000	37.087	7.3	85	0.00	6.46
		----------	AvgRF	CCRF	%Dev			
33	C	Chloroform	0.600	0.597	0.5	87	0.00	6.50
34		Ethyl acetate	0.209	0.206	1.4	85	0.00	6.59
35		Tetrahydrofuran	0.062	0.060	3.2	84	0.00	6.67
		----------	Amount	Calc.	%Drift			
36	S	Dibromofluoromethane	50.000	51.918	-3.8	92	0.00	6.68
37		Carbon Tetrachloride	40.000	37.836	5.4	85	0.00	6.67
		----------	AvgRF	CCRF	%Dev			
38		1,1,1-Trichloroethane	0.486	0.483	0.6	87	0.00	6.74
39		2-Butanone	0.097	0.095	2.1	86	0.00	6.80
		----------	Amount	Calc.	%Drift			
40		1,1-Dichloropropene	40.000	37.001	7.5	85	0.00	6.85
41		tert-Butyl Formate	400.000	337.749	15.6	73	0.00	6.95
42		Propionitrile	400.000	364.904	8.8	83	0.00	7.11
43		Methacrylonitrile	400.000	374.938	6.3	84	0.00	7.13
		----------	AvgRF	CCRF	%Dev			
44		Benzene	1.252	1.257	-0.4	88	0.00	7.10
45		TAME	0.868	0.860	0.9	85	0.00	7.18
		----------	Amount	Calc.	%Drift			
46	S	1,2-Dichloroethane-d4	50.000	50.456	-0.9	90	0.00	7.23
		----------	AvgRF	CCRF	%Dev			
47		1,2-Dichloroethane	0.388	0.379	2.3	86	0.00	7.30
48		Trichloroethene	0.344	0.344	0.0	88	0.00	7.67
		----------	Amount	Calc.	%Drift			
49		Methylcyclohexane	40.000	35.761	10.6	85	0.00	7.68
		----------	AvgRF	CCRF	%Dev			
50		Dibromomethane	0.214	0.214	0.0	87	0.00	8.10
51	C	1,2-Dichloropropane	0.319	0.319	0.0	88	0.00	8.20
		----------	Amount	Calc.	%Drift			
52		Bromodichloromethane	40.000	37.308	6.7	88	0.00	8.24

Continuing Calibration Summary

Job Number: FA2476 **Sample:** VO604-CC593
Account: TETTNOAK Tetra Tech, Inc **Lab FileID:** O14598.D
Project: Holloman AFB; Alamogordo, NM

53		Methyl methacrylate	40.000	34.937	12.7	82	0.00	8.37
54		2-Chloroethyl vinyl ether	200.000	191.072	4.5	86	0.00	8.79
55		cis-1,3-Dichloropropene	40.000	36.444	8.9	87	0.00	8.87
		----------	AvgRF	CCRF	%Dev	----------		
56	I	Chlorobenzene-d5	1.000	1.000	0.0	93	0.00	10.65
		----------	Amount	Calc.	%Drift	----------		
57	S	Toluene-d8	50.000	47.999	4.0	92	0.00	9.07
		----------	AvgRF	CCRF	%Dev	----------		
58	C	Toluene	1.724	1.676	2.8	88	0.00	9.12
		----------	Amount	Calc.	%Drift	----------		
59		2-Nitropropane	200.000	174.808	12.6	81	0.00	9.35
		----------	AvgRF	CCRF	%Dev	----------		
60		4-Methyl-2-pentanone	0.275	0.279	-1.5	86	0.00	9.47
		----------	Amount	Calc.	%Drift	----------		
61		trans-1,3-Dichloropropene	40.000	36.209	9.5	86	0.00	9.52
		----------	AvgRF	CCRF	%Dev	----------		
62		Tetrachloroethene	0.451	0.501	-11.1	99	0.00	9.51
		----------	Amount	Calc.	%Drift	----------		
63		Ethyl methacrylate	40.000	35.218	12.0	83	0.00	9.64
		----------	AvgRF	CCRF	%Dev	----------		
64		1,1,2-Trichloroethane	0.317	0.318	-0.3	89	0.00	9.69
		----------	Amount	Calc.	%Drift	----------		
65		Dibromochloromethane	40.000	36.862	7.8	88	0.00	9.88
		----------	AvgRF	CCRF	%Dev	----------		
66		1,3-Dichloropropane	0.620	0.607	2.1	88	0.00	9.98
67		1,2-Dibromoethane	0.370	0.367	0.8	86	0.00	10.15
		----------	Amount	Calc.	%Drift	----------		
68		2-hexanone	200.000	190.488	4.8	86	0.00	10.31
69		1-Chlorohexane	40.000	36.967	7.6	88	0.00	10.61
		----------	AvgRF	CCRF	%Dev	----------		
70	C	Ethylbenzene	2.030	2.003	1.3	89	0.00	10.67
71	P	Chlorobenzene	1.175	1.168	0.6	90	0.00	10.67
72		1,1,1,2-Tetrachloroethane	0.398	0.406	-2.0	89	0.00	10.73
		----------	Amount	Calc.	%Drift	----------		
73		m,p-Xylene	80.000	72.617	9.2	89	0.00	10.82
74		o-Xylene	40.000	37.486	6.3	89	0.00	11.27
75		Styrene	40.000	36.873	7.8	89	0.00	11.33
76	P	Bromoform	40.000	37.765	5.6	84	0.00	11.38
77		Isopropylbenzene	40.000	37.141	7.1	89	0.00	11.60
		----------	AvgRF	CCRF	%Dev	----------		
78	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	91	0.00	13.12
		----------	Amount	Calc.	%Drift	----------		

Continuing Calibration Summary

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VO604-CC593
Lab FileID: O14598.D

79	S	4-Bromofluorobenzene	50.000	48.033	3.9	90	0.00	11.91
80		cis-1,4-Dichloro-2-butene	40.000	27.330	31.7#	55	0.00	11.96
		----------	AvgRF	CCRF	%Dev	----------		
81		n-Propylbenzene	4.275	4.372	-2.3	88	0.00	12.04
82		Bromobenzene	1.012	1.019	-0.7	90	0.00	12.04
83	P	1,1,2,2-Tetrachloroethane	0.931	0.924	0.8	86	0.00	12.10
		----------	Amount	Calc.	%Drift	----------		
84		1,3,5-Trimethylbenzene	40.000	38.979	2.6	89	0.00	12.23
		----------	AvgRF	CCRF	%Dev	----------		
85		2-Chlorotoluene	2.888	2.946	-2.0	89	0.00	12.22
		----------	Amount	Calc.	%Drift	----------		
86		trans-1,4-Dichloro-2-Bute	40.000	28.794	28.0#	65	0.00	12.30
		----------	AvgRF	CCRF	%Dev	----------		
87		1,2,3-Trichloropropane	0.238	0.243	-2.1	88	0.00	12.27
		----------	Amount	Calc.	%Drift	----------		
88		Cyclohexanone	200.000	185.165	7.4	83	0.00	12.33
		----------	AvgRF	CCRF	%Dev	----------		
89		4-Chlorotoluene	2.504	2.559	-2.2	89	0.00	12.40
		----------	Amount	Calc.	%Drift	----------		
90		a-Methyl Styrene	40.000	38.973	2.6	87	0.00	12.51
		----------	AvgRF	CCRF	%Dev	----------		
91		tert-Butylbenzene	1.611	1.690	-4.9	89	0.00	12.58
		----------	Amount	Calc.	%Drift	----------		
92		1,2,4-Trimethylbenzene	40.000	38.311	4.2	89	0.00	12.66
93		Pentachloroethane	40.000	31.800	20.5#	75	0.00	12.63
94		sec-Butylbenzene	40.000	37.999	5.0	88	0.00	12.78
95		4-Isopropyltoluene	40.000	37.593	6.0	88	0.00	12.93
		----------	AvgRF	CCRF	%Dev	----------		
96		1,3-Dichlorobenzene	1.698	1.735	-2.2	90	0.00	13.04
97		1,4-Dichlorobenzene	1.956	1.983	-1.4	91	0.00	13.14
		----------	Amount	Calc.	%Drift	----------		
98		n-Butylbenzene	40.000	37.065	7.3	88	0.00	13.39
99		Benzyl Chloride	40.000	37.273	6.8	80	0.00	13.40
		----------	AvgRF	CCRF	%Dev	----------		
100		1,2-Dichlorobenzene	1.625	1.665	-2.5	90	0.00	13.61
		----------	Amount	Calc.	%Drift	----------		
101		1,2-Dibromo-3-Chloropropa	40.000	38.638	3.4	84	0.00	14.49
		----------	AvgRF	CCRF	%Dev	----------		
102		Hexachlorobutadiene	0.595	0.618	-3.9	89	0.00	15.21
103		1,2,4-Trichlorobenzene	1.185	1.226	-3.5	89	0.00	15.25
		----------	Amount	Calc.	%Drift	----------		
104		Naphthalene	40.000	36.546	8.6	83	0.00	15.63
		----------	AvgRF	CCRF	%Dev	----------		

Continuing Calibration Summary

Job Number: FA2476
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VO604-CC593
Lab FileID: O14598.D

105	1,2,3-Trichlorobenzene	1.059	1.052	0.7	87	0.00	15.85
106 I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	83	0.00	5.13
	----------	Amount	Calc.	%Drift	----------		
107	Ethanol	800.000	837.445	-4.7	83	0.00	4.17
108	acrolein	200.000	193.607	3.2	81	0.00	4.59
	----------	AvgRF	CCRF	%Dev	----------		
109	Tert Butyl Alcohol	1.381	1.368	0.9	80	0.00	5.20
	----------	Amount	Calc.	%Drift	----------		
110	tert Amyl alcohol	400.000	392.500	1.9	81	0.00	7.35
111	Isobutyl alcohol	800.000	799.539	0.1	81	0.00	7.23
	----------	AvgRF	CCRF	%Dev	----------		
112	1,4-Dioxane	0.142	0.161	-13.4	88	0.00	8.44
	----------	Amount	Calc.	%Drift	----------		
113	3,3-Dimethyl-1-butanol	2000.000	1988.664	0.6	80	0.00	10.26

(#) = Out of Range SPCC's out = 0 CCC's out = 0
O14296.D msoNCOXY.m Wed Mar 20 11:59:23 2013

Southeast ACCUTEST LABORATORIES

Reissue #1
07/16/13

Technical Report for

Tetra Tech, Inc

Holloman AFB; Alamogordo, NM

SD-27, Sub Agreement: 1071181

Accutest Job Number: FA5972

Sampling Date: 06/26/13

Report to:

Tetra Tech

Frank.Bogle@tetratech.com
Maureen.McMyler@tetratech.com; Valerie.Bogle@tetratech.com
ATTN: Frank Bogle

Total number of pages in report: **82**

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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July 15, 2013

Valerie Bogle
Tetra Tech
800 Oak Ridge Turnpike
A 600
Oak Ridge, TN 37838

RE: Accutest job FA5972 Reissue

Dear Ms. Bogle,

The final report for job number FA5972 has been edited to reflect requested corrections. These edits have been incorporated into the revised report.

8260 compound list has been revised for sample -6.

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

Florida ♦ 4405 Vineland Road ♦ Suite C-15 ♦ Orlando, FL 32811 ♦ tel: 407 425-6700 ♦ fax: 407 425-0707 ♦ htpp:/www.accutest.com

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Sample Summary

Tetra Tech, Inc

Job No: FA5972

Holloman AFB; Alamogordo, NM
Project No: SD-27, Sub Agreement: 1071181

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
FA5972-1	06/26/13	07:45	AJ	06/27/13	AQ	Ground Water	MW27-01-062613
FA5972-2	06/26/13	07:52	AJ	06/27/13	AQ	Ground Water	MW27-02-062613
FA5972-3	06/26/13	08:00	AJ	06/27/13	AQ	Ground Water	MW27-03-062613
FA5972-4	06/26/13	08:10	AJ	06/27/13	AQ	Ground Water	MW27-04-062613
FA5972-4D	06/26/13	08:10	AJ	06/27/13	AQ	Water Dup/MSD	MW27-04-062613
FA5972-4S	06/26/13	08:10	AJ	06/27/13	AQ	Water Matrix Spike	MW27-04-062613
FA5972-5	06/26/13	08:22	AJ	06/27/13	AQ	Ground Water	MW27-05-062613
FA5972-6	06/26/13	08:22	AJ	06/27/13	AQ	Ground Water	MW27-DUP01-062613
FA5972-7	06/26/13	07:45	AJ	06/27/13	AQ	Trip Blank Water	SD27-TB01-062613

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Tetra Tech, Inc **Job No:** FA5972

Site: Holloman AFB; Alamogordo, NM **Report Date:** 7/12/2013 4:48:42 PM

6 Sample(s), 1 Trip Blank(s) were collected on 06/26/2013 and were received at Accutest SE on 06/27/2013 properly preserved, at 2.8 Deg. C and intact. These Samples received an Accutest job number of FA5972. 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: AQ **Batch ID:** VJ4427

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA5967-2MS, FA5967-2MSD were used as the QC samples indicated.
Matrix Spike Recovery(s) for Benzene 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.

Matrix Spike Recovery(s)/Matrix Spike Duplicate Recovery(s) for 2-Chloroethyl vinyl ether are outside control limits. Probable cause is due to matrix interference. For method performance in a clean matrix, refer to Blank Spike.

RPD(s) for MSD for 2-Chloroethyl vinyl ether are outside control limits for sample FA5967-2MSD. Probable cause is due to sample non-homogeneity.

Matrix: AQ **Batch ID:** VP664

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA5972-4MS, FA5972-4MSD were used as the QC samples indicated.
Blank Spike Recovery(s) for Acrolein are outside control limits. Recovery biased high, but samples were ND for Acrolein.

Matrix Spike Recovery(s) for Isopropylbenzene are outside control limits. Probable cause is due to matrix interference. For method performance in a clean matrix, refer to Blank Spike.

Matrix Spike Duplicate Recovery(s) for Chloroprene, Styrene are outside control limits. Probable cause is due to matrix interference. For method performance in a clean matrix, refer to Blank Spike.

RPD(s) for MSD for 1,4-Dioxane, Chloroprene, Ethyl methacrylate, Styrene are outside control limits for sample FA5972-4MSD. Probable cause is due to sample non-homogeneity.

FA5972-1 for Acrolein: Associated BS recovery outside control limits.

FA5972-2 for Acrolein: Associated BS recovery outside control limits.

FA5972-3 for Acrolein: Associated BS recovery outside control limits.

FA5972-4 for Acrolein: Associated BS recovery outside control limits.

FA5972-5 for Acrolein: Associated BS recovery outside control limits.

FA5972-6 for Acrolein: Associated BS recovery outside control limits.

FA5972-6 for Cyclohexanone: Associated CCV outside control limits.

FA5972-7 for Acrolein: Associated BS recovery outside control limits.

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: July 12, 2013

Kim Benham, Client Services (signature on file)

Summary of Hits

Job Number: FA5972
Account: Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM
Collected: 06/26/13

3

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
FA5972-1	**MW27-01-062613**					
No hits reported in this sample.						
FA5972-2	**MW27-02-062613**					
Benzene		5.9	1.0	0.21	ug/l	SW846 8260B
sec-Butylbenzene		6.2	1.0	0.21	ug/l	SW846 8260B
tert-Butylbenzene		0.59 J	1.0	0.29	ug/l	SW846 8260B
Chloroform		0.47 J	1.0	0.26	ug/l	SW846 8260B
Ethylbenzene		1.5	1.0	0.29	ug/l	SW846 8260B
Isopropylbenzene		12.2	1.0	0.20	ug/l	SW846 8260B
p-Isopropyltoluene		1.0	1.0	0.20	ug/l	SW846 8260B
n-Propylbenzene		16.0	1.0	0.23	ug/l	SW846 8260B
1,2,4-Trimethylbenzene		1.5 J	2.0	0.20	ug/l	SW846 8260B
1,3,5-Trimethylbenzene		5.0	2.0	0.20	ug/l	SW846 8260B
Toluene		0.49 J	1.0	0.20	ug/l	SW846 8260B
m,p-Xylene		0.38 J	2.0	0.30	ug/l	SW846 8260B
FA5972-3	**MW27-03-062613**					
Toluene		0.32 J	1.0	0.20	ug/l	SW846 8260B
FA5972-4	**MW27-04-062613**					
sec-Butylbenzene		3.0	1.0	0.21	ug/l	SW846 8260B
tert-Butylbenzene		0.32 J	1.0	0.29	ug/l	SW846 8260B
Ethylbenzene		0.39 J	1.0	0.29	ug/l	SW846 8260B
Isopropylbenzene		4.0	1.0	0.20	ug/l	SW846 8260B
n-Propylbenzene		3.9	1.0	0.23	ug/l	SW846 8260B
Toluene		0.36 J	1.0	0.20	ug/l	SW846 8260B
FA5972-5	**MW27-05-062613**					
Benzene		537	10	2.1	ug/l	SW846 8260B
sec-Butylbenzene		11.5	10	2.1	ug/l	SW846 8260B
Ethylbenzene		656	10	2.9	ug/l	SW846 8260B
Isopropylbenzene		46.5	5.0	1.0	ug/l	SW846 8260B
p-Isopropyltoluene		5.3	5.0	1.0	ug/l	SW846 8260B
Naphthalene		17.9 J	25	5.0	ug/l	SW846 8260B
n-Propylbenzene		45.0	5.0	1.1	ug/l	SW846 8260B
1,2,4-Trimethylbenzene		194	10	1.0	ug/l	SW846 8260B
1,3,5-Trimethylbenzene		51.5	10	1.0	ug/l	SW846 8260B
Toluene		160	10	2.0	ug/l	SW846 8260B
m,p-Xylene		69.8	20	3.0	ug/l	SW846 8260B

Summary of Hits

Job Number: FA5972
Account: Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM
Collected: 06/26/13

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
o-Xylene		323	10	2.0	ug/l	SW846 8260B
FA5972-6	**MW27-DUP01-062613**					
Benzene		736	25	5.3	ug/l	SW846 8260B
sec-Butylbenzene		13.6 J	25	5.3	ug/l	SW846 8260B
Ethylbenzene		895	25	7.3	ug/l	SW846 8260B
Isopropylbenzene		76.5	25	5.0	ug/l	SW846 8260B
p-Isopropyltoluene		9.0 J	25	5.0	ug/l	SW846 8260B
Naphthalene		38.0 J	130	25	ug/l	SW846 8260B
n-Propylbenzene		90.7	25	5.7	ug/l	SW846 8260B
1,2,4-Trimethylbenzene		372	50	5.0	ug/l	SW846 8260B
1,3,5-Trimethylbenzene		94.9	50	5.0	ug/l	SW846 8260B
Toluene		292	25	5.0	ug/l	SW846 8260B
m,p-Xylene		100	50	7.4	ug/l	SW846 8260B
o-Xylene		366	25	5.0	ug/l	SW846 8260B
FA5972-7	**SD27-TB01-062613**					
Toluene		1.1	1.0	0.20	ug/l	SW846 8260B

Southeast ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	MW27-01-062613		
Lab Sample ID:	FA5972-1	**Date Sampled:**	06/26/13
Matrix:	AQ - Ground Water	**Date Received:**	06/27/13
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	P17370.D	1	07/10/13	EG	n/a	n/a	VP664
Run #2	J087652.D	1	07/10/13	AP	n/a	n/a	VJ4427

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
75-05-8	Acetonitrile	ND	20	3.7	ug/l	
107-02-8	Acrolein [a]	ND	20	6.9	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
107-05-1	Allyl chloride	ND	2.0	0.56	ug/l	
71-43-2	Benzene	ND	1.0	0.21	ug/l	
100-44-7	Benzyl Chloride	ND	2.0	0.38	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.22	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.34	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.20	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.21	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.29	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.26	ug/l	
544-10-5	1-Chlorohexane	ND	2.0	0.20	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.21	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.20	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND [b]	5.0	1.3	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.49	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.31	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.25	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.71	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.30	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.26	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.27	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.25	ug/l	

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:	MW27-01-062613		
Lab Sample ID:	FA5972-1	**Date Sampled:**	06/26/13
Matrix:	AQ - Ground Water	**Date Received:**	06/27/13
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	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND [b]	10	1.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.25	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.20	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.23	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.29	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.50	ug/l	
76-13-1	Freon 113	ND	1.0	0.33	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.50	ug/l	
110-54-3	Hexane	ND	2.0	0.88	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.20	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.3	ug/l	
126-98-7	Methacrylonitrile	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.79	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.50	ug/l	
74-88-4	Methyl iodide	ND	1.0	0.25	ug/l	
80-62-6	Methyl methacrylate	ND	5.0	0.50	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.34	ug/l	
75-09-2	Methylene chloride	ND	5.0	2.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	3.1	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.21	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
76-01-7	Pentachloroethane	ND	10	1.0	ug/l	
107-12-0	Propionitrile	ND	20	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.23	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.23	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.24	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.56	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	

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:	MW27-01-062613		
Lab Sample ID:	FA5972-1	**Date Sampled:**	06/26/13
Matrix:	AQ - Ground Water	**Date Received:**	06/27/13
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	2.0	0.20	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.32	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.31	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND [b]	10	2.1	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.44	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.1	ug/l	
	m,p-Xylene	ND	2.0	0.30	ug/l	
95-47-6	o-Xylene	ND	1.0	0.20	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%	98%	83-118%
17060-07-0	1,2-Dichloroethane-D4	109%	99%	79-125%
2037-26-5	Toluene-D8	94%	92%	85-112%
460-00-4	4-Bromofluorobenzene	98%	91%	83-118%

(a) Associated BS recovery outside control limits.
(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:	MW27-02-062613		
Lab Sample ID:	FA5972-2	**Date Sampled:**	06/26/13
Matrix:	AQ - Ground Water	**Date Received:**	06/27/13
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	P17371.D	1	07/10/13	EG	n/a	n/a	VP664
Run #2	J087653.D	1	07/10/13	AP	n/a	n/a	VJ4427

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
75-05-8	Acetonitrile	ND	20	3.7	ug/l	
107-02-8	Acrolein [a]	ND	20	6.9	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
107-05-1	Allyl chloride	ND	2.0	0.56	ug/l	
71-43-2	Benzene	5.9	1.0	0.21	ug/l	
100-44-7	Benzyl Chloride	ND	2.0	0.38	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.22	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.34	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.20	ug/l	
135-98-8	sec-Butylbenzene	6.2	1.0	0.21	ug/l	
98-06-6	tert-Butylbenzene	0.59	1.0	0.29	ug/l	J
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
67-66-3	Chloroform	0.47	1.0	0.26	ug/l	J
544-10-5	1-Chlorohexane	ND	2.0	0.20	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.21	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.20	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND [b]	5.0	1.3	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.49	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.31	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.25	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.71	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.30	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.26	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.27	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.25	ug/l	

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:	MW27-02-062613		
Lab Sample ID:	FA5972-2	**Date Sampled:**	06/26/13
Matrix:	AQ - Ground Water	**Date Received:**	06/27/13
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	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND [b]	10	1.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.25	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.20	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.23	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	1.5	1.0	0.29	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.50	ug/l	
76-13-1	Freon 113	ND	1.0	0.33	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.50	ug/l	
110-54-3	Hexane	ND	2.0	0.88	ug/l	
98-82-8	Isopropylbenzene	12.2	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	1.0	1.0	0.20	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.3	ug/l	
126-98-7	Methacrylonitrile	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.79	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.50	ug/l	
74-88-4	Methyl iodide	ND	1.0	0.25	ug/l	
80-62-6	Methyl methacrylate	ND	5.0	0.50	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.34	ug/l	
75-09-2	Methylene chloride	ND	5.0	2.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	3.1	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.21	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
76-01-7	Pentachloroethane	ND	10	1.0	ug/l	
107-12-0	Propionitrile	ND	20	5.0	ug/l	
103-65-1	n-Propylbenzene	16.0	1.0	0.23	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.23	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.24	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.56	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	

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:	MW27-02-062613		
Lab Sample ID:	FA5972-2	**Date Sampled:**	06/26/13
Matrix:	AQ - Ground Water	**Date Received:**	06/27/13
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	1.5	2.0	0.20	ug/l	J
108-67-8	1,3,5-Trimethylbenzene	5.0	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.32	ug/l	
108-88-3	Toluene	0.49	1.0	0.20	ug/l	J
79-01-6	Trichloroethylene	ND	1.0	0.31	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND [b]	10	2.1	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.44	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.1	ug/l	
	m,p-Xylene	0.38	2.0	0.30	ug/l	J
95-47-6	o-Xylene	ND	1.0	0.20	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%	96%	83-118%
17060-07-0	1,2-Dichloroethane-D4	111%	95%	79-125%
2037-26-5	Toluene-D8	95%	91%	85-112%
460-00-4	4-Bromofluorobenzene	100%	90%	83-118%

(a) Associated BS recovery outside control limits.
(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:	MW27-03-062613		
Lab Sample ID:	FA5972-3	**Date Sampled:**	06/26/13
Matrix:	AQ - Ground Water	**Date Received:**	06/27/13
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	P17365.D	1	07/10/13	EG	n/a	n/a	VP664
Run #2	J087654.D	1	07/10/13	AP	n/a	n/a	VJ4427

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
75-05-8	Acetonitrile	ND	20	3.7	ug/l	
107-02-8	Acrolein [a]	ND	20	6.9	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
107-05-1	Allyl chloride	ND	2.0	0.56	ug/l	
71-43-2	Benzene	ND	1.0	0.21	ug/l	
100-44-7	Benzyl Chloride	ND	2.0	0.38	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.22	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.34	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.20	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.21	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.29	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.26	ug/l	
544-10-5	1-Chlorohexane	ND	2.0	0.20	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.21	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.20	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND [b]	5.0	1.3	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.49	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.31	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.25	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.71	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.30	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.26	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.27	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.25	ug/l	

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:	MW27-03-062613		
Lab Sample ID:	FA5972-3	**Date Sampled:**	06/26/13
Matrix:	AQ - Ground Water	**Date Received:**	06/27/13
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	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND [b]	10	1.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.25	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.20	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.23	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.29	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.50	ug/l	
76-13-1	Freon 113	ND	1.0	0.33	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.50	ug/l	
110-54-3	Hexane	ND	2.0	0.88	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.20	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.3	ug/l	
126-98-7	Methacrylonitrile	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.79	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.50	ug/l	
74-88-4	Methyl iodide	ND	1.0	0.25	ug/l	
80-62-6	Methyl methacrylate	ND	5.0	0.50	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.34	ug/l	
75-09-2	Methylene chloride	ND	5.0	2.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	3.1	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.21	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
76-01-7	Pentachloroethane	ND	10	1.0	ug/l	
107-12-0	Propionitrile	ND	20	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.23	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.23	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.24	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.56	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	

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:	MW27-03-062613		
Lab Sample ID:	FA5972-3	**Date Sampled:**	06/26/13
Matrix:	AQ - Ground Water	**Date Received:**	06/27/13
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	2.0	0.20	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.32	ug/l	
108-88-3	Toluene	0.32	1.0	0.20	ug/l	J
79-01-6	Trichloroethylene	ND	1.0	0.31	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND [b]	10	2.1	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.44	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.1	ug/l	
	m,p-Xylene	ND	2.0	0.30	ug/l	
95-47-6	o-Xylene	ND	1.0	0.20	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%	96%	83-118%
17060-07-0	1,2-Dichloroethane-D4	114%	98%	79-125%
2037-26-5	Toluene-D8	96%	92%	85-112%
460-00-4	4-Bromofluorobenzene	101%	95%	83-118%

(a) Associated BS recovery outside control limits.
(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:	MW27-04-062613		
Lab Sample ID:	FA5972-4	**Date Sampled:**	06/26/13
Matrix:	AQ - Ground Water	**Date Received:**	06/27/13
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	P17364.D	1	07/10/13	EG	n/a	n/a	VP664
Run #2	J087655.D	1	07/10/13	AP	n/a	n/a	VJ4427

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
75-05-8	Acetonitrile	ND	20	3.7	ug/l	
107-02-8	Acrolein [a]	ND	20	6.9	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
107-05-1	Allyl chloride	ND	2.0	0.56	ug/l	
71-43-2	Benzene	ND	1.0	0.21	ug/l	
100-44-7	Benzyl Chloride	ND	2.0	0.38	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.22	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.34	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.20	ug/l	
135-98-8	sec-Butylbenzene	3.0	1.0	0.21	ug/l	
98-06-6	tert-Butylbenzene	0.32	1.0	0.29	ug/l	J
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.26	ug/l	
544-10-5	1-Chlorohexane	ND	2.0	0.20	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.21	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.20	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND [b]	5.0	1.3	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.49	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.31	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.25	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.71	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.30	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.26	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.27	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.25	ug/l	

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:	MW27-04-062613		
Lab Sample ID:	FA5972-4	**Date Sampled:**	06/26/13
Matrix:	AQ - Ground Water	**Date Received:**	06/27/13
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	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND [b]	10	1.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.25	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.20	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.23	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	0.39	1.0	0.29	ug/l	J
97-63-2	Ethyl methacrylate	ND	5.0	0.50	ug/l	
76-13-1	Freon 113	ND	1.0	0.33	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.50	ug/l	
110-54-3	Hexane	ND	2.0	0.88	ug/l	
98-82-8	Isopropylbenzene	4.0	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.20	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.3	ug/l	
126-98-7	Methacrylonitrile	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.79	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.50	ug/l	
74-88-4	Methyl iodide	ND	1.0	0.25	ug/l	
80-62-6	Methyl methacrylate	ND	5.0	0.50	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.34	ug/l	
75-09-2	Methylene chloride	ND	5.0	2.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	3.1	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.21	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
76-01-7	Pentachloroethane	ND	10	1.0	ug/l	
107-12-0	Propionitrile	ND	20	5.0	ug/l	
103-65-1	n-Propylbenzene	3.9	1.0	0.23	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.23	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.24	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.56	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	

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:	MW27-04-062613		
Lab Sample ID:	FA5972-4	**Date Sampled:**	06/26/13
Matrix:	AQ - Ground Water	**Date Received:**	06/27/13
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	2.0	0.20	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.32	ug/l	
108-88-3	Toluene	0.36	1.0	0.20	ug/l	J
79-01-6	Trichloroethylene	ND	1.0	0.31	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND [b]	10	2.1	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.44	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.1	ug/l	
	m,p-Xylene	ND	2.0	0.30	ug/l	
95-47-6	o-Xylene	ND	1.0	0.20	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%	96%	83-118%
17060-07-0	1,2-Dichloroethane-D4	112%	98%	79-125%
2037-26-5	Toluene-D8	95%	92%	85-112%
460-00-4	4-Bromofluorobenzene	99%	91%	83-118%

(a) Associated BS recovery outside control limits.
(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:	MW27-05-062613		
Lab Sample ID:	FA5972-5	**Date Sampled:**	06/26/13
Matrix:	AQ - Ground Water	**Date Received:**	06/27/13
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	P17372.D	5	07/10/13	EG	n/a	n/a	VP664
Run #2	J087656.D	10	07/10/13	AP	n/a	n/a	VJ4427

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	130	50	ug/l	
75-05-8	Acetonitrile	ND	100	18	ug/l	
107-02-8	Acrolein [a]	ND	100	35	ug/l	
107-13-1	Acrylonitrile	ND	50	10	ug/l	
107-05-1	Allyl chloride	ND	10	2.8	ug/l	
71-43-2	Benzene	537 [b]	10	2.1	ug/l	
100-44-7	Benzyl Chloride	ND	10	1.9	ug/l	
108-86-1	Bromobenzene	ND	5.0	1.1	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.1	ug/l	
75-27-4	Bromodichloromethane	ND	5.0	1.0	ug/l	
75-25-2	Bromoform	ND	5.0	1.7	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	11.5 [b]	10	2.1	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	1.5	ug/l	
108-90-7	Chlorobenzene	ND	5.0	1.0	ug/l	
75-00-3	Chloroethane	ND	10	2.5	ug/l	
67-66-3	Chloroform	ND	5.0	1.3	ug/l	
544-10-5	1-Chlorohexane	ND	10	1.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	1.1	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	1.0	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND [b]	50	13	ug/l	
75-15-0	Carbon disulfide	ND	10	2.5	ug/l	
56-23-5	Carbon tetrachloride	ND	5.0	1.6	ug/l	
75-34-3	1,1-Dichloroethane	ND	5.0	1.1	ug/l	
75-35-4	1,1-Dichloroethylene	ND	5.0	1.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	1.2	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	3.6	ug/l	
106-93-4	1,2-Dibromoethane	ND	5.0	1.5	ug/l	
107-06-2	1,2-Dichloroethane	ND	5.0	1.1	ug/l	
78-87-5	1,2-Dichloropropane	ND	5.0	1.3	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	1.3	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.2	ug/l	

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:	MW27-05-062613		
Lab Sample ID:	FA5972-5	**Date Sampled:**	06/26/13
Matrix:	AQ - Ground Water	**Date Received:**	06/27/13
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/l	
75-71-8	Dichlorodifluoromethane	ND	10	2.5	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	5.0	1.2	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	5.0	1.1	ug/l	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND [b]	100	10	ug/l	
541-73-1	m-Dichlorobenzene	ND	5.0	1.3	ug/l	
95-50-1	o-Dichlorobenzene	ND	5.0	1.1	ug/l	
106-46-7	p-Dichlorobenzene	ND	5.0	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	5.0	1.1	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	5.0	1.0	ug/l	
100-41-4	Ethylbenzene	656 [b]	10	2.9	ug/l	
97-63-2	Ethyl methacrylate	ND	25	2.5	ug/l	
76-13-1	Freon 113	ND	5.0	1.6	ug/l	
591-78-6	2-Hexanone	ND	50	10	ug/l	
87-68-3	Hexachlorobutadiene	ND	10	2.5	ug/l	
110-54-3	Hexane	ND	10	4.4	ug/l	
98-82-8	Isopropylbenzene	46.5	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	5.3	5.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	25	11	ug/l	
126-98-7	Methacrylonitrile	ND	100	25	ug/l	
74-83-9	Methyl bromide	ND	10	3.9	ug/l	
74-87-3	Methyl chloride	ND	10	2.5	ug/l	
74-88-4	Methyl iodide	ND	5.0	1.2	ug/l	
80-62-6	Methyl methacrylate	ND	25	2.5	ug/l	
74-95-3	Methylene bromide	ND	10	1.7	ug/l	
75-09-2	Methylene chloride	ND	25	10	ug/l	
78-93-3	Methyl ethyl ketone	ND	25	16	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	5.0	1.1	ug/l	
91-20-3	Naphthalene	17.9	25	5.0	ug/l	J
76-01-7	Pentachloroethane	ND	50	5.0	ug/l	
107-12-0	Propionitrile	ND	100	25	ug/l	
103-65-1	n-Propylbenzene	45.0	5.0	1.1	ug/l	
100-42-5	Styrene	ND	5.0	1.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	1.2	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	5.0	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	5.0	1.2	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	5.0	1.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	2.5	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	10	2.8	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	2.5	ug/l	

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:	MW27-05-062613		
Lab Sample ID:	FA5972-5	**Date Sampled:**	06/26/13
Matrix:	AQ - Ground Water	**Date Received:**	06/27/13
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	194	10	1.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	51.5	10	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	5.0	1.6	ug/l	
108-88-3	Toluene	160 [b]	10	2.0	ug/l	
79-01-6	Trichloroethylene	ND	5.0	1.6	ug/l	
75-69-4	Trichlorofluoromethane	ND	10	2.5	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND [b]	100	21	ug/l	
75-01-4	Vinyl chloride	ND	5.0	2.2	ug/l	
108-05-4	Vinyl Acetate	ND	50	16	ug/l	
	m,p-Xylene	69.8 [b]	20	3.0	ug/l	
95-47-6	o-Xylene	323 [b]	10	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%	95%	83-118%
17060-07-0	1,2-Dichloroethane-D4	108%	96%	79-125%
2037-26-5	Toluene-D8	96%	92%	85-112%
460-00-4	4-Bromofluorobenzene	98%	87%	83-118%

(a) Associated BS recovery outside control limits.
(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:	MW27-DUP01-062613		
Lab Sample ID:	FA5972-6	**Date Sampled:**	06/26/13
Matrix:	AQ - Ground Water	**Date Received:**	06/27/13
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	P17373.D	25	07/10/13	EG	n/a	n/a	VP664
Run #2	J087657.D	25	07/10/13	AP	n/a	n/a	VJ4427

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	630	250	ug/l	
75-05-8	Acetonitrile	ND	500	92	ug/l	
107-02-8	Acrolein [a]	ND	500	170	ug/l	
107-13-1	Acrylonitrile	ND	250	50	ug/l	
107-05-1	Allyl chloride	ND	50	14	ug/l	
71-43-2	Benzene	736 [b]	25	5.3	ug/l	
100-44-7	Benzyl Chloride	ND	50	9.4	ug/l	
108-86-1	Bromobenzene	ND	25	5.5	ug/l	
74-97-5	Bromochloromethane	ND	25	5.7	ug/l	
75-27-4	Bromodichloromethane	ND	25	5.0	ug/l	
75-25-2	Bromoform	ND	25	8.6	ug/l	
104-51-8	n-Butylbenzene	ND	25	5.0	ug/l	
135-98-8	sec-Butylbenzene	13.6 [b]	25	5.3	ug/l	J
98-06-6	tert-Butylbenzene	ND	25	7.3	ug/l	
108-90-7	Chlorobenzene	ND	25	5.0	ug/l	
75-00-3	Chloroethane	ND	50	13	ug/l	
67-66-3	Chloroform	ND	25	6.6	ug/l	
544-10-5	1-Chlorohexane	ND	50	5.0	ug/l	
95-49-8	o-Chlorotoluene	ND [b]	25	5.3	ug/l	
106-43-4	p-Chlorotoluene	ND [b]	25	5.0	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND [b]	130	32	ug/l	
75-15-0	Carbon disulfide	ND	50	12	ug/l	
56-23-5	Carbon tetrachloride	ND	25	7.8	ug/l	
75-34-3	1,1-Dichloroethane	ND	25	5.4	ug/l	
75-35-4	1,1-Dichloroethylene	ND	25	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	25	6.2	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	50	18	ug/l	
106-93-4	1,2-Dibromoethane	ND	25	7.5	ug/l	
107-06-2	1,2-Dichloroethane	ND	25	5.6	ug/l	
78-87-5	1,2-Dichloropropane	ND	25	6.6	ug/l	
142-28-9	1,3-Dichloropropane	ND	25	6.7	ug/l	
594-20-7	2,2-Dichloropropane	ND	25	6.1	ug/l	

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:	MW27-DUP01-062613		
Lab Sample ID:	FA5972-6	**Date Sampled:**	06/26/13
Matrix:	AQ - Ground Water	**Date Received:**	06/27/13
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	25	5.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	50	13	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	25	5.9	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	25	5.5	ug/l	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND [b]	250	25	ug/l	
541-73-1	m-Dichlorobenzene	ND	25	6.4	ug/l	
95-50-1	o-Dichlorobenzene	ND	25	5.4	ug/l	
106-46-7	p-Dichlorobenzene	ND	25	5.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	25	5.7	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	25	5.2	ug/l	
100-41-4	Ethylbenzene	895 [b]	25	7.3	ug/l	
97-63-2	Ethyl methacrylate	ND	130	13	ug/l	
76-13-1	Freon 113	ND	25	8.2	ug/l	
591-78-6	2-Hexanone	ND	250	50	ug/l	
87-68-3	Hexachlorobutadiene	ND	50	13	ug/l	
110-54-3	Hexane	ND	50	22	ug/l	
98-82-8	Isopropylbenzene	76.5 [b]	25	5.0	ug/l	
99-87-6	p-Isopropyltoluene	9.0 [b]	25	5.0	ug/l	J
108-10-1	4-Methyl-2-pentanone	ND	130	56	ug/l	
126-98-7	Methacrylonitrile	ND	500	130	ug/l	
74-83-9	Methyl bromide	ND	50	20	ug/l	
74-87-3	Methyl chloride	ND	50	13	ug/l	
74-88-4	Methyl iodide	ND	25	6.2	ug/l	
80-62-6	Methyl methacrylate	ND	130	13	ug/l	
74-95-3	Methylene bromide	ND	50	8.6	ug/l	
75-09-2	Methylene chloride	ND	130	50	ug/l	
78-93-3	Methyl ethyl ketone	ND	130	78	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	25	5.3	ug/l	
91-20-3	Naphthalene	38.0	130	25	ug/l	J
76-01-7	Pentachloroethane	ND	250	25	ug/l	
107-12-0	Propionitrile	ND	500	130	ug/l	
103-65-1	n-Propylbenzene	90.7 [b]	25	5.7	ug/l	
100-42-5	Styrene	ND	25	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	25	5.8	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	25	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	25	6.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	25	5.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	25	13	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	50	14	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	25	13	ug/l	

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:	MW27-DUP01-062613		
Lab Sample ID:	FA5972-6	**Date Sampled:**	06/26/13
Matrix:	AQ - Ground Water	**Date Received:**	06/27/13
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	372 [b]	50	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	94.9 [b]	50	5.0	ug/l	
127-18-4	Tetrachloroethylene	ND	25	8.0	ug/l	
108-88-3	Toluene	292 [b]	25	5.0	ug/l	
79-01-6	Trichloroethylene	ND	25	7.9	ug/l	
75-69-4	Trichlorofluoromethane	ND	50	13	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND [b]	250	53	ug/l	
75-01-4	Vinyl chloride	ND	25	11	ug/l	
108-05-4	Vinyl Acetate	ND	250	79	ug/l	
	m,p-Xylene	100	50	7.4	ug/l	
95-47-6	o-Xylene	366	25	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%	96%	83-118%
17060-07-0	1,2-Dichloroethane-D4	109%	95%	79-125%
2037-26-5	Toluene-D8	97%	92%	85-112%
460-00-4	4-Bromofluorobenzene	100%	90%	83-118%

(a) Associated BS recovery outside control limits.
(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:	SD27-TB01-062613		
Lab Sample ID:	FA5972-7	**Date Sampled:**	06/26/13
Matrix:	AQ - Trip Blank Water	**Date Received:**	06/27/13
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	P17358.D	1	07/10/13	EG	n/a	n/a	VP664
Run #2	J087651.D	1	07/10/13	AP	n/a	n/a	VJ4427

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
75-05-8	Acetonitrile	ND	20	3.7	ug/l	
107-02-8	Acrolein [a]	ND	20	6.9	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
107-05-1	Allyl chloride	ND	2.0	0.56	ug/l	
71-43-2	Benzene	ND	1.0	0.21	ug/l	
100-44-7	Benzyl Chloride	ND	2.0	0.38	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.22	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.34	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.20	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.21	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.29	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.26	ug/l	
544-10-5	1-Chlorohexane	ND	2.0	0.20	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.21	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.20	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND [b]	5.0	1.3	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.49	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.31	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.25	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.71	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.30	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.26	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.27	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.25	ug/l	

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:	SD27-TB01-062613		
Lab Sample ID:	FA5972-7	**Date Sampled:**	06/26/13
Matrix:	AQ - Trip Blank Water	**Date Received:**	06/27/13
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	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND [b]	10	1.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.25	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.20	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.23	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.29	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.50	ug/l	
76-13-1	Freon 113	ND	1.0	0.33	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.50	ug/l	
110-54-3	Hexane	ND	2.0	0.88	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.20	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.3	ug/l	
126-98-7	Methacrylonitrile	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.79	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.50	ug/l	
74-88-4	Methyl iodide	ND	1.0	0.25	ug/l	
80-62-6	Methyl methacrylate	ND	5.0	0.50	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.34	ug/l	
75-09-2	Methylene chloride	ND	5.0	2.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	3.1	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.21	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
76-01-7	Pentachloroethane	ND	10	1.0	ug/l	
107-12-0	Propionitrile	ND	20	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.23	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.23	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.24	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.56	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	

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:	SD27-TB01-062613		
Lab Sample ID:	FA5972-7	**Date Sampled:**	06/26/13
Matrix:	AQ - Trip Blank Water	**Date Received:**	06/27/13
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	2.0	0.20	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.32	ug/l	
108-88-3	Toluene	1.1	1.0	0.20	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.31	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND [b]	10	2.1	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.44	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.1	ug/l	
	m,p-Xylene	ND	2.0	0.30	ug/l	
95-47-6	o-Xylene	ND	1.0	0.20	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%	97%	83-118%
17060-07-0	1,2-Dichloroethane-D4	109%	97%	79-125%
2037-26-5	Toluene-D8	94%	92%	85-112%
460-00-4	4-Bromofluorobenzene	101%	90%	83-118%

(a) Associated BS recovery outside control limits.
(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

Southeast ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Certification Exceptions
- Chain of Custody

Parameter Certification Exceptions

Job Number: FA5972
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

The following parameters included in this report are exceptions to NELAC certification.
The certification status of each is indicated below.

Parameter	CAS#	Method	Mat	Certification Status
Freon 113	76-13-1	**SW846 8260B**	AQ	Certified by SOP MS005

Tetra Tech, Inc.
800 Oak Ridge Turnpike, Ste A-600
Oak Ridge, TN 37830
865/283-9900

HAFB-SD-27-GW

CHAIN-OF-CUSTODY

FA5972

Laboratory Name: **Accutest Laboratories** Address: **4405 Vineland Rd. Suite C-15 Orlando, FL 32811** Contact: **Sue Bell (813/741-3338)**

Project Name Holloman AFB Project Location **Holloman AFB, New Mexico**

Project No. **SD-27 (Groundwater)** Project Contact **Maureen McMyler** Site Telephone No.

Report to: Maureen McMyler 800 Oak Ridge Turnpike 865/535-2030

Bill to: Sheila Hall, 800 Oak Ridge Turnpike 865/283-9900

Project Manager/Supervisor **Frank Bogle**

Analysis and Method Desired

Item No.	Sample Number	Date	Time	Comp	Grab	Matrix	Sample Description, Location	Number of Containers	VOCs by SW8260B						Notes
1	MW27-01-062013	6/26/2013	0745		X	GW	SD27-MW01	3	3						
2	MW27-02-062013	6/26/2013	0752		X	GW	SD27-MW02	3	3						
3	MW27-03-062013	6/26/2013	0800		X	GW	SD27-MW03	3	3						
4	MW27-04-062013	6/26/2013	0810		X	GW	SD27-MW04	3	3						
4	MW27-04-062013-MS	6/26/2013	0810		X	GW	SD27-MW04	3	3						Matrix Spike
4	MW27-04-062013-MSD	6/26/2013	0810		X	GW	SD27-MW04	3	3						Matrix Spike Duplicate
5	MW27-05-062013	6/26/2013	0822		X	GW	SD27-MW05	3	3						
6	MW27-DUP01-062013	6/26/2013	0822		X	GW	SD27-MW05	3	3						
7	SD27-TB01-062013	6/26/2013	0745		X	WQ	TRIP BLANK	2	2						
10															

Transfers Relinquished By (Signature)	Date/Time	Transfers Accepted By (Signature)	Date/Time	Special Instructions:
Allnut Jenkins FX	6/26/13	FX	09:45	
		J. Cooper (AVSC)	6.27.13	
				FedEx Airbill No.:
		Laboratory		Sampler's Signature

TAT: X Standard ____ Rush Due: ____ Seals Intact? ✓ Y ____ N Received Good Condition ____ Y ____ N ____ Cold 2.8

FA5972: Chain of Custody
Page 1 of 2

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: FA5972 CLIENT: TETRA TECH PROJECT: HOLLOMAN

DATE/TIME RECEIVED: 6-27-13 09:45 {MM/DD/YY 24:00} NIMBER OF COOLERS RECEIVED: 1

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

AIRBILL NUMBERS: 8017 3246 8331

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 ? _____

NUMBER OF LAB FILTERED METALS ? _____

TEMPERATURE INFORMATION

- [ ] IR THERM ID 3 CORR. FACTOR +0.4
- [ ] OBSERVED TEMPS: 2.4
- [ ] CORRECTED TEMPS: 2.8

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 6-27-13 REVIEWER SIGNATURE/DATE [signature] 06/27/13

NF 12/10

receipt confirmation 122910.xls

FA5972: 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

Method Blank Summary

Job Number: FA5972
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ4427-MB	J087637.D	1	07/10/13	AP	n/a	n/a	VJ4427

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

FA5972-1, FA5972-2, FA5972-3, FA5972-4, FA5972-5, FA5972-6, FA5972-7

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.21	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.21	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.21	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.20	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.3	ug/l	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	10	1.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.29	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.20	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.23	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.20	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	10	2.1	ug/l	
	m,p-Xylene	ND	2.0	0.30	ug/l	
95-47-6	o-Xylene	ND	1.0	0.20	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	96%	83-118%
17060-07-0	1,2-Dichloroethane-D4	97%	79-125%
2037-26-5	Toluene-D8	91%	85-112%
460-00-4	4-Bromofluorobenzene	93%	83-118%

Method Blank Summary

Job Number: FA5972
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VP664-MB	P17357.D	1	07/10/13	EG	n/a	n/a	VP664

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

FA5972-1, FA5972-2, FA5972-3, FA5972-4, FA5972-5, FA5972-6, FA5972-7

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
75-05-8	Acetonitrile	ND	20	3.7	ug/l	
107-02-8	Acrolein	ND	20	6.9	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
107-05-1	Allyl chloride	ND	2.0	0.56	ug/l	
71-43-2	Benzene	ND	1.0	0.21	ug/l	
100-44-7	Benzyl Chloride	ND	2.0	0.38	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.22	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.34	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.20	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.21	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.29	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.26	ug/l	
544-10-5	1-Chlorohexane	ND	2.0	0.20	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.21	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.20	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.49	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.31	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.25	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.71	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.30	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.26	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.27	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.25	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.25	ug/l	

Method Blank Summary

Job Number: FA5972
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VP664-MB	P17357.D	1	07/10/13	EG	n/a	n/a	VP664

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

FA5972-1, FA5972-2, FA5972-3, FA5972-4, FA5972-5, FA5972-6, FA5972-7

CAS No.	Compound	Result	RL	MDL	Units	Q
95-50-1	o-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.20	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.23	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.29	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.50	ug/l	
76-13-1	Freon 113	ND	1.0	0.33	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.50	ug/l	
110-54-3	Hexane	ND	2.0	0.88	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.20	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.3	ug/l	
126-98-7	Methacrylonitrile	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.79	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.50	ug/l	
74-88-4	Methyl iodide	ND	1.0	0.25	ug/l	
80-62-6	Methyl methacrylate	ND	5.0	0.50	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.34	ug/l	
75-09-2	Methylene chloride	ND	5.0	2.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	3.1	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.21	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
76-01-7	Pentachloroethane	ND	10	1.0	ug/l	
107-12-0	Propionitrile	ND	20	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.23	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.23	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.24	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.56	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.20	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	

Method Blank Summary

Job Number: FA5972
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VP664-MB	P17357.D	1	07/10/13	EG	n/a	n/a	VP664

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

FA5972-1, FA5972-2, FA5972-3, FA5972-4, FA5972-5, FA5972-6, FA5972-7

CAS No.	Compound	Result	RL	MDL	Units	Q
127-18-4	Tetrachloroethylene	ND	1.0	0.32	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.31	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.44	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.1	ug/l	
	m,p-Xylene	ND	2.0	0.30	ug/l	
95-47-6	o-Xylene	ND	1.0	0.20	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	106%	83-118%
17060-07-0	1,2-Dichloroethane-D4	111%	79-125%
2037-26-5	Toluene-D8	95%	85-112%
460-00-4	4-Bromofluorobenzene	101%	83-118%

Blank Spike Summary

Job Number: FA5972
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ4427-BS	J087636.D	1	07/10/13	AP	n/a	n/a	VJ4427

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

FA5972-1, FA5972-2, FA5972-3, FA5972-4, FA5972-5, FA5972-6, FA5972-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	25.1	100	81-122
135-98-8	sec-Butylbenzene	25	28.7	115	83-133
95-49-8	o-Chlorotoluene	25	26.5	106	81-127
106-43-4	p-Chlorotoluene	25	27.5	110	83-130
110-75-8	2-Chloroethyl vinyl ether	125	72.3	58	56-122
1476-11-5	cis-1,4-Dichloro-2-Butene	25	33.7	135	39-158
100-41-4	Ethylbenzene	25	26.4	106	81-121
98-82-8	Isopropylbenzene	25	27.6	110	83-132
99-87-6	p-Isopropyltoluene	25	27.2	109	79-130
103-65-1	n-Propylbenzene	25	28.2	113	82-133
95-63-6	1,2,4-Trimethylbenzene	25	25.0	100	79-120
108-67-8	1,3,5-Trimethylbenzene	25	25.2	101	79-120
108-88-3	Toluene	25	24.1	96	80-120
110-57-6	Trans-1,4-Dichloro-2-Butene	25	26.4	106	43-145
	m,p-Xylene	50	50.5	101	79-126
95-47-6	o-Xylene	25	26.6	106	80-127

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	92%	83-118%
17060-07-0	1,2-Dichloroethane-D4	91%	79-125%
2037-26-5	Toluene-D8	90%	85-112%
460-00-4	4-Bromofluorobenzene	89%	83-118%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA5972
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VP664-BS	P17355.D	1	07/10/13	EG	n/a	n/a	VP664

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

FA5972-1, FA5972-2, FA5972-3, FA5972-4, FA5972-5, FA5972-6, FA5972-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	125	133	106	50-147
75-05-8	Acetonitrile	250	233	93	59-127
107-02-8	Acrolein	125	203	162*	31-154
107-13-1	Acrylonitrile	125	115	92	58-126
107-05-1	Allyl chloride	25	27.0	108	74-130
71-43-2	Benzene	25	25.7	103	81-122
100-44-7	Benzyl Chloride	25	22.7	91	54-122
108-86-1	Bromobenzene	25	25.8	103	80-121
74-97-5	Bromochloromethane	25	25.3	101	76-123
75-27-4	Bromodichloromethane	25	28.1	112	79-123
75-25-2	Bromoform	25	24.3	97	66-123
104-51-8	n-Butylbenzene	25	27.2	109	79-126
135-98-8	sec-Butylbenzene	25	30.2	121	83-133
98-06-6	tert-Butylbenzene	25	28.8	115	80-133
108-90-7	Chlorobenzene	25	27.7	111	82-124
75-00-3	Chloroethane	25	28.4	114	62-144
67-66-3	Chloroform	25	27.5	110	80-124
544-10-5	1-Chlorohexane	25	25.5	102	77-124
95-49-8	o-Chlorotoluene	25	27.6	110	81-127
106-43-4	p-Chlorotoluene	25	27.9	112	83-130
75-15-0	Carbon disulfide	25	30.8	123	66-148
56-23-5	Carbon tetrachloride	25	29.3	117	76-136
75-34-3	1,1-Dichloroethane	25	26.3	105	81-122
75-35-4	1,1-Dichloroethylene	25	30.3	121	78-137
563-58-6	1,1-Dichloropropene	25	27.9	112	79-131
96-12-8	1,2-Dibromo-3-chloropropane	25	24.8	99	64-123
106-93-4	1,2-Dibromoethane	25	24.0	96	75-120
107-06-2	1,2-Dichloroethane	25	28.1	112	75-125
78-87-5	1,2-Dichloropropane	25	24.9	100	76-124
142-28-9	1,3-Dichloropropane	25	23.1	92	80-118
594-20-7	2,2-Dichloropropane	25	29.6	118	74-139
124-48-1	Dibromochloromethane	25	25.8	103	78-122
75-71-8	Dichlorodifluoromethane	25	38.1	152	42-167
156-59-2	cis-1,2-Dichloroethylene	25	25.0	100	78-120
10061-01-5	cis-1,3-Dichloropropene	25	25.0	100	75-118
541-73-1	m-Dichlorobenzene	25	28.8	115	84-125

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA5972
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VP664-BS	P17355.D	1	07/10/13	EG	n/a	n/a	VP664

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

FA5972-1, FA5972-2, FA5972-3, FA5972-4, FA5972-5, FA5972-6, FA5972-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
95-50-1	o-Dichlorobenzene	25	27.9	112	82-124
106-46-7	p-Dichlorobenzene	25	27.0	108	78-120
156-60-5	trans-1,2-Dichloroethylene	25	28.4	114	76-127
10061-02-6	trans-1,3-Dichloropropene	25	25.6	102	80-120
100-41-4	Ethylbenzene	25	26.2	105	81-121
97-63-2	Ethyl methacrylate	25	18.9	76	63-119
76-13-1	Freon 113	25	28.3	113	72-134
591-78-6	2-Hexanone	125	101	81	61-129
87-68-3	Hexachlorobutadiene	25	30.8	123	75-142
110-54-3	Hexane	25	25.8	103	69-132
98-82-8	Isopropylbenzene	25	29.9	120	83-132
99-87-6	p-Isopropyltoluene	25	27.8	111	79-130
108-10-1	4-Methyl-2-pentanone	125	103	82	66-122
126-98-7	Methacrylonitrile	250	238	95	71-124
74-83-9	Methyl bromide	25	30.5	122	59-143
74-87-3	Methyl chloride	25	32.8	131	50-159
74-88-4	Methyl iodide	25	27.0	108	73-123
80-62-6	Methyl methacrylate	25	23.7	95	67-127
74-95-3	Methylene bromide	25	25.2	101	78-119
75-09-2	Methylene chloride	25	27.9	112	69-135
78-93-3	Methyl ethyl ketone	125	108	86	56-143
1634-04-4	Methyl Tert Butyl Ether	25	23.6	94	72-117
91-20-3	Naphthalene	25	24.3	97	63-132
76-01-7	Pentachloroethane	25	24.9	100	47-169
107-12-0	Propionitrile	250	210	84	68-119
103-65-1	n-Propylbenzene	25	28.7	115	82-133
100-42-5	Styrene	25	25.1	100	78-119
630-20-6	1,1,1,2-Tetrachloroethane	25	27.2	109	77-122
71-55-6	1,1,1-Trichloroethane	25	30.1	120	75-130
79-34-5	1,1,2,2-Tetrachloroethane	25	21.3	85	72-120
79-00-5	1,1,2-Trichloroethane	25	23.7	95	76-119
87-61-6	1,2,3-Trichlorobenzene	25	25.8	103	68-131
96-18-4	1,2,3-Trichloropropane	25	24.1	96	77-120
120-82-1	1,2,4-Trichlorobenzene	25	26.5	106	73-129
95-63-6	1,2,4-Trimethylbenzene	25	24.9	100	79-120
108-67-8	1,3,5-Trimethylbenzene	25	25.4	102	79-120

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA5972
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VP664-BS	P17355.D	1	07/10/13	EG	n/a	n/a	VP664

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

FA5972-1, FA5972-2, FA5972-3, FA5972-4, FA5972-5, FA5972-6, FA5972-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
127-18-4	Tetrachloroethylene	25	28.0	112	76-135
108-88-3	Toluene	25	25.0	100	80-120
79-01-6	Trichloroethylene	25	28.5	114	81-126
75-69-4	Trichlorofluoromethane	25	37.1	148	71-156
75-01-4	Vinyl chloride	25	31.7	127	69-159
108-05-4	Vinyl Acetate	125	126	101	43-154
	m,p-Xylene	50	55.8	112	79-126
95-47-6	o-Xylene	25	27.4	110	80-127

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	104%	83-118%
17060-07-0	1,2-Dichloroethane-D4	109%	79-125%
2037-26-5	Toluene-D8	95%	85-112%
460-00-4	4-Bromofluorobenzene	100%	83-118%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA5972
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA5967-2MS	J087648.D	50	07/10/13	AP	n/a	n/a	VJ4427
FA5967-2MSD	J087649.D	50	07/10/13	AP	n/a	n/a	VJ4427
FA5967-2	J087642.D	50	07/10/13	AP	n/a	n/a	VJ4427

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

FA5972-1, FA5972-2, FA5972-3, FA5972-4, FA5972-5, FA5972-6, FA5972-7

CAS No.	Compound	FA5967-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	4510		1250	6400	151* [a]	5550	83	14	81-122/14
135-98-8	sec-Butylbenzene	15.2	J	1250	1480	117	1400	111	6	83-133/16
95-49-8	o-Chlorotoluene	ND		1250	1380	110	1310	105	5	81-127/15
106-43-4	p-Chlorotoluene	ND		1250	1440	115	1330	106	8	83-130/15
110-75-8	2-Chloroethyl vinyl ether	ND		6250	784	13*	553	9*	35*	56-122/23
1476-11-5	cis-1,4-Dichloro-2-Butene	ND		1250	748	60	585	47	24	39-158/38
100-41-4	Ethylbenzene	1790		1250	3130	107	2870	86	9	81-121/14
98-82-8	Isopropylbenzene	87.2		1250	1570	119	1440	108	9	83-132/15
99-87-6	p-Isopropyltoluene	ND		1250	1380	110	1310	105	5	79-130/16
103-65-1	n-Propylbenzene	268		1250	1720	116	1610	107	7	82-133/15
95-63-6	1,2,4-Trimethylbenzene	31.1	J	1250	1330	104	1240	97	7	79-120/18
108-67-8	1,3,5-Trimethylbenzene	58.7	J	1250	1360	104	1270	97	7	79-120/19
108-88-3	Toluene	98.9		1250	1380	102	1270	94	8	80-120/14
110-57-6	Trans-1,4-Dichloro-2-Butene	ND		1250	753	60	583	47	25	43-145/34
	m,p-Xylene	885		2500	3580	108	3300	97	8	79-126/15
95-47-6	o-Xylene	25.7	J	1250	1430	112	1330	104	7	80-127/14

CAS No.	Surrogate Recoveries	MS	MSD	FA5967-2	Limits
1868-53-7	Dibromofluoromethane	90%	90%	95%	83-118%
17060-07-0	1,2-Dichloroethane-D4	91%	92%	94%	79-125%
2037-26-5	Toluene-D8	92%	91%	91%	85-112%
460-00-4	4-Bromofluorobenzene	91%	90%	91%	83-118%

(a) Outside control limits due to high level in sample relative to spike amount.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA5972
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA5972-4MS	P17366.D	1	07/10/13	EG	n/a	n/a	VP664
FA5972-4MSD	P17367.D	1	07/10/13	EG	n/a	n/a	VP664
FA5972-4	P17364.D	1	07/10/13	EG	n/a	n/a	VP664

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

FA5972-1, FA5972-2, FA5972-3, FA5972-4, FA5972-5, FA5972-6, FA5972-7

CAS No.	Compound	FA5972-4 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		125	127	102	125	100	2	50-147/21
75-05-8	Acetonitrile	ND		250	235	94	218	87	8	59-127/20
107-02-8	Acrolein	ND		125	143	114	127	102	12	31-154/29
107-13-1	Acrylonitrile	ND		125	116	93	110	88	5	58-126/16
107-05-1	Allyl chloride	ND		25	21.8	87	19.0	76	14	74-130/29
71-43-2	Benzene	ND		25	26.6	106	25.6	102	4	81-122/14
100-44-7	Benzyl Chloride	ND		25	25.2	101	22.9	92	10	54-122/18
108-86-1	Bromobenzene	ND		25	25.7	103	24.7	99	4	80-121/14
74-97-5	Bromochloromethane	ND		25	26.5	106	24.7	99	7	76-123/14
75-27-4	Bromodichloromethane	ND		25	28.1	112	25.4	102	10	79-123/19
75-25-2	Bromoform	ND		25	24.1	96	22.2	89	8	66-123/21
104-51-8	n-Butylbenzene	ND		25	27.0	108	27.2	109	1	79-126/16
135-98-8	sec-Butylbenzene	3.0		25	35.2	129	34.7	127	1	83-133/16
98-06-6	tert-Butylbenzene	0.32	J	25	28.9	114	28.1	111	3	80-133/16
108-90-7	Chlorobenzene	ND		25	28.8	115	27.4	110	5	82-124/14
75-00-3	Chloroethane	ND		25	26.7	107	27.4	110	3	62-144/20
67-66-3	Chloroform	ND		25	28.2	113	28.1	112	0	80-124/15
544-10-5	1-Chlorohexane	ND		25	26.1	104	26.0	104	0	77-124/16
95-49-8	o-Chlorotoluene	ND		25	27.1	108	26.5	106	2	81-127/15
106-43-4	p-Chlorotoluene	ND		25	27.7	111	26.6	106	4	83-130/15
75-15-0	Carbon disulfide	ND		25	25.6	102	24.7	99	4	66-148/23
56-23-5	Carbon tetrachloride	ND		25	30.3	121	27.5	110	10	76-136/23
75-34-3	1,1-Dichloroethane	ND		25	26.6	106	26.2	105	2	81-122/15
75-35-4	1,1-Dichloroethylene	ND		25	31.2	125	28.9	116	8	78-137/18
563-58-6	1,1-Dichloropropene	ND		25	28.8	115	26.9	108	7	79-131/16
96-12-8	1,2-Dibromo-3-chloropropane	ND		25	27.3	109	25.7	103	6	64-123/18
106-93-4	1,2-Dibromoethane	ND		25	25.2	101	25.1	100	0	75-120/13
107-06-2	1,2-Dichloroethane	ND		25	29.9	120	28.8	115	4	75-125/14
78-87-5	1,2-Dichloropropane	ND		25	26.2	105	24.6	98	6	76-124/14
142-28-9	1,3-Dichloropropane	ND		25	24.6	98	24.2	97	2	80-118/13
594-20-7	2,2-Dichloropropane	ND		25	31.1	124	30.6	122	2	74-139/17
124-48-1	Dibromochloromethane	ND		25	25.5	102	23.2	93	9	78-122/19
75-71-8	Dichlorodifluoromethane	ND		25	35.4	142	36.5	146	3	42-167/19
156-59-2	cis-1,2-Dichloroethylene	ND		25	26.0	104	25.0	100	4	78-120/15
10061-01-5	cis-1,3-Dichloropropene	ND		25	24.4	98	20.6	82	17	75-118/23
541-73-1	m-Dichlorobenzene	ND		25	28.1	112	28.2	113	0	84-125/14

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA5972
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA5972-4MS	P17366.D	1	07/10/13	EG	n/a	n/a	VP664
FA5972-4MSD	P17367.D	1	07/10/13	EG	n/a	n/a	VP664
FA5972-4	P17364.D	1	07/10/13	EG	n/a	n/a	VP664

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

FA5972-1, FA5972-2, FA5972-3, FA5972-4, FA5972-5, FA5972-6, FA5972-7

CAS No.	Compound	FA5972-4 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
95-50-1	o-Dichlorobenzene	ND		25	28.1	112	28.0	112	0	82-124/14
106-46-7	p-Dichlorobenzene	ND		25	26.6	106	26.0	104	2	78-120/15
156-60-5	trans-1,2-Dichloroethylene	ND		25	28.9	116	27.6	110	5	76-127/17
10061-02-6	trans-1,3-Dichloropropene	ND		25	24.1	96	21.2	85	13	80-120/22
100-41-4	Ethylbenzene	0.39	J	25	27.7	109	26.4	104	5	81-121/14
97-63-2	Ethyl methacrylate	ND		25	20.5	82	17.4	70	16*	63-119/15
76-13-1	Freon 113	ND		25	28.4	114	28.3	113	0	72-134/20
591-78-6	2-Hexanone	ND		125	125	100	126	101	1	61-129/18
87-68-3	Hexachlorobutadiene	ND		25	29.6	118	32.1	128	8	75-142/19
110-54-3	Hexane	ND		25	27.1	108	27.7	111	2	69-132/20
98-82-8	Isopropylbenzene	4.0		25	37.3	133*	36.8	131	1	83-132/15
99-87-6	p-Isopropyltoluene	ND		25	27.9	112	27.2	109	3	79-130/16
108-10-1	4-Methyl-2-pentanone	ND		125	127	102	126	101	1	66-122/16
126-98-7	Methacrylonitrile	ND		250	231	92	223	89	4	71-124/14
74-83-9	Methyl bromide	ND		25	28.5	114	28.6	114	0	59-143/19
74-87-3	Methyl chloride	ND		25	31.0	124	31.7	127	2	50-159/19
74-88-4	Methyl iodide	ND		25	27.1	108	27.5	110	1	73-123/16
80-62-6	Methyl methacrylate	ND		25	25.4	102	22.7	91	11	67-127/15
74-95-3	Methylene bromide	ND		25	28.1	112	25.9	104	8	78-119/14
75-09-2	Methylene chloride	ND		25	28.4	114	28.0	112	1	69-135/16
78-93-3	Methyl ethyl ketone	ND		125	124	99	120	96	3	56-143/18
1634-04-4	Methyl Tert Butyl Ether	ND		25	25.1	100	25.1	100	0	72-117/14
91-20-3	Naphthalene	ND		25	27.9	112	29.0	116	4	63-132/25
76-01-7	Pentachloroethane	ND		25	28.5	114	25.6	102	11	47-169/21
107-12-0	Propionitrile	ND		250	232	93	229	92	1	68-119/17
103-65-1	n-Propylbenzene	3.9		25	35.3	126	34.2	121	3	82-133/15
100-42-5	Styrene	ND		25	20.8	83	16.3	65*	24*	78-119/23
630-20-6	1,1,1,2-Tetrachloroethane	ND		25	27.8	111	25.7	103	8	77-122/19
71-55-6	1,1,1-Trichloroethane	ND		25	31.4	126	30.1	120	4	75-130/16
79-34-5	1,1,2,2-Tetrachloroethane	ND		25	22.4	90	22.5	90	0	72-120/14
79-00-5	1,1,2-Trichloroethane	ND		25	26.2	105	25.1	100	4	76-119/14
87-61-6	1,2,3-Trichlorobenzene	ND		25	26.8	107	28.0	112	4	68-131/25
96-18-4	1,2,3-Trichloropropane	ND		25	25.2	101	25.4	102	1	77-120/16
120-82-1	1,2,4-Trichlorobenzene	ND		25	26.1	104	27.7	111	6	73-129/20
95-63-6	1,2,4-Trimethylbenzene	ND		25	24.6	98	23.2	93	6	79-120/18
108-67-8	1,3,5-Trimethylbenzene	ND		25	24.7	99	24.2	97	2	79-120/19

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA5972
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA5972-4MS	P17366.D	1	07/10/13	EG	n/a	n/a	VP664
FA5972-4MSD	P17367.D	1	07/10/13	EG	n/a	n/a	VP664
FA5972-4	P17364.D	1	07/10/13	EG	n/a	n/a	VP664

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

FA5972-1, FA5972-2, FA5972-3, FA5972-4, FA5972-5, FA5972-6, FA5972-7

CAS No.	Compound	FA5972-4 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
127-18-4	Tetrachloroethylene	ND		25	25.7	103	24.8	99	4	76-135/16
108-88-3	Toluene	0.36	J	25	25.6	101	25.2	99	2	80-120/14
79-01-6	Trichloroethylene	ND		25	30.2	121	29.6	118	2	81-126/15
75-69-4	Trichlorofluoromethane	ND		25	37.7	151	37.8	151	0	71-156/21
75-01-4	Vinyl chloride	ND		25	30.2	121	29.4	118	3	69-159/18
108-05-4	Vinyl Acetate	ND		125	139	111	132	106	5	43-154/14
	m,p-Xylene	ND		50	56.8	114	55.3	111	3	79-126/15
95-47-6	o-Xylene	ND		25	27.8	111	27.1	108	3	80-127/14

CAS No.	Surrogate Recoveries	MS	MSD	FA5972-4	Limits
1868-53-7	Dibromofluoromethane	107%	105%	103%	83-118%
17060-07-0	1,2-Dichloroethane-D4	110%	110%	112%	79-125%
2037-26-5	Toluene-D8	95%	94%	95%	85-112%
460-00-4	4-Bromofluorobenzene	94%	94%	99%	83-118%

* = Outside of Control Limits.

Instrument Performance Check (BFB)

Job Number: FA5972
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VJ4425-BFB
Lab File ID: J087573.D
Instrument ID: GCMSJ
Injection Date: 07/08/13
Injection Time: 16:57

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	34352	23.5		Pass
75	30.0 - 60.0% of mass 95	71323	48.9		Pass
95	Base peak, 100% relative abundance	145869	100.0		Pass
96	5.0 - 9.0% of mass 95	10461	7.17		Pass
173	Less than 2.0% of mass 174	397	0.27	(0.37) [a]	Pass
174	50.0 - 100.0% of mass 95	106803	73.2		Pass
175	5.0 - 9.0% of mass 174	7746	5.31	(7.25) [a]	Pass
176	95.0 - 101.0% of mass 174	106000	72.7	(99.2) [a]	Pass
177	5.0 - 9.0% of mass 176	7271	4.98	(6.86) [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
VJ4425-IC4425	J087574.D	07/08/13	17:20	00:23	Initial cal 1
VJ4425-IC4425	J087575.D	07/08/13	17:43	00:46	Initial cal 2
VJ4425-IC4425	J087576.D	07/08/13	18:07	01:10	Initial cal 3
VJ4425-ICC4425	J087577.D	07/08/13	18:30	01:33	Initial cal 4
VJ4425-IC4425	J087578.D	07/08/13	18:53	01:56	Initial cal 5
VJ4425-IC4425	J087579.D	07/08/13	19:16	02:19	Initial cal 6
VJ4425-ICV4425	J087580.D	07/08/13	19:39	02:42	Initial cal verification 4
VJ4425-BS	J087582.D	07/08/13	20:25	03:28	Blank Spike
VJ4425-MB	J087583.D	07/08/13	20:48	03:51	Method Blank
ZZZZZZ	J087584.D	07/08/13	21:12	04:15	(unrelated sample)
FA5967-1	J087585.D	07/08/13	21:35	04:38	(used for QC only; not part of job FA5972)
ZZZZZZ	J087587.D	07/08/13	22:21	05:24	(unrelated sample)
ZZZZZZ	J087588.D	07/08/13	22:44	05:47	(unrelated sample)
ZZZZZZ	J087589.D	07/08/13	23:08	06:11	(unrelated sample)
ZZZZZZ	J087590.D	07/08/13	23:31	06:34	(unrelated sample)
ZZZZZZ	J087591.D	07/08/13	23:54	06:57	(unrelated sample)
ZZZZZZ	J087593.D	07/09/13	00:40	07:43	(unrelated sample)
ZZZZZZ	J087594.D	07/09/13	01:03	08:06	(unrelated sample)
ZZZZZZ	J087595.D	07/09/13	01:26	08:29	(unrelated sample)
ZZZZZZ	J087596.D	07/09/13	01:50	08:53	(unrelated sample)
ZZZZZZ	J087597.D	07/09/13	02:13	09:16	(unrelated sample)
ZZZZZZ	J087598.D	07/09/13	02:36	09:39	(unrelated sample)
ZZZZZZ	J087599.D	07/09/13	02:59	10:02	(unrelated sample)
ZZZZZZ	J087601.D	07/09/13	03:45	10:48	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: FA5972
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VJ4425-BFB
Lab File ID: J087573.D
Instrument ID: GCMSJ
Injection Date: 07/08/13
Injection Time: 16:57

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
ZZZZZZ	J087602.D	07/09/13	04:08	11:11	(unrelated sample)
ZZZZZZ	J087603.D	07/09/13	04:31	11:34	(unrelated sample)
FA5967-1MS	J087604.D	07/09/13	04:55	11:58	Matrix Spike
FA5967-1MSD	J087605.D	07/09/13	05:18	12:21	Matrix Spike Duplicate

Instrument Performance Check (BFB)

Job Number: FA5972
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VJ4427-BFB
Lab File ID: J087634.D
Instrument ID: GCMSJ
Injection Date: 07/10/13
Injection Time: 09:47

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	31851	24.5		Pass
75	30.0 - 60.0% of mass 95	63707	49.1		Pass
95	Base peak, 100% relative abundance	129851	100.0		Pass
96	5.0 - 9.0% of mass 95	8475	6.53		Pass
173	Less than 2.0% of mass 174	428	0.33	(0.46) [a]	Pass
174	50.0 - 100.0% of mass 95	92864	71.5		Pass
175	5.0 - 9.0% of mass 174	6996	5.39	(7.53) [a]	Pass
176	95.0 - 101.0% of mass 174	90653	69.8	(97.6) [a]	Pass
177	5.0 - 9.0% of mass 176	6314	4.86	(6.97) [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
VJ4427-CC4425	J087635.D	07/10/13	10:11	00:24	Continuing cal 4
VJ4427-BS	J087636.D	07/10/13	10:40	00:53	Blank Spike
VJ4427-MB	J087637.D	07/10/13	11:03	01:16	Method Blank
ZZZZZZ	J087638.D	07/10/13	11:28	01:41	(unrelated sample)
ZZZZZZ	J087639.D	07/10/13	11:52	02:05	(unrelated sample)
ZZZZZZ	J087640.D	07/10/13	12:15	02:28	(unrelated sample)
ZZZZZZ	J087641.D	07/10/13	12:38	02:51	(unrelated sample)
FA5967-2	J087642.D	07/10/13	13:01	03:14	(used for QC only; not part of job FA5972)
ZZZZZZ	J087643.D	07/10/13	13:24	03:37	(unrelated sample)
ZZZZZZ	J087644.D	07/10/13	13:47	04:00	(unrelated sample)
ZZZZZZ	J087645.D	07/10/13	14:11	04:24	(unrelated sample)
ZZZZZZ	J087646.D	07/10/13	14:34	04:47	(unrelated sample)
ZZZZZZ	J087647.D	07/10/13	14:57	05:10	(unrelated sample)
FA5967-2MS	J087648.D	07/10/13	15:20	05:33	Matrix Spike
FA5967-2MSD	J087649.D	07/10/13	15:44	05:57	Matrix Spike Duplicate
FA5972-7	J087651.D	07/10/13	16:30	06:43	SD27-TB01-062613
FA5972-1	J087652.D	07/10/13	16:53	07:06	MW27-01-062613
FA5972-2	J087653.D	07/10/13	17:16	07:29	MW27-02-062613
FA5972-3	J087654.D	07/10/13	17:39	07:52	MW27-03-062613
FA5972-4	J087655.D	07/10/13	18:03	08:16	MW27-04-062613
FA5972-5	J087656.D	07/10/13	18:26	08:39	MW27-05-062613
FA5972-6	J087657.D	07/10/13	18:49	09:02	MW27-DUP01-062613
ZZZZZZ	J087658.D	07/10/13	19:12	09:25	(unrelated sample)
ZZZZZZ	J087659.D	07/10/13	19:35	09:48	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: FA5972
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VJ4427-BFB
Lab File ID: J087634.D
Instrument ID: GCMSJ
Injection Date: 07/10/13
Injection Time: 09:47

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
ZZZZZZ	J087660.D	07/10/13	19:58	10:11	(unrelated sample)
ZZZZZZ	J087662.D	07/10/13	20:45	10:58	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: FA5972
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VP659-BFB
Lab File ID: P17208.D
Instrument ID: GCMSP
Injection Date: 07/03/13
Injection Time: 18:42

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	74152	19.7		Pass
75	30.0 - 60.0% of mass 95	177039	47.1		Pass
95	Base peak, 100% relative abundance	375734	100.0		Pass
96	5.0 - 9.0% of mass 95	24742	6.58		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 100.0% of mass 95	315818	84.1		Pass
175	5.0 - 9.0% of mass 174	25514	6.79	(8.08) [a]	Pass
176	95.0 - 101.0% of mass 174	304960	81.2	(96.6) [a]	Pass
177	5.0 - 9.0% of mass 176	20505	5.46	(6.72) [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
VP659-IC659	P17209.D	07/03/13	19:05	00:23	Initial cal 1
VP659-IC659	P17210.D	07/03/13	19:27	00:45	Initial cal 2
VP659-IC659	P17211.D	07/03/13	19:50	01:08	Initial cal 3
VP659-ICC659	P17212.D	07/03/13	20:13	01:31	Initial cal 4
VP659-IC659	P17213.D	07/03/13	20:36	01:54	Initial cal 5
VP659-IC659	P17214.D	07/03/13	20:58	02:16	Initial cal 6
VP659-ICV659	P17216.D	07/03/13	21:44	03:02	Initial cal verification 4
VP659-BS	P17219.D	07/03/13	22:52	04:10	Blank Spike

Instrument Performance Check (BFB)

Job Number: FA5972
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VP664-BFB
Lab File ID: P17353.D
Instrument ID: GCMSP
Injection Date: 07/10/13
Injection Time: 09:59

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	54069	22.0		Pass
75	30.0 - 60.0% of mass 95	126954	51.6		Pass
95	Base peak, 100% relative abundance	246208	100.0		Pass
96	5.0 - 9.0% of mass 95	16901	6.86		Pass
173	Less than 2.0% of mass 174	1246	0.51	(0.54) [a]	Pass
174	50.0 - 100.0% of mass 95	228821	92.9		Pass
175	5.0 - 9.0% of mass 174	18365	7.46	(8.03) [a]	Pass
176	95.0 - 101.0% of mass 174	220245	89.5	(96.3) [a]	Pass
177	5.0 - 9.0% of mass 176	14039	5.70	(6.37) [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
VP664-CC659	P17354.D	07/10/13	10:20	00:21	Continuing cal 4
VP664-BS	P17355.D	07/10/13	10:53	00:54	Blank Spike
VP664-MB	P17357.D	07/10/13	11:57	01:58	Method Blank
FA5972-7	P17358.D	07/10/13	12:20	02:21	SD27-TB01-062613
ZZZZZZ	P17359.D	07/10/13	12:43	02:44	(unrelated sample)
ZZZZZZ	P17360.D	07/10/13	13:05	03:06	(unrelated sample)
ZZZZZZ	P17361.D	07/10/13	13:28	03:29	(unrelated sample)
ZZZZZZ	P17362.D	07/10/13	13:51	03:52	(unrelated sample)
ZZZZZZ	P17363.D	07/10/13	14:14	04:15	(unrelated sample)
FA5972-4	P17364.D	07/10/13	14:37	04:38	MW27-04-062613
FA5972-3	P17365.D	07/10/13	15:00	05:01	MW27-03-062613
FA5972-4MS	P17366.D	07/10/13	15:23	05:24	Matrix Spike
FA5972-4MSD	P17367.D	07/10/13	15:45	05:46	Matrix Spike Duplicate
ZZZZZZ	P17368.D	07/10/13	16:08	06:09	(unrelated sample)
ZZZZZZ	P17369.D	07/10/13	16:31	06:32	(unrelated sample)
FA5972-1	P17370.D	07/10/13	16:54	06:55	MW27-01-062613
FA5972-2	P17371.D	07/10/13	17:17	07:18	MW27-02-062613
FA5972-5	P17372.D	07/10/13	17:40	07:41	MW27-05-062613
FA5972-6	P17373.D	07/10/13	18:02	08:03	MW27-DUP01-062613
ZZZZZZ	P17374.D	07/10/13	18:25	08:26	(unrelated sample)
ZZZZZZ	P17375.D	07/10/13	18:48	08:49	(unrelated sample)
ZZZZZZ	P17376.D	07/10/13	19:11	09:12	(unrelated sample)
ZZZZZZ	P17377.D	07/10/13	19:34	09:35	(unrelated sample)
ZZZZZZ	P17378.D	07/10/13	19:56	09:57	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: FA5972
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample:	VP664-BFB	**Injection Date:**	07/10/13
Lab File ID:	P17353.D	**Injection Time:**	09:59
Instrument ID:	GCMSP		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
ZZZZZZ	P17379.D	07/10/13	20:19	10:20	(unrelated sample)

Volatile Internal Standard Area Summary

Job Number: FA5972
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Check Std:	VJ4427-CC4425	**Injection Date:**	07/10/13
Lab File ID:	J087635.D	**Injection Time:**	10:11
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]	894973	7.83	565134	10.91	286838	13.27	145526	5.35
Check Std [b]	857313	7.83	547404	10.91	272485	13.27	132077	5.35
Upper Limit [c]	1714626	8.33	1094808	11.41	544970	13.77	264154	5.85
Lower Limit [d]	428657	7.33	273702	10.41	136243	12.77	66039	4.85

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
VJ4427-BS	871011	7.83	558158	10.91	274646	13.27	132595	5.35
VJ4427-MB	818087	7.83	525253	10.91	242585	13.27	129487	5.33
ZZZZZZ	795532	7.83	504364	10.91	238149	13.27	114510	5.34
ZZZZZZ	780222	7.83	490208	10.91	226459	13.27	109118	5.33
ZZZZZZ	730200	7.83	473950	10.91	220495	13.27	118925	5.33
ZZZZZZ	722060	7.83	481546	10.91	231703	13.27	108531	5.34
FA5967-2	774848	7.83	497153	10.91	233848	13.27	114346	5.33
ZZZZZZ	747935	7.83	480624	10.91	220893	13.27	109943	5.34
ZZZZZZ	742305	7.83	486835	10.91	238994	13.27	110619	5.33
ZZZZZZ	845278	7.83	541296	10.91	265516	13.27	131954	5.33
ZZZZZZ	827738	7.83	542845	10.91	252171	13.27	129222	5.34
ZZZZZZ	800335	7.83	513635	10.91	235572	13.27	120663	5.33
FA5967-2MS	789242	7.83	498178	10.91	251245	13.27	128419	5.35
FA5967-2MSD	866710	7.83	549738	10.91	272356	13.27	144800	5.35
FA5972-7	770877	7.83	495884	10.91	229952	13.27	121758	5.33
FA5972-1	701779	7.83	444963	10.91	204176	13.27	150956	5.33
FA5972-2	694808	7.83	446070	10.91	208323	13.27	146023	5.34
FA5972-3	661838	7.83	421077	10.91	188409	13.27	142670	5.33
FA5972-4	631441	7.83	403690	10.91	187362	13.27	134649	5.33
FA5972-5	667274	7.83	423409	10.91	201687	13.27	103419	5.33
FA5972-6	658184	7.82	413274	10.91	192076	13.27	101060	5.33
ZZZZZZ	656345	7.83	414167	10.91	196927	13.27	99212	5.33
ZZZZZZ	657358	7.83	414408	10.91	198384	13.27	98495	5.33
ZZZZZZ	657755	7.83	417962	10.91	199358	13.27	100525	5.34
ZZZZZZ	629020	7.83	406604	10.91	189889	13.27	95359	5.33

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

(a) Initial Cal is: VJ4425-ICC4425 J087577.D 07/08/13 18:30
(b) Check Std Limit = -50 to + 100% of initial cal area.

Volatile Internal Standard Area Summary

Job Number: FA5972
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Check Std:	VJ4427-CC4425	**Injection Date:**	07/10/13
Lab File ID:	J087635.D	**Injection Time:**	10:11
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 Internal Standard Area Summary

Job Number: FA5972
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Check Std:	VP664-CC659	**Injection Date:**	07/10/13
Lab File ID:	P17354.D	**Injection Time:**	10:20
Instrument ID:	GCMSP	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
Initial Cal [a]	1401815	7.48	1183824	10.58	677563	12.94	141615	5.07
Check Std [b]	1132699	7.48	1024476	10.58	644209	12.94	115351	5.08
Upper Limit [c]	2265398	7.98	2048952	11.08	1288418	13.44	230702	5.58
Lower Limit [d]	566350	6.98	512238	10.08	322105	12.44	57676	4.58

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
VP664-BS	1147412	7.48	1028806	10.58	622869	12.94	115516	5.07
VP664-MB	1115814	7.48	1003717	10.58	571621	12.94	113587	5.08
FA5972-7	1115594	7.48	1006226	10.58	571711	12.94	96883	5.07
ZZZZZZ	1101105	7.48	1001252	10.58	559678	12.94	92660	5.08
ZZZZZZ	1105489	7.48	994176	10.58	568964	12.94	104490	5.08
ZZZZZZ	1111613	7.48	994934	10.58	567441	12.94	101814	5.08
ZZZZZZ	1095452	7.48	976511	10.58	563110	12.94	101905	5.09
ZZZZZZ	1098107	7.48	981119	10.58	553283	12.94	98625	5.08
FA5972-4	1088883	7.48	981223	10.58	564566	12.94	138791	5.08
FA5972-3	1088558	7.49	970601	10.58	558629	12.94	122741	5.08
FA5972-4MS	1084733	7.49	995255	10.58	617162	12.94	139246	5.07
FA5972-4MSD	1114493	7.48	998609	10.58	627409	12.94	138632	5.07
ZZZZZZ	1129489	7.48	1023281	10.58	590248	12.94	101014	5.08
ZZZZZZ	1118736	7.48	1013107	10.58	583134	12.94	99539	5.07
FA5972-1	1094882	7.48	986348	10.58	576278	12.94	121672	5.08
FA5972-2	1094886	7.48	995360	10.58	581758	12.94	122392	5.07
FA5972-5	1118208	7.48	990957	10.57	600452	12.94	99704	5.07
FA5972-6	1135795	7.48	1008801	10.58	589941	12.94	95470	5.06
ZZZZZZ	1124286	7.48	1001540	10.58	573362	12.94	98715	5.08
ZZZZZZ	1111404	7.48	1009530	10.58	579144	12.94	100583	5.07
ZZZZZZ	1112235	7.48	985786	10.58	565962	12.94	99639	5.08
ZZZZZZ	1086791	7.48	977861	10.58	564820	12.94	97910	5.07
ZZZZZZ	1090796	7.48	987733	10.58	561773	12.94	97159	5.08
ZZZZZZ	1065531	7.48	961952	10.58	549984	12.94	85440	5.06

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

(a) Initial Cal is: VP659-ICC659 P17212.D 07/03/13 20:13
(b) Check Std Limit = -50 to + 100% of initial cal area.
(c) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.

Volatile Internal Standard Area Summary

Job Number: FA5972
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Check Std:	VP664-CC659	**Injection Date:**	07/10/13
Lab File ID:	P17354.D	**Injection Time:**	10:20
Instrument ID:	GCMSP	**Method:**	SW846 8260B

Lab	IS 1		IS 2		IS 3		IS 4	
Sample ID	**AREA**	**RT**	**AREA**	**RT**	**AREA**	**RT**	**AREA**	**RT**

(d) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Volatile Surrogate Recovery Summary

Job Number: FA5972
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Method: SW846 8260B **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
FA5972-1	J087652.D	98.0	99.0	92.0	91.0
FA5972-1	P17370.D	105.0	109.0	94.0	98.0
FA5972-2	J087653.D	96.0	95.0	91.0	90.0
FA5972-2	P17371.D	105.0	111.0	95.0	100.0
FA5972-3	J087654.D	96.0	98.0	92.0	95.0
FA5972-3	P17365.D	104.0	114.0	96.0	101.0
FA5972-4	J087655.D	96.0	98.0	92.0	91.0
FA5972-4	P17364.D	103.0	112.0	95.0	99.0
FA5972-5	J087656.D	95.0	96.0	92.0	87.0
FA5972-5	P17372.D	103.0	108.0	96.0	98.0
FA5972-6	J087657.D	96.0	95.0	92.0	90.0
FA5972-6	P17373.D	102.0	109.0	97.0	100.0
FA5972-7	J087651.D	97.0	97.0	92.0	90.0
FA5972-7	P17358.D	107.0	109.0	94.0	101.0
FA5967-2MS	J087648.D	90.0	91.0	92.0	91.0
FA5967-2MSD	J087649.D	90.0	92.0	91.0	90.0
FA5972-4MS	P17366.D	107.0	110.0	95.0	94.0
FA5972-4MSD	P17367.D	105.0	110.0	94.0	94.0
VJ4427-BS	J087636.D	92.0	91.0	90.0	89.0
VJ4427-MB	J087637.D	96.0	97.0	91.0	93.0
VP664-BS	P17355.D	104.0	109.0	95.0	100.0
VP664-MB	P17357.D	106.0	111.0	95.0	101.0

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	83-118%
S2 = 1,2-Dichloroethane-D4	79-125%
S3 = Toluene-D8	85-112%
S4 = 4-Bromofluorobenzene	83-118%

Initial Calibration Summary

Job Number: FA5972
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VJ4425-ICC4425
Lab FileID: J087577.D

```
                         Response Factor Report  MSVOA6

 Method       : C:\MSDchem\1\MET...msjncoxy070913.m (RTE Integrator)
 Title        : SW-846 Method 5030B/8260B & EPA 624
 Last Update  : Tue Jul 09 12:39:26 2013
 Response via : Initial Calibration

 Calibration Files
 1   =J087574.D   2   =J087575.D   3   =J087576.D   4   =J087577.D
 5      =J087578.D    6      =J087579.D

       Compound              1     2     3     4     5     6     Avg    %RSD
-----------------------------------------------------------------------------

 1) I   Fluorobenzene         ----------------ISTD---------------------
 2)     Dichlorodifluoromet 0.140 0.312 0.297 0.340 0.331 0.274 0.282  26.11
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9949
              Response Ratio = 0.00000 + 0.38665 *A + -0.05334 *A^2

 3) P   Chloromethane       0.351 0.465 0.426 0.434 0.440 0.427 0.424   9.10
 4) C   Vinyl Chloride      0.266 0.438 0.373 0.402 0.376 0.315 0.362  17.08
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9973
              Response Ratio = 0.00000 + 0.46012 *A + -0.07023 *A^2

 5)     1,3-Butadiene       0.272 0.480 0.334 0.409 0.393 0.327 0.369  19.84
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9931
              Response Ratio = 0.00000 + 0.46056 *A + -0.06367 *A^2

 6)     Bromomethane        0.072 0.147 0.078 0.069 0.063 0.055 0.081  41.27
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9963
              Response Ratio = 0.00000 + 0.08190 *A + -0.01353 *A^2

 7)     Chloroethane        0.115 0.186 0.145 0.124 0.095 0.069 0.122  33.00
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9994
              Response Ratio = 0.00000 + 0.16061 *A + -0.04583 *A^2

 8)     Trichlorofluorometh 0.262 0.471 0.409 0.434 0.391 0.315 0.380  20.49
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9973
              Response Ratio = 0.00000 + 0.50973 *A + -0.09498 *A^2

 9)     Ethyl Ether         0.369 0.449 0.469 0.431 0.387 0.391 0.416   9.51
10)     1,2-Dichlorotrifluo 0.434 0.486 0.515 0.470 0.443 0.413 0.460   8.18
11) C   1,1-Dichloroethene  0.513 0.519 0.568 0.518 0.494 0.475 0.515   6.08
12)     Freon 113           0.331 0.326 0.360 0.324 0.305 0.295 0.324   6.97
13)     Carbon Disulfide    1.010 0.762 0.792 0.741 0.734 0.715 0.792  13.86
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9995
              Response Ratio = 0.00000 + 0.72477 *A

14)     Iodomethane         0.112 0.112 0.150 0.171 0.188 0.202 0.156  24.50
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9998
              Response Ratio = 0.00000 + 0.14755 *A + 0.02760 *A^2

15)     Allyl chloride      0.581 0.664 0.566 0.681 0.695 0.630 0.636   8.42
16)     Methylene Chloride  0.962 0.748 0.694 0.629 0.597 0.601 0.705  19.69
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9992
              Response Ratio = 0.00000 + 0.60503 *A

17)     Acetone             0.070 0.055 0.051 0.049 0.052 0.053 0.055  13.78
18)     Methyl acetate      0.085 0.096 0.100 0.094 0.093 0.094 0.094   5.09
19)     trans-1,2-Dichloroe 0.592 0.649 0.693 0.633 0.596 0.578 0.624   6.98
```

Initial Calibration Summary

Job Number: FA5972 **Sample:** VJ4425-ICC4425
Account: TETTNOAK Tetra Tech, Inc **Lab FileID:** J087577.D
Project: Holloman AFB; Alamogordo, NM

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20)      Hexane              0.465 0.436 0.482 0.462 0.406 0.403 0.442   7.40
21)      Methyl Tert Butyl E 1.109 1.293 1.311 1.264 1.192 1.249 1.236   6.06
22)      Acetonitrile        0.017 0.033 0.045 0.042 0.036 0.035 0.035  27.98
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9980
               Response Ratio = 0.00000 + 0.04420 *A + -0.00047 *A^2

23)      Di-isopropyl ether  1.567 1.903 1.980 1.876 1.768 1.837 1.822   7.85
24)      Chloroprene         0.632 0.786 0.618 0.829 0.845 0.725 0.739  13.23
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9915
               Response Ratio = 0.00000 + 0.89221 *A + -0.07474 *A^2

25) P    1,1-Dichloroethane  0.653 0.799 0.827 0.761 0.724 0.716 0.747   8.41
26)      Acrylonitrile       0.220 0.228 0.260 0.237 0.250 0.240 0.239   6.04
27)      ETBE                1.263 1.606 1.663 1.589 1.476 1.525 1.520   9.31
28)      Vinyl acetate       0.906 1.041 1.156 1.018 0.961 0.874 0.993  10.27
29)      cis-1,2-Dichloroeth 0.378 0.401 0.411 0.389 0.370 0.378 0.388   4.08
30)      2,2-Dichloropropane 0.464 0.514 0.557 0.510 0.485 0.477 0.501   6.70
31)      Bromochloromethane  0.116 0.156 0.159 0.151 0.150 0.154 0.148  10.78
32)      Cyclohexane         0.751 0.779 0.868 0.764 0.735 0.695 0.765   7.57
33) C    Chloroform          0.603 0.688 0.709 0.654 0.613 0.617 0.648   6.76
34)      Ethyl acetate       0.604 0.620 0.678 0.619 0.613 0.572 0.618   5.57
35)      Tetrahydrofuran     0.244 0.198 0.198 0.185 0.181 0.188 0.199  11.69
36) S    Dibromofluoromethan 0.238 0.260 0.271 0.222 0.268 0.264 0.254   7.70
37)      Carbon Tetrachlorid 0.380 0.428 0.441 0.414 0.399 0.384 0.408   5.98
38)      1,1,1-Trichloroetha 0.472 0.536 0.570 0.528 0.504 0.492 0.517   6.79
39)      2-Butanone          0.290 0.304 0.284 0.273 0.277 0.283 0.285   3.87
40)      1,1-Dichloropropene 0.481 0.495 0.546 0.495 0.475 0.461 0.492   5.99
41)      tert-Butyl Formate  0.174 0.265 0.280 0.274 0.283 0.267 0.257  16.14
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9993
               Response Ratio = 0.00000 + 0.29102 *A + -0.00110 *A^2

42)      Propionitrile       0.083 0.089 0.087 0.081 0.078 0.075 0.082   6.32
43)      Methacrylonitrile   0.364 0.407 0.392 0.358 0.326 0.297 0.357  11.42
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9999
               Response Ratio = 0.00000 + 0.40205 *A + -0.00530 *A^2

44)      Benzene             1.466 1.613 1.587 1.438 1.279 1.235 1.436  10.78
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9988
               Response Ratio = 0.00000 + 1.54159 *A + -0.15894 *A^2

45)      TAME                0.977 1.235 1.252 1.200 1.137 1.190 1.165   8.63
46) S    1,2-Dichloroethane- 0.371 0.409 0.423 0.349 0.414 0.400 0.394   7.18
47)      1,2-Dichloroethane  0.580 0.627 0.645 0.604 0.563 0.573 0.599   5.42
48)      Trichloroethene     0.335 0.374 0.398 0.371 0.341 0.339 0.360   7.00
49)      Methylcyclohexane   0.568 0.646 0.696 0.642 0.610 0.592 0.626   7.27
50)      Dibromomethane      0.212 0.245 0.258 0.243 0.230 0.237 0.238   6.55
51) C    1,2-Dichloropropane 0.404 0.491 0.506 0.478 0.437 0.445 0.460   8.26
52)      Bromodichloromethan 0.435 0.501 0.522 0.512 0.474 0.486 0.489   6.42
53)      Methyl methacrylate 0.424 0.497 0.507 0.521 0.541 0.551 0.507   8.94
54)      2-Chloroethyl vinyl 0.305 0.361 0.361 0.347 0.328 0.312 0.336   7.33
55)      cis-1,3-Dichloropro 0.572 0.651 0.699 0.668 0.624 0.643 0.643   6.65

56) I    Chlorobenzene-d5      ----------------ISTD--------------------
57) S    Toluene-d8          1.437 1.589 1.605 1.452 1.655 1.694 1.572   6.72
58) C    Toluene             2.671 2.482 2.506 2.363 2.201 2.231 2.409   7.44
59)      2-Nitropropane      0.171 0.212 0.238 0.229 0.221 0.229 0.217  11.05
60)      4-Methyl-2-pentanon 0.963 1.066 0.879 0.844 0.812 0.788 0.892  11.74
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9991
               Response Ratio = 0.00000 + 0.80317 *A
```

Initial Calibration Summary

Job Number: FA5972 **Sample:** VJ4425-ICC4425
Account: TETTNOAK Tetra Tech, Inc **Lab FileID:** J087577.D
Project: Holloman AFB; Alamogordo, NM

```
61)      trans-1,3-Dichlorop 0.724 0.882 0.951 0.919 0.854 0.881 0.869   9.02
62)      Tetrachloroethene   0.542 0.522 0.588 0.600 0.560 0.562 0.562   5.10
63)      Ethyl methacrylate  0.717 0.857 0.877 0.936 0.962 0.985 0.889  10.96
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9995
               Response Ratio = 0.00000 + 0.97070 *A

64)      1,1,2-Trichloroetha 0.442 0.501 0.531 0.509 0.470 0.503 0.493   6.40
65)      Dibromochloromethan 0.458 0.544 0.577 0.564 0.548 0.587 0.546   8.48
66)      1,3-Dichloropropane 0.892 1.019 1.044 1.010 0.952 0.996 0.985   5.59
67)      1,2-Dibromoethane   0.536 0.566 0.598 0.583 0.554 0.591 0.571   4.17
68)      2-hexanone          0.754 0.769 0.632 0.606 0.598 0.589 0.658  12.39
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9998
               Response Ratio = 0.00000 + 0.59459 *A

69)      1-Chlorohexane      0.660 0.756 0.857 0.822 0.803 0.797 0.783   8.74
70)  C   Ethylbenzene        2.386 2.610 2.645 2.475 2.298 2.247 2.444   6.66
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9980
               Response Ratio = 0.00000 + 2.29297 *A

71)  P   Chlorobenzene       1.184 1.364 1.368 1.296 1.209 1.222 1.274   6.32
72)      1,1,1,2-Tetrachloro 0.403 0.512 0.520 0.516 0.498 0.529 0.496   9.40
73)      m,p-Xylene          1.677 1.929 1.954 1.827 1.668 1.622 1.780   8.05
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9994
               Response Ratio = 0.00000 + 1.92517 *A + -0.07841 *A^2

74)      o-Xylene            1.582 1.896 1.975 1.929 1.817 1.851 1.842   7.55
75)      Styrene             1.110 1.455 1.575 1.563 1.515 1.555 1.462  12.17
76)  P   Bromoform           0.307 0.359 0.392 0.410 0.414 0.455 0.390  13.17
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9994
               Response Ratio = 0.00000 + 0.36145 *A + 0.04548 *A^2

77)      Isopropylbenzene    1.778 2.161 2.248 2.176 2.050 2.084 2.083   7.91

78)  I   1,4-Dichlorobenzene-d ----------------ISTD---------------------
79)  S   4-Bromofluorobenzen 1.107 1.217 1.258 1.060 1.267 1.306 1.203   8.13
80)      cis-1,4-Dichloro-2- 0.229 0.229 0.324 0.361 0.391 0.421 0.326  24.99
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9999
               Response Ratio = 0.00000 + 0.31419 *A + 0.05364 *A^2

81)      n-Propylbenzene     4.832 5.418 5.683 5.263 4.858 4.834 5.148   7.03
82)      Bromobenzene        1.059 1.193 1.225 1.208 1.141 1.218 1.174   5.45
83)  P   1,1,2,2-Tetrachloro 1.664 1.632 1.705 1.606 1.519 1.599 1.621   3.93
84)      1,3,5-Trimethylbenz 3.383 4.015 4.155 3.884 3.603 3.549 3.765   7.95
85)      2-Chlorotoluene     3.251 3.953 3.994 3.661 3.324 3.325 3.585   9.30
86)      trans-1,4-Dichloro- 0.283 0.334 0.451 0.460 0.466 0.517 0.418  21.44
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9991
               Response Ratio = 0.00000 + 0.40127 *A + 0.05600 *A^2

87)      1,2,3-Trichloroprop 0.393 0.450 0.436 0.417 0.401 0.440 0.423   5.34
88)      Cyclohexanone       0.078 0.074 0.087 0.082 0.091 0.086 0.083   7.55
89)      4-Chlorotoluene     2.950 3.429 3.599 3.375 3.154 3.228 3.289   6.93
90)      a-Methyl Styrene    1.539 1.826 1.808 2.105 2.120 2.074 1.912  12.02
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9991
               Response Ratio = 0.00000 + 2.08384 *A

91)      tert-Butylbenzene   1.757 2.140 2.324 2.190 2.047 2.076 2.089   9.09
92)      1,2,4-Trimethylbenz 3.339 4.046 4.269 3.924 3.601 3.604 3.797   9.03
93)      Pentachloroethane   0.548 0.662 0.605 0.643 0.699 0.747 0.651  10.70
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  1.0000
               Response Ratio = 0.00000 + 0.57801 *A + 0.08466 *A^2
```

Initial Calibration Summary

Job Number: FA5972
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VJ4425-ICC4425
Lab FileID: J087577.D

```
 94)     sec-Butylbenzene    4.064 4.649 5.012 4.639 4.310 4.265 4.490   7.62
 95)     4-Isopropyltoluene  3.037 3.612 3.938 3.646 3.422 3.447 3.517   8.50
 96)     1,3-Dichlorobenzene 1.869 1.992 2.117 1.946 1.865 1.957 1.958   4.74
 97)     1,4-Dichlorobenzene 2.103 2.234 2.222 2.134 2.003 2.086 2.130   4.08
 98)     n-Butylbenzene      2.346 2.345 2.715 2.555 2.398 2.408 2.461   5.93
 99)     Benzyl Chloride     0.404 0.458 0.531 0.536 0.507 0.552 0.498  11.37
100)     1,2-Dichlorobenzene 1.807 1.969 2.057 1.953 1.819 1.902 1.918   4.97
101)     1,2-Dibromo-3-Chlor 0.284 0.268 0.294 0.292 0.287 0.312 0.290   4.94
102)     Hexachlorobutadiene 0.974 0.725 0.765 0.731 0.738 0.757 0.781  12.23
103)     1,2,4-Trichlorobenz 1.705 1.431 1.467 1.423 1.373 1.483 1.480   7.88
104)     Naphthalene         5.376 3.408 3.765 3.704 3.577 3.725 3.926  18.39
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9992
               Response Ratio = 0.00000 + 3.68088 *A

105)     1,2,3-Trichlorobenz 1.728 1.317 1.366 1.333 1.295 1.411 1.408  11.49

106) I   Tert Butyl Alcohol-d1 ----------------ISTD---------------------
107)     Ethanol             0.082 0.200 0.130 0.145 0.174 0.189 0.153  28.54
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9990
               Response Ratio = 0.00000 + 0.12349 *A + 0.00826 *A^2

108)     acrolein            1.379 1.613 1.621 1.535 1.714 1.703 1.594   7.80
109)     Tert Butyl Alcohol  1.822 2.119 2.028 2.018 2.000 2.136 2.020   5.55
110)     tert Amyl alcohol   0.971 1.209 1.317 1.340 1.325 1.465 1.271  13.22
111)     Isobutyl alcohol    0.180 0.209 0.201 0.195 0.196 0.180 0.194   6.03
112)     1,4-Dioxane         0.058 0.121 0.136 0.135 0.130 0.144 0.121  26.11
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9962
               Response Ratio = 0.00000 + 0.13905 *A

113)     3,3-Dimethyl-1-buta 1.008 1.333 1.471 1.484 1.473 1.425 1.366  13.47
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9993
               Response Ratio = 0.00000 + 1.44528 *A

 ---------------------------------------------------------------------------
 (#) = Out of Range

           a-msjncoxy070913.m        Wed Jul 10 08:06:03 2013
```

6.7.1

6

Initial Calibration Verification

Job Number: FA5972
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VJ4425-ICV4425
Lab FileID: J087580.D

Evaluate Continuing Calibration Report

```
Data File : C:\MSDchem\1\DATA\070813\J087580.D          Vial: 7
Acq On    :  8 Jul 2013   7:39 pm                   Operator: ADRIANP
Sample    : ICV4425-4                               Inst    : MSVOA6
Misc      : MS24634,VJ4425,,,,,                     Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\MSDchem\1\MET...msjncoxy070913.m (RTE Integrator)
Title        : SW-846 Method 5030B/8260B & EPA 624
Last Update  : Tue Jul 09 12:39:26 2013
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	107	0.00	7.83
	----------	Amount	Calc.	%Drift		----------	
2	Dichlorodifluoromethane	40.000	33.780	15.5	93	0.00	2.65
	----------	AvgRF	CCRF	%Dev		----------	
3 P	Chloromethane	0.424	0.380	10.4	94	0.00	2.95
	----------	Amount	Calc.	%Drift		----------	
4 C	Vinyl Chloride	40.000	36.038	9.9	98	-0.02	3.05
5	1,3-Butadiene	40.000	11.441	71.4#	33	-0.05	3.03
6	Bromomethane	40.000	40.616	-1.5	111	-0.02	3.50
7	Chloroethane	40.000	45.474	-13.7	117	0.00	3.67
8	Trichlorofluoromethane	40.000	38.027	4.9	102	-0.01	3.84
	----------	AvgRF	CCRF	%Dev		----------	
9	Ethyl Ether	0.416	0.454	-9.1	113	0.00	4.18
10	1,2-Dichlorotrifluoroetha	0.460	0.415	9.8	94	0.00	4.41
11 C	1,1-Dichloroethene	0.515	0.634	-23.1#	131	-0.01	4.46
12	Freon 113	0.324	0.363	-12.0	120	0.00	4.48
	----------	Amount	Calc.	%Drift		----------	
13	Carbon Disulfide	40.000	61.873	-54.7#	162	-0.01	4.53
14	Iodomethane	40.000	53.735	-34.3#	149	-0.01	4.64
	----------	AvgRF	CCRF	%Dev		----------	
15	Allyl chloride	0.636	0.777	-22.2#	122	0.00	5.00
	----------	Amount	Calc.	%Drift		----------	
16	Methylene Chloride	40.000	44.594	-11.5	115	-0.01	5.12
	----------	AvgRF	CCRF	%Dev		----------	
17	Acetone	0.055	0.051	7.3	111	0.00	5.16
18	Methyl acetate	0.094	0.082	12.8	93	0.00	5.27
19	trans-1,2-Dichloroethene	0.624	0.684	-9.6	116	0.00	5.30
20	Hexane	0.442	0.530	-19.9	123	0.00	5.36
21	Methyl Tert Butyl Ether	1.236	1.311	-6.1	111	0.00	5.38
	----------	Amount	Calc.	%Drift		----------	
22	Acetonitrile	400.000	353.315	11.7	92	-0.01	5.70
	----------	AvgRF	CCRF	%Dev		----------	

Initial Calibration Verification

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Sample: VJ4425-ICV4425
Lab FileID: J087580.D

23		Di-isopropyl ether	1.822	1.945	-6.8	111	0.00	5.77
		----------	Amount	Calc.	%Drift	----------		
24		Chloroprene	40.000	37.158	7.1	100	0.00	5.95
		----------	AvgRF	CCRF	%Dev	----------		
25	P	1,1-Dichloroethane	0.747	0.800	-7.1	112	0.00	5.98
26		Acrylonitrile	0.239	0.235	1.7	106	0.00	6.02
27		ETBE	1.520	1.611	-6.0	108	0.00	6.17
28		Vinyl acetate	0.993	1.013	-2.0	106	0.00	6.19
29		cis-1,2-Dichloroethene	0.388	0.412	-6.2	113	0.00	6.55
30		2,2-Dichloropropane	0.501	0.553	-10.4	116	0.00	6.67
31		Bromochloromethane	0.148	0.159	-7.4	113	0.00	6.78
32		Cyclohexane	0.765	0.911	-19.1	127	0.00	6.79
33	C	Chloroform	0.648	0.676	-4.3	110	0.00	6.81
34		Ethyl acetate	0.618	0.548	11.3	95	0.00	6.89
35		Tetrahydrofuran	0.199	0.196	1.5	113	0.00	7.00
36	S	Dibromofluoromethane	0.254	0.225	11.4	108	0.00	7.01
37		Carbon Tetrachloride	0.408	0.452	-10.8	117	0.00	7.00
38		1,1,1-Trichloroethane	0.517	0.572	-10.6	116	0.00	7.06
39		2-Butanone	0.285	0.276	3.2	108	0.00	7.10
40		1,1-Dichloropropene	0.492	0.547	-11.2	118	0.00	7.18
		----------	Amount	Calc.	%Drift	----------		
41		tert-Butyl Formate	400.000	626.473	-56.6#	169	0.00	7.26
		----------	AvgRF	CCRF	%Dev	----------		
42		Propionitrile	0.082	0.079	3.7	105	0.00	7.43
		----------	Amount	Calc.	%Drift	----------		
43		Methacrylonitrile	400.000	391.683	2.1	105	0.00	7.45
44		Benzene	40.000	41.632	-4.1	109	0.00	7.43
		----------	AvgRF	CCRF	%Dev	----------		
45		TAME	1.165	1.268	-8.8	113	0.00	7.49
46	S	1,2-Dichloroethane-d4	0.394	0.345	12.4	106	0.00	7.56
47		1,2-Dichloroethane	0.599	0.629	-5.0	111	0.00	7.63
48		Trichloroethene	0.360	0.397	-10.3	114	0.00	8.01
49		Methylcyclohexane	0.626	0.702	-12.1	117	0.00	8.02
50		Dibromomethane	0.238	0.247	-3.8	108	0.00	8.44
51	C	1,2-Dichloropropane	0.460	0.487	-5.9	109	0.00	8.52
52		Bromodichloromethane	0.489	0.514	-5.1	107	0.00	8.56
53		Methyl methacrylate	0.507	0.571	-12.6	117	0.00	8.66
54		2-Chloroethyl vinyl ether	0.336	0.268	20.2#	83	0.00	9.08
55		cis-1,3-Dichloropropene	0.643	0.662	-3.0	106	0.00	9.18
56	I	Chlorobenzene-d5	1.000	1.000	0.0	107	0.00	10.91
57	S	Toluene-d8	1.572	1.438	8.5	106	0.00	9.37
58	C	Toluene	2.409	2.437	-1.2	111	0.00	9.42
59		2-Nitropropane	0.217	0.235	-8.3	110	0.00	9.64
		----------	Amount	Calc.	%Drift	----------		
60		4-Methyl-2-pentanone	200.000	206.850	-3.4	105	0.00	9.74
		----------	AvgRF	CCRF	%Dev	----------		
61		trans-1,3-Dichloropropene	0.869	0.980	-12.8	114	0.00	9.81
62		Tetrachloroethene	0.562	0.597	-6.2	107	0.00	9.82
		----------	Amount	Calc.	%Drift	----------		
63		Ethyl methacrylate	40.000	39.035	2.4	108	0.00	9.90

Initial Calibration Verification

Job Number: FA5972
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Project: Holloman AFB; Alamogordo, NM

Sample: VJ4425-ICV4425
Lab FileID: J087580.D

			AvgRF	CCRF	%Dev			
64		1,1,2-Trichloroethane	0.493	0.515	-4.5	108	0.00	9.98
65		Dibromochloromethane	0.546	0.589	-7.9	112	0.00	10.17
66		1,3-Dichloropropane	0.985	1.040	-5.6	110	0.00	10.26
67		1,2-Dibromoethane	0.571	0.613	-7.4	113	0.00	10.43
			Amount	Calc.	%Drift			
68		2-hexanone	200.000	196.140	1.9	103	0.00	10.56
			AvgRF	CCRF	%Dev			
69		1-Chlorohexane	0.783	0.851	-8.7	111	0.00	10.86
			Amount	Calc.	%Drift			
70	C	Ethylbenzene	40.000	43.624	-9.1	108	0.00	10.93
			AvgRF	CCRF	%Dev			
71	P	Chlorobenzene	1.274	1.401	-10.0	116	0.00	10.93
72		1,1,1,2-Tetrachloroethane	0.496	0.552	-11.3	115	0.00	10.98
			Amount	Calc.	%Drift			
73		m,p-Xylene	80.000	84.956	-6.2	112	0.00	11.07
			AvgRF	CCRF	%Dev			
74		o-Xylene	1.842	2.092	-13.6	116	0.00	11.50
75		Styrene	1.462	1.577	-7.9	108	0.00	11.55
			Amount	Calc.	%Drift			
76	P	Bromoform	40.000	41.944	-4.9	109	0.00	11.62
			AvgRF	CCRF	%Dev			
77		Isopropylbenzene	2.083	2.410	-15.7	119	0.00	11.81
78	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	106	0.00	13.27
79	S	4-Bromofluorobenzene	1.203	1.081	10.1	108	0.00	12.12
			Amount	Calc.	%Drift			
80		cis-1,4-Dichloro-2-butene	40.000	45.288	-13.2	121	0.00	12.16
			AvgRF	CCRF	%Dev			
81		n-Propylbenzene	5.148	5.880	-14.2	118	0.00	12.23
82		Bromobenzene	1.174	1.283	-9.3	113	0.00	12.25
83	P	1,1,2,2-Tetrachloroethane	1.621	1.634	-0.8	108	0.00	12.29
84		1,3,5-Trimethylbenzene	3.765	3.910	-3.9	107	0.00	12.41
85		2-Chlorotoluene	3.585	3.887	-8.4	113	0.00	12.42
			Amount	Calc.	%Drift			
86		trans-1,4-Dichloro-2-Bute	40.000	40.972	-2.4	106	0.00	12.47
			AvgRF	CCRF	%Dev			
87		1,2,3-Trichloropropane	0.423	0.436	-3.1	111	0.00	12.45
88		Cyclohexanone	0.083	0.060	27.7#	78	0.00	12.52
89		4-Chlorotoluene	3.289	3.813	-15.9	120	0.00	12.59
			Amount	Calc.	%Drift			
90		a-Methyl Styrene	40.000	0.266	99.3#	1	0.00	12.67
			AvgRF	CCRF	%Dev			
91		tert-Butylbenzene	2.089	2.429	-16.3	118	0.00	12.76
92		1,2,4-Trimethylbenzene	3.797	3.896	-2.6	105	0.00	12.82

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Project: Holloman AFB; Alamogordo, NM

Sample: VJ4425-ICV4425
Lab FileID: J087580.D

		Amount	Calc.	%Drift			
93	Pentachloroethane	40.000	48.662	-21.7#	132	0.00	12.81
		AvgRF	CCRF	%Dev			
94	sec-Butylbenzene	4.490	5.146	-14.6	118	0.00	12.94
95	4-Isopropyltoluene	3.517	3.962	-12.7	115	0.00	13.07
96	1,3-Dichlorobenzene	1.958	2.213	-13.0	121	0.00	13.20
97	1,4-Dichlorobenzene	2.130	2.203	-3.4	109	0.00	13.29
98	n-Butylbenzene	2.461	2.569	-4.4	107	0.00	13.50
99	Benzyl Chloride	0.498	0.515	-3.4	102	0.00	13.52
100	1,2-Dichlorobenzene	1.918	2.139	-11.5	116	0.00	13.71
101	1,2-Dibromo-3-Chloropropa	0.290	0.295	-1.7	107	0.00	14.44
102	Hexachlorobutadiene	0.781	0.821	-5.1	119	0.00	14.98
103	1,2,4-Trichlorobenzene	1.480	1.468	0.8	109	0.00	15.03
		Amount	Calc.	%Drift			
104	Naphthalene	40.000	39.050	2.4	103	0.00	15.32
		AvgRF	CCRF	%Dev			
105	1,2,3-Trichlorobenzene	1.408	1.328	5.7	106	0.00	15.49
106 I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	106	0.00	5.35
		Amount	Calc.	%Drift			
107	Ethanol	800.000	758.698	5.2	103	-0.01	4.34
		AvgRF	CCRF	%Dev			
108	acrolein	1.594	3.199	-100.7#	220#	0.00	4.82
109	Tert Butyl Alcohol	2.020	1.880	6.9	98	0.00	5.43
110	tert Amyl alcohol	1.271	1.435	-12.9	113	0.00	7.63
111	Isobutyl alcohol	0.194	0.197	-1.5	107	0.00	7.45
		Amount	Calc.	%Drift			
112	1,4-Dioxane	800.000	648.976	18.9	88	0.00	8.74
113	3,3-Dimethyl-1-butanol	2000.000	2026.122	-1.3	104	0.00	10.50

(#) = Out of Range SPCC's out = 0 CCC's out = 1
J087577.D a-msjncoxy070913.m Wed Jul 10 08:07:01 2013

6.7.2

6

Continuing Calibration Summary

Job Number: FA5972
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VJ4427-CC4425
Lab FileID: J087635.D

Evaluate Continuing Calibration Report

```
Data File : C:\MSDchem\1\DATA\071013\J087635.D          Vial: 1
Acq On    : 10 Jul 2013  10:11 am                   Operator: ADRIANP
Sample    : CC4425-4                                Inst    : MSVOA6
Misc      : MS24658,VJ4427,,,,,                     Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\MSDchem\1\MET...msjncoxy070913.m (RTE Integrator)
Title        : SW-846 Method 5030B/8260B & EPA 624
Last Update  : Tue Jul 09 12:39:26 2013
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	96	0.00	7.83
			Amount	Calc.	%Drift			
2		Dichlorodifluoromethane	40.000	37.136	7.2	91	0.00	2.66
			AvgRF	CCRF	%Dev			
3	P	Chloromethane	0.424	0.471	-11.1	104	0.00	2.95
			Amount	Calc.	%Drift			
4	C	Vinyl Chloride	40.000	36.764	8.1	89	-0.01	3.06
5		1,3-Butadiene	40.000	32.008	20.0	79	-0.02	3.07
6		Bromomethane	40.000	45.116	-12.8	109	0.00	3.52
7		Chloroethane	40.000	44.760	-11.9	104	0.00	3.68
8		Trichlorofluoromethane	40.000	37.607	6.0	91	-0.02	3.83
			AvgRF	CCRF	%Dev			
9		Ethyl Ether	0.416	0.427	-2.6	95	0.00	4.18
10		1,2-Dichlorotrifluoroetha	0.460	0.503	-9.3	102	-0.01	4.40
11	C	1,1-Dichloroethene	0.515	0.491	4.7	91	-0.01	4.46
12		Freon 113	0.324	0.315	2.8	93	0.00	4.48
			Amount	Calc.	%Drift			
13		Carbon Disulfide	40.000	34.485	13.8	81	0.00	4.54
14		Iodomethane	40.000	43.831	-9.6	105	0.00	4.65
			AvgRF	CCRF	%Dev			
15		Allyl chloride	0.636	0.706	-11.0	99	0.00	5.00
			Amount	Calc.	%Drift			
16		Methylene Chloride	40.000	44.268	-10.7	102	0.00	5.13
			AvgRF	CCRF	%Dev			
17		Acetone	0.055	0.047	14.5	93	-0.01	5.15
18		Methyl acetate	0.094	0.089	5.3	91	0.00	5.27
19		trans-1,2-Dichloroethene	0.624	0.648	-3.8	98	0.00	5.30
20		Hexane	0.442	0.451	-2.0	94	0.00	5.37
21		Methyl Tert Butyl Ether	1.236	1.275	-3.2	97	0.00	5.38
			Amount	Calc.	%Drift			
22		Acetonitrile	400.000	310.512	22.4#	74	0.00	5.71
			AvgRF	CCRF	%Dev			

Continuing Calibration Summary

Job Number: FA5972 **Sample:** VJ4427-CC4425
Account: TETTNOAK Tetra Tech, Inc **Lab FileID:** J087635.D
Project: Holloman AFB; Alamogordo, NM

23		Di-isopropyl ether	1.822	1.983	-8.8	101	0.00	5.77
		----------	Amount	Calc.	%Drift		----------	
24		Chloroprene	40.000	39.090	2.3	94	0.00	5.94
		----------	AvgRF	CCRF	%Dev		----------	
25	P	1,1-Dichloroethane	0.747	0.799	-7.0	101	0.00	5.98
26		Acrylonitrile	0.239	0.023	90.4#	9#	0.00	6.02
27		ETBE	1.520	1.648	-8.4	99	0.00	6.17
28		Vinyl acetate	0.993	1.113	-12.1	105	0.00	6.19
29		cis-1,2-Dichloroethene	0.388	0.407	-4.9	100	0.00	6.55
30		2,2-Dichloropropane	0.501	0.574	-14.6	108	0.00	6.67
31		Bromochloromethane	0.148	0.163	-10.1	103	-0.01	6.77
32		Cyclohexane	0.765	0.756	1.2	95	0.00	6.79
33	C	Chloroform	0.648	0.690	-6.5	101	0.00	6.81
34		Ethyl acetate	0.618	0.582	5.8	90	0.00	6.88
35		Tetrahydrofuran	0.199	0.190	4.5	98	0.00	6.99
36	S	Dibromofluoromethane	0.254	0.229	9.8	99	0.00	7.01
37		Carbon Tetrachloride	0.408	0.432	-5.9	100	0.00	7.00
38		1,1,1-Trichloroethane	0.517	0.549	-6.2	100	0.00	7.06
39		2-Butanone	0.285	0.264	7.4	92	0.00	7.10
40		1,1-Dichloropropene	0.492	0.533	-8.3	103	0.00	7.18
		----------	Amount	Calc.	%Drift		----------	
41		tert-Butyl Formate	400.000	398.316	0.4	98	0.00	7.26
		----------	AvgRF	CCRF	%Dev		----------	
42		Propionitrile	0.082	0.078	4.9	92	0.00	7.43
		----------	Amount	Calc.	%Drift		----------	
43		Methacrylonitrile	400.000	402.443	-0.6	97	0.00	7.45
44		Benzene	40.000	42.526	-6.3	100	0.00	7.43
		----------	AvgRF	CCRF	%Dev		----------	
45		TAME	1.165	1.256	-7.8	100	0.00	7.49
46	S	1,2-Dichloroethane-d4	0.394	0.355	9.9	97	0.00	7.55
47		1,2-Dichloroethane	0.599	0.638	-6.5	101	0.00	7.63
48		Trichloroethene	0.360	0.390	-8.3	101	0.00	8.01
49		Methylcyclohexane	0.626	0.672	-7.3	100	0.00	8.01
50		Dibromomethane	0.238	0.256	-7.6	101	0.00	8.43
51	C	1,2-Dichloropropane	0.460	0.502	-9.1	101	0.00	8.52
52		Bromodichloromethane	0.489	0.525	-7.4	98	0.00	8.56
53		Methyl methacrylate	0.507	0.509	-0.4	94	0.00	8.66
54		2-Chloroethyl vinyl ether	0.336	0.343	-2.1	95	0.00	9.08
55		cis-1,3-Dichloropropene	0.643	0.715	-11.2	103	0.00	9.18
56	I	Chlorobenzene-d5	1.000	1.000	0.0	97	0.00	10.91
57	S	Toluene-d8	1.572	1.427	9.2	95	0.00	9.37
58	C	Toluene	2.409	2.443	-1.4	100	0.00	9.42
59		2-Nitropropane	0.217	0.244	-12.4	104	0.00	9.64
		----------	Amount	Calc.	%Drift		----------	
60		4-Methyl-2-pentanone	200.000	203.427	-1.7	94	0.00	9.75
		----------	AvgRF	CCRF	%Dev		----------	
61		trans-1,3-Dichloropropene	0.869	0.987	-13.6	104	0.00	9.81
62		Tetrachloroethene	0.562	0.540	3.9	87	0.00	9.82
		----------	Amount	Calc.	%Drift		----------	
63		Ethyl methacrylate	40.000	36.550	8.6	92	0.00	9.90

Continuing Calibration Summary

Job Number: FA5972
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VJ4427-CC4425
Lab FileID: J087635.D

			AvgRF	CCRF	%Dev			
64		1,1,2-Trichloroethane	0.493	0.535	-8.5	102	0.00	9.97
65		Dibromochloromethane	0.546	0.596	-9.2	102	0.00	10.17
66		1,3-Dichloropropane	0.985	1.065	-8.1	102	0.00	10.26
67		1,2-Dibromoethane	0.571	0.602	-5.4	100	0.00	10.43
			Amount	Calc.	%Drift			
68		2-hexanone	200.000	195.534	2.2	93	0.00	10.56
			AvgRF	CCRF	%Dev			
69		1-Chlorohexane	0.783	0.872	-11.4	103	0.00	10.86
			Amount	Calc.	%Drift			
70	C	Ethylbenzene	40.000	45.412	-13.5	102	0.00	10.93
			AvgRF	CCRF	%Dev			
71	P	Chlorobenzene	1.274	1.368	-7.4	102	0.00	10.93
72		1,1,1,2-Tetrachloroethane	0.496	0.557	-12.3	105	0.00	10.98
			Amount	Calc.	%Drift			
73		m,p-Xylene	80.000	86.505	-8.1	103	0.00	11.07
			AvgRF	CCRF	%Dev			
74		o-Xylene	1.842	2.026	-10.0	102	0.00	11.50
75		Styrene	1.462	1.648	-12.7	102	0.00	11.55
			Amount	Calc.	%Drift			
76	P	Bromoform	40.000	43.066	-7.7	102	0.00	11.61
			AvgRF	CCRF	%Dev			
77		Isopropylbenzene	2.083	2.310	-10.9	103	0.00	11.81
78	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	95	0.00	13.27
79	S	4-Bromofluorobenzene	1.203	1.076	10.6	96	0.00	12.12
			Amount	Calc.	%Drift			
80		cis-1,4-Dichloro-2-butene	40.000	50.122	-25.3#	121	0.00	12.15
			AvgRF	CCRF	%Dev			
81		n-Propylbenzene	5.148	5.751	-11.7	104	0.00	12.23
82		Bromobenzene	1.174	1.287	-9.6	101	0.00	12.25
83	P	1,1,2,2-Tetrachloroethane	1.621	1.756	-8.3	104	0.00	12.29
84		1,3,5-Trimethylbenzene	3.765	4.232	-12.4	104	0.00	12.41
85		2-Chlorotoluene	3.585	3.946	-10.1	102	0.00	12.42
			Amount	Calc.	%Drift			
86		trans-1,4-Dichloro-2-Bute	40.000	53.621	-34.1#	128	0.00	12.47
			AvgRF	CCRF	%Dev			
87		1,2,3-Trichloropropane	0.423	0.461	-9.0	105	0.00	12.45
88		Cyclohexanone	0.083	0.092	-10.8	107	0.00	12.52
89		4-Chlorotoluene	3.289	3.652	-11.0	103	0.00	12.59
			Amount	Calc.	%Drift			
90		a-Methyl Styrene	40.000	39.613	1.0	93	0.00	12.68
			AvgRF	CCRF	%Dev			
91		tert-Butylbenzene	2.089	2.371	-13.5	103	0.00	12.75
92		1,2,4-Trimethylbenzene	3.797	4.274	-12.6	103	0.00	12.82

Continuing Calibration Summary

Job Number: FA5972
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VJ4427-CC4425
Lab FileID: J087635.D

		Amount	Calc.	%Drift			
93	Pentachloroethane	40.000	46.739	-16.8	113	0.00	12.81
		AvgRF	CCRF	%Dev			
94	sec-Butylbenzene	4.490	5.063	-12.8	104	0.00	12.94
95	4-Isopropyltoluene	3.517	3.985	-13.3	104	0.00	13.07
96	1,3-Dichlorobenzene	1.958	2.149	-9.8	105	0.00	13.20
97	1,4-Dichlorobenzene	2.130	2.313	-8.6	103	0.00	13.29
98	n-Butylbenzene	2.461	2.823	-14.7	105	0.00	13.50
99	Benzyl Chloride	0.498	0.632	-26.9#	112	0.00	13.52
100	1,2-Dichlorobenzene	1.918	2.114	-10.2	103	0.00	13.71
101	1,2-Dibromo-3-Chloropropa	0.290	0.313	-7.9	102	0.00	14.44
102	Hexachlorobutadiene	0.781	0.781	0.0	102	0.00	14.98
103	1,2,4-Trichlorobenzene	1.480	1.563	-5.6	104	0.00	15.03
		Amount	Calc.	%Drift			
104	Naphthalene	40.000	42.954	-7.4	101	0.00	15.32
		AvgRF	CCRF	%Dev			
105	1,2,3-Trichlorobenzene	1.408	1.471	-4.5	105	0.00	15.49
106 I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	91	0.00	5.35
		Amount	Calc.	%Drift			
107	Ethanol	800.000	758.818	5.1	88	0.00	4.35
		AvgRF	CCRF	%Dev			
108	acrolein	1.594	1.585	0.6	94	0.00	4.83
109	Tert Butyl Alcohol	2.020	2.182	-8.0	98	0.00	5.43
110	tert Amyl alcohol	1.271	1.481	-16.5	100	0.00	7.63
111	Isobutyl alcohol	0.194	0.218	-12.4	101	0.00	7.45
		Amount	Calc.	%Drift			
112	1,4-Dioxane	800.000	747.619	6.5	87	0.00	8.74
113	3,3-Dimethyl-1-butanol	2000.000	1969.478	1.5	87	0.00	10.50

(#) = Out of Range SPCC's out = 0 CCC's out = 0
J087577.D a-msjncoxy070913.m Thu Jul 11 10:17:56 2013

Initial Calibration Summary

Job Number: FA5972
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VP659-ICC659
Lab FileID: P17212.D

Response Factor Report MSVOA13

```
Method       : C:\msdchem\1\METHODS\070313APP9-P.M (RTE Integrator)
Title        : SW-846 Method 5035A/8260B
Last Update  : Thu Jul 04 10:33:24 2013
Response via : Initial Calibration

Calibration Files
1   =P17209.D    2   =P17210.D    3   =P17211.D    4   =P17212.D
5      =P17213.D     6      =P17214.D

      Compound              1     2     3     4     5     6     Avg    %RSD
-------------------------------------------------------------------------------

1) I   Fluorobenzene         ----------------ISTD---------------------
2)     Dichlorodifluoromet 0.266 0.227 0.270 0.255 0.269 0.255 0.257   6.28
3) P   Chloromethane       0.295 0.334 0.386 0.361 0.378 0.373 0.355   9.66
4) C   Vinyl Chloride      0.289 0.318 0.362 0.348 0.360 0.351 0.338   8.48
5)     Bromomethane        0.194 0.194 0.210 0.194 0.191 0.183 0.194   4.57
6)     Chloroethane        0.165 0.186 0.204 0.189 0.185 0.171 0.183   7.46
7)     Trichlorofluorometh 0.335 0.362 0.420 0.401 0.417 0.407 0.390   8.79
8)     Ethyl Ether         0.334 0.260 0.263 0.248 0.253 0.251 0.268  12.14
9)     1,2-Dichlorotrifluo 0.198 0.279 0.319 0.302 0.325 0.309 0.289  16.30
           ---- Linear regr., Force(0,0) ----  Coefficient =  0.9985
             Response Ratio = 0.00000 + 0.31291 *A

10) C   1,1-Dichloroethene  0.263 0.307 0.388 0.365 0.389 0.373 0.348  14.76
           ---- Linear regr., Force(0,0) ----  Coefficient =  0.9989
             Response Ratio = 0.00000 + 0.37729 *A

11)     Freon 113           0.241 0.261 0.312 0.291 0.314 0.298 0.286  10.17
           ---- Linear regr., Force(0,0) ----  Coefficient =  0.9984
             Response Ratio = 0.00000 + 0.30192 *A

12)     Carbon Disulfide    0.568 0.576 0.716 0.686 0.715 0.687 0.658  10.29
           ---- Linear regr., Force(0,0) ----  Coefficient =  0.9991
             Response Ratio = 0.00000 + 0.69531 *A

13)     Iodomethane         0.474 0.473 0.536 0.531 0.554 0.536 0.517   6.77
14)     Allyl chloride      0.478 0.422 0.477 0.446 0.459 0.449 0.455   4.62
15)     Methylene Chloride  0.603 0.403 0.414 0.398 0.412 0.397 0.438  18.53
           ---- Linear regr., Force(0,0) ----  Coefficient =  0.9994
             Response Ratio = 0.00000 + 0.40199 *A

16)     Acetone             0.171 0.081 0.068 0.064 0.064 0.063 0.085  50.03
           ---- Linear regr., Force(0,0) ----  Coefficient =  0.9998
             Response Ratio = 0.00000 + 0.06353 *A

17)     Methyl acetate      0.221 0.235 0.225 0.224 0.221 0.217 0.224   2.84
18)     trans-1,2-Dichloroe 0.302 0.323 0.393 0.375 0.384 0.375 0.359  10.31
19)     Hexane              0.166 0.223 0.277 0.269 0.278 0.276 0.248  18.33
           ---- Linear regr., Force(0,0) ----  Coefficient =  0.9998
             Response Ratio = 0.00000 + 0.27598 *A

20)     Methyl Tert Butyl E 0.810 0.815 0.829 0.809 0.811 0.795 0.811   1.38
21)     Acetonitrile        0.012 0.021 0.020 0.020 0.022 0.022 0.020  18.71
           ---- Linear regr., Force(0,0) ----  Coefficient =  0.9977
             Response Ratio = 0.00000 + 0.02181 *A

22)     Di-isopropyl ether  0.994 1.118 1.172 1.134 1.162 1.140 1.120   5.77
```

Initial Calibration Summary

Job Number: FA5972 **Sample:** VP659-ICC659
Account: TETTNOAK Tetra Tech, Inc **Lab FileID:** P17212.D
Project: Holloman AFB; Alamogordo, NM

23)		Chloroprene	0.484	0.469	0.534	0.514	0.521	0.516	0.506	4.84
24)	P	1,1-Dichloroethane	0.458	0.437	0.506	0.486	0.506	0.495	0.482	5.85
25)		Acrylonitrile	0.095	0.105	0.109	0.104	0.106	0.104	0.104	4.44
26)		ETBE	0.984	1.017	1.058	1.024	1.043	1.007	1.022	2.59
27)		Vinyl acetate	0.516	0.510	0.515	0.518	0.471	0.466	0.500	4.84
28)		cis-1,2-Dichloroeth	0.291	0.282	0.300	0.292	0.303	0.296	0.294	2.56
29)		2,2-Dichloropropane	0.383	0.344	0.395	0.363	0.378	0.372	0.372	4.72
30)		Bromochloromethane	0.156	0.164	0.173	0.169	0.175	0.169	0.168	4.19
31)		Cyclohexane	0.503	0.516	0.611	0.576	0.595	0.579	0.563	7.76
32)	C	Chloroform	0.399	0.429	0.477	0.460	0.477	0.464	0.451	6.88
33)		Ethyl acetate	0.269	0.267	0.259	0.260	0.251	0.244	0.258	3.63
34)		Tetrahydrofuran	0.120	0.093	0.083	0.087	0.085	0.084	0.092	15.52

---- Linear regr., Force(0,0) ---- Coefficient = 0.9998
Response Ratio = 0.00000 + 0.08464 *A

35)	S	Dibromofluoromethan	0.268	0.274	0.274	0.269	0.279	0.280	0.274	1.76
36)		Carbon Tetrachlorid	0.289	0.344	0.439	0.424	0.439	0.429	0.394	16.01

---- Linear regr., Force(0,0) ---- Coefficient = 0.9996
Response Ratio = 0.00000 + 0.43153 *A

37)		1,1,1-Trichloroetha	0.383	0.399	0.444	0.431	0.449	0.435	0.424	6.23
38)		2-Butanone	0.136	0.124	0.115	0.111	0.111	0.109	0.117	8.84
39)		1,1-Dichloropropene	0.309	0.303	0.365	0.344	0.356	0.347	0.337	7.53
40)		Propionitrile	0.041	0.041	0.039	0.038	0.037	0.036	0.039	5.12
41)		Methacrylonitrile	0.184	0.193	0.173	0.168	0.174	0.167	0.177	5.77
42)		Benzene	0.943	0.943	1.043	1.000	1.022	0.989	0.990	4.14
43)		TAME	0.823	0.810	0.862	0.831	0.848	0.827	0.834	2.23
44)	S	1,2-Dichloroethane-	0.284	0.297	0.294	0.275	0.292	0.292	0.289	2.78

---- Linear regr., Force(0,0) ---- Coefficient = 0.9974
Response Ratio = 0.00000 + 0.29149 *A

45)		1,2-Dichloroethane	0.342	0.349	0.361	0.344	0.358	0.353	0.351	2.09
46)		Trichloroethene	0.263	0.243	0.290	0.268	0.281	0.273	0.270	6.04
47)		Methylcyclohexane	0.472	0.444	0.538	0.508	0.542	0.516	0.503	7.64
48)		Dibromomethane	0.171	0.171	0.173	0.165	0.168	0.162	0.168	2.33
49)	C	1,2-Dichloropropane	0.259	0.280	0.289	0.281	0.290	0.278	0.280	3.99
50)		Bromodichloromethan	0.340	0.342	0.348	0.343	0.355	0.347	0.346	1.58
51)		Methyl methacrylate	0.349	0.284	0.261	0.270	0.259	0.254	0.280	12.78

---- Linear regr., Force(0,0) ---- Coefficient = 0.9994
Response Ratio = 0.00000 + 0.25715 *A

52)		2-Chloroethyl vinyl	0.024	0.031	0.031	0.033	0.034	0.032	0.031	11.28
53)		cis-1,3-Dichloropro	0.401	0.411	0.460	0.455	0.454	0.439	0.437	5.70
54)	I	Chlorobenzene-d5	----------ISTD----------							
55)	S	Toluene-d8	1.155	1.149	1.149	1.167	1.149	1.165	1.156	0.70
56)	C	Toluene	1.321	1.254	1.395	1.350	1.340	1.323	1.330	3.47
57)		2-Nitropropane	0.091	0.081	0.078	0.078	0.075	0.077	0.080	7.11
58)		4-Methyl-2-pentanon	0.318	0.310	0.304	0.297	0.286	0.280	0.299	4.82
59)		trans-1,3-Dichlorop	0.399	0.430	0.461	0.456	0.450	0.455	0.442	5.36
60)		Tetrachloroethene	0.335	0.370	0.472	0.407	0.500	0.429	0.419	14.76
61)		Ethyl methacrylate	0.469	0.441	0.445	0.439	0.424	0.423	0.440	3.79
62)		1,1,2-Trichloroetha	0.312	0.221	0.226	0.225	0.221	0.221	0.238	15.27

---- Linear regr., Force(0,0) ---- Coefficient = 0.9999
Response Ratio = 0.00000 + 0.22174 *A

63)		Dibromochloromethan	0.367	0.337	0.379	0.375	0.380	0.383	0.370	4.66
64)		1,3-Dichloropropane	0.471	0.477	0.482	0.480	0.477	0.477	0.477	0.79
65)		1,2-Dibromoethane	0.323	0.305	0.311	0.311	0.311	0.306	0.311	2.10
66)		2-hexanone	0.220	0.217	0.208	0.206	0.196	0.196	0.207	4.96

Initial Calibration Summary

Job Number: FA5972 **Sample:** VP659-ICC659
Account: TETTNOAK Tetra Tech, Inc **Lab FileID:** P17212.D
Project: Holloman AFB; Alamogordo, NM

```
 67)      1-Chlorohexane       0.403 0.415 0.520 0.498 0.508 0.499 0.474  10.75
 68) C    Ethylbenzene         1.446 1.450 1.619 1.558 1.545 1.495 1.519   4.43
 69) P    Chlorobenzene        0.844 0.826 0.926 0.907 0.889 0.882 0.879   4.29
 70)      1,1,1,2-Tetrachloro 0.320 0.365 0.380 0.371 0.386 0.384 0.368   6.75
 71)      m,p-Xylene           1.032 1.082 1.231 1.172 1.124 1.068 1.118   6.56
 72)      o-Xylene             1.111 1.147 1.240 1.211 1.196 1.177 1.180   3.91
 73)      Styrene              0.950 1.023 1.115 1.094 1.075 1.066 1.054   5.65
 74) P    Bromoform            0.262 0.242 0.262 0.260 0.261 0.264 0.258   3.12
 75)      Isopropylbenzene     1.334 1.381 1.602 1.536 1.532 1.495 1.480   6.88

 76) I    1,4-Dichlorobenzene-d ----------------ISTD---------------------
 77) S    4-Bromofluorobenzen 0.747 0.756 0.748 0.743 0.765 0.743 0.750   1.15
 78)      cis-1,4-Dichloro-2- 0.087 0.109 0.132 0.154 0.172 0.177 0.138  25.77
              ---- Linear regr., Force(0,0) ----  Coefficient =  0.9971
                Response Ratio = 0.00000 + 0.17212 *A

 79)      n-Propylbenzene      2.578 2.824 3.112 2.989 3.010 2.806 2.887   6.61
 80)      Bromobenzene         0.715 0.783 0.819 0.814 0.818 0.789 0.790   5.05
 81) P    1,1,2,2-Tetrachloro 0.787 0.663 0.624 0.628 0.622 0.606 0.655  10.29
 82)      1,3,5-Trimethylbenz 2.257 2.435 2.720 2.596 2.629 2.498 2.523   6.51
 83)      2-Chlorotoluene      1.909 1.938 2.184 2.115 2.138 2.029 2.052   5.46
 84)      trans-1,4-Dichloro- 0.137 0.127 0.176 0.178 0.207 0.201 0.171  19.08
              ---- Linear regr., Force(0,0) ----  Coefficient =  0.9973
                Response Ratio = 0.00000 + 0.19997 *A

 85)      1,2,3-Trichloroprop 0.237 0.210 0.193 0.199 0.204 0.194 0.206   7.87
 86)      Cyclohexanone        0.049 0.025 0.027 0.025 0.027 0.027 0.030  30.55
              ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9994
                Response Ratio = 0.00000 + 0.02605 *A + 0.00008 *A^2

 87)      4-Chlorotoluene      1.827 1.802 1.993 1.916 1.943 1.858 1.890   3.87
 88)      tert-Butylbenzene    1.089 1.180 1.345 1.291 1.346 1.296 1.258   8.15
 89)      1,2,4-Trimethylbenz 2.454 2.444 2.729 2.637 2.642 2.503 2.568   4.58
 90)      Pentachloroethane    0.478 0.515 0.429 0.497 0.379 0.482 0.463  10.90
 91)      sec-Butylbenzene     2.388 2.715 3.104 2.972 3.067 2.871 2.853   9.39
 92)      4-Isopropyltoluene   2.376 2.454 2.905 2.717 2.804 2.638 2.649   7.68
 93)      1,3-Dichlorobenzene 1.295 1.434 1.540 1.456 1.495 1.440 1.443   5.73
 94)      1,4-Dichlorobenzene 1.452 1.571 1.642 1.597 1.640 1.594 1.583   4.42
 95)      n-Butylbenzene       1.202 1.321 1.578 1.483 1.549 1.490 1.437  10.13
 96)      Benzyl Chloride      0.346 0.290 0.313 0.306 0.312 0.304 0.312   5.99
 97)      1,2-Dichlorobenzene 1.320 1.411 1.471 1.465 1.459 1.414 1.423   4.00
 98)      1,2-Dibromo-3-Chlor 0.167 0.142 0.124 0.125 0.130 0.120 0.134  13.06
              ---- Linear regr., Force(0,0) ----  Coefficient =  0.9971
                Response Ratio = 0.00000 + 0.12326 *A

 99)      Hexachlorobutadiene 0.408 0.434 0.541 0.499 0.549 0.510 0.490  11.67
100)      1,2,4-Trichlorobenz 1.012 1.035 1.173 1.147 1.186 1.078 1.105   6.70
101)      Naphthalene          2.206 2.398 2.535 2.505 2.452 2.169 2.377   6.50
102)      1,2,3-Trichlorobenz 0.894 0.968 1.064 1.044 1.032 0.932 0.989   6.87

103) I    Tert Butyl Alcohol-d1 ----------------ISTD---------------------
104)      Ethanol              0.094 0.099 0.096 0.099 0.098 0.094 0.097   2.32
105)      Acrolein             0.206 0.230 0.245 0.249 0.237 0.233 0.233   6.45
              ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9998
                Response Ratio = 0.00000 + 0.25240 *A + -0.00197 *A^2

106)      Tert Butyl Alcohol  0.319 0.246 0.230 0.244 0.241 0.238 0.253  13.02
              ---- Linear regr., Force(0,0) ----  Coefficient =  0.9998
                Response Ratio = 0.00000 + 0.23888 *A
```

Initial Calibration Summary

Job Number: FA5972
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VP659-ICC659
Lab FileID: P17212.D

```
107)     Isobutyl alcohol    0.065 0.072 0.067 0.072 0.071 0.067 0.069   4.43
108)     Tert Amyl Alcohol   0.249 0.201 0.194 0.202 0.203 0.196 0.207  10.01
109)     1,4-Dioxane         0.027 0.017 0.020 0.022 0.022 0.021 0.021  14.72
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9982
               Response Ratio = 0.00000 + 0.02106 *A

 ---------------------------------------------------------------------------
 (#) = Out of Range

          070313APP9-P.M        Thu Jul 04 12:46:38 2013
```

Initial Calibration Verification

Job Number: FA5972
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VP659-ICV659
Lab FileID: P17216.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\070313\P17216.D Vial: 11
Acq On : 3 Jul 2013 9:44 pm Operator: eileeng
Sample : icv659-4 Inst : MSVOA13
Misc : MS24622,VP659,,,,, Multiplr: 1.00
MS Integration Params: med.p

Method : C:\msdchem\1\METHODS\070313APP9-P.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Thu Jul 04 10:33:24 2013
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	96	0.00	7.48
2	Dichlorodifluoromethane	0.257	0.303	-17.9	114	0.00	2.60
3 P	Chloromethane	0.355	0.391	-10.1	104	0.00	2.80
4 C	Vinyl Chloride	0.338	0.374	-10.7	103	0.00	2.95
5	Bromomethane	0.194	0.197	-1.5	98	0.00	3.32
6	Chloroethane	0.183	0.184	-0.5	94	0.00	3.46
7	Trichlorofluoromethane	0.390	0.442	-13.3	106	-0.02	3.67
8	Ethyl Ether	0.268	0.244	9.0	95	0.00	3.93
	----------	Amount	Calc.	%Drift		----------	
9	1,2-Dichlorotrifluoroetha	40.000	36.432	8.9	91	0.00	4.17
10 C	1,1-Dichloroethene	40.000	44.801	-12.0	112	0.00	4.19
11	Freon 113	40.000	39.565	1.1	99	0.00	4.26
12	Carbon Disulfide	40.000	45.946	-14.9	112	0.00	4.26
	----------	AvgRF	CCRF	%Dev		----------	
13	Iodomethane	0.517	0.531	-2.7	96	0.00	4.37
14	Allyl chloride	0.455	0.475	-4.4	103	0.00	4.69
	----------	Amount	Calc.	%Drift		----------	
15	Methylene Chloride	40.000	42.942	-7.4	104	0.00	4.82
16	Acetone	200.000	232.873	-16.4	111	0.00	4.85
	----------	AvgRF	CCRF	%Dev		----------	
17	Methyl acetate	0.224	0.192	14.3	82	0.00	4.96
18	trans-1,2-Dichloroethene	0.359	0.396	-10.3	102	0.00	4.98
	----------	Amount	Calc.	%Drift		----------	
19	Hexane	40.000	39.466	1.3	97	0.00	5.04
	----------	AvgRF	CCRF	%Dev		----------	
20	Methyl Tert Butyl Ether	0.811	0.806	0.6	96	0.00	5.09
	----------	Amount	Calc.	%Drift		----------	
21	Acetonitrile	400.000	368.380	7.9	99	0.00	5.46
	----------	AvgRF	CCRF	%Dev		----------	
22	Di-isopropyl ether	1.120	1.146	-2.3	97	0.00	5.46
23	Chloroprene	0.506	0.454	10.3	85	0.00	5.61
24 P	1,1-Dichloroethane	0.482	0.510	-5.8	101	0.00	5.64
25	Acrylonitrile	0.104	0.109	-4.8	101	0.00	5.69
26	ETBE	1.022	0.999	2.3	94	0.00	5.85

Initial Calibration Verification

Job Number: FA5972
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VP659-ICV659
Lab FileID: P17216.D

27		Vinyl acetate	0.500	0.514	-2.8	95	0.00	5.85
28		cis-1,2-Dichloroethene	0.294	0.311	-5.8	102	0.00	6.20
29		2,2-Dichloropropane	0.372	0.369	0.8	98	0.00	6.33
30		Bromochloromethane	0.168	0.167	0.6	95	0.00	6.41
31		Cyclohexane	0.563	0.618	-9.8	103	0.00	6.43
32	C	Chloroform	0.451	0.474	-5.1	99	0.00	6.46
33		Ethyl acetate	0.258	0.245	5.0	91	0.00	6.55
		----------	Amount	Calc.	%Drift	----------		
34		Tetrahydrofuran	40.000	40.661	-1.7	95	0.00	6.65
		----------	AvgRF	CCRF	%Dev	----------		
35	S	Dibromofluoromethane	0.274	0.267	2.6	95	0.00	6.65
		----------	Amount	Calc.	%Drift	----------		
36		Carbon Tetrachloride	40.000	40.928	-2.3	100	0.00	6.64
		----------	AvgRF	CCRF	%Dev	----------		
37		1,1,1-Trichloroethane	0.424	0.460	-8.5	103	0.00	6.71
38		2-Butanone	0.117	0.120	-2.6	105	0.00	6.77
39		1,1-Dichloropropene	0.337	0.372	-10.4	104	0.00	6.82
40		Propionitrile	0.039	0.037	5.1	93	0.00	7.08
41		Methacrylonitrile	0.177	0.167	5.6	96	0.00	7.10
42		Benzene	0.990	1.040	-5.1	100	0.00	7.08
43		TAME	0.834	0.846	-1.4	98	0.00	7.16
		----------	Amount	Calc.	%Drift	----------		
44	S	1,2-Dichloroethane-d4	50.000	47.952	4.1	98	0.00	7.21
		----------	AvgRF	CCRF	%Dev	----------		
45		1,2-Dichloroethane	0.351	0.370	-5.4	103	0.00	7.27
46		Trichloroethene	0.270	0.287	-6.3	103	0.00	7.65
47		Methylcyclohexane	0.503	0.524	-4.2	99	0.00	7.66
48		Dibromomethane	0.168	0.170	-1.2	99	0.00	8.08
49	C	1,2-Dichloropropane	0.280	0.287	-2.5	98	0.00	8.17
50		Bromodichloromethane	0.346	0.369	-6.6	103	0.00	8.22
		----------	Amount	Calc.	%Drift	----------		
51		Methyl methacrylate	40.000	41.472	-3.7	95	0.00	8.33
		----------	AvgRF	CCRF	%Dev	----------		
52		2-Chloroethyl vinyl ether	0.031	0.026	16.1	75	0.00	8.75
53		cis-1,3-Dichloropropene	0.437	0.444	-1.6	94	0.00	8.84
54	I	Chlorobenzene-d5	1.000	1.000	0.0	96	0.00	10.58
55	S	Toluene-d8	1.156	1.167	-1.0	96	0.00	9.03
56	C	Toluene	1.330	1.386	-4.2	98	0.00	9.08
57		2-Nitropropane	0.080	0.078	2.5	96	0.00	9.30
58		4-Methyl-2-pentanone	0.299	0.305	-2.0	98	0.00	9.43
59		trans-1,3-Dichloropropene	0.442	0.485	-9.7	102	0.00	9.47
60		Tetrachloroethene	0.419	0.472	-12.6	111	0.00	9.47
61		Ethyl methacrylate	0.440	0.403	8.4	88	0.00	9.59
		----------	Amount	Calc.	%Drift	----------		
62		1,1,2-Trichloroethane	40.000	41.590	-4.0	98	0.00	9.64
		----------	AvgRF	CCRF	%Dev	----------		
63		Dibromochloromethane	0.370	0.395	-6.8	101	0.00	9.83
64		1,3-Dichloropropane	0.477	0.489	-2.5	97	0.00	9.92
65		1,2-Dibromoethane	0.311	0.324	-4.2	100	0.00	10.09

Initial Calibration Verification

Job Number: FA5972
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VP659-ICV659
Lab FileID: P17216.D

66		2-hexanone	0.207	0.205	1.0	95	0.00	10.24
67		1-Chlorohexane	0.474	0.498	-5.1	95	0.00	10.54
68	C	Ethylbenzene	1.519	1.587	-4.5	97	0.00	10.60
69	P	Chlorobenzene	0.879	0.984	-11.9	104	0.00	10.59
70		1,1,1,2-Tetrachloroethane	0.368	0.408	-10.9	105	0.00	10.65
71		m,p-Xylene	1.118	1.225	-9.6	100	0.00	10.74
72		o-Xylene	1.180	1.318	-11.7	104	0.00	11.18
73		Styrene	1.054	1.097	-4.1	96	0.00	11.23
74	P	Bromoform	0.258	0.268	-3.9	99	0.00	11.28
75		Isopropylbenzene	1.480	1.704	-15.1	106	0.00	11.48
76	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	96	0.00	12.94
77	S	4-Bromofluorobenzene	0.750	0.747	0.4	97	0.00	11.79
		----------	Amount	Calc.	%Drift	----------		
78		cis-1,4-Dichloro-2-butene	40.000	41.559	-3.9	112	0.00	11.83
		----------	AvgRF	CCRF	%Dev	----------		
79		n-Propylbenzene	2.887	3.342	-15.8	108	0.00	11.90
80		Bromobenzene	0.790	0.839	-6.2	99	0.00	11.91
81	P	1,1,2,2-Tetrachloroethane	0.655	0.643	1.8	99	0.00	11.97
82		1,3,5-Trimethylbenzene	2.523	2.572	-1.9	96	0.00	12.09
83		2-Chlorotoluene	2.052	2.287	-11.5	104	0.00	12.09
		----------	Amount	Calc.	%Drift	----------		
84		trans-1,4-Dichloro-2-Bute	40.000	37.149	7.1	101	0.00	12.15
		----------	AvgRF	CCRF	%Dev	----------		
85		1,2,3-Trichloropropane	0.206	0.214	-3.9	104	0.00	12.13
		----------	Amount	Calc.	%Drift	----------		
86		Cyclohexanone	200.000	136.067	32.0#	68	0.00	12.19
		----------	AvgRF	CCRF	%Dev	----------		
87		4-Chlorotoluene	1.890	2.167	-14.7	109	0.00	12.25
88		tert-Butylbenzene	1.258	1.442	-14.6	108	0.00	12.43
89		1,2,4-Trimethylbenzene	2.568	2.645	-3.0	97	0.00	12.50
90		Pentachloroethane	0.463	0.455	1.7	88	0.00	12.47
91		sec-Butylbenzene	2.853	3.325	-16.5	108	0.00	12.61
92		4-Isopropyltoluene	2.649	2.968	-12.0	105	0.00	12.75
93		1,3-Dichlorobenzene	1.443	1.646	-14.1	109	0.00	12.87
94		1,4-Dichlorobenzene	1.583	1.687	-6.6	102	0.00	12.96
95		n-Butylbenzene	1.437	1.531	-6.5	100	0.00	13.18
96		Benzyl Chloride	0.312	0.271	13.1	86	0.00	13.20
97		1,2-Dichlorobenzene	1.423	1.618	-13.7	107	0.00	13.39
		----------	Amount	Calc.	%Drift	----------		
98		1,2-Dibromo-3-Chloropropa	40.000	42.955	-7.4	103	0.00	14.15
		----------	AvgRF	CCRF	%Dev	----------		
99		Hexachlorobutadiene	0.490	0.579	-18.2	112	0.00	14.70
100		1,2,4-Trichlorobenzene	1.105	1.199	-8.5	101	0.00	14.75
101		Naphthalene	2.377	2.550	-7.3	98	0.00	15.03
102		1,2,3-Trichlorobenzene	0.989	1.067	-7.9	99	0.00	15.19
103	I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	102	0.00	5.08
104		Ethanol	0.097	0.091	6.2	93	0.00	3.93
		----------	Amount	Calc.	%Drift	----------		
105		Acrolein	200.000	364.818	-82.4#	178	0.00	4.55

Initial Calibration Verification

Job Number: FA5972
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VP659-ICV659
Lab FileID: P17216.D

106	Tert Butyl Alcohol	400.000	389.483	2.6	97	0.00	5.14
		AvgRF	CCRF	%Dev			
107	Isobutyl alcohol	0.069	0.066	4.3	94	0.00	7.20
108	Tert Amyl Alcohol	0.207	0.193	6.8	98	0.00	7.32
		Amount	Calc.	%Drift			
109	1,4-Dioxane	800.000	810.895	-1.4	101	0.00	8.41

(#) = Out of Range SPCC's out = 0 CCC's out = 0
P17212.D 070313APP9-P.M Thu Jul 04 12:46:10 2013

6.7.5

6

Continuing Calibration Summary

Job Number: FA5972
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VP664-CC659
Lab FileID: P17354.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\071013\P17354.D Vial: 1
Acq On : 10 Jul 2013 10:20 am Operator: eileeng
Sample : CC659-4 Inst : MSVOA13
Misc : MS24656,VP664,,,,, Multiplr: 1.00
MS Integration Params: med.p

Method : C:\msdchem\1\METHODS\070313APP9-P.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Tue Jul 09 08:46:33 2013
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	81	0.00	7.48
2		Dichlorodifluoromethane	0.257	0.351	-36.6#	111	0.00	2.61
3	P	Chloromethane	0.355	0.495	-39.4#	111	0.00	2.81
4	C	Vinyl Chloride	0.338	0.400	-18.3	93	0.00	2.96
5		Bromomethane	0.194	0.231	-19.1	96	0.00	3.33
6		Chloroethane	0.183	0.205	-12.0	88	0.00	3.46
7		Trichlorofluoromethane	0.390	0.537	-37.7#	108	-0.02	3.67
8		Ethyl Ether	0.268	0.247	7.8	80	0.00	3.94
		----------	Amount	Calc.	%Drift		----------	
9		1,2-Dichlorotrifluoroetha	40.000	41.760	-4.4	87	0.00	4.17
10	C	1,1-Dichloroethene	40.000	42.083	-5.2	88	0.00	4.19
11		Freon 113	40.000	44.333	-10.8	93	0.00	4.26
12		Carbon Disulfide	40.000	41.185	-3.0	84	0.00	4.27
		----------	AvgRF	CCRF	%Dev		----------	
13		Iodomethane	0.517	0.583	-12.8	89	0.00	4.38
14		Allyl chloride	0.455	0.463	-1.8	84	-0.01	4.69
		----------	Amount	Calc.	%Drift		----------	
15		Methylene Chloride	40.000	42.276	-5.7	86	0.00	4.81
16		Acetone	200.000	225.005	-12.5	90	0.00	4.85
		----------	AvgRF	CCRF	%Dev		----------	
17		Methyl acetate	0.224	0.238	-6.2	86	0.00	4.97
18		trans-1,2-Dichloroethene	0.359	0.383	-6.7	83	0.00	4.99
		----------	Amount	Calc.	%Drift		----------	
19		Hexane	40.000	41.296	-3.2	86	0.00	5.05
		----------	AvgRF	CCRF	%Dev		----------	
20		Methyl Tert Butyl Ether	0.811	0.807	0.5	81	0.00	5.09
		----------	Amount	Calc.	%Drift		----------	
21		Acetonitrile	400.000	405.321	-1.3	91	0.00	5.46
		----------	AvgRF	CCRF	%Dev		----------	
22		Di-isopropyl ether	1.120	1.127	-0.6	80	0.00	5.46
23		Chloroprene	0.506	0.505	0.2	79	0.00	5.61
24	P	1,1-Dichloroethane	0.482	0.481	0.2	80	0.00	5.64
25		Acrylonitrile	0.104	0.097	6.7	76	0.00	5.68
26		ETBE	1.022	0.979	4.2	77	0.00	5.85

Continuing Calibration Summary

Job Number: FA5972
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VP664-CC659
Lab FileID: P17354.D

27		Vinyl acetate	0.500	0.468	6.4	73	0.00	5.85
28		cis-1,2-Dichloroethene	0.294	0.292	0.7	81	0.00	6.20
29		2,2-Dichloropropane	0.372	0.436	-17.2	97	0.00	6.33
30		Bromochloromethane	0.168	0.168	0.0	80	0.00	6.41
31		Cyclohexane	0.563	0.549	2.5	77	0.00	6.44
32	C	Chloroform	0.451	0.486	-7.8	85	0.00	6.47
33		Ethyl acetate	0.258	0.249	3.5	77	0.00	6.55
		----------	Amount	Calc.	%Drift	----------		
34		Tetrahydrofuran	40.000	35.013	12.5	69	0.00	6.65
		----------	AvgRF	CCRF	%Dev	----------		
35	S	Dibromofluoromethane	0.274	0.286	-4.4	86	0.00	6.65
		----------	Amount	Calc.	%Drift	----------		
36		Carbon Tetrachloride	40.000	45.813	-14.5	94	0.00	6.64
		----------	AvgRF	CCRF	%Dev	----------		
37		1,1,1-Trichloroethane	0.424	0.491	-15.8	92	0.00	6.71
38		2-Butanone	0.117	0.113	3.4	83	0.00	6.77
39		1,1-Dichloropropene	0.337	0.340	-0.9	80	0.00	6.82
40		Propionitrile	0.039	0.034	12.8	73	0.00	7.08
41		Methacrylonitrile	0.177	0.165	6.8	79	0.00	7.10
42		Benzene	0.990	0.994	-0.4	80	0.00	7.08
43		TAME	0.834	0.791	5.2	77	0.00	7.16
		----------	Amount	Calc.	%Drift	----------		
44	S	1,2-Dichloroethane-d4	50.000	54.282	-8.6	93	0.00	7.20
		----------	AvgRF	CCRF	%Dev	----------		
45		1,2-Dichloroethane	0.351	0.388	-10.5	91	0.00	7.28
46		Trichloroethene	0.270	0.283	-4.8	85	0.00	7.65
47		Methylcyclohexane	0.503	0.509	-1.2	81	0.00	7.66
48		Dibromomethane	0.168	0.172	-2.4	84	0.00	8.08
49	C	1,2-Dichloropropane	0.280	0.267	4.6	77	0.00	8.18
50		Bromodichloromethane	0.346	0.377	-9.0	89	0.00	8.22
		----------	Amount	Calc.	%Drift	----------		
51		Methyl methacrylate	40.000	38.574	3.6	74	0.00	8.33
		----------	AvgRF	CCRF	%Dev	----------		
52		2-Chloroethyl vinyl ether	0.031	0.014	54.8#	35#	0.00	8.75
53		cis-1,3-Dichloropropene	0.437	0.448	-2.5	80	0.00	8.84
54	I	Chlorobenzene-d5	1.000	1.000	0.0	87	0.00	10.58
55	S	Toluene-d8	1.156	1.103	4.6	82	0.00	9.03
56	C	Toluene	1.330	1.275	4.1	82	0.00	9.08
57		2-Nitropropane	0.080	0.074	7.5	82	0.00	9.30
58		4-Methyl-2-pentanone	0.299	0.281	6.0	82	0.00	9.42
59		trans-1,3-Dichloropropene	0.442	0.429	2.9	81	0.00	9.47
60		Tetrachloroethene	0.419	0.400	4.5	85	0.00	9.47
61		Ethyl methacrylate	0.440	0.360	18.2	71	0.00	9.59
		----------	Amount	Calc.	%Drift	----------		
62		1,1,2-Trichloroethane	40.000	37.814	5.5	80	0.00	9.64
		----------	AvgRF	CCRF	%Dev	----------		
63		Dibromochloromethane	0.370	0.379	-2.4	87	0.00	9.83
64		1,3-Dichloropropane	0.477	0.447	6.3	81	0.00	9.92
65		1,2-Dibromoethane	0.311	0.300	3.5	83	0.00	10.09

Continuing Calibration Summary

Job Number: FA5972 **Sample:** VP664-CC659
Account: TETTNOAK Tetra Tech, Inc **Lab FileID:** P17354.D
Project: Holloman AFB; Alamogordo, NM

66		2-hexanone	0.207	0.193	6.8	81	0.00	10.25
67		1-Chlorohexane	0.474	0.479	-1.1	83	0.00	10.54
68	C	Ethylbenzene	1.519	1.563	-2.9	87	0.00	10.60
69	P	Chlorobenzene	0.879	0.891	-1.4	85	0.00	10.60
70		1,1,1,2-Tetrachloroethane	0.368	0.395	-7.3	92	0.00	10.65
71		m,p-Xylene	1.118	1.161	-3.8	86	0.00	10.74
72		o-Xylene	1.180	1.177	0.3	84	0.00	11.18
73		Styrene	1.054	1.066	-1.1	84	0.00	11.22
74	P	Bromoform	0.258	0.267	-3.5	89	0.00	11.28
75		Isopropylbenzene	1.480	1.554	-5.0	88	0.00	11.49
76	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	95	0.00	12.94
77	S	4-Bromofluorobenzene	0.750	0.699	6.8	89	0.00	11.79
		----------	Amount	Calc.	%Drift	----------		
78		cis-1,4-Dichloro-2-butene	40.000	24.052	39.9#	64	0.00	11.83
		----------	AvgRF	CCRF	%Dev	----------		
79		n-Propylbenzene	2.887	2.861	0.9	91	0.00	11.91
80		Bromobenzene	0.790	0.785	0.6	92	0.00	11.91
81	P	1,1,2,2-Tetrachloroethane	0.655	0.549	16.2	83	0.00	11.97
82		1,3,5-Trimethylbenzene	2.523	2.460	2.5	90	0.00	12.09
83		2-Chlorotoluene	2.052	2.020	1.6	91	0.00	12.09
		----------	Amount	Calc.	%Drift	----------		
84		trans-1,4-Dichloro-2-Bute	40.000	25.310	36.7#	68	0.00	12.15
		----------	AvgRF	CCRF	%Dev	----------		
85		1,2,3-Trichloropropane	0.206	0.197	4.4	94	0.00	12.13
		----------	Amount	Calc.	%Drift	----------		
86		Cyclohexanone	200.000	152.062	24.0#	75	0.00	12.19
		----------	AvgRF	CCRF	%Dev	----------		
87		4-Chlorotoluene	1.890	1.825	3.4	91	0.00	12.25
88		tert-Butylbenzene	1.258	1.287	-2.3	95	0.00	12.43
89		1,2,4-Trimethylbenzene	2.568	2.570	-0.1	93	0.00	12.50
90		Pentachloroethane	0.463	0.521	-12.5	100	0.00	12.47
91		sec-Butylbenzene	2.853	2.988	-4.7	96	0.00	12.61
92		4-Isopropyltoluene	2.649	2.743	-3.5	96	0.00	12.74
93		1,3-Dichlorobenzene	1.443	1.496	-3.7	98	0.00	12.87
94		1,4-Dichlorobenzene	1.583	1.671	-5.6	100	0.00	12.96
95		n-Butylbenzene	1.437	1.502	-4.5	96	0.00	13.18
96		Benzyl Chloride	0.312	0.321	-2.9	100	0.00	13.20
97		1,2-Dichlorobenzene	1.423	1.492	-4.8	97	0.00	13.39
		----------	Amount	Calc.	%Drift	----------		
98		1,2-Dibromo-3-Chloropropa	40.000	38.053	4.9	90	0.00	14.14
		----------	AvgRF	CCRF	%Dev	----------		
99		Hexachlorobutadiene	0.490	0.557	-13.7	106	0.00	14.70
100		1,2,4-Trichlorobenzene	1.105	1.176	-6.4	97	0.00	14.75
101		Naphthalene	2.377	2.318	2.5	88	0.00	15.03
102		1,2,3-Trichlorobenzene	0.989	1.053	-6.5	96	0.00	15.18
103	I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	81	0.00	5.08
104		Ethanol	0.097	0.105	-8.2	86	0.00	3.94
		----------	Amount	Calc.	%Drift	----------		
105		Acrolein	200.000	168.184	15.9	68	0.00	4.55

Continuing Calibration Summary

Job Number: FA5972
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VP664-CC659
Lab FileID: P17354.D

106	Tert Butyl Alcohol	400.000	395.123	1.2	79	0.00	5.15

		AvgRF	CCRF	%Dev			
107	Isobutyl alcohol	0.069	0.068	1.4	77	0.00	7.20
108	Tert Amyl Alcohol	0.207	0.181	12.6	73	0.00	7.32

		Amount	Calc.	%Drift			
109	1,4-Dioxane	800.000	787.862	1.5	78	0.00	8.41

(#) = Out of Range SPCC's out = 0 CCC's out = 0
P17212.D 070313APP9-P.M Wed Jul 10 16:29:13 2013

Southeast ACCUTEST LABORATORIES

09/05/13

Technical Report for

Tetra Tech, Inc

Holloman AFB; Alamogordo, NM

SD-27

Accutest Job Number: FA7671

Sampling Date: 08/28/13

Report to:

Tetra Tech
1093 Commerce Park Dr Suite 100
Oak Ridge, TN 37830
Frank.Bogle@tetratech.com; Maureen.McMyler@tetratech.com;
Valerie.Bogle@tetratech.com
ATTN: Frank Bogle

Total number of pages in report: **96**

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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Accutest Laboratories

Sample Summary

Tetra Tech, Inc

Job No: FA7671

Holloman AFB; Alamogordo, NM
Project No: SD-27

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
FA7671-1	08/28/13	08:09	SW	08/29/13	AQ	Ground Water	MW27-01-082013
FA7671-2	08/28/13	07:45	SW	08/29/13	AQ	Ground Water	MW27-02-082013
FA7671-3	08/28/13	07:39	SW	08/29/13	AQ	Ground Water	MW27-03-082013
FA7671-4	08/28/13	07:30	SW	08/29/13	AQ	Ground Water	MW27-04-082013
FA7671-4D	08/28/13	07:30	SW	08/29/13	AQ	Water Dup/MSD	MW27-04-082013
FA7671-4S	08/28/13	07:30	SW	08/29/13	AQ	Water Matrix Spike	MW27-04-082013
FA7671-5	08/28/13	07:57	SW	08/29/13	AQ	Ground Water	MW27-05-082013
FA7671-6	08/28/13	07:57	SW	08/29/13	AQ	Ground Water	MW27-DUP01-082013
FA7671-7	08/28/13	06:30	SW	08/29/13	AQ	Trip Blank Water	SD27-TB01-082013

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Tetra Tech, Inc **Job:** FA7671

Site: Holloman AFB; Alamogordo, NM **Report:** 9/5/2013 2:04:32 PM

6 Sample(s), 1 Trip Blank(s) were collected on 08/28/2013 and were received at Accutest SE on 08/29/2013 properly preserved, at 2.8 Deg. C and intact. These Samples received an Accutest job number of FA7671. 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: AQ **Batch ID:** VB3795

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA7707-6MS, FA7707-6MSD were used as the QC samples indicated.

Matrix: AQ **Batch ID:** VO740

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA7671-4MS, FA7671-4MSD were used as the QC samples indicated.

Blank Spike Recovery(s) for Acetone, 2-Hexanone, Methyl ethyl ketone are outside control limits. Recoveries biased high, but samples were ND for Acetone, 2-Hexanone, Methyl ethyl ketone.

Matrix Spike Recovery(s) for 2-Chloroethyl vinyl ether, 2-Hexanone, 4-Methyl-2-pentanone, cis-1,4-Dichloro-2-Butene, Trans-1,4-Dichloro-2-Butene are outside control limits. Probable cause is due to matrix interference.

Matrix Spike Duplicate Recovery(s) for 2-Chloroethyl vinyl ether, 2-Hexanone, 4-Methyl-2-pentanone, Allyl chloride, cis-1,3-Dichloropropene, cis-1,4-Dichloro-2-Butene, Styrene, trans-1,3-Dichloropropene, Trans-1,4-Dichloro-2-Butene are outside control limits. Probable cause is due to matrix interference.

FA7671-1 for Acetone: Associated BS recovery outside control limits.

FA7671-1 for 2-Hexanone: Associated BS recovery outside control limits.

FA7671-1 for Methyl ethyl ketone: Associated BS recovery outside control limits.

FA7671-2 for Acetone: Associated BS recovery outside control limits.

FA7671-2 for 2-Hexanone: Associated BS recovery outside control limits.

FA7671-2 for Methyl ethyl ketone: Associated BS recovery outside control limits.

FA7671-4 for Acetone: Associated BS recovery outside control limits.

FA7671-4 for 2-Hexanone: Associated BS recovery outside control limits.

FA7671-4 for Methyl ethyl ketone: Associated BS recovery outside control limits.

FA7671-7 for Acetone: Associated BS recovery outside control limits.

FA7671-7 for 2-Hexanone: Associated BS recovery outside control limits.

FA7671-7 for Methyl ethyl ketone: Associated BS recovery outside control limits.

FA7671-3 for 2-Hexanone: Associated BS recovery outside control limits.

FA7671-3 for Methyl ethyl ketone: Associated BS recovery outside control limits.

Volatiles by GCMS By Method SW846 8260B

Matrix: AQ **Batch ID:** VO742

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA7671-5MS, FA7671-5MSD were used as the QC samples indicated.

Blank Spike Recovery(s) for Acetone, Dichlorodifluoromethane are outside control limits. Recoveries biased high, but samples were ND for Acetone, Dichlorodifluoromethane.

Blank Spike Recovery(s) for 2-Chloroethyl vinyl ether are outside control limits. Sporadic marginal failure.

Matrix Spike Recovery(s) for 2-Chloroethyl vinyl ether are outside control limits. Probable cause is due to matrix interference.

Matrix Spike Duplicate Recovery(s) for 2-Chloroethyl vinyl ether, Allyl chloride, cis-1,3-Dichloropropene, cis-1,4-Dichloro-2-Butene, trans-1,3-Dichloropropene, Trans-1,4-Dichloro-2-Butene are outside control limits. Probable cause is due to matrix interference.

RPD(s) for MSD for 2-Chloroethyl vinyl ether, cis-1,4-Dichloro-2-Butene, Trans-1,4-Dichloro-2-Butene are outside control limits for sample FA7671-5MSD. Probable cause is due to sample non-homogeneity.

VO742-BS for 2-Chloroethyl vinyl ether: Sporadic marginal failure.

FA7671-5 for Acetone: Associated BS recovery outside control limits.

FA7671-5 for Dichlorodifluoromethane: Associated BS recovery outside control limits.

FA7671-5 for 2-Chloroethyl vinyl ether: Associated BS recovery outside control limits.

FA7671-6 for Acetone: Associated BS recovery outside control limits.

FA7671-6 for 2-Chloroethyl vinyl ether: Associated BS recovery outside control limits.

FA7671-6 for Dichlorodifluoromethane: Associated BS recovery outside control limits.

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: September 5, 2013

Kim Benham, Client Services (signature on file)

Summary of Hits

Job Number: FA7671
Account: Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM
Collected: 08/28/13

3

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
FA7671-1	**MW27-01-082013**					
No hits reported in this sample.						
FA7671-2	**MW27-02-082013**					
Benzene		3.7	1.0	0.21	ug/l	SW846 8260B
n-Butylbenzene		0.24 J	1.0	0.20	ug/l	SW846 8260B
sec-Butylbenzene		4.9	1.0	0.21	ug/l	SW846 8260B
tert-Butylbenzene		0.42 J	1.0	0.29	ug/l	SW846 8260B
Chloroform		0.45 J	1.0	0.26	ug/l	SW846 8260B
Ethylbenzene		4.6	1.0	0.29	ug/l	SW846 8260B
Isopropylbenzene		10.6	1.0	0.20	ug/l	SW846 8260B
p-Isopropyltoluene		1.1	1.0	0.20	ug/l	SW846 8260B
n-Propylbenzene		14.6	1.0	0.23	ug/l	SW846 8260B
1,2,4-Trimethylbenzene		1.5 J	2.0	0.20	ug/l	SW846 8260B
1,3,5-Trimethylbenzene		5.3	2.0	0.20	ug/l	SW846 8260B
Toluene		0.23 J	1.0	0.20	ug/l	SW846 8260B
m,p-Xylene		1.2 J	2.0	0.30	ug/l	SW846 8260B
o-Xylene		0.53 J	1.0	0.20	ug/l	SW846 8260B
FA7671-3	**MW27-03-082013**					
Isopropylbenzene		0.28 J	1.0	0.20	ug/l	SW846 8260B
FA7671-4	**MW27-04-082013**					
sec-Butylbenzene		0.76 J	1.0	0.21	ug/l	SW846 8260B
Isopropylbenzene		1.1	1.0	0.20	ug/l	SW846 8260B
n-Propylbenzene		0.72 J	1.0	0.23	ug/l	SW846 8260B
FA7671-5	**MW27-05-082013**					
Benzene		461	20	4.2	ug/l	SW846 8260B
sec-Butylbenzene		8.1	5.0	1.1	ug/l	SW846 8260B
Carbon disulfide		2.9 J	10	2.5	ug/l	SW846 8260B
Ethylbenzene		499	20	5.8	ug/l	SW846 8260B
Isopropylbenzene		49.7	5.0	1.0	ug/l	SW846 8260B
p-Isopropyltoluene		5.3	5.0	1.0	ug/l	SW846 8260B
Naphthalene		9.8 J	25	5.0	ug/l	SW846 8260B
n-Propylbenzene		52.8	5.0	1.1	ug/l	SW846 8260B
1,2,4-Trimethylbenzene		213	10	1.0	ug/l	SW846 8260B
1,3,5-Trimethylbenzene		52.8	10	1.0	ug/l	SW846 8260B
Toluene		189	5.0	1.0	ug/l	SW846 8260B
m,p-Xylene		54.0	10	1.5	ug/l	SW846 8260B

Summary of Hits

Job Number: FA7671
Account: Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM
Collected: 08/28/13

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
o-Xylene		249	5.0	1.0	ug/l	SW846 8260B
FA7671-6	**MW27-DUP01-082013**					
Benzene		443	20	4.2	ug/l	SW846 8260B
sec-Butylbenzene		8.4	5.0	1.1	ug/l	SW846 8260B
Carbon disulfide		2.5 J	10	2.5	ug/l	SW846 8260B
Ethylbenzene		469	20	5.8	ug/l	SW846 8260B
Isopropylbenzene		50.5	5.0	1.0	ug/l	SW846 8260B
p-Isopropyltoluene		5.2	5.0	1.0	ug/l	SW846 8260B
Naphthalene		11.0 J	25	5.0	ug/l	SW846 8260B
n-Propylbenzene		54.3	5.0	1.1	ug/l	SW846 8260B
1,2,4-Trimethylbenzene		220	10	1.0	ug/l	SW846 8260B
1,3,5-Trimethylbenzene		54.8	10	1.0	ug/l	SW846 8260B
Toluene		190	5.0	1.0	ug/l	SW846 8260B
m,p-Xylene		56.5	10	1.5	ug/l	SW846 8260B
o-Xylene		258	5.0	1.0	ug/l	SW846 8260B
FA7671-7	**SD27-TB01-082013**					
Toluene		0.33 J	1.0	0.20	ug/l	SW846 8260B

Southeast ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	MW27-01-082013		
Lab Sample ID:	FA7671-1	**Date Sampled:**	08/28/13
Matrix:	AQ - Ground Water	**Date Received:**	08/29/13
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	O18322.D	1	08/30/13	EG	n/a	n/a	VO740
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone [a]	ND	25	10	ug/l	
75-05-8	Acetonitrile	ND	20	3.7	ug/l	
107-02-8	Acrolein	ND	20	6.9	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
107-05-1	Allyl chloride	ND	2.0	0.56	ug/l	
71-43-2	Benzene	ND	1.0	0.21	ug/l	
100-44-7	Benzyl Chloride	ND	2.0	0.38	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.22	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.34	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.20	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.21	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.29	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.26	ug/l	
544-10-5	1-Chlorohexane	ND	2.0	0.20	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.21	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.20	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.3	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.49	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.31	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.25	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.71	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.30	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.26	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.27	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.25	ug/l	

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:	MW27-01-082013		
Lab Sample ID:	FA7671-1	**Date Sampled:**	08/28/13
Matrix:	AQ - Ground Water	**Date Received:**	08/29/13
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	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	10	1.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.25	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.20	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.23	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.29	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.50	ug/l	
76-13-1	Freon 113	ND	1.0	0.33	ug/l	
591-78-6	2-Hexanone [a]	ND	10	2.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.50	ug/l	
110-54-3	Hexane	ND	2.0	0.88	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.20	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.3	ug/l	
126-98-7	Methacrylonitrile	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.79	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.50	ug/l	
74-88-4	Methyl iodide	ND	1.0	0.25	ug/l	
80-62-6	Methyl methacrylate	ND	5.0	0.50	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.34	ug/l	
75-09-2	Methylene chloride	ND	5.0	2.0	ug/l	
78-93-3	Methyl ethyl ketone [a]	ND	5.0	3.1	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.21	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
76-01-7	Pentachloroethane	ND	10	1.0	ug/l	
107-12-0	Propionitrile	ND	20	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.23	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.23	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.24	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.56	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	

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:	MW27-01-082013		
Lab Sample ID:	FA7671-1	**Date Sampled:**	08/28/13
Matrix:	AQ - Ground Water	**Date Received:**	08/29/13
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	2.0	0.20	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.32	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.31	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	10	2.1	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.44	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.1	ug/l	
	m,p-Xylene	ND	2.0	0.30	ug/l	
95-47-6	o-Xylene	ND	1.0	0.20	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	94%		83-118%
17060-07-0	1,2-Dichloroethane-D4	93%		79-125%
2037-26-5	Toluene-D8	96%		85-112%
460-00-4	4-Bromofluorobenzene	94%		83-118%

(a) Associated BS recovery outside control limits.

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:	MW27-02-082013		
Lab Sample ID:	FA7671-2	**Date Sampled:**	08/28/13
Matrix:	AQ - Ground Water	**Date Received:**	08/29/13
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	O18323.D	1	08/30/13	EG	n/a	n/a	VO740
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone [a]	ND	25	10	ug/l	
75-05-8	Acetonitrile	ND	20	3.7	ug/l	
107-02-8	Acrolein	ND	20	6.9	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
107-05-1	Allyl chloride	ND	2.0	0.56	ug/l	
71-43-2	Benzene	3.7	1.0	0.21	ug/l	
100-44-7	Benzyl Chloride	ND	2.0	0.38	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.22	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.34	ug/l	
104-51-8	n-Butylbenzene	0.24	1.0	0.20	ug/l	J
135-98-8	sec-Butylbenzene	4.9	1.0	0.21	ug/l	
98-06-6	tert-Butylbenzene	0.42	1.0	0.29	ug/l	J
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
67-66-3	Chloroform	0.45	1.0	0.26	ug/l	J
544-10-5	1-Chlorohexane	ND	2.0	0.20	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.21	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.20	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.3	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.49	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.31	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.25	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.71	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.30	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.26	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.27	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.25	ug/l	

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:	MW27-02-082013		
Lab Sample ID:	FA7671-2	**Date Sampled:**	08/28/13
Matrix:	AQ - Ground Water	**Date Received:**	08/29/13
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	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	10	1.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.25	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.20	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.23	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	4.6	1.0	0.29	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.50	ug/l	
76-13-1	Freon 113	ND	1.0	0.33	ug/l	
591-78-6	2-Hexanone [a]	ND	10	2.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.50	ug/l	
110-54-3	Hexane	ND	2.0	0.88	ug/l	
98-82-8	Isopropylbenzene	10.6	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	1.1	1.0	0.20	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.3	ug/l	
126-98-7	Methacrylonitrile	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.79	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.50	ug/l	
74-88-4	Methyl iodide	ND	1.0	0.25	ug/l	
80-62-6	Methyl methacrylate	ND	5.0	0.50	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.34	ug/l	
75-09-2	Methylene chloride	ND	5.0	2.0	ug/l	
78-93-3	Methyl ethyl ketone [a]	ND	5.0	3.1	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.21	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
76-01-7	Pentachloroethane	ND	10	1.0	ug/l	
107-12-0	Propionitrile	ND	20	5.0	ug/l	
103-65-1	n-Propylbenzene	14.6	1.0	0.23	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.23	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.24	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.56	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	

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:	MW27-02-082013		
Lab Sample ID:	FA7671-2	**Date Sampled:**	08/28/13
Matrix:	AQ - Ground Water	**Date Received:**	08/29/13
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	1.5	2.0	0.20	ug/l	J
108-67-8	1,3,5-Trimethylbenzene	5.3	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.32	ug/l	
108-88-3	Toluene	0.23	1.0	0.20	ug/l	J
79-01-6	Trichloroethylene	ND	1.0	0.31	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	10	2.1	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.44	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.1	ug/l	
	m,p-Xylene	1.2	2.0	0.30	ug/l	J
95-47-6	o-Xylene	0.53	1.0	0.20	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		83-118%
17060-07-0	1,2-Dichloroethane-D4	94%		79-125%
2037-26-5	Toluene-D8	92%		85-112%
460-00-4	4-Bromofluorobenzene	95%		83-118%

(a) Associated BS recovery outside control limits.

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:	MW27-03-082013		
Lab Sample ID:	FA7671-3	**Date Sampled:**	08/28/13
Matrix:	AQ - Ground Water	**Date Received:**	08/29/13
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	O18324.D	1	08/30/13	EG	n/a	n/a	VO740
Run #2	B092771.D	1	09/04/13	WV	n/a	n/a	VB3795

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND [a]	25	10	ug/l	
75-05-8	Acetonitrile	ND	20	3.7	ug/l	
107-02-8	Acrolein	ND	20	6.9	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
107-05-1	Allyl chloride	ND	2.0	0.56	ug/l	
71-43-2	Benzene	ND	1.0	0.21	ug/l	
100-44-7	Benzyl Chloride	ND	2.0	0.38	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.22	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.34	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.20	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.21	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.29	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.26	ug/l	
544-10-5	1-Chlorohexane	ND	2.0	0.20	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.21	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.20	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.3	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.49	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.31	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.25	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.71	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.30	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.26	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.27	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.25	ug/l	

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:	MW27-03-082013		
Lab Sample ID:	FA7671-3	**Date Sampled:**	08/28/13
Matrix:	AQ - Ground Water	**Date Received:**	08/29/13
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	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	10	1.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.25	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.20	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.23	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.29	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.50	ug/l	
76-13-1	Freon 113	ND	1.0	0.33	ug/l	
591-78-6	2-Hexanone [b]	ND	10	2.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.50	ug/l	
110-54-3	Hexane	ND	2.0	0.88	ug/l	
98-82-8	Isopropylbenzene	0.28	1.0	0.20	ug/l	J
99-87-6	p-Isopropyltoluene	ND	1.0	0.20	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.3	ug/l	
126-98-7	Methacrylonitrile	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.79	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.50	ug/l	
74-88-4	Methyl iodide	ND	1.0	0.25	ug/l	
80-62-6	Methyl methacrylate	ND	5.0	0.50	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.34	ug/l	
75-09-2	Methylene chloride	ND	5.0	2.0	ug/l	
78-93-3	Methyl ethyl ketone [b]	ND	5.0	3.1	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.21	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
76-01-7	Pentachloroethane	ND	10	1.0	ug/l	
107-12-0	Propionitrile	ND	20	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.23	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.23	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.24	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.56	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	

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:	MW27-03-082013		
Lab Sample ID:	FA7671-3	**Date Sampled:**	08/28/13
Matrix:	AQ - Ground Water	**Date Received:**	08/29/13
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	2.0	0.20	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.32	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.31	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	10	2.1	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.44	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.1	ug/l	
	m,p-Xylene	ND	2.0	0.30	ug/l	
95-47-6	o-Xylene	ND	1.0	0.20	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	94%	104%	83-118%
17060-07-0	1,2-Dichloroethane-D4	93%	101%	79-125%
2037-26-5	Toluene-D8	96%	95%	85-112%
460-00-4	4-Bromofluorobenzene	94%	104%	83-118%

(a) Result is from Run# 2
(b) Associated BS recovery outside control limits.

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:	MW27-04-082013		
Lab Sample ID:	FA7671-4	**Date Sampled:**	08/28/13
Matrix:	AQ - Ground Water	**Date Received:**	08/29/13
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	O18325.D	1	08/30/13	EG	n/a	n/a	VO740
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone [a]	ND	25	10	ug/l	
75-05-8	Acetonitrile	ND	20	3.7	ug/l	
107-02-8	Acrolein	ND	20	6.9	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
107-05-1	Allyl chloride	ND	2.0	0.56	ug/l	
71-43-2	Benzene	ND	1.0	0.21	ug/l	
100-44-7	Benzyl Chloride	ND	2.0	0.38	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.22	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.34	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.20	ug/l	
135-98-8	sec-Butylbenzene	0.76	1.0	0.21	ug/l	J
98-06-6	tert-Butylbenzene	ND	1.0	0.29	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.26	ug/l	
544-10-5	1-Chlorohexane	ND	2.0	0.20	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.21	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.20	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.3	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.49	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.31	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.25	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.71	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.30	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.26	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.27	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.25	ug/l	

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:	MW27-04-082013		
Lab Sample ID:	FA7671-4	**Date Sampled:**	08/28/13
Matrix:	AQ - Ground Water	**Date Received:**	08/29/13
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	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	10	1.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.25	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.20	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.23	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.29	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.50	ug/l	
76-13-1	Freon 113	ND	1.0	0.33	ug/l	
591-78-6	2-Hexanone [a]	ND	10	2.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.50	ug/l	
110-54-3	Hexane	ND	2.0	0.88	ug/l	
98-82-8	Isopropylbenzene	1.1	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.20	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.3	ug/l	
126-98-7	Methacrylonitrile	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.79	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.50	ug/l	
74-88-4	Methyl iodide	ND	1.0	0.25	ug/l	
80-62-6	Methyl methacrylate	ND	5.0	0.50	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.34	ug/l	
75-09-2	Methylene chloride	ND	5.0	2.0	ug/l	
78-93-3	Methyl ethyl ketone [a]	ND	5.0	3.1	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.21	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
76-01-7	Pentachloroethane	ND	10	1.0	ug/l	
107-12-0	Propionitrile	ND	20	5.0	ug/l	
103-65-1	n-Propylbenzene	0.72	1.0	0.23	ug/l	J
100-42-5	Styrene	ND	1.0	0.20	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.23	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.24	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.56	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	

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:	MW27-04-082013		
Lab Sample ID:	FA7671-4	**Date Sampled:**	08/28/13
Matrix:	AQ - Ground Water	**Date Received:**	08/29/13
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	2.0	0.20	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.32	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.31	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	10	2.1	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.44	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.1	ug/l	
	m,p-Xylene	ND	2.0	0.30	ug/l	
95-47-6	o-Xylene	ND	1.0	0.20	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		83-118%
17060-07-0	1,2-Dichloroethane-D4	94%		79-125%
2037-26-5	Toluene-D8	96%		85-112%
460-00-4	4-Bromofluorobenzene	96%		83-118%

(a) Associated BS recovery outside control limits.

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:	MW27-05-082013		
Lab Sample ID:	FA7671-5	**Date Sampled:**	08/28/13
Matrix:	AQ - Ground Water	**Date Received:**	08/29/13
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	O18380.D	5	09/04/13	EG	n/a	n/a	VO742
Run #2	O18326.D	20	08/30/13	EG	n/a	n/a	VO740

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone [a]	ND	130	50	ug/l	
75-05-8	Acetonitrile	ND	100	18	ug/l	
107-02-8	Acrolein	ND	100	35	ug/l	
107-13-1	Acrylonitrile	ND	50	10	ug/l	
107-05-1	Allyl chloride	ND	10	2.8	ug/l	
71-43-2	Benzene	461 [b]	20	4.2	ug/l	
100-44-7	Benzyl Chloride	ND	10	1.9	ug/l	
108-86-1	Bromobenzene	ND	5.0	1.1	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.1	ug/l	
75-27-4	Bromodichloromethane	ND	5.0	1.0	ug/l	
75-25-2	Bromoform	ND	5.0	1.7	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	8.1	5.0	1.1	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	1.5	ug/l	
108-90-7	Chlorobenzene	ND	5.0	1.0	ug/l	
75-00-3	Chloroethane	ND	10	2.5	ug/l	
67-66-3	Chloroform	ND	5.0	1.3	ug/l	
544-10-5	1-Chlorohexane	ND	10	1.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	1.1	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	1.0	ug/l	
110-75-8	2-Chloroethyl vinyl ether [a]	ND	25	6.4	ug/l	
75-15-0	Carbon disulfide	2.9	10	2.5	ug/l	J
56-23-5	Carbon tetrachloride	ND	5.0	1.6	ug/l	
75-34-3	1,1-Dichloroethane	ND	5.0	1.1	ug/l	
75-35-4	1,1-Dichloroethylene	ND	5.0	1.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	1.2	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	3.6	ug/l	
106-93-4	1,2-Dibromoethane	ND	5.0	1.5	ug/l	
107-06-2	1,2-Dichloroethane	ND	5.0	1.1	ug/l	
78-87-5	1,2-Dichloropropane	ND	5.0	1.3	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	1.3	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.2	ug/l	

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:	MW27-05-082013		
Lab Sample ID:	FA7671-5	**Date Sampled:**	08/28/13
Matrix:	AQ - Ground Water	**Date Received:**	08/29/13
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/l	
75-71-8	Dichlorodifluoromethane [a]	ND	10	2.5	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	5.0	1.2	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	5.0	1.1	ug/l	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	50	5.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	5.0	1.3	ug/l	
95-50-1	o-Dichlorobenzene	ND	5.0	1.1	ug/l	
106-46-7	p-Dichlorobenzene	ND	5.0	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	5.0	1.1	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	5.0	1.0	ug/l	
100-41-4	Ethylbenzene	499 [b]	20	5.8	ug/l	
97-63-2	Ethyl methacrylate	ND	25	2.5	ug/l	
76-13-1	Freon 113	ND	5.0	1.6	ug/l	
591-78-6	2-Hexanone	ND	50	10	ug/l	
87-68-3	Hexachlorobutadiene	ND	10	2.5	ug/l	
110-54-3	Hexane	ND	10	4.4	ug/l	
98-82-8	Isopropylbenzene	49.7	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	5.3	5.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	25	11	ug/l	
126-98-7	Methacrylonitrile	ND	100	25	ug/l	
74-83-9	Methyl bromide	ND	10	3.9	ug/l	
74-87-3	Methyl chloride	ND	10	2.5	ug/l	
74-88-4	Methyl iodide	ND	5.0	1.2	ug/l	
80-62-6	Methyl methacrylate	ND	25	2.5	ug/l	
74-95-3	Methylene bromide	ND	10	1.7	ug/l	
75-09-2	Methylene chloride	ND	25	10	ug/l	
78-93-3	Methyl ethyl ketone	ND	25	16	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	5.0	1.1	ug/l	
91-20-3	Naphthalene	9.8	25	5.0	ug/l	J
76-01-7	Pentachloroethane	ND	50	5.0	ug/l	
107-12-0	Propionitrile	ND	100	25	ug/l	
103-65-1	n-Propylbenzene	52.8	5.0	1.1	ug/l	
100-42-5	Styrene	ND	5.0	1.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	1.2	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	5.0	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	5.0	1.2	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	5.0	1.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	2.5	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	10	2.8	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	2.5	ug/l	

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:	MW27-05-082013		
Lab Sample ID:	FA7671-5	**Date Sampled:**	08/28/13
Matrix:	AQ - Ground Water	**Date Received:**	08/29/13
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	213	10	1.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	52.8	10	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	5.0	1.6	ug/l	
108-88-3	Toluene	189	5.0	1.0	ug/l	
79-01-6	Trichloroethylene	ND	5.0	1.6	ug/l	
75-69-4	Trichlorofluoromethane	ND	10	2.5	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	50	11	ug/l	
75-01-4	Vinyl chloride	ND	5.0	2.2	ug/l	
108-05-4	Vinyl Acetate	ND	50	16	ug/l	
	m,p-Xylene	54.0	10	1.5	ug/l	
95-47-6	o-Xylene	249	5.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	93%	94%	83-118%
17060-07-0	1,2-Dichloroethane-D4	94%	93%	79-125%
2037-26-5	Toluene-D8	94%	94%	85-112%
460-00-4	4-Bromofluorobenzene	91%	94%	83-118%

(a) Associated BS recovery outside control limits.
(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:	MW27-DUP01-082013		
Lab Sample ID:	FA7671-6	**Date Sampled:**	08/28/13
Matrix:	AQ - Ground Water	**Date Received:**	08/29/13
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	O18381.D	5	09/04/13	EG	n/a	n/a	VO742
Run #2	O18327.D	20	08/30/13	EG	n/a	n/a	VO740

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone [a]	ND	130	50	ug/l	
75-05-8	Acetonitrile	ND	100	18	ug/l	
107-02-8	Acrolein	ND	100	35	ug/l	
107-13-1	Acrylonitrile	ND	50	10	ug/l	
107-05-1	Allyl chloride	ND	10	2.8	ug/l	
71-43-2	Benzene	443 [b]	20	4.2	ug/l	
100-44-7	Benzyl Chloride	ND	10	1.9	ug/l	
108-86-1	Bromobenzene	ND	5.0	1.1	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.1	ug/l	
75-27-4	Bromodichloromethane	ND	5.0	1.0	ug/l	
75-25-2	Bromoform	ND	5.0	1.7	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	8.4	5.0	1.1	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	1.5	ug/l	
108-90-7	Chlorobenzene	ND	5.0	1.0	ug/l	
75-00-3	Chloroethane	ND	10	2.5	ug/l	
67-66-3	Chloroform	ND	5.0	1.3	ug/l	
544-10-5	1-Chlorohexane	ND	10	1.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	1.1	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	1.0	ug/l	
110-75-8	2-Chloroethyl vinyl ether [a]	ND	25	6.4	ug/l	
75-15-0	Carbon disulfide	2.5	10	2.5	ug/l	J
56-23-5	Carbon tetrachloride	ND	5.0	1.6	ug/l	
75-34-3	1,1-Dichloroethane	ND	5.0	1.1	ug/l	
75-35-4	1,1-Dichloroethylene	ND	5.0	1.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	1.2	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	3.6	ug/l	
106-93-4	1,2-Dibromoethane	ND	5.0	1.5	ug/l	
107-06-2	1,2-Dichloroethane	ND	5.0	1.1	ug/l	
78-87-5	1,2-Dichloropropane	ND	5.0	1.3	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	1.3	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.2	ug/l	

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:	MW27-DUP01-082013		
Lab Sample ID:	FA7671-6	**Date Sampled:**	08/28/13
Matrix:	AQ - Ground Water	**Date Received:**	08/29/13
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/l	
75-71-8	Dichlorodifluoromethane [a]	ND	10	2.5	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	5.0	1.2	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	5.0	1.1	ug/l	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	50	5.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	5.0	1.3	ug/l	
95-50-1	o-Dichlorobenzene	ND	5.0	1.1	ug/l	
106-46-7	p-Dichlorobenzene	ND	5.0	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	5.0	1.1	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	5.0	1.0	ug/l	
100-41-4	Ethylbenzene	469 [b]	20	5.8	ug/l	
97-63-2	Ethyl methacrylate	ND	25	2.5	ug/l	
76-13-1	Freon 113	ND	5.0	1.6	ug/l	
591-78-6	2-Hexanone	ND	50	10	ug/l	
87-68-3	Hexachlorobutadiene	ND	10	2.5	ug/l	
110-54-3	Hexane	ND	10	4.4	ug/l	
98-82-8	Isopropylbenzene	50.5	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	5.2	5.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	25	11	ug/l	
126-98-7	Methacrylonitrile	ND	100	25	ug/l	
74-83-9	Methyl bromide	ND	10	3.9	ug/l	
74-87-3	Methyl chloride	ND	10	2.5	ug/l	
74-88-4	Methyl iodide	ND	5.0	1.2	ug/l	
80-62-6	Methyl methacrylate	ND	25	2.5	ug/l	
74-95-3	Methylene bromide	ND	10	1.7	ug/l	
75-09-2	Methylene chloride	ND	25	10	ug/l	
78-93-3	Methyl ethyl ketone	ND	25	16	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	5.0	1.1	ug/l	
91-20-3	Naphthalene	11.0	25	5.0	ug/l	J
76-01-7	Pentachloroethane	ND	50	5.0	ug/l	
107-12-0	Propionitrile	ND	100	25	ug/l	
103-65-1	n-Propylbenzene	54.3	5.0	1.1	ug/l	
100-42-5	Styrene	ND	5.0	1.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	1.2	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	5.0	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	5.0	1.2	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	5.0	1.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	2.5	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	10	2.8	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	2.5	ug/l	

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:	MW27-DUP01-082013		
Lab Sample ID:	FA7671-6	**Date Sampled:**	08/28/13
Matrix:	AQ - Ground Water	**Date Received:**	08/29/13
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	220	10	1.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	54.8	10	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	5.0	1.6	ug/l	
108-88-3	Toluene	190	5.0	1.0	ug/l	
79-01-6	Trichloroethylene	ND	5.0	1.6	ug/l	
75-69-4	Trichlorofluoromethane	ND	10	2.5	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	50	11	ug/l	
75-01-4	Vinyl chloride	ND	5.0	2.2	ug/l	
108-05-4	Vinyl Acetate	ND	50	16	ug/l	
	m,p-Xylene	56.5	10	1.5	ug/l	
95-47-6	o-Xylene	258	5.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	93%	94%	83-118%
17060-07-0	1,2-Dichloroethane-D4	91%	93%	79-125%
2037-26-5	Toluene-D8	94%	95%	85-112%
460-00-4	4-Bromofluorobenzene	93%	93%	83-118%

(a) Associated BS recovery outside control limits.
(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:	SD27-TB01-082013		
Lab Sample ID:	FA7671-7	**Date Sampled:**	08/28/13
Matrix:	AQ - Trip Blank Water	**Date Received:**	08/29/13
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	O18321.D	1	08/30/13	EG	n/a	n/a	VO740
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone [a]	ND	25	10	ug/l	
75-05-8	Acetonitrile	ND	20	3.7	ug/l	
107-02-8	Acrolein	ND	20	6.9	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
107-05-1	Allyl chloride	ND	2.0	0.56	ug/l	
71-43-2	Benzene	ND	1.0	0.21	ug/l	
100-44-7	Benzyl Chloride	ND	2.0	0.38	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.22	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.34	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.20	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.21	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.29	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.26	ug/l	
544-10-5	1-Chlorohexane	ND	2.0	0.20	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.21	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.20	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.3	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.49	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.31	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.25	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.71	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.30	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.26	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.27	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.25	ug/l	

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:	SD27-TB01-082013		
Lab Sample ID:	FA7671-7	**Date Sampled:**	08/28/13
Matrix:	AQ - Trip Blank Water	**Date Received:**	08/29/13
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	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	10	1.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.25	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.20	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.23	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.29	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.50	ug/l	
76-13-1	Freon 113	ND	1.0	0.33	ug/l	
591-78-6	2-Hexanone [a]	ND	10	2.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.50	ug/l	
110-54-3	Hexane	ND	2.0	0.88	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.20	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.3	ug/l	
126-98-7	Methacrylonitrile	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.79	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.50	ug/l	
74-88-4	Methyl iodide	ND	1.0	0.25	ug/l	
80-62-6	Methyl methacrylate	ND	5.0	0.50	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.34	ug/l	
75-09-2	Methylene chloride	ND	5.0	2.0	ug/l	
78-93-3	Methyl ethyl ketone [a]	ND	5.0	3.1	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.21	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
76-01-7	Pentachloroethane	ND	10	1.0	ug/l	
107-12-0	Propionitrile	ND	20	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.23	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.23	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.24	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.56	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	

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:	SD27-TB01-082013		
Lab Sample ID:	FA7671-7	**Date Sampled:**	08/28/13
Matrix:	AQ - Trip Blank Water	**Date Received:**	08/29/13
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	2.0	0.20	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.32	ug/l	
108-88-3	Toluene	0.33	1.0	0.20	ug/l	J
79-01-6	Trichloroethylene	ND	1.0	0.31	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	10	2.1	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.44	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.1	ug/l	
	m,p-Xylene	ND	2.0	0.30	ug/l	
95-47-6	o-Xylene	ND	1.0	0.20	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		83-118%
17060-07-0	1,2-Dichloroethane-D4	90%		79-125%
2037-26-5	Toluene-D8	95%		85-112%
460-00-4	4-Bromofluorobenzene	94%		83-118%

(a) Associated BS recovery outside control limits.

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
- Chain of Custody

Parameter Certification Exceptions

Job Number: FA7671
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

The following parameters included in this report are exceptions to NELAC certification.
The certification status of each is indicated below.

Parameter	CAS#	Method	Mat	Certification Status
Freon 113	76-13-1	**SW846 8260B**	AQ	Certified by SOP MS005

FA7671

HAFB-SD-27-GW

Tetra Tech, Inc.
800 Oak Ridge Turnpike, Ste A-600
Oak Ridge, TN 37830
865/283-9900

CHAIN-OF-CUSTODY

Laboratory Name: **Accutest Laboratories** Address: **4405 Vineland Rd. Suite C-15 Orlando, FL 32811** Contact: **Sue Bell (813/741-3338)**

Project Name **Holloman AFB** Project Location **Holloman AFB, New Mexico**

Project No. **SD-27 (Groundwater)** Project Contact **Maureen McMyler** Site Telephone No.

Report to: Maureen McMyler 800 Oak Ridge Turnpike 865/535-2030

Bill to: Sheila Hall, 800 Oak Ridge Turnpike 865/283-9900

Project Manager/Supervisor **Frank Bogle**

Analysis and Method Desired

Item No.	Sample Number	Date	Time	Comp	Grab	Matrix	Sample Description, Location	Number of Containers	VOCs by SW8260B						Remarks: Notes
1	MW27-01-082013	8/28/2013	809		X	GW	SD27-MW01	3	3					1	
2	MW27-02-082013	8/28/2013	745		X	GW	SD27-MW02	3	3					2	
3	MW27-03-082013	8/28/2013	739		X	GW	SD27-MW03	3	3					3	
4	MW27-04-082013	8/28/2013	730		X	GW	SD27-MW04	3	3					4	
5	MW27-04-082013-MS	8/28/2013	730		X	GW	SD27-MW04	3	3					4	Matrix Spike
6	MW27-04-082013-MSD	8/28/2013	730		X	GW	SD27-MW04	3	3					4	Matrix Spike Duplicate
7	MW27-05-082013	8/28/2013	757		X	GW	SD27-MW05	3	3					5	
8	MW27-DUP01-082013	8/28/2013	757		X	GW	SD27-MW05	3	3					6	
9	SD27-TB01-082013	8/28/2013	630		X	WQ	TRIP BLANK	2	2					7	
10															

Transfers Relinquished By (Signature)	Date/Time	Transfers Accepted By (Signature)	Date/Time
FD 082913	8/28/13 1410		
	945		
		Laboratory	

Special Instructions: **3 Day Turnaround**

FedEx Airbill No.: 8033 5787 1650

Sampler's Signature

TAT: 3 Day Standard ____ Rush Due: _____ Seals Intact? ____ Y ____ N Received Good Condition ____ Y ____ N ____ Cold

2-8

FA7671: Chain of Custody
Page 1 of 2

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: FA7671 CLIENT: Tetra Tech PROJECT: SD-27 Ground Water

DATE/TIME RECEIVED: 08-29-13 9:45 {MM/DD/YY 24:00} NIMBER OF COOLERS RECEIVED: 1

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

AIRBILL NUMBERS: 8033 5737 1650

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 ? _____

NUMBER OF LAB FILTERED METALS ? _____

TEMPERATURE INFORMATION

- [ ] IR THERM ID 1 CORR. FACTOR +0.4
- [ ] OBSERVED TEMPS: 2.4
- [ ] CORRECTED TEMPS: 2.8

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 RWilk 08-29-13 REVIEWER SIGNATURE/DATE JC 8-29-13

NF 12/10

receipt confirmation 122910.xls

5.2

5

FA7671: 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: FA7671
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VO740-MB	O18319.D	1	08/30/13	EG	n/a	n/a	VO740

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

FA7671-1, FA7671-2, FA7671-3, FA7671-4, FA7671-5, FA7671-6, FA7671-7

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
75-05-8	Acetonitrile	ND	20	3.7	ug/l	
107-02-8	Acrolein	ND	20	6.9	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
107-05-1	Allyl chloride	ND	2.0	0.56	ug/l	
71-43-2	Benzene	ND	1.0	0.21	ug/l	
100-44-7	Benzyl Chloride	ND	2.0	0.38	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.22	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.34	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.20	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.21	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.29	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.26	ug/l	
544-10-5	1-Chlorohexane	ND	2.0	0.20	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.21	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.20	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.3	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.49	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.31	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.25	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.71	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.30	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.26	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.27	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.25	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.22	ug/l	

Method Blank Summary

Job Number: FA7671
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VO740-MB	O18319.D	1	08/30/13	EG	n/a	n/a	VO740

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

FA7671-1, FA7671-2, FA7671-3, FA7671-4, FA7671-5, FA7671-6, FA7671-7

CAS No.	Compound	Result	RL	MDL	Units	Q
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	10	1.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.25	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.20	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.23	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.29	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.50	ug/l	
76-13-1	Freon 113	ND	1.0	0.33	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.50	ug/l	
110-54-3	Hexane	ND	2.0	0.88	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.20	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.3	ug/l	
126-98-7	Methacrylonitrile	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.79	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.50	ug/l	
74-88-4	Methyl iodide	ND	1.0	0.25	ug/l	
80-62-6	Methyl methacrylate	ND	5.0	0.50	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.34	ug/l	
75-09-2	Methylene chloride	ND	5.0	2.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	3.1	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.21	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
76-01-7	Pentachloroethane	ND	10	1.0	ug/l	
107-12-0	Propionitrile	ND	20	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.23	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.23	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.24	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	0.63	1.0	0.50	ug/l	J
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.56	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	

Method Blank Summary

Job Number: FA7671
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VO740-MB	O18319.D	1	08/30/13	EG	n/a	n/a	VO740

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

FA7671-1, FA7671-2, FA7671-3, FA7671-4, FA7671-5, FA7671-6, FA7671-7

CAS No.	Compound	Result	RL	MDL	Units	Q
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.20	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.32	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.31	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	10	2.1	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.44	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.1	ug/l	
	m,p-Xylene	ND	2.0	0.30	ug/l	
95-47-6	o-Xylene	ND	1.0	0.20	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	93%	83-118%
17060-07-0	1,2-Dichloroethane-D4	90%	79-125%
2037-26-5	Toluene-D8	95%	85-112%
460-00-4	4-Bromofluorobenzene	93%	83-118%

Method Blank Summary

Job Number: FA7671
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VB3795-MB	B092769.D	1	09/04/13	WV	n/a	n/a	VB3795

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

FA7671-3

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	105%	83-118%
17060-07-0	1,2-Dichloroethane-D4	101%	79-125%
2037-26-5	Toluene-D8	91%	85-112%
460-00-4	4-Bromofluorobenzene	102%	83-118%

Method Blank Summary

Job Number: FA7671
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VO742-MB	O18378.D	1	09/04/13	EG	n/a	n/a	VO742

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

FA7671-5, FA7671-6

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
75-05-8	Acetonitrile	ND	20	3.7	ug/l	
107-02-8	Acrolein	ND	20	6.9	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
107-05-1	Allyl chloride	ND	2.0	0.56	ug/l	
100-44-7	Benzyl Chloride	ND	2.0	0.38	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.22	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.34	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.20	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.21	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.29	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.26	ug/l	
544-10-5	1-Chlorohexane	ND	2.0	0.20	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.21	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.20	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.3	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.49	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.31	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.25	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.71	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.30	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.26	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.27	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.25	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	10	1.0	ug/l	

Method Blank Summary

Job Number: FA7671
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VO742-MB	O18378.D	1	09/04/13	EG	n/a	n/a	VO742

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

FA7671-5, FA7671-6

CAS No.	Compound	Result	RL	MDL	Units	Q
541-73-1	m-Dichlorobenzene	ND	1.0	0.25	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.20	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.23	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.50	ug/l	
76-13-1	Freon 113	ND	1.0	0.33	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.50	ug/l	
110-54-3	Hexane	ND	2.0	0.88	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.20	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.3	ug/l	
126-98-7	Methacrylonitrile	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.79	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.50	ug/l	
74-88-4	Methyl iodide	ND	1.0	0.25	ug/l	
80-62-6	Methyl methacrylate	ND	5.0	0.50	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.34	ug/l	
75-09-2	Methylene chloride	ND	5.0	2.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	3.1	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.21	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
76-01-7	Pentachloroethane	ND	10	1.0	ug/l	
107-12-0	Propionitrile	ND	20	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.23	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.23	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.24	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.56	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.20	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	

Method Blank Summary

Job Number: FA7671
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VO742-MB	O18378.D	1	09/04/13	EG	n/a	n/a	VO742

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

FA7671-5, FA7671-6

CAS No.	Compound	Result	RL	MDL	Units	Q
127-18-4	Tetrachloroethylene	ND	1.0	0.32	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.31	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	10	2.1	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.44	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.1	ug/l	
	m,p-Xylene	ND	2.0	0.30	ug/l	
95-47-6	o-Xylene	ND	1.0	0.20	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	93%	83-118%
17060-07-0	1,2-Dichloroethane-D4	92%	79-125%
2037-26-5	Toluene-D8	94%	85-112%
460-00-4	4-Bromofluorobenzene	92%	83-118%

Blank Spike Summary

Job Number: FA7671
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VO740-BS	O18318.D	1	08/30/13	EG	n/a	n/a	VO740

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

FA7671-1, FA7671-2, FA7671-3, FA7671-4, FA7671-5, FA7671-6, FA7671-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	125	254	203*	50-147
75-05-8	Acetonitrile	250	258	103	59-127
107-02-8	Acrolein	125	127	102	31-154
107-13-1	Acrylonitrile	125	114	91	58-126
107-05-1	Allyl chloride	25	27.4	110	74-130
71-43-2	Benzene	25	25.9	104	81-122
100-44-7	Benzyl Chloride	25	23.0	92	54-122
108-86-1	Bromobenzene	25	26.9	108	80-121
74-97-5	Bromochloromethane	25	25.9	104	76-123
75-27-4	Bromodichloromethane	25	27.3	109	79-123
75-25-2	Bromoform	25	25.3	101	66-123
104-51-8	n-Butylbenzene	25	24.4	98	79-126
135-98-8	sec-Butylbenzene	25	27.0	108	83-133
98-06-6	tert-Butylbenzene	25	25.2	101	80-133
108-90-7	Chlorobenzene	25	29.3	117	82-124
75-00-3	Chloroethane	25	26.6	106	62-144
67-66-3	Chloroform	25	25.9	104	80-124
544-10-5	1-Chlorohexane	25	25.9	104	77-124
95-49-8	o-Chlorotoluene	25	25.7	103	81-127
106-43-4	p-Chlorotoluene	25	27.4	110	83-130
110-75-8	2-Chloroethyl vinyl ether	125	73.0	58	56-122
75-15-0	Carbon disulfide	25	29.5	118	66-148
56-23-5	Carbon tetrachloride	25	26.4	106	76-136
75-34-3	1,1-Dichloroethane	25	26.3	105	81-122
75-35-4	1,1-Dichloroethylene	25	28.5	114	78-137
563-58-6	1,1-Dichloropropene	25	27.7	111	79-131
96-12-8	1,2-Dibromo-3-chloropropane	25	24.7	99	64-123
106-93-4	1,2-Dibromoethane	25	26.7	107	75-120
107-06-2	1,2-Dichloroethane	25	26.7	107	75-125
78-87-5	1,2-Dichloropropane	25	25.2	101	76-124
142-28-9	1,3-Dichloropropane	25	26.2	105	80-118
594-20-7	2,2-Dichloropropane	25	27.4	110	74-139
124-48-1	Dibromochloromethane	25	26.4	106	78-122
75-71-8	Dichlorodifluoromethane	25	36.7	147	42-167
156-59-2	cis-1,2-Dichloroethylene	25	25.6	102	78-120
10061-01-5	cis-1,3-Dichloropropene	25	23.8	95	75-118

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA7671
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VO740-BS	O18318.D	1	08/30/13	EG	n/a	n/a	VO740

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

FA7671-1, FA7671-2, FA7671-3, FA7671-4, FA7671-5, FA7671-6, FA7671-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
1476-11-5	cis-1,4-Dichloro-2-Butene	25	29.2	117	39-158
541-73-1	m-Dichlorobenzene	25	29.1	116	84-125
95-50-1	o-Dichlorobenzene	25	27.8	111	82-124
106-46-7	p-Dichlorobenzene	25	26.5	106	78-120
156-60-5	trans-1,2-Dichloroethylene	25	26.6	106	76-127
10061-02-6	trans-1,3-Dichloropropene	25	25.7	103	80-120
100-41-4	Ethylbenzene	25	25.2	101	81-121
97-63-2	Ethyl methacrylate	25	21.3	85	63-119
76-13-1	Freon 113	25	25.7	103	72-134
591-78-6	2-Hexanone	125	170	136*	61-129
87-68-3	Hexachlorobutadiene	25	29.8	119	75-142
110-54-3	Hexane	25	26.3	105	69-132
98-82-8	Isopropylbenzene	25	27.1	108	83-132
99-87-6	p-Isopropyltoluene	25	25.7	103	79-130
108-10-1	4-Methyl-2-pentanone	125	131	105	66-122
126-98-7	Methacrylonitrile	250	256	102	71-124
74-83-9	Methyl bromide	25	26.4	106	59-143
74-87-3	Methyl chloride	25	28.2	113	50-159
74-88-4	Methyl iodide	25	24.1	96	73-123
80-62-6	Methyl methacrylate	25	23.7	95	67-127
74-95-3	Methylene bromide	25	26.0	104	78-119
75-09-2	Methylene chloride	25	26.5	106	69-135
78-93-3	Methyl ethyl ketone	125	186	149*	56-143
1634-04-4	Methyl Tert Butyl Ether	25	24.2	97	72-117
91-20-3	Naphthalene	25	26.0	104	63-132
76-01-7	Pentachloroethane	25	26.1	104	47-169
107-12-0	Propionitrile	250	247	99	68-119
103-65-1	n-Propylbenzene	25	27.3	109	82-133
100-42-5	Styrene	25	23.5	94	78-119
630-20-6	1,1,1,2-Tetrachloroethane	25	25.5	102	77-122
71-55-6	1,1,1-Trichloroethane	25	27.1	108	75-130
79-34-5	1,1,2,2-Tetrachloroethane	25	25.0	100	72-120
79-00-5	1,1,2-Trichloroethane	25	26.1	104	76-119
87-61-6	1,2,3-Trichlorobenzene	25	25.9	104	68-131
96-18-4	1,2,3-Trichloropropane	25	25.9	104	77-120
120-82-1	1,2,4-Trichlorobenzene	25	27.1	108	73-129

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA7671
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VO740-BS	O18318.D	1	08/30/13	EG	n/a	n/a	VO740

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

FA7671-1, FA7671-2, FA7671-3, FA7671-4, FA7671-5, FA7671-6, FA7671-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
95-63-6	1,2,4-Trimethylbenzene	25	23.5	94	79-120
108-67-8	1,3,5-Trimethylbenzene	25	23.4	94	79-120
127-18-4	Tetrachloroethylene	25	26.4	106	76-135
108-88-3	Toluene	25	26.8	107	80-120
79-01-6	Trichloroethylene	25	26.7	107	81-126
75-69-4	Trichlorofluoromethane	25	27.1	108	71-156
110-57-6	Trans-1,4-Dichloro-2-Butene	25	25.8	103	43-145
75-01-4	Vinyl chloride	25	28.1	112	69-159
108-05-4	Vinyl Acetate	125	76.9	62	43-154
	m,p-Xylene	50	50.9	102	79-126
95-47-6	o-Xylene	25	26.2	105	80-127

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	94%	83-118%
17060-07-0	1,2-Dichloroethane-D4	93%	79-125%
2037-26-5	Toluene-D8	93%	85-112%
460-00-4	4-Bromofluorobenzene	93%	83-118%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA7671
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VB3795-BS	B092768.D	1	09/04/13	WV	n/a	n/a	VB3795

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

FA7671-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	125	166	133	50-147

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	102%	83-118%
17060-07-0	1,2-Dichloroethane-D4	98%	79-125%
2037-26-5	Toluene-D8	92%	85-112%
460-00-4	4-Bromofluorobenzene	99%	83-118%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA7671
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VO742-BS	O18376.D	1	09/04/13	EG	n/a	n/a	VO742

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

FA7671-5, FA7671-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	125	186	149*	50-147
75-05-8	Acetonitrile	250	265	106	59-127
107-02-8	Acrolein	125	128	102	31-154
107-13-1	Acrylonitrile	125	116	93	58-126
107-05-1	Allyl chloride	25	26.6	106	74-130
100-44-7	Benzyl Chloride	25	23.2	93	54-122
108-86-1	Bromobenzene	25	26.6	106	80-121
74-97-5	Bromochloromethane	25	25.9	104	76-123
75-27-4	Bromodichloromethane	25	26.5	106	79-123
75-25-2	Bromoform	25	24.9	100	66-123
104-51-8	n-Butylbenzene	25	24.2	97	79-126
135-98-8	sec-Butylbenzene	25	26.9	108	83-133
98-06-6	tert-Butylbenzene	25	25.5	102	80-133
108-90-7	Chlorobenzene	25	28.9	116	82-124
75-00-3	Chloroethane	25	29.7	119	62-144
67-66-3	Chloroform	25	25.8	103	80-124
544-10-5	1-Chlorohexane	25	25.5	102	77-124
95-49-8	o-Chlorotoluene	25	25.2	101	81-127
106-43-4	p-Chlorotoluene	25	26.8	107	83-130
110-75-8	2-Chloroethyl vinyl ether	125	63.8	51* [a]	56-122
75-15-0	Carbon disulfide	25	28.9	116	66-148
56-23-5	Carbon tetrachloride	25	26.3	105	76-136
75-34-3	1,1-Dichloroethane	25	25.9	104	81-122
75-35-4	1,1-Dichloroethylene	25	27.9	112	78-137
563-58-6	1,1-Dichloropropene	25	27.5	110	79-131
96-12-8	1,2-Dibromo-3-chloropropane	25	24.1	96	64-123
106-93-4	1,2-Dibromoethane	25	26.2	105	75-120
107-06-2	1,2-Dichloroethane	25	26.4	106	75-125
78-87-5	1,2-Dichloropropane	25	24.8	99	76-124
142-28-9	1,3-Dichloropropane	25	26.2	105	80-118
594-20-7	2,2-Dichloropropane	25	27.8	111	74-139
124-48-1	Dibromochloromethane	25	26.0	104	78-122
75-71-8	Dichlorodifluoromethane	25	42.5	170*	42-167
156-59-2	cis-1,2-Dichloroethylene	25	25.2	101	78-120
10061-01-5	cis-1,3-Dichloropropene	25	23.8	95	75-118
1476-11-5	cis-1,4-Dichloro-2-Butene	25	26.9	108	39-158

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA7671
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VO742-BS	O18376.D	1	09/04/13	EG	n/a	n/a	VO742

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

FA7671-5, FA7671-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
541-73-1	m-Dichlorobenzene	25	28.3	113	84-125
95-50-1	o-Dichlorobenzene	25	27.4	110	82-124
106-46-7	p-Dichlorobenzene	25	26.3	105	78-120
156-60-5	trans-1,2-Dichloroethylene	25	26.1	104	76-127
10061-02-6	trans-1,3-Dichloropropene	25	24.8	99	80-120
97-63-2	Ethyl methacrylate	25	21.3	85	63-119
76-13-1	Freon 113	25	25.8	103	72-134
591-78-6	2-Hexanone	125	141	113	61-129
87-68-3	Hexachlorobutadiene	25	30.3	121	75-142
110-54-3	Hexane	25	26.9	108	69-132
98-82-8	Isopropylbenzene	25	26.5	106	83-132
99-87-6	p-Isopropyltoluene	25	25.1	100	79-130
108-10-1	4-Methyl-2-pentanone	125	128	102	66-122
126-98-7	Methacrylonitrile	250	260	104	71-124
74-83-9	Methyl bromide	25	29.4	118	59-143
74-87-3	Methyl chloride	25	30.7	123	50-159
74-88-4	Methyl iodide	25	23.9	96	73-123
80-62-6	Methyl methacrylate	25	24.0	96	67-127
74-95-3	Methylene bromide	25	25.7	103	78-119
75-09-2	Methylene chloride	25	26.3	105	69-135
78-93-3	Methyl ethyl ketone	125	166	133	56-143
1634-04-4	Methyl Tert Butyl Ether	25	23.9	96	72-117
91-20-3	Naphthalene	25	26.5	106	63-132
76-01-7	Pentachloroethane	25	30.1	120	47-169
107-12-0	Propionitrile	250	252	101	68-119
103-65-1	n-Propylbenzene	25	26.8	107	82-133
100-42-5	Styrene	25	22.9	92	78-119
630-20-6	1,1,1,2-Tetrachloroethane	25	24.9	100	77-122
71-55-6	1,1,1-Trichloroethane	25	26.7	107	75-130
79-34-5	1,1,2,2-Tetrachloroethane	25	25.0	100	72-120
79-00-5	1,1,2-Trichloroethane	25	25.9	104	76-119
87-61-6	1,2,3-Trichlorobenzene	25	26.5	106	68-131
96-18-4	1,2,3-Trichloropropane	25	27.1	108	77-120
120-82-1	1,2,4-Trichlorobenzene	25	27.2	109	73-129
95-63-6	1,2,4-Trimethylbenzene	25	23.2	93	79-120
108-67-8	1,3,5-Trimethylbenzene	25	23.1	92	79-120

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA7671
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VO742-BS	O18376.D	1	09/04/13	EG	n/a	n/a	VO742

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

FA7671-5, FA7671-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
127-18-4	Tetrachloroethylene	25	23.6	94	76-135
108-88-3	Toluene	25	26.6	106	80-120
79-01-6	Trichloroethylene	25	26.1	104	81-126
75-69-4	Trichlorofluoromethane	25	27.3	109	71-156
110-57-6	Trans-1,4-Dichloro-2-Butene	25	25.8	103	43-145
75-01-4	Vinyl chloride	25	30.9	124	69-159
108-05-4	Vinyl Acetate	125	81.0	65	43-154
	m,p-Xylene	50	50.1	100	79-126
95-47-6	o-Xylene	25	25.6	102	80-127

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	94%	83-118%
17060-07-0	1,2-Dichloroethane-D4	95%	79-125%
2037-26-5	Toluene-D8	94%	85-112%
460-00-4	4-Bromofluorobenzene	92%	83-118%

(a) Sporadic marginal failure.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA7671
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA7671-4MS	O18328.D	1	08/30/13	EG	n/a	n/a	VO740
FA7671-4MSD	O18329.D	1	08/30/13	EG	n/a	n/a	VO740
FA7671-4	O18325.D	1	08/30/13	EG	n/a	n/a	VO740

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

FA7671-1, FA7671-2, FA7671-3, FA7671-4, FA7671-5, FA7671-6, FA7671-7

CAS No.	Compound	FA7671-4 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		125	139	111	143	114	3	50-147/21
75-05-8	Acetonitrile	ND		250	287	115	294	118	2	59-127/20
107-02-8	Acrolein	ND		125	97.3	78	86.2	69	12	31-154/29
107-13-1	Acrylonitrile	ND		125	128	102	127	102	1	58-126/16
107-05-1	Allyl chloride	ND		25	19.9	80	17.5	70*	13	74-130/29
71-43-2	Benzene	ND		25	25.7	103	24.9	100	3	81-122/14
100-44-7	Benzyl Chloride	ND		25	26.0	104	24.2	97	7	54-122/18
108-86-1	Bromobenzene	ND		25	26.4	106	25.9	104	2	80-121/14
74-97-5	Bromochloromethane	ND		25	26.3	105	25.6	102	3	76-123/14
75-27-4	Bromodichloromethane	ND		25	27.0	108	24.3	97	11	79-123/19
75-25-2	Bromoform	ND		25	24.5	98	22.1	88	10	66-123/21
104-51-8	n-Butylbenzene	ND		25	25.1	100	23.7	95	6	79-126/16
135-98-8	sec-Butylbenzene	0.76	J	25	28.4	111	27.3	106	4	83-133/16
98-06-6	tert-Butylbenzene	ND		25	26.3	105	25.3	101	4	80-133/16
108-90-7	Chlorobenzene	ND		25	29.0	116	28.0	112	4	82-124/14
75-00-3	Chloroethane	ND		25	25.5	102	24.8	99	3	62-144/20
67-66-3	Chloroform	ND		25	26.1	104	25.1	100	4	80-124/15
544-10-5	1-Chlorohexane	ND		25	25.8	103	24.2	97	6	77-124/16
95-49-8	o-Chlorotoluene	ND		25	25.8	103	25.0	100	3	81-127/15
106-43-4	p-Chlorotoluene	ND		25	26.9	108	26.2	105	3	83-130/15
110-75-8	2-Chloroethyl vinyl ether	ND		125	ND	0*	ND	0*	nc	56-122/23
75-15-0	Carbon disulfide	ND		25	25.0	100	22.3	89	11	66-148/23
56-23-5	Carbon tetrachloride	ND		25	25.7	103	22.6	90	13	76-136/23
75-34-3	1,1-Dichloroethane	ND		25	26.3	105	25.0	100	5	81-122/15
75-35-4	1,1-Dichloroethylene	ND		25	28.5	114	28.5	114	0	78-137/18
563-58-6	1,1-Dichloropropene	ND		25	27.7	111	26.4	106	5	79-131/16
96-12-8	1,2-Dibromo-3-chloropropane	ND		25	30.1	120	30.3	121	1	64-123/18
106-93-4	1,2-Dibromoethane	ND		25	27.9	112	27.7	111	1	75-120/13
107-06-2	1,2-Dichloroethane	ND		25	27.3	109	26.5	106	3	75-125/14
78-87-5	1,2-Dichloropropane	ND		25	25.7	103	25.0	100	3	76-124/14
142-28-9	1,3-Dichloropropane	ND		25	27.1	108	27.0	108	0	80-118/13
594-20-7	2,2-Dichloropropane	ND		25	27.4	110	26.6	106	3	74-139/17
124-48-1	Dibromochloromethane	ND		25	25.4	102	22.9	92	10	78-122/19
75-71-8	Dichlorodifluoromethane	ND		25	35.2	141	35.1	140	0	42-167/19
156-59-2	cis-1,2-Dichloroethylene	ND		25	25.5	102	24.4	98	4	78-120/15
10061-01-5	cis-1,3-Dichloropropene	ND		25	19.4	78	17.7	71*	9	75-118/23

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA7671
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA7671-4MS	O18328.D	1	08/30/13	EG	n/a	n/a	VO740
FA7671-4MSD	O18329.D	1	08/30/13	EG	n/a	n/a	VO740
FA7671-4	O18325.D	1	08/30/13	EG	n/a	n/a	VO740

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

FA7671-1, FA7671-2, FA7671-3, FA7671-4, FA7671-5, FA7671-6, FA7671-7

CAS No.	Compound	FA7671-4 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
1476-11-5	cis-1,4-Dichloro-2-Butene	ND		25	7.0	28*	5.4	22*	26	39-158/38
541-73-1	m-Dichlorobenzene	ND		25	28.8	115	27.5	110	5	84-125/14
95-50-1	o-Dichlorobenzene	ND		25	28.4	114	27.5	110	3	82-124/14
106-46-7	p-Dichlorobenzene	ND		25	26.5	106	25.5	102	4	78-120/15
156-60-5	trans-1,2-Dichloroethylene	ND		25	26.4	106	25.0	100	5	76-127/17
10061-02-6	trans-1,3-Dichloropropene	ND		25	21.2	85	19.5	78*	8	80-120/22
100-41-4	Ethylbenzene	ND		25	25.0	100	24.5	98	2	81-121/14
97-63-2	Ethyl methacrylate	ND		25	25.1	100	25.3	101	1	63-119/15
76-13-1	Freon 113	ND		25	25.5	102	24.8	99	3	72-134/20
591-78-6	2-Hexanone	ND		125	179	143*	187	150*	4	61-129/18
87-68-3	Hexachlorobutadiene	ND		25	30.2	121	29.8	119	1	75-142/19
110-54-3	Hexane	ND		25	27.1	108	25.9	104	5	69-132/20
98-82-8	Isopropylbenzene	1.1		25	28.3	109	27.4	105	3	83-132/15
99-87-6	p-Isopropyltoluene	ND		25	25.5	102	24.5	98	4	79-130/16
108-10-1	4-Methyl-2-pentanone	ND		125	175	140*	181	145*	3	66-122/16
126-98-7	Methacrylonitrile	ND		250	287	115	291	116	1	71-124/14
74-83-9	Methyl bromide	ND		25	24.7	99	24.9	100	1	59-143/19
74-87-3	Methyl chloride	ND		25	27.2	109	27.5	110	1	50-159/19
74-88-4	Methyl iodide	ND		25	23.7	95	22.6	90	5	73-123/16
80-62-6	Methyl methacrylate	ND		25	28.3	113	28.7	115	1	67-127/15
74-95-3	Methylene bromide	ND		25	27.3	109	26.0	104	5	78-119/14
75-09-2	Methylene chloride	ND		25	26.4	106	25.6	102	3	69-135/16
78-93-3	Methyl ethyl ketone	ND		125	147	118	152	122	3	56-143/18
1634-04-4	Methyl Tert Butyl Ether	ND		25	25.6	102	25.5	102	0	72-117/14
91-20-3	Naphthalene	ND		25	31.4	126	32.2	129	3	63-132/25
76-01-7	Pentachloroethane	ND		25	30.7	123	28.1	112	9	47-169/21
107-12-0	Propionitrile	ND		250	286	114	292	117	2	68-119/17
103-65-1	n-Propylbenzene	0.72	J	25	28.0	109	26.8	104	4	82-133/15
100-42-5	Styrene	ND		25	21.2	85	18.7	75*	13	78-119/23
630-20-6	1,1,1,2-Tetrachloroethane	ND		25	25.3	101	23.1	92	9	77-122/19
71-55-6	1,1,1-Trichloroethane	ND		25	26.6	106	25.6	102	4	75-130/16
79-34-5	1,1,2,2-Tetrachloroethane	ND		25	27.9	112	28.3	113	1	72-120/14
79-00-5	1,1,2-Trichloroethane	ND		25	27.6	110	27.6	110	0	76-119/14
87-61-6	1,2,3-Trichlorobenzene	ND		25	27.1	108	28.0	112	3	68-131/25
96-18-4	1,2,3-Trichloropropane	ND		25	29.9	120	29.8	119	0	77-120/16
120-82-1	1,2,4-Trichlorobenzene	ND		25	27.9	112	27.8	111	0	73-129/20

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA7671
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA7671-4MS	O18328.D	1	08/30/13	EG	n/a	n/a	VO740
FA7671-4MSD	O18329.D	1	08/30/13	EG	n/a	n/a	VO740
FA7671-4	O18325.D	1	08/30/13	EG	n/a	n/a	VO740

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

FA7671-1, FA7671-2, FA7671-3, FA7671-4, FA7671-5, FA7671-6, FA7671-7

CAS No.	Compound	FA7671-4 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
95-63-6	1,2,4-Trimethylbenzene	ND		25	23.3	93	22.0	88	6	79-120/18
108-67-8	1,3,5-Trimethylbenzene	ND		25	23.5	94	22.6	90	4	79-120/19
127-18-4	Tetrachloroethylene	ND		25	23.0	92	21.6	86	6	76-135/16
108-88-3	Toluene	ND		25	26.8	107	26.0	104	3	80-120/14
79-01-6	Trichloroethylene	ND		25	27.5	110	27.1	108	1	81-126/15
75-69-4	Trichlorofluoromethane	ND		25	26.7	107	25.9	104	3	71-156/21
110-57-6	Trans-1,4-Dichloro-2-Butene	ND		25	8.3	33*	7.5	30*	10	43-145/34
75-01-4	Vinyl chloride	ND		25	26.1	104	26.9	108	3	69-159/18
108-05-4	Vinyl Acetate	ND		125	88.8	71	89.2	71	0	43-154/14
	m,p-Xylene	ND		50	50.6	101	48.5	97	4	79-126/15
95-47-6	o-Xylene	ND		25	26.4	106	25.4	102	4	80-127/14

CAS No.	Surrogate Recoveries	MS	MSD	FA7671-4	Limits
1868-53-7	Dibromofluoromethane	94%	93%	97%	83-118%
17060-07-0	1,2-Dichloroethane-D4	95%	94%	94%	79-125%
2037-26-5	Toluene-D8	92%	93%	96%	85-112%
460-00-4	4-Bromofluorobenzene	91%	93%	96%	83-118%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA7671
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA7671-5MS	O18388.D	5	09/04/13	EG	n/a	n/a	VO742
FA7671-5MSD	O18389.D	5	09/04/13	EG	n/a	n/a	VO742
FA7671-5	O18380.D	5	09/04/13	EG	n/a	n/a	VO742

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

FA7671-5, FA7671-6

CAS No.	Compound	FA7671-5 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		625	665	106	693	111	4	50-147/21
75-05-8	Acetonitrile	ND		1250	1360	109	1370	110	1	59-127/20
107-02-8	Acrolein	ND		625	551	88	503	80	9	31-154/29
107-13-1	Acrylonitrile	ND		625	584	93	601	96	3	58-126/16
107-05-1	Allyl chloride	ND		125	99.0	79	81.3	65*	20	74-130/29
100-44-7	Benzyl Chloride	ND		125	121	97	110	88	10	54-122/18
108-86-1	Bromobenzene	ND		125	135	108	132	106	2	80-121/14
74-97-5	Bromochloromethane	ND		125	132	106	129	103	2	76-123/14
75-27-4	Bromodichloromethane	ND		125	133	106	122	98	9	79-123/19
75-25-2	Bromoform	ND		125	117	94	107	86	9	66-123/21
104-51-8	n-Butylbenzene	ND		125	128	102	123	98	4	79-126/16
135-98-8	sec-Butylbenzene	8.1		125	147	111	141	106	4	83-133/16
98-06-6	tert-Butylbenzene	ND		125	133	106	129	103	3	80-133/16
108-90-7	Chlorobenzene	ND		125	151	121	148	118	2	82-124/14
75-00-3	Chloroethane	ND		125	144	115	141	113	2	62-144/20
67-66-3	Chloroform	ND		125	129	103	128	102	1	80-124/15
544-10-5	1-Chlorohexane	ND		125	129	103	125	100	3	77-124/16
95-49-8	o-Chlorotoluene	ND		125	139	111	134	107	4	81-127/15
106-43-4	p-Chlorotoluene	ND		125	137	110	133	106	3	83-130/15
110-75-8	2-Chloroethyl vinyl ether	ND		625	99.3	16*	30.8	5*	105*	56-122/23
75-15-0	Carbon disulfide	2.9	J	125	122	95	109	85	11	66-148/23
56-23-5	Carbon tetrachloride	ND		125	129	103	117	94	10	76-136/23
75-34-3	1,1-Dichloroethane	ND		125	130	104	127	102	2	81-122/15
75-35-4	1,1-Dichloroethylene	ND		125	142	114	141	113	1	78-137/18
563-58-6	1,1-Dichloropropene	ND		125	138	110	134	107	3	79-131/16
96-12-8	1,2-Dibromo-3-chloropropane	ND		125	134	107	133	106	1	64-123/18
106-93-4	1,2-Dibromoethane	ND		125	134	107	134	107	0	75-120/13
107-06-2	1,2-Dichloroethane	ND		125	137	110	133	106	3	75-125/14
78-87-5	1,2-Dichloropropane	ND		125	131	105	126	101	4	76-124/14
142-28-9	1,3-Dichloropropane	ND		125	133	106	133	106	0	80-118/13
594-20-7	2,2-Dichloropropane	ND		125	141	113	135	108	4	74-139/17
124-48-1	Dibromochloromethane	ND		125	124	99	114	91	8	78-122/19
75-71-8	Dichlorodifluoromethane	ND		125	205	164	203	162	1	42-167/19
156-59-2	cis-1,2-Dichloroethylene	ND		125	128	102	125	100	2	78-120/15
10061-01-5	cis-1,3-Dichloropropene	ND		125	105	84	90.4	72*	15	75-118/23
1476-11-5	cis-1,4-Dichloro-2-Butene	ND		125	69.3	55	30.7	25*	77*	39-158/38

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA7671
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA7671-5MS	O18388.D	5	09/04/13	EG	n/a	n/a	VO742
FA7671-5MSD	O18389.D	5	09/04/13	EG	n/a	n/a	VO742
FA7671-5	O18380.D	5	09/04/13	EG	n/a	n/a	VO742

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

FA7671-5, FA7671-6

CAS No.	Compound	FA7671-5 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
541-73-1	m-Dichlorobenzene	ND		125	145	116	141	113	3	84-125/14
95-50-1	o-Dichlorobenzene	ND		125	142	114	141	113	1	82-124/14
106-46-7	p-Dichlorobenzene	ND		125	134	107	131	105	2	78-120/15
156-60-5	trans-1,2-Dichloroethylene	ND		125	133	106	130	104	2	76-127/17
10061-02-6	trans-1,3-Dichloropropene	ND		125	111	89	96.3	77*	14	80-120/22
97-63-2	Ethyl methacrylate	ND		125	112	90	112	90	0	63-119/15
76-13-1	Freon 113	ND		125	125	100	123	98	2	72-134/20
591-78-6	2-Hexanone	ND		625	680	109	711	114	4	61-129/18
87-68-3	Hexachlorobutadiene	ND		125	154	123	154	123	0	75-142/19
110-54-3	Hexane	ND		125	137	110	129	103	6	69-132/20
98-82-8	Isopropylbenzene	49.7		125	189	111	184	107	3	83-132/15
99-87-6	p-Isopropyltoluene	5.3		125	137	105	132	101	4	79-130/16
108-10-1	4-Methyl-2-pentanone	ND		625	695	111	720	115	4	66-122/16
126-98-7	Methacrylonitrile	ND		1250	1330	106	1360	109	2	71-124/14
74-83-9	Methyl bromide	ND		125	132	106	135	108	2	59-143/19
74-87-3	Methyl chloride	ND		125	147	118	148	118	1	50-159/19
74-88-4	Methyl iodide	ND		125	118	94	116	93	2	73-123/16
80-62-6	Methyl methacrylate	ND		125	122	98	126	101	3	67-127/15
74-95-3	Methylene bromide	ND		125	133	106	130	104	2	78-119/14
75-09-2	Methylene chloride	ND		125	139	111	137	110	1	69-135/16
78-93-3	Methyl ethyl ketone	ND		625	667	107	695	111	4	56-143/18
1634-04-4	Methyl Tert Butyl Ether	ND		125	121	97	125	100	3	72-117/14
91-20-3	Naphthalene	9.8	J	125	153	115	157	118	3	63-132/25
76-01-7	Pentachloroethane	ND		125	153	122	138	110	10	47-169/21
107-12-0	Propionitrile	ND		1250	1380	110	1400	112	1	68-119/17
103-65-1	n-Propylbenzene	52.8		125	191	111	182	103	5	82-133/15
100-42-5	Styrene	ND		125	110	88	109	87	1	78-119/23
630-20-6	1,1,1,2-Tetrachloroethane	ND		125	125	100	117	94	7	77-122/19
71-55-6	1,1,1-Trichloroethane	ND		125	132	106	131	105	1	75-130/16
79-34-5	1,1,2,2-Tetrachloroethane	ND		125	134	107	132	106	2	72-120/14
79-00-5	1,1,2-Trichloroethane	ND		125	137	110	135	108	1	76-119/14
87-61-6	1,2,3-Trichlorobenzene	ND		125	135	108	136	109	1	68-131/25
96-18-4	1,2,3-Trichloropropane	ND		125	143	114	142	114	1	77-120/16
120-82-1	1,2,4-Trichlorobenzene	ND		125	142	114	140	112	1	73-129/20
95-63-6	1,2,4-Trimethylbenzene	213		125	332	95	319	85	4	79-120/18
108-67-8	1,3,5-Trimethylbenzene	52.8		125	174	97	168	92	4	79-120/19

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA7671
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA7671-5MS	O18388.D	5	09/04/13	EG	n/a	n/a	VO742
FA7671-5MSD	O18389.D	5	09/04/13	EG	n/a	n/a	VO742
FA7671-5	O18380.D	5	09/04/13	EG	n/a	n/a	VO742

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

FA7671-5, FA7671-6

CAS No.	Compound	FA7671-5 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
127-18-4	Tetrachloroethylene	ND		125	114	91	110	88	4	76-135/16
108-88-3	Toluene	189		125	310	97	302	90	3	80-120/14
79-01-6	Trichloroethylene	ND		125	134	107	137	110	2	81-126/15
75-69-4	Trichlorofluoromethane	ND		125	125	100	126	101	1	71-156/21
110-57-6	Trans-1,4-Dichloro-2-Butene	ND		125	83.7	67	40.6	32*	69*	43-145/34
75-01-4	Vinyl chloride	ND		125	148	118	147	118	1	69-159/18
108-05-4	Vinyl Acetate	ND		625	417	67	419	67	0	43-154/14
	m,p-Xylene	54.0		250	310	102	305	100	2	79-126/15
95-47-6	o-Xylene	249		125	374	100	369	96	1	80-127/14

CAS No.	Surrogate Recoveries	MS	MSD	FA7671-5	Limits
1868-53-7	Dibromofluoromethane	93%	92%	93%	83-118%
17060-07-0	1,2-Dichloroethane-D4	93%	95%	94%	79-125%
2037-26-5	Toluene-D8	92%	92%	94%	85-112%
460-00-4	4-Bromofluorobenzene	93%	93%	91%	83-118%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA7671
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA7707-6MS	B092789.D	5	09/04/13	WV	n/a	n/a	VB3795
FA7707-6MSD	B092790.D	5	09/04/13	WV	n/a	n/a	VB3795
FA7707-6 [a]	B092770.D	5	09/04/13	WV	n/a	n/a	VB3795

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

FA7671-3

CAS No.	Compound	FA7707-6 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	130	U	625	515	82	532	85	3	50-147/21

CAS No.	Surrogate Recoveries	MS	MSD	FA7707-6	Limits
1868-53-7	Dibromofluoromethane	99%	104%	105%	83-118%
17060-07-0	1,2-Dichloroethane-D4	96%	99%	100%	79-125%
2037-26-5	Toluene-D8	91%	92%	93%	85-112%
460-00-4	4-Bromofluorobenzene	96%	98%	96%	83-118%

(a) Sample was not preserved to a pH < 2.

* = Outside of Control Limits.

Instrument Performance Check (BFB)

Job Number: FA7671
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VB3792-BFB
Lab File ID: B092687.D
Instrument ID: GCMSB
Injection Date: 08/29/13
Injection Time: 08:12

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	14613	32.4		Pass
75	30.0 - 60.0% of mass 95	21960	48.7		Pass
95	Base peak, 100% relative abundance	45083	100.0		Pass
96	5.0 - 9.0% of mass 95	3318	7.36		Pass
173	Less than 2.0% of mass 174	152	0.34	(0.35) [a]	Pass
174	50.0 - 100.0% of mass 95	42893	95.1		Pass
175	5.0 - 9.0% of mass 174	3452	7.66	(8.05) [a]	Pass
176	95.0 - 101.0% of mass 174	42421	94.1	(98.9) [a]	Pass
177	5.0 - 9.0% of mass 176	2937	6.51	(6.92) [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
VB3792-ICC3792	B092689.D	08/29/13	09:18	01:06	Initial cal 4
VB3792-IC3792	B092690.D	08/29/13	09:52	01:40	Initial cal 3
VB3792-IC3792	B092691.D	08/29/13	10:18	02:06	Initial cal 2
VB3792-IC3792	B092692.D	08/29/13	10:45	02:33	Initial cal 1
VB3792-IC3792	B092693.D	08/29/13	11:12	03:00	Initial cal 5
VB3792-IC3792	B092694.D	08/29/13	11:38	03:26	Initial cal 6
VB3792-ICV3792	B092696.D	08/29/13	12:31	04:19	Initial cal verification 4
VB3792-IC3792	B092697.D	08/29/13	14:14	06:02	Initial cal 5
VB3792-BS	B092698.D	08/29/13	14:50	06:38	Blank Spike
VB3792-MB	B092699.D	08/29/13	15:19	07:07	Method Blank
ZZZZZZ	B092700.D	08/29/13	16:05	07:53	(unrelated sample)
ZZZZZZ	B092701.D	08/29/13	16:32	08:20	(unrelated sample)
ZZZZZZ	B092702.D	08/29/13	16:59	08:47	(unrelated sample)
FA7565-1	B092703.D	08/29/13	17:25	09:13	(used for QC only; not part of job FA7671)
ZZZZZZ	B092704.D	08/29/13	17:52	09:40	(unrelated sample)
ZZZZZZ	B092705.D	08/29/13	18:19	10:07	(unrelated sample)
ZZZZZZ	B092706.D	08/29/13	18:45	10:33	(unrelated sample)
ZZZZZZ	B092707.D	08/29/13	19:12	11:00	(unrelated sample)
ZZZZZZ	B092708.D	08/29/13	19:39	11:27	(unrelated sample)
FA7565-1MS	B092709.D	08/29/13	20:05	11:53	Matrix Spike
FA7565-1MSD	B092710.D	08/29/13	20:32	12:20	Matrix Spike Duplicate

Instrument Performance Check (BFB)

Job Number: FA7671
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VB3795-BFB
Lab File ID: B092766.D
Instrument ID: GCMSB
Injection Date: 09/04/13
Injection Time: 08:27

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	47307	33.2		Pass
75	30.0 - 60.0% of mass 95	74587	52.3		Pass
95	Base peak, 100% relative abundance	142509	100.0		Pass
96	5.0 - 9.0% of mass 95	9132	6.41		Pass
173	Less than 2.0% of mass 174	368	0.26	(0.27) [a]	Pass
174	50.0 - 100.0% of mass 95	138336	97.1		Pass
175	5.0 - 9.0% of mass 174	10674	7.49	(7.72) [a]	Pass
176	95.0 - 101.0% of mass 174	135488	95.1	(97.9) [a]	Pass
177	5.0 - 9.0% of mass 176	8545	6.00	(6.31) [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
VB3795-CC3792	B092767.D	09/04/13	09:16	00:49	Continuing cal 4
VB3795-BS	B092768.D	09/04/13	10:02	01:35	Blank Spike
VB3795-MB	B092769.D	09/04/13	10:38	02:11	Method Blank
FA7707-6	B092770.D	09/04/13	11:21	02:54	(used for QC only; not part of job FA7671)
FA7671-3	B092771.D	09/04/13	11:49	03:22	MW27-03-082013
ZZZZZZ	B092772.D	09/04/13	12:16	03:49	(unrelated sample)
ZZZZZZ	B092773.D	09/04/13	12:43	04:16	(unrelated sample)
ZZZZZZ	B092774.D	09/04/13	13:10	04:43	(unrelated sample)
ZZZZZZ	B092775.D	09/04/13	13:36	05:09	(unrelated sample)
ZZZZZZ	B092776.D	09/04/13	14:03	05:36	(unrelated sample)
ZZZZZZ	B092777.D	09/04/13	14:30	06:03	(unrelated sample)
ZZZZZZ	B092778.D	09/04/13	14:57	06:30	(unrelated sample)
ZZZZZZ	B092779.D	09/04/13	15:24	06:57	(unrelated sample)
ZZZZZZ	B092780.D	09/04/13	15:51	07:24	(unrelated sample)
ZZZZZZ	B092781.D	09/04/13	16:18	07:51	(unrelated sample)
ZZZZZZ	B092782.D	09/04/13	16:45	08:18	(unrelated sample)
ZZZZZZ	B092783.D	09/04/13	17:12	08:45	(unrelated sample)
ZZZZZZ	B092784.D	09/04/13	17:39	09:12	(unrelated sample)
ZZZZZZ	B092785.D	09/04/13	18:06	09:39	(unrelated sample)
ZZZZZZ	B092786.D	09/04/13	18:33	10:06	(unrelated sample)
ZZZZZZ	B092787.D	09/04/13	18:59	10:32	(unrelated sample)
ZZZZZZ	B092788.D	09/04/13	19:26	10:59	(unrelated sample)
FA7707-6MS	B092789.D	09/04/13	19:53	11:26	Matrix Spike
FA7707-6MSD	B092790.D	09/04/13	20:19	11:52	Matrix Spike Duplicate

Instrument Performance Check (BFB)

Job Number: FA7671
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VO739-BFB
Lab File ID: O18288.D
Instrument ID: GCMSO
Injection Date: 08/29/13
Injection Time: 10:51

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	37784	31.5		Pass
75	30.0 - 60.0% of mass 95	60208	50.2		Pass
95	Base peak, 100% relative abundance	119829	100.0		Pass
96	5.0 - 9.0% of mass 95	7879	6.58		Pass
173	Less than 2.0% of mass 174	812	0.68	(0.80) [a]	Pass
174	50.0 - 100.0% of mass 95	101296	84.5		Pass
175	5.0 - 9.0% of mass 174	7006	5.85	(6.92) [a]	Pass
176	95.0 - 101.0% of mass 174	99925	83.4	(98.6) [a]	Pass
177	5.0 - 9.0% of mass 176	6497	5.42	(6.50) [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
VO739-IC739	O18289.D	08/29/13	11:11	00:20	Initial cal 1
VO739-IC739	O18290.D	08/29/13	11:34	00:43	Initial cal 2
VO739-IC739	O18291.D	08/29/13	11:57	01:06	Initial cal 3
VO739-ICC739	O18292.D	08/29/13	12:20	01:29	Initial cal 4
VO739-IC739	O18293.D	08/29/13	12:43	01:52	Initial cal 5
VO739-IC739	O18294.D	08/29/13	13:05	02:14	Initial cal 6
VO739-ICV739	O18295.D	08/29/13	14:15	03:24	Initial cal verification 4
VO739-BS	O18296.D	08/29/13	14:54	04:03	Blank Spike
VO739-MB	O18298.D	08/29/13	16:36	05:45	Method Blank
FA7550-1	O18299.D	08/29/13	17:11	06:20	(used for QC only; not part of job FA7671)
ZZZZZZ	O18300.D	08/29/13	17:41	06:50	(unrelated sample)
ZZZZZZ	O18301.D	08/29/13	18:04	07:13	(unrelated sample)
ZZZZZZ	O18302.D	08/29/13	18:27	07:36	(unrelated sample)
ZZZZZZ	O18303.D	08/29/13	18:50	07:59	(unrelated sample)
ZZZZZZ	O18304.D	08/29/13	19:13	08:22	(unrelated sample)
ZZZZZZ	O18305.D	08/29/13	19:36	08:45	(unrelated sample)
ZZZZZZ	O18307.D	08/29/13	20:22	09:31	(unrelated sample)
ZZZZZZ	O18308.D	08/29/13	20:45	09:54	(unrelated sample)
ZZZZZZ	O18309.D	08/29/13	21:07	10:16	(unrelated sample)
ZZZZZZ	O18310.D	08/29/13	21:30	10:39	(unrelated sample)
FA7550-1MS	O18312.D	08/29/13	22:15	11:24	Matrix Spike
FA7550-1MSD	O18313.D	08/29/13	22:36	11:45	Matrix Spike Duplicate

Instrument Performance Check (BFB)

Job Number: FA7671
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VO740-BFB
Lab File ID: O18316.D
Instrument ID: GCMSO
Injection Date: 08/30/13
Injection Time: 10:17

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	46875	30.8		Pass
75	30.0 - 60.0% of mass 95	76840	50.5		Pass
95	Base peak, 100% relative abundance	152115	100.0		Pass
96	5.0 - 9.0% of mass 95	10737	7.06		Pass
173	Less than 2.0% of mass 174	626	0.41	(0.49) [a]	Pass
174	50.0 - 100.0% of mass 95	128432	84.4		Pass
175	5.0 - 9.0% of mass 174	9622	6.33	(7.49) [a]	Pass
176	95.0 - 101.0% of mass 174	127309	83.7	(99.1) [a]	Pass
177	5.0 - 9.0% of mass 176	8351	5.49	(6.56) [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
VO740-CC739	O18317.D	08/30/13	10:40	00:23	Continuing cal 4
VO740-BS	O18318.D	08/30/13	11:12	00:55	Blank Spike
VO740-MB	O18319.D	08/30/13	11:56	01:39	Method Blank
ZZZZZZ	O18320.D	08/30/13	12:29	02:12	(unrelated sample)
FA7671-7	O18321.D	08/30/13	12:52	02:35	SD27-TB01-082013
FA7671-1	O18322.D	08/30/13	13:14	02:57	MW27-01-082013
FA7671-2	O18323.D	08/30/13	13:37	03:20	MW27-02-082013
FA7671-3	O18324.D	08/30/13	14:00	03:43	MW27-03-082013
FA7671-4	O18325.D	08/30/13	14:22	04:05	MW27-04-082013
FA7671-5	O18326.D	08/30/13	14:45	04:28	MW27-05-082013
FA7671-6	O18327.D	08/30/13	15:08	04:51	MW27-DUP01-082013
FA7671-4MS	O18328.D	08/30/13	15:31	05:14	Matrix Spike
FA7671-4MSD	O18329.D	08/30/13	15:53	05:36	Matrix Spike Duplicate
ZZZZZZ	O18330.D	08/30/13	16:16	05:59	(unrelated sample)
ZZZZZZ	O18331.D	08/30/13	16:38	06:21	(unrelated sample)
ZZZZZZ	O18332.D	08/30/13	17:01	06:44	(unrelated sample)
ZZZZZZ	O18333.D	08/30/13	17:23	07:06	(unrelated sample)
ZZZZZZ	O18334.D	08/30/13	17:46	07:29	(unrelated sample)
ZZZZZZ	O18335.D	08/30/13	18:09	07:52	(unrelated sample)
ZZZZZZ	O18337.D	08/30/13	18:55	08:38	(unrelated sample)
ZZZZZZ	O18338.D	08/30/13	19:17	09:00	(unrelated sample)
ZZZZZZ	O18340.D	08/30/13	20:02	09:45	(unrelated sample)
ZZZZZZ	O18341.D	08/30/13	20:25	10:08	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: FA7671
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VO742-BFB
Lab File ID: O18374.D
Instrument ID: GCMSO
Injection Date: 09/04/13
Injection Time: 09:32

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	29811	30.5		Pass
75	30.0 - 60.0% of mass 95	48643	49.7		Pass
95	Base peak, 100% relative abundance	97821	100.0		Pass
96	5.0 - 9.0% of mass 95	6539	6.68		Pass
173	Less than 2.0% of mass 174	680	0.70	(0.83) [a]	Pass
174	50.0 - 100.0% of mass 95	82149	84.0		Pass
175	5.0 - 9.0% of mass 174	6127	6.26	(7.46) [a]	Pass
176	95.0 - 101.0% of mass 174	82883	84.7	(100.9) [a]	Pass
177	5.0 - 9.0% of mass 176	5263	5.38	(6.35) [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
VO742-CC739	O18375.D	09/04/13	09:54	00:22	Continuing cal 4
VO742-BS	O18376.D	09/04/13	10:26	00:54	Blank Spike
VO742-MB	O18378.D	09/04/13	11:39	02:07	Method Blank
ZZZZZZ	O18379.D	09/04/13	12:14	02:42	(unrelated sample)
FA7671-5	O18380.D	09/04/13	12:37	03:05	MW27-05-082013
FA7671-6	O18381.D	09/04/13	13:00	03:28	MW27-DUP01-082013
ZZZZZZ	O18382.D	09/04/13	13:23	03:51	(unrelated sample)
ZZZZZZ	O18383.D	09/04/13	13:46	04:14	(unrelated sample)
ZZZZZZ	O18384.D	09/04/13	14:08	04:36	(unrelated sample)
ZZZZZZ	O18385.D	09/04/13	14:31	04:59	(unrelated sample)
ZZZZZZ	O18386.D	09/04/13	14:53	05:21	(unrelated sample)
ZZZZZZ	O18387.D	09/04/13	15:16	05:44	(unrelated sample)
FA7671-5MS	O18388.D	09/04/13	15:39	06:07	Matrix Spike
FA7671-5MSD	O18389.D	09/04/13	16:00	06:28	Matrix Spike Duplicate
ZZZZZZ	O18390.D	09/04/13	16:23	06:51	(unrelated sample)
ZZZZZZ	O18391.D	09/04/13	16:46	07:14	(unrelated sample)
ZZZZZZ	O18392.D	09/04/13	17:09	07:37	(unrelated sample)
ZZZZZZ	O18393.D	09/04/13	17:32	08:00	(unrelated sample)
ZZZZZZ	O18394.D	09/04/13	17:55	08:23	(unrelated sample)
ZZZZZZ	O18395.D	09/04/13	18:39	09:07	(unrelated sample)
ZZZZZZ	O18396.D	09/04/13	19:09	09:37	(unrelated sample)
ZZZZZZ	O18397.D	09/04/13	19:31	09:59	(unrelated sample)
ZZZZZZ	O18398.D	09/04/13	19:53	10:21	(unrelated sample)
ZZZZZZ	O18399.D	09/04/13	20:15	10:43	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: FA7671
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample:	VO742-BFB	**Injection Date:**	09/04/13
Lab File ID:	O18374.D	**Injection Time:**	09:32
Instrument ID:	GCMSO		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
ZZZZZZ	O18400.D	09/04/13	20:38	11:06	(unrelated sample)
VO743-BS	O18406.D	09/05/13	08:14	22:42	Blank Spike

Volatile Internal Standard Area Summary

Job Number: FA7671
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Check Std:	VB3795-CC3792	**Injection Date:**	09/04/13
Lab File ID:	B092767.D	**Injection Time:**	09:16
Instrument ID:	GCMSB	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
Initial Cal [a]	866274	9.91	691571	13.13	389112	15.66	57537	7.17
Check Std [b]	821615	9.91	663768	13.13	388411	15.66	44300	7.18
Upper Limit [c]	1643230	10.41	1327536	13.63	776822	16.16	88600	7.68
Lower Limit [d]	410808	9.41	331884	12.63	194206	15.16	22150	6.68

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
VB3795-BS	854719	9.91	690587	13.13	384172	15.66	54918	7.17
VB3795-MB	807706	9.91	632557	13.13	297886	15.67	55889	7.19
FA7707-6	743922	9.91	593081	13.13	304659	15.66	50652	7.19
FA7671-3	726195	9.91	574569	13.13	266790	15.67	57592	7.18
ZZZZZZ	723649	9.91	561644	13.13	262944	15.67	46656	7.18
ZZZZZZ	701553	9.91	559877	13.13	257568	15.67	44846	7.17
ZZZZZZ	689143	9.91	537180	13.13	255382	15.67	44000	7.17
ZZZZZZ	658243	9.91	526136	13.13	244669	15.67	41487	7.19
ZZZZZZ	665133	9.91	524639	13.13	255149	15.67	44278	7.17
ZZZZZZ	664731	9.91	527533	13.13	245413	15.67	43001	7.18
ZZZZZZ	675558	9.91	535541	13.13	248691	15.66	48547	7.18
ZZZZZZ	639643	9.91	502107	13.13	235638	15.67	41326	7.18
ZZZZZZ	643259	9.91	535235	13.13	270999	15.66	49944	7.19
ZZZZZZ	664372	9.91	513828	13.13	245216	15.67	42657	7.17
ZZZZZZ	662614	9.91	558600	13.13	281791	15.66	48389	7.20
ZZZZZZ	671671	9.91	529352	13.13	239408	15.67	54757	7.18
ZZZZZZ	668552	9.91	526777	13.13	258504	15.67	51489	7.19
ZZZZZZ	657502	9.91	559544	13.13	259436	15.67	52068	7.18
ZZZZZZ	665121	9.91	533078	13.13	257630	15.67	40393	7.17
ZZZZZZ	673061	9.91	539809	13.13	246479	15.67	43230	7.19
ZZZZZZ	656668	9.91	539335	13.13	264839	15.66	44876	7.17
FA7707-6MS	730641	9.91	598100	13.13	342800	15.66	44145	7.17
FA7707-6MSD	768402	9.91	627847	13.13	353905	15.66	52227	7.18

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

(a) Initial Cal is: VB3792-ICC3792 B092689.D 08/29/13 09:18
(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: FA7671
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Check Std:	VO740-CC739	**Injection Date:**	08/30/13
Lab File ID:	O18317.D	**Injection Time:**	10:40
Instrument ID:	GCMSO	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
Initial Cal [a]	1077922	7.49	830155	10.63	442353	13.11	122574	5.11
Check Std [b]	1087948	7.49	840349	10.63	448907	13.11	123592	5.12
Upper Limit [c]	2175896	7.99	1680698	11.13	897814	13.61	247184	5.62
Lower Limit [d]	543974	6.99	420175	10.13	224454	12.61	61796	4.62

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
VO740-BS	1082305	7.49	825173	10.63	441103	13.11	126037	5.11
VO740-MB	1038742	7.49	767157	10.63	386595	13.11	112176	5.11
ZZZZZZ	968951	7.49	711301	10.63	355143	13.11	74243	5.10
FA7671-7	919367	7.49	680861	10.63	336627	13.11	73259	5.10
FA7671-1	900141	7.49	663213	10.63	325706	13.11	101496	5.12
FA7671-2	869143	7.49	673092	10.63	344454	13.11	109485	5.11
FA7671-3	927808	7.49	680454	10.63	340534	13.11	127664	5.10
FA7671-4	880831	7.49	663899	10.64	331371	13.11	128099	5.12
FA7671-5	898267	7.49	671785	10.63	337800	13.11	92395	5.10
FA7671-6	908351	7.49	668113	10.64	342247	13.11	95491	5.11
FA7671-4MS	966164	7.49	745472	10.63	390900	13.11	160086	5.11
FA7671-4MSD	1036537	7.49	791424	10.63	415506	13.11	178805	5.11
ZZZZZZ	995816	7.49	745543	10.63	362408	13.11	118068	5.10
ZZZZZZ	950696	7.49	697583	10.64	349623	13.11	115725	5.11
ZZZZZZ	914300	7.49	657560	10.63	332321	13.11	102732	5.11
ZZZZZZ	896699	7.49	652150	10.64	322824	13.11	99536	5.11
ZZZZZZ	885914	7.49	657781	10.63	318427	13.11	109311	5.11
ZZZZZZ	899793	7.49	668503	10.63	324840	13.11	105495	5.11
ZZZZZZ	908001	7.49	653025	10.63	323444	13.11	99574	5.11
ZZZZZZ	845726	7.49	620234	10.63	306591	13.11	98460	5.11
ZZZZZZ	860730	7.49	628365	10.63	320098	13.11	95625	5.10
ZZZZZZ	859479	7.49	638890	10.63	312112	13.11	91984	5.11

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

(a) Initial Cal is: VO739-ICC739 O18292.D 08/29/13 12:20
(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: FA7671
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Check Std:	VO742-CC739	**Injection Date:**	09/04/13
Lab File ID:	O18375.D	**Injection Time:**	09:54
Instrument ID:	GCMSO	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
Initial Cal [a]	1077922	7.49	830155	10.63	442353	13.11	122574	5.11
Check Std [b]	1098981	7.49	847952	10.63	461860	13.11	128316	5.11
Upper Limit [c]	2197962	7.99	1695904	11.13	923720	13.61	256632	5.61
Lower Limit [d]	549491	6.99	423976	10.13	230930	12.61	64158	4.61

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
VO742-BS	1076413	7.49	819324	10.63	434713	13.11	124017	5.11
VO742-MB	978424	7.49	724913	10.63	364093	13.11	101804	5.10
ZZZZZZ	1019903	7.49	756396	10.63	377365	13.11	124417	5.11
FA7671-5	975346	7.49	747113	10.63	391313	13.11	105055	5.10
FA7671-6	1006698	7.49	761924	10.63	398227	13.11	109349	5.10
ZZZZZZ	1022957	7.49	758921	10.63	382289	13.11	110638	5.10
ZZZZZZ	1064523	7.49	784089	10.63	412977	13.11	121585	5.11
ZZZZZZ	1100254	7.49	830221	10.63	413715	13.11	121262	5.10
ZZZZZZ	1081668	7.49	814590	10.63	415998	13.11	123130	5.10
ZZZZZZ	1093835	7.49	813732	10.63	417721	13.11	125819	5.11
ZZZZZZ	1013740	7.49	757357	10.63	376275	13.11	96341	5.10
FA7671-5MS	1091834	7.49	849895	10.64	445611	13.11	139153	5.12
FA7671-5MSD	1151826	7.49	888637	10.63	475505	13.11	154729	5.12
ZZZZZZ	1113098	7.49	842163	10.63	415858	13.11	128855	5.11
ZZZZZZ	1066398	7.49	795575	10.63	388528	13.11	123493	5.10
ZZZZZZ	1005373	7.49	744404	10.64	368861	13.11	120251	5.11
ZZZZZZ	978022	7.49	734995	10.63	364182	13.11	115978	5.10
ZZZZZZ	961744	7.49	711339	10.64	355779	13.11	119151	5.10
ZZZZZZ	988660	7.49	773529	10.63	406391	13.11	116933	5.10
ZZZZZZ	1028134	7.49	779817	10.63	394337	13.11	123913	5.11
ZZZZZZ	1060494	7.49	793312	10.63	402443	13.11	122924	5.10
ZZZZZZ	1094186	7.49	842476	10.63	444893	13.11	130457	5.11
ZZZZZZ	1117194	7.49	831010	10.63	420931	13.11	134252	5.11
ZZZZZZ	1086332	7.49	807230	10.63	417203	13.11	122535	5.10
VO743-BS	1140956	7.49	877964	10.63	463239	13.11	126745	5.11

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

(a) Initial Cal is: VO739-ICC739 O18292.D 08/29/13 12:20
(b) Check Std Limit = -50 to + 100% of initial cal area.

Volatile Internal Standard Area Summary

Job Number: FA7671
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Check Std:	VO742-CC739	**Injection Date:**	09/04/13
Lab File ID:	O18375.D	**Injection Time:**	09:54
Instrument ID:	GCMSO	**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: FA7671
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Method: SW846 8260B **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
FA7671-1	O18322.D	94.0	93.0	96.0	94.0
FA7671-2	O18323.D	97.0	94.0	92.0	95.0
FA7671-3	B092771.D	104.0	101.0	95.0	104.0
FA7671-3	O18324.D	94.0	93.0	96.0	94.0
FA7671-4	O18325.D	97.0	94.0	96.0	96.0
FA7671-5	O18380.D	93.0	94.0	94.0	91.0
FA7671-5	O18326.D	94.0	93.0	94.0	94.0
FA7671-6	O18381.D	93.0	91.0	94.0	93.0
FA7671-6	O18327.D	94.0	93.0	95.0	93.0
FA7671-7	O18321.D	96.0	90.0	95.0	94.0
FA7671-4MS	O18328.D	94.0	95.0	92.0	91.0
FA7671-4MSD	O18329.D	93.0	94.0	93.0	93.0
FA7671-5MS	O18388.D	93.0	93.0	92.0	93.0
FA7671-5MSD	O18389.D	92.0	95.0	92.0	93.0
FA7707-6MS	B092789.D	99.0	96.0	91.0	96.0
FA7707-6MSD	B092790.D	104.0	99.0	92.0	98.0
VB3795-BS	B092768.D	102.0	98.0	92.0	99.0
VB3795-MB	B092769.D	105.0	101.0	91.0	102.0
VO740-BS	O18318.D	94.0	93.0	93.0	93.0
VO740-MB	O18319.D	93.0	90.0	95.0	93.0
VO742-BS	O18376.D	94.0	95.0	94.0	92.0
VO742-MB	O18378.D	93.0	92.0	94.0	92.0

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	83-118%
S2 = 1,2-Dichloroethane-D4	79-125%
S3 = Toluene-D8	85-112%
S4 = 4-Bromofluorobenzene	83-118%

Initial Calibration Summary

Job Number: FA7671
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VB3792-ICC3792
Lab FileID: B092689.D

Response Factor Report MSVOA4

Method : C:\msdchem\1\METHODS\8260bnew.m (RTE Integrator)
Title : EPA 624 & SWA 5030B/8260B
Last Update : Fri Aug 30 17:16:46 2013
Response via : Initial Calibration

Calibration Files
1 =B092692.D 2 =B092691.D 3 =B092690.D 4 =B092689.D
5 =B092697.D 6 =B092694.D

		Compound	1	2	3	4	5	6	Avg	%RSD
1)	I	Fluorobenzene	----------ISTD----------							
2)		Dichlorodifluoromet	0.268	0.303	0.395	0.378	0.348	0.347	0.340	13.83
3)	P	Chloromethane	0.890	0.735	0.816	0.799	0.714	0.677	0.772	10.10
4)	C	Vinyl Chloride	0.460	0.426	0.520	0.509	0.454	0.426	0.466	8.73
5)		Bromomethane	0.302	0.268	0.288	0.291	0.258	0.238	0.274	8.80
6)		Chloroethane	0.257	0.208	0.268	0.266	0.243	0.226	0.245	9.68
7)		Trichlorofluorometh	0.562	0.518	0.637	0.611	0.578	0.592	0.583	7.03
8)		Ethyl Ether	0.387	0.370	0.387	0.365	0.367	0.365	0.374	2.86
9)		1,2-Dichlorotrifluo	0.421	0.420	0.466	0.438	0.428	0.433	0.434	3.95
10)		Freon 113	0.278	0.292	0.369	0.334	0.324	0.359	0.326	11.08
11)	C	1,1-Dichloroethene	0.506	0.522	0.588	0.548	0.564	0.604	0.555	6.78
12)		Acetone	0.175	0.140	0.137	0.137	0.125	0.130	0.141	12.48
13)		Iodomethane	0.492	0.516	0.603	0.550	0.572	0.584	0.553	7.64
14)		Carbon Disulfide	0.800	0.813	0.962	0.892	0.900	0.919	0.881	7.13
15)		Methyl acetate	0.424	0.404	0.409	0.457	0.373	0.403	0.412	6.76
16)		Methylene Chloride	1.232	0.861	0.856	0.777	0.774	0.788	0.881	19.97
		---- Linear regr., Force(0,0) ---- Coefficient = 0.9995								
		Response Ratio = 0.00000 + 0.78450 *A								
17)		Methyl Tert Butyl E	0.770	0.865	0.977	0.920	0.945	0.996	0.912	9.16
18)		trans-1,2-Dichloroe	0.517	0.559	0.649	0.604	0.614	0.630	0.596	8.21
19)		Acrylonitrile	0.184	0.200	0.182	0.177	0.167	0.178	0.181	6.03
20)		Hexane	0.473	0.588	0.736	0.667	0.695	0.736	0.649	15.73
		---- Linear regr., Force(0,0) ---- Coefficient = 0.9979								
		Response Ratio = 0.00000 + 0.71731 *A								
21)		Di-isopropyl ether	1.912	2.054	2.248	2.146	2.137	2.216	2.119	5.74
22)		Vinyl acetate	1.319	1.476	1.421	1.011	1.246	1.220	1.282	12.90
		---- Linear regr., Force(0,0) ---- Coefficient = 0.9920								
		Response Ratio = 0.00000 + 1.21297 *A								
23)	P	1,1-Dichloroethane	0.751	0.705	0.786	0.756	0.734	0.759	0.749	3.61
24)		ETBE	0.881	1.127	1.357	1.326	1.395	1.445	1.255	17.00
		---- Linear regr., Force(0,0) ---- Coefficient = 0.9990								
		Response Ratio = 0.00000 + 1.41674 *A								
25)		2-Butanone	0.738	0.768	0.710	0.665	0.639	0.684	0.701	6.81
26)		2,2-Dichloropropane	0.363	0.388	0.474	0.451	0.466	0.468	0.435	10.88
27)		cis-1,2-Dichloroeth	0.344	0.316	0.391	0.377	0.367	0.371	0.361	7.44
28)		Bromochloromethane	0.170	0.170	0.182	0.176	0.172	0.174	0.174	2.62
29)		Tetrahydrofuran	0.122	0.131	0.140	0.133	0.139	0.154	0.137	7.88
30)	C	Chloroform	0.618	0.589	0.617	0.618	0.611	0.624	0.613	2.03
31)	S	Dibromofluoromethan	0.265	0.291	0.296	0.265	0.302	0.307	0.288	6.44
		---- Linear regression ---- Coefficient = 1.0000								
		Response Ratio = -0.08398 + 0.34931 *A								

Initial Calibration Summary

Job Number: FA7671 **Sample:** VB3792-ICC3792
Account: TETTNOAK Tetra Tech, Inc **Lab FileID:** B092689.D
Project: Holloman AFB; Alamogordo, NM

```
32)      1,1,1-Trichloroetha 0.391 0.401 0.469 0.446 0.466 0.493 0.444   9.12
33)      Cyclohexane         0.523 0.632 0.817 0.782 0.809 0.853 0.736  17.59
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9996
               Response Ratio = 0.00000 + 0.73977 *A + 0.05535 *A^2

34)      Carbon Tetrachlorid 0.344 0.371 0.428 0.414 0.435 0.455 0.408  10.28
35)      1,1-Dichloropropene 0.348 0.366 0.469 0.444 0.441 0.467 0.423  12.34
36)  S   1,2-Dichloroethane- 0.334 0.372 0.379 0.327 0.383 0.383 0.363   7.04
             ---- Linear regression ----  Coefficient =  0.9982
               Response Ratio = -0.10538 + 0.44033 *A

37)      TAME                0.645 0.816 0.971 0.939 0.950 1.003 0.887  15.17
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9996
               Response Ratio = 0.00000 + 0.88930 *A + 0.05461 *A^2

38)      Benzene             1.376 1.279 1.448 1.384 1.328 1.349 1.361   4.19
39)      1,2-Dichloroethane  0.573 0.520 0.572 0.544 0.558 0.586 0.559   4.26
40)      Trichloroethene     0.257 0.261 0.312 0.305 0.319 0.333 0.298  10.59
41)      Methylcyclohexane   0.314 0.442 0.604 0.551 0.567 0.605 0.514  22.30
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9990
               Response Ratio = 0.00000 + 0.52257 *A + 0.03951 *A^2

42)  C   1,2-Dichloropropane 0.405 0.387 0.438 0.425 0.419 0.434 0.418   4.61
43)      Dibromomethane      0.208 0.208 0.214 0.217 0.209 0.221 0.213   2.49
44)      Bromodichloromethan 0.394 0.401 0.448 0.455 0.454 0.477 0.438   7.52
45)      2-Chloroethyl vinyl 0.181 0.234 0.267 0.221 0.254 0.262 0.237  13.66
46)      2-Nitropropane      0.114 0.117 0.138 0.133 0.139 0.151 0.132  10.55
47)      cis-1,3-Dichloropro 0.446 0.462 0.569 0.578 0.591 0.608 0.542  12.89
48)      4-Methyl-2-pentanon 0.375 0.452 0.489 0.470 0.450 0.480 0.453   9.06

49)  I   Chlorobenzene-d5      ----------------ISTD---------------------
50)  S   Toluene-d8          1.247 1.368 1.308 1.217 1.271 1.318 1.288   4.21
51)  C   Toluene             1.912 1.690 1.816 1.765 1.694 1.770 1.774   4.67
52)      trans-1,3-Dichlorop 0.502 0.531 0.612 0.640 0.632 0.670 0.598  11.11
53)      1,1,2-Trichloroetha 0.405 0.352 0.350 0.339 0.326 0.351 0.354   7.60
54)      Tetrachloroethene   0.410 0.424 0.488 0.471 0.457 0.483 0.456   7.07
55)      2-hexanone          0.272 0.373 0.417 0.425 0.407 0.436 0.388  15.70
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9981
               Response Ratio = 0.00000 + 0.42613 *A

56)      1,3-Dichloropropane 0.637 0.676 0.689 0.677 0.643 0.670 0.665   3.10
57)      Dibromochloromethan 0.392 0.359 0.407 0.421 0.424 0.460 0.411   8.22
58)      1,2-Dibromoethane   0.391 0.350 0.396 0.386 0.383 0.419 0.388   5.84
59)      1-Chlorohexane      0.289 0.425 0.598 0.593 0.586 0.627 0.520  25.74
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9992
               Response Ratio = 0.00000 + 0.54887 *A + 0.03702 *A^2

60)  P   Chlorobenzene       1.246 1.107 1.141 1.125 1.066 1.087 1.129   5.60
61)  C   Ethylbenzene        1.654 1.815 2.037 1.984 1.964 2.045 1.916   7.99
62)      1,1,1,2-Tetrachloro 0.411 0.375 0.413 0.423 0.420 0.442 0.414   5.33
63)      m,p-Xylene          1.127 1.327 1.524 1.471 1.446 1.497 1.399  10.70
64)      o-Xylene            0.967 1.231 1.570 1.528 1.491 1.586 1.395  17.67
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9990
               Response Ratio = 0.00000 + 1.43753 *A + 0.06834 *A^2

65)      Styrene             0.785 0.997 1.388 1.363 1.322 1.373 1.205  21.00
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9993
               Response Ratio = 0.00000 + 1.35711 *A

66)  P   Bromoform           0.218 0.236 0.283 0.305 0.304 0.340 0.281  16.43
```

Initial Calibration Summary

Job Number: FA7671
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VB3792-ICC3792
Lab FileID: B092689.D

```
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9990
              Response Ratio = 0.00000 + 0.26100 *A + 0.03815 *A^2


67) I   1,4-Dichlorobenzene-d ----------------ISTD--------------------
68)     Isopropylbenzene    2.008 2.716 3.424 3.270 3.299 3.556 3.045  19.17
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9992
              Response Ratio = 0.00000 + 3.03001 *A + 0.25136 *A^2

69)     Cyclohexanone       0.010 0.028 0.026 0.047 0.024 0.032 0.028  43.23
70) S   4-Bromofluorobenzen 0.902 0.991 0.966 0.860 0.992 1.045 0.959   7.00
            ---- Linear regression ----  Coefficient =  0.9946
              Response Ratio = -0.29226 + 1.17323 *A

71) P   1,1,2,2-Tetrachloro 1.216 1.063 1.041 0.954 0.923 1.023 1.037   9.89
72)     trans-1,4-Dichloro- 0.313 0.321 0.390 0.377 0.401 0.442 0.374  13.16
73)     n-Propylbenzene     3.151 3.697 4.271 4.108 4.079 4.277 3.930  11.10
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9990
              Response Ratio = 0.00000 + 4.20258 *A

74)     Bromobenzene        0.935 0.997 1.061 1.018 1.026 1.075 1.019   4.90
75)     1,2,3-Trichloroprop 0.261 0.264 0.254 0.246 0.240 0.263 0.255   3.87
76)     1,3,5-Trimethylbenz 2.147 2.747 3.284 3.150 3.154 3.387 2.978  15.49
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9992
              Response Ratio = 0.00000 + 2.93612 *A + 0.21377 *A^2

77)     2-Chlorotoluene     2.130 2.588 2.959 2.774 2.821 3.022 2.716  11.95
78)     4-Chlorotoluene     1.919 2.245 2.615 2.474 2.526 2.663 2.407  11.63
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9985
              Response Ratio = 0.00000 + 2.60384 *A

79)     tert-Butylbenzene   1.101 1.318 1.652 1.612 1.627 1.799 1.518  16.96
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9958
              Response Ratio = 0.00000 + 1.72718 *A

80)     1,2,4-Trimethylbenz 2.041 2.870 3.441 3.198 3.223 3.419 3.032  17.38
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9992
              Response Ratio = 0.00000 + 3.05138 *A + 0.17323 *A^2

81)     sec-Butylbenzene    2.401 3.037 3.964 3.719 3.601 3.845 3.428  17.42
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9985
              Response Ratio = 0.00000 + 3.52849 *A + 0.14070 *A^2

82)     4-Isopropyltoluene  1.563 2.261 3.041 2.923 2.877 3.133 2.633  23.07
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9986
              Response Ratio = 0.00000 + 2.67844 *A + 0.21365 *A^2

83)     1,3-Dichlorobenzene 1.691 1.607 1.882 1.750 1.735 1.806 1.745   5.41
84)     1,4-Dichlorobenzene 2.018 1.862 2.010 1.946 1.909 1.998 1.957   3.21
85)     Benzyl Chloride     1.155 1.336 1.742 1.781 1.823 1.952 1.632  19.15
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9997
              Response Ratio = 0.00000 + 1.62350 *A + 0.16085 *A^2

86)     n-Butylbenzene      1.966 2.620 3.464 3.304 3.201 3.410 2.994  19.65
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9987
              Response Ratio = 0.00000 + 3.12562 *A + 0.12784 *A^2

87)     1,2-Dichlorobenzene 1.555 1.567 1.789 1.731 1.671 1.750 1.677   5.84
88)     1,2-Dibromo-3-Chlor 0.096 0.130 0.135 0.135 0.131 0.144 0.129  12.76
89)     1,2,4-Trichlorobenz 0.901 1.012 1.216 1.220 1.243 1.258 1.142  13.00
```

Initial Calibration Summary

Job Number: FA7671
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VB3792-ICC3792
Lab FileID: B092689.D

```
90)     Hexachlorobutadiene 0.580 0.557 0.625 0.607 0.596 0.613 0.596   4.16
91)     Naphthalene         1.470 1.740 2.208 2.202 2.152 2.210 1.997  15.83
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9997
              Response Ratio = 0.00000 + 2.13792 *A + 0.03229 *A^2

92)     1,2,3-Trichlorobenz 0.891 0.889 1.102 1.083 1.026 1.012 1.000   9.20

93) I   Tert Butyl alcohol-d1 ----------------ISTD--------------------
94)     Acrolein            5.412 4.290 5.237 5.521 5.332 5.144 5.156   8.61
95)     Tert-Butyl Alcohol  2.275 1.898 2.051 2.038 2.062 2.099 2.071   5.88
96)     Tert amyl alcohol   1.323 1.419 1.465 1.644 1.645 1.725 1.537  10.22
97)     1,4-Dioxane         0.065 0.153 0.165 0.166 0.155 0.161 0.144  27.24
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9988
              Response Ratio = 0.00000 + 0.15894 *A + 0.00014 *A^2

--------------------------------------------------------------------------
(#) = Out of Range

          8260bnew.m        Tue Sep 03 08:24:26 2013
```

6.7.1

6

Initial Calibration Verification

Job Number: FA7671
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VB3792-ICV3792
Lab FileID: B092696.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\082913\B092696.D          Vial: 10
Acq On    : 29 Aug 2013  12:31 pm                   Operator: wilfredo
Sample    : icv3792-4                               Inst    : MSVOA4
Misc      : MS25003,VB3792,,,,,                     Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\msdchem\1\METHODS\8260bnew.m (RTE Integrator)
Title        : EPA 624 & SWA 5030B/8260B
Last Update  : Fri Aug 30 17:16:46 2013
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	107	0.00	9.91
2		Dichlorodifluoromethane	0.340	0.437	-28.5#	124	0.00	4.44
3	P	Chloromethane	0.772	0.698	9.6	94	-0.01	4.75
4	C	Vinyl Chloride	0.466	0.431	7.5	91	-0.01	4.98
5		Bromomethane	0.274	0.231	15.7	85	0.00	5.51
6		Chloroethane	0.245	0.208	15.1	84	-0.01	5.64
7		Trichlorofluoromethane	0.583	0.555	4.8	98	-0.02	6.09
8		Ethyl Ether	0.374	0.346	7.5	102	0.00	6.35
9		1,2-Dichlorotrifluoroetha	0.434	0.382	12.0	94	0.00	6.35
10		Freon 113	0.326	0.330	-1.2	106	0.00	6.72
11	C	1,1-Dichloroethene	0.555	0.624	-12.4	122	0.00	6.75
12		Acetone	0.141	0.157	-11.3	123	0.00	6.71
13		Iodomethane	0.553	0.537	2.9	105	0.00	6.98
14		Carbon Disulfide	0.881	0.991	-12.5	119	0.00	7.15
15		Methyl acetate	0.412	0.377	8.5	89	0.00	7.08
		----------	Amount	Calc.	%Drift		----------	
16		Methylene Chloride	40.000	41.703	-4.3	113	0.00	7.29
		----------	AvgRF	CCRF	%Dev		----------	
17		Methyl Tert Butyl Ether	0.912	0.928	-1.8	108	0.00	7.58
18		trans-1,2-Dichloroethene	0.596	0.626	-5.0	112	0.00	7.61
19		Acrylonitrile	0.181	0.172	5.0	105	0.00	7.50
		----------	Amount	Calc.	%Drift		----------	
20		Hexane	40.000	38.197	4.5	110	0.00	7.89
		----------	AvgRF	CCRF	%Dev		----------	
21		Di-isopropyl ether	2.119	2.106	0.6	105	0.00	8.07
		----------	Amount	Calc.	%Drift		----------	
22		Vinyl acetate	200.000	162.638	18.7	105	0.00	8.03
		----------	AvgRF	CCRF	%Dev		----------	
23	P	1,1-Dichloroethane	0.749	0.776	-3.6	110	0.00	8.07
		----------	Amount	Calc.	%Drift		----------	
24		ETBE	40.000	38.132	4.7	109	0.00	8.46
		----------	AvgRF	CCRF	%Dev		----------	
25		2-Butanone	0.701	0.668	4.7	108	0.00	8.65
26		2,2-Dichloropropane	0.435	0.456	-4.8	109	0.00	8.73

Initial Calibration Verification

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27		cis-1,2-Dichloroethene	0.361	0.377	-4.4	107	0.00	8.69
28		Bromochloromethane	0.174	0.178	-2.3	109	0.00	8.96
29		Tetrahydrofuran	0.137	0.147	-7.3	119	0.00	9.01
30	C	Chloroform	0.613	0.624	-1.8	108	0.00	8.99
		----------	Amount	Calc.	%Drift	----------		
31	S	Dibromofluoromethane	50.000	49.974	0.1	107	0.00	9.17
		----------	AvgRF	CCRF	%Dev	----------		
32		1,1,1-Trichloroethane	0.444	0.470	-5.9	113	0.00	9.28
		----------	Amount	Calc.	%Drift	----------		
33		Cyclohexane	40.000	44.248	-10.6	120	0.00	9.38
		----------	AvgRF	CCRF	%Dev	----------		
34		Carbon Tetrachloride	0.408	0.446	-9.3	116	0.00	9.47
35		1,1-Dichloropropene	0.423	0.472	-11.6	114	0.00	9.43
		----------	Amount	Calc.	%Drift	----------		
36	S	1,2-Dichloroethane-d4	50.000	49.257	1.5	108	0.00	9.55
37		TAME	40.000	42.074	-5.2	113	0.00	9.69
		----------	AvgRF	CCRF	%Dev	----------		
38		Benzene	1.361	1.409	-3.5	109	0.00	9.66
39		1,2-Dichloroethane	0.559	0.589	-5.4	116	0.00	9.64
40		Trichloroethene	0.298	0.337	-13.1	119	0.00	10.31
		----------	Amount	Calc.	%Drift	----------		
41		Methylcyclohexane	40.000	40.767	-1.9	110	0.00	10.56
		----------	AvgRF	CCRF	%Dev	----------		
42	C	1,2-Dichloropropane	0.418	0.443	-6.0	112	0.00	10.54
43		Dibromomethane	0.213	0.224	-5.2	111	0.00	10.67
44		Bromodichloromethane	0.438	0.469	-7.1	111	0.00	10.78
45		2-Chloroethyl vinyl ether	0.237	0.188	20.7#	91	0.00	11.01
46		2-Nitropropane	0.132	0.130	1.5	105	0.00	10.97
47		cis-1,3-Dichloropropene	0.542	0.586	-8.1	109	0.00	11.24
48		4-Methyl-2-pentanone	0.453	0.496	-9.5	113	0.00	11.32
49	I	Chlorobenzene-d5	1.000	1.000	0.0	105	0.00	13.13
50	S	Toluene-d8	1.288	1.253	2.7	108	0.00	11.56
51	C	Toluene	1.774	1.837	-3.6	109	0.00	11.64
52		trans-1,3-Dichloropropene	0.598	0.699	-16.9	114	0.00	11.78
53		1,1,2-Trichloroethane	0.354	0.365	-3.1	112	0.00	12.00
54		Tetrachloroethene	0.456	0.504	-10.5	112	0.00	12.25
		----------	Amount	Calc.	%Drift	----------		
55		2-hexanone	200.000	224.558	-12.3	118	0.00	12.19
		----------	AvgRF	CCRF	%Dev	----------		
56		1,3-Dichloropropane	0.665	0.720	-8.3	111	0.00	12.20
57		Dibromochloromethane	0.411	0.451	-9.7	112	0.00	12.48
58		1,2-Dibromoethane	0.388	0.432	-11.3	117	0.00	12.66
		----------	Amount	Calc.	%Drift	----------		
59		1-Chlorohexane	40.000	41.748	-4.4	107	0.00	13.03
		----------	AvgRF	CCRF	%Dev	----------		
60	P	Chlorobenzene	1.129	1.223	-8.3	114	0.00	13.16
61	C	Ethylbenzene	1.916	2.063	-7.7	109	0.00	13.23

Initial Calibration Verification

Job Number: FA7671
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VB3792-ICV3792
Lab FileID: B092696.D

62		1,1,1,2-Tetrachloroethane	0.414	0.451	-8.9	111	0.00	13.21
63		m,p-Xylene	1.399	1.599	-14.3	114	0.00	13.34
		----------	Amount	Calc.	%Drift		----------	
64		o-Xylene	40.000	45.501	-13.8	117	0.00	13.79
65		Styrene	40.000	40.887	-2.2	106	0.00	13.80
66	P	Bromoform	40.000	44.127	-10.3	111	0.00	14.05
		----------	AvgRF	CCRF	%Dev		----------	
67	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	99	0.00	15.67
		----------	Amount	Calc.	%Drift		----------	
68		Isopropylbenzene	40.000	47.775	-19.4	119	0.00	14.17
		----------	AvgRF	CCRF	%Dev		----------	
69		Cyclohexanone	0.028	0.042	-50.0#	88	0.00	14.32
		----------	Amount	Calc.	%Drift		----------	
70	S	4-Bromofluorobenzene	50.000	51.057	-2.1	105	0.00	14.37
		----------	AvgRF	CCRF	%Dev		----------	
71	P	1,1,2,2-Tetrachloroethane	1.037	1.089	-5.0	113	0.00	14.44
72		trans-1,4-Dichloro-2-Bute	0.374	0.430	-15.0	114	0.00	14.50
		----------	Amount	Calc.	%Drift		----------	
73		n-Propylbenzene	40.000	46.228	-15.6	117	0.00	14.62
		----------	AvgRF	CCRF	%Dev		----------	
74		Bromobenzene	1.019	1.115	-9.4	109	0.00	14.60
75		1,2,3-Trichloropropane	0.255	0.280	-9.8	113	0.00	14.53
		----------	Amount	Calc.	%Drift		----------	
76		1,3,5-Trimethylbenzene	40.000	42.341	-5.9	104	0.00	14.78
		----------	AvgRF	CCRF	%Dev		----------	
77		2-Chlorotoluene	2.716	3.208	-18.1	115	0.00	14.78
		----------	Amount	Calc.	%Drift		----------	
78		4-Chlorotoluene	40.000	45.550	-13.9	119	0.00	14.88
79		tert-Butylbenzene	40.000	45.404	-13.5	121	0.00	15.17
80		1,2,4-Trimethylbenzene	40.000	43.261	-8.2	108	0.00	15.22
81		sec-Butylbenzene	40.000	46.953	-17.4	115	0.00	15.42
82		4-Isopropyltoluene	40.000	46.217	-15.5	113	0.00	15.54
		----------	AvgRF	CCRF	%Dev		----------	
83		1,3-Dichlorobenzene	1.745	2.049	-17.4	116	0.00	15.61
84		1,4-Dichlorobenzene	1.957	2.087	-6.6	107	0.00	15.69
		----------	Amount	Calc.	%Drift		----------	
85		Benzyl Chloride	40.000	41.879	-4.7	103	0.00	15.80
86		n-Butylbenzene	40.000	43.131	-7.8	105	0.00	16.00
		----------	AvgRF	CCRF	%Dev		----------	
87		1,2-Dichlorobenzene	1.677	1.995	-19.0	114	0.00	16.12
88		1,2-Dibromo-3-Chloropropa	0.129	0.146	-13.2	108	0.00	16.94
89		1,2,4-Trichlorobenzene	1.142	1.342	-17.5	109	0.00	17.92
90		Hexachlorobutadiene	0.596	0.686	-15.1	112	0.00	18.08
		----------	Amount	Calc.	%Drift		----------	

Initial Calibration Verification

Job Number: FA7671
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VB3792-ICV3792
Lab FileID: B092696.D

91		Naphthalene	40.000	45.639	-14.1	112	0.00	18.25
		----------	AvgRF	CCRF	%Dev	----------		
92		1,2,3-Trichlorobenzene	1.000	1.163	-16.3	107	0.00	18.55
93	I	Tert Butyl alcohol-d10	1.000	1.000	0.0	121	0.00	7.18
94		Acrolein	5.156	5.852	-13.5	128	0.00	6.54
95		Tert-Butyl Alcohol	2.071	2.029	2.0	120	0.00	7.27
96		Tert amyl alcohol	1.537	1.702	-10.7	125	0.00	9.47
		----------	Amount	Calc.	%Drift	----------		
97		1,4-Dioxane	800.000	795.995	0.5	116	0.00	10.63

(#) = Out of Range SPCC's out = 0 CCC's out = 0
B092689.D 8260bnew.m Tue Sep 03 08:24:15 2013

6.7.2

6

Continuing Calibration Summary

Job Number: FA7671
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VB3795-CC3792
Lab FileID: B092767.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\090413\B092767.D Vial: 2
Acq On : 4 Sep 2013 9:16 am Operator: wilfredo
Sample : cc3792-4 Inst : MSVOA4
Misc : MS25033,VB3795,,,,, Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\msdchem\1\METHODS\8260bnew.m (RTE Integrator)
Title : EPA 624 & SWA 5030B/8260B
Last Update : Fri Aug 30 17:16:46 2013
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	95	0.00	9.91
2		Dichlorodifluoromethane	0.340	0.320	5.9	80	0.00	4.45
3	P	Chloromethane	0.772	0.698	9.6	83	0.00	4.76
4	C	Vinyl Chloride	0.466	0.447	4.1	83	0.00	4.99
5		Bromomethane	0.274	0.268	2.2	87	0.01	5.53
6		Chloroethane	0.245	0.248	-1.2	88	0.00	5.65
7		Trichlorofluoromethane	0.583	0.623	-6.9	97	-0.02	6.09
8		Ethyl Ether	0.374	0.353	5.6	92	-0.01	6.35
9		1,2-Dichlorotrifluoroetha	0.434	0.466	-7.4	101	0.00	6.35
10		Freon 113	0.326	0.365	-12.0	103	0.00	6.73
11	C	1,1-Dichloroethene	0.555	0.585	-5.4	101	0.00	6.75
12		Acetone	0.141	0.126	10.6	87	0.00	6.70
13		Iodomethane	0.553	0.570	-3.1	98	0.00	6.98
14		Carbon Disulfide	0.881	0.989	-12.3	105	0.00	7.14
15		Methyl acetate	0.412	0.377	8.5	78	0.00	7.08
		----------	Amount	Calc.	%Drift		----------	
16		Methylene Chloride	40.000	41.796	-4.5	100	0.00	7.28
		----------	AvgRF	CCRF	%Dev		----------	
17		Methyl Tert Butyl Ether	0.912	0.921	-1.0	95	0.00	7.57
18		trans-1,2-Dichloroethene	0.596	0.656	-10.1	103	0.00	7.61
19		Acrylonitrile	0.181	0.154	14.9	82	0.00	7.50
		----------	Amount	Calc.	%Drift		----------	
20		Hexane	40.000	41.702	-4.3	106	0.00	7.89
		----------	AvgRF	CCRF	%Dev		----------	
21		Di-isopropyl ether	2.119	2.215	-4.5	98	0.00	8.06
		----------	Amount	Calc.	%Drift		----------	
22		Vinyl acetate	200.000	194.075	3.0	110	0.00	8.02
		----------	AvgRF	CCRF	%Dev		----------	
23	P	1,1-Dichloroethane	0.749	0.794	-6.0	100	0.00	8.07
		----------	Amount	Calc.	%Drift		----------	
24		ETBE	40.000	37.469	6.3	95	0.00	8.46
		----------	AvgRF	CCRF	%Dev		----------	
25		2-Butanone	0.701	0.616	12.1	88	0.00	8.64
26		2,2-Dichloropropane	0.435	0.491	-12.9	103	0.00	8.72

Continuing Calibration Summary

Job Number: FA7671 **Sample:** VB3795-CC3792
Account: TETTNOAK Tetra Tech, Inc **Lab FileID:** B092767.D
Project: Holloman AFB; Alamogordo, NM

27		cis-1,2-Dichloroethene	0.361	0.406	-12.5	102	0.00	8.69
28		Bromochloromethane	0.174	0.186	-6.9	100	0.00	8.96
29		Tetrahydrofuran	0.137	0.124	9.5	88	0.00	9.02
30	C	Chloroform	0.613	0.641	-4.6	98	0.00	8.99
		----------	Amount	Calc.	%Drift	----------		
31	S	Dibromofluoromethane	50.000	51.318	-2.6	98	0.00	9.16
		----------	AvgRF	CCRF	%Dev	----------		
32		1,1,1-Trichloroethane	0.444	0.502	-13.1	107	0.00	9.28
		----------	Amount	Calc.	%Drift	----------		
33		Cyclohexane	40.000	43.713	-9.3	105	0.00	9.38
		----------	AvgRF	CCRF	%Dev	----------		
34		Carbon Tetrachloride	0.408	0.475	-16.4	109	0.00	9.47
35		1,1-Dichloropropene	0.423	0.488	-15.4	104	0.00	9.42
		----------	Amount	Calc.	%Drift	----------		
36	S	1,2-Dichloroethane-d4	50.000	48.775	2.5	94	0.00	9.55
37		TAME	40.000	41.001	-2.5	97	0.00	9.69
		----------	AvgRF	CCRF	%Dev	----------		
38		Benzene	1.361	1.487	-9.3	102	0.00	9.66
39		1,2-Dichloroethane	0.559	0.572	-2.3	100	0.00	9.63
40		Trichloroethene	0.298	0.339	-13.8	105	0.00	10.30
		----------	Amount	Calc.	%Drift	----------		
41		Methylcyclohexane	40.000	45.648	-14.1	110	0.00	10.56
		----------	AvgRF	CCRF	%Dev	----------		
42	C	1,2-Dichloropropane	0.418	0.442	-5.7	99	0.00	10.53
43		Dibromomethane	0.213	0.217	-1.9	95	0.00	10.67
44		Bromodichloromethane	0.438	0.475	-8.4	99	0.00	10.78
45		2-Chloroethyl vinyl ether	0.237	0.235	0.8	101	0.00	11.00
46		2-Nitropropane	0.132	0.129	2.3	92	0.00	10.96
47		cis-1,3-Dichloropropene	0.542	0.585	-7.9	96	0.00	11.24
48		4-Methyl-2-pentanone	0.453	0.435	4.0	88	0.00	11.32
49	I	Chlorobenzene-d5	1.000	1.000	0.0	96	0.00	13.13
50	S	Toluene-d8	1.288	1.197	7.1	94	0.00	11.56
51	C	Toluene	1.774	1.871	-5.5	102	0.00	11.63
52		trans-1,3-Dichloropropene	0.598	0.631	-5.5	95	0.00	11.78
53		1,1,2-Trichloroethane	0.354	0.346	2.3	98	0.00	12.00
54		Tetrachloroethene	0.456	0.484	-6.1	99	0.00	12.25
		----------	Amount	Calc.	%Drift	----------		
55		2-hexanone	200.000	180.853	9.6	87	0.00	12.19
		----------	AvgRF	CCRF	%Dev	----------		
56		1,3-Dichloropropane	0.665	0.682	-2.6	97	0.00	12.20
57		Dibromochloromethane	0.411	0.430	-4.6	98	0.00	12.48
58		1,2-Dibromoethane	0.388	0.386	0.5	96	0.00	12.65
		----------	Amount	Calc.	%Drift	----------		
59		1-Chlorohexane	40.000	43.619	-9.0	103	0.00	13.03
		----------	AvgRF	CCRF	%Dev	----------		
60	P	Chlorobenzene	1.129	1.169	-3.5	100	0.00	13.16
61	C	Ethylbenzene	1.916	2.164	-12.9	105	0.00	13.23

Continuing Calibration Summary

Job Number: FA7671 **Sample:** VB3795-CC3792
Account: TETTNOAK Tetra Tech, Inc **Lab FileID:** B092767.D
Project: Holloman AFB; Alamogordo, NM

62		1,1,1,2-Tetrachloroethane	0.414	0.439	-6.0	100	0.00	13.21
63		m,p-Xylene	1.399	1.587	-13.4	104	0.00	13.34
		----------	Amount	Calc.	%Drift		----------	
64		o-Xylene	40.000	43.344	-8.4	102	0.00	13.79
65		Styrene	40.000	42.232	-5.6	101	0.00	13.79
66	P	Bromoform	40.000	42.127	-5.3	97	0.00	14.05
		----------	AvgRF	CCRF	%Dev		----------	
67	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	100	0.00	15.66
		----------	Amount	Calc.	%Drift		----------	
68		Isopropylbenzene	40.000	42.115	-5.3	104	0.00	14.17
		----------	AvgRF	CCRF	%Dev		----------	
69		Cyclohexanone	0.028	0.017	39.3#	35#	0.00	14.32
		----------	Amount	Calc.	%Drift		----------	
70	S	4-Bromofluorobenzene	50.000	48.160	3.7	97	0.00	14.38
		----------	AvgRF	CCRF	%Dev		----------	
71	P	1,1,2,2-Tetrachloroethane	1.037	0.920	11.3	96	0.00	14.44
72		trans-1,4-Dichloro-2-Bute	0.374	0.335	10.4	89	0.00	14.49
		----------	Amount	Calc.	%Drift		----------	
73		n-Propylbenzene	40.000	40.514	-1.3	103	0.00	14.62
		----------	AvgRF	CCRF	%Dev		----------	
74		Bromobenzene	1.019	1.046	-2.6	103	0.00	14.60
75		1,2,3-Trichloropropane	0.255	0.228	10.6	92	0.00	14.54
		----------	Amount	Calc.	%Drift		----------	
76		1,3,5-Trimethylbenzene	40.000	41.593	-4.0	103	0.00	14.78
		----------	AvgRF	CCRF	%Dev		----------	
77		2-Chlorotoluene	2.716	2.870	-5.7	103	0.00	14.78
		----------	Amount	Calc.	%Drift		----------	
78		4-Chlorotoluene	40.000	39.323	1.7	103	0.00	14.88
79		tert-Butylbenzene	40.000	39.219	2.0	105	0.00	15.17
80		1,2,4-Trimethylbenzene	40.000	42.353	-5.9	106	0.00	15.22
81		sec-Butylbenzene	40.000	42.954	-7.4	105	0.00	15.42
82		4-Isopropyltoluene	40.000	42.581	-6.5	104	0.00	15.54
		----------	AvgRF	CCRF	%Dev		----------	
83		1,3-Dichlorobenzene	1.745	1.827	-4.7	104	0.00	15.61
84		1,4-Dichlorobenzene	1.957	2.009	-2.7	103	0.00	15.69
		----------	Amount	Calc.	%Drift		----------	
85		Benzyl Chloride	40.000	37.830	5.4	92	0.00	15.80
86		n-Butylbenzene	40.000	42.226	-5.6	103	0.00	16.00
		----------	AvgRF	CCRF	%Dev		----------	
87		1,2-Dichlorobenzene	1.677	1.760	-4.9	101	0.00	16.12
88		1,2-Dibromo-3-Chloropropa	0.129	0.115	10.9	85	0.00	16.94
89		1,2,4-Trichlorobenzene	1.142	1.169	-2.4	96	0.00	17.92
90		Hexachlorobutadiene	0.596	0.616	-3.4	101	0.00	18.08
		----------	Amount	Calc.	%Drift		----------	

Continuing Calibration Summary

Job Number: FA7671
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VB3795-CC3792
Lab FileID: B092767.D

91	Naphthalene	40.000	37.571	6.1	92	0.00	18.25
	----------	AvgRF	CCRF	%Dev	----------		
92	1,2,3-Trichlorobenzene	1.000	0.985	1.5	91	0.00	18.55
93 I	Tert Butyl alcohol-d10	1.000	1.000	0.0	77	0.00	7.18
94	Acrolein	5.156	5.785	-12.2	81	0.00	6.53
95	Tert-Butyl Alcohol	2.071	2.109	-1.8	80	0.00	7.28
96	Tert amyl alcohol	1.537	1.718	-11.8	80	0.00	9.46
	----------	Amount	Calc.	%Drift	----------		
97	1,4-Dioxane	800.000	875.393	-9.4	81	-0.01	10.62

(#) = Out of Range SPCC's out = 0 CCC's out = 0
B092689.D 8260bnew.m Wed Sep 04 10:29:33 2013

6.7.3

6

Initial Calibration Summary

Job Number: FA7671
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VO739-ICC739
Lab FileID: O18292.D

```
                         Response Factor Report  MSVOA12

 Method       : C:\msdchem\1\met...msoNCOXY082913.m (RTE Integrator)
 Title        : SW-846 Method 5030B/8260B & EPA 624
 Last Update  : Fri Aug 30 18:31:04 2013
 Response via : Initial Calibration

 Calibration Files
 1   =O18289.D    2   =O18290.D    3   =O18291.D    4   =O18292.D
 5      =O18293.D     6      =O18294.D

       Compound              1     2     3     4     5     6     Avg    %RSD
 -------------------------------------------------------------------------------

 1) I   Fluorobenzene         ----------------ISTD---------------------
 2)     Dichlorodifluoromet 0.205 0.261 0.325 0.317 0.312 0.309 0.288  16.13
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9996
              Response Ratio = 0.00000 + 0.31082 *A

 3) P   Chloromethane       0.542 0.591 0.706 0.706 0.683 0.682 0.652  10.49
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9997
              Response Ratio = 0.00000 + 0.68508 *A

 4)     1,3-Butadiene       0.273 0.301 0.403 0.392 0.394 0.391 0.359  15.82
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9998
              Response Ratio = 0.00000 + 0.39220 *A

 5) C   Vinyl Chloride      0.361 0.412 0.516 0.527 0.523 0.515 0.476  14.98
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9997
              Response Ratio = 0.00000 + 0.51825 *A

 6)     Bromomethane        0.257 0.292 0.324 0.313 0.296 0.284 0.294   7.93
 7)     Chloroethane        0.297 0.255 0.283 0.269 0.244 0.217 0.261  11.01
 8)     Trichlorofluorometh 0.468 0.566 0.686 0.692 0.681 0.652 0.624  14.37
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9986
              Response Ratio = 0.00000 + 0.66484 *A

 9)     Ethyl Ether         0.350 0.348 0.374 0.372 0.379 0.395 0.370   4.84
10)     1,2-Dichlorotrifluo 0.364 0.417 0.512 0.498 0.493 0.493 0.463  12.75
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9998
              Response Ratio = 0.00000 + 0.49396 *A

11) C   1,1-Dichloroethene  0.375 0.469 0.617 0.617 0.625 0.630 0.555  19.38
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9999
              Response Ratio = 0.00000 + 0.62660 *A

12)     Freon 113           0.265 0.313 0.414 0.393 0.387 0.392 0.361  16.26
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9996
              Response Ratio = 0.00000 + 0.39140 *A

13)     Carbon Disulfide    0.841 0.811 1.033 1.036 1.013 1.016 0.958  10.77
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9998
              Response Ratio = 0.00000 + 1.01719 *A

14)     Iodomethane         0.470 0.535 0.661 0.661 0.651 0.659 0.606  13.66
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9999
              Response Ratio = 0.00000 + 0.65672 *A

15)     Allyl chloride      0.543 0.599 0.765 0.778 0.793 0.812 0.715  15.94
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9997
```

Initial Calibration Summary

Job Number: FA7671
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VO739-ICC739
Lab FileID: O18292.D

```
                Response Ratio = 0.00000 + 0.80207 *A

16)     Methylene Chloride  1.056 0.773 0.812 0.791 0.783 0.785 0.833  13.16
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9999
                Response Ratio = 0.00000 + 0.78585 *A

17)     Acetone             0.061 0.035 0.036 0.034 0.035 0.035 0.039  26.92
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9998
                Response Ratio = 0.00000 + 0.03488 *A

18)     Methyl acetate      0.048 0.051 0.052 0.053 0.052 0.054 0.052   3.84
19)     trans-1,2-Dichloroe 0.395 0.478 0.610 0.598 0.607 0.615 0.551  16.74
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9999
                Response Ratio = 0.00000 + 0.61094 *A

20)     Hexane              0.325 0.360 0.399 0.389 0.386 0.377 0.373   7.21
21)     Methyl Tert Butyl E 0.858 0.925 1.034 1.062 1.071 1.105 1.009   9.53
22)     Acetonitrile        0.047 0.038 0.037 0.037 0.036 0.035 0.038  10.95
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9998
                Response Ratio = 0.00000 + 0.03570 *A

23)     Di-isopropyl ether  1.468 1.575 1.884 1.961 1.984 2.023 1.816  12.95
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9998
                Response Ratio = 0.00000 + 2.00232 *A

24)     Chloroprene         0.404 0.526 0.747 0.765 0.794 0.818 0.676  25.09
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9994
                Response Ratio = 0.00000 + 0.80427 *A

25) P   1,1-Dichloroethane  0.524 0.622 0.725 0.736 0.732 0.740 0.680  13.01
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9999
                Response Ratio = 0.00000 + 0.73671 *A

26)     Acrylonitrile       0.156 0.157 0.168 0.166 0.169 0.173 0.165   4.02
27)     ETBE                0.983 1.147 1.343 1.410 1.458 1.515 1.309  15.58
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9991
                Response Ratio = 0.00000 + 1.48373 *A

28)     Vinyl acetate       0.923 1.079 1.192 1.241 1.225 1.257 1.153  11.21
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9997
                Response Ratio = 0.00000 + 1.23391 *A

29)     cis-1,2-Dichloroeth 0.277 0.292 0.355 0.355 0.355 0.356 0.332  11.10
            ---- Linear regr., Force(0,0) ----  Coefficient =  1.0000
                Response Ratio = 0.00000 + 0.35558 *A

30)     2,2-Dichloropropane 0.320 0.390 0.477 0.482 0.487 0.493 0.441  15.99
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9999
                Response Ratio = 0.00000 + 0.48938 *A

31)     Bromochloromethane  0.151 0.172 0.191 0.191 0.187 0.188 0.180   8.71
32)     Cyclohexane         0.426 0.557 0.799 0.792 0.800 0.821 0.699  23.80
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9997
                Response Ratio = 0.00000 + 0.81135 *A

33) C   Chloroform          0.487 0.534 0.641 0.641 0.637 0.638 0.596  11.42
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9999
                Response Ratio = 0.00000 + 0.63794 *A

34)     Ethyl acetate       0.439 0.470 0.500 0.506 0.517 0.533 0.494   6.86
```

Initial Calibration Summary

Job Number: FA7671 **Sample:** VO739-ICC739
Account: TETTNOAK Tetra Tech, Inc **Lab FileID:** O18292.D
Project: Holloman AFB; Alamogordo, NM

```
35)      Tetrahydrofuran      0.175 0.154 0.147 0.150 0.151 0.157 0.156   6.51
36) S    Dibromofluoromethan 0.296 0.321 0.325 0.293 0.322 0.329 0.314   5.01
37)      Carbon Tetrachlorid 0.341 0.393 0.503 0.508 0.515 0.517 0.463  16.48
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9999
               Response Ratio = 0.00000 + 0.51527 *A

38)      1,1,1-Trichloroetha 0.362 0.438 0.558 0.555 0.551 0.554 0.503  16.60
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9999
               Response Ratio = 0.00000 + 0.55342 *A

39)      2-Butanone           0.225 0.213 0.225 0.228 0.228 0.233 0.225   3.00
40)      1,1-Dichloropropene 0.261 0.338 0.451 0.453 0.453 0.453 0.402  20.58
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9999
               Response Ratio = 0.00000 + 0.45294 *A

41)      tert-Butyl Formate  0.161 0.190 0.219 0.238 0.249 0.271 0.221  18.23
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9962
               Response Ratio = 0.00000 + 0.26002 *A

42)      Propionitrile        0.060 0.064 0.063 0.063 0.065 0.068 0.064   4.02
43)      Methacrylonitrile    0.313 0.339 0.360 0.371 0.375 0.383 0.357   7.34
44)      Benzene              0.928 1.076 1.290 1.288 1.285 1.305 1.195  13.15
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9999
               Response Ratio = 0.00000 + 1.29700 *A

45)      TAME                 0.758 0.838 0.991 1.034 1.069 1.108 0.966  14.32
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9992
               Response Ratio = 0.00000 + 1.08646 *A

46) S    1,2-Dichloroethane- 0.385 0.421 0.434 0.402 0.455 0.465 0.427   7.15
47)      1,2-Dichloroethane  0.493 0.529 0.586 0.605 0.605 0.610 0.571   8.55
48)      Trichloroethene      0.237 0.287 0.338 0.344 0.351 0.353 0.318  14.64
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9999
               Response Ratio = 0.00000 + 0.35097 *A

49)      Methylcyclohexane    0.332 0.443 0.623 0.623 0.629 0.642 0.549  23.66
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9998
               Response Ratio = 0.00000 + 0.63553 *A

50)      Dibromomethane       0.209 0.216 0.231 0.235 0.234 0.235 0.226   5.07
51) C    1,2-Dichloropropane 0.282 0.337 0.389 0.393 0.398 0.400 0.367  12.98
             ---- Linear regr., Force(0,0) ----  Coefficient =  1.0000
               Response Ratio = 0.00000 + 0.39856 *A

52)      Bromodichloromethan 0.364 0.403 0.453 0.467 0.469 0.475 0.439  10.26
53)      Methyl methacrylate 0.342 0.355 0.413 0.444 0.463 0.475 0.415  13.47
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9992
               Response Ratio = 0.00000 + 0.46689 *A

54)      2-Chloroethyl vinyl 0.187 0.234 0.273 0.284 0.292 0.302 0.262  16.58
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  1.0000
               Response Ratio = 0.00000 + 0.26890 *A + 0.00330 *A^2

55)      cis-1,3-Dichloropro 0.372 0.458 0.544 0.565 0.570 0.582 0.515  16.11
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9998
               Response Ratio = 0.00000 + 0.57594 *A


56) I    Chlorobenzene-d5       ----------------ISTD---------------------
57) S    Toluene-d8           1.292 1.374 1.372 1.259 1.384 1.415 1.349   4.46
```

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6

Initial Calibration Summary

Job Number: FA7671 **Sample:** VO739-ICC739
Account: TETTNOAK Tetra Tech, Inc **Lab FileID:** O18292.D
Project: Holloman AFB; Alamogordo, NM

```
58) C   Toluene             1.491 1.564 1.775 1.791 1.792 1.830 1.707   8.34
59)     2-Nitropropane      0.144 0.162 0.176 0.185 0.190 0.194 0.175  10.87
60)     4-Methyl-2-pentanon 0.547 0.605 0.650 0.677 0.689 0.719 0.648   9.67
61)     trans-1,3-Dichlorop 0.497 0.548 0.640 0.671 0.696 0.713 0.628  13.78
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9994
              Response Ratio = 0.00000 + 0.70234 *A

62)     Tetrachloroethene   0.335 0.412 0.530 0.496 0.558 0.531 0.477  18.08
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9978
              Response Ratio = 0.00000 + 0.53557 *A

63)     Ethyl methacrylate  0.401 0.419 0.523 0.560 0.584 0.616 0.517  17.17
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9983
              Response Ratio = 0.00000 + 0.59897 *A

64)     1,1,2-Trichloroetha 0.312 0.315 0.336 0.332 0.331 0.338 0.327   3.36
65)     Dibromochloromethan 0.413 0.428 0.464 0.476 0.482 0.496 0.460   7.07
66)     1,3-Dichloropropane 0.567 0.607 0.664 0.664 0.671 0.682 0.642   7.03
67)     1,2-Dibromoethane   0.334 0.361 0.393 0.398 0.395 0.402 0.380   7.09
68)     2-hexanone          0.416 0.447 0.465 0.484 0.490 0.508 0.468   7.09
69)     1-Chlorohexane      0.341 0.448 0.607 0.623 0.637 0.645 0.550  22.90
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9998
              Response Ratio = 0.00000 + 0.63969 *A

70) C   Ethylbenzene        1.577 1.782 2.104 2.140 2.183 2.229 2.003  13.08
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9997
              Response Ratio = 0.00000 + 2.20357 *A

71) P   Chlorobenzene       0.919 1.001 1.134 1.145 1.157 1.189 1.091   9.75
72)     1,1,1,2-Tetrachloro 0.317 0.396 0.436 0.455 0.466 0.470 0.423  13.88
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9998
              Response Ratio = 0.00000 + 0.46659 *A

73)     m,p-Xylene          1.023 1.222 1.545 1.595 1.654 1.691 1.455  18.53
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9996
              Response Ratio = 0.00000 + 1.66718 *A

74)     o-Xylene            0.952 1.151 1.473 1.539 1.586 1.611 1.385  19.52
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9997
              Response Ratio = 0.00000 + 1.59291 *A

75)     Styrene             0.677 0.881 1.181 1.233 1.274 1.312 1.093  23.36
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9995
              Response Ratio = 0.00000 + 1.28946 *A

76) P   Bromoform           0.273 0.278 0.297 0.318 0.334 0.345 0.308   9.72
77)     Isopropylbenzene    1.019 1.302 1.738 1.834 1.891 1.930 1.619  22.96
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9996
              Response Ratio = 0.00000 + 1.90410 *A


78) I   1,4-Dichlorobenzene-d ----------------ISTD---------------------
79) S   4-Bromofluorobenzen 0.947 1.033 1.043 0.945 1.088 1.124 1.030   7.07
80)     cis-1,4-Dichloro-2- 0.337 0.331 0.381 0.392 0.410 0.412 0.377   9.38
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9997
              Response Ratio = 0.00000 + 0.40893 *A

81)     n-Propylbenzene     2.865 3.413 4.408 4.434 4.620 4.657 4.066  18.33
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9998
              Response Ratio = 0.00000 + 4.61739 *A
```

Initial Calibration Summary

Job Number: FA7671
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VO739-ICC739
Lab FileID: O18292.D

```
 82)     Bromobenzene        0.802 0.911 0.980 1.001 1.028 1.034 0.959   9.26
 83) P   1,1,2,2-Tetrachloro 0.979 1.030 1.013 1.013 1.005 1.020 1.010   1.72
 84)     1,3,5-Trimethylbenz 1.921 2.463 3.244 3.363 3.509 3.582 3.013  22.21
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9995
               Response Ratio = 0.00000 + 3.53000 *A

 85)     2-Chlorotoluene     2.032 2.424 2.998 3.054 3.195 3.215 2.820  17.09
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9997
               Response Ratio = 0.00000 + 3.18764 *A

 86)     trans-1,4-Dichloro- 0.361 0.393 0.424 0.431 0.445 0.456 0.418   8.48
 87)     1,2,3-Trichloroprop 0.208 0.270 0.272 0.278 0.278 0.279 0.264  10.55
 88)     Cyclohexanone       0.029 0.032 0.039 0.038 0.039 0.040 0.036  12.50
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9998
               Response Ratio = 0.00000 + 0.03713 *A + 0.00029 *A^2

 89)     4-Chlorotoluene     1.766 2.174 2.629 2.706 2.785 2.807 2.478  16.90
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9999
               Response Ratio = 0.00000 + 2.78596 *A

 90)     a-Methyl Styrene    0.960 1.231 1.707 1.807 1.897 1.963 1.594  25.40
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9991
               Response Ratio = 0.00000 + 1.92224 *A

 91)     tert-Butylbenzene   1.033 1.374 1.841 1.882 1.962 2.000 1.682  23.20
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9996
               Response Ratio = 0.00000 + 1.97315 *A

 92)     1,2,4-Trimethylbenz 1.889 2.638 3.331 3.416 3.529 3.583 3.064  21.85
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9998
               Response Ratio = 0.00000 + 3.54376 *A

 93)     Pentachloroethane   0.433 0.541 0.528 0.591 0.505 0.580 0.530  10.79
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9953
               Response Ratio = 0.00000 + 0.55380 *A

 94)     sec-Butylbenzene    2.103 2.945 3.873 3.987 4.124 4.164 3.532  23.55
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9998
               Response Ratio = 0.00000 + 4.12678 *A

 95)     4-Isopropyltoluene  1.668 2.393 3.250 3.356 3.482 3.544 2.949  25.57
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9997
               Response Ratio = 0.00000 + 3.49964 *A

 96)     1,3-Dichlorobenzene 1.371 1.548 1.726 1.760 1.797 1.792 1.666  10.27
 97)     1,4-Dichlorobenzene 1.652 1.790 1.934 1.949 1.995 2.004 1.888   7.34
 98)     n-Butylbenzene      1.252 1.523 2.108 2.170 2.272 2.297 1.937  22.70
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9997
               Response Ratio = 0.00000 + 2.27195 *A

 99)     Benzyl Chloride     0.258 0.279 0.329 0.359 0.379 0.392 0.332  16.40
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9987
               Response Ratio = 0.00000 + 0.38320 *A

100)     1,2-Dichlorobenzene 1.473 1.518 1.717 1.729 1.752 1.761 1.658   7.70
101)     1,2-Dibromo-3-Chlor 0.192 0.155 0.169 0.174 0.179 0.181 0.175   7.19
102)     Hexachlorobutadiene 0.542 0.590 0.687 0.700 0.699 0.684 0.650  10.33
103)     1,2,4-Trichlorobenz 1.045 1.177 1.388 1.406 1.418 1.383 1.303  11.90
104)     Naphthalene         2.134 2.370 2.707 2.827 2.835 2.751 2.604  11.01
```

Initial Calibration Summary

Job Number: FA7671
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VO739-ICC739
Lab FileID: O18292.D

```
105)     1,2,3-Trichlorobenz 1.089 1.175 1.277 1.264 1.254 1.165 1.204   6.11

106) I   Tert Butyl Alcohol-d1 ----------------ISTD--------------------
107)     Ethanol             0.292 0.308 0.245 0.269 0.258 0.246 0.270   9.46
108)     acrolein            2.806 3.315 3.229 3.249 3.104 3.063 3.128   5.86
109)     Tert Butyl Alcohol  2.221 2.269 1.912 1.917 1.953 1.967 2.040   7.90
110)     tert Amyl alcohol   1.127 1.363 1.178 1.277 1.317 1.339 1.267   7.44
111)     Isobutyl alcohol    0.602 0.588 0.580 0.608 0.593 0.598 0.595   1.72
112)     1,4-Dioxane         0.158 0.153 0.141 0.138 0.131 0.127 0.141   8.51
113)     3,3-Dimethyl-1-buta 0.929 1.181 1.390 1.514 1.563 1.720 1.383  20.71
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9957
               Response Ratio = 0.00000 + 1.64639 *A

 ---------------------------------------------------------------------------
 (#) = Out of Range

          msoNCOXY082913.m        Tue Sep 03 12:22:39 2013
```

6.7.4

6

Initial Calibration Verification

Job Number: FA7671
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VO739-ICV739
Lab FileID: O18295.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\data\082913\O18295.D            Vial: 7
Acq On    : 29 Aug 2013   2:15 pm                     Operator: EileenG
Sample    : icv739-4                                  Inst    : MSVOA12
Misc      : MS24999,VO739,,,,,                        Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\msdchem\1\met...msoNCOXY082913.m (RTE Integrator)
Title        : SW-846 Method 5030B/8260B & EPA 624
Last Update  : Fri Aug 30 18:31:04 2013
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	130	0.00	7.49
		Amount	Calc.	%Drift			
2	Dichlorodifluoromethane	40.000	53.680	-34.2#	171	0.00	2.55
3 P	Chloromethane	40.000	42.159	-5.4	133	0.00	2.75
4	1,3-Butadiene	40.000	1.641	95.9#	5	-0.01	2.88
5 C	Vinyl Chloride	40.000	41.378	-3.4	132	0.00	2.90
		AvgRF	CCRF	%Dev			
6	Bromomethane	0.294	0.289	1.7	120	0.00	3.30
7	Chloroethane	0.261	0.235	10.0	113	0.00	3.45
		Amount	Calc.	%Drift			
8	Trichlorofluoromethane	40.000	37.328	6.7	116	0.00	3.67
		AvgRF	CCRF	%Dev			
9	Ethyl Ether	0.370	0.355	4.1	124	0.00	3.96
		Amount	Calc.	%Drift			
10	1,2-Dichlorotrifluoroetha	40.000	33.250	16.9	107	0.00	4.20
11 C	1,1-Dichloroethene	40.000	40.690	-1.7	134	0.00	4.21
12	Freon 113	40.000	35.899	10.3	116	0.00	4.28
13	Carbon Disulfide	40.000	41.039	-2.6	131	0.00	4.28
14	Iodomethane	40.000	35.722	10.7	115	0.00	4.40
15	Allyl chloride	40.000	42.903	-7.3	144	0.00	4.73
16	Methylene Chloride	40.000	40.101	-0.3	129	0.00	4.85
17	Acetone	200.000	266.710	-33.4#	176	0.00	4.88
		AvgRF	CCRF	%Dev			
18	Methyl acetate	0.052	0.050	3.8	123	0.00	5.00
		Amount	Calc.	%Drift			
19	trans-1,2-Dichloroethene	40.000	39.380	1.5	130	0.00	5.01
		AvgRF	CCRF	%Dev			
20	Hexane	0.373	0.369	1.1	123	0.00	5.08
21	Methyl Tert Butyl Ether	1.009	1.004	0.5	123	0.00	5.12
		Amount	Calc.	%Drift			
22	Acetonitrile	400.000	425.132	-6.3	134	0.00	5.38
23	Di-isopropyl ether	40.000	36.929	7.7	122	0.00	5.50
24	Chloroprene	40.000	37.727	5.7	129	0.00	5.63

Initial Calibration Verification

Job Number: FA7671
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VO739-ICV739
Lab FileID: O18295.D

25	P	1,1-Dichloroethane	40.000	39.401	1.5	128	0.00	5.67
		----------	AvgRF	CCRF	%Dev	----------		
26		Acrylonitrile	0.165	0.162	1.8	127	0.00	5.71
		----------	Amount	Calc.	%Drift	----------		
27		ETBE	40.000	37.121	7.2	127	0.00	5.88
28		Vinyl acetate	200.000	137.718	31.1#	89	0.00	5.88
29		cis-1,2-Dichloroethene	40.000	39.265	1.8	127	0.00	6.22
30		2,2-Dichloropropane	40.000	42.472	-6.2	140	0.00	6.35
		----------	AvgRF	CCRF	%Dev	----------		
31		Bromochloromethane	0.180	0.183	-1.7	125	0.00	6.43
		----------	Amount	Calc.	%Drift	----------		
32		Cyclohexane	40.000	39.658	0.9	132	0.00	6.45
33	C	Chloroform	40.000	39.178	2.1	127	0.00	6.48
		----------	AvgRF	CCRF	%Dev	----------		
34		Ethyl acetate	0.494	0.428	13.4	110	0.00	6.57
35		Tetrahydrofuran	0.156	0.153	1.9	133	0.00	6.65
36	S	Dibromofluoromethane	0.314	0.288	8.3	128	0.00	6.67
		----------	Amount	Calc.	%Drift	----------		
37		Carbon Tetrachloride	40.000	38.460	3.8	127	0.00	6.65
38		1,1,1-Trichloroethane	40.000	39.012	2.5	126	0.00	6.73
		----------	AvgRF	CCRF	%Dev	----------		
39		2-Butanone	0.225	0.278	-23.6#	158	0.00	6.78
		----------	Amount	Calc.	%Drift	----------		
40		1,1-Dichloropropene	40.000	40.383	-1.0	131	0.00	6.83
41		tert-Butyl Formate	400.000	600.569	-50.1#	213	0.00	6.94
		----------	AvgRF	CCRF	%Dev	----------		
42		Propionitrile	0.064	0.067	-4.7	137	0.00	7.10
43		Methacrylonitrile	0.357	0.378	-5.9	132	0.00	7.12
		----------	Amount	Calc.	%Drift	----------		
44		Benzene	40.000	39.146	2.1	128	0.00	7.09
45		TAME	40.000	39.510	1.2	135	0.00	7.17
		----------	AvgRF	CCRF	%Dev	----------		
46	S	1,2-Dichloroethane-d4	0.427	0.398	6.8	128	0.00	7.22
47		1,2-Dichloroethane	0.571	0.615	-7.7	132	0.00	7.29
		----------	Amount	Calc.	%Drift	----------		
48		Trichloroethene	40.000	39.766	0.6	132	0.00	7.66
49		Methylcyclohexane	40.000	36.682	8.3	121	0.00	7.67
		----------	AvgRF	CCRF	%Dev	----------		
50		Dibromomethane	0.226	0.238	-5.3	131	0.00	8.09
		----------	Amount	Calc.	%Drift	----------		
51	C	1,2-Dichloropropane	40.000	39.893	0.3	131	0.00	8.18
		----------	AvgRF	CCRF	%Dev	----------		
52		Bromodichloromethane	0.439	0.473	-7.7	131	0.00	8.23
		----------	Amount	Calc.	%Drift	----------		

Initial Calibration Verification

Job Number: FA7671
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VO739-ICV739
Lab FileID: O18295.D

53		Methyl methacrylate	40.000	41.540	-3.8	142	0.00	8.35
54		2-Chloroethyl vinyl ether	200.000	138.056	31.0#	88	0.00	8.77
55		cis-1,3-Dichloropropene	40.000	38.113	4.7	126	0.00	8.86
		----------	AvgRF	CCRF	%Dev	----------		
56	I	Chlorobenzene-d5	1.000	1.000	0.0	127	0.00	10.64
57	S	Toluene-d8	1.349	1.258	6.7	127	0.00	9.05
58	C	Toluene	1.707	1.774	-3.9	126	0.00	9.10
59		2-Nitropropane	0.175	0.172	1.7	118	0.00	9.34
60		4-Methyl-2-pentanone	0.648	0.698	-7.7	131	0.00	9.46
		----------	Amount	Calc.	%Drift	----------		
61		trans-1,3-Dichloropropene	40.000	42.263	-5.7	140	0.00	9.51
62		Tetrachloroethene	40.000	34.275	14.3	117	0.00	9.50
63		Ethyl methacrylate	40.000	37.611	6.0	128	0.00	9.63
		----------	AvgRF	CCRF	%Dev	----------		
64		1,1,2-Trichloroethane	0.327	0.344	-5.2	131	0.00	9.68
65		Dibromochloromethane	0.460	0.491	-6.7	131	0.00	9.87
66		1,3-Dichloropropane	0.642	0.692	-7.8	132	0.00	9.96
67		1,2-Dibromoethane	0.380	0.416	-9.5	133	0.00	10.13
68		2-hexanone	0.468	0.517	-10.5	136	0.00	10.30
		----------	Amount	Calc.	%Drift	----------		
69		1-Chlorohexane	40.000	38.592	3.5	126	0.00	10.60
70	C	Ethylbenzene	40.000	39.149	2.1	128	0.00	10.66
		----------	AvgRF	CCRF	%Dev	----------		
71	P	Chlorobenzene	1.091	1.256	-15.1	139	0.00	10.66
		----------	Amount	Calc.	%Drift	----------		
72		1,1,1,2-Tetrachloroethane	40.000	40.570	-1.4	132	0.00	10.71
73		m,p-Xylene	80.000	80.363	-0.5	133	0.00	10.80
74		o-Xylene	40.000	42.251	-5.6	139	0.00	11.26
75		Styrene	40.000	37.984	5.0	126	0.00	11.32
		----------	AvgRF	CCRF	%Dev	----------		
76	P	Bromoform	0.308	0.328	-6.5	131	0.00	11.37
		----------	Amount	Calc.	%Drift	----------		
77		Isopropylbenzene	40.000	42.205	-5.5	139	0.00	11.58
		----------	AvgRF	CCRF	%Dev	----------		
78	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	125	0.00	13.11
79	S	4-Bromofluorobenzene	1.030	0.991	3.8	132	0.00	11.90
		----------	Amount	Calc.	%Drift	----------		
80		cis-1,4-Dichloro-2-butene	40.000	47.440	-18.6	155	0.00	11.95
81		n-Propylbenzene	40.000	42.445	-6.1	138	0.00	12.02
		----------	AvgRF	CCRF	%Dev	----------		
82		Bromobenzene	0.959	1.024	-6.8	128	0.00	12.03
83	P	1,1,2,2-Tetrachloroethane	1.010	1.047	-3.7	130	0.00	12.09
		----------	Amount	Calc.	%Drift	----------		
84		1,3,5-Trimethylbenzene	40.000	37.164	7.1	122	0.00	12.22
85		2-Chlorotoluene	40.000	41.338	-3.3	135	0.00	12.21

Initial Calibration Verification

Job Number: FA7671
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VO739-ICV739
Lab FileID: O18295.D

		AvgRF	CCRF	%Dev			
86	trans-1,4-Dichloro-2-Bute	0.418	0.459	-9.8	134	0.00	12.29
87	1,2,3-Trichloropropane	0.264	0.291	-10.2	132	0.00	12.26

		Amount	Calc.	%Drift			
88	Cyclohexanone	200.000	255.864	-27.9#	164	0.00	12.32
89	4-Chlorotoluene	40.000	43.752	-9.4	141	0.00	12.39
90	a-Methyl Styrene	40.000	0.291	99.3#	1	0.00	12.50
91	tert-Butylbenzene	40.000	41.064	-2.7	135	0.00	12.58
92	1,2,4-Trimethylbenzene	40.000	38.601	3.5	125	0.00	12.65
93	Pentachloroethane	40.000	52.103	-30.3#	153	0.00	12.61
94	sec-Butylbenzene	40.000	41.375	-3.4	134	0.00	12.77
95	4-Isopropyltoluene	40.000	39.927	0.2	130	0.00	12.91

		AvgRF	CCRF	%Dev			
96	1,3-Dichlorobenzene	1.666	1.904	-14.3	136	0.00	13.03
97	1,4-Dichlorobenzene	1.888	1.990	-5.4	128	0.00	13.13

		Amount	Calc.	%Drift			
98	n-Butylbenzene	40.000	38.712	3.2	127	0.00	13.38
99	Benzyl Chloride	40.000	41.547	-3.9	139	0.00	13.39

		AvgRF	CCRF	%Dev			
100	1,2-Dichlorobenzene	1.658	1.866	-12.5	135	0.00	13.60
101	1,2-Dibromo-3-Chloropropa	0.175	0.184	-5.1	133	0.00	14.49
102	Hexachlorobutadiene	0.650	0.711	-9.4	127	0.00	15.19
103	1,2,4-Trichlorobenzene	1.303	1.433	-10.0	128	0.00	15.25
104	Naphthalene	2.604	2.974	-14.2	132	0.00	15.62
105	1,2,3-Trichlorobenzene	1.204	1.284	-6.6	127	0.00	15.83
106 I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	135	0.00	5.12
107	Ethanol	0.270	0.279	-3.3	140	-0.01	4.13
108	acrolein	3.128	3.573	-14.2	148	0.00	4.57
109	Tert Butyl Alcohol	2.040	1.697	16.8	119	0.00	5.19
110	tert Amyl alcohol	1.267	1.368	-8.0	145	0.00	7.33
111	Isobutyl alcohol	0.595	0.622	-4.5	138	0.00	7.22
112	1,4-Dioxane	0.141	0.137	2.8	134	0.00	8.41

		Amount	Calc.	%Drift			
113	3,3-Dimethyl-1-butanol	2000.000	1908.911	4.6	140	0.00	10.24

(#) = Out of Range SPCC's out = 0 CCC's out = 0
O18292.D msoNCOXY082913.m Tue Sep 03 12:22:05 2013

6.7.5

6

Continuing Calibration Summary

Job Number: FA7671
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VO740-CC739
Lab FileID: O18317.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\data\083013\O18317.D            Vial: 1
Acq On    : 30 Aug 2013  10:40 am                     Operator: EileenG
Sample    : CC739-4                                   Inst    : MSVOA12
Misc      : MS25017,VO740,,,,,                        Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\msdchem\1\met...msoNCOXY082913.m (RTE Integrator)
Title        : SW-846 Method 5030B/8260B & EPA 624
Last Update  : Fri Aug 30 18:31:04 2013
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	101	0.00	7.49
		Amount	Calc.	%Drift			
2	Dichlorodifluoromethane	40.000	40.727	-1.8	101	0.00	2.55
3 P	Chloromethane	40.000	40.191	-0.5	98	0.00	2.76
4	1,3-Butadiene	40.000	38.296	4.3	97	0.00	2.89
5 C	Vinyl Chloride	40.000	39.023	2.4	97	0.01	2.91
		AvgRF	CCRF	%Dev			
6	Bromomethane	0.294	0.307	-4.4	99	0.00	3.31
7	Chloroethane	0.261	0.267	-2.3	100	0.00	3.45
		Amount	Calc.	%Drift			
8	Trichlorofluoromethane	40.000	42.196	-5.5	102	0.01	3.68
		AvgRF	CCRF	%Dev			
9	Ethyl Ether	0.370	0.387	-4.6	105	0.00	3.96
		Amount	Calc.	%Drift			
10	1,2-Dichlorotrifluoroetha	40.000	41.586	-4.0	104	0.00	4.20
11 C	1,1-Dichloroethene	40.000	40.063	-0.2	103	0.00	4.21
12	Freon 113	40.000	40.919	-2.3	103	0.00	4.28
13	Carbon Disulfide	40.000	41.159	-2.9	102	0.00	4.28
14	Iodomethane	40.000	40.132	-0.3	101	0.00	4.40
15	Allyl chloride	40.000	40.942	-2.4	107	0.00	4.73
16	Methylene Chloride	40.000	40.538	-1.3	102	0.00	4.85
17	Acetone	200.000	212.320	-6.2	109	0.00	4.88
		AvgRF	CCRF	%Dev			
18	Methyl acetate	0.052	0.056	-7.7	106	0.00	5.00
		Amount	Calc.	%Drift			
19	trans-1,2-Dichloroethene	40.000	41.186	-3.0	106	0.00	5.01
		AvgRF	CCRF	%Dev			
20	Hexane	0.373	0.402	-7.8	104	0.00	5.07
21	Methyl Tert Butyl Ether	1.009	1.062	-5.3	101	0.00	5.12
		Amount	Calc.	%Drift			
22	Acetonitrile	400.000	409.967	-2.5	100	0.00	5.39
23	Di-isopropyl ether	40.000	39.078	2.3	101	0.00	5.49
24	Chloroprene	40.000	39.903	0.2	106	0.00	5.63

Continuing Calibration Summary

Job Number: FA7671
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VO740-CC739
Lab FileID: O18317.D

25	P	1,1-Dichloroethane	40.000	41.466	-3.7	105	0.00	5.66
		----------	AvgRF	CCRF	%Dev	----------		
26		Acrylonitrile	0.165	0.173	-4.8	105	0.00	5.71
		----------	Amount	Calc.	%Drift	----------		
27		ETBE	40.000	38.134	4.7	101	0.00	5.88
28		Vinyl acetate	200.000	207.295	-3.6	104	0.00	5.88
29		cis-1,2-Dichloroethene	40.000	40.813	-2.0	103	0.00	6.22
30		2,2-Dichloropropane	40.000	43.003	-7.5	110	0.00	6.35
		----------	AvgRF	CCRF	%Dev	----------		
31		Bromochloromethane	0.180	0.193	-7.2	102	0.00	6.43
		----------	Amount	Calc.	%Drift	----------		
32		Cyclohexane	40.000	38.926	2.7	101	0.00	6.45
33	C	Chloroform	40.000	41.592	-4.0	104	0.00	6.48
		----------	AvgRF	CCRF	%Dev	----------		
34		Ethyl acetate	0.494	0.525	-6.3	105	0.00	6.57
35		Tetrahydrofuran	0.156	0.160	-2.6	108	0.00	6.65
36	S	Dibromofluoromethane	0.314	0.300	4.5	103	0.00	6.67
		----------	Amount	Calc.	%Drift	----------		
37		Carbon Tetrachloride	40.000	40.275	-0.7	103	0.00	6.65
38		1,1,1-Trichloroethane	40.000	40.824	-2.1	103	0.00	6.72
		----------	AvgRF	CCRF	%Dev	----------		
39		2-Butanone	0.225	0.233	-3.6	103	0.00	6.78
		----------	Amount	Calc.	%Drift	----------		
40		1,1-Dichloropropene	40.000	40.680	-1.7	103	0.00	6.84
41		tert-Butyl Formate	400.000	381.739	4.6	105	0.00	6.94
		----------	AvgRF	CCRF	%Dev	----------		
42		Propionitrile	0.064	0.068	-6.3	108	0.00	7.10
43		Methacrylonitrile	0.357	0.383	-7.3	104	0.00	7.12
		----------	Amount	Calc.	%Drift	----------		
44		Benzene	40.000	40.862	-2.2	104	0.00	7.09
45		TAME	40.000	37.497	6.3	99	0.00	7.17
		----------	AvgRF	CCRF	%Dev	----------		
46	S	1,2-Dichloroethane-d4	0.427	0.407	4.7	102	0.00	7.22
47		1,2-Dichloroethane	0.571	0.614	-7.5	102	0.00	7.29
		----------	Amount	Calc.	%Drift	----------		
48		Trichloroethene	40.000	40.718	-1.8	105	0.00	7.66
49		Methylcyclohexane	40.000	39.971	0.1	103	0.00	7.67
		----------	AvgRF	CCRF	%Dev	----------		
50		Dibromomethane	0.226	0.237	-4.9	102	0.00	8.09
		----------	Amount	Calc.	%Drift	----------		
51	C	1,2-Dichloropropane	40.000	40.547	-1.4	104	0.00	8.19
		----------	AvgRF	CCRF	%Dev	----------		
52		Bromodichloromethane	0.439	0.478	-8.9	103	0.00	8.23
		----------	Amount	Calc.	%Drift	----------		

Continuing Calibration Summary

Job Number: FA7671 **Sample:** VO740-CC739
Account: TETTNOAK Tetra Tech, Inc **Lab FileID:** O18317.D
Project: Holloman AFB; Alamogordo, NM

53		Methyl methacrylate	40.000	37.807	5.5	100	0.00	8.35
54		2-Chloroethyl vinyl ether	200.000	194.187	2.9	102	0.00	8.77
55		cis-1,3-Dichloropropene	40.000	40.123	-0.3	103	0.00	8.86
		----------	AvgRF	CCRF	%Dev	----------		
56	I	Chlorobenzene-d5	1.000	1.000	0.0	101	0.00	10.63
57	S	Toluene-d8	1.349	1.241	8.0	100	0.00	9.05
58	C	Toluene	1.707	1.791	-4.9	101	0.00	9.10
59		2-Nitropropane	0.175	0.191	-9.1	105	0.00	9.34
60		4-Methyl-2-pentanone	0.648	0.692	-6.8	104	0.00	9.46
		----------	Amount	Calc.	%Drift	----------		
61		trans-1,3-Dichloropropene	40.000	39.045	2.4	103	0.00	9.51
62		Tetrachloroethene	40.000	33.812	15.5	92	0.00	9.50
63		Ethyl methacrylate	40.000	37.633	5.9	102	0.00	9.63
		----------	AvgRF	CCRF	%Dev	----------		
64		1,1,2-Trichloroethane	0.327	0.340	-4.0	104	0.00	9.68
65		Dibromochloromethane	0.460	0.485	-5.4	103	0.00	9.87
66		1,3-Dichloropropane	0.642	0.677	-5.5	103	0.00	9.96
67		1,2-Dibromoethane	0.380	0.402	-5.8	102	0.00	10.13
68		2-hexanone	0.468	0.498	-6.4	104	0.00	10.30
		----------	Amount	Calc.	%Drift	----------		
69		1-Chlorohexane	40.000	39.394	1.5	102	0.00	10.60
70	C	Ethylbenzene	40.000	39.445	1.4	103	0.00	10.66
		----------	AvgRF	CCRF	%Dev	----------		
71	P	Chlorobenzene	1.091	1.162	-6.5	103	0.00	10.65
		----------	Amount	Calc.	%Drift	----------		
72		1,1,1,2-Tetrachloroethane	40.000	39.645	0.9	103	0.00	10.71
73		m,p-Xylene	80.000	77.953	2.6	103	0.00	10.80
74		o-Xylene	40.000	38.612	3.5	101	0.00	11.26
75		Styrene	40.000	38.610	3.5	102	0.00	11.32
		----------	AvgRF	CCRF	%Dev	----------		
76	P	Bromoform	0.308	0.330	-7.1	105	0.00	11.37
		----------	Amount	Calc.	%Drift	----------		
77		Isopropylbenzene	40.000	38.833	2.9	102	0.00	11.58
		----------	AvgRF	CCRF	%Dev	----------		
78	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	101	0.00	13.11
79	S	4-Bromofluorobenzene	1.030	0.938	8.9	101	0.00	11.90
		----------	Amount	Calc.	%Drift	----------		
80		cis-1,4-Dichloro-2-butene	40.000	45.021	-12.6	110	0.00	11.95
81		n-Propylbenzene	40.000	39.005	2.5	103	0.00	12.02
		----------	AvgRF	CCRF	%Dev	----------		
82		Bromobenzene	0.959	1.018	-6.2	103	0.00	12.03
83	P	1,1,2,2-Tetrachloroethane	1.010	1.050	-4.0	105	0.00	12.09
		----------	Amount	Calc.	%Drift	----------		
84		1,3,5-Trimethylbenzene	40.000	38.449	3.9	102	0.00	12.22
85		2-Chlorotoluene	40.000	38.790	3.0	103	0.00	12.21

Continuing Calibration Summary

Job Number: FA7671
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VO740-CC739
Lab FileID: O18317.D

		AvgRF	CCRF	%Dev			
86	trans-1,4-Dichloro-2-Bute	0.418	0.479	-14.6	113	0.00	12.29
87	1,2,3-Trichloropropane	0.264	0.280	-6.1	102	0.00	12.26

		Amount	Calc.	%Drift			
88	Cyclohexanone	200.000	212.533	-6.3	109	0.00	12.32
89	4-Chlorotoluene	40.000	39.402	1.5	103	0.00	12.39
90	a-Methyl Styrene	40.000	38.694	3.3	104	0.00	12.50
91	tert-Butylbenzene	40.000	38.493	3.8	102	0.00	12.57
92	1,2,4-Trimethylbenzene	40.000	38.834	2.9	102	0.00	12.65
93	Pentachloroethane	40.000	50.943	-27.4#	116	0.00	12.61
94	sec-Butylbenzene	40.000	38.504	3.7	101	0.00	12.77
95	4-Isopropyltoluene	40.000	38.765	3.1	103	0.00	12.91

		AvgRF	CCRF	%Dev			
96	1,3-Dichlorobenzene	1.666	1.772	-6.4	102	0.00	13.03
97	1,4-Dichlorobenzene	1.888	1.990	-5.4	104	0.00	13.13

		Amount	Calc.	%Drift			
98	n-Butylbenzene	40.000	39.380	1.5	105	0.00	13.38
99	Benzyl Chloride	40.000	43.103	-7.8	117	0.00	13.39

		AvgRF	CCRF	%Dev			
100	1,2-Dichlorobenzene	1.658	1.752	-5.7	103	0.00	13.60
101	1,2-Dibromo-3-Chloropropa	0.175	0.183	-4.6	107	0.00	14.48
102	Hexachlorobutadiene	0.650	0.692	-6.5	100	0.00	15.19
103	1,2,4-Trichlorobenzene	1.303	1.419	-8.9	102	0.00	15.25
104	Naphthalene	2.604	2.879	-10.6	103	0.00	15.62
105	1,2,3-Trichlorobenzene	1.204	1.278	-6.1	103	0.00	15.83
106 I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	101	0.00	5.12
107	Ethanol	0.270	0.278	-3.0	104	0.00	4.14
108	acrolein	3.128	3.359	-7.4	104	0.00	4.57
109	Tert Butyl Alcohol	2.040	2.025	0.7	107	0.00	5.19
110	tert Amyl alcohol	1.267	1.349	-6.5	106	0.00	7.34
111	Isobutyl alcohol	0.595	0.621	-4.4	103	0.00	7.22
112	1,4-Dioxane	0.141	0.144	-2.1	105	0.00	8.41

		Amount	Calc.	%Drift			
113	3,3-Dimethyl-1-butanol	2000.000	1850.360	7.5	101	0.00	10.24

(#) = Out of Range SPCC's out = 0 CCC's out = 0
O18292.D msoNCOXY082913.m Wed Sep 04 10:38:02 2013

Continuing Calibration Summary

Job Number: FA7671
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VO742-CC739
Lab FileID: O18375.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\090413\O18375.D Vial: 1
Acq On : 4 Sep 2013 9:54 am Operator: EileenG
Sample : CC739-4 Inst : MSVOA12
Misc : MS25037,VO742,,,,, Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\msdchem\1\met...msoNCOXY082913.m (RTE Integrator)
Title : SW-846 Method 5030B/8260B & EPA 624
Last Update : Fri Aug 30 18:31:04 2013
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	7.49
		Amount	Calc.	%Drift			
2	Dichlorodifluoromethane	40.000	43.544	-8.9	109	0.00	2.55
3 P	Chloromethane	40.000	41.438	-3.6	103	0.00	2.76
4	1,3-Butadiene	40.000	38.464	3.8	98	0.00	2.89
5 C	Vinyl Chloride	40.000	39.632	0.9	99	0.01	2.91
		AvgRF	CCRF	%Dev			
6	Bromomethane	0.294	0.316	-7.5	103	0.01	3.31
7	Chloroethane	0.261	0.283	-8.4	107	0.00	3.45
		Amount	Calc.	%Drift			
8	Trichlorofluoromethane	40.000	37.779	5.6	92	0.01	3.68
		AvgRF	CCRF	%Dev			
9	Ethyl Ether	0.370	0.370	0.0	101	0.00	3.96
		Amount	Calc.	%Drift			
10	1,2-Dichlorotrifluoroetha	40.000	41.221	-3.1	104	0.00	4.20
11 C	1,1-Dichloroethene	40.000	39.224	1.9	102	0.00	4.21
12	Freon 113	40.000	41.263	-3.2	105	0.00	4.28
13	Carbon Disulfide	40.000	40.304	-0.8	101	0.00	4.28
14	Iodomethane	40.000	40.179	-0.4	102	0.00	4.40
15	Allyl chloride	40.000	39.345	1.6	103	0.00	4.73
16	Methylene Chloride	40.000	40.094	-0.2	102	0.00	4.85
17	Acetone	200.000	212.507	-6.3	110	0.00	4.88
		AvgRF	CCRF	%Dev			
18	Methyl acetate	0.052	0.056	-7.7	108	0.00	5.00
		Amount	Calc.	%Drift			
19	trans-1,2-Dichloroethene	40.000	39.346	1.6	102	0.00	5.01
		AvgRF	CCRF	%Dev			
20	Hexane	0.373	0.394	-5.6	103	0.00	5.08
21	Methyl Tert Butyl Ether	1.009	1.048	-3.9	101	0.00	5.12
		Amount	Calc.	%Drift			
22	Acetonitrile	400.000	425.892	-6.5	105	0.00	5.39
23	Di-isopropyl ether	40.000	38.105	4.7	99	0.00	5.49
24	Chloroprene	40.000	38.598	3.5	103	0.00	5.63

Continuing Calibration Summary

Job Number: FA7671
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VO742-CC739
Lab FileID: O18375.D

25	P	1,1-Dichloroethane	40.000	39.467	1.3	101	0.00	5.67
		----------	AvgRF	CCRF	%Dev	----------		
26		Acrylonitrile	0.165	0.175	-6.1	107	0.00	5.71
		----------	Amount	Calc.	%Drift	----------		
27		ETBE	40.000	36.986	7.5	99	0.00	5.88
28		Vinyl acetate	200.000	196.425	1.8	100	0.00	5.88
29		cis-1,2-Dichloroethene	40.000	38.792	3.0	99	0.00	6.22
30		2,2-Dichloropropane	40.000	42.903	-7.3	111	0.00	6.35
		----------	AvgRF	CCRF	%Dev	----------		
31		Bromochloromethane	0.180	0.188	-4.4	100	0.00	6.43
		----------	Amount	Calc.	%Drift	----------		
32		Cyclohexane	40.000	38.495	3.8	100	0.00	6.45
33	C	Chloroform	40.000	40.016	-0.0	102	0.00	6.48
		----------	AvgRF	CCRF	%Dev	----------		
34		Ethyl acetate	0.494	0.526	-6.5	106	0.00	6.57
35		Tetrahydrofuran	0.156	0.155	0.6	106	0.00	6.65
36	S	Dibromofluoromethane	0.314	0.296	5.7	103	0.00	6.67
		----------	Amount	Calc.	%Drift	----------		
37		Carbon Tetrachloride	40.000	39.784	0.5	103	0.00	6.65
38		1,1,1-Trichloroethane	40.000	40.414	-1.0	103	0.00	6.73
		----------	AvgRF	CCRF	%Dev	----------		
39		2-Butanone	0.225	0.240	-6.7	107	0.00	6.78
		----------	Amount	Calc.	%Drift	----------		
40		1,1-Dichloropropene	40.000	39.416	1.5	101	0.00	6.84
41		tert-Butyl Formate	400.000	385.743	3.6	107	0.00	6.94
		----------	AvgRF	CCRF	%Dev	----------		
42		Propionitrile	0.064	0.067	-4.7	108	0.00	7.10
43		Methacrylonitrile	0.357	0.382	-7.0	105	0.00	7.12
		----------	Amount	Calc.	%Drift	----------		
44		Benzene	40.000	39.278	1.8	101	0.00	7.09
45		TAME	40.000	37.476	6.3	100	0.00	7.17
		----------	AvgRF	CCRF	%Dev	----------		
46	S	1,2-Dichloroethane-d4	0.427	0.404	5.4	102	0.00	7.22
47		1,2-Dichloroethane	0.571	0.603	-5.6	102	0.00	7.29
		----------	Amount	Calc.	%Drift	----------		
48		Trichloroethene	40.000	39.018	2.5	101	0.00	7.66
49		Methylcyclohexane	40.000	39.963	0.1	104	0.00	7.67
		----------	AvgRF	CCRF	%Dev	----------		
50		Dibromomethane	0.226	0.230	-1.8	100	0.00	8.09
		----------	Amount	Calc.	%Drift	----------		
51	C	1,2-Dichloropropane	40.000	38.917	2.7	100	0.00	8.19
		----------	AvgRF	CCRF	%Dev	----------		
52		Bromodichloromethane	0.439	0.461	-5.0	101	0.00	8.23
		----------	Amount	Calc.	%Drift	----------		

Continuing Calibration Summary

Job Number: FA7671 **Sample:** VO742-CC739
Account: TETTNOAK Tetra Tech, Inc **Lab FileID:** O18375.D
Project: Holloman AFB; Alamogordo, NM

53		Methyl methacrylate	40.000	37.670	5.8	101	0.00	8.35
54		2-Chloroethyl vinyl ether	200.000	197.035	1.5	100	0.00	8.77
55		cis-1,3-Dichloropropene	40.000	39.282	1.8	102	0.00	8.86
		----------	AvgRF	CCRF	%Dev	----------		
56	I	Chlorobenzene-d5	1.000	1.000	0.0	102	0.00	10.63
57	S	Toluene-d8	1.349	1.231	8.7	100	0.00	9.05
58	C	Toluene	1.707	1.747	-2.3	100	0.00	9.10
59		2-Nitropropane	0.175	0.191	-9.1	105	0.00	9.34
60		4-Methyl-2-pentanone	0.648	0.698	-7.7	105	0.00	9.46
		----------	Amount	Calc.	%Drift	----------		
61		trans-1,3-Dichloropropene	40.000	38.587	3.5	103	0.00	9.51
62		Tetrachloroethene	40.000	33.431	16.4	92	0.00	9.50
63		Ethyl methacrylate	40.000	37.357	6.6	102	0.00	9.63
		----------	AvgRF	CCRF	%Dev	----------		
64		1,1,2-Trichloroethane	0.327	0.331	-1.2	102	0.00	9.68
65		Dibromochloromethane	0.460	0.480	-4.3	103	0.00	9.87
66		1,3-Dichloropropane	0.642	0.668	-4.0	103	0.00	9.96
67		1,2-Dibromoethane	0.380	0.393	-3.4	101	0.00	10.13
68		2-hexanone	0.468	0.498	-6.4	105	0.00	10.30
		----------	Amount	Calc.	%Drift	----------		
69		1-Chlorohexane	40.000	38.905	2.7	102	0.00	10.60
70	C	Ethylbenzene	40.000	38.508	3.7	101	0.00	10.66
		----------	AvgRF	CCRF	%Dev	----------		
71	P	Chlorobenzene	1.091	1.143	-4.8	102	0.00	10.65
		----------	Amount	Calc.	%Drift	----------		
72		1,1,1,2-Tetrachloroethane	40.000	39.180	2.1	103	0.00	10.71
73		m,p-Xylene	80.000	75.587	5.5	101	0.00	10.80
74		o-Xylene	40.000	37.771	5.6	100	0.00	11.26
75		Styrene	40.000	37.507	6.2	100	0.00	11.32
		----------	AvgRF	CCRF	%Dev	----------		
76	P	Bromoform	0.308	0.336	-9.1	108	0.00	11.37
		----------	Amount	Calc.	%Drift	----------		
77		Isopropylbenzene	40.000	37.944	5.1	101	0.00	11.58
		----------	AvgRF	CCRF	%Dev	----------		
78	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	104	0.00	13.11
79	S	4-Bromofluorobenzene	1.030	0.911	11.6	101	0.00	11.90
		----------	Amount	Calc.	%Drift	----------		
80		cis-1,4-Dichloro-2-butene	40.000	39.833	0.4	108	0.00	11.95
81		n-Propylbenzene	40.000	37.769	5.6	103	0.00	12.02
		----------	AvgRF	CCRF	%Dev	----------		
82		Bromobenzene	0.959	1.000	-4.3	104	0.00	12.03
83	P	1,1,2,2-Tetrachloroethane	1.010	1.018	-0.8	105	0.00	12.09
		----------	Amount	Calc.	%Drift	----------		
84		1,3,5-Trimethylbenzene	40.000	37.176	7.1	102	0.00	12.22
85		2-Chlorotoluene	40.000	37.870	5.3	103	0.00	12.21

Continuing Calibration Summary

Job Number: FA7671
Account: TETTNOAK Tetra Tech, Inc
Project: Holloman AFB; Alamogordo, NM

Sample: VO742-CC739
Lab FileID: O18375.D

		AvgRF	CCRF	%Dev			
86	trans-1,4-Dichloro-2-Bute	0.418	0.474	-13.4	115	0.00	12.29
87	1,2,3-Trichloropropane	0.264	0.285	-8.0	107	0.00	12.26

		Amount	Calc.	%Drift			
88	Cyclohexanone	200.000	210.364	-5.2	111	0.00	12.32
89	4-Chlorotoluene	40.000	37.673	5.8	101	0.00	12.39
90	a-Methyl Styrene	40.000	37.297	6.8	104	0.00	12.49
91	tert-Butylbenzene	40.000	37.312	6.7	102	0.00	12.58
92	1,2,4-Trimethylbenzene	40.000	37.584	6.0	102	0.00	12.65
93	Pentachloroethane	40.000	48.311	-20.8#	118	0.00	12.61
94	sec-Butylbenzene	40.000	37.598	6.0	102	0.00	12.77
95	4-Isopropyltoluene	40.000	37.506	6.2	102	0.00	12.91

		AvgRF	CCRF	%Dev			
96	1,3-Dichlorobenzene	1.666	1.726	-3.6	102	0.00	13.03
97	1,4-Dichlorobenzene	1.888	1.939	-2.7	104	0.00	13.13

		Amount	Calc.	%Drift			
98	n-Butylbenzene	40.000	38.339	4.2	105	0.00	13.38
99	Benzyl Chloride	40.000	43.196	-8.0	120	0.00	13.39

		AvgRF	CCRF	%Dev			
100	1,2-Dichlorobenzene	1.658	1.737	-4.8	105	0.00	13.60
101	1,2-Dibromo-3-Chloropropa	0.175	0.185	-5.7	111	0.00	14.48
102	Hexachlorobutadiene	0.650	0.695	-6.9	104	0.00	15.19
103	1,2,4-Trichlorobenzene	1.303	1.416	-8.7	105	0.00	15.25
104	Naphthalene	2.604	2.825	-8.5	104	0.00	15.62
105	1,2,3-Trichlorobenzene	1.204	1.267	-5.2	105	0.00	15.83
106 I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	105	0.00	5.11
107	Ethanol	0.270	0.277	-2.6	108	-0.01	4.13
108	acrolein	3.128	3.139	-0.4	101	0.00	4.58
109	Tert Butyl Alcohol	2.040	1.968	3.5	107	0.00	5.19
110	tert Amyl alcohol	1.267	1.299	-2.5	107	0.00	7.34
111	Isobutyl alcohol	0.595	0.608	-2.2	105	0.00	7.22
112	1,4-Dioxane	0.141	0.141	0.0	107	0.00	8.42

		Amount	Calc.	%Drift			
113	3,3-Dimethyl-1-butanol	2000.000	1785.420	10.7	102	0.00	10.24

(#) = Out of Range SPCC's out = 0 CCC's out = 0
O18292.D msoNCOXY082913.m Wed Sep 04 18:10:46 2013

6.7.7

6

APPENDIX D

FIELD DATA FORMS

DECEMBER 2012 GROUNDWATER

FIELD DATA FORMS

Tetra Tech

GROUNDWATER SAMPLE LOG SHEET

Facility Name: Holloman AFB
Project No.: 100-TEN-T93002
Well Depth: 17.92
Depth to Water: 9.76
Water Column: 8.16
Well Casing Diameter & Material: 2" PVC
One Casing Volume: 1.33 ~~[illegible]~~ GAL
Three Casing Volumes: 3.99 GAL
Start Purge: 1008
End Purge: 1056
Total Purge Time: 48 min.

Well ID: SA27-MW01
Date: 12-13-12
Weather: SUNNY, 45°, LT. BREEZE

PURGE DATA:

Time ~~24~~	mL/min Pumping Rate ~~(L/min)~~	Water Level (ft)	Volume Pumped (L)	pH	mS/cm S.C. ~~(uS/cm)~~	Temp. (°C)	Turbidity (NTU)	DO (mg/L)	Salinity	ORP (mV)
1005	200	9.95		6.72	41.4	19.19	0.0	13.72	—	164
1015	150	9.85		7.18	41.1	19.55	0.0	12.44	—	137
1020	150	9.85		7.27	41.0	19.95	0.0	11.46	—	135
1025	150	9.85		7.32	40.9	20.23	0.0	11.13	—	135
1030	150	9.85		7.37	40.5	20.24	0.0	9.30	—	137
1035	150	9.85		7.38	40.8	20.39	0.0	10.32	—	134
1040	150	9.85		7.40	40.6	20.41	0.0	10.44	—	132
1045	150	9.85		7.41	40.7	20.40	0.0	10.34	—	130
1050	150	9.85		7.41	40.7	20.45	0.0	10.30	—	128
1055	150	9.85	~~8.5~~ 7.5	7.42	40.7	20.46	0.0	10.32	—	127
			(DT) 12/13/12							

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs	HCL	3-40mL VOA VIALS	~~Dan~~ 3
			1102
			12/13/12

OBSERVATIONS / NOTES:

WATER IS CLEAR
NO ODOR IN WATER

6" WATER IN 5 GAL. BUCKET
SAMPLE TAKEN @ 1102

Quality Samples:

MS/MSD: NA
Duplicate ID No.: NA

Signature(s):

Tetra Tech

GROUNDWATER SAMPLE LOG SHEET

Facility Name: Holloman AFB
Project No.: 100-TEN-T93002
Well Depth: 17.29
Depth to Water: 10.29
Water Column: 7.00
Well Casing Diameter & Material: 2" PVC
One Casing Volume: 1.14 gal
Three Casing Volumes: 3.43 gal
Start Purge: 1441
End Purge: 1522
Total Purge Time: 41 Min

Well ID: SD27-MW02
Date: 12-12-12
Weather: sunny, cool, breezy

PURGE DATA:

Time	Pumping Rate (L/min)	Water Level (ft)	Volume Pumped (L)	pH	mS/cm S.C. ~~(uS/cm)~~	Temp. (°C)	Turbidity (NTU)	DO (mg/L)	Salinity	ORP (mV)
1441	0	10.29	start	pump						
1444	125	—								
1446	100	10.71		7.16	31.1	20.73	0.0*	5.68	—	-204
1455	100	10.99		7.20	30.9	20.72	0.0*	5.75	—	-194
1501	100	11.10		7.22	30.8	20.76	0.0*	6.27	—	-196
1506	100	11.19		7.22	30.6	20.85	0.0*	6.14	—	-198
1511	90	11.15		7.23	30.5	20.93	0.0*	6.30	—	-201
1516	90	11.06		7.25	30.6	21.03	0.0*	6.48	—	-205
1522	90	11.01	5.7	7.27	30.7	21.12	0.0*	6.37	—	-210

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs	HCl	3-40ml VOA vials	@ 12/12/12 1535

OBSERVATIONS / NOTES:

Sample collected 12/12/12 @ 1535

* water is clear

Quality Samples:

MS/MSD: No
Duplicate ID No.: Yes

Signature(s):

Allan T. Jenkins

Tetra Tech

GROUNDWATER SAMPLE LOG SHEET

Facility Name: Holloman AFB
Project No.: 100-TEN-T93002
Well Depth: 15.28
Depth to Water: 10.11
Water Column: 5.17'
Well Casing Diameter & Material: 2" PVC
One Casing Volume: 0.84 gal
Three Casing Volumes: 2.53 gal
Start Purge: 1358
End Purge: 1422
Total Purge Time: 24 min

Well ID: SD27-MW03
Date: 12-12-12
Weather: sunny, cool, breezy

PURGE DATA:

Time	ml/min Pumping Rate ~~(L/min)~~	Water Level (ft)	Volume Pumped (L)	pH	mS/cm S.C. ~~(uS/cm)~~	Temp. (°C)	Turbidity (NTU)	DO (mg/L)	Salinity	ORP (mV)
1358	0	10.11	Start	pump						
1400	250			7.55	39.5	19.50	0.0*	3.19	—	-111
1402	150	12.23		7.52	39.6	19.63	0.0*	2.81	—	-106
1404	125	—		—	—	—	—	—	—	—
1406	100	12.65		7.52	39.5	19.68	0.0*	3.16	—	-99
1413	90	13.60		7.54	38.7	19.68	0.0*	3.36	—	-89
1416	loose water, lower tubing w/i ~6" of well bottom									
1418		14.09		7.48	39.0	19.73	0.0	3.01	—	-81
1420	200	14.91		7.50	38.2	19.95	0.0	2.93	—	-88
1422			4.3	well dewatered, stop purge						

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs	HCl	3-40 ml VOA vials	3 ea 12/13/12 1127

OBSERVATIONS / NOTES:

1400 note hydrocarbon or sewer odor in purge water

* water is clear

SAMPLE TAKEN @ 1127 12/13/12

Quality Samples:

MS/MSD: NA
Duplicate ID No.: NA

Signature(s):

Allart Jenkins

Tetra Tech

GROUNDWATER SAMPLE LOG SHEET

Facility Name: Holloman AFB
Project No.: 100-TEN-T93002
Well Depth: 17.43
Depth to Water: 10.22
Water Column: 7.21
Well Casing Diameter & Material: 2" PVC
One Casing Volume: 1.18 gal
Three Casing Volumes: 3.53 gal
Start Purge: 1054
End Purge: 1152
Total Purge Time: 53 min.

Well ID: SD27-MW04
Date: 12-12-12
Weather: sunny, cool, sl. breeze

PURGE DATA:

Time	ml/min Pumping Rate ~~(L/min)~~	Water Level (ft)	Volume Pumped (L)	pH	mS/cm S.C. ~~(uS/cm)~~	Temp. (°C)	Turbidity (NTU)	DO (mg/L)	Salinity	ORP (mV)
1054	0	10.22	Start	pump						
1055	—		Stop	pump,	flow cell	leaking				
1059	0		Re	start	pump					
1101	110	10.92		7.16	46.9	18.03	0.0*	2.76	—	-139
1108	100	11.61		7.33	46.2	18.20	0.0*	5.54	—	-137
1113	~90	12.14		7.34	46.3	18.25	0.0*	5.66	—	-147
1119	90	12.65		7.33	46.0	18.48	0.0*	3.51	—	-151
1126	75	13.38		7.34	45.7	18.63	0.0*		—	-154
1134	75	14.02		7.36	45.8	18.66	0.0*	4.36	—	-155
1137	125	—		7.36	46.1	18.72	0.0*	4.34	—	-157
1140	150	14.53		7.35	46.1	19.01	0.0*	3.90	—	-160
1143	225			7.34	46.0	19.32	0.0*	3.40	—	-164
1152		17.4	well	dewatered,	total 5L	removed				

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs	HCL	3 -- 40ml VOA vials	3
VOCs-MS	HCL	" "	3
VOCs-MSD	HCL	" "	3
			12/12/12
			7

OBSERVATIONS / NOTES:

1134 well WL will not stabilize, increase purge rate to dewater well, lower tubing to near well bottom

* water clear

Sample collected 12/12/12 @ 16:07

Quality Samples:

MS/MSD: Yes
Duplicate ID No.: NA

Signature(s):

Allan T. Jenkins

Tetra Tech

GROUNDWATER SAMPLE LOG SHEET

Facility Name: Holloman AFB
Project No.: 100-TEN-T93002
Well Depth: 19.91
Depth to Water: 9.93
Water Column: 9.98
Well Casing Diameter & Material: PVC 2" dia
One Casing Volume: 1.7 gals
Three Casing Volumes: 5.1 gals
Start Purge: 1432
End Purge: 1507
Total Purge Time: 35 min

Well ID: SD27-MW05
Date: 12-11-12
Weather: sunny, cool, breezy

PURGE DATA:

Time	mL/min Pumping Rate ~~(L/min)~~	Water Level (ft)	Volume Pumped (L)	pH	mS/cm S.C. ~~(uS/cm)~~	Temp. (°C)	Turbidity (NTU)	DO (mg/L)	Salinity	ORP (mV)
1420	0	9.96	0							
1432	start	pump								
1440	250						clear			
1443	260			6.96	32.6	19.23	clear	2.73	—	-238
1450	260	17.28	4.5	6.95	32.1	19.38	0.0	4.48	—	-244
1453	170	17.92	5.0	6.99	33.3	18.79	0.0	5.52		-239
1505	~100	17.92	6.1	7.14	34.9	17.61	0.0	10.20		-220
1507	stop pump, WL drawn down to tubing inlet ~2' off well bottom									
	will let recharge to sample									
1518	0	17.18	—							
1529	0	16.48	—							
1532	0	16.21	—							
1550	turn pump on to collect sample					—	clear	—	—	—

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs	HCl	3 - 40 ml VOA vials	Yes 3
			12/11/12
			1550

OBSERVATIONS / NOTES:

1450 water in bucket is dk grey to black, strong hydrocarbon odor

Sample collected 12/11/12 @ 1550

Quality Samples:

MS/MSD: NA
Duplicate ID No.: NA

Signature(s): Allan T. Jenkins

MARCH 2013 GROUNDWATER

FIELD DATA FORMS

Tetra Tech

GROUNDWATER SAMPLE LOG SHEET

Facility Name: Holloman AFB
Project No.: 100-TEN-T93002
Well Depth: 17.92
Depth to Water: 9.83
Water Column: 7.09
Well Casing Diameter & Material: PVC 2"
One Casing Volume: 1.32 gal
Three Casing Volumes: 3.96 gal
Start Purge: 1448
End Purge: 1537
Total Purge Time: 49

Well ID: SD27-MW01
Date: 3-6-13
Weather: Sunny, warm, breezy

PURGE DATA:

Time	Pumping Rate (L/min)	Water Level (ft)	Volume Pumped (L)	pH	~~µS/cm~~ (99) S.C. (uS/cm)	Temp (1) (°C)	Turbidity (NTU)	DO (mg/L)	Salinity	ORP (mV)
1448	0	9.83								
1451	0.275	9.95		6.79	0.024	60.00		0.00	0.0	75
1455	0.200	9.96		6.79	0.035	60.00	67.0	0.00	0.0	82
1500	0.240	9.96		6.79	0.049	60.00	35.6	0.00	0.0	92
1505	0.230	9.96		6.79	0.065	60.00	24.9	0.00	0.0	96
1510	0.190	9.95		6.79	0.151	60.00	16.1	0.00	0.0	99
1515	0.200	9.95		6.80	0.139	60.00	10.8	0.00	0.0	104
1520	0.210	9.96	~6.5	6.81	0.130	60.00	—	0.00	0.0	106
1526	0.200	9.95		6.81	0.088	60.00	9.96	0.00	0.0	108
1532	0.200	9.95		6.81	0.108	60.00	9.64	0.00	0.0	110
1537	0.200	9.95	~10	6.81	0.151	60.00	12.10	0.00	0.0	112
↳	stop									

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs	HCL	3 - 40ml VOA vials	(99) ~~1555~~ 1615

OBSERVATIONS / NOTES:

(1) Temp probe malfunction.

Quality Samples:

MS/MSD: NA
Duplicate ID No.: NA

Signature(s):

Albert Jenkins

Tetra Tech

GROUNDWATER SAMPLE LOG SHEET

Facility Name: Holloman AFB
Project No.: 100-TEN-T93002
Well Depth: 17.29
Depth to Water: 10.37
Water Column: 6.92
Well Casing Diameter & Material:
One Casing Volume: 1.13 gal
Three Casing Volumes: 3.39 gal
Start Purge: 1453/1500
End Purge: 1535
Total Purge Time: 37 min

Well ID: MW-SA27-02
Date: 5-6-2013
Weather: PART. CLOUDY ~78°F

PURGE DATA:

Time	Pumping Rate mL/min	Water Level (ft)	Volume Pumped (L)	pH	mS/cm S.C. ~~(uS/cm)~~	Temp. (°C)	Turbidity (NTU)	DO (mg/L)	Salinity	ORP (mV)
1455	200		.4	STOPPED PUMP TO SWITCH GEO PUMP TO LOW SPEED.						
1505	115	10.88	.975	7.02	28.3	19.37	5.33	0.00	1.7	-179
1510	115	11.11	1.550	7.04	25.0	19.85	3.18	0.00	1.5	-193
1515	90	11.11	2	7.07	24.7	19.92	2.53	0.00	1.5	-208
1520	90	11.11	2.45	7.10	24.3	20.11	2.58	0.00	1.5	-226
1525	90	11.11	2.9	7.10	24.1	20.24	1.85	0.00	1.5	-228
1530	90	11.11	3.35	7.14	24.0	20.15	1.19	0.00	1.5	-240
1535	90	11.11	3.8	7.13	23.9	20.09	2.43	0.00	1.5	-239

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs	HCL	3-40 mL VOAs	~~0800~~
			1555

OBSERVATIONS / NOTES:

Quality Samples:
MS/MSD: No
Duplicate ID No.: No

Signature(s):

Tetra Tech

GROUNDWATER SAMPLE LOG SHEET

Facility Name: Holloman AFB
Project No.: 100-TEN-T93002
Well Depth: 15.28
Depth to Water: 10.22
Water Column: 5.06
Well Casing Diameter & Material:
One Casing Volume: 0.83 gal
Three Casing Volumes: 2.47 gal
Start Purge: 1133
End Purge: 1146
Total Purge Time: 13 min

Well ID: MW-SA27-03
Date: 3-5-2013
Weather: PART. CLOUDY 70°

PURGE DATA:

Time	Pumping Rate m(L/min)	Water Level (ft)	Volume Pumped (L)	pH	mS/cm S.C. ~~(uS/cm)~~	Temp. (°C)	Turbidity (NTU)	DO (mg/L)	Salinity	ORP (mV)
1135	300	11.81	.6	7.03	48.0	18.54	18.7	1.00	3.3	108
1139	250	14.1	1.6	7.00	99.9	18.58	19.2	0.83	4.0	93
1143	200	14.6	2.4	7.04	99.9	19.03	33.2	5.04	4.0	88
1146	200	15.28	3.0	7.09	24.8	18.70	130	6.15	1.5	61
1146	WELL WENT DRY									

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs	HCL	3-40mL VOAs	3-7-13@ 0805

OBSERVATIONS / NOTES:

99.9 - CONDUCTIVITY - OUT OF RANGE
4.0 - SALINITY - OUT OF RANGE

Quality Samples:

MS/MSD: No
Duplicate ID No.: No

Signature(s):

Tetra Tech

GROUNDWATER SAMPLE LOG SHEET

Facility Name: Holloman AFB
Project No.: 100-TEN-T93002
Well Depth: ~~10.27~~ 17.43
Depth to Water: 10.27
Water Column: 7.16
Well Casing Diameter & Material: 2" PVC
One Casing Volume: 1.17 gal
Three Casing Volumes: 3.50 gal
Start Purge: 1121
End Purge: 1144
Total Purge Time: 23

Well ID: SD27-MW04
Date: 3-6-13
Weather: sunny, warm, lgt wind

PURGE DATA:

Time	Pumping Rate (L/min)	Water Level (ft)	Volume Pumped (L)	pH	mS/cm S.C. (~~uS/cm~~)	Temp.(1) (°C)	Turbidity (NTU)	DO (mg/L)	Salinity %	ORP (mV)
1121	0	10.27								
1123	0.460	11.95								
1126	0.350	13.25		6.48	11.4	51.07		0.76	0.7	124
1130	0.250	14.52		6.55	14.2	46.92		~~0.8~~ 1.12 (1)	0.8	-11
1136	0.210	16.68		6.61	14.7	45.93	17.4	1.13	0.8	-81
1140	0 No Flow	17.03		lower tubing near well bottom						
1144	intermit	17.30	~5.5	flow intermittant, well dewatered, stop pump						

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs	HCL	3-40ml VOA vials	3-7-13@ 0814

OBSERVATIONS / NOTES:

(1) Temp probe malfunction.

Quality Samples:

MS/MSD: Yes
Duplicate ID No.: No

Signature(s):

Allan T. Jenkins

Tetra Tech

GROUNDWATER SAMPLE LOG SHEET

Facility Name:	Holloman AFB
Project No.:	100-TEN-T93002
Well Depth:	19.91
Depth to Water:	10.07
Water Column:	9.84
Well Casing Diameter & Material:	2" PVC
One Casing Volume:	1.61 gal
Three Casing Volumes:	4.82 gal
Start Purge:	1211
End Purge:	1234
Total Purge TIme:	23

Well ID:	SD27-MW05
Date:	3-6-13
Weather:	Sunny, warm

PURGE DATA:

Time	Pumping Rate (L/min)	Water Level (ft)	Volume Pumped (L)	pH	mS/cm S.C. ~~(uS/cm)~~	Temp. ① (°C)	Turbidity (NTU)	DO (mg/L)	Salinity	ORP (mV)
1211	0	10.07								
1214	0.480	11.89								
1217	0.350	14.11		6.45	8.42	53.46	4.01	1.64	0.5	-251
1221	0.300	15.95		6.48	8.71	53.29	4.25	1.94	0.5	-269
1225	0.300	17.99		6.48	12.2	43.63		2.20	0.7	-248
1229	0 No Flow			lower	tubing in	well near	bottom			
1231		19.15		flow	intermittent					
1232		~19.6		6.55	14.3	42.11	5.99	3.00	0.8	-195
1234	0 No Flow		~6	well	dewatered,	stop	pump			

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs	HCL	3-40mL VOAs	3-7-13@ 0830

OBSERVATIONS / NOTES:

Purge water has strong 'sewer' odor and is black in color.
① Temp probe malfunction.

Quality Samples:	Signature(s):
MS/MSD: No Duplicate ID No: MW27-DUP01-030713	Allen T. Jenkins

JUNE 2013 GROUNDWATER

FIELD DATA FORMS

Tetra Tech

GROUNDWATER SAMPLE LOG SHEET

Facility Name: Holloman AFB
Project No.: 100-TEN-T93002
Well Depth: 17.92
Depth to Water: 10.14
Water Column: 7.78
Well Casing Diameter & Materia 2" PVC
One Casing Volume: 1.3 gal (4.9L)
Three Casing Volumes: 3.8 gal (14.4L)
Start Purge: 1444
End Purge: 1531
Total Purge TIme: 47 min

Well ID: SD27- MW01
Date: 6-25-13
Weather: sunny hot ~100°F

PURGE DATA:

Time	Pumping Rate (L/min)	Water Level (ft)	Volume Pumped (L)	pH	S.C. (mS/cm)	Turbidity (NTU)	DO (mg/L)	Temp. (°C)	Salinity	ORP (mV)
1444	Start	10.14								
1449	0.400	10.34		7.18	19.4	23.7	9.20	22.2	—	-59
1454	0.400	10.34		7.11	19.5	—	7.72	22.2	—	-55
1500	0.400	10.34		7.08	19.6	9.56	6.05	21.9	—	-45
1505	0.400	10.34		7.08	19.6	6.31	5.96	21.4	—	-36
1511	0.420	10.34		7.08	19.6	5.17	5.91	21.8	—	-27
1517	0.420	10.34		7.09	19.6	4.39	5.93	21.7	—	-20
1524	0.410	10.34		7.09	19.6	3.90	5.93	21.7	—	-14
1531	0.410	10.34	19L	7.10	19.6		5.89	21.8	—	-8

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs	HCL	3-40 ml vials	6-26-13
			0745

OBSERVATIONS / NOTES:

Quality Samples:

MS/MSD: NA
Duplicate ID No.: NA

Signature(s): Allen Jenkins

Tetra Tech

GROUNDWATER SAMPLE LOG SHEET

Facility Name: Holloman AFB
Project No.: 100-TEN-T93002
Well Depth: (29) ~~10.76~~ 17.29
Depth to Water: 10.76
Water Column: 6.53
Well Casing Diameter & Materia 2" PVC
One Casing Volume: 1.0 gal (3.8L)
Three Casing Volumes: 3.0 gal (11.4L)
Start Purge: 1248
End Purge: 1335
Total Purge TIme: 47 min

Well ID: SD27- MW02
Date: 6-25-13
Weather: sunny hot 795°F sl. breeze

PURGE DATA:

Time	Pumping Rate (L/min)	Water Level (ft)	Volume Pumped (L)	pH	S.C. (mS/cm)	Turbidity (NTU)	DO (mg/L)	Temp. (°C)	Salinity	ORP (mV)
1248	Start	10.76								
1252	0.350	1243		7.10	15.8	1.59	7.23	20.1	–	-176
1258	0.350	12 97		7.05	15.8	1.34	5.15	20.1	–	-208
1305	0.350	13.41		7.07	15.8	1.22	4.67	20.1	–	-232
1311	0.340	13.49		7.10	15.9	0.94	4.38	20.1	–	-262
1316	0.380	13.61		7.12	15.9	0.89	4.32	20.0	–	-275
1321	0.400	13.78		7.13	16.0	--	4.31	19.6	–	-289
1323	raise tubing ~ 2.5' in well near top of water column									
1326	0.380	13.94		7.12	16.0	0.92	4.17	19.9	–	-292
1334	0.400	13.95		7.14	16.0		4.15	20.6	–	-313
1335	Stop	purge	(5 gal) 19L		> 3 casing volumes removed					

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs	HCL	3 - 40 ml vials	6-26-13 0752

OBSERVATIONS / NOTES:

Quality Samples:
MS/MSD: NA
Duplicate ID No.: NA

Signature(s): Allan T. Jenkins

Tetra Tech

GROUNDWATER SAMPLE LOG SHEET

Facility Name: Holloman AFB
Project No.: 100-TEN-T93002
Well Depth: 15.28
Depth to Water: 10.50
Water Column: 4.78
Well Casing Diameter & Materia 2" PVC
One Casing Volume: 0.8gal (3L)
Three Casing Volumes: 2.3gal (8.7L)
Start Purge: 1203 / 1223
End Purge: 1213 / 1225
Total Purge TIme: 12 min

Well ID: SD27- MW03
Date: 6-25-13
Weather: sunny hot ~95-100° breezy

PURGE DATA:

Time	Pumping Rate (L/min)	Water Level (ft)	Volume Pumped (L)	pH	S.C. (m S/cm)	Turbidity (NTU)	DO (mg/L)	Temp. (°C)	Salinity	ORP (mV)
1203	start	10.50								
1206	0.340	12.65		7.14	18.7	1.73	8.37	21.2	—	15
1211	0.325	15.20		7.04	18.8		6.67	20.8	—	8
1213	flow intermittant stop and let recharge									
	→		2.5							
1223		15.10								
1225	stop	flow	intermittant							
	→		3.25	with flow cell volume included						

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs	HCL	3-40ml vials	6-26-13
			0800

OBSERVATIONS / NOTES:

Quality Samples:
MS/MSD: NA
Duplicate ID No.: NA

Signature(s): Allen T. Jenkins

Tetra Tech

GROUNDWATER SAMPLE LOG SHEET

Facility Name: Holloman AFB
Project No.: 100-TEN-T93002
Well Depth: 17.43
Depth to Water: 10.57
Water Column: 6.86
Well Casing Diameter & Materia 2" PVC
One Casing Volume: 1.1 gal (4.2L)
Three Casing Volumes: 3.3 gal (12.5)
Start Purge: 1125
End Purge: 1143
Total Purge TIme: 18 min

Well ID: SD27- MW04
Date: 6-25-13
Weather: sunny hot ~98° sl. breeze

PURGE DATA:

Time	Pumping Rate (L/min)	Water Level (ft)	Volume Pumped (L)	pH	S.C. (m S/cm)	Turbidity (NTU)	DO (mg/L)	Temp. (°C)	Salinity	ORP (mV)
1125	start	10.57								
1129	0.450	—								
1131	0.360	14.72		7.01	21.7	4.71	7.02	21.0	—	-61
1136	~~0.~~ 0.99	16.66		6.97	21.8	1.86	5.78	21.1	—	-92
	flow ~~Hit~~ intermittent									
1143	"	17.30		6.98	21.3	11.8	5.16	23.4	—	-87
	well drawn down to bottom, stop purge									
			5L							

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs	HCL	3 - 40 ml vials	6-26-13
VOCs-MS	HCL	3 - 40 ml vials	0810
VOCs-MSD	HCL	3 - 40 ml vials	

OBSERVATIONS / NOTES:

Quality Samples:
MS/MSD: YES
Duplicate ID No.: NA

Signature(s): Allan T. Jenkins

Tetra Tech

GROUNDWATER SAMPLE LOG SHEET

Facility Name: Holloman AFB
Project No.: 100-TEN-T93002
Well Depth: 19.91
Depth to Water: 10.36
Water Column: 9.55
Well Casing Diameter & Materia 2" PVC
One Casing Volume: 1.5 gal
Three Casing Volumes: 4.6 gal
Start Purge: 1354
End Purge: 1418
Total Purge TIme: 24 min

Well ID: SD27- MW05
Date: 6-25-13
Weather: sunny hot ~96° occ. sl. breeze

PURGE DATA:

Time	Pumping Rate (L/min)	Water Level (ft)	Volume Pumped (L)	pH	S.C. (m S/cm)	Turbidity (NTU)	DO (mg/L)	Temp. (°C)	Salinity	ORP (mV)
1354	Start	10.36								
1357	0.320									
1402	0.320	14.07		7.13	18.2	2.53	6.95	21.6	–	-213
1407	0.300	16.89		7.09	17.3	3.83	4.88	21.6	–	-228
1412	0.300	18.59		7.03	16.8	5.47	4.49	21.4	–	-308
1415	0.300	19.69		7.03	17.0	6.56	4.34	21.8	–	-316
1417	flow stops, lower tubing almost to bottom									
1418	Stop	well	drawn down to bottom							
			6.9							

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs	HCL	3-40 ml vials	6-26-13
VOCs Duplicate	HCL	3-40 ml vials	0822

OBSERVATIONS / NOTES:

water has strong H_2S/hydrocarbon odor
Water looks clear in tubing, but black in bucket

Quality Samples:

MS/MSD: NA
Duplicate ID No.: YES

Signature(s):

Allen Jenkins

AUGUST 2013 GROUNDWATER

FIELD DATA FORMS

Tetra Tech

GROUNDWATER SAMPLE LOG SHEET

Facility Name: Holloman AFB
Project No.: 100-TEN-T93002
Well Depth: 17.99
Depth to Water: 9.21
Water Column: 8.78
Well Casing Diameter & Material: 2" PVC
One Casing Volume: 1.32 gal
Three Casing Volumes: 3.96 gal
Start Purge: 1225
End Purge: 1310
Total Purge Time: 45

Well ID: SD27-MW-01
Date: 8-27-13
Weather: CLEAR 94°F

PURGE DATA:

Time	Pumping Rate (mL/min)	Water Level (ft)	Volume Pumped (L)	pH	S.C. (mS/cm)	Temp. (°C)	DO (mg/L)	Salinity	ORP (mV)	Turbidity (NTU)
1230	400	9.34	2	6.99	19.4	22.56	0.10	—	72	29.5
1235	"	"	4	6.96	19.1	22.11	0.05	—	89	5.43
1240	"	"	6	6.96	19.1	22.20	0.06	—	90	4.20
1245	"	"	8	6.96	19.1	22.22	0.06	—	96	2.33
1250	"	"	10	6.97	19.1	23.34	0.06	—	97	—
1255	"	"	12	6.97	19.1	22.36	0.06	—	97	1.96
1300	"	"	14	6.98	19.1	22.66	0.05	—	97	1.90 *
1305	"	"	16	6.98	19.0	23.92	0.08	—	90	—
1310	"	"	18	6.99	19.1	24.01	0.09	—	92	—

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs	HCl	3 - 40 mL VOA Vials	8/28/13 0809

OBSERVATIONS / NOTES:

* PUMP HOSE DEPTH MOVED TO TOP OF WATER COLUMN AT 1300.

Quality Samples:

MS/MSD:
Duplicate ID No.: NA

Signature(s):

Tetra Tech

GROUNDWATER SAMPLE LOG SHEET

Facility Name: Holloman AFB
Project No.: 100-TEN-T93002
Well Depth: 17.29
Depth to Water: 10.98
Water Column: 6.31
Well Casing Diameter & Material: 2" PVC
One Casing Volume: 1 gal
Three Casing Volumes: 3 gal
Start Purge: 1040
End Purge: 1125
Total Purge TIme: 40

Well ID: SA27-MW-02
Date: 8/27/13
Weather: CLEAR 90°F

PURGE DATA:

Time	Pumping Rate (mL/min)	Water Level (ft)	Volume Pumped (L)	pH	S.C. (µS/cm)	Temp. (°C)	DO (mg/L)	Salinity	ORP (mV)	Turbidity (NTU)
1045	300	11.51	1.5	6.66	16.5	20.52	0.72	—	-255	1.28
1050	300	12.16	3.0	6.70	16.4	20.48	0.66	—	-262	1.67
1055	300	12.69	4.5	6.75	16.5	20.50	0.60	—	-268	1.43
1100	300	12.9	6.0	6.80	16.5	20.29	0.52	—	-280	1.18
1105	400	13.4	8.0	6.81	16.5	20.25	0.47	—	-288	1.01
1110	500	13.6	10.5	6.83	16.5	20.19	0.47	—	-292	0.84
1115	500	13.72	13.0	6.87	16.5	20.19	0.43	—	-298	0.98 *
1120	500	13.73	15.5	6.87	16.6	20.25	0.43	—	-300	0.91
1125	500	13.74	18.0	6.89	16.6	20.18	0.43	—	-305	0.72

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs	HCl	3 - 40 mL VOA Vials	8/28/13 0745

OBSERVATIONS / NOTES:

* PUMP HOSE DEPTH MOVED TO TOP OF WATER COLUMN AT 1115

Quality Samples:

MS/MSD:
Duplicate ID No.: NA

Signature(s):

Tetra Tech

GROUNDWATER SAMPLE LOG SHEET

Facility Name: Holloman AFB
Project No.: 100-TEN-T93002
Well Depth: 15.25
Depth to Water: 9.93
Water Column: 5.32
Well Casing Diameter & Material: 2" PVC
One Casing Volume: 0.9 gal
Three Casing Volumes: 2.6 gal
Start Purge: ~~1200~~ 1000
End Purge: 1015
Total Purge Time: 15

Well ID: SA77-MW-03
Date: 8/27/13
Weather: CLEAR 90°F

PURGE DATA:

Time	Pumping Rate (mL/min)	Water Level (ft)	Volume Pumped (L)	pH	S.C. (mS/cm)	Temp. (°C)	DO (mg/L)	Salinity	ORP (mV)	Turbidity (NTU)
1005	300	10.49	1.5	7.03	19.3	21.79	0.21	—	-144	10.4
1010	800	—	3.0	6.99	19.2	21.95	0.22	—	-128	15.7
1015	300	14.41	4.5	6.97	19.2	21.95	0.22	—	-119	21.3
1017	WELL DRY									

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs	HCl	3 - 40 mL VOA Vials	8/28/13 0739

OBSERVATIONS / NOTES:

Quality Samples:
MS/MSD:
Duplicate ID No.: NA

Signature(s):

Tetra Tech

GROUNDWATER SAMPLE LOG SHEET

Facility Name: Holloman AFB
Project No.: 100-TEN-T93002
Well Depth: 17.42
Depth to Water: 9.75
Water Column: 7.67
Well Casing Diameter & Material: 2" PVC
One Casing Volume: 1.25 gal
Three Casing Volumes: 3.75 gal
Start Purge: ~~0905~~ 0910
End Purge: 0947
Total Purge TIme: 37

Well ID: SA27-MW-04
Date: 8/27/13
Weather: CLEAR 85°F

PURGE DATA:

Time	Pumping Rate (mL/min)	Water Level (ft)	Volume Pumped (L)	pH	S.C. (mS/cm)	Temp. (°C)	DO (mg/L)	Salinity	ORP (mV)	Turbidity (NTU)
0915	300	9.99	1.5	7.08	21.9	23.07	0.87	—	-196	13.6
0920	300	10.27	3.0	7.00	22.0	22.01	0.3	—	-168	1.55
0927	300	10.71	4.5	6.96	22.0	22.22	0.14	—	-146	1.46
0932	300	11.14	6.0	6.95	22.0	22.43	0.08	—	-129	1.42
0940	300	13.9	7.5	6.92	22.0	22.06	0.13	—	-134	3.66
0945	300	15.75	9.0	6.99	22.0	21.92	0.2	—	-141	2.01
0947	WELL DRY									

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs	HCl	3 - 40 mL VOA Vials	8/28/13 0730

OBSERVATIONS / NOTES:

Quality Samples:
MS/MSD: MW27-04-08 2013 MS/MSD
Duplicate ID No.:

Signature(s):

Tetra Tech

GROUNDWATER SAMPLE LOG SHEET

Facility Name: Holloman AFB
Project No.: 100-TEN-T93002
Well Depth: 19.91
Depth to Water: ~~9.58~~ 9.46
Water Column: 10.45
Well Casing Diameter & Material: 2" PVC
One Casing Volume: 1.7 gal
Three Casing Volumes: 5.1 gal
Start Purge: ~~0800~~ 0825
End Purge: 0835
Total Purge Time: 30

Well ID: SD27-MW-05
Date: 8/27/13
Weather: CLEAR 80°F

PURGE DATA:

Time	Pumping Rate (mL/min)	Water Level (ft)	Volume Pumped (L)	pH	S.C. (µS/cm)	Temp. (°C)	DO (mg/L)	Salinity	ORP (mV)	Turbidity (NTU)
0805	500	—	1.5	6.80	18.4	20.91	0.00	—	-98	1.54
0809	150	12.4	2.25	7.13	18.5	20.53	0.80	—	-93	1.07
0812	200	13.04	3.25	7.10	18.3	20.58	0.04	—	-80	1.75
0817	200	14.51	4.25	6.96	17.8	20.43	0.53	—	-137	2.84
0823	200	15.6	5.25	6.80	16.9	20.58	2.20	—	-247	5.46
0828	200	16.4	6.25	6.80	16.6	20.70	2.34	—	-256	7.50
0833	200	17.11	7.25	6.86	16.4	20.92	2.01	—	-259	13.6
0835	WELL	DRY								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs	HCl	3 - 40 mL VOA Vials	8/28/13 0757

OBSERVATIONS / NOTES:

* 8/28/13 - CAME BACK TO SAMPLE WELL AND WELL COVER WAS MISSING. PLUG WAS STILL IN CASING (WELL CAP). WELL COVER FOUND APPROX 30 YDS. AWAY NEAR ELECTRICAL FENCED AREA.

Quality Samples:

MS/MSD:

Duplicate ID No.: MW27-DUP01-082013

Signature(s):