F I N A L

FINAL DATA VALIDATION REPORT

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Prepared for

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List of Acronyms and Abbreviations

>	Greater Than
<	Less Than
≤	Less Than or Equal To
#	Number
%	Percent
CLP	Contract Laboratory Program
DOC	Dissolved Organic Carbon
DOD	Department of Defense
DL	Detection Limit
DQO	Data Quality Objective
DRO	Diesel Range Organics
EB	Equipment Blank
ESC	ESC Lab Science
F	The analysis meets all qualitative identification criteria, but the measured concentration is less than the limit of quantitation
FD	Field Duplicate
GRO	Gasoline Range Organics
I	Bias in sample result is indeterminate
ICS	Interference Check Samples
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LD	Laboratory Duplicate
LOD	Limit of Detection
LOQ	Limit of Quantitation
MCL	Maximum Contaminate Level
MS/MSD	Matrix Spike/Matrix Spike Duplicate
ND	Non Detect
NFG	National Functional Guidelines
ORO	Oil Range Organics
PAHs	Polynuclear Aromatic Hydrocarbons
PARCCS	Precision, Accuracy, Representativeness, Analytical Completeness and Comparability, Sensitivity
QAPP	Quality Assurance Project Plan

List of Acronyms and Abbreviations

QC	Quality Control
RPD	Relative Percent Difference
SAP	Sampling and Analysis Plan
SM	Standard Method
SOP	Standard Operating Procedure
SQL	Reported sample concentration is between the method detection limit and the sample quantitation limit.
SW	Test Methods for Evaluating Solid Waste
TDS	Total Dissolved Solids
TPH	Total Petroleum Hydrocarbons
URS	URS Group, Inc.
USEPA	United States Environmental Protection Agency
VOCs	Volatile Organic Compounds

This report presents results of the data validation conducted on chemical laboratory data for water samples collected during the July 2014 sampling event at Holloman Air Force Base, New Mexico. Data were collected by URS Group, Inc. (URS) in accordance with the Final Interim Measures Work Plan – Appendix A, Sampling and Analysis Plan/Quality Assurance Project Plan: Former Septic System Site TU904 (URS, September 2014); Group 2 Former Underground Storage Sites: AOC-UST-889 (TU515) (URS, September 2014); and Group 3 Former Underground Storage Tank Sites: AOC-UST-221 (TU503), AOC-UST-298 (TU508), AOC-UST-901 (TU506) and AOC-UST-7003 (TU518) (URS, August 2014); data validation standard operating procedure (SOP) 14; Department of Defense (DoD) Quality Systems Manual version 4.2 (DoD, 2010); and method requirements.

This report summarizes the findings from the validation and evaluations that were performed and the resulting qualifiers that were applied to the data.

The data validation report is organized as follows:

- Section 1 - Introduction
- Section 2 - A discussion of the data evaluation procedures
- Section 3 - An assessment of precision, accuracy, representativeness, analytical completeness, comparability and sensitivity (PARCCS)
- Section 4 - A summary of the quality control (QC) samples collected for this sampling event and any resultant data qualification.
- Appendix A - The individual data review summaries and qualified data sheets for the seven data packages, and

In accordance with the QAPP, data validation was conducted on all chemical laboratory data.

Samples were sent to ESC Lab Sciences (ESC) of Mount Juliet, Tennessee for analysis by the analytical methods listed in Table 2.1.

Table 2.1: List of Analytical Methods

Analytical Method	Analyte
EPA SW8260B	VOCs
EPA SW8270C SIM	PAHs
EPA SW8015D	GRO/DRO/ORO
EPA SW6010B/6020/7470A	Total/Dissolved Metals
SM2540C	TDS
SM5310B	DOC

DOC – Dissolved Organic Carbon
DRO – Diesel Range Organics
EPA – U.S. Environmental Protection Agency
Physical/Chemical Methods (SW-846)
GRO – Gasoline Range Organics
ORO – Oil Range Organics
PAHs – Polynuclear Aromatic Hydrocarbons
SM – Standard Methods
SW – Test Methods for Evaluating Solid Waste
TDS – Total Dissolved Solids
VOCs – Volatile Organic Compounds

The data review was conducted by URS in accordance with DOD QSM 4.2, data validation SOP 14 provided in the QAPP (URS, September 2014), and evaluation of method criteria, as applicable.

Data validation SOP 14 was developed using guidance from the United States Environmental Protection Agency (USEPA) Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Inorganic Data Review (October 2004) and USEPA CLP NFG for Organic Data Review (June 2008). Data validation flags were assigned using guidance from or as described in the data validation SOP 14 (URS). In cases where flagging criteria were not provided in the data validation SOP, professional judgment was used and documented in each individual data review summary (Appendix A). Table 2.2 summarizes the final data validation qualifiers used in the database. In the process of validation, reason and bias qualifiers were also applied for informational purposes regarding the validation findings. Table 2.3 summarizes the data validation qualifier reason and bias direction codes. These reason codes are applied to the qualified results forms and the application explained in each data validation summary, both included in Appendix A. Laboratory sample results were reported by ESC in seven data packages.

Data packages were reviewed by URS to determine compliance with the QAPP as applicable to the method. The parameters evaluated during validation included chain of custody review, sample receipt conditions, holding times, method blanks, continuing calibration blanks, trip blanks, laboratory control sample (LCS) recoveries, serial dilution results, post-digestion spike recoveries, interference check samples (ICS), internal standard results, surrogate recoveries, initial and continuing calibrations, and any issues identified in the laboratory case narrative. Review of these parameters is discussed in the individual review narratives (Appendix A). Additionally, each data package was reviewed by URS for the following parameters to determine compliance with project-specific requirements: matrix spike/matrix spike duplicate (MS/MSD) recoveries and precision, laboratory duplicate (LD) samples, field duplicate (FD) samples (as applicable), field blanks, and equipment blanks (EB). The overall qualification of sample results following review of these QC samples is presented in Section 4.

The data packages listed below were also selected for an evaluation of the following: examination of tuning criteria, target compound identification and result recalculation. Collectively, these parameters represent 6% of the July 2014 sampling event validated, consistent with the QAPP requirement of 2% of the data be evaluated for tuning criteria, target compound identification and result recalculation.

- Data Package L711875 – volatile organic compounds (VOCs), polynuclear aromatic hydrocarbons (PAHs), gasoline range organics (GRO), diesel range organics (DRO), oil range organics (ORO), total metals, dissolved metals, and total dissolved solids (TDS)
- Data Package L712349 – dissolved organic carbon (DOC)

Table 2.2: Data Validation Qualifier Definitions

Qualifier	Definitions [1]
U	The analyte was analyzed for, but was not detected.
J	The analyte was positively identified; the associated numeric value is the approximate concentration of the analyte in the sample (i.e., estimated value).
UJ	The analyte was not detected. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
F	The analysis meets all qualitative identification criteria, but the measured concentration is less than the limit of quantitation
R	The data are unusable and have been rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

1 Definitions cited were modified after the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, June 2008.

Table 2.3: Data Validation Qualifier Reason and Bias Direction Codes

Qualifier Code	Data Quality Condition Resulting in Assigned Qualification
General Use	
HT	Holding time requirement was not met
P	Preservation requirement(s) not met
MB	Method blank or preparation blank contamination
LCS	Laboratory control sample evaluation criteria not met
MS	Matrix spike and/or matrix spike duplicate accuracy evaluation criteria not met
D	Duplicate or spike duplicate precision evaluation criteria not met
TB	Trip blank contamination
FB	Field blank contamination
RB	Rinsate blank contamination
FD	Field duplicate evaluation criteria not met
TvP	Partial analysis results greater than total analysis results; difference is great than accuracy limitations of the method
ID	Target compound identification criteria not met
IS	Internal standard evaluation criteria not met
CO	Suspected carry-over from previously analyzed samples
SQL	Reported sample concentration is between the method detection limit and the sample quantitation limit.
RL	Reporting limit exceeds decision criterion (for non-detects)
LR	Reported concentration is over linear range without re-analysis
TUNE	Instrument performance (tuning) criteria not met
ICAL	Initial calibration evaluation criteria not met
Inorganic Methods	
ICV	Initial calibration verification evaluation criteria not met
CCV	Continuing calibration verification evaluation criteria not met
CCB	Continuing calibration blank contamination
ICS	Interference Check Sample evaluation criteria not met
PDS	Post-digestion spike recovery outside acceptance range
MSA	Method of standard additions correlation coefficient < 0.995
DL	Serial dilution results did not meet evaluation criteria
Organic Methods	
CCAL	Continuing calibration evaluation criteria not met
SUR	Surrogate recovery outside acceptance range

Table 2.3: Data Validation Qualifier Reason and Bias Direction Codes

Qualifier Code	Data Quality Condition Resulting in Assigned Qualification
Bias Codes	**Bias Direction**
H	Bias in sample result likely to be high
L	Bias in sample result likely to be low
I	Bias in sample result is indeterminate

This section summarizes the validation performed and the overall quality of the data through assessment of the various data quality objectives (DQOs) and their applicability to the PARCCS parameters. The individual validation reports are provided in Appendix A.

The data validation provides a system for the evaluation and documentation of the quality and usability of project data (i.e., whether or not the data are of sufficient quality to support their intended use in project decision making). Outliers in terms of precision and accuracy are assessed in accordance with the data validation SOP, DOD QSM 4.2, and using guidance from EPA NFGs. Data may be qualified as estimated when QC results are outside of the QAPP-defined measurement quality objectives. Unqualified data may be used for all project decisions for which they were generated. Qualified data are generally still of sufficient quality to support their use in project decision making. Data are rejected when QC results are unacceptable, and rejected data are not usable for project decision making. No data were rejected from the July 2014 sampling event.

This section presents precision, accuracy, representativeness, analytical completeness, comparability, and sensitivity (i.e., PARCCS parameters), with respect to the water investigation sampling event.

3.1 PRECISION

Precision is a quantitative term that estimates the reproducibility of a set of replicate measurements under a given set of conditions. It is defined as a measurement of mutual agreement between measurements of the same property, and is expressed in terms of relative percent difference (RPD) between duplicate determinations.

The precision for the reported data was evaluated through a review of the RPD between LD results, MS/MSD results, LCS and LCS duplicate (LCSD) results, and FD results.

3.1.1 Field Quality Control Samples

3.1.1.1 Field Duplicates

A field duplicate sample is a second separate sample volume collected at the same location as the original sample; homogenization is not performed between the original sample and the field duplicate. The water field duplicate samples were collected using identical recovery techniques, and treated in an identical manner during storage, transportation, and analysis to assess precision of field sample collection. For this sampling event, five field duplicate samples were collected, satisfying the QAPP requirement of one per twenty environmental samples. With the exception of those discussed in Section 4, the RPDs between all FD results satisfied the applicable evaluation criterion, indicating acceptable precision was attained with respect to the analytical method and sample matrix.

FD sample results were evaluated using the following performance criteria from QAPP Worksheet #12:

- When both the sample and duplicate values are >5x limit of quantitation (LOQ), acceptance is indicated by a RPD between the results of 30% or less.

- Where the result for one or both analytes is <5x LOQ, satisfactory precision is indicated if the absolute difference between the results is <2x LOQ.

With the exceptions noted in Table 4.3b, the comparison between parent sample and FD results met the above criteria. Overall, >99% of the FD results met the above-listed precision criteria.

3.1.2 Matrix-Dependent Quality Control

3.1.2.1 Matrix Spike Duplicates

Matrix spike and matrix spike duplicate samples were prepared by spiking additional aliquots of samples with known concentrations of all project target analytes. The RPD between the MS and MSD is used to evaluate the precision of the sampling and analysis. MS/MSD is used to document the bias of a method due to sample matrix. A minimum of one MS and one MSD was analyzed for every 20 environmental aliquots tested. MS/MSD samples were not required for the equipment blanks.

With the exceptions noted in the individual narratives, the MS/MSD RPDs met the QAPP performance criteria. In instances of less than 35% of MS/MSD RPD were outside of acceptance criteria, only the parent result was considered for qualification. Overall, the RPDs of all the site-specific MS/MSD results satisfied the applicable evaluation criterion, indicating acceptable precision was attained with respect to the analytical method and sample matrix.

3.1.2.2 Laboratory Duplicates

A laboratory duplicate was prepared and analyzed in the same manner as the parent sample. The LD is used to assess the precision of the method due to sample matrix for those methods not using an MSD (e.g. TDS). A minimum of one LD was analyzed for every 20 environmental aliquots analyzed, as applicable to the analytical method. For this event, nine laboratory duplicates were performed.

The following criteria were used to evaluate the laboratory duplicate results:

- When both results are >5x LOQ, acceptable analytical precision is indicated by an RPD between the results of ≤20% for aqueous samples and ≤35% for soil and sediment samples.
- Where the result for one or both analysis of the laboratory duplicate pair is ≤5x LOQ, satisfactory precision is indicated if the absolute difference between the laboratory duplicate results is ≤1x the greater LOQ for aqueous samples and ≤2x the greater LOQ for soil and sediment samples.

The RPDs of all of the LD results satisfied the applicable evaluation criterion, indicating acceptable precision was attained with respect to the analytical method and sample matrix.

3.1.3 Method-Specific Quality Control Measures

3.1.3.1 Laboratory Control Sample Duplicates

The LCS and LCSD are analyte-free (non-detect at the specified reporting limit) waters or solids spiked with all analytes. The LCS/LCSD was carried through the digestion/ extraction and analysis procedure. The LCS is used to evaluate each analytical batch and to determine if the method is in control. An LCS was prepared with each analytical batch. Greater than 99% of the RPDs between LCS and LCSD results satisfied the applicable evaluation criterion, indicating acceptable precision was attained with respect to the analytical method.

3.2 ACCURACY

Accuracy is defined as the difference between the measured value and the actual value. Accuracy was evaluated through review of the LCS recoveries, MS/MSD recoveries, and surrogate recoveries, as applicable for the selected methods.

3.2.1 Matrix-Dependent Quality Control

3.2.1.1 Matrix Spike Recoveries

MS and MSD samples were prepared by spiking additional aliquots of samples with known concentrations of all project target analytes. The aliquots for MS and MSD were obtained in the same preparation and analytical procedures as the environmental samples. The MS recovery is used to evaluate the accuracy and bias of the analyses with respect to the site-specific matrix. A minimum of one MS and one MSD were analyzed for every 20 environmental aliquots tested, as applicable to the analytical method. MS/MSD samples were not required for the equipment blanks.

With the exceptions noted in the individual narratives, the MS/MSD percent recoveries met the QAPP performance criteria. Table 4.1b provides a summary of analytes with greater than 35% of percent recoveries outside acceptance limits, resulting in overall qualification. In instances where less than 35%, only the parent result was considered for qualification. Overall, greater than > 98% of the site-specific MS recoveries were within the acceptance limits indicating acceptable accuracy was attained with respect to the analytical method and sample matrix.

3.2.2 Laboratory and Method-Specific Quality Control Measures

3.2.2.1 Laboratory Control Sample

The LCS and LCSD were performed as described in Section 3.1.3.1. Overall, greater than 99% of the LCS recoveries were within the acceptance limits indicating acceptable accuracy was attained with respect to the analytical method.

3.2.2.2 Surrogate Recoveries

Surrogates are organic compounds that are similar to the target analyte(s) in chemical composition and behavior in the analytical process, but that are not normally found in environmental samples. Surrogates are used to evaluate accuracy, method performance, and extraction efficiency. Surrogates were added to all environmental samples, controls, and blanks, in accordance with the method requirements during sample preparation or extraction, but prior to analyses. Overall, greater than >99% of the surrogate recoveries were within the acceptance limits indicating acceptable accuracy, method performance, and extraction efficiency was attained. See individual narratives for any data qualification applied as a result of surrogate recoveries.

3.3 REPRESENTATIVENESS

Representativeness is a qualitative term that expresses the degree to which data accurately and precisely represent a characteristic of a population, parameter variations at a sampling point, or an environmental condition. Representativeness was maintained during sampling efforts by consistently sampling in compliance with the SAP, prescribed methods, and relevant SOPs.

3.4 COMPARABILITY

Comparability expresses the confidence with which one data set can be compared to another. Strict adherence to prescribed standard sample collection procedures, analytical detection limits, and analytical methods are important factors for the data from like samples and sample conditions to be comparable. This comparability is independent of laboratory personnel, data reviewers, or sampling personnel.

Data are comparable if collection techniques, measurement procedures, and method and reporting processes are equivalent for the samples within a sample set. To maximize comparability, all samples covered by this report were collected and analyzed in accordance with the SAP and relevant SOPs, such that consistent protocol and techniques were used for all project samples. Consistency in sample collection was accomplished through adherence to sample collection and management SOPs. This is further demonstrated by the acceptable precision and accuracy during different parts of the laboratory process which is discussed in detail above in the Precision and Accuracy Sections, including the respective acceptance criteria established for the project and included in the QAPP.

3.5 ANALYTICAL COMPETENESS

Completeness is defined as the ratio of the number of valid analytical results (for this calculation, valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for analysis.

As a result of data review, no results were qualified as unusable (rejected) out of 2,075 total results for the project (i.e., 0%). As such, the overall analytical completeness for this program is 100%. The QAPP defined analytical completeness goal is 90%. This completeness goal was met.

3.6 SENSITIVITY

LOQs are established by the analytical laboratory based on the detection limits (DLs) and limits of detection (LODs). The DL is a statistically determined value specific to the laboratory and to each instrument, defined as the concentration of an analyte that produces a signal with a 99 percent probability that the concentration is above that of a blank. The DL represents the best fundamental measurement of instrument sensitivity and the basis for establishing quantitation limits. The DL is below the lowest point on the calibration curve, which is often considered the LOQ. When an analyte was not detected (U), the result is reported as undetected, "U", meaning not detected at the LOD. Some samples were analyzed at dilutions due to matrix interference and the LODs were elevated accordingly. The laboratory reported positive results between the DL and the LOQ. These results were qualified as estimated during the data review (F SQL-I).

3.6.1 Metals

There were 272 groundwater results out of 612 metals results (total and dissolved metals) where results for a given analyte were reported as ND or qualified as ND due to blank contamination. Of these 272 results, the total beryllium result for one sample was reported as non-detect at an elevated LOD, and exceeded the USEPA maximum contaminate level (MCL) of 0.004 mg/L for beryllium. This non-detect result will be evaluated during the risk assessment. All other results reported as ND met the screening limits.

3.6.2 General Chemistry Parameters

No general chemistry parameters were reported as ND at levels that exceeded the screening limits.

3.6.3 Organic Parameters

There were 1,384 groundwater results out of 1,443 organics results where results for a given analyte were reported as ND or qualified as ND due to blank contamination. Of these 1,384 results, the 1,2-dibromo-3-chloropropane results for 22 samples and the 1,2-dibromoethane results for 22 samples were reported as non-detect at elevated LODs, and exceeded the USEPA MCL of 0.2 µg/L for 1,2-dibromo-3-chloropropane and 0.05 µg/L for 1,2-dibromoethane. These non-detect results will be evaluated during the risk assessment. All other results reported as ND met the screening limits.

QC samples collected and analyzed during the sampling event included samples selected for MS/MSD analysis, laboratory duplicate samples, field duplicate samples, and equipment blanks. Section 4 presented the overall accuracy and precision with respect to each analyte. This section presents, an overall assessment for the data performed by evaluating the QC samples representing the sample matrix. As QC samples (e.g., MS/MSD) are only collected at a frequency of 1 per 20 samples, the results are assessed collectively to see the impact on the data set and to evaluate whether qualification should be extended to all samples. Therefore, the following evaluation was performed to determine if qualification was limited to the parent sample or if qualification was extended to all samples. Consistent with SOP 14, when QC issues for MS/MSD, laboratory duplicates, field duplicates, or equipment blanks accounted for less than 35% of the QC analyses, applicable data qualification was limited to qualification of the associated parent samples. When QC issues for MS/MSD, laboratory duplicates, field duplicates, or equipment blanks accounted for more than 35% of the QC analyses conducted, applicable data qualification was extended to all site-specific samples.

4.1 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/MSD analyses were performed on the samples listed in the table below. This number of MS/MSD samples met the Final QAPP-required frequency of one set per twenty site samples per matrix.

Table 4.1a: July 2014 MS/MSD Samples

Sample Identification	Data Package	Analyses
H-TU508-MW03-ND01	L711875	Dissolved Metals
H-TU508-MW03-NT01	L711875	VOCs, GRO, PAHs, DRO/ORO, Total Metals
H-TU515-MW02-NT01	L711879	GRO
H-TU515-MW03-ND01	L711879	Dissolved Metals
H-TU515-MW03-NT01	L711879	VOCs, GRO, PAHs, DRO/ORO, Total Metals
H-TU506-MW03-ND01	L712008	Dissolved Metals
H-TU506-MW03-NT01	L712008	VOCs, GRO, PAHs, DRO/ORO, Total Metals
H-TU904-MW03-ND01	L712349	Dissolved Metals
H-TU904-MW03-NT01	L712349	PAHs, TPH High Fraction (C10-C40), Total Metals
H-TU503-MW03-ND01	L712399	Dissolved Metals
H-TU503-MW03-NT01	L712399	VOCs, GRO, PAHs, TPH High Fraction (C10-C40), Total Metals
H-TU904-MW03-NT01	L712424	VOCs, GRO

DRO – Diesel Range Organics GRO – Gasoline Range Organics ORO – Oil Range Organics
PAHs – Polynuclear Aromatic Hydrocarbons TPH – Total Petroleum Hydrocarbons VOCs – Volatile Organic Compounds

As applicable, qualifiers have been applied to the parent samples when the recoveries were outside the QAPP limits (Appendix A). In addition, the site-specific MS and MSD results were assessed collectively to evaluate potentially systematic matrix effects and to determine the need for qualification of associated sample results of similar matrix.

With the exceptions listed in the table below, <35% of the MS and MSD percent recoveries or RPDs were outside limits; therefore, data qualification has been limited to the parent sample results for these analytes. The table below presents the analytes where >35% of the MS and MSD percent recoveries were outside limits and data qualification has been applied to associated

samples. There were no overall qualifiers applied on the basis of RPD recoveries outside control limits. The details of each MS/MSD analysis pair and qualification to parent samples are provided in the individual data review summaries (Appendix A).

Table 4.1b: July 2014 MS/MSD Overall Qualifiers

Analyte	# of MS/MSD Below Control Limits	# of MS/MSD Above Control Limits	Total # of MS/MSD	% MS/MSD Outside of Control Limits	Qualification
VOCs					
1,1,1,2-Tetrachloroethane	4	0	10	40%	All 1,1,1,2-tetrachloroethane and 1,2-dibromoethane sample results, with the exception of those in which the MS/MSD results were within control limits, were qualified as estimated (UJ/J MS-L) to reflect the potential low bias.
1,2-Dibromoethane	4	0	10	40%	
PAHs					
Anthracene	0	5	10	50%	As the potential bias was considered to be high, and the associated anthracene results were reported as non-detect, data qualification was not considered necessary.
GRO					
GRO	0	5	12	42%	All detected GRO sample results, with the exception of those in which the MS/MSD results were within control limits, were qualified as estimated (J MS-H) to reflect the potential high bias.
Metals					
Total Aluminum	0	10	10	100%	All detected sample results, with the exception of those in which the MS/MSD results were within control limits, were qualified as estimated (J MS-H) to reflect the potential high bias.
Dissolved Aluminum	0	6	10	60%	
Total Selenium	0	6	10	60%	
Dissolved Selenium	0	8	10	80%	
Dissolved Silver	4	0	10	40%	All dissolved silver sample results, with the exception of those in which the MS/MSD results were within control limits, were qualified as estimated (UJ/J MS-L) to reflect the potential low bias.

– Number
% – Percentage
GRO – Gasoline Range Organics
H – High Bias
L – Low Bias
MS – Matrix Spike
MSD – Matrix Spike Duplicate
PAHs – Polynuclear Aromatic Hydrocarbons
VOCs – Volatile Organic Compounds
UJ/J - Estimated

4.2 LABORATORY DUPLICATES

The following laboratory duplicate pairs were analyzed in association with this sampling event. This number of laboratory duplicate samples met the QAPP-required frequency of one set per twenty site samples per matrix, as applicable to the method.

Table 4.2: July 2014 Laboratory Duplicate Samples

Sample Identification	Data Package	Analyses
H-TU508-MW03-ND01	L711875	Dissolved Mercury
H-TU508-MW03-NT01	L711875	Total Mercury
H-TU515-MW03-ND01	L711879	Dissolved Mercury
H-TU515-MW03-NT01	L711879	TDS
H-TU506-MW03-ND01	L712008	Dissolved Mercury
H-TU506-MW03-NT01	L712008	Total Mercury
H-TU904-MW03-NT01	L712349	Total Mercury
H-TU503-MW03-NT01	L712399	Total Mercury
H-TU904-MW07-ND01	L712422	DOC

DOC – Dissolved Organic Carbon TDS – Total Dissolved Solids

The laboratory duplicate results were assessed collectively to evaluate potentially systematic matrix effects and to determine the need for qualification of associated sample results of similar matrix.

There were no analytes where >35% of the field duplicate results did not meet the concentration-dependent criteria. Further action was not necessary.

The details of each laboratory duplicate pair and qualification to parent samples are provided in the individual data review summaries (Appendix A).

4.3 FIELD DUPLICATE SAMPLES

The following field duplicate pairs were collected in association with this sampling event. This number of field duplicate samples met the Final QAPP-required frequency of one set per twenty site samples per matrix.

Table 4.3a: July 2014 Field Duplicate Samples

Field Duplicate Pair	Data Package	Analyses
H-TU508-MW02-ND01/ H-TU508-MW02-DD01	L711875	Dissolved Metals
H-TU508-MW02-NT01/ H-TU508-MW02-DT01	L711875	VOCs, GRO, PAHs, DRO/ORO, Total Metals, Dissolved Metals, TDS
H-TU515-MW02-ND01/ H-TU515-MW02-DD01	L711879	Dissolved Metals
H-TU515-MW02-NT01/ H-TU515-MW02-DT01	L711879	VOCs, GRO, PAHs, DRO/ORO, Total Metals, Dissolved Metals, TDS
H-TU506-MW02-ND01/ H-TU506-MW02-DD01	L712008	Dissolved Metals
H-TU506-MW02-NT01/ H-TU506-MW02-DT01	L712008	VOCs, GRO, PAHs, DRO/ORO, Total Metals, Dissolved Metals, TDS
H-TU503-MW02-ND01/ H-TU503-MW02-DD01	L712399	Dissolved Metals
H-TU503-MW02-NT01/ H-TU503-MW02-DT01	L712399	VOCs, GRO, PAHs, DRO/ORO, Total Metals, Dissolved Metals, TDS
H-TU904-MW02-ND01/ H-TU904-MW02-DD01	L712422	Dissolved Metals
H-TU904-MW02-NT01/ H-TU904-MW02-DT01	L712422	PAHs, DRO/ORO, Total Metals, Dissolved Metals, TDS, DOC

Field Duplicate Pair	Data Package	Analyses
H-TU904-MW02-NT01/ H-TU904-MW02-DT01	L712424	VOCs, GRO

DOC – Dissolved Organic Carbon DRO – Diesel Range Organics GRO – Gasoline Range Organics
ORO – Oil Range Organics PAHs – Polynuclear Aromatic Hydrocarbons TDS – Total Dissolved Solids
VOCs – Volatile Organic Compounds

The field duplicate results were assessed collectively to evaluate potentially systematic matrix effects and to determine the need for qualification of associated sample results of similar matrix.

The table below presents the analytes where >35% of the field duplicate results did not meet the concentration-dependent criteria and qualifications have been applied to associated samples.

Table 4.3b: July 2014 Field Duplicate Overall Qualifiers

Analyte	# of FDs Outside Control Limits	Total # of FDs	% FD Outside of Control Limits	Qualification
Metals				
Total Aluminum	2	5	40%	All total aluminum results, with the exception of those field duplicate results that were within control limits, were qualified as estimated (UJ/J FD-I) to reflect the potential imprecision indicated by the field duplicate results.

– Number % – Percentage FD – Field Duplicate
I – Indeterminate Bias UJ/J - Estimated

The details of each field duplicate pair and qualification to parent samples are provided in the individual data review summaries (Appendix A).

4.4 FIELD BLANKS

The following field blank was collected in association with this sampling event. This number of field blank samples met the Final QAPP-required frequency for all analyses of one per twenty site samples per matrix.

Table 4.4a: July 2014 Field Blank Samples

Field Blank Identification	Data Package	Analyses
H-TU-503-FieldBlank-BT01	L712399	VOCs, GRO
H-TU904-FieldBlank-BT01	L712424	VOCs, GRO

GRO – Gasoline Range Organics VOCs – Volatile Organic Compounds

The table below presents the analytes that were detected in the field blank at a frequency >35% and data qualification that has been applied to associated samples.

Table 4.4b: July 2014 Field Blank Overall Qualifiers

Analyte	# of FBs with Detection	Total # of FBs	% FBs with Detection	Qualification
Chloroform	2	2	100%	The chloroform results reported at concentrations <5x the concentration of the blank contamination were qualified as non-detect (U FB-I).

– Number % – Percentage FB – Field Blank
I – Indeterminate Bias U – Non-detect

4.5 EQUIPMENT BLANKS

Disposable equipment was used for sample collection. Therefore, an equipment blank was not required. Further action was not necessary.

Department of Defense (DoD) 2010. Quality Systems Manual for Environmental Laboratories, Version 4.2. December.

Environmental Protection Agency (EPA) 2004.Contract Laboratory Program National Functional Guidelines for Superfund Inorganic Methods Data Review. October.

Environmental Protection Agency (EPA) 2008.Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review. June.

URS Group, Inc. (URS) 2014. Final Interim Measures Work Plan – Appendix A Sampling and Analysis Plan/Quality Assurance Project Plan: Former Septic System Site TU904. September.

URS Group, Inc. (URS) 2014. Final Interim Measures Work Plan – Appendix A Sampling and Analysis Plan/Quality Assurance Project Plan: Group 2 Former Underground Storage Sites: AOC-UST-889 (TU515). September.

URS Group, Inc. (URS) 2014. Final Interim Measures Work Plan – Appendix A Sampling and Analysis Plan/Quality Assurance Project Plan: Group 3 Former Underground Storage Tank Site: AOC-UST-221 (TU503), AOC-UST-298 (TU508), AOC-UST-901 (TU506) and AOC-UST-7003 (TU518). August.

Appendix A

Individual Data Review Summaries and Qualified Data Sheets

Holloman AFB
Groundwater Monitoring
Data Review Summary

Data Package Number: L711875
Sampling Event Dates: July 22, 2014
Sample-specific Parameter Review/Laboratory Performance Parameters: Yes
Full Validation (e.g. result recalculation): Yes
Data Reviewer: Katie Abbott, URS Project Chemist
Date Completed: January 15, 2015
Peer Reviewer: Sheri Fling, URS Project Quality Assurance Manager (QAM)

The table below summarizes the data package and sample identifications discussed in this data review.

Field Identification	Sample Type	Lab Identification	Matrix	Analyses						
				GRO	DRO/ORO	VOCs	PAHs	Total Metals	Dissolved Metals	TDS
L711875										
H-TU508-MW01-ND01	SA	L711875-01	Water	---	---	---	---	---	X	---
H-TU508-MW01-NT01	SA	L711875-02	Water	X	X	X	X	X	---	X
H-TU508-MW02-DD01	FD	L711875-03	Water	---	---	---	---	---	X	---
H-TU508-MW02-ND01	SA	L711875-04	Water	---	---	---	---	---	X	---
H-TU508-MW02-NT01	SA	L711875-05	Water	X	X	X	X	X	---	X
H-TU508-MW02-DT01	FD	L711875-06	Water	X	X	X	X	X	---	X
H-TU508-MW03-ND01	SA	L711875-07	Water	---	---	---	---	---	X^m	---
H-TU508-MW03-NT01	SA	L711875-08	Water	X^m	X^m	X^m	X^m	X^m	---	X
H-TU508-TRIP BLANK-TT02	TB	L711875-09	Water	X	---	X	---	---	---	---

Sample Type: SA – Sample FD - Field Duplicate TB – Trip Blank
X^m - Matrix Spike/Matrix Spike Duplicate

Analyses:
DRO/ORO - Diesel and Oil Range Organics (8015)
GRO – Gasoline Range Organics (8015D)
TDS – Total Dissolved Solids (SM2540C)
Total/Dissolved Metals – Antimony, Arsenic, Cadmium, Chromium, Cobalt, Lead, Nickel, Selenium, Silver, Thallium, Mercury, Aluminum, Barium, Beryllium, Copper, Manganese, Vanadium, Zinc (6010B/6020/7470A)
PAHs – Polynuclear Aromatic Hydrocarbons (8270C)
VOCs – Volatile Organic Compounds (8260B)

The data review was conducted in accordance with the Final Interim Measures Work Plan – Appendix A, Sampling and Analysis Plan/Quality Assurance Project Plan: Former Septic System Site TU904 (URS, September 2014); Group 2 Former Underground Storage Sites: AOC-UST-889 (TU515) (URS, September 2014); and Group 3 Former Underground Storage Tank Sites: AOC-UST-221 (TU503), AOC-UST-298 (TU508), AOC-UST-901 (TU506) and AOC-UST-7003 (TU518) (URS, August 2014); data validation standard operating procedure (SOP) 14;

Department of Defense (DoD) Quality Systems Manual version 4.2 (DoD, 2010); and method requirements.

General Overall Assessment:

_____ Data are usable without qualification.
__X__ Data are usable with qualification (noted below).
_____ Some or all data are unusable for any purpose (detailed below).

Case Narrative Comments: Any laboratory case narrative comments concerning data qualification were addressed in the table below.

Trace level detects, reported between the limit of quantitation (LOQ) and the detection limit (DL), have been qualified as estimated (F SQL-I). All other occurrences of data qualification are covered in the following table.

Review Parameter	Criteria Met?	Comment
Chain of Custody & Sample Receipt	Yes	The samples were received by ESC Lab Sciences in good condition and were consistent with the accompanying chain of custody (COC). The cooler temperatures upon receipt were within the recommended ≤6 degrees Celsius (°C) temperature range.
Reporting	Yes	During review of a representative data package selected for full validation, it was noted that improper reference spectra were displayed in the printed version of the data package for Method 8260B. Due to a LIMS limitation, the data package reference spectra were not consistently representative of the actual spectra for the analytes detected. Because the laboratory data review involves the use of NBS reference spectra and not the reference spectra taken from the instrument calibration, the analyst was not seeing the improper alignment of spectra noted in the data package during his/her review at the instrument. The laboratory revised and reissued the data package with correct reference spectral data, consistent with method requirements, and no results were changed. Therefore, no further action is necessary as a result of this validation finding. Several revisions to the data package were required. Revision 1: Revised reports were issued to remove non-target analytes from the volatile organic compound (VOC) and polynuclear aromatic hydrocarbon (PAH) analyte lists; to include quality assurance project plan (QAPP) required VOC analytes; to correct the matrix spike/matrix spike duplicate (MS/MSD) for diesel range organics/oil range organics (DRO/ORO); to correct the limits of detection (LODs) for 1,1,2,2-tetrachloroethane; 1,2,3-trichloropropane; cadmium; nickel; selenium; and mercury; and to report the continuing calibration blanks (CCBs) and initial calibration blanks (ICBs) to the detection limit (DL). Revision 2: A revised report was issued to remove the additional copper result for sample H-TU508-MW03-NT01. The laboratory incorrectly reported two copper results and removed the incorrect result inadvertently associated with sample H-TU508-MW03-NT01.

Review Parameter	Criteria Met?	Comment
		Revision 3: A revised report was issued to correct the DLs, LODs, and LOQs for mercury and several VOC analytes. Revision 4: An addendum was issued to include the isotope results in the quality control samples for Method 6020. Revision 5: A revised report was issued to remove the 1,2,3-trichlorobenzene results for VOCs and to include results for bromochloromethane.
Holding Times	Yes	All samples were analyzed within the method required holding time.
Laboratory Blanks • Method Blank • Continuing Calibration Blank	No	With the exception listed in Table 1, target analytes were not detected within the method or calibration blanks. **Method 6020** The laboratory reported multiple isotopes for a given analyte (e.g. antimony 121 and antimony 123) within the analytical sequence for Method 6020. Therefore, all isotope detections were evaluated in the method blanks and continuing calibration blanks for potential impact to sample result qualification.
Matrix Quality Control • Matrix Spike/ Matrix Spike Duplicate H-TU508-MW03-ND01 (Dissolved Metals) H-TU508-MW03-NT01 (Total Metals, GRO, VOCs, DRO/ORO, PAHs) • Laboratory Duplicate H-TU508-MW03-ND01 (Dissolved Mercury) H-TU508-MW03-NT01 (Total Mercury) • Total vs. Partial Analyses (Metals)	No	**Matrix Spike/ Matrix Spike Duplicate (MS/MSD)** The frequency of MS/MSDs met the QAPP requirement of one per twenty samples. With the exceptions listed in Table 2, the MS/MSD recoveries and relative percent differences (RPDs) met quality control criteria. DRO and ORO were reported in the ranges of C10-C28 and C28-C40; however, the laboratory performed one spike covering the range of C12-C40. This is considered to be an acceptable representation of precision and accuracy with respect to the reported ranges. Results in the native sample greater than four times the concentration of the spike added during digestions/extractions are not considered to be a representative measure of accuracy. Further action with respect to spike recovery evaluation or qualification of data was not considered necessary. Consistent with standard operating procedure (SOP) 14, when MS/MSD criteria were not met for less than 35% of the MS/MSD analyses conducted, applicable data qualification was limited to qualification of the parent sample for the affected analyte. When >35% of the MS/MSD results did not meet criteria, evaluation was extended to all associated samples. See Section 4.1 of the data validation report for overall qualifiers resulting from the MS/MSD evaluation. **Laboratory Duplicate** The comparison between results of the laboratory duplicate pair met the criteria listed below. • When both the sample and duplicate values are >5x the LOQ, acceptable sampling and analytical precision is indicated by an RPD between the results of ≤20% for water samples (≤35% for soil samples).

Review Parameter	Criteria Met?	Comment
		• Where the result for one or both analytes of the laboratory duplicate pair is <5xLOQ, satisfactory precision is indicated if the absolute difference between the laboratory duplicate results is <1xLOQ for water samples (<2xLOQ for soil samples). **Total vs. Partial Analyses (Metals)** Consistent with SOP 14, results for the total analysis of a particular analyte should be greater than the results for a partial analyte of that analyte. The following criteria were used to evaluate the total versus dissolved results: • In instances where the value for a partial analysis exceeds that for a total analysis and both of the results are >5x the LOQ, the criterion utilized is that the two values should agree within ±30%. • In instances where the value for a partial analysis exceeds that for a total analysis and either of the results is ≤5x the LOQ, the absolute difference between the results is compared against an evaluation criterion of 2x the LOQ. The total metal sample results were compared with the associated dissolved metal sample results against the concentration-dependent criteria set forth in SOP 14.
Metals Only • Serial Dilution H-TU508-MW03-ND01 (Dissolved Metals) H-TU508-MW03-NT01 (Total Metals) • Post Digestion Spike H-TU508-MW03-ND01 (Dissolved Metals) H-TU508-MW03-NT01 (Total Metals)	No	**Serial Dilution (Metals Only)** Consistent with the method, only the results that were greater than 50 times their respective DLs were appropriate for comparing to the serial dilution evaluation criterion. All percent differences (%Ds) between the original sample results and the results obtained from the sample-diluted 1:5 were ≤10%. **Post Digestion Spike (PDS) (Metals Only)** With the exceptions listed in Table 3, all PDS recoveries were within the acceptance limits.
Method Quality Control • Surrogates (VOCs, PAHs, GRO, DRO/ORO)	Yes	The surrogate recoveries were within the laboratory specified acceptance criteria.
Field Quality Control • Trip Blank H-TU508-TRIP BLANK-TT02 (GRO, VOCs) • Field Duplicate H-TU508-MW02-NT01/ H-TU508-MW02-DT01 H-TU508-MW02-ND01/ H-TU508-MW02-DD01 • Equipment Blank None in this package • Field Blank None in this package	Yes	**Trip Blank** Target analytes were not detected in the trip blank. **Field Duplicate** The frequency of field duplicates met the QAPP requirement of one per twenty samples. The comparison between results of the field duplicate pair met the criteria listed below. • When both the sample and duplicate values are >5x the LOQ, acceptable sampling and analytical precision is indicated by an RPD between the results of ≤30% for water samples (≤50% for soil samples). • Where the result for one or both analytes of the field duplicate pair is <5xLOQ, satisfactory precision is indicated if the absolute difference between the field duplicate results is <2xLOQ for water samples (<3.5xLOQ for soil samples).

Review Parameter	Criteria Met?	Comment
		Consistent with SOP 14, when field duplicate issues accounted for less than 35% of the field duplicate analyses conducted, applicable data qualification was limited to qualification of the parent sample for the affected analyte. When >35% of the field duplicate results did not meet criteria, evaluation was extended to all associated samples. See Section 4.3 of the data validation report for overall qualifiers resulting from the field duplicate evaluation. **Equipment Blank** As dedicated equipment was used to collect these samples, an equipment blank was not submitted for this sampling event. Further action was not necessary. **Field Blank** The frequency of field blanks met the QAPP requirement of one per twenty samples. A field blank was not submitted with this data package. See Section 4.4 of the data validation report for overall qualifiers resulting from the field blank evaluation.
LODs met?	No	Due to dilutions, the total beryllium, total manganese, and total zinc result for sample H-TU508-MW03-NT01 were reported as non-detect at elevated LODs and will need to be evaluated by the end user of the data with respect to project objectives. See Section 3.6 of the data validation report for further discussion.
Other Parameters	Yes	Naphthalene (8260B and 8270C- (PAHs) was analyzed by multiple methods. Results were selected for reporting using the following criteria: • If both results were non-detect, the non-detect result with the lower DL was selected. • If both results were reported as detected, the higher detected result was selected for reporting. • If one result was reported as non-detect and the other result was reported as detected, the detected result was selected for reporting.
Laboratory Performance Review		
Initial Calibration	Yes	**Method 8260B VOCs** A minimum relative response factor (RRF) of 0.05 was used for the system performance check compounds (SPCCs) and all SPCCs met this criterion. The percent relative standard deviations (%RSDs) over the initial calibration RRFs for all calibration check compounds (CCCs) satisfied the method requirement of <30%. For all other target compounds, a requirement of 15% was used. The %RSD values for all target analytes in the calibration were less than 15%. Therefore, the initial calibration met method acceptance criteria. **Method 8270C PAHs** The %RSD values for all target analytes in the calibration were less than 20%. Therefore, the initial calibration met method acceptance criteria.

Review Parameter	Criteria Met?	Comment
		Method 8015D Gasoline Range Organics (GRO) The relationship between instrument response and concentration was established with a blank and at least five standards for each analyte. The %RSD over the initial calibrations curve satisfied the method requirement of <15%. Therefore, the initial calibration met method acceptance criteria. **Method 8015 DRO and ORO** The relationship between instrument response and concentration was established with a blank and at least five standards for the entire carbon range of C10-C40. The %RSD over the initial calibrations curve satisfied the method requirement of <15%. Therefore, the initial calibration met method acceptance criteria. **Methods 6010B (Inductively Coupled Plasma [ICP] Metals) and 6020 (ICP Mass Spectrometer (ICPMS) Metals)** The initial calibrations (ICALs) were performed in association with the samples reported in this package. The relationship between instrument response and concentration was established with a blank and at least five standards. The calibrations were verified with the analysis of an initial calibration verification (ICV) standard. All metals were recovered within the method acceptance range of 90-110%. **Method 7470A (Mercury)** The ICALs were performed in association with the samples reported in this package. The relationship between instrument response and concentration was established with five standards. The correlation coefficient was >0.995. The calibration was verified with the analysis of an ICV standard. The analytes were recovered within the acceptance range of 90-110%. Response and linearity criteria were met and data qualification on the basis of initial calibration was not necessary. **Total Dissolved Solids (TDS)** ICALs are not required per the method for TDS.
Tuning (as applicable to the method)	Yes	**Method 8260B VOCs** A satisfactory tuning event was conducted at the beginning of every 12 hours of sample analysis. No errors in calculation of percent relative abundances were found and all were within the required acceptance ranges. Data qualification on the basis of instrument tuning was not necessary. **Method 8270C PAHs** Per the footnote under EPA Method 8270C, Table 3 (DFTTP Key Ions and Abundance Criteria), alternate tuning criteria may be used, (e.g., CLP, Method 525, or manufacturers' instructions), provided that method performance is not adversely affected. For PAHs, the tuning criteria selected were those presented in Method 525, where the base peak is 442 instead of 198. As all tuning criteria were met and the data are not considered to be adversely affected; no further action was considered necessary.

Review Parameter	Criteria Met?	Comment
Initial Calibration Verification/Continuing Calibration Verification	Yes	**Method 8260B VOCs** The %Ds for all CCCs in the ICVs and continuing calibrations (CCALs) were less than 20%, satisfying method requirements, and other target analytes satisfied the %D criterion of 20%. **Method 8270C PAHs** The %D values for all target analytes in the calibration were less than 20%. Therefore, the ICVs and CCALs met method acceptance criteria. **Methods 6010B (ICP Metals), Methods 6020 (ICPMS Metals) & 7470A (Mercury)** Calibration verification analyses were conducted at the proper frequency. All metals were recovered within the DOD QSM 4.2 low level acceptance range of 80-120% and the method medium/high acceptance range of 90-110%. **TDS** Calibration verifications are not required for TDS.
Interference Check Standard (Metals Only)	No	The interference check standard (ICS) AB solutions were analyzed at the proper frequency. The target analytes were recovered within the acceptance range of 80-120% in the ICS A solution. With the exceptions listed in Table 4, interferent elements were not present in the samples at concentrations greater than those in the ICSs. The interferent elements aluminum, calcium, iron, and magnesium were present in most samples in this data package at concentrations greater than or equal to those in the ICSs. As such, these samples were evaluated for positive and negative biases suggested by the ICS A. Data qualification was issued if the absolute value of the ICS A result was greater than the DL and it suggested a positive or negative bias which accounted for more than 25% of associated sample results or LODs. (Note: The ICS A solution only contains the interferent elements aluminum, calcium, iron, and magnesium so any positive or negative result for other analytes is inferred to be a bias potentially caused by one or more of the interferent elements present.) Table 4 summarizes the resultant data qualification on the basis of the ICS results.
Internal Standard (VOCs/PAHs/Metals (6020))	Yes	Recoveries for the internal standards in field samples were within the applicable acceptance limits. Therefore, data qualification based on internal standards was not necessary.
Laboratory Control Sample/ Laboratory Control Sample Duplicate	No	One laboratory control sample (LCS) and/or laboratory control sample duplicate (LCSD) per method per analytical batch was prepared and analyzed. With the exception listed in Table 5, all of the LCS recoveries and LCS/LCSD RPDs were within the QAPP acceptance limits. These results are indicative of an acceptable level of accuracy and precision with respect to the analytical method. **Method 8015 DRO/ORO** DRO and ORO were reported in the ranges of C10-C28 and C28-C40; however, the laboratory performed one spike covering the range of C12-C40. This is considered to be an acceptable representation of precision and accuracy with respect to the reported ranges.

Review Parameter	Criteria Met?	Comment
Target Compound Identification	No	**Method 8260B VOCs/ 8270C PAHs** The quantitation sheets and total ion chromatograms were reviewed to assure that compounds reported as identified meet the criteria contained in the method. The mass spectra were reviewed for compounds reported as identified to check that the reported mass spectral data meet the mass spectral identification criteria contained in the analytical method. No errors in compound identification were found and data qualification was not necessary. During review of a representative data package selected for full validation, it was noted that improper reference spectra were displayed in the printed version of the data package for Method 8260B. Due to a LIMS limitation, the data package reference spectra were not consistently representative of the actual spectra for the analytes detected. Because the laboratory data review involves the use of NBS reference spectra and not the reference spectra taken from the instrument calibration, the analyst was not seeing the improper alignment of spectra noted in the data package during his/her review at the instrument. The laboratory revised and reissued the data package with correct reference spectral data, consistent with method requirements, and no results were changed. Therefore, no further action is necessary as a result of this validation finding. **Method 8015 DRO/ORO** As the entire area for C10-C40 was used in the calibration to determine response factor, there is a potential bias in the results when you segregate the DRO (C10-C28) and ORO (C28-C40) which is demonstrated in the individual continuing calibration results. Therefore, the DRO/ORO results were qualified as estimated (J/UJ ID-I). **Methods 8015 GRO, 6010B (ICP Metals), 6020 (ICPMS Metals), 7470A (Mercury), SM2540C TDS** The instrument printouts were reviewed. Results obtained for QC check samples (calibration standards and laboratory control samples) indicate that instrument signals reported were due to the target analytes. Reported signal intensities agreed with reported concentrations for all samples. No errors in compound identification were found and data qualification was not necessary.
Transcription Errors	Yes	Transcription errors were not found in this data package. Data qualification was not necessary.
Recalculation	Yes	Calculation or sample quantitation errors were not found in this data package. Data qualification was not necessary.
Package Completeness	Yes	The results are usable as qualified for the project objective. The data are 100% complete.

> - Greater Than
< - Less Than
≤ - Less Than or Equal to
± - Plus or Minus
°C – Degrees Celsius
% - Percent
%Ds – Percent Differences
%RSD – Percent Relative Standard Deviation
CCALs – Continuing Calibrations
CCBs – Continuing Calibration Blanks
CCCs – Calibration Check Compounds
CLP – Contract Laboratory Program
COC – Chain of Custody
DFTPP - Decafluorotriphenylphosphine
DLs – Detection Limits
DRO – Diesel Range Organics
GRO – Gasoline Range Organics
I – Indeterminate Bias
ICAL – Initial Calibration
ICB – Initial Calibration Blank
ICP – Inductively Coupled Plasma
ICPMS - Inductively Coupled Plasma Mass Spectrometry

ICS – Interference Check Standard
ICV – Initial Calibration Verification
ID - Identification
LCS – Laboratory Control Sample
LCSD – Laboratory Control Sample Duplicate
LOD – Limit of Detection
LOQ – Limit of Quantitation
MS/MSD – Matrix Spike/ Matrix Spike Duplicate
ORO – Oil Range Organics
PAHs – Polynuclear Aromatic Hydrocarbons
PDS – Post Digestion Spike
QAPP – Quality Assurance Project Plan
QC – Quality Control
RPDs – Relative Percent Differences
RRF – Relative Response Factor
SOP – Standard Operating Procedure
SPCCs – System Performance Check Compounds
TDS – Total Dissolved Solids
UJ/J - Estimated
VOCs – Volatile Organic Compounds

Table 1: Blank Outliers and Resultant Data Qualification

Associated Samples	Analyte	Concentration	Qualification
Total Metals			
MB Batch WG733954 H-TU508-MW01-NT01 H-TU508-MW02-NT01 H-TU508-MW02-DT01 H-TU508-MW03-NT01	Arsenic	0.300 µg/L	None. The associated results were reported at concentrations >5x the concentration of the blank contamination.
	Nickel	0.360 µg/L	
	Silver	-0.52 µg/L	As the potential bias was considered to be low, the associated samples reported within 4x the blank contamination were qualified as estimated (UJ/J MB-L).
CCB 7/29/2014 5:41PM H-TU508-MW01-NT01 H-TU508-MW02-NT01 H-TU508-MW02-DT01 H-TU508-MW03-NT01	Copper	15 µg/L	The associated results reported at concentrations <5x the concentration of the blank contamination were qualified as non-detect (U CCB-I).
Dissolved Metals			
MB Batch WG734245 H-TU508-MW01-ND01	Copper	5.96 µg/L	None. The associated results were reported as non-detect or at concentrations >5x the concentration of the blank contamination.
	Manganese	1.63 µg/L	
MB Batch WG734093 H-TU508-MW03-ND01	Antimony (121)	0.230 µg/L	The associated results reported at concentrations <5x the concentration of the blank contamination were qualified as non-detect (U MB-I).
MB Batch WG734093 H-TU508-MW01-ND01 H-TU508-MW02-DD01 H-TU508-MW02-ND01	Antimony (123)	0.380 µg/L	
MB Batch WG734093 H-TU508-MW01-ND01 H-TU508-MW02-DD01 H-TU508-MW02-ND01 H-TU508-MW03-ND01	Arsenic	0.370 µg/L	None. The associated results were reported as non-detect or at concentrations >5x the concentration of the blank contamination.
MB Batch WG734718 H-TU508-MW01-NT01 H-TU508-MW02-DT01	Cadmium (111)	0.160 µg/L	
MB Batch WG734718 H-TU508-MW02-NT01 H-TU508-MW03-NT01	Cadmium (114)	0.20 µg/L	

Associated Samples	Analyte	Concentration	Qualification
CCB 7/30/2014 12:23AM H-TU508-MW01-ND01 H-TU508-MW02-DD01 H-TU508-MW02-ND01	Copper	9.0 µg/L	
PAHs			
MB Batch WG733923 H-TU508-MW01-NT01 H-TU508-MW02-NT01 H-TU508-MW02-DT01 H-TU508-MW03-NT01	Naphthalene	0.0214 µg/L	None. The associated results were reported as non-detect or at concentrations >5x the concentration of the blank contamination.

> - Greater Than
< - Less Than
µg/L – Micrograms per Liter
CCB – Continuing Calibration Verification
I – Indeterminate Bias
L – Low Bias
MB – Method Blank
PAHs – Polynuclear Aromatic Hydrocarbons
U – Non-detect
UJ/J - Estimated

Table 2: MS/MSD Recovery and RPD Outliers and Resultant Data Qualification

Associated Sample	Analyte	%R (Limits)	RPD (Limit)	Qualification
Total Metals				
H-TU508-MW03-NT01	Mercury	**33/36** (80-120)	6 (30)	As the potential bias was considered to be low, the associated mercury result for sample H-TU508-MW03-NT01 was qualified as estimated (UJ MS-L).
	Aluminum	**140/128** (80-120)	7 (30)	As the potential bias was considered to be high, the associated detected aluminum result for sample H-TU508-MW03-NT01was qualified as estimated (J MS-H).
	Manganese	**121**/114 (80-120)	6 (30)	As the potential bias was considered to be high, and the associated manganese result was reported as non-detect, data qualification was not considered necessary.
	Vanadium	**123**/114 (80-120)	7 (30)	As the potential bias was considered to be high, the associated detected results for sample H-TU508-MW03-NT01 were qualified as estimated (J MS-H).
	Arsenic	**122/125** (80-120)	2 (30)	
	Selenium	115/**127** (80-120)	8 (30)	
Dissolved Metals				
H-TU508-MW03-ND01	Mercury	**60/51** (80-120)	16 (20)	As the potential bias was considered to be low, the associated mercury result for sample H-TU508-MW03-ND01 was qualified as estimated (UJ MS-L).
	Aluminum	**121/124** (80-120)	2 (30)	As the potential bias was considered to be high, the associated detected results for sample H-TU508-MW03-ND01 were qualified as estimated (J MS-H).
	Selenium	**135/138** (80-120)	2 (30)	

Associated Sample	Analyte	%R (Limits)	RPD (Limit)	Qualification
VOCs				
H-TU508-MW03-NT01	1,1,1,2-Tetrachloroethane	**77.5**/80.4 (80-130)	3.71 (30)	As the potential bias was considered to be low, the associated results for sample H-TU508-MW03-NT01 were qualified as estimated (UJ MS-L).
	1,1-Dichloroethene	**49/50.9** (70-130)	1.39 (30)	
	1,2-Dibromoethane	**77.3**/82.7 (80-120)	6.81 (30)	
	Bromodichloromethane	**74.6**/78.1 (75-120)	4.55 (30)	
	Styrene	64.6/**39.9** (65-135)	**47.3** (30)	As the potential bias was considered to be low, and the RPD was outside of control limits, the associated result for sample H-TU508-MW03-NT01 was qualified as estimated (UJ MS,D-L).
GRO				
H-TU508-MW03-NT01	GRO	**121**/116 (80-120)	3.97 (20)	As the potential bias was considered to be high, the associated detected result for sample H-TU508-MW03-NT01 was qualified as estimated (J MS-H).
PAHs				
H-TU508-MW03-NT01	2-Methylnaphthalene	**122/119** (45-105)	3.97 (20)	As the potential bias was considered to be high, and the associated results for sample H-TU508-MW03-NT01 were non-detect, data qualification was considered necessary.
	Acenaphthene	**126/122** (45-110)	3.18 (20)	
	Acenaphthylene	**125/121** (50-105)	3.5 (20)	
	Anthracene	**133/129** (55-110)	3.78 (20)	
	Benzo(a)anthracene	**125/124** (55-110)	1.26 (20)	
	Benzo(a)pyrene	**130/124** (55-110)	4.95 (20)	
	Benzo(b)fluoranthene	**131/126** (45-120)	4.03 (20)	
	Benzo(g,h,i)perylene	**130**/123 (40-125)	6.16 (20)	
	Benzo(k)fluoranthene	**132/126** (45-125)	4.85 (20)	
	Chrysene	**127/125** (55-110)	1.47 (20)	
	Dibenz(a,h)anthracene	**128**/120 (40-125)	6.76 (20)	
	Fluoranthene	**134/128** (55-115)	4.32 (20)	
	Fluorene	**124/120** (50-110)	3.19 (20)	
	Indeno(1,2,3-c,d)pyrene	**132**/125 (45-125)	5.55 (20)	

Associated Sample	Analyte	%R (Limits)	RPD (Limit)	Qualification
	Naphthalene	**117/117** (40-100)	0.03 (20)	
	Phenanthrene	**127/122** (50-115)	4.02 (20)	

< - Less Than
> - Greater Than
%R – Percent Recoveries
D – Duplicate or spike duplicate precision evaluation criteria not met
GRO – Gasoline Range Organics
H – High Bias
L – Low Bias
MS/MSD – Matrix Spike Matrix Spike Duplicate
RPD – Relative Percent Difference
UJ/J – Estimated
VOCs – Volatile Organic Compounds
Bold indicates a recovery or RPD outside of acceptance limit

Table 3: Post-Digestion Spike Outliers and Resultant Data Qualification

Associated Samples	Analyte	%R (Limits)	Qualification
Total Metals			
H-TU508-MW03-NT01	Mercury	**62** (85-115)	As the potential bias was considered to be low, the associated mercury result was qualified as estimated (UJ PDS-L).
	Aluminum	**127** (75-125)	As the potential bias was considered to be high, the associated detected aluminum result was qualified as estimated (J PDS-H).
Dissolved Metals			
H-TU508-MW03-ND01	Mercury	**70** (85-115)	As the potential bias was considered to be low, the associated mercury result was qualified as estimated (UJ PDS-L).
	Selenium	**125** (85-115)	As the potential bias was considered to be high, the associated detected selenium result was qualified as estimated (J PDS-H).
	Silver	**71** (85-115)	As the potential bias was considered to be low, the associated silver results were qualified as estimated (J PDS-L).

%R – Percent Recovery
H – High Bias
L – Low Bias
PDS – Post Digestion Spike
UJ/J – Estimated
Bold indicates a recovery or RPD outside of acceptance limit

Table 4: ICS Outliers and Resultant Data Qualification

Interferent Element	Analyte	ICS A (µg/L)	MDL (µg/L)	Qualified Samples	Qualification
Calcium	Manganese	-13.7	1.2	H-TU508-MW03-ND01 H-TU508-MW03-NT01	As the potential bias was considered to be low, the associated results were qualified as estimated (UJ ICS-L).

µg/L – Micrograms per Liter
ICS – Interference Check Standard
L – Low Bias
MDL – Method Detection Limit
UJ - Estimated

Table 5: LCS Recovery Outliers and Resultant Data Qualification

Associated Samples	Analyte	%R (Limits)	RPD (Limits)	Qualification
GRO				
LCS WG734023 H-TU508-MW01-NT01 H-TU508-MW02-NT01 H-TU508-MW02-DT01	GRO	**131/125** (80-120)	5 (20)	As the potential bias was considered to be high, the associated detected GRO result for sample H-TU508-MW01-NT01 was qualified as estimated (J LCS-H).
PAHs				
LCS WG733923 H-TU508-MW01-NT01 H-TU508-MW02-NT01 H-TU508-MW02-DT01 H-TU508-MW03-NT01	Anthracene	**135/134** (55-110)	0.27 (20)	As the potential bias was considered to be high, and the associated results were reported as non-detect, data qualification was not considered necessary.
	Acenaphthene	**125/125** (45-110)	0.15 (20)	As the potential bias was considered to be high, the associated detected acenaphthene result for sample H-TU508-MW01-NT01 was qualified as estimated (J LCS-H).
	Acenaphthylene	**127/126** (50-105)	0.99 (20)	As the potential bias was considered to be high, and the associated results were reported as non-detect, data qualification was not considered necessary.
	Benzo(a)anthracene	**131/128** (55-110)	2.34 (20)	
	Benzo(a)pyrene	**131/130** (55-110)	1.04 (20)	
	Benzo(b)fluoranthene	**129/134** (45-120)	3.24 (20)	
	Benzo(g,h,i)perylene	**135/132** (40-125)	1.76 (20)	
	Benzo(k)fluoranthene	**134**/125 (45-125)	7.06 (20)	
	Chrysene	**131/129** (55-110)	2.06 (20)	
	Dibenz(a,h)anthracene	**134/131** (40-125)	2.12 (20)	
	Fluoranthene	**133/130** (55-115)	1.63 (20)	
	Fluorene	**122/124** (50-110)	2.07 (20)	
	Indeno(1,2,3-cd)pyrene	**137/136** (45-125)	1.41 (20)	
	Naphthalene	**119/121** (40-100)	1.49 (20)	As the potential bias was considered to be high, the associated detected naphthalene result for sample H-TU508-MW01-NT01 was qualified as estimated (J LCS-H).
	Phenanthrene	**128/127** (50-115)	0.65 (20)	As the potential bias was considered to be high, and the associated results were reported as non-detect, data qualification was not considered necessary.
	Pyrene	**134/131** (50-130)	2.48 (20)	
	2-Methylnaphthalene	**122/124** (45-105)	1.98 (20)	

%R – Percent Recoveries J – Estimated GRO – Gasoline Range Organics
H – High Bias LCS – Laboratory Control Sample PAHs – Polynuclear Aromatic Hydrocarbons
Bold indicates a recovery outside of acceptance limits.

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 10, 2015

ESC Sample # : L711875-01

Date Received : July 24, 2014
Description : Holloman AFB

Site ID :

Sample ID : H-TU508-MW01-ND01

Project # : 23446543.0057AA

Collected By :
Collection Date : 07/22/14 13:06

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Antimony,Dissolved U MB-I	7440-36-0	0.53	~~0.21~~ 0.53	~~0.50~~ 0.53	1	ug/l	J	6020	07/30/14	1
Arsenic,Dissolved	7440-38-2	5.1	0.25	0.50	1	ug/l		6020	08/02/14	1
Cadmium,Dissolved	7440-43-9	U	0.16	0.25	0.5	ug/l		6020	07/30/14	1
Chromium,Dissolved	7440-47-3	2.8	0.54	1.0	2	ug/l		6020	07/30/14	1
Cobalt,Dissolved FJ SQL-I	7440-48-4	0.34	0.26	0.50	1	ug/l	J	6020	07/30/14	1
Lead,Dissolved FJ SQL-I	7439-92-1	0.36	0.24	0.50	1	ug/l	J	6020	07/30/14	1
Nickel,Dissolved	7440-02-0	3.0	0.35	0.50	1	ug/l		6020	07/30/14	1
Selenium,Dissolved FJ SQL, MS-H	7782-49-2	0.68	0.38	0.50	1	ug/l	J	6020	08/02/14	1
Silver,Dissolved UJ MS-L	7440-22-4	U	0.31	0.50	1	ug/l		6020	07/30/14	1
Thallium,Dissolved	7440-28-0	U	0.19	0.50	1	ug/l		6020	07/30/14	1
Mercury,Dissolved	7439-97-6	U	0.049	0.090	0.2	ug/l		7470A	07/31/14	1
Aluminum,Dissolved	7429-90-5	U	35	50.	100	ug/l		6010B	07/29/14	1
Barium,Dissolved	7440-39-3	18.	1.7	2.5	5	ug/l		6010B	07/29/14	1
Beryllium,Dissolved	7440-41-7	U	0.7	1.0	2	ug/l		6010B	07/29/14	1
Copper,Dissolved	7440-50-8	U	5.3	10.	20	ug/l		6010B	07/29/14	1
Manganese,Dissolved	7439-96-5	170	1.2	5.0	10	ug/l		6010B	07/29/14	1
Vanadium,Dissolved	7440-62-2	U	2.4	5.0	20	ug/l		6010B	07/29/14	1
Zinc,Dissolved FJ SQL-I	7440-66-6	8.6	5.9	15.	50	ug/l	J	6010B	07/29/14	1

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 10, 2015

Date Received : July 24, 2014
Description : Holloman AFB

Sample ID : H-TU508-MW01-NT01

Collected By :
Collection Date : 07/22/14 13:06

ESC Sample # : L711875-02

Site ID :

Project # : 23446543.0057AA

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Dissolved Solids	DSOLIDS	3400000	2800	5000	10000	ug/l		2540 C-	07/28/14	1
Antimony	7440-36-0	U	0.21	0.50	1	ug/l		6020	07/28/14	1
Arsenic	7440-38-2	5.9	0.25	0.50	1	ug/l		6020	07/28/14	1
Cadmium	7440-43-9	U	0.16	0.25	0.5	ug/l		6020	07/31/14	1
Chromium	7440-47-3	U	0.54	1.0	2	ug/l		6020	07/28/14	1
Cobalt ~~FJ~~ SOL-I	7440-48-4	0.55	0.26	0.50	1	ug/l	J	6020	07/28/14	1
Lead	7439-92-1	U	0.24	0.50	1	ug/l		6020	07/28/14	1
Nickel	7440-02-0	9.8	0.35	0.50	1	ug/l		6020	07/28/14	1
Selenium J MS-H	7782-49-2	1.1	0.38	0.50	1	ug/l		6020	07/31/14	1
Silver UJ MB-L	7440-22-4	U	0.31	0.50	1	ug/l		6020	07/28/14	1
Thallium	7440-28-0	U	0.19	0.50	1	ug/l		6020	07/28/14	1
Mercury	7439-97-6	U	0.049	0.090	0.2	ug/l		7470A	07/25/14	1
Aluminum J MS,FD-H	7429-90-5	110	35	50.	100	ug/l		6010B	08/01/14	1
Barium	7440-39-3	19.	1.7	2.5	5	ug/l		6010B	07/29/14	1
Beryllium	7440-41-7	U	0.7	1.0	2	ug/l		6010B	07/29/14	1
Copper ~~FJ~~ SOL-I	7440-50-8	8.9	5.3	10.	20	ug/l	J	6010B	08/01/14	1
Manganese	7439-96-5	180	1.2	5.0	10	ug/l		6010B	07/29/14	1
Vanadium	7440-62-2	U	2.4	5.0	20	ug/l		6010B	07/29/14	1
Zinc	7440-66-6	U	5.9	15.	50	ug/l		6010B	07/29/14	1
TPH (GC/FID) Low Fraction JLCS,MS-H ~~JLCS-H~~	8006-61-9	320	31.4	50.	100	ug/l		8015D/G	07/30/14	1
Surrogate Recovery-%										
a,a,a-Trifluorotoluene(FID)	98-08-8	100.				% Rec.		8015D/G	07/30/14	1
Volatile Organics										
Acetone	67-64-1	U	10	25.	50	ug/l		8260B	07/28/14	1
Benzene	71-43-2	7.5	0.33	0.50	1	ug/l		8260B	07/28/14	1
Bromobenzene	108-86-1	U	0.35	0.50	1	ug/l		8260B	07/28/14	1
Bromochloromethane	74-97-5	U	0.52	0.75	1	ug/l		8260B	07/28/14	1
Bromodichloromethane	75-27-4	U	0.38	0.50	1	ug/l		8260B	07/28/14	1
Bromoform	75-25-2	U	0.47	0.50	1	ug/l		8260B	07/28/14	1
Bromomethane	74-83-9	U	0.87	2.5	5	ug/l		8260B	07/28/14	1
n-Butylbenzene	104-51-8	U	0.36	0.50	1	ug/l		8260B	07/28/14	1
sec-Butylbenzene	135-98-8	U	0.36	0.50	1	ug/l		8260B	07/28/14	1
tert-Butylbenzene	98-06-6	U	0.4	0.50	1	ug/l		8260B	07/28/14	1
Carbon Disulfide	75-15-0	U	0.28	0.50	1	ug/l		8260B	07/28/14	1
Carbon tetrachloride	56-23-5	U	0.38	0.50	1	ug/l		8260B	07/28/14	1
Chlorobenzene	108-90-7	U	0.35	0.50	1	ug/l		8260B	07/28/14	1
Chlorodibromomethane	124-48-1	U	0.33	0.50	1	ug/l		8260B	07/28/14	1
Chloroethane	75-00-3	U	0.45	2.5	5	ug/l		8260B	07/28/14	1
Chloroform	67-66-3	U	0.32	2.5	5	ug/l		8260B	07/28/14	1
Chloromethane	74-87-3	U	0.28	0.50	2.5	ug/l		8260B	07/28/14	1
2-Chlorotoluene	95-49-8	U	0.38	0.50	1	ug/l		8260B	07/28/14	1

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 10, 2015

ESC Sample # : L711875-02

Date Received : July 24, 2014
Description : Holloman AFB

Site ID :

Sample ID : H-TU508-MW01-NT01

Project # : 23446543.0057AA

Collected By :
Collection Date : 07/22/14 13:06

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
4-Chlorotoluene	106-43-4	U	0.35	0.50	1	ug/l		8260B	07/28/14	1
1,2-Dibromo-3-Chloropropane	96-12-8	U	1.3	2.5	5	ug/l		8260B	07/28/14	1
1,2-Dibromoethane UJ MS-L	106-93-4	U	0.38	0.50	1	ug/l		8260B	07/28/14	1
Dibromomethane	74-95-3	U	0.35	0.50	1	ug/l		8260B	07/28/14	1
1,2-Dichlorobenzene FJ SOL-I	95-50-1	0.99	0.35	0.50	1	ug/l	J	8260B	07/28/14	1
1,3-Dichlorobenzene	541-73-1	1.2	0.22	0.50	1	ug/l		8260B	07/28/14	1
1,4-Dichlorobenzene	106-46-7	1.7	0.27	0.50	1	ug/l		8260B	07/28/14	1
Dichlorodifluoromethane	75-71-8	U	0.55	2.5	5	ug/l		8260B	07/28/14	1
1,1-Dichloroethane FJ SOL-I	75-34-3	0.85	0.26	0.50	1	ug/l	J	8260B	07/28/14	1
1,2-Dichloroethane	107-06-2	U	0.36	0.50	1	ug/l		8260B	07/28/14	1
1,1-Dichloroethene	75-35-4	U	0.4	0.50	1	ug/l		8260B	07/28/14	1
cis-1,2-Dichloroethene	156-59-2	540	2.6	5.0	10	ug/l		8260B	08/01/14	10
trans-1,2-Dichloroethene	156-60-5	15.	0.4	0.50	1	ug/l		8260B	07/28/14	1
1,2-Dichloropropane	78-87-5	U	0.31	0.50	1	ug/l		8260B	07/28/14	1
1,1-Dichloropropene	563-58-6	U	0.35	0.50	1	ug/l		8260B	07/28/14	1
1,3-Dichloropropane	142-28-9	U	0.37	0.50	1	ug/l		8260B	07/28/14	1
cis-1,3-Dichloropropene	10061-01-5	U	0.42	0.50	1	ug/l		8260B	07/28/14	1
trans-1,3-Dichloropropene	10061-02-6	U	0.42	0.50	1	ug/l		8260B	07/28/14	1
2,2-Dichloropropane	594-20-7	U	0.32	0.50	1	ug/l		8260B	07/28/14	1
Ethylbenzene	100-41-4	U	0.38	0.50	1	ug/l		8260B	07/28/14	1
2-Hexanone	591-78-6	U	3.8	5.0	10	ug/l		8260B	07/28/14	1
Hexachloro-1,3-butadiene	87-68-3	U	0.26	0.50	1	ug/l		8260B	07/28/14	1
Isopropylbenzene	98-82-8	U	0.33	0.50	1	ug/l		8260B	07/28/14	1
p-Isopropyltoluene	99-87-6	U	0.35	0.50	1	ug/l		8260B	07/28/14	1
2-Butanone (MEK)	78-93-3	U	3.9	5.0	10	ug/l		8260B	07/28/14	1
Methylene Chloride	75-09-2	U	1	2.5	5	ug/l		8260B	07/28/14	1
4-Methyl-2-pentanone (MIBK)	108-10-1	U	2.1	5.0	10	ug/l		8260B	07/28/14	1
Methyl tert-butyl ether	1634-04-4	U	0.37	0.50	1	ug/l		8260B	07/28/14	1
~~Naphthalene DNR~~	~~91-20-3~~	~~U~~	~~1~~	~~2.5~~	~~5~~	~~ug/l~~		~~8260B~~	~~07/28/14~~	~~1~~
n-Propylbenzene	103-65-1	U	0.35	0.50	1	ug/l		8260B	07/28/14	1
Styrene	100-42-5	U	0.31	0.50	1	ug/l		8260B	07/28/14	1
1,1,1,2-Tetrachloroethane UJ MS-L	630-20-6	U	0.38	0.50	1	ug/l		8260B	07/28/14	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.58 ~~0.13~~	0.75	1	ug/l		8260B	07/28/14	1
Tetrachloroethene	127-18-4	U	0.37	0.50	1	ug/l		8260B	07/28/14	1
Toluene	108-88-3	U	0.78	2.5	5	ug/l		8260B	07/28/14	1
1,2,3-Trichlorobenzene	87-61-6	U	0.23	0.50	1	ug/l		8260B	07/28/14	1
1,2,4-Trichlorobenzene	120-82-1	U	0.21	0.50	1	ug/l		8260B	07/28/14	1
1,1,1-Trichloroethane	71-55-6	U	0.319	0.50	1	ug/l		8260B	07/28/14	1
1,1,2-Trichloroethane	79-00-5	U	0.38	0.50	1	ug/l		8260B	07/28/14	1
Trichloroethene	79-01-6	10.	0.4	0.50	1	ug/l		8260B	07/28/14	1
Trichlorofluoromethane	75-69-4	U	1.2	2.5	5	ug/l		8260B	07/28/14	1
1,2,3-Trichloropropane	96-18-4	U	0.81	1.0	2.5	ug/l		8260B	07/28/14	1
1,2,4-Trimethylbenzene	95-63-6	U	0.37	0.50	1	ug/l		8260B	07/28/14	1
1,3,5-Trimethylbenzene	108-67-8	U	0.39	0.50	1	ug/l		8260B	07/28/14	1
o-Xylene	95-47-6	U	0.34	0.50	1	ug/l		8260B	07/28/14	1
m&p-Xylene	1330-20-7	U	0.72	1.0	2	ug/l		8260B	07/28/14	1

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DNR: Do Not Report

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 10, 2015

ESC Sample # : L711875-02

Date Received : July 24, 2014
Description : Holloman AFB

Site ID :

Sample ID : H-TU508-MW01-NT01

Project # : 23446543.0057AA

Collected By :
Collection Date : 07/22/14 13:06

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Vinyl chloride F∅ SQL-I	75-01-4	0.59	0.26	0.50	1	ug/l	J	8260B	07/28/14	1
Surrogate Recovery										
Toluene-d8	2037-26-5	99.9				% Rec.		8260B	07/28/14	1
Dibromofluoromethane	1868-53-7	91.7				% Rec.		8260B	07/28/14	1
4-Bromofluorobenzene	460-00-4	104.				% Rec.		8260B	07/28/14	1
Diesel and Oil Ranges										
C10-C28 Diesel Range J ID-I		1900	22	33.	100	ug/l		8015	07/28/14	1
C28-C40 Oil Range J ID-I		270	12	33.	100	ug/l		8015	07/28/14	1
Surrogate Recovery										
o-Terphenyl	84-15-1	88.4				% Rec.		8015	07/28/14	1
Polynuclear Aromatic Hydrocarbons										
Anthracene	120-12-7	U	0.00761	0.025	0.05	ug/l		8270C-S	07/29/14	1
Acenaphthene J LCS-H	83-32-9	0.055	0.00818	0.025	0.05	ug/l		8270C-S	07/29/14	1
Acenaphthylene	208-96-8	U	0.00682	0.025	0.05	ug/l		8270C-S	07/29/14	1
Benzo(a)anthracene	56-55-3	U	0.0118	0.025	0.05	ug/l		8270C-S	07/29/14	1
Benzo(a)pyrene	50-32-8	U	0.0116	0.025	0.05	ug/l		8270C-S	07/29/14	1
Benzo(b)fluoranthene	205-99-2	U	0.0138	0.025	0.05	ug/l		8270C-S	07/29/14	1
Benzo(g,h,i)perylene	191-24-2	U	0.0114	0.025	0.05	ug/l		8270C-S	07/29/14	1
Benzo(k)fluoranthene	207-08-9	U	0.0136	0.025	0.05	ug/l		8270C-S	07/29/14	1
Chrysene	218-01-9	U	0.0108	0.025	0.05	ug/l		8270C-S	07/29/14	1
Dibenz(a,h)anthracene	53-70-3	U	0.00396	0.025	0.05	ug/l		8270C-S	07/29/14	1
Fluoranthene	206-44-0	U	0.0157	0.025	0.05	ug/l		8270C-S	07/29/14	1
Fluorene	86-73-7	U	0.0085	0.025	0.05	ug/l		8270C-S	07/29/14	1
Indeno(1,2,3-cd)pyrene	193-39-5	U	0.0148	0.025	0.05	ug/l		8270C-S	07/29/14	1
Naphthalene J LCS-H	91-20-3	0.27	0.0198	0.025	0.25	ug/l		8270C-S	07/29/14	1
Phenanthrene	85-01-8	U	0.0082	0.025	0.05	ug/l		8270C-S	07/29/14	1
Pyrene	129-00-0	U	0.0117	0.025	0.05	ug/l		8270C-S	07/29/14	1
2-Methylnaphthalene	91-57-6	U	0.00902	0.025	0.25	ug/l		8270C-S	07/29/14	1
Surrogate Recovery										
Nitrobenzene-d5	4165-60-0	118.				% Rec.		8270C-S	07/29/14	1
2-Fluorobiphenyl	321-60-8	113.				% Rec.		8270C-S	07/29/14	1
p-Terphenyl-d14	1718-51-0	129.				% Rec.		8270C-S	07/29/14	1

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KA 8/26/15

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 10, 2015

Date Received : July 24, 2014
Description : Holloman AFB

Sample ID : H-TU508-MW02-DD01

Collected By :
Collection Date : 07/22/14 14:10

ESC Sample # : L711875-03

Site ID :

Project # : 23446543.0057AA

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Antimony, Dissolved U MB-I	7440-36-0	0.55	~~0.21~~ 0.55	~~0.50~~ 0.55	1	ug/l	J	6020	07/30/14	1
Arsenic, Dissolved	7440-38-2	17.	0.25	0.50	1	ug/l		6020	08/02/14	1
Cadmium, Dissolved	7440-43-9	U	0.16	0.25	0.5	ug/l		6020	08/02/14	1
Chromium, Dissolved F~~J~~ SOL-I	7440-47-3	1.2	0.54	1.0	2	ug/l	J	6020	07/30/14	1
Cobalt, Dissolved F~~J~~ SOL-I	7440-48-4	0.80	0.26	0.50	1	ug/l	J	6020	07/30/14	1
Lead, Dissolved F~~J~~ SOL-I	7439-92-1	0.33	0.24	0.50	1	ug/l	J	6020	07/30/14	1
Nickel, Dissolved	7440-02-0	5.4	0.35	0.50	1	ug/l		6020	07/30/14	1
Selenium, Dissolved UJ MS-H	7782-49-2	7.0	0.38	0.50	1	ug/l		6020	08/02/14	1
Silver, Dissolved UJ MS-L	7440-22-4	U	0.31	0.50	1	ug/l		6020	07/30/14	1
Thallium, Dissolved	7440-28-0	U	0.19	0.50	1	ug/l		6020	07/30/14	1
Mercury, Dissolved	7439-97-6	U	0.049	0.090	0.2	ug/l		7470A	07/31/14	1
Aluminum, Dissolved FJ SOL, MS-H ~~F~~ ~~SOL-I~~	7429-90-5	38.	35	50.	100	ug/l	J	6010B	07/29/14	1
Barium, Dissolved	7440-39-3	22.	1.7	2.5	5	ug/l		6010B	07/29/14	1
Beryllium, Dissolved	7440-41-7	U	0.7	1.0	2	ug/l		6010B	07/29/14	1
Copper, Dissolved	7440-50-8	U	5.3	10.	20	ug/l		6010B	07/29/14	1
Manganese, Dissolved	7439-96-5	470	1.2	5.0	10	ug/l		6010B	07/29/14	1
Vanadium, Dissolved	7440-62-2	88.	2.4	5.0	20	ug/l		6010B	07/29/14	1
Zinc, Dissolved	7440-66-6	U	5.9	15.	50	ug/l		6010B	07/29/14	1

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 10, 2015

Date Received : July 24, 2014
Description : Holloman AFB

Sample ID : H-TU508-MW02-ND01

Collected By :
Collection Date : 07/22/14 14:10

ESC Sample # : L711875-04

Site ID :

Project # : 23446543.0057AA

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Antimony,Dissolved U MB-I	7440-36-0	0.59	~~0.21~~ 0.59	~~0.50~~ 0.59	1	ug/l	J	6020	07/30/14	1
Arsenic,Dissolved	7440-38-2	17.	0.25	0.50	1	ug/l		6020	08/02/14	1
Cadmium,Dissolved	7440-43-9	U	0.16	0.25	0.5	ug/l		6020	08/02/14	1
Chromium,Dissolved FJ SOL-I	7440-47-3	1.0	0.54	1.0	2	ug/l	J	6020	07/30/14	1
Cobalt,Dissolved FJ SOL-I	7440-48-4	0.71	0.26	0.50	1	ug/l	J	6020	07/30/14	1
Lead,Dissolved FJ SOL-I	7439-92-1	0.36	0.24	0.50	1	ug/l	J	6020	07/30/14	1
Nickel,Dissolved	7440-02-0	4.7	0.35	0.50	1	ug/l		6020	07/30/14	1
Selenium,Dissolved FJ MS-H	7782-49-2	7.3	0.38	0.50	1	ug/l		6020	08/02/14	1
Silver,Dissolved UJ MS-L	7440-22-4	U	0.31	0.50	1	ug/l		6020	07/30/14	1
Thallium,Dissolved	7440-28-0	U	0.19	0.50	1	ug/l		6020	07/30/14	1
Mercury,Dissolved FJ SOL,MS-H	7439-97-6	U	0.049	0.090	0.2	ug/l		7470A	07/31/14	1
Aluminum,Dissolved ~~FJ SOL-I~~	7429-90-5	56.	35	50.	100	ug/l	J	6010B	07/30/14	1
Barium,Dissolved	7440-39-3	23.	1.7	2.5	5	ug/l		6010B	07/30/14	1
Beryllium,Dissolved	7440-41-7	U	0.7	1.0	2	ug/l		6010B	07/30/14	1
Copper,Dissolved	7440-50-8	U	5.3	10.	20	ug/l		6010B	07/30/14	1
Manganese,Dissolved	7439-96-5	470	1.2	5.0	10	ug/l		6010B	07/30/14	1
Vanadium,Dissolved	7440-62-2	91.	2.4	5.0	20	ug/l		6010B	07/30/14	1
Zinc,Dissolved	7440-66-6	U	5.9	15.	50	ug/l		6010B	07/30/14	1

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 10, 2015

Date Received : July 24, 2014
Description : Holloman AFB

ESC Sample # : L711875-05

Sample ID : H-TU508-MW02-NT01

Site ID :

Project # : 23446543.0057AA

Collected By :
Collection Date : 07/22/14 14:10

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Dissolved Solids	DSOLIDS	6000000	2800	5000	10000	ug/l		2540 C-	07/28/14	1
Antimony FJ SOL-I	7440-36-0	0.30	0.21	0.50	1	ug/l	J	6020	07/28/14	1
Arsenic	7440-38-2	17.	0.25	0.50	1	ug/l		6020	07/28/14	1
Cadmium U MB-I	7440-43-9	0.25 ~~0.23~~	~~0.16~~ 0.23	0.25	0.5	ug/l	J	6020	07/31/14	1
Chromium FJ SOL-I	7440-47-3	0.94	0.54	1.0	2	ug/l	J	6020	07/28/14	1
Cobalt	7440-48-4	3.4	0.26	0.50	1	ug/l		6020	07/28/14	1
Lead	7439-92-1	U	0.24	0.50	1	ug/l		6020	07/28/14	1
Nickel	7440-02-0	18.	0.35	0.50	1	ug/l		6020	07/28/14	1
Selenium J MS-H	7782-49-2	8.8	0.38	0.50	1	ug/l		6020	07/31/14	1
Silver FJ SOL, MB-L	7440-22-4	0.46	0.31	0.50	1	ug/l	J	6020	07/28/14	1
Thallium	7440-28-0	U	0.19	0.50	1	ug/l		6020	07/28/14	1
Mercury	7439-97-6	U	0.049	0.090	0.2	ug/l		7470A	07/25/14	1
Aluminum J MS-H	7429-90-5	190	35	50.	100	ug/l		6010B	08/01/14	1
Barium	7440-39-3	22.	1.7	2.5	5	ug/l		6010B	07/29/14	1
Beryllium	7440-41-7	U	0.7	1.0	2	ug/l		6010B	07/29/14	1
Copper FJ SOL-I	7440-50-8	10.	5.3	10.	20	ug/l	J	6010B	08/01/14	1
Manganese	7439-96-5	450	1.2	5.0	10	ug/l		6010B	07/29/14	1
Vanadium	7440-62-2	86.	2.4	5.0	20	ug/l		6010B	07/29/14	1
Zinc	7440-66-6	U	5.9	15.	50	ug/l		6010B	07/29/14	1
TPH (GC/FID) Low Fraction	8006-61-9	U	31.4	50.	100	ug/l		8015D/G	07/30/14	1
Surrogate Recovery-%										
a,a,a-Trifluorotoluene(FID)	98-08-8	105.				% Rec.		8015D/G	07/30/14	1
Volatile Organics										
Acetone	67-64-1	U	10	25.	50	ug/l		8260B	07/28/14	1
Benzene FJ SOL-I	71-43-2	0.34	0.33	0.50	1	ug/l	J	8260B	07/28/14	1
Bromobenzene	108-86-1	U	0.35	0.50	1	ug/l		8260B	07/28/14	1
Bromochloromethane	74-97-5	U	0.52	0.75	1	ug/l		8260B	07/28/14	1
Bromodichloromethane	75-27-4	U	0.38	0.50	1	ug/l		8260B	07/28/14	1
Bromoform	75-25-2	U	0.47	0.50	1	ug/l		8260B	07/28/14	1
Bromomethane	74-83-9	U	0.87	2.5	5	ug/l		8260B	07/28/14	1
n-Butylbenzene	104-51-8	U	0.36	0.50	1	ug/l		8260B	07/28/14	1
sec-Butylbenzene	135-98-8	U	0.36	0.50	1	ug/l		8260B	07/28/14	1
tert-Butylbenzene	98-06-6	U	0.4	0.50	1	ug/l		8260B	07/28/14	1
Carbon Disulfide	75-15-0	U	0.28	0.50	1	ug/l		8260B	07/28/14	1
Carbon tetrachloride	56-23-5	U	0.38	0.50	1	ug/l		8260B	07/28/14	1
Chlorobenzene	108-90-7	U	0.35	0.50	1	ug/l		8260B	07/28/14	1
Chlorodibromomethane	124-48-1	U	0.33	0.50	1	ug/l		8260B	07/28/14	1
Chloroethane	75-00-3	U	0.45	2.5	5	ug/l		8260B	07/28/14	1
Chloroform	67-66-3	U	0.32	2.5	5	ug/l		8260B	07/28/14	1
Chloromethane	74-87-3	U	0.28	0.50	2.5	ug/l		8260B	07/28/14	1
2-Chlorotoluene	95-49-8	U	0.38	0.50	1	ug/l		8260B	07/28/14	1

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 10, 2015

Date Received : July 24, 2014
Description : Holloman AFB

Sample ID : H-TU508-MW02-NT01

Collected By :
Collection Date : 07/22/14 14:10

ESC Sample # : L711875-05

Site ID :

Project # : 23446543.0057AA

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
4-Chlorotoluene	106-43-4	U	0.35	0.50	1	ug/l		8260B	07/28/14	1
1,2-Dibromo-3-Chloropropane	96-12-8	U	1.3	2.5	5	ug/l		8260B	07/28/14	1
1,2-Dibromoethane UJ MS-L	106-93-4	U	0.38	0.50	1	ug/l		8260B	07/28/14	1
Dibromomethane	74-95-3	U	0.35	0.50	1	ug/l		8260B	07/28/14	1
1,2-Dichlorobenzene	95-50-1	U	0.35	0.50	1	ug/l		8260B	07/28/14	1
1,3-Dichlorobenzene	541-73-1	U	0.22	0.50	1	ug/l		8260B	07/28/14	1
1,4-Dichlorobenzene	106-46-7	U	0.27	0.50	1	ug/l		8260B	07/28/14	1
Dichlorodifluoromethane	75-71-8	U	0.55	2.5	5	ug/l		8260B	07/28/14	1
1,1-Dichloroethane FJ SQL-I	75-34-3	0.63	0.26	0.50	1	ug/l	J	8260B	07/28/14	1
1,2-Dichloroethane	107-06-2	U	0.36	0.50	1	ug/l		8260B	07/28/14	1
1,1-Dichloroethene FJ SQL-I	75-35-4	0.94	0.4	0.50	1	ug/l	J	8260B	07/28/14	1
cis-1,2-Dichloroethene	156-59-2	92.	0.26	0.50	1	ug/l		8260B	07/28/14	1
trans-1,2-Dichloroethene	156-60-5	2.3	0.4	0.50	1	ug/l		8260B	07/28/14	1
1,2-Dichloropropane	78-87-5	U	0.31	0.50	1	ug/l		8260B	07/28/14	1
1,1-Dichloropropene	563-58-6	U	0.35	0.50	1	ug/l		8260B	07/28/14	1
1,3-Dichloropropane	142-28-9	U	0.37	0.50	1	ug/l		8260B	07/28/14	1
cis-1,3-Dichloropropene	10061-01-5	U	0.42	0.50	1	ug/l		8260B	07/28/14	1
trans-1,3-Dichloropropene	10061-02-6	U	0.42	0.50	1	ug/l		8260B	07/28/14	1
2,2-Dichloropropane	594-20-7	U	0.32	0.50	1	ug/l		8260B	07/28/14	1
Ethylbenzene	100-41-4	U	0.38	0.50	1	ug/l		8260B	07/28/14	1
2-Hexanone	591-78-6	U	3.8	5.0	10	ug/l		8260B	07/28/14	1
Hexachloro-1,3-butadiene	87-68-3	U	0.26	0.50	1	ug/l		8260B	07/28/14	1
Isopropylbenzene	98-82-8	U	0.33	0.50	1	ug/l		8260B	07/28/14	1
p-Isopropyltoluene	99-87-6	U	0.35	0.50	1	ug/l		8260B	07/28/14	1
2-Butanone (MEK)	78-93-3	U	3.9	5.0	10	ug/l		8260B	07/28/14	1
Methylene Chloride	75-09-2	U	1	2.5	5	ug/l		8260B	07/28/14	1
4-Methyl-2-pentanone (MIBK)	108-10-1	U	2.1	5.0	10	ug/l		8260B	07/28/14	1
Methyl tert-butyl ether	1634-04-4	U	0.37	0.50	1	ug/l		8260B	07/28/14	1
Naphthalene DNR	~~91-20-3~~	~~U~~	~~1~~	~~2.5~~	~~5~~	~~ug/l~~		~~8260B~~	~~07/28/14~~	~~1~~
n-Propylbenzene	103-65-1	U	0.35	0.50	1	ug/l		8260B	07/28/14	1
Styrene	100-42-5	U	0.31	0.50	1	ug/l		8260B	07/28/14	1
1,1,1,2-Tetrachloroethane UJ MS-L	630-20-6	U	0.38	0.50	1	ug/l		8260B	07/28/14	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.58 ~~0.13~~	0.75	1	ug/l		8260B	07/28/14	1
Tetrachloroethene FJ SQL-I	127-18-4	0.81	0.37	0.50	1	ug/l	J	8260B	07/28/14	1
Toluene	108-88-3	U	0.78	2.5	5	ug/l		8260B	07/28/14	1
1,2,3-Trichlorobenzene	87-61-6	U	0.23	0.50	1	ug/l		8260B	07/28/14	1
1,2,4-Trichlorobenzene	120-82-1	U	0.21	0.50	1	ug/l		8260B	07/28/14	1
1,1,1-Trichloroethane	71-55-6	U	0.319	0.50	1	ug/l		8260B	07/28/14	1
1,1,2-Trichloroethane	79-00-5	U	0.38	0.50	1	ug/l		8260B	07/28/14	1
Trichloroethene	79-01-6	16.	0.4	0.50	1	ug/l		8260B	07/28/14	1
Trichlorofluoromethane	75-69-4	U	1.2	2.5	5	ug/l		8260B	07/28/14	1
1,2,3-Trichloropropane	96-18-4	U	0.81	1.0	2.5	ug/l		8260B	07/28/14	1
1,2,4-Trimethylbenzene	95-63-6	U	0.37	0.50	1	ug/l		8260B	07/28/14	1
1,3,5-Trimethylbenzene	108-67-8	U	0.39	0.50	1	ug/l		8260B	07/28/14	1
o-Xylene	95-47-6	U	0.34	0.50	1	ug/l		8260B	07/28/14	1
m&p-Xylene	1330-20-7	U	0.72	1.0	2	ug/l		8260B	07/28/14	1

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DNR: DO NOT REPORT

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 10, 2015

ESC Sample # : L711875-05

Date Received : July 24, 2014
Description : Holloman AFB

Site ID :

Sample ID : H-TU508-MW02-NT01

Project # : 23446543.0057AA

Collected By :
Collection Date : 07/22/14 14:10

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Vinyl chloride	75-01-4	1.4	0.26	0.50	1	ug/l		8260B	07/28/14	1
Surrogate Recovery										
Toluene-d8	2037-26-5	99.8				% Rec.		8260B	07/28/14	1
Dibromofluoromethane	1868-53-7	93.5				% Rec.		8260B	07/28/14	1
4-Bromofluorobenzene	460-00-4	102.				% Rec.		8260B	07/28/14	1
Diesel and Oil Ranges										
C10-C28 Diesel Range J ID-I		500	22.2	33.	100	ug/l		8015	07/28/14	1
C28-C40 Oil Range J ID-I		150	11.8	33.	100	ug/l		8015	07/28/14	1
Surrogate Recovery										
o-Terphenyl	84-15-1	96.8				% Rec.		8015	07/28/14	1
Polynuclear Aromatic Hydrocarbons										
Anthracene	120-12-7	U	0.00761	0.025	0.05	ug/l		8270C-S	07/29/14	1
Acenaphthene	83-32-9	U	0.00818	0.025	0.05	ug/l		8270C-S	07/29/14	1
Acenaphthylene	208-96-8	U	0.00682	0.025	0.05	ug/l		8270C-S	07/29/14	1
Benzo(a)anthracene	56-55-3	U	0.0118	0.025	0.05	ug/l		8270C-S	07/29/14	1
Benzo(a)pyrene	50-32-8	U	0.0116	0.025	0.05	ug/l		8270C-S	07/29/14	1
Benzo(b)fluoranthene	205-99-2	U	0.0138	0.025	0.05	ug/l		8270C-S	07/29/14	1
Benzo(g,h,i)perylene	191-24-2	U	0.0114	0.025	0.05	ug/l		8270C-S	07/29/14	1
Benzo(k)fluoranthene	207-08-9	U	0.0136	0.025	0.05	ug/l		8270C-S	07/29/14	1
Chrysene	218-01-9	U	0.0108	0.025	0.05	ug/l		8270C-S	07/29/14	1
Dibenz(a,h)anthracene	53-70-3	U	0.00396	0.025	0.05	ug/l		8270C-S	07/29/14	1
Fluoranthene	206-44-0	U	0.0157	0.025	0.05	ug/l		8270C-S	07/29/14	1
Fluorene	86-73-7	U	0.0085	0.025	0.05	ug/l		8270C-S	07/29/14	1
Indeno(1,2,3-cd)pyrene	193-39-5	U	0.0148	0.025	0.05	ug/l		8270C-S	07/29/14	1
Naphthalene	91-20-3	U	0.0198	0.025	0.25	ug/l		8270C-S	07/29/14	1
Phenanthrene	85-01-8	U	0.0082	0.025	0.05	ug/l		8270C-S	07/29/14	1
Pyrene	129-00-0	U	0.0117	0.025	0.05	ug/l		8270C-S	07/29/14	1
2-Methylnaphthalene	91-57-6	U	0.00902	0.025	0.25	ug/l		8270C-S	07/29/14	1
Surrogate Recovery										
Nitrobenzene-d5	4165-60-0	115.				% Rec.		8270C-S	07/29/14	1
2-Fluorobiphenyl	321-60-8	117.				% Rec.		8270C-S	07/29/14	1
p-Terphenyl-d14	1718-51-0	135.				% Rec.		8270C-S	07/29/14	1

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 10, 2015

ESC Sample # : L711875-06

Date Received : July 24, 2014
Description : Holloman AFB

Site ID :

Sample ID : H-TU508-MW02-DT01

Project # : 23446543.0057AA

Collected By :
Collection Date : 07/22/14 14:10

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Dissolved Solids	DSOLIDS	6300000	2800	5000	10000	ug/l		2540 C-	07/28/14	1
Antimony FJ SOL-I	7440-36-0	0.35	0.21	0.50	1	ug/l	J	6020	07/28/14	1
Arsenic	7440-38-2	17.	0.25	0.50	1	ug/l		6020	07/28/14	1
Cadmium U MB-I	7440-43-9	~~0.23~~0.25	~~0.16~~0.23	0.25	0.5	ug/l	J	6020	07/31/14	1
Chromium FJ SOL-I	7440-47-3	1.2	0.54	1.0	2	ug/l	J	6020	07/28/14	1
Cobalt	7440-48-4	3.5	0.26	0.50	1	ug/l		6020	07/28/14	1
Lead	7439-92-1	1.1	0.24	0.50	1	ug/l		6020	07/28/14	1
Nickel	7440-02-0	18.	0.35	0.50	1	ug/l		6020	07/28/14	1
Selenium J MS-H	7782-49-2	10.	0.38	0.50	1	ug/l		6020	07/31/14	1
Silver UJ MB-L	7440-22-4	U	0.31	0.50	1	ug/l		6020	07/28/14	1
Thallium	7440-28-0	U	0.19	0.50	1	ug/l		6020	07/28/14	1
Mercury	7439-97-6	U	0.049	0.090	0.2	ug/l		7470A	07/25/14	1
Aluminum J MS-H	7429-90-5	150	35	50.	100	ug/l		6010B	08/01/14	1
Barium	7440-39-3	22.	1.7	2.5	5	ug/l		6010B	07/29/14	1
Beryllium	7440-41-7	U	0.7	1.0	2	ug/l		6010B	07/29/14	1
Copper FJ SOL-I	7440-50-8	6.7	5.3	10.	20	ug/l	J	6010B	08/01/14	1
Manganese	7439-96-5	460	1.2	5.0	10	ug/l		6010B	07/29/14	1
Vanadium	7440-62-2	88.	2.4	5.0	20	ug/l		6010B	07/29/14	1
Zinc	7440-66-6	U	5.9	15.	50	ug/l		6010B	07/29/14	1
TPH (GC/FID) Low Fraction	8006-61-9	U	31.4	50.	100	ug/l		8015D/G	07/30/14	1
Surrogate Recovery-%										
a,a,a-Trifluorotoluene(FID)	98-08-8	105.				% Rec.		8015D/G	07/30/14	1
Volatile Organics										
Acetone	67-64-1	U	10	25.	50	ug/l		8260B	07/28/14	1
Benzene	71-43-2	U	0.33	0.50	1	ug/l		8260B	07/28/14	1
Bromobenzene	108-86-1	U	0.35	0.50	1	ug/l		8260B	07/28/14	1
Bromochloromethane	74-97-5	U	0.52	0.75	1	ug/l		8260B	07/28/14	1
Bromodichloromethane	75-27-4	U	0.38	0.50	1	ug/l		8260B	07/28/14	1
Bromoform	75-25-2	U	0.47	0.50	1	ug/l		8260B	07/28/14	1
Bromomethane	74-83-9	U	0.87	2.5	5	ug/l		8260B	07/28/14	1
n-Butylbenzene	104-51-8	U	0.36	0.50	1	ug/l		8260B	07/28/14	1
sec-Butylbenzene	135-98-8	U	0.36	0.50	1	ug/l		8260B	07/28/14	1
tert-Butylbenzene	98-06-6	U	0.4	0.50	1	ug/l		8260B	07/28/14	1
Carbon Disulfide	75-15-0	U	0.28	0.50	1	ug/l		8260B	07/28/14	1
Carbon tetrachloride	56-23-5	U	0.38	0.50	1	ug/l		8260B	07/28/14	1
Chlorobenzene	108-90-7	U	0.35	0.50	1	ug/l		8260B	07/28/14	1
Chlorodibromomethane	124-48-1	U	0.33	0.50	1	ug/l		8260B	07/28/14	1
Chloroethane	75-00-3	U	0.45	2.5	5	ug/l		8260B	07/28/14	1
Chloroform	67-66-3	U	0.32	2.5	5	ug/l		8260B	07/28/14	1
Chloromethane	74-87-3	U	0.28	0.50	2.5	ug/l		8260B	07/28/14	1
2-Chlorotoluene	95-49-8	U	0.38	0.50	1	ug/l		8260B	07/28/14	1

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 10, 2015

Date Received : July 24, 2014
Description : Holloman AFB

Sample ID : H-TU508-MW02-DT01

Collected By :
Collection Date : 07/22/14 14:10

ESC Sample # : L711875-06

Site ID :

Project # : 23446543.0057AA

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
4-Chlorotoluene	106-43-4	U	0.35	0.50	1	ug/l		8260B	07/28/14	1
1,2-Dibromo-3-Chloropropane	96-12-8	U	1.3	2.5	5	ug/l		8260B	07/28/14	1
1,2-Dibromoethane UJ MS-L	106-93-4	U	0.38	0.50	1	ug/l		8260B	07/28/14	1
Dibromomethane	74-95-3	U	0.35	0.50	1	ug/l		8260B	07/28/14	1
1,2-Dichlorobenzene	95-50-1	U	0.35	0.50	1	ug/l		8260B	07/28/14	1
1,3-Dichlorobenzene	541-73-1	U	0.22	0.50	1	ug/l		8260B	07/28/14	1
1,4-Dichlorobenzene	106-46-7	U	0.27	0.50	1	ug/l		8260B	07/28/14	1
Dichlorodifluoromethane	75-71-8	U	0.55	2.5	5	ug/l		8260B	07/28/14	1
1,1-Dichloroethane FJ SQL-I	75-34-3	0.58	0.26	0.50	1	ug/l	J	8260B	07/28/14	1
1,2-Dichloroethane	107-06-2	U	0.36	0.50	1	ug/l		8260B	07/28/14	1
1,1-Dichloroethene FJ SQL-I	75-35-4	0.88	0.4	0.50	1	ug/l	J	8260B	07/28/14	1
cis-1,2-Dichloroethene	156-59-2	86.	0.26	0.50	1	ug/l		8260B	07/28/14	1
trans-1,2-Dichloroethene	156-60-5	2.1	0.4	0.50	1	ug/l		8260B	07/28/14	1
1,2-Dichloropropane	78-87-5	U	0.31	0.50	1	ug/l		8260B	07/28/14	1
1,1-Dichloropropene	563-58-6	U	0.35	0.50	1	ug/l		8260B	07/28/14	1
1,3-Dichloropropane	142-28-9	U	0.37	0.50	1	ug/l		8260B	07/28/14	1
cis-1,3-Dichloropropene	10061-01-5	U	0.42	0.50	1	ug/l		8260B	07/28/14	1
trans-1,3-Dichloropropene	10061-02-6	U	0.42	0.50	1	ug/l		8260B	07/28/14	1
2,2-Dichloropropane	594-20-7	U	0.32	0.50	1	ug/l		8260B	07/28/14	1
Ethylbenzene	100-41-4	U	0.38	0.50	1	ug/l		8260B	07/28/14	1
2-Hexanone	591-78-6	U	3.8	5.0	10	ug/l		8260B	07/28/14	1
Hexachloro-1,3-butadiene	87-68-3	U	0.26	0.50	1	ug/l		8260B	07/28/14	1
Isopropylbenzene	98-82-8	U	0.33	0.50	1	ug/l		8260B	07/28/14	1
p-Isopropyltoluene	99-87-6	U	0.35	0.50	1	ug/l		8260B	07/28/14	1
2-Butanone (MEK)	78-93-3	U	3.9	5.0	10	ug/l		8260B	07/28/14	1
Methylene Chloride	75-09-2	U	1	2.5	5	ug/l		8260B	07/28/14	1
4-Methyl-2-pentanone (MIBK)	108-10-1	U	2.1	5.0	10	ug/l		8260B	07/28/14	1
Methyl tert-butyl ether	1634-04-4	U	0.37	0.50	1	ug/l		8260B	07/28/14	1
Naphthalene DNR	~~91-20-3~~	~~U~~	~~1~~	~~2.5~~	~~5~~	~~ug/l~~		~~8260B~~	~~07/28/14~~	~~1~~
n-Propylbenzene	103-65-1	U	0.35	0.50	1	ug/l		8260B	07/28/14	1
Styrene	100-42-5	U	0.31	0.50	1	ug/l		8260B	07/28/14	1
1,1,1,2-Tetrachloroethane UJ MS-L	630-20-6	U	0.38	0.50	1	ug/l		8260B	07/28/14	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.58 ~~0.13~~	0.75	1	ug/l		8260B	07/28/14	1
Tetrachloroethene FJ SQL-I	127-18-4	0.78	0.37	0.50	1	ug/l	J	8260B	07/28/14	1
Toluene	108-88-3	U	0.78	2.5	5	ug/l		8260B	07/28/14	1
1,2,3-Trichlorobenzene	87-61-6	U	0.23	0.50	1	ug/l		8260B	07/28/14	1
1,2,4-Trichlorobenzene	120-82-1	U	0.21	0.50	1	ug/l		8260B	07/28/14	1
1,1,1-Trichloroethane	71-55-6	U	0.319	0.50	1	ug/l		8260B	07/28/14	1
1,1,2-Trichloroethane	79-00-5	U	0.38	0.50	1	ug/l		8260B	07/28/14	1
Trichloroethene	79-01-6	14.	0.4	0.50	1	ug/l		8260B	07/28/14	1
Trichlorofluoromethane	75-69-4	U	1.2	2.5	5	ug/l		8260B	07/28/14	1
1,2,3-Trichloropropane	96-18-4	U	0.81	1.0	2.5	ug/l		8260B	07/28/14	1
1,2,4-Trimethylbenzene	95-63-6	U	0.37	0.50	1	ug/l		8260B	07/28/14	1
1,3,5-Trimethylbenzene	108-67-8	U	0.39	0.50	1	ug/l		8260B	07/28/14	1
o-Xylene	95-47-6	U	0.34	0.50	1	ug/l		8260B	07/28/14	1
m&p-Xylene	1330-20-7	U	0.72	1.0	2	ug/l		8260B	07/28/14	1

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DNR: Do Not Report

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 10, 2015

ESC Sample # : L711875-06

Site ID :

Project # : 23446543.0057AA

Date Received : July 24, 2014
Description : Holloman AFB

Sample ID : H-TU508-MW02-DT01

Collected By :
Collection Date : 07/22/14 14:10

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Vinyl chloride	75-01-4	1.4	0.26	0.50	1	ug/l		8260B	07/28/14	1
Surrogate Recovery										
Toluene-d8	2037-26-5	99.6				% Rec.		8260B	07/28/14	1
Dibromofluoromethane	1868-53-7	94.5				% Rec.		8260B	07/28/14	1
4-Bromofluorobenzene	460-00-4	100.				% Rec.		8260B	07/28/14	1
Diesel and Oil Ranges										
C10-C28 Diesel Range J ID-1		520	22.2	33.	100	ug/l		8015	07/28/14	1
C28-C40 Oil Range J ID-1		160	11.8	33.	100	ug/l		8015	07/28/14	1
Surrogate Recovery										
o-Terphenyl	84-15-1	99.8				% Rec.		8015	07/28/14	1
Polynuclear Aromatic Hydrocarbons										
Anthracene	120-12-7	U	0.00761	0.025	0.05	ug/l		8270C-S	07/29/14	1
Acenaphthene	83-32-9	U	0.00818	0.025	0.05	ug/l		8270C-S	07/29/14	1
Acenaphthylene	208-96-8	U	0.00682	0.025	0.05	ug/l		8270C-S	07/29/14	1
Benzo(a)anthracene	56-55-3	U	0.0118	0.025	0.05	ug/l		8270C-S	07/29/14	1
Benzo(a)pyrene	50-32-8	U	0.0116	0.025	0.05	ug/l		8270C-S	07/29/14	1
Benzo(b)fluoranthene	205-99-2	U	0.0138	0.025	0.05	ug/l		8270C-S	07/29/14	1
Benzo(g,h,i)perylene	191-24-2	U	0.0114	0.025	0.05	ug/l		8270C-S	07/29/14	1
Benzo(k)fluoranthene	207-08-9	U	0.0136	0.025	0.05	ug/l		8270C-S	07/29/14	1
Chrysene	218-01-9	U	0.0108	0.025	0.05	ug/l		8270C-S	07/29/14	1
Dibenz(a,h)anthracene	53-70-3	U	0.00396	0.025	0.05	ug/l		8270C-S	07/29/14	1
Fluoranthene	206-44-0	U	0.0157	0.025	0.05	ug/l		8270C-S	07/29/14	1
Fluorene	86-73-7	U	0.0085	0.025	0.05	ug/l		8270C-S	07/29/14	1
Indeno(1,2,3-cd)pyrene	193-39-5	U	0.0148	0.025	0.05	ug/l		8270C-S	07/29/14	1
Naphthalene	91-20-3	U	0.0198	0.025	0.25	ug/l		8270C-S	07/29/14	1
Phenanthrene	85-01-8	U	0.0082	0.025	0.05	ug/l		8270C-S	07/29/14	1
Pyrene	129-00-0	U	0.0117	0.025	0.05	ug/l		8270C-S	07/29/14	1
2-Methylnaphthalene	91-57-6	U	0.00902	0.025	0.25	ug/l		8270C-S	07/29/14	1
Surrogate Recovery										
Nitrobenzene-d5	4165-60-0	112.				% Rec.		8270C-S	07/29/14	1
2-Fluorobiphenyl	321-60-8	115.				% Rec.		8270C-S	07/29/14	1
p-Terphenyl-d14	1718-51-0	137.				% Rec.		8270C-S	07/29/14	1

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 10, 2015

Date Received : July 24, 2014
Description : Holloman AFB

Sample ID : H-TU508-MW03-ND01

Collected By :
Collection Date : 07/22/14 15:20

ESC Sample # : L711875-07

Site ID :

Project # : 23446543.0057AA

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Antimony, Dissolved U MB-I	7440-36-0	0.81	~~0.21~~ 0.81	~~0.50~~ 0.81	1	ug/l	J	6020	07/29/14	1
Arsenic, Dissolved	7440-38-2	23.	0.25	0.50	1	ug/l		6020	08/02/14	1
Cadmium, Dissolved	7440-43-9	7.5	0.16	0.25	0.5	ug/l		6020	07/29/14	1
Chromium, Dissolved FJ SOL-I	7440-47-3	1.6	0.54	1.0	2	ug/l	J	6020	07/29/14	1
Cobalt, Dissolved FJ SOL-I	7440-48-4	0.47	0.26	0.50	1	ug/l	J	6020	07/29/14	1
Lead, Dissolved	7439-92-1	U	0.24	0.50	1	ug/l		6020	07/29/14	1
Nickel, Dissolved	7440-02-0	12.	0.35	0.50	1	ug/l		6020	07/29/14	1
Selenium, Dissolved J MS, PDS-H	7782-49-2	17.	0.38	0.50	1	ug/l	O1J5	6020	08/02/14	1
Silver, Dissolved J PDS-L	7440-22-4	4.9	0.31	0.50	1	ug/l	O1	6020	07/29/14	1
Thallium, Dissolved	7440-28-0	U	0.19	0.50	1	ug/l		6020	07/29/14	1
Mercury, Dissolved FJ SOL, MS, PDS-L FJ, SOL, MS-H	7439-97-6	0.088	0.049	0.090	0.2	ug/l	JP1J	7470A	07/28/14	1
Aluminum, Dissolved ~~FJ SOL-I~~	7429-90-5	95.	35	50.	100	ug/l	J	6010B	07/30/14	1
Barium, Dissolved	7440-39-3	13.	1.7	2.5	5	ug/l		6010B	07/30/14	1
Beryllium, Dissolved	7440-41-7	U	0.7	1.0	2	ug/l		6010B	07/30/14	1
Copper, Dissolved FJ SOL-I	7440-50-8	16.	5.3	10.	20	ug/l	J	6010B	07/30/14	1
Manganese, Dissolved UJ ICS-L	7439-96-5	U	1.2	5.0	10	ug/l		6010B	07/30/14	1
Vanadium, Dissolved	7440-62-2	140	2.4	5.0	20	ug/l		6010B	07/30/14	1
Zinc, Dissolved	7440-66-6	U	5.9	15.	50	ug/l		6010B	07/30/14	1

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 10, 2015

ESC Sample # : L711875-08

Date Received : July 24, 2014
Description : Holloman AFB

Site ID :

Sample ID : H-TU508-MW03-NT01

Project # : 23446543.0057AA

Collected By :
Collection Date : 07/22/14 15:20

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Dissolved Solids	DSOLIDS	9500000	2800	5000	10000	ug/l		2540 C-	07/28/14	1
Antimony FJ SQL-I	7440-36-0	0.31	0.21	0.50	1	ug/l	J	6020	07/28/14	1
Arsenic J MS-H	7440-38-2	23.	0.25	0.50	1	ug/l		6020	07/28/14	1
Cadmium U MB-I	7440-43-9	0.34	~~0.16~~ 0.34	~~0.25~~ 0.34	0.5	ug/l	J	6020	07/31/14	1
Chromium	7440-47-3	2.2	0.54	1.0	2	ug/l		6020	07/28/14	1
Cobalt FJ SQL-I	7440-48-4	0.61	0.26	0.50	1	ug/l	J	6020	07/28/14	1
Lead	7439-92-1	1.8	0.24	0.50	1	ug/l		6020	07/28/14	1
Nickel	7440-02-0	14.	0.35	0.50	1	ug/l		6020	07/28/14	1
Selenium J MS-H	7782-49-2	17.	0.38	0.50	1	ug/l	J5	6020	07/31/14	1
Silver UJ MB-L	7440-22-4	U	0.31	0.50	1	ug/l		6020	07/28/14	1
Thallium	7440-28-0	U	0.19	0.50	1	ug/l		6020	07/28/14	1
Mercury UJ MS,PDS-L	7439-97-6	U	0.049	0.090	0.2	ug/l	J6O1	7470A	07/25/14	1
Aluminum J MS,PDS,FD-H	7429-90-5	250	35	50.	100	ug/l	O1J5	6010B	08/01/14	1
Barium ~~J~~ F SQL-I	7440-39-3	20.	17	25.	50	ug/l	J	6010B	07/29/14	10
Beryllium	7440-41-7	U	7	10.	20	ug/l	O	6010B	07/29/14	10
Copper FJ SQL-I	7440-50-8	14.	5.3	10.	20	ug/l	J	6010B	08/01/14	1
Manganese UJ ICS-L	7439-96-5	U	12	50.	100	ug/l	O	6010B	07/29/14	10
Vanadium FJ SQL-I MS-H	7440-62-2	160	24	50.	200	ug/l	JO1	6010B	07/29/14	10
Zinc	7440-66-6	U	59	150	500	ug/l	O	6010B	07/29/14	10
TPH (GC/FID) Low Fraction	8006-61-9	U	31.4	50.	100	ug/l		8015D/G	07/29/14	1
Surrogate Recovery-%										
a,a,a-Trifluorotoluene(FID)	98-08-8	104.				% Rec.		8015D/G	07/29/14	1
Volatile Organics										
Acetone	67-64-1	U	10	25.	50	ug/l		8260B	07/28/14	1
Benzene	71-43-2	U	0.33	0.50	1	ug/l		8260B	07/28/14	1
Bromobenzene	108-86-1	U	0.35	0.50	1	ug/l		8260B	07/28/14	1
Bromochloromethane	74-97-5	U	0.52	0.75	1	ug/l		8260B	07/28/14	1
Bromodichloromethane UJ MS-L	75-27-4	U	0.38	0.50	1	ug/l		8260B	07/28/14	1
Bromoform	75-25-2	U	0.47	0.50	1	ug/l		8260B	07/28/14	1
Bromomethane	74-83-9	U	0.87	2.5	5	ug/l		8260B	07/28/14	1
n-Butylbenzene	104-51-8	U	0.36	0.50	1	ug/l		8260B	07/28/14	1
sec-Butylbenzene	135-98-8	U	0.36	0.50	1	ug/l		8260B	07/28/14	1
tert-Butylbenzene	98-06-6	U	0.4	0.50	1	ug/l		8260B	07/28/14	1
Carbon Disulfide	75-15-0	U	0.28	0.50	1	ug/l		8260B	07/28/14	1
Carbon tetrachloride	56-23-5	U	0.38	0.50	1	ug/l		8260B	07/28/14	1
Chlorobenzene	108-90-7	U	0.35	0.50	1	ug/l		8260B	07/28/14	1
Chlorodibromomethane	124-48-1	U	0.33	0.50	1	ug/l		8260B	07/28/14	1
Chloroethane	75-00-3	U	0.45	2.5	5	ug/l		8260B	07/28/14	1
Chloroform FJ SQL-I	67-66-3	0.44	0.32	2.5	5	ug/l	J	8260B	07/28/14	1
Chloromethane	74-87-3	U	0.28	0.50	2.5	ug/l		8260B	07/28/14	1
2-Chlorotoluene	95-49-8	U	0.38	0.50	1	ug/l		8260B	07/28/14	1

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Est. 1970

REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 10, 2015

Date Received : July 24, 2014
Description : Holloman AFB

Sample ID : H-TU508-MW03-NT01

Collected By :
Collection Date : 07/22/14 15:20

ESC Sample # : L711875-08

Site ID :

Project # : 23446543.0057AA

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
4-Chlorotoluene	106-43-4	U	0.35	0.50	1	ug/l		8260B	07/28/14	1
1,2-Dibromo-3-Chloropropane	96-12-8	U	1.3	2.5	5	ug/l		8260B	07/28/14	1
1,2-Dibromoethane UJ MS-L	106-93-4	U	0.38	0.50	1	ug/l		8260B	07/28/14	1
Dibromomethane	74-95-3	U	0.35	0.50	1	ug/l		8260B	07/28/14	1
1,2-Dichlorobenzene	95-50-1	U	0.35	0.50	1	ug/l		8260B	07/28/14	1
1,3-Dichlorobenzene	541-73-1	U	0.22	0.50	1	ug/l		8260B	07/28/14	1
1,4-Dichlorobenzene	106-46-7	U	0.27	0.50	1	ug/l		8260B	07/28/14	1
Dichlorodifluoromethane	75-71-8	U	0.55	2.5	5	ug/l		8260B	07/28/14	1
1,1-Dichloroethane	75-34-3	2.2	0.26	0.50	1	ug/l		8260B	07/28/14	1
1,2-Dichloroethane	107-06-2	U	0.36	0.50	1	ug/l		8260B	07/28/14	1
1,1-Dichloroethene J MS-L	75-35-4	22.	0.4	0.50	1	ug/l	J6	8260B	07/28/14	1
cis-1,2-Dichloroethene	156-59-2	U	0.26	0.50	1	ug/l		8260B	07/28/14	1
trans-1,2-Dichloroethene	156-60-5	U	0.4	0.50	1	ug/l		8260B	07/28/14	1
1,2-Dichloropropane	78-87-5	U	0.31	0.50	1	ug/l		8260B	07/28/14	1
1,1-Dichloropropene	563-58-6	U	0.35	0.50	1	ug/l		8260B	07/28/14	1
1,3-Dichloropropane	142-28-9	U	0.37	0.50	1	ug/l		8260B	07/28/14	1
cis-1,3-Dichloropropene	10061-01-5	U	0.42	0.50	1	ug/l		8260B	07/28/14	1
trans-1,3-Dichloropropene	10061-02-6	U	0.42	0.50	1	ug/l		8260B	07/28/14	1
2,2-Dichloropropane	594-20-7	U	0.32	0.50	1	ug/l		8260B	07/28/14	1
Ethylbenzene	100-41-4	U	0.38	0.50	1	ug/l		8260B	07/28/14	1
2-Hexanone	591-78-6	U	3.8	5.0	10	ug/l		8260B	07/28/14	1
Hexachloro-1,3-butadiene	87-68-3	U	0.26	0.50	1	ug/l		8260B	07/28/14	1
Isopropylbenzene	98-82-8	U	0.33	0.50	1	ug/l		8260B	07/28/14	1
p-Isopropyltoluene	99-87-6	U	0.35	0.50	1	ug/l		8260B	07/28/14	1
2-Butanone (MEK)	78-93-3	U	3.9	5.0	10	ug/l		8260B	07/28/14	1
Methylene Chloride	75-09-2	U	1	2.5	5	ug/l		8260B	07/28/14	1
4-Methyl-2-pentanone (MIBK)	108-10-1	U	2.1	5.0	10	ug/l		8260B	07/28/14	1
Methyl tert-butyl ether	1634-04-4	U	0.37	0.50	1	ug/l		8260B	07/28/14	1
Naphthalene DNR	~~91-20-3~~	~~U~~	~~1~~	~~2.5~~	~~5~~	~~ug/l~~		~~8260B~~	~~07/28/14~~	~~1~~
n-Propylbenzene	103-65-1	U	0.35	0.50	1	ug/l		8260B	07/28/14	1
Styrene UJ MS,D-L	100-42-5	U	0.31	0.50	1	ug/l	J6J3	8260B	07/28/14	1
1,1,1,2-Tetrachloroethane UJ MS-L	630-20-6	U	0.38	0.50	1	ug/l		8260B	07/28/14	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.58 ~~0.13~~	0.75	1	ug/l		8260B	07/28/14	1
Tetrachloroethene	127-18-4	U	0.37	0.50	1	ug/l		8260B	07/28/14	1
Toluene	108-88-3	U	0.78	2.5	5	ug/l		8260B	07/28/14	1
1,2,3-Trichlorobenzene	87-61-6	U	0.23	0.50	1	ug/l		8260B	07/28/14	1
1,2,4-Trichlorobenzene	120-82-1	U	0.21	0.50	1	ug/l		8260B	07/28/14	1
1,1,1-Trichloroethane	71-55-6	U	0.319	0.50	1	ug/l		8260B	07/28/14	1
1,1,2-Trichloroethane	79-00-5	U	0.38	0.50	1	ug/l		8260B	07/28/14	1
Trichloroethene	79-01-6	U	0.4	0.50	1	ug/l		8260B	07/28/14	1
Trichlorofluoromethane	75-69-4	U	1.2	2.5	5	ug/l		8260B	07/28/14	1
1,2,3-Trichloropropane	96-18-4	U	0.81	1.0	2.5	ug/l		8260B	07/28/14	1
1,2,4-Trimethylbenzene	95-63-6	U	0.37	0.50	1	ug/l		8260B	07/28/14	1
1,3,5-Trimethylbenzene	108-67-8	U	0.39	0.50	1	ug/l		8260B	07/28/14	1
o-Xylene	95-47-6	U	0.34	0.50	1	ug/l		8260B	07/28/14	1
m&p-Xylene	1330-20-7	U	0.72	1.0	2	ug/l		8260B	07/28/14	1

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 10, 2015

Date Received : July 24, 2014
Description : Holloman AFB

Sample ID : H-TU508-MW03-NT01

Collected By :
Collection Date : 07/22/14 15:20

ESC Sample # : L711875-08

Site ID :

Project # : 23446543.0057AA

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Vinyl chloride	75-01-4	U	0.26	0.50	1	ug/l		8260B	07/28/14	1
Surrogate Recovery										
Toluene-d8	2037-26-5	100.				% Rec.		8260B	07/28/14	1
Dibromofluoromethane	1868-53-7	94.7				% Rec.		8260B	07/28/14	1
4-Bromofluorobenzene	460-00-4	101.				% Rec.		8260B	07/28/14	1
Diesel and Oil Ranges										
C10-C28 Diesel Range VJ ID-I		130	22.2	33.	100	ug/l		8015	07/28/14	1
C28-C40 Oil Range VJ ID-I		U	11.8	33.	100	ug/l		8015	07/28/14	1
Surrogate Recovery										
o-Terphenyl	84-15-1	98.6				% Rec.		8015	07/28/14	1
Polynuclear Aromatic Hydrocarbons										
Anthracene	120-12-7	U	0.00761	0.025	0.05	ug/l		8270C-S	07/29/14	1
Acenaphthene	83-32-9	U	0.00818	0.025	0.05	ug/l		8270C-S	07/29/14	1
Acenaphthylene	208-96-8	U	0.00682	0.025	0.05	ug/l		8270C-S	07/29/14	1
Benzo(a)anthracene	56-55-3	U	0.0118	0.025	0.05	ug/l		8270C-S	07/29/14	1
Benzo(a)pyrene	50-32-8	U	0.0116	0.025	0.05	ug/l		8270C-S	07/29/14	1
Benzo(b)fluoranthene	205-99-2	U	0.0138	0.025	0.05	ug/l		8270C-S	07/29/14	1
Benzo(g,h,i)perylene	191-24-2	U	0.0114	0.025	0.05	ug/l		8270C-S	07/29/14	1
Benzo(k)fluoranthene	207-08-9	U	0.0136	0.025	0.05	ug/l		8270C-S	07/29/14	1
Chrysene	218-01-9	U	0.0108	0.025	0.05	ug/l		8270C-S	07/29/14	1
Dibenz(a,h)anthracene	53-70-3	U	0.00396	0.025	0.05	ug/l		8270C-S	07/29/14	1
Fluoranthene	206-44-0	U	0.0157	0.025	0.05	ug/l		8270C-S	07/29/14	1
Fluorene	86-73-7	U	0.0085	0.025	0.05	ug/l		8270C-S	07/29/14	1
Indeno(1,2,3-cd)pyrene	193-39-5	U	0.0148	0.025	0.05	ug/l		8270C-S	07/29/14	1
Naphthalene	91-20-3	U	0.0198	0.025	0.25	ug/l		8270C-S	07/29/14	1
Phenanthrene	85-01-8	U	0.0082	0.025	0.05	ug/l		8270C-S	07/29/14	1
Pyrene	129-00-0	U	0.0117	0.025	0.05	ug/l		8270C-S	07/29/14	1
2-Methylnaphthalene	91-57-6	U	0.00902	0.025	0.25	ug/l		8270C-S	07/29/14	1
Surrogate Recovery										
Nitrobenzene-d5	4165-60-0	114.				% Rec.		8270C-S	07/29/14	1
2-Fluorobiphenyl	321-60-8	119.				% Rec.		8270C-S	07/29/14	1
p-Terphenyl-d14	1718-51-0	138.				% Rec.		8270C-S	07/29/14	1

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 10, 2015

Date Received : July 24, 2014
Description : Holloman AFB

ESC Sample # : L711875-09

Sample ID : H-TU508-TRIP BLANK-TT02

Site ID :

Project # : 23446543.0057AA

Collected By :
Collection Date : 07/22/14 15:00

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
TPH (GC/FID) Low Fraction	8006-61-9	U	31	50.	100	ug/l		8015D/G	07/29/14	1
Surrogate Recovery-%										
a,a,a-Trifluorotoluene(FID)	98-08-8	104.				% Rec.		8015D/G	07/29/14	1
Volatile Organics										
Acetone	67-64-1	U	10	25.	50	ug/l		8260B	07/28/14	1
Benzene	71-43-2	U	0.33	0.50	1	ug/l		8260B	07/28/14	1
Bromobenzene	108-86-1	U	0.35	0.50	1	ug/l		8260B	07/28/14	1
Bromochloromethane	74-97-5	U	0.52	0.75	1	ug/l		8260B	07/28/14	1
Bromodichloromethane	75-27-4	U	0.38	0.50	1	ug/l		8260B	07/28/14	1
Bromoform	75-25-2	U	0.47	0.50	1	ug/l		8260B	07/28/14	1
Bromomethane	74-83-9	U	0.87	2.5	5	ug/l		8260B	07/28/14	1
n-Butylbenzene	104-51-8	U	0.36	0.50	1	ug/l		8260B	07/28/14	1
sec-Butylbenzene	135-98-8	U	0.36	0.50	1	ug/l		8260B	07/28/14	1
tert-Butylbenzene	98-06-6	U	0.4	0.50	1	ug/l		8260B	07/28/14	1
Carbon Disulfide	75-15-0	U	0.28	0.50	1	ug/l		8260B	07/28/14	1
Carbon tetrachloride	56-23-5	U	0.38	0.50	1	ug/l		8260B	07/28/14	1
Chlorobenzene	108-90-7	U	0.35	0.50	1	ug/l		8260B	07/28/14	1
Chlorodibromomethane	124-48-1	U	0.33	0.50	1	ug/l		8260B	07/28/14	1
Chloroethane	75-00-3	U	0.45	2.5	5	ug/l		8260B	07/28/14	1
Chloroform	67-66-3	U	0.32	2.5	5	ug/l		8260B	07/28/14	1
Chloromethane	74-87-3	U	0.28	0.50	2.5	ug/l		8260B	07/28/14	1
2-Chlorotoluene	95-49-8	U	0.38	0.50	1	ug/l		8260B	07/28/14	1
4-Chlorotoluene	106-43-4	U	0.35	0.50	1	ug/l		8260B	07/28/14	1
1,2-Dibromo-3-Chloropropane	96-12-8	U	1.3	2.5	5	ug/l		8260B	07/28/14	1
1,2-Dibromoethane	106-93-4	U	0.38	0.50	1	ug/l		8260B	07/28/14	1
Dibromomethane	74-95-3	U	0.35	0.50	1	ug/l		8260B	07/28/14	1
1,2-Dichlorobenzene	95-50-1	U	0.35	0.50	1	ug/l		8260B	07/28/14	1
1,3-Dichlorobenzene	541-73-1	U	0.22	0.50	1	ug/l		8260B	07/28/14	1
1,4-Dichlorobenzene	106-46-7	U	0.27	0.50	1	ug/l		8260B	07/28/14	1
Dichlorodifluoromethane	75-71-8	U	0.55	2.5	5	ug/l		8260B	07/28/14	1
1,1-Dichloroethane	75-34-3	U	0.26	0.50	1	ug/l		8260B	07/28/14	1
1,2-Dichloroethane	107-06-2	U	0.36	0.50	1	ug/l		8260B	07/28/14	1
1,1-Dichloroethene	75-35-4	U	0.4	0.50	1	ug/l		8260B	07/28/14	1
cis-1,2-Dichloroethene	156-59-2	U	0.26	0.50	1	ug/l		8260B	07/28/14	1
trans-1,2-Dichloroethene	156-60-5	U	0.4	0.50	1	ug/l		8260B	07/28/14	1
1,2-Dichloropropane	78-87-5	U	0.31	0.50	1	ug/l		8260B	07/28/14	1
1,1-Dichloropropene	563-58-6	U	0.35	0.50	1	ug/l		8260B	07/28/14	1
1,3-Dichloropropane	142-28-9	U	0.37	0.50	1	ug/l		8260B	07/28/14	1
cis-1,3-Dichloropropene	10061-01-5	U	0.42	0.50	1	ug/l		8260B	07/28/14	1
trans-1,3-Dichloropropene	10061-02-6	U	0.42	0.50	1	ug/l		8260B	07/28/14	1
2,2-Dichloropropane	594-20-7	U	0.32	0.50	1	ug/l		8260B	07/28/14	1
Ethylbenzene	100-41-4	U	0.38	0.50	1	ug/l		8260B	07/28/14	1
2-Hexanone	591-78-6	U	3.8	5.0	10	ug/l		8260B	07/28/14	1
Hexachloro-1,3-butadiene	87-68-3	U	0.26	0.50	1	ug/l		8260B	07/28/14	1
Isopropylbenzene	98-82-8	U	0.33	0.50	1	ug/l		8260B	07/28/14	1

U = Not Detected at the LOD
Note:
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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 10, 2015

Date Received : July 24, 2014
Description : Holloman AFB

Sample ID : H-TU508-TRIP BLANK-TT02

Collected By :
Collection Date : 07/22/14 15:00

ESC Sample # : L711875-09

Site ID :

Project # : 23446543.0057AA

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
p-Isopropyltoluene	99-87-6	U	0.35	0.50	1	ug/l		8260B	07/28/14	1
2-Butanone (MEK)	78-93-3	U	3.9	5.0	10	ug/l		8260B	07/28/14	1
Methylene Chloride	75-09-2	U	1	2.5	5	ug/l		8260B	07/28/14	1
4-Methyl-2-pentanone (MIBK)	108-10-1	U	2.1	5.0	10	ug/l		8260B	07/28/14	1
Methyl tert-butyl ether	1634-04-4	U	0.37	0.50	1	ug/l		8260B	07/28/14	1
Naphthalene	91-20-3	U	1	2.5	5	ug/l		8260B	07/28/14	1
n-Propylbenzene	103-65-1	U	0.35	0.50	1	ug/l		8260B	07/28/14	1
Styrene	100-42-5	U	0.31	0.50	1	ug/l		8260B	07/28/14	1
1,1,1,2-Tetrachloroethane	630-20-6	U	0.38	0.50	1	ug/l		8260B	07/28/14	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.58 ~~0.13~~	0.75	1	ug/l		8260B	07/28/14	1
Tetrachloroethene	127-18-4	U	0.37	0.50	1	ug/l		8260B	07/28/14	1
Toluene	108-88-3	U	0.78	2.5	5	ug/l		8260B	07/28/14	1
1,2,3-Trichlorobenzene	87-61-6	U	0.23	0.50	1	ug/l		8260B	07/28/14	1
1,2,4-Trichlorobenzene	120-82-1	U	0.21	0.50	1	ug/l		8260B	07/28/14	1
1,1,1-Trichloroethane	71-55-6	U	0.319	0.50	1	ug/l		8260B	07/28/14	1
1,1,2-Trichloroethane	79-00-5	U	0.38	0.50	1	ug/l		8260B	07/28/14	1
Trichloroethene	79-01-6	U	0.4	0.50	1	ug/l		8260B	07/28/14	1
Trichlorofluoromethane	75-69-4	U	1.2	2.5	5	ug/l		8260B	07/28/14	1
1,2,3-Trichloropropane	96-18-4	U	0.81	1.0	2.5	ug/l		8260B	07/28/14	1
1,2,4-Trimethylbenzene	95-63-6	U	0.37	0.50	1	ug/l		8260B	07/28/14	1
1,3,5-Trimethylbenzene	108-67-8	U	0.39	0.50	1	ug/l		8260B	07/28/14	1
o-Xylene	95-47-6	U	0.34	0.50	1	ug/l		8260B	07/28/14	1
m&p-Xylene	1330-20-7	U	0.72	1.0	2	ug/l		8260B	07/28/14	1
Vinyl chloride	75-01-4	U	0.26	0.50	1	ug/l		8260B	07/28/14	1
Surrogate Recovery										
Toluene-d8	2037-26-5	102.				% Rec.		8260B	07/28/14	1
Dibromofluoromethane	1868-53-7	92.8				% Rec.		8260B	07/28/14	1
4-Bromofluorobenzene	460-00-4	103.				% Rec.		8260B	07/28/14	1

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Reported: 01/09/15 15:00 Revised: 01/10/15 18:36

KA 1/12/15

Holloman AFB
Groundwater Monitoring
Data Review Summary

Data Package Number: L711879
Sampling Event Dates: July 22, 2014
Sample-specific Parameter Review/Laboratory Performance Parameters: Yes
Full Validation (e.g. result recalculation): No
Data Reviewer: Katie Abbott, URS Project Chemist
Date Completed: January 15, 2015
Peer Reviewer: Sheri Fling, URS Project Quality Assurance Manager (QAM)

The table below summarizes the data package and sample identifications discussed in this data review.

Field Identification	Sample Type	Lab Identification	Matrix	Analyses						
				GRO	DRO/ORO	VOCs	PAHs	Total Metals	Dissolved Metals	TDS
L711879										
H-TU515-MW01-ND01	SA	L711879-01	Water	---	---	---	---	---	X	---
H-TU515-MW01-NT01	SA	L711879-02	Water	X	X	X	X	X	---	X
H-TU515-MW02-ND01	SA	L711879-03	Water	---	---	---	---	---	X	---
H-TU515-MW02-DD01	FD	L711879-04	Water	---	---	---	---	---	X	---
H-TU515-MW02-NT01	SA	L711879-05	Water	X^m	X	X	X	X	---	X
H-TU515-MW02-DT01	FD	L711879-06	Water	X	X	X	X	X	---	X
H-TU515-MW03-ND01	SA	L711879-07	Water	---	---	---	---	---	X^m	---
H-TU515-MW03-NT01	SA	L711879-08	Water	X^m	X^m	X^m	X^m	X^m	---	X
H-TU515-TRIP BLANK-TT02	TB	L711879-09	Water	X	---	X	---	---	---	---

Sample Type: SA – Sample FD - Field Duplicate TB – Trip Blank
X^m - Matrix Spike/Matrix Spike Duplicate

Analyses:
DRO/ORO - Diesel and Oil Range Organics (8015)
GRO – Gasoline Range Organics (8015D)
TDS – Total Dissolved Solids (SM2540C)
Total/Dissolved Metals – Antimony, Arsenic, Cadmium, Chromium, Cobalt, Lead, Nickel, Selenium, Silver, Thallium, Mercury, Aluminum, Barium, Beryllium, Copper, Manganese, Vanadium, Zinc (6010B/6020/7470A)
PAHs – Polynuclear Aromatic Hydrocarbons (8270C)
VOCs – Volatile Organic Compounds (8260B)

The data review was conducted in accordance with the Final Interim Measures Work Plan – Appendix A, Sampling and Analysis Plan/Quality Assurance Project Plan: Former Septic System Site TU904 (URS, September 2014); Group 2 Former Underground Storage Sites: AOC-UST-889 (TU515) (URS, September 2014); and Group 3 Former Underground Storage Tank Sites: AOC-UST-221 (TU503), AOC-UST-298 (TU508), AOC-UST-901 (TU506) and AOC-UST-7003 (TU518) (URS, August 2014); data validation standard operating procedure (SOP) 14;

Department of Defense (DoD) Quality Systems Manual version 4.2 (DoD, 2010); and method requirements.

General Overall Assessment:

_____ Data are usable without qualification.
__X__ Data are usable with qualification (noted below).
_____ Some or all data are unusable for any purpose (detailed below).

Case Narrative Comments: Any laboratory case narrative comments concerning data qualification were addressed in the table below.

Trace level detects, reported between the method detection limit (MDL) and the reporting limit (LOQ), have been qualified as estimated (F SQL-I). All other occurrences of data qualification are covered in the following table.

Review Parameter	Criteria Met?	Comment
Chain of Custody & Sample Receipt	Yes	The samples were received by ESC Lab Sciences in good condition and were consistent with the accompanying chain of custody (COC). The cooler temperatures upon receipt were within the recommended ≤6 degrees Celsius (°C) temperature range.
Reporting	Yes	During review of a representative data package selected for full validation, it was noted that improper reference spectra were displayed in the printed version of the data package for Method 8260B. Due to a LIMS limitation, the data package reference spectra were not consistently representative of the actual spectra for the analytes detected. Because the laboratory data review involves the use of NBS reference spectra and not the reference spectra taken from the instrument calibration, the analyst was not seeing the improper alignment of spectra noted in the data package during his/her review at the instrument. The laboratory revised and reissued the data package with correct reference spectral data, consistent with method requirements, and no results were changed. Therefore, no further action is necessary as a result of this validation finding. Several revisions to the data package were required. Revision 1: Revised reports were issued to remove non-target analytes from the volatile organic compound (VOC) and polynuclear aromatic hydrocarbon (PAH) analyte lists; to include quality assurance project plan (QAPP) required VOC analytes; to correct the matrix spike/matrix spike duplicate (MS/MSD) for diesel range organics/oil range organics (DRO/ORO); to correct the limits of detection (LODs) for 1,1,2,2-tetrachloroethane; 1,2,3-trichloropropane; cadmium; nickel; selenium; and mercury; and to report the continuing calibration blanks (CCBs) and initial calibration blanks (ICBs) to the detection limit (DL). Revision 2: A revised report was issued to correct the DLs LODs, and LOQs for mercury and several VOC analytes. Revision 3: An addendum was issued to include the isotope results in the quality control samples for Method 6020.

Review Parameter	Criteria Met?	Comment
		Revision 4: A revised report was issued to remove the 1,2,3-trichlorobenzene results for VOCs and to include results for bromochloromethane.
Holding Times	Yes	All samples were analyzed within the method required holding time.
Laboratory Blanks • Method Blank • Continuing Calibration Blank	No	With the exception listed in Table 1, target analytes were not detected within the method or calibration blanks. **Method 6020** The laboratory reported multiple isotopes for a given analyte (e.g. antimony 121 and antimony 123) within the analytical sequence for Method 6020. Therefore, all isotope detections were evaluated in the method blanks and continuing calibration blanks for potential impact to sample result qualification.
Matrix Quality Control • Matrix Spike/ Matrix Spike Duplicate H-TU515-MW02-NT01 (GRO) H-TU515-MW03-ND01 (Dissolved 6010/6020) H-TU515-MW03-NT01 (Total Mercury, Total 6010/6020, GRO, VOCs, DRO/ORO, PAHs) • Laboratory Duplicate H-TU515-MW03-ND01 (Dissolved Mercury) H-TU515-MW03-NT01 (TDS) • Total vs. Partial Analyses (Metals)	No	**Matrix Spike/ Matrix Spike Duplicate (MS/MSD)** The frequency of MS/MSDs met the QAPP requirement of one per twenty samples. With the exceptions listed in Table 2, the MS/MSD recoveries and relative percent differences (RPDs) met quality control criteria. DRO and ORO were reported in the ranges of C10-C28 and C28-C40; however, the laboratory performed one spike covering the range of C12-C40. This is considered to be an acceptable representation of precision and accuracy with respect to the reported ranges. Results in the native sample greater than four times the concentration of the spike added during digestions/extractions are not considered to be a representative measure of accuracy. Further action with respect to spike recovery evaluation or qualification of data was not considered necessary. Consistent with standard operating procedure (SOP) 14, when MS/MSD issues accounted for less than 35% of the MS/MSD analyses conducted, applicable data qualification was limited to qualification of the parent sample of the affected analyte. When >35% of the MS/MSD results did not meet criteria, evaluation was extended to all associated samples. See Section 4.1 of the data validation report for overall qualifiers resulting from the MS/MSD evaluation. **Laboratory Duplicate** The comparison between results of the laboratory duplicate pair met the criteria listed below. • When both the sample and duplicate values are >5x the LOQ, acceptable sampling and analytical precision is indicated by an RPD between the results of ≤20% for water samples (≤35% for soil samples). • Where the result for one or both analytes of the laboratory duplicate pair is <5xLOQ, satisfactory precision is indicated if the absolute difference between the laboratory duplicate results is <1xLOQ for water samples (<2xLOQ for soil samples).

Review Parameter	Criteria Met?	Comment
		Total vs. Partial Analyses (Metals) Consistent with SOP 14, results for the total analysis of a particular analyte should be greater than the results for a partial analyte of that analyte. The following criteria were used to evaluate the total versus dissolved results: • In instances where the value for a partial analysis exceeds that for a total analysis and both of the results are >5x the LOQ, the criterion utilized is that the two values should agree within ±30%. • In instances where the value for a partial analysis exceeds that for a total analysis and either of the results is ≤5x the LOQ, the absolute difference between the results is compared against an evaluation criterion of 2x the LOQ. The total metal sample results were compared with the associated dissolved metal sample results against the concentration-dependent criteria set forth in SOP 14.
Metals Only • Serial Dilution H-TU515-MW03-ND01 (Dissolved Mercury/6010) H-TU515-MW03-NT01 (Total 6010/6020) • Post Digestion Spike H-TU515-MW03-ND01 (Dissolved Mercury/6010) H-TU515-MW03-NT01 (Total 6010/6020)	No	**Serial Dilution (Metals Only)** Consistent with the method, only the results that were greater than 50 times their respective DLs were appropriate for comparing to the serial dilution evaluation criterion. All percent differences (%Ds) between the original sample results and the results obtained from the sample-diluted 1:5 were ≤10%. **Post Digestion Spike (PDS) (Metals Only)** With the exceptions listed in Table 3, all PDS recoveries were within the acceptance limits.
Method Quality Control • Surrogates (VOCs, PAHs, GRO, DRO/ORO)	Yes	The surrogate recoveries were within the laboratory specified acceptance criteria.
Field Quality Control • Trip Blank H-TU515-TRIP BLANK-TT02 (GRO, VOCs) • Field Duplicate H-TU515-MW02-ND01/ H-TU515-MW02-DD01 H-TU515-MW02-NT01/ H-TU515-MW02-DT01 • Equipment Blank None in this package • Field Blank None in this package	Yes	**Trip Blank** Target analytes were not detected in the trip blank. **Field Duplicate** The frequency of field duplicates met the QAPP requirement of one per twenty samples. The comparison between results of the field duplicate pair met the criteria listed below. • When both the sample and duplicate values are >5x the LOQ, acceptable sampling and analytical precision is indicated by an RPD between the results of ≤30% for water samples (≤50% for soil samples). • Where the result for one or both analytes of the field duplicate pair is <5xLOQ, satisfactory precision is indicated if the absolute difference between the field duplicate results is <2xLOQ for water samples (<3.5xLOQ for soil samples). Consistent with SOP 14, when field duplicate issues accounted for less than 35% of the field duplicate analyses conducted, applicable data qualification was limited to qualification of the parent sample for the affected analyte. When >35% of the field duplicate results did not meet criteria, evaluation was extended to all associated samples. See Section 4.3 of the data

Review Parameter	Criteria Met?	Comment
		validation report for overall qualifiers resulting from the field duplicate evaluation. **Equipment Blank** As dedicated equipment was used to collect these samples, an equipment blank was not submitted for this sampling event. Further action was not necessary. **Field Blank** The frequency of field blanks met the QAPP requirement of one per twenty samples. A field blank was not submitted with this data package. See Section 4.4 of the data validation report for overall qualifiers resulting from the field blank evaluation.
LODs met?	Yes	No results were reported as non-detect at elevated LODs.
Other Parameters	Yes	Naphthalene (8260B and 8270C-PAHs) was analyzed by multiple methods. Results were selected for reporting using the following criteria: • If both results were non-detect, the non-detect result with the lower reporting limit was selected. • If both results were reported as detected, the higher detected result was selected for reporting. • If one result was reported as non-detect and the other result was reported as detected, the detected result was selected for reporting.
Initial Calibration	Yes	**Method 8260B VOCs** A minimum relative response factor (RRF) of 0.05 was used for the system performance check compounds (SPCCs) and all SPCCs met this criterion. The percent relative standard deviations (%RSDs) over the initial calibration RRFs for all calibration check compounds (CCCs) satisfied the method requirement of <30%. For all other target compounds, a requirement of 15% was used. The %RSD values for all target analytes in the calibration were less than 15%. Therefore, the initial calibration met method acceptance criteria. **Method 8270C PAHs** The %RSD values for all target analytes in the calibration were less than 20%. Therefore, the initial calibration met method acceptance criteria. **Method 8015D Gasoline Range Organics (GRO)** The relationship between instrument response and concentration was established with a blank and at least five standards for each analyte. The %RSD over the initial calibrations curve satisfied the method requirement of <15%. Therefore, the initial calibration met method acceptance criteria. **Method 8015 DRO and ORO** The relationship between instrument response and concentration was established with a blank and at least five standards for the entire carbon range of C10-C40. The %RSD over the initial calibrations curve satisfied the method requirement of <15%. Therefore, the initial calibration met method acceptance criteria.

Review Parameter	Criteria Met?	Comment
		Methods 6010B (Inductively Coupled Plasma [ICP] Metals) and 6020 (ICPMS Metals) The initial calibrations (ICALs) were performed in association with the samples reported in this package. The relationship between instrument response and concentration was established with a blank and at least five standards. The calibrations were verified with the analysis of an initial calibration verification (ICV) standard. All metals were recovered within the method acceptance range of 90-110%. **Method 7470A (Mercury)** The ICALs were performed in association with the samples reported in this package. The relationship between instrument response and concentration was established with five standards. The correlation coefficient was >0.995. The calibration was verified with the analysis of an ICV standard. The analytes were recovered within the acceptance range of 90-110%. Response and linearity criteria were met and data qualification on the basis of initial calibration was not necessary. **Total Dissolved Solids (TDS)** ICALs are not required per the method for TDS
Initial Calibration Verification/Continuing Calibration Verification	No	**Method 8260B VOCs/ 8270C PAHs** The percent differences (%Ds) for all CCCs in the ICVs and continuing calibrations (CCALs) were less than 20%, satisfying method requirements, and other target analytes satisfied the %D criterion of 20%. **Method 8015D GRO/Method 8015 DRO/ORO** The %Ds for GRO and DRO/ORO (C10-C40) in the ICVs and CCALs were less than 15%. Data qualification was not necessary. **Methods 6010B (ICP Metals), Methods 6020 (ICPMS Metals) & 7470A (Mercury)** Calibration verification analyses were conducted at the proper frequency. All metals were recovered within the DOD QSM 4.2 low level acceptance range of 80-120% and the method medium/high acceptance range of 90-110%. **TDS** Calibration verifications are not required for TDS.
Interference Check Standard (Metals Only)	No	The interference check standard (ICS) AB solutions were analyzed at the proper frequency. The target analytes were recovered within the acceptance range of 90-10% in the ICS AB solution. With the exceptions listed in Table 5, interferent elements were not present in the samples at concentrations greater than those in the ICSs. The interferent elements aluminum, calcium, iron, and magnesium were present in most samples in this data package at concentrations greater than or equal to those in the ICSs. As such, these samples were evaluated for positive and negative biases suggested by the ICS A. Data qualification was issued if the absolute value of the ICS A result was greater than the MDL and it suggested a positive or negative bias which accounted for more than 25% of associated sample results or reporting limits. (Note: The ICS A solution only contains the interferent elements aluminum, calcium, iron,

Review Parameter	Criteria Met?	Comment
		and magnesium so any positive or negative result for other analytes is inferred to be a bias potentially caused by one or more of the interferent elements present.) Table 5 summarizes the resultant data qualification on the basis of the ICS results.
Internal Standard (VOCs/PAHs/Metals (6020))	Yes	Recoveries for the internal standards in field samples were within the applicable acceptance limits. Therefore, data qualification based on internal standards was not necessary.
Laboratory Control Sample/ Laboratory Control Sample Duplicate	No	One laboratory control sample (LCS) and/or laboratory control sample duplicate (LCSD) per method per analytical batch was prepared and analyzed. With the exceptions listed in Table 6, all of the LCS recoveries and LCS/LCSD RPDs were within the QAPP acceptance limits. These results are indicative of an acceptable level of accuracy and precision with respect to the analytical method. **Method 8015 DRO/ORO** DRO and ORO were reported in the ranges of C10-C28 and C28-C40; however, the laboratory performed one spike covering the range of C12-C40. This is considered to be an acceptable representation of precision and accuracy with respect to the reported ranges.
Other Parameters	Yes	**Method 8015 DRO/ORO** As the entire area for C10-C40 is used in the calibration to determine response factor, there is a potential bias in the results when you segregate the DRO (C10-C28) and ORO (C28-C40) which is demonstrated in the individual continuing calibration results. Therefore, the DRO/ORO results were qualified as estimated (J/UJ ID-I).
Package Completeness	Yes	The results are usable as qualified for the project objective. The data are 100% complete.

> - Greater Than
< - Less Than
≤ - Less Than or Equal to
± - Plus or Minus
°C – Degrees Celsius
% - Percent
%Ds – Percent Differences
%RSD – Percent Relative Standard Deviation
CCALs – Continuing Calibrations
CCBs – Continuing Calibration Blanks
CCCs – Calibration Check Compounds
COC – Chain of Custody
COD – Coefficient of Determination
DLs – Detection Limits
DRO – Diesel Range Organics
GRO – Gasoline Range Organics
I – Indeterminate Bias
ICAL – Initial Calibration
ICB – Initial Calibration Blank
ICP – Inductively Coupled Plasma
ICPMS - Inductively Coupled Plasma Mass Spectrometry
ICS – Interference Check Standard
ICV – Initial Calibration Verification
ID - Identification
LCS – Laboratory Control Sample
LCSD – Laboratory Control Sample Duplicate
LOD – Limit of Detection
LOQ – Limit of Quantitation
MS/MSD – Matrix Spike/ Matrix Spike Duplicate
ORO – Oil Range Organics
PAHs – Polynuclear Aromatic Hydrocarbons
PDS – Post Digestion Spike
QAPP – Quality Assurance Project Plan
RPDs – Relative Percent Differences
RRF – Relative Response Factor
SOP – Standard Operating Procedure
SPCCs – System Performance Check Compounds
TDS – Total Dissolved Solids
UJ - Estimated
VOCs – Volatile Organic Compounds

Table 1: Blank Outliers and Resultant Data Qualification

Associated Samples	Analyte	Concentration	Qualification
Total Metals			
MB Batch WG733954 H-TU515-MW01-NT01 H-TU515-MW02-NT01 H-TU515-MW02-DT01 H-TU515-MW03-NT01	Arsenic	0.300 µg/L	None. The associated results were reported at concentrations >5x the concentration of the blank contamination.
	Nickel	0.360 µg/L	
MB Batch WG734718 H-TU515-MW01-NT01 H-TU515-MW02-NT01 H-TU515-MW02-DT01	Selenium (82)	0.63 µg/L	None. The associated results were reported at concentrations >5x the concentration of the blank contamination.
	Cadmium (111)	0.160 µg/L	The associated results reported at concentrations <5x the concentration of the blank contamination were qualified as non-detect (U MB-I).
MB Batch WG734718 H-TU515-MW03-NT01	Cadmium (114)	0.200 µg/L	
CCB 7/30/2014 5:57AM H-TU515-MW02-NT01 H-TU515-MW02-DT01 H-TU515-MW03-NT01	Manganese	3.0 µg/L	The manganese result for sample H-TU515-MW03-NT01 was reported at a concentration <5x the concentration of the blank contamination and was qualified as non-detect (U CCB-I).
CCB 7/28/2014 2:25PM H-TU515-MW01-NT01 H-TU515-MW02-NT01 H-TU515-MW02-DT01	Arsenic	0.250 µg/L	None. The associated results were reported at concentrations >5x the concentration of the blank contamination.
CCB 7/28/2014 3:44PM H-TU515-MW01-NT01 H-TU515-MW02-NT01 H-TU515-MW02-DT01		0.290 µg/L	
CCB 7/31/2014 10:19PM H-TU515-MW01-NT01 H-TU515-MW02-NT01 H-TU515-MW02-DT01 H-TU515-MW03-NT01	Selenium (82)	0.460 µg/L	
Dissolved Metals			
MB Batch WG734245 H-TU515-MW01-ND01 H-TU515-MW02-ND01 H-TU515-MW02-DD01 H-TU515-MW03-ND01	Copper	5.96 µg/L	None. The associated results were reported as non-detect or at concentrations >5x the concentration of the blank contamination.
	Manganese	1.63 µg/L	
MB Batch WG734093 H-TU515-MW01-ND01 H-TU515-MW02-ND01 H-TU515-MW02-DD01 H-TU515-MW03-ND01	Antimony (121)	0.230 µg/L	The antimony result for sample H-TU515-MW02-DD01 was reported at a concentration <5x the concentration of the blank contamination and was qualified as non-detect (U MB-I).
CCB 8/2/2014 10:50AM H-TU515-MW01-ND01 H-TU515-MW02-ND01 H-TU515-MW02-DD01	Arsenic	0.370 µg/L 0.490 µg/L	None. The associated results were reported at concentrations >5x the concentration of the blank contamination.
CCB 8/2/2014 11:49AM H-TU515-MW01-ND01	Selenium (82)	0.420 µg/L	

Associated Samples	Analyte	Concentration	Qualification
H-TU515-MW02-ND01 H-TU515-MW02-DD01 H-TU515-MW03-ND01			
CCB 8/2/2014 1:08PM H-TU515-MW03-ND01	Arsenic	0.450 µg/L	
VOCs			
MB Batch **WG734460** H-TU515-TRIP BLANK-TT02	1,2,3-Trichlorobenzene	0.000448 µg/L	None. The associated results were reported as non-detect.
	1,2,4-Trichlorobenzene	0.000329 µg/L	
PAHs			
MB Batch **WG734073** H-TU515-MW01-NT01 H-TU515-MW02-NT01 H-TU515-MW02-DT01 H-TU515-MW03-NT01	Naphthalene	0.0213 µg/L	None. The associated results were reported as non-detect.

> - Greater Than
< - Less Than
µg/L – Micrograms per Liter
I – Indeterminate Bias
MB – Method Blank
PAHs – Polynuclear Aromatic Hydrocarbons
U – Non-detect
VOCs – Volatile Organic Compounds

Table 2: MS/MSD Recovery and RPD Outliers and Resultant Data Qualification

Associated Sample	Analyte	%R (Limits)	RPD (Limit)	Qualification
Total Metals				
H-TU515-MW03-NT01	Aluminum	**125/134** (80-120)	8 (30)	As the potential bias was considered to be high, the associated detected aluminum result for sample H-TU515-MW03-NT01 was qualified as estimated (J MS-H).
Dissolved Metals				
H-TU515-MW03-ND01	Selenium	**126/124** (80-120)	1 (30)	As the potential bias was considered to be high, the associated detected selenium result for sample H-TU515-MW03-ND01 was qualified as estimated (J MS-H).
	Silver	**58/63.1** (80-130)	8 (30)	As the potential bias was considered to be low, the associated silver result for sample H-TU515-MW03-ND01 was qualified as estimated (UJ MS-L).
VOCs				
H-TU515-MW03-NT01	Bromomethane	**186/206** (30-145)	10.3 (30)	As the potential bias was considered to be high, and the assocaited bromomethane result was reported as non-detect, data qualification was not considered necessary.
PAHs				
H-TU515-MW03-NT01	Anthracene	**113/111** (55-110)	2.05 (20)	As the potential bias was considered to be high, and the assocaited

Associated Sample	Analyte	%R (Limits)	RPD (Limit)	Qualification
	Naphthalene	**101**/98 (40-100)	3.41 (20)	Anthracene and Naphthalene result was reported as non-detect, data qualification was not considered necessary.

< - Less Than
> - Greater Than
%R – Percent Recoveries
H – High Bias
L – Low Bias
MS/MSD – Matrix Spike Matrix Spike Duplicate
RPD – Relative Percent Difference
UJ/J – Estimated
VOCs – Volatile Organic Compounds
Bold indicates a recovery or RPD outside of acceptance limit

Table 3: Post-Digestion Spike Outliers and Resultant Data Qualification

Associated Samples	Analyte	%R (Limits)	Qualification
Total Metals			
H-TU515-MW01-NT01 H-TU515-MW02-NT01 H-TU515-MW02-DT01 H-TU515-MW03-NT01	Antimony	**144** (85-115)	As the potential bias was considered to be high, the associated detected results were qualified as estimated (J PDS-H).
	Arsenic	**142** (85-115)	
	Chromium	**123** (85-115)	
	Cobalt	**124** (85-115)	
	Lead	**125** (85-115)	
	Silver	**53** (85-115)	As the potential bias was considered to be low, the associated silver results were qualified as estimated (UJ/J PDS-L).
	Thallium	**125** (85-115)	As the potential bias was considered to be high, and the associated thallium results were reported as non-detect, data qualification was not considered necessary.

%R – Percent Recovery
H – High Bias
L – Low Bias
PDS – Post Digestion Spike
UJ/J – Estimated
Bold indicates a recovery or RPD outside of acceptance limit

Table 4: Continuing Calibration Verification Outliers and Resultant Data Qualification

Associated Samples	Analyte	%D (Limit)	Data Qualification
VOCs			
H-TU515-MW01-NT01 H-TU515-MW02-NT01 H-TU515-MW02-DT01 H-TU515-MW03-NT01	Bromomethane	132.9 (±20)	As the potential bias was considered to be high, and the associated results were reported as non-detect, data qualification was not considered necessary.
H-TU515-TRIP BLANK-TT02	Naphthalene	25.6 (±20)	

± - Plus or minus
%D – Percent Difference
VOCs – Volatile Organic Compounds

Table 5: ICS Outliers and Resultant Data Qualification

Interferent Element	Analyte	ICS A (µg/L)	MDL (µg/L)	Qualified Samples	Qualification
Calcium	Copper	-24.0	5.3	H-TU515-MW02-NT01 H-TU515-MW03-ND01 H-TU515-MW03-NT01	As the potential bias was considered to be low, the associated results were qualified as estimated (UJ/J ICS-L).
	Manganese	-13.7	1.2	H-TU515-MW03-NT01	
	Barium	4.5	1.7	H-TU515-MW02-ND01 H-TU515-MW02-DD01	As the potential bias was considered to be high, the associated results were qualified as estimated (J ICS-H).
	Copper	-20.1	5.3	H-TU515-MW01-ND01 H-TU515-MW02-ND01 H-TU515-MW02-DD01 H-TU515-MW03-ND01	As the potential bias was considered to be low, the associated results were qualified as estimated (UJ/J ICS-L).
	Manganese	-13.4	1.2	H-TU515-MW01-ND01 H-TU515-MW03-ND01	

µg/L – Micrograms per Liter
MDL – Method Detection Limit
ICS – Interference Check Standard
UJ/J - Estimated
L – Low Bias

Table 6: LCS Recovery Outliers and Resultant Data Qualification

Associated Samples	Analyte	%R (Limits)	RPD (Limits)	Qualification
VOCs				
LCS WG734023 H-TU515-MW01-NT01 H-TU515-MW02-NT01 H-TU515-MW02-DT01 H-TU515-MW03-NT01	Bromomethane	**217/198** (30-145)	9 (30)	As the potential bias was considered to be high and the associated sample results were reported as non-detect, data qualification was not considered necessary.
LCS WG734460 H-TU515-TRIP BLANK-TT02	Acetone	76.8/55.9 (40-140)	**31.5** (30)	As the RPD was outside of control limits, the associated acetone result for sample H-TU515-TRIP BLANK-TT02 was qualified as estimated (UJ D-I).
	Benzene	**121**/109 (80-120)	10.6 (30)	As the potential bias was considered to be high and the associated sample results were reported as non-detect, data qualification was not considered necessary.
	Bromoform	117/**58.8** (70-130)	21 (30)	As the potential bias was considered to be low, the associated results for sample TU515-TRIP BLANK-TT02 were qualified as estimated (UJ LCS-L)
	1,1,1,2-Tetrachloroethane	87.9/**77.1** (80-130)	13 (30)	

%R – Percent Recoveries
H – High Bias
LCS – Laboratory Control Sample
VOCs – Volatile Organic Compounds
D – Duplicate
I – Indeterminate Bias
RPD – Relative Percent Difference
J – Estimated
L – Low Bias
UJ - Estimated
Bold indicates a recovery outside of acceptance limits.

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 09, 2015

ESC Sample # : L711879-01

Date Received : July 24, 2014
Description :

Site ID :

Sample ID : H-TU515-MW01-ND01

Project # : 23446543.0057AA

Collected By :
Collection Date : 07/23/14 13:10

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Antimony, Dissolved	7440-36-0	U	0.21	0.50	1	ug/l		6020	08/01/14	1
Arsenic, Dissolved	7440-38-2	14.	0.25	0.50	1	ug/l		6020	08/02/14	1
Cadmium, Dissolved	7440-43-9	U	0.16	0.25	0.5	ug/l		6020	08/01/14	1
Chromium, Dissolved FJ SQL-I	7440-47-3	1.5	0.54	1.0	2	ug/l	J	6020	08/01/14	1
Cobalt, Dissolved FJ SQL-I	7440-48-4	0.60	0.26	0.50	1	ug/l	J	6020	08/01/14	1
Lead, Dissolved	7439-92-1	U	0.24	0.50	1	ug/l		6020	08/01/14	1
Nickel, Dissolved	7440-02-0	9.6	0.35	0.50	1	ug/l		6020	08/01/14	1
Selenium, Dissolved J MS-H	7782-49-2	3.9	0.38	0.50	1	ug/l		6020	08/02/14	1
Silver, Dissolved VJ MS-L	7440-22-4	U	0.31	0.50	1	ug/l		6020	08/01/14	1
Thallium, Dissolved	7440-28-0	U	0.19	0.50	1	ug/l		6020	08/01/14	1
Mercury, Dissolved FJ SQL, MS-H	7439-97-6	U	0.049	0.090	0.2	ug/l		7470A	07/31/14	1
Aluminum, Dissolved ~~FJ SQL-I~~	7429-90-5	90.	35	50.	100	ug/l	J	6010B	07/30/14	1
Barium, Dissolved	7440-39-3	18.	1.7	2.5	5	ug/l		6010B	07/30/14	1
Beryllium, Dissolved	7440-41-7	U	0.7	1.0	2	ug/l		6010B	07/30/14	1
Copper, Dissolved VJ ICS-L	7440-50-8	U	5.3	10.	20	ug/l		6010B	07/30/14	1
Manganese, Dissolved VJ ICS-L	7439-96-5	31.	1.2	5.0	10	ug/l		6010B	07/30/14	1
Vanadium, Dissolved	7440-62-2	36.	2.4	5.0	20	ug/l		6010B	07/30/14	1
Zinc, Dissolved	7440-66-6	U	5.9	15.	50	ug/l		6010B	07/30/14	1

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 09, 2015

ESC Sample # : L711879-02

Date Received : July 24, 2014
Description : Holloman AFB

Site ID :

Sample ID : H-TU515-MW01-NT01

Project # : 23446543.0057AA

Collected By :
Collection Date : 07/23/14 13:10

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Dissolved Solids	DSOLIDS	3500000	2820	5000	10000	ug/l		2540 C-	07/29/14	1
Antimony FB SOL-I	7440-36-0	0.28	0.21	0.50	1	ug/l	J	6020	07/28/14	1
Arsenic	7440-38-2	17.	0.25	0.50	1	ug/l		6020	07/28/14	1
Cadmium U MB-I	7440-43-9	0.25 ~~0.24~~	~~0.16~~ 0.24	0.25	0.5	ug/l	J	6020	07/31/14	1
Chromium FB SOL-I	7440-47-3	1.4	0.54	1.0	2	ug/l	J	6020	07/28/14	1
Cobalt FB SOL-I	7440-48-4	0.95	0.26	0.50	1	ug/l	J	6020	07/28/14	1
Lead FB SOL-I	7439-92-1	0.36	0.24	0.50	1	ug/l	J	6020	07/28/14	1
Nickel	7440-02-0	12.	0.35	0.50	1	ug/l		6020	07/28/14	1
Selenium J ~~MB-H~~ MS-H	7782-49-2	7.0	0.38	0.50	1	ug/l		6020	07/31/14	1
Silver FB SOL-I	7440-22-4	0.39	0.31	0.50	1	ug/l	J	6020	07/28/14	1
Thallium	7440-28-0	U	0.19	0.50	1	ug/l		6020	07/28/14	1
Mercury	7439-97-6	U	0.049	0.090	0.2	ug/l		7470A	07/25/14	1
Aluminum J MS,FD-H	7429-90-5	580	35	50.	100	ug/l		6010B	07/29/14	1
Barium	7440-39-3	22.	1.7	2.5	5	ug/l		6010B	07/29/14	1
Beryllium	7440-41-7	U	0.7	1.0	2	ug/l		6010B	07/29/14	1
Copper	7440-50-8	U	5.3	10.	20	ug/l		6010B	07/29/14	1
Manganese	7439-96-5	75.	1.2	5.0	10	ug/l		6010B	07/29/14	1
Vanadium	7440-62-2	30.	2.4	5.0	20	ug/l		6010B	07/29/14	1
Zinc FB SOL-I	7440-66-6	15.	5.9	15.	50	ug/l	J	6010B	07/29/14	1
TPH (GC/FID) Low Fraction	8006-61-9	U	31	50.	100	ug/l		8015D/G	07/30/14	1
Surrogate Recovery-%										
a,a,a-Trifluorotoluene(FID)	98-08-8	96.2				% Rec.		8015D/G	07/30/14	1
Volatile Organics										
Acetone	67-64-1	U	10	25.	50	ug/l		8260B	07/29/14	1
Benzene	71-43-2	U	0.33	0.50	1	ug/l		8260B	07/29/14	1
Bromobenzene	108-86-1	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
Bromochloromethane	74-97-5	U	0.52	0.75	1	ug/l		8260B	07/29/14	1
Bromodichloromethane	75-27-4	U	0.38	0.50	1	ug/l		8260B	07/29/14	1
Bromoform	75-25-2	U	0.47	0.50	1	ug/l		8260B	07/29/14	1
Bromomethane	74-83-9	U	0.87	2.5	5	ug/l	J4	8260B	07/29/14	1
n-Butylbenzene	104-51-8	U	0.36	0.50	1	ug/l		8260B	07/29/14	1
sec-Butylbenzene	135-98-8	U	0.36	0.50	1	ug/l		8260B	07/29/14	1
tert-Butylbenzene	98-06-6	U	0.4	0.50	1	ug/l		8260B	07/29/14	1
Carbon Disulfide	75-15-0	U	0.28	0.50	1	ug/l		8260B	07/29/14	1
Carbon tetrachloride	56-23-5	U	0.38	0.50	1	ug/l		8260B	07/29/14	1
Chlorobenzene	108-90-7	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
Chlorodibromomethane	124-48-1	U	0.33	0.50	1	ug/l		8260B	07/29/14	1
Chloroethane	75-00-3	U	0.45	2.5	5	ug/l		8260B	07/29/14	1
Chloroform ~~FB SOL-I U MB-I~~ J SOL-I	67-66-3	2.8	0.32	2.5	5	ug/l	J	8260B	07/29/14	1
Chloromethane	74-87-3	U	0.28	0.50	2.5	ug/l		8260B	07/29/14	1
2-Chlorotoluene	95-49-8	U	0.38	0.50	1	ug/l		8260B	07/29/14	1

U = Not Detected at the LOD
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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 09, 2015

Date Received : July 24, 2014
Description : Holloman AFB

Sample ID : H-TU515-MW01-NT01

Collected By :
Collection Date : 07/23/14 13:10

ESC Sample # : L711879-02

Site ID :

Project # : 23446543.0057AA

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
4-Chlorotoluene	106-43-4	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
1,2-Dibromo-3-Chloropropane	96-12-8	U	1.3	2.5	5	ug/l		8260B	07/29/14	1
1,2-Dibromoethane UJ MS-L	106-93-4	U	0.38	0.50	1	ug/l		8260B	07/29/14	1
Dibromomethane	74-95-3	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
1,2-Dichlorobenzene	95-50-1	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
1,3-Dichlorobenzene	541-73-1	U	0.22	0.50	1	ug/l		8260B	07/29/14	1
1,4-Dichlorobenzene	106-46-7	U	0.27	0.50	1	ug/l		8260B	07/29/14	1
Dichlorodifluoromethane	75-71-8	U	0.55	2.5	5	ug/l		8260B	07/29/14	1
1,1-Dichloroethane	75-34-3	U	0.26	0.50	1	ug/l		8260B	07/29/14	1
1,2-Dichloroethane	107-06-2	U	0.36	0.50	1	ug/l		8260B	07/29/14	1
1,1-Dichloroethene	75-35-4	U	0.4	0.50	1	ug/l		8260B	07/29/14	1
cis-1,2-Dichloroethene	156-59-2	U	0.26	0.50	1	ug/l		8260B	07/29/14	1
trans-1,2-Dichloroethene	156-60-5	U	0.4	0.50	1	ug/l		8260B	07/29/14	1
1,2-Dichloropropane	78-87-5	U	0.31	0.50	1	ug/l		8260B	07/29/14	1
1,1-Dichloropropene	563-58-6	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
1,3-Dichloropropane	142-28-9	U	0.37	0.50	1	ug/l		8260B	07/29/14	1
cis-1,3-Dichloropropene	10061-01-5	U	0.42	0.50	1	ug/l		8260B	07/29/14	1
trans-1,3-Dichloropropene	10061-02-6	U	0.42	0.50	1	ug/l		8260B	07/29/14	1
2,2-Dichloropropane	594-20-7	U	0.32	0.50	1	ug/l		8260B	07/29/14	1
Ethylbenzene	100-41-4	U	0.38	0.50	1	ug/l		8260B	07/29/14	1
2-Hexanone	591-78-6	U	3.8	5.0	10	ug/l		8260B	07/29/14	1
Hexachloro-1,3-butadiene	87-68-3	U	0.26	0.50	1	ug/l		8260B	07/29/14	1
Isopropylbenzene	98-82-8	U	0.33	0.50	1	ug/l		8260B	07/29/14	1
p-Isopropyltoluene	99-87-6	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
2-Butanone (MEK)	78-93-3	U	3.9	5.0	10	ug/l		8260B	07/29/14	1
Methylene Chloride	75-09-2	U	1	2.5	5	ug/l		8260B	07/29/14	1
4-Methyl-2-pentanone (MIBK)	108-10-1	U	2.1	5.0	10	ug/l		8260B	07/29/14	1
Methyl tert-butyl ether	1634-04-4	U	0.37	0.50	1	ug/l		8260B	07/29/14	1
Naphthalene * DNR	~~91-20-3~~	~~U~~	~~1~~	~~2.5~~	~~5~~	~~ug/l~~		~~8260B~~	~~07/29/14~~	~~1~~
n-Propylbenzene	103-65-1	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
Styrene	100-42-5	U	0.31	0.50	1	ug/l		8260B	07/29/14	1
1,1,1,2-Tetrachloroethane UJ MS-L	630-20-6	U	0.38	0.50	1	ug/l		8260B	07/29/14	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.58 ~~0.13~~	0.75	1	ug/l		8260B	07/29/14	1
Tetrachloroethene	127-18-4	U	0.37	0.50	1	ug/l		8260B	07/29/14	1
Toluene	108-88-3	U	0.78	2.5	5	ug/l		8260B	07/29/14	1
1,2,3-Trichlorobenzene	87-61-6	U	0.23	0.50	1	ug/l		8260B	07/29/14	1
1,2,4-Trichlorobenzene	120-82-1	U	0.21	0.50	1	ug/l		8260B	07/29/14	1
1,1,1-Trichloroethane	71-55-6	U	0.319	0.50	1	ug/l		8260B	07/29/14	1
1,1,2-Trichloroethane	79-00-5	U	0.38	0.50	1	ug/l		8260B	07/29/14	1
Trichloroethene	79-01-6	U	0.4	0.50	1	ug/l		8260B	07/29/14	1
Trichlorofluoromethane	75-69-4	U	1.2	2.5	5	ug/l		8260B	07/29/14	1
1,2,3-Trichloropropane	96-18-4	U	0.81	1.0	2.5	ug/l		8260B	07/29/14	1
1,2,4-Trimethylbenzene	95-63-6	U	0.37	0.50	1	ug/l		8260B	07/29/14	1
1,3,5-Trimethylbenzene	108-67-8	U	0.39	0.50	1	ug/l		8260B	07/29/14	1
o-Xylene	95-47-6	U	0.34	0.50	1	ug/l		8260B	07/29/14	1
m&p-Xylene	1330-20-7	U	0.72	1.0	2	ug/l		8260B	07/29/14	1

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Note:
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DNR: Do Not Report

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 09, 2015

ESC Sample # : L711879-02

Date Received : July 24, 2014
Description : Holloman AFB

Site ID :

Sample ID : H-TU515-MW01-NT01

Project # : 23446543.0057AA

Collected By :
Collection Date : 07/23/14 13:10

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Vinyl chloride	75-01-4	U	0.26	0.50	1	ug/l		8260B	07/29/14	1
Surrogate Recovery										
Toluene-d8	2037-26-5	102.				% Rec.		8260B	07/29/14	1
Dibromofluoromethane	1868-53-7	101.				% Rec.		8260B	07/29/14	1
4-Bromofluorobenzene	460-00-4	103.				% Rec.		8260B	07/29/14	1
Diesel and Oil Ranges										
C10-C28 Diesel Range UJ ID-I		U	22.2	33.	100	ug/l		8015	07/28/14	1
C28-C40 Oil Range UJ ID-I		U	11.8	33.	100	ug/l		8015	07/28/14	1
Surrogate Recovery										
o-Terphenyl	84-15-1	99.6				% Rec.		8015	07/28/14	1
Polynuclear Aromatic Hydrocarbons										
Anthracene	120-12-7	U	0.00761	0.025	0.05	ug/l		8270C-S	07/30/14	1
Acenaphthene	83-32-9	U	0.00818	0.025	0.05	ug/l		8270C-S	07/30/14	1
Acenaphthylene	208-96-8	U	0.00682	0.025	0.05	ug/l		8270C-S	07/30/14	1
Benzo(a)anthracene	56-55-3	U	0.0118	0.025	0.05	ug/l		8270C-S	07/30/14	1
Benzo(a)pyrene	50-32-8	U	0.0116	0.025	0.05	ug/l		8270C-S	07/30/14	1
Benzo(b)fluoranthene	205-99-2	U	0.0138	0.025	0.05	ug/l		8270C-S	07/30/14	1
Benzo(g,h,i)perylene	191-24-2	U	0.0114	0.025	0.05	ug/l		8270C-S	07/30/14	1
Benzo(k)fluoranthene	207-08-9	U	0.0136	0.025	0.05	ug/l		8270C-S	07/30/14	1
Chrysene	218-01-9	U	0.0108	0.025	0.05	ug/l		8270C-S	07/30/14	1
Dibenz(a,h)anthracene	53-70-3	U	0.00396	0.025	0.05	ug/l		8270C-S	07/30/14	1
Fluoranthene	206-44-0	U	0.0157	0.025	0.05	ug/l		8270C-S	07/30/14	1
Fluorene	86-73-7	U	0.0085	0.025	0.05	ug/l		8270C-S	07/30/14	1
Indeno(1,2,3-cd)pyrene	193-39-5	U	0.0148	0.025	0.05	ug/l		8270C-S	07/30/14	1
Naphthalene	91-20-3	U	0.0198	0.025	0.25	ug/l		8270C-S	07/30/14	1
Phenanthrene	85-01-8	U	0.0082	0.025	0.05	ug/l		8270C-S	07/30/14	1
Pyrene	129-00-0	U	0.0117	0.025	0.05	ug/l		8270C-S	07/30/14	1
2-Methylnaphthalene	91-57-6	U	0.00902	0.025	0.25	ug/l		8270C-S	07/30/14	1
Surrogate Recovery										
Nitrobenzene-d5	4165-60-0	102.				% Rec.		8270C-S	07/30/14	1
2-Fluorobiphenyl	321-60-8	110.				% Rec.		8270C-S	07/30/14	1
p-Terphenyl-d14	1718-51-0	114.				% Rec.		8270C-S	07/30/14	1

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Tax I.D. 62-0814289

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 09, 2015

ESC Sample # : L711879-03

Date Received : July 24, 2014
Description : Holloman AFB

Site ID :

Sample ID : H-TU515-MW02-ND01

Project # : 23446543.0057AA

Collected By :
Collection Date : 07/23/14 13:30

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Antimony,Dissolved	7440-36-0	U	0.21	0.50	1	ug/l		6020	08/01/14	1
Arsenic,Dissolved	7440-38-2	6.3	0.25	0.50	1	ug/l		6020	08/02/14	1
Cadmium,Dissolved	7440-43-9	U	0.16	0.25	0.5	ug/l		6020	08/01/14	1
Chromium,Dissolved	7440-47-3	U	0.54	1.0	2	ug/l		6020	08/01/14	1
Cobalt,Dissolved	7440-48-4	1.5	0.26	0.50	1	ug/l		6020	08/01/14	1
Lead,Dissolved	7439-92-1	U	0.24	0.50	1	ug/l		6020	08/01/14	1
Nickel,Dissolved	7440-02-0	9.9	0.35	0.50	1	ug/l		6020	08/01/14	1
Selenium,Dissolved J MS-H	7782-49-2	2.6	0.38	0.50	1	ug/l		6020	08/02/14	1
Silver,Dissolved UJ MS-L	7440-22-4	U	0.31	0.50	1	ug/l		6020	08/01/14	1
Thallium,Dissolved	7440-28-0	U	0.19	0.50	1	ug/l		6020	08/01/14	1
Mercury,Dissolved	7439-97-6	U	0.049	0.090	0.2	ug/l		7470A	07/31/14	1
Aluminum,Dissolved	7429-90-5	U	35	50.	100	ug/l		6010B	07/30/14	1
Barium,Dissolved J ICS-H	7440-39-3	16.	1.7	2.5	5	ug/l		6010B	07/30/14	1
Beryllium,Dissolved	7440-41-7	U	0.7	1.0	2	ug/l		6010B	07/30/14	1
Copper,Dissolved UJ ICS-L	7440-50-8	U	5.3	10.	20	ug/l		6010B	07/30/14	1
Manganese,Dissolved	7439-96-5	640	1.2	5.0	10	ug/l		6010B	07/30/14	1
Vanadium,Dissolved	7440-62-2	44.	2.4	5.0	20	ug/l		6010B	07/30/14	1
Zinc,Dissolved	7440-66-6	U	5.9	15.	50	ug/l		6010B	07/30/14	1

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 09, 2015

Date Received : July 24, 2014
Description : Holloman AFB

Sample ID : H-TU515-MW02-DD01

Collected By :
Collection Date : 07/23/14 13:30

ESC Sample # : L711879-04

Site ID :

Project # : 23446543.0057AA

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Antimony,Dissolved U MB-I	7440-36-0	~~0.24~~ 0.50	~~0.21~~ 0.24	0.50	1	ug/l	J	6020	08/01/14	1
Arsenic,Dissolved	7440-38-2	6.5	0.25	0.50	1	ug/l		6020	08/02/14	1
Cadmium,Dissolved	7440-43-9	U	0.16	0.25	0.5	ug/l		6020	08/01/14	1
Chromium,Dissolved	7440-47-3	U	0.54	1.0	2	ug/l		6020	08/01/14	1
Cobalt,Dissolved	7440-48-4	1.6	0.26	0.50	1	ug/l		6020	08/01/14	1
Lead,Dissolved	7439-92-1	U	0.24	0.50	1	ug/l		6020	08/01/14	1
Nickel,Dissolved	7440-02-0	9.7	0.35	0.50	1	ug/l		6020	08/01/14	1
Selenium,Dissolved J MS-H	7782-49-2	2.4	0.38	0.50	1	ug/l		6020	08/02/14	1
Silver,Dissolved UJ MS-L	7440-22-4	U	0.31	0.50	1	ug/l		6020	08/01/14	1
Thallium,Dissolved	7440-28-0	U	0.19	0.50	1	ug/l		6020	08/01/14	1
Mercury,Dissolved	7439-97-6	U	0.049	0.090	0.2	ug/l		7470A	07/31/14	1
Aluminum,Dissolved FJ SOL, MS-H ~~FB SOL I~~	7429-90-5	60.	35	50.	100	ug/l	J	6010B	07/30/14	1
Barium,Dissolved J ICS-H	7440-39-3	16.	1.7	2.5	5	ug/l		6010B	07/30/14	1
Beryllium,Dissolved	7440-41-7	U	0.7	1.0	2	ug/l		6010B	07/30/14	1
Copper,Dissolved UJ ICS-L	7440-50-8	U	5.3	10.	20	ug/l		6010B	07/30/14	1
Manganese,Dissolved	7439-96-5	630	1.2	5.0	10	ug/l		6010B	07/30/14	1
Vanadium,Dissolved	7440-62-2	44.	2.4	5.0	20	ug/l		6010B	07/30/14	1
Zinc,Dissolved	7440-66-6	U	5.9	15.	50	ug/l		6010B	07/30/14	1

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 09, 2015

ESC Sample # : L711879-05

Date Received : July 24, 2014
Description : Holloman AFB

Site ID :

Sample ID : H-TU515-MW02-NT01

Project # : 23446543.0057AA

Collected By :
Collection Date : 07/23/14 13:30

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Dissolved Solids	DSOLIDS	2700000	2820	5000	10000	ug/l		2540 C-	07/29/14	1
Antimony FJ SOL-I	7440-36-0	0.21	0.21	0.50	1	ug/l	J	6020	07/28/14	1
Arsenic	7440-38-2	6.7	0.25	0.50	1	ug/l		6020	07/28/14	1
Cadmium U MB-I	7440-43-9	~~0.160~~ 0.25	0.16	0.25	0.5	ug/l	J	6020	07/31/14	1
Chromium FJ SOL-I	7440-47-3	0.91	0.54	1.0	2	ug/l	J	6020	07/28/14	1
Cobalt	7440-48-4	1.6	0.26	0.50	1	ug/l		6020	07/28/14	1
Lead	7439-92-1	1.3	0.24	0.50	1	ug/l		6020	07/28/14	1
Nickel	7440-02-0	11.	0.35	0.50	1	ug/l		6020	07/28/14	1
Selenium J MS-H	7782-49-2	4.5	0.38	0.50	1	ug/l		6020	07/31/14	1
Silver	7440-22-4	U	0.31	0.50	1	ug/l		6020	07/28/14	1
Thallium	7440-28-0	U	0.19	0.50	1	ug/l		6020	07/28/14	1
Mercury	7439-97-6	U	0.049	0.090	0.2	ug/l		7470A	07/25/14	1
Aluminum FJ SOL, MS-H	7429-90-5	53.	35	50.	100	ug/l	J	6010B	07/30/14	1
Barium	7440-39-3	18.	1.7	2.5	5	ug/l		6010B	07/30/14	1
Beryllium	7440-41-7	U	0.7	1.0	2	ug/l		6010B	07/30/14	1
Copper UJ ICS-L	7440-50-8	U	5.3	10.	20	ug/l		6010B	07/30/14	1
Manganese	7439-96-5	720	1.2	5.0	10	ug/l		6010B	07/30/14	1
Vanadium	7440-62-2	44.	2.4	5.0	20	ug/l		6010B	07/30/14	1
Zinc	7440-66-6	U	5.9	15.	50	ug/l		6010B	07/30/14	1
TPH (GC/FID) Low Fraction	8006-61-9	U	31	50.	100	ug/l		8015D/G	08/01/14	1
Surrogate Recovery-%										
a,a,a-Trifluorotoluene(FID)	98-08-8	96.9				% Rec.		8015D/G	08/01/14	1
Volatile Organics										
Acetone	67-64-1	U	10	25.	50	ug/l		8260B	07/29/14	1
Benzene	71-43-2	U	0.33	0.50	1	ug/l		8260B	07/29/14	1
Bromobenzene	108-86-1	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
Bromochloromethane	74-97-5	U	0.52	0.75	1	ug/l		8260B	07/29/14	1
Bromodichloromethane FJ SOL-I	75-27-4	0.75	0.38	0.50	1	ug/l	J	8260B	07/29/14	1
Bromoform	75-25-2	U	0.47	0.50	1	ug/l		8260B	07/29/14	1
Bromomethane	74-83-9	U	0.87	2.5	5	ug/l	J4	8260B	07/29/14	1
n-Butylbenzene	104-51-8	U	0.36	0.50	1	ug/l		8260B	07/29/14	1
sec-Butylbenzene	135-98-8	U	0.36	0.50	1	ug/l		8260B	07/29/14	1
tert-Butylbenzene	98-06-6	U	0.4	0.50	1	ug/l		8260B	07/29/14	1
Carbon Disulfide	75-15-0	U	0.28	0.50	1	ug/l		8260B	07/29/14	1
Carbon tetrachloride	56-23-5	U	0.38	0.50	1	ug/l		8260B	07/29/14	1
Chlorobenzene	108-90-7	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
Chlorodibromomethane	124-48-1	U	0.33	0.50	1	ug/l		8260B	07/29/14	1
Chloroethane	75-00-3	U	0.45	2.5	5	ug/l		8260B	07/29/14	1
Chloroform ~~FJ SOL-I~~ U FB-I	67-66-3	~~1.52~~ 1.5	~~0.32~~ 1.5	2.5	5	ug/l	J	8260B	07/29/14	1
Chloromethane	74-87-3	U	0.28	0.50	2.5	ug/l		8260B	07/29/14	1
2-Chlorotoluene	95-49-8	U	0.38	0.50	1	ug/l		8260B	07/29/14	1

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 09, 2015

Date Received : July 24, 2014
Description : Holloman AFB

Sample ID : H-TU515-MW02-NT01

Collected By :
Collection Date : 07/23/14 13:30

ESC Sample # : L711879-05

Site ID :

Project # : 23446543.0057AA

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
4-Chlorotoluene	106-43-4	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
1,2-Dibromo-3-Chloropropane	96-12-8	U	1.3	2.5	5	ug/l		8260B	07/29/14	1
1,2-Dibromoethane UJ MS-L	106-93-4	U	0.38	0.50	1	ug/l		8260B	07/29/14	1
Dibromomethane	74-95-3	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
1,2-Dichlorobenzene	95-50-1	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
1,3-Dichlorobenzene	541-73-1	U	0.22	0.50	1	ug/l		8260B	07/29/14	1
1,4-Dichlorobenzene	106-46-7	U	0.27	0.50	1	ug/l		8260B	07/29/14	1
Dichlorodifluoromethane	75-71-8	U	0.55	2.5	5	ug/l		8260B	07/29/14	1
1,1-Dichloroethane	75-34-3	U	0.26	0.50	1	ug/l		8260B	07/29/14	1
1,2-Dichloroethane	107-06-2	U	0.36	0.50	1	ug/l		8260B	07/29/14	1
1,1-Dichloroethene	75-35-4	U	0.4	0.50	1	ug/l		8260B	07/29/14	1
cis-1,2-Dichloroethene	156-59-2	U	0.26	0.50	1	ug/l		8260B	07/29/14	1
trans-1,2-Dichloroethene	156-60-5	U	0.4	0.50	1	ug/l		8260B	07/29/14	1
1,2-Dichloropropane	78-87-5	U	0.31	0.50	1	ug/l		8260B	07/29/14	1
1,1-Dichloropropene	563-58-6	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
1,3-Dichloropropane	142-28-9	U	0.37	0.50	1	ug/l		8260B	07/29/14	1
cis-1,3-Dichloropropene	10061-01-5	U	0.42	0.50	1	ug/l		8260B	07/29/14	1
trans-1,3-Dichloropropene	10061-02-6	U	0.42	0.50	1	ug/l		8260B	07/29/14	1
2,2-Dichloropropane	594-20-7	U	0.32	0.50	1	ug/l		8260B	07/29/14	1
Ethylbenzene	100-41-4	U	0.38	0.50	1	ug/l		8260B	07/29/14	1
2-Hexanone	591-78-6	U	3.8	5.0	10	ug/l		8260B	07/29/14	1
Hexachloro-1,3-butadiene	87-68-3	U	0.26	0.50	1	ug/l		8260B	07/29/14	1
Isopropylbenzene	98-82-8	U	0.33	0.50	1	ug/l		8260B	07/29/14	1
p-Isopropyltoluene	99-87-6	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
2-Butanone (MEK)	78-93-3	U	3.9	5.0	10	ug/l		8260B	07/29/14	1
Methylene Chloride	75-09-2	U	1	2.5	5	ug/l		8260B	07/29/14	1
4-Methyl-2-pentanone (MIBK)	108-10-1	U	2.1	5.0	10	ug/l		8260B	07/29/14	1
Methyl tert-butyl ether	1634-04-4	U	0.37	0.50	1	ug/l		8260B	07/29/14	1
Naphthalene DNR	~~91-20-3~~	~~U~~	~~1~~	~~2.5~~	~~5~~	~~ug/l~~		~~8260B~~	~~07/29/14~~	~~1~~
n-Propylbenzene	103-65-1	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
Styrene	100-42-5	U	0.31	0.50	1	ug/l		8260B	07/29/14	1
1,1,1,2-Tetrachloroethane UJ MS-L	630-20-6	U	0.38	0.50	1	ug/l		8260B	07/29/14	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.58 ~~0.13~~	0.75	1	ug/l		8260B	07/29/14	1
Tetrachloroethene	127-18-4	U	0.37	0.50	1	ug/l		8260B	07/29/14	1
Toluene	108-88-3	U	0.78	2.5	5	ug/l		8260B	07/29/14	1
1,2,3-Trichlorobenzene	87-61-6	U	0.23	0.50	1	ug/l		8260B	07/29/14	1
1,2,4-Trichlorobenzene	120-82-1	U	0.21	0.50	1	ug/l		8260B	07/29/14	1
1,1,1-Trichloroethane	71-55-6	U	0.319	0.50	1	ug/l		8260B	07/29/14	1
1,1,2-Trichloroethane	79-00-5	U	0.38	0.50	1	ug/l		8260B	07/29/14	1
Trichloroethene	79-01-6	U	0.4	0.50	1	ug/l		8260B	07/29/14	1
Trichlorofluoromethane	75-69-4	U	1.2	2.5	5	ug/l		8260B	07/29/14	1
1,2,3-Trichloropropane	96-18-4	U	0.81	1.0	2.5	ug/l		8260B	07/29/14	1
1,2,4-Trimethylbenzene	95-63-6	U	0.37	0.50	1	ug/l		8260B	07/29/14	1
1,3,5-Trimethylbenzene	108-67-8	U	0.39	0.50	1	ug/l		8260B	07/29/14	1
o-Xylene	95-47-6	U	0.34	0.50	1	ug/l		8260B	07/29/14	1
m&p-Xylene	1330-20-7	U	0.72	1.0	2	ug/l		8260B	07/29/14	1

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Est. 1970

REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 09, 2015

ESC Sample # : L711879-05

Date Received : July 24, 2014
Description : Holloman AFB

Site ID :

Sample ID : H-TU515-MW02-NT01

Project # : 23446543.0057AA

Collected By :
Collection Date : 07/23/14 13:30

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Vinyl chloride	75-01-4	U	0.26	0.50	1	ug/l		8260B	07/29/14	1
Surrogate Recovery										
Toluene-d8	2037-26-5	103.				% Rec.		8260B	07/29/14	1
Dibromofluoromethane	1868-53-7	103.				% Rec.		8260B	07/29/14	1
4-Bromofluorobenzene	460-00-4	102.				% Rec.		8260B	07/29/14	1
Diesel and Oil Ranges										
C10-C28 Diesel Range UJ ID-I		U	22.2	33.	100	ug/l		8015	07/28/14	1
C28-C40 Oil Range UJ ID-I		U	11.8	33.	100	ug/l		8015	07/28/14	1
Surrogate Recovery										
o-Terphenyl	84-15-1	98.5				% Rec.		8015	07/28/14	1
Polynuclear Aromatic Hydrocarbons										
Anthracene	120-12-7	U	0.00761	0.025	0.05	ug/l		8270C-S	07/30/14	1
Acenaphthene	83-32-9	U	0.00818	0.025	0.05	ug/l		8270C-S	07/30/14	1
Acenaphthylene	208-96-8	U	0.00682	0.025	0.05	ug/l		8270C-S	07/30/14	1
Benzo(a)anthracene	56-55-3	U	0.0118	0.025	0.05	ug/l		8270C-S	07/30/14	1
Benzo(a)pyrene	50-32-8	U	0.0116	0.025	0.05	ug/l		8270C-S	07/30/14	1
Benzo(b)fluoranthene	205-99-2	U	0.0138	0.025	0.05	ug/l		8270C-S	07/30/14	1
Benzo(g,h,i)perylene	191-24-2	U	0.0114	0.025	0.05	ug/l		8270C-S	07/30/14	1
Benzo(k)fluoranthene	207-08-9	U	0.0136	0.025	0.05	ug/l		8270C-S	07/30/14	1
Chrysene	218-01-9	U	0.0108	0.025	0.05	ug/l		8270C-S	07/30/14	1
Dibenz(a,h)anthracene	53-70-3	U	0.00396	0.025	0.05	ug/l		8270C-S	07/30/14	1
Fluoranthene	206-44-0	U	0.0157	0.025	0.05	ug/l		8270C-S	07/30/14	1
Fluorene	86-73-7	U	0.0085	0.025	0.05	ug/l		8270C-S	07/30/14	1
Indeno(1,2,3-cd)pyrene	193-39-5	U	0.0148	0.025	0.05	ug/l		8270C-S	07/30/14	1
Naphthalene	91-20-3	U	0.0198	0.025	0.25	ug/l		8270C-S	07/30/14	1
Phenanthrene	85-01-8	U	0.0082	0.025	0.05	ug/l		8270C-S	07/30/14	1
Pyrene	129-00-0	U	0.0117	0.025	0.05	ug/l		8270C-S	07/30/14	1
2-Methylnaphthalene	91-57-6	U	0.00902	0.025	0.25	ug/l		8270C-S	07/30/14	1
Surrogate Recovery										
Nitrobenzene-d5	4165-60-0	97.1				% Rec.		8270C-S	07/30/14	1
2-Fluorobiphenyl	321-60-8	104.				% Rec.		8270C-S	07/30/14	1
p-Terphenyl-d14	1718-51-0	110.				% Rec.		8270C-S	07/30/14	1

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 09, 2015

ESC Sample # : L711879-06

Date Received : July 24, 2014
Description : Holloman AFB

Site ID :

Sample ID : H-TU515-MW02-DT01

Project # : 23446543.0057AA

Collected By :
Collection Date : 07/23/14 13:30

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Dissolved Solids	DSOLIDS	2600000	2820	5000	10000	ug/l		2540 C-	07/29/14	1
Antimony	7440-36-0	U	0.21	0.50	1	ug/l		6020	07/28/14	1
Arsenic	7440-38-2	7.0	0.25	0.50	1	ug/l		6020	07/28/14	1
Cadmium	7440-43-9	U	0.16	0.25	0.5	ug/l		6020	07/31/14	1
Chromium FJ SOL-I	7440-47-3	0.55	0.54	1.0	2	ug/l	J	6020	07/28/14	1
Cobalt	7440-48-4	1.7	0.26	0.50	1	ug/l		6020	07/28/14	1
Lead	7439-92-1	1.4	0.24	0.50	1	ug/l		6020	07/28/14	1
Nickel	7440-02-0	11.	0.35	0.50	1	ug/l		6020	07/28/14	1
Selenium J MS-H	7782-49-2	4.0	0.38	0.50	1	ug/l		6020	07/31/14	1
Silver	7440-22-4	U	0.31	0.50	1	ug/l		6020	07/28/14	1
Thallium	7440-28-0	U	0.19	0.50	1	ug/l		6020	07/28/14	1
Mercury	7439-97-6	U	0.049	0.090	0.2	ug/l		7470A	07/25/14	1
Aluminum ~~J MS-H~~ FJ SOL, MS-H	7429-90-5	96.	35	50.	100	ug/l	J	6010B	07/30/14	1
Barium	7440-39-3	18.	1.7	2.5	5	ug/l		6010B	07/30/14	1
Beryllium	7440-41-7	U	0.7	1.0	2	ug/l		6010B	07/30/14	1
Copper UJ ICS-L	7440-50-8	U	5.3	10.	20	ug/l		6010B	07/30/14	1
Manganese	7439-96-5	900	1.2	5.0	10	ug/l		6010B	07/30/14	1
Vanadium	7440-62-2	50.	2.4	5.0	20	ug/l		6010B	07/30/14	1
Zinc	7440-66-6	U	5.9	15.	50	ug/l		6010B	07/30/14	1
TPH (GC/FID) Low Fraction	8006-61-9	U	31	50.	100	ug/l		8015D/G	07/30/14	1
Surrogate Recovery-%										
a,a,a-Trifluorotoluene(FID)	98-08-8	96.0				% Rec.		8015D/G	07/30/14	1
Volatile Organics										
Acetone	67-64-1	U	10	25.	50	ug/l		8260B	07/29/14	1
Benzene	71-43-2	U	0.33	0.50	1	ug/l		8260B	07/29/14	1
Bromobenzene	108-86-1	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
Bromochloromethane	74-97-5	U	0.52	0.75	1	ug/l		8260B	07/29/14	1
Bromodichloromethane FJ SOL-I	75-27-4	0.71	0.38	0.50	1	ug/l	J	8260B	07/29/14	1
Bromoform	75-25-2	U	0.47	0.50	1	ug/l		8260B	07/29/14	1
Bromomethane	74-83-9	U	0.87	2.5	5	ug/l	J4	8260B	07/29/14	1
n-Butylbenzene	104-51-8	U	0.36	0.50	1	ug/l		8260B	07/29/14	1
sec-Butylbenzene	135-98-8	U	0.36	0.50	1	ug/l		8260B	07/29/14	1
tert-Butylbenzene	98-06-6	U	0.4	0.50	1	ug/l		8260B	07/29/14	1
Carbon Disulfide	75-15-0	U	0.28	0.50	1	ug/l		8260B	07/29/14	1
Carbon tetrachloride	56-23-5	U	0.38	0.50	1	ug/l		8260B	07/29/14	1
Chlorobenzene	108-90-7	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
Chlorodibromomethane	124-48-1	U	0.33	0.50	1	ug/l		8260B	07/29/14	1
Chloroethane	75-00-3	U	0.45	2.5	5	ug/l		8260B	07/29/14	1
Chloroform ~~FJ SOL-I~~ U FB-I	67-66-3	~~1.42~~ 2.8	~~0.32~~ 1.4	2.5	5	ug/l	J	8260B	07/29/14	1
Chloromethane	74-87-3	U	0.28	0.50	2.5	ug/l		8260B	07/29/14	1
2-Chlorotoluene	95-49-8	U	0.38	0.50	1	ug/l		8260B	07/29/14	1

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ESC Sample # : L711879-06

Date Received : July 24, 2014
Description : Holloman AFB

Site ID :

Sample ID : H-TU515-MW02-DT01

Project # : 23446543.0057AA

Collected By :
Collection Date : 07/23/14 13:30

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
4-Chlorotoluene	106-43-4	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
1,2-Dibromo-3-Chloropropane	96-12-8	U	1.3	2.5	5	ug/l		8260B	07/29/14	1
1,2-Dibromoethane UJ MS-L	106-93-4	U	0.38	0.50	1	ug/l		8260B	07/29/14	1
Dibromomethane	74-95-3	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
1,2-Dichlorobenzene	95-50-1	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
1,3-Dichlorobenzene	541-73-1	U	0.22	0.50	1	ug/l		8260B	07/29/14	1
1,4-Dichlorobenzene	106-46-7	U	0.27	0.50	1	ug/l		8260B	07/29/14	1
Dichlorodifluoromethane	75-71-8	U	0.55	2.5	5	ug/l		8260B	07/29/14	1
1,1-Dichloroethane	75-34-3	U	0.26	0.50	1	ug/l		8260B	07/29/14	1
1,2-Dichloroethane	107-06-2	U	0.36	0.50	1	ug/l		8260B	07/29/14	1
1,1-Dichloroethene	75-35-4	U	0.4	0.50	1	ug/l		8260B	07/29/14	1
cis-1,2-Dichloroethene	156-59-2	U	0.26	0.50	1	ug/l		8260B	07/29/14	1
trans-1,2-Dichloroethene	156-60-5	U	0.4	0.50	1	ug/l		8260B	07/29/14	1
1,2-Dichloropropane	78-87-5	U	0.31	0.50	1	ug/l		8260B	07/29/14	1
1,1-Dichloropropene	563-58-6	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
1,3-Dichloropropane	142-28-9	U	0.37	0.50	1	ug/l		8260B	07/29/14	1
cis-1,3-Dichloropropene	10061-01-5	U	0.42	0.50	1	ug/l		8260B	07/29/14	1
trans-1,3-Dichloropropene	10061-02-6	U	0.42	0.50	1	ug/l		8260B	07/29/14	1
2,2-Dichloropropane	594-20-7	U	0.32	0.50	1	ug/l		8260B	07/29/14	1
Ethylbenzene	100-41-4	U	0.38	0.50	1	ug/l		8260B	07/29/14	1
2-Hexanone	591-78-6	U	3.8	5.0	10	ug/l		8260B	07/29/14	1
Hexachloro-1,3-butadiene	87-68-3	U	0.26	0.50	1	ug/l		8260B	07/29/14	1
Isopropylbenzene	98-82-8	U	0.33	0.50	1	ug/l		8260B	07/29/14	1
p-Isopropyltoluene	99-87-6	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
2-Butanone (MEK)	78-93-3	U	3.9	5.0	10	ug/l		8260B	07/29/14	1
Methylene Chloride	75-09-2	U	1	2.5	5	ug/l		8260B	07/29/14	1
4-Methyl-2-pentanone (MIBK)	108-10-1	U	2.1	5.0	10	ug/l		8260B	07/29/14	1
Methyl tert-butyl ether	1634-04-4	U	0.37	0.50	1	ug/l		8260B	07/29/14	1
Naphthalene DNR	~~91-20-3~~	~~U~~	~~1~~	~~2.5~~	~~5~~	~~ug/l~~		~~8260B~~	~~07/29/14~~	~~1~~
n-Propylbenzene	103-65-1	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
Styrene	100-42-5	U	0.31	0.50	1	ug/l		8260B	07/29/14	1
1,1,1,2-Tetrachloroethane UJ MS-L	630-20-6	U	0.38	0.50	1	ug/l		8260B	07/29/14	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.58 ~~0.13~~	0.75	1	ug/l		8260B	07/29/14	1
Tetrachloroethene	127-18-4	U	0.37	0.50	1	ug/l		8260B	07/29/14	1
Toluene	108-88-3	U	0.78	2.5	5	ug/l		8260B	07/29/14	1
1,2,3-Trichlorobenzene	87-61-6	U	0.23	0.50	1	ug/l		8260B	07/29/14	1
1,2,4-Trichlorobenzene	120-82-1	U	0.21	0.50	1	ug/l		8260B	07/29/14	1
1,1,1-Trichloroethane	71-55-6	U	0.319	0.50	1	ug/l		8260B	07/29/14	1
1,1,2-Trichloroethane	79-00-5	U	0.38	0.50	1	ug/l		8260B	07/29/14	1
Trichloroethene	79-01-6	U	0.4	0.50	1	ug/l		8260B	07/29/14	1
Trichlorofluoromethane	75-69-4	U	1.2	2.5	5	ug/l		8260B	07/29/14	1
1,2,3-Trichloropropane	96-18-4	U	0.81	1.0	2.5	ug/l		8260B	07/29/14	1
1,2,4-Trimethylbenzene	95-63-6	U	0.37	0.50	1	ug/l		8260B	07/29/14	1
1,3,5-Trimethylbenzene	108-67-8	U	0.39	0.50	1	ug/l		8260B	07/29/14	1
o-Xylene	95-47-6	U	0.34	0.50	1	ug/l		8260B	07/29/14	1
m&p-Xylene	1330-20-7	U	0.72	1.0	2	ug/l		8260B	07/29/14	1

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Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Vinyl chloride	75-01-4	U	0.26	0.50	1	ug/l		8260B	07/29/14	1
Surrogate Recovery										
Toluene-d8	2037-26-5	102.				% Rec.		8260B	07/29/14	1
Dibromofluoromethane	1868-53-7	101.				% Rec.		8260B	07/29/14	1
4-Bromofluorobenzene	460-00-4	100.				% Rec.		8260B	07/29/14	1
Diesel and Oil Ranges										
C10-C28 Diesel Range UJ ID-I		U	22.2	33.	100	ug/l		8015	07/28/14	1
C28-C40 Oil Range UJ ID-I		U	11.8	33.	100	ug/l		8015	07/28/14	1
Surrogate Recovery										
o-Terphenyl	84-15-1	99.1				% Rec.		8015	07/28/14	1
Polynuclear Aromatic Hydrocarbons										
Anthracene	120-12-7	U	0.00761	0.025	0.05	ug/l		8270C-S	07/30/14	1
Acenaphthene	83-32-9	U	0.00818	0.025	0.05	ug/l		8270C-S	07/30/14	1
Acenaphthylene	208-96-8	U	0.00682	0.025	0.05	ug/l		8270C-S	07/30/14	1
Benzo(a)anthracene	56-55-3	U	0.0118	0.025	0.05	ug/l		8270C-S	07/30/14	1
Benzo(a)pyrene	50-32-8	U	0.0116	0.025	0.05	ug/l		8270C-S	07/30/14	1
Benzo(b)fluoranthene	205-99-2	U	0.0138	0.025	0.05	ug/l		8270C-S	07/30/14	1
Benzo(g,h,i)perylene	191-24-2	U	0.0114	0.025	0.05	ug/l		8270C-S	07/30/14	1
Benzo(k)fluoranthene	207-08-9	U	0.0136	0.025	0.05	ug/l		8270C-S	07/30/14	1
Chrysene	218-01-9	U	0.0108	0.025	0.05	ug/l		8270C-S	07/30/14	1
Dibenz(a,h)anthracene	53-70-3	U	0.00396	0.025	0.05	ug/l		8270C-S	07/30/14	1
Fluoranthene	206-44-0	U	0.0157	0.025	0.05	ug/l		8270C-S	07/30/14	1
Fluorene	86-73-7	U	0.0085	0.025	0.05	ug/l		8270C-S	07/30/14	1
Indeno(1,2,3-cd)pyrene	193-39-5	U	0.0148	0.025	0.05	ug/l		8270C-S	07/30/14	1
Naphthalene	91-20-3	U	0.0198	0.025	0.25	ug/l		8270C-S	07/30/14	1
Phenanthrene	85-01-8	U	0.0082	0.025	0.05	ug/l		8270C-S	07/30/14	1
Pyrene	129-00-0	U	0.0117	0.025	0.05	ug/l		8270C-S	07/30/14	1
2-Methylnaphthalene	91-57-6	U	0.00902	0.025	0.25	ug/l		8270C-S	07/30/14	1
Surrogate Recovery										
Nitrobenzene-d5	4165-60-0	96.9				% Rec.		8270C-S	07/30/14	1
2-Fluorobiphenyl	321-60-8	104.				% Rec.		8270C-S	07/30/14	1
p-Terphenyl-d14	1718-51-0	111.				% Rec.		8270C-S	07/30/14	1

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Description : Holloman AFB

Site ID :

Sample ID : H-TU515-MW03-ND01

Project # : 23446543.0057AA

Collected By :
Collection Date : 07/23/14 13:11

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Antimony,Dissolved	7440-36-0	U	0.21	0.50	1	ug/l		6020	08/01/14	1
Arsenic,Dissolved	7440-38-2	8.2	0.25	0.50	1	ug/l		6020	08/02/14	1
Cadmium,Dissolved	7440-43-9	U	0.16	0.25	0.5	ug/l		6020	08/01/14	1
Chromium,Dissolved F~~J~~ SQL-I	7440-47-3	1.8	0.54	1.0	2	ug/l	J	6020	08/01/14	1
Cobalt,Dissolved F~~J~~ SQL-I	7440-48-4	0.53	0.26	0.50	1	ug/l	J	6020	08/01/14	1
Lead,Dissolved	7439-92-1	U	0.24	0.50	1	ug/l		6020	08/01/14	1
Nickel,Dissolved	7440-02-0	8.9	0.35	0.50	1	ug/l		6020	08/01/14	1
Selenium,Dissolved J MS-H	7782-49-2	3.1	0.38	0.50	1	ug/l	J5	6020	08/02/14	1
Silver,Dissolved UJ MS-L	7440-22-4	U	0.31	0.50	1	ug/l	J6	6020	08/01/14	1
Thallium,Dissolved	7440-28-0	U	0.19	0.50	1	ug/l		6020	08/01/14	1
Mercury,Dissolved	7439-97-6	U	0.049	0.090	0.2	ug/l		7470A	08/01/14	1
Aluminum,Dissolved F~~J~~ SQL-I	7429-90-5	87.	35	50.	100	ug/l	J	6010B	07/30/14	1
Barium,Dissolved	7440-39-3	18.	1.7	2.5	5	ug/l		6010B	07/30/14	1
Beryllium,Dissolved	7440-41-7	U	0.7	1.0	2	ug/l		6010B	07/30/14	1
Copper,Dissolved UJ ICS-L	7440-50-8	U	5.3	10.	20	ug/l		6010B	07/30/14	1
Manganese,Dissolved UJ ICS-L	7439-96-5	U	1.2	5.0	10	ug/l		6010B	07/30/14	1
Vanadium,Dissolved	7440-62-2	54.	2.4	5.0	20	ug/l		6010B	07/30/14	1
Zinc,Dissolved	7440-66-6	U	5.9	15.	50	ug/l		6010B	07/30/14	1

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 09, 2015

ESC Sample # : L711879-08

Date Received : July 24, 2014
Description : Holloman AFB

Site ID :

Sample ID : H-TU515-MW03-NT01

Project # : 23446543.0057AA

Collected By :
Collection Date : 07/23/14 13:11

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Dissolved Solids	DSOLIDS	3600000	2820	5000	10000	ug/l		2540 C-	07/29/14	1
Antimony FJ SQL, PDS-H	7440-36-0	0.62	0.21	0.50	1	ug/l	JO1	6020	07/28/14	1
Arsenic J PDS-H	7440-38-2	11.	0.25	0.50	1	ug/l	O1	6020	07/28/14	1
Cadmium U MB-I	7440-43-9	0.26	~~0.16~~ 0.26	~~0.25~~ 0.26	0.5	ug/l	J	6020	07/31/14	1
Chromium J PDS-H	7440-47-3	3.2	0.54	1.0	2	ug/l	O1	6020	07/28/14	1
Cobalt FJ SQL, PDS-H	7440-48-4	0.84	0.26	0.50	1	ug/l	JO1	6020	07/28/14	1
Lead FJ SQL, PDS-H	7439-92-1	0.57	0.24	0.50	1	ug/l	JO1	6020	07/28/14	1
Nickel	7440-02-0	14.	0.35	0.50	1	ug/l		6020	07/28/14	1
Selenium	7782-49-2	6.5	0.38	0.50	1	ug/l		6020	07/31/14	1
Silver J PDS-L	7440-22-4	3.3	0.31	0.50	1	ug/l	O1	6020	07/28/14	1
Thallium	7440-28-0	U	0.19	0.50	1	ug/l	O1	6020	07/28/14	1
Mercury	7439-97-6	U	0.049	0.090	0.2	ug/l		7470A	07/25/14	1
Aluminum J MS, PD-H	7429-90-5	500	35	50.	100	ug/l	J5	6010B	07/30/14	1
Barium	7440-39-3	25.	1.7	2.5	5	ug/l		6010B	07/30/14	1
Beryllium	7440-41-7	U	0.7	1.0	2	ug/l		6010B	07/30/14	1
Copper UJ ICS-L	7440-50-8	U	5.3	10.	20	ug/l		6010B	07/30/14	1
Manganese UJ CCB, ICS-L	7439-96-5	~~3.4~~ 5.0	~~1.2~~ 3.4	5.0	10	ug/l	J	6010B	07/30/14	1
Vanadium	7440-62-2	60.	2.4	5.0	20	ug/l		6010B	07/30/14	1
Zinc	7440-66-6	U	5.9	15.	50	ug/l		6010B	07/30/14	1
TPH (GC/FID) Low Fraction	8006-61-9	U	31	50.	100	ug/l		8015D/G	07/30/14	1
Surrogate Recovery-%										
a,a,a-Trifluorotoluene(FID)	98-08-8	96.4				% Rec.		8015D/G	07/30/14	1
Volatile Organics										
Acetone	67-64-1	U	10	25.	50	ug/l		8260B	07/29/14	1
Benzene	71-43-2	U	0.33	0.50	1	ug/l		8260B	07/29/14	1
Bromobenzene	108-86-1	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
Bromochloromethane	74-97-5	U	0.52	0.75	1	ug/l		8260B	07/29/14	1
Bromodichloromethane	75-27-4	U	0.38	0.50	1	ug/l		8260B	07/29/14	1
Bromoform	75-25-2	U	0.47	0.50	1	ug/l		8260B	07/29/14	1
Bromomethane	74-83-9	U	0.87	2.5	5	ug/l	J4J5	8260B	07/29/14	1
n-Butylbenzene	104-51-8	U	0.36	0.50	1	ug/l		8260B	07/29/14	1
sec-Butylbenzene	135-98-8	U	0.36	0.50	1	ug/l		8260B	07/29/14	1
tert-Butylbenzene	98-06-6	U	0.4	0.50	1	ug/l		8260B	07/29/14	1
Carbon Disulfide	75-15-0	U	0.28	0.50	1	ug/l		8260B	07/29/14	1
Carbon tetrachloride	56-23-5	U	0.38	0.50	1	ug/l		8260B	07/29/14	1
Chlorobenzene	108-90-7	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
Chlorodibromomethane	124-48-1	U	0.33	0.50	1	ug/l		8260B	07/29/14	1
Chloroethane	75-00-3	U	0.45	2.5	5	ug/l		8260B	07/29/14	1
Chloroform ~~FJ~~ SQL-I	67-66-3	2.3	0.32	2.5	5	ug/l	J	8260B	07/29/14	1
Chloromethane	74-87-3	U	0.28	0.50	2.5	ug/l		8260B	07/29/14	1
2-Chlorotoluene	95-49-8	U	0.38	0.50	1	ug/l		8260B	07/29/14	1

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 09, 2015

ESC Sample # : L711879-08

Date Received : July 24, 2014
Description : Holloman AFB

Site ID :

Sample ID : H-TU515-MW03-NT01

Project # : 23446543.0057AA

Collected By :
Collection Date : 07/23/14 13:11

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
4-Chlorotoluene	106-43-4	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
1,2-Dibromo-3-Chloropropane	96-12-8	U	1.3	2.5	5	ug/l		8260B	07/29/14	1
1,2-Dibromoethane	106-93-4	U	0.38	0.50	1	ug/l		8260B	07/29/14	1
Dibromomethane	74-95-3	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
1,2-Dichlorobenzene	95-50-1	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
1,3-Dichlorobenzene	541-73-1	U	0.22	0.50	1	ug/l		8260B	07/29/14	1
1,4-Dichlorobenzene	106-46-7	U	0.27	0.50	1	ug/l		8260B	07/29/14	1
Dichlorodifluoromethane	75-71-8	U	0.55	2.5	5	ug/l		8260B	07/29/14	1
1,1-Dichloroethane	75-34-3	U	0.26	0.50	1	ug/l		8260B	07/29/14	1
1,2-Dichloroethane	107-06-2	U	0.36	0.50	1	ug/l		8260B	07/29/14	1
1,1-Dichloroethene	75-35-4	U	0.4	0.50	1	ug/l		8260B	07/29/14	1
cis-1,2-Dichloroethene	156-59-2	U	0.26	0.50	1	ug/l		8260B	07/29/14	1
trans-1,2-Dichloroethene	156-60-5	U	0.4	0.50	1	ug/l		8260B	07/29/14	1
1,2-Dichloropropane	78-87-5	U	0.31	0.50	1	ug/l		8260B	07/29/14	1
1,1-Dichloropropene	563-58-6	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
1,3-Dichloropropane	142-28-9	U	0.37	0.50	1	ug/l		8260B	07/29/14	1
cis-1,3-Dichloropropene	10061-01-5	U	0.42	0.50	1	ug/l		8260B	07/29/14	1
trans-1,3-Dichloropropene	10061-02-6	U	0.42	0.50	1	ug/l		8260B	07/29/14	1
2,2-Dichloropropane	594-20-7	U	0.32	0.50	1	ug/l		8260B	07/29/14	1
Ethylbenzene	100-41-4	U	0.38	0.50	1	ug/l		8260B	07/29/14	1
2-Hexanone	591-78-6	U	3.8	5.0	10	ug/l		8260B	07/29/14	1
Hexachloro-1,3-butadiene	87-68-3	U	0.26	0.50	1	ug/l		8260B	07/29/14	1
Isopropylbenzene	98-82-8	U	0.33	0.50	1	ug/l		8260B	07/29/14	1
p-Isopropyltoluene	99-87-6	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
2-Butanone (MEK)	78-93-3	U	3.9	5.0	10	ug/l		8260B	07/29/14	1
Methylene Chloride	75-09-2	U	1	2.5	5	ug/l		8260B	07/29/14	1
4-Methyl-2-pentanone (MIBK)	108-10-1	U	2.1	5.0	10	ug/l		8260B	07/29/14	1
Methyl tert-butyl ether	1634-04-4	U	0.37	0.50	1	ug/l		8260B	07/29/14	1
Naphthalene DNR	~~91-20-3~~	~~U~~	~~1~~	~~2.5~~	~~5~~	~~ug/l~~		~~8260B~~	~~07/29/14~~	~~1~~
n-Propylbenzene	103-65-1	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
Styrene	100-42-5	U	0.31	0.50	1	ug/l		8260B	07/29/14	1
1,1,1,2-Tetrachloroethane	630-20-6	U	0.38	0.50	1	ug/l		8260B	07/29/14	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.58 ~~0.13~~	0.75	1	ug/l		8260B	07/29/14	1
Tetrachloroethene	127-18-4	U	0.37	0.50	1	ug/l		8260B	07/29/14	1
Toluene	108-88-3	U	0.78	2.5	5	ug/l		8260B	07/29/14	1
1,2,3-Trichlorobenzene	87-61-6	U	0.23	0.50	1	ug/l		8260B	07/29/14	1
1,2,4-Trichlorobenzene	120-82-1	U	0.21	0.50	1	ug/l		8260B	07/29/14	1
1,1,1-Trichloroethane	71-55-6	U	0.319	0.50	1	ug/l		8260B	07/29/14	1
1,1,2-Trichloroethane	79-00-5	U	0.38	0.50	1	ug/l		8260B	07/29/14	1
Trichloroethene	79-01-6	U	0.4	0.50	1	ug/l		8260B	07/29/14	1
Trichlorofluoromethane	75-69-4	U	1.2	2.5	5	ug/l		8260B	07/29/14	1
1,2,3-Trichloropropane	96-18-4	U	0.81	1.0	2.5	ug/l		8260B	07/29/14	1
1,2,4-Trimethylbenzene	95-63-6	U	0.37	0.50	1	ug/l		8260B	07/29/14	1
1,3,5-Trimethylbenzene	108-67-8	U	0.39	0.50	1	ug/l		8260B	07/29/14	1
o-Xylene	95-47-6	U	0.34	0.50	1	ug/l		8260B	07/29/14	1
m&p-Xylene	1330-20-7	U	0.72	1.0	2	ug/l		8260B	07/29/14	1

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 09, 2015

Date Received : July 24, 2014
Description : Holloman AFB

Sample ID : H-TU515-MW03-NT01

Collected By :
Collection Date : 07/23/14 13:11

ESC Sample # : L711879-08

Site ID :

Project # : 23446543.0057AA

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Vinyl chloride	75-01-4	U	0.26	0.50	1	ug/l		8260B	07/29/14	1
Surrogate Recovery										
Toluene-d8	2037-26-5	102.				% Rec.		8260B	07/29/14	1
Dibromofluoromethane	1868-53-7	104.				% Rec.		8260B	07/29/14	1
4-Bromofluorobenzene	460-00-4	100.				% Rec.		8260B	07/29/14	1
Diesel and Oil Ranges										
C10-C28 Diesel Range UJ ID-I		U	22.2		100	ug/l		8015	07/28/14	1
C28-C40 Oil Range UJ ID-I		U	11.8		100	ug/l		8015	07/28/14	1
Surrogate Recovery										
o-Terphenyl	84-15-1	97.5				% Rec.		8015	07/28/14	1
Polynuclear Aromatic Hydrocarbons										
Anthracene	120-12-7	U	0.00761	0.025	0.05	ug/l		8270C-S	07/30/14	1
Acenaphthene	83-32-9	U	0.00818	0.025	0.05	ug/l		8270C-S	07/30/14	1
Acenaphthylene	208-96-8	U	0.00682	0.025	0.05	ug/l		8270C-S	07/30/14	1
Benzo(a)anthracene	56-55-3	U	0.0118	0.025	0.05	ug/l		8270C-S	07/30/14	1
Benzo(a)pyrene	50-32-8	U	0.0116	0.025	0.05	ug/l		8270C-S	07/30/14	1
Benzo(b)fluoranthene	205-99-2	U	0.0138	0.025	0.05	ug/l		8270C-S	07/30/14	1
Benzo(g,h,i)perylene	191-24-2	U	0.0114	0.025	0.05	ug/l		8270C-S	07/30/14	1
Benzo(k)fluoranthene	207-08-9	U	0.0136	0.025	0.05	ug/l		8270C-S	07/30/14	1
Chrysene	218-01-9	U	0.0108	0.025	0.05	ug/l		8270C-S	07/30/14	1
Dibenz(a,h)anthracene	53-70-3	U	0.00396	0.025	0.05	ug/l		8270C-S	07/30/14	1
Fluoranthene	206-44-0	U	0.0157	0.025	0.05	ug/l		8270C-S	07/30/14	1
Fluorene	86-73-7	U	0.0085	0.025	0.05	ug/l		8270C-S	07/30/14	1
Indeno(1,2,3-cd)pyrene	193-39-5	U	0.0148	0.025	0.05	ug/l		8270C-S	07/30/14	1
Naphthalene	91-20-3	U	0.0198	0.025	0.25	ug/l		8270C-S	07/30/14	1
Phenanthrene	85-01-8	0.060	0.0082	0.025	0.05	ug/l		8270C-S	07/30/14	1
Pyrene	129-00-0	0.056	0.0117	0.025	0.05	ug/l		8270C-S	07/30/14	1
2-Methylnaphthalene	91-57-6	U	0.00902	0.025	0.25	ug/l		8270C-S	07/30/14	1
Surrogate Recovery										
Nitrobenzene-d5	4165-60-0	91.9				% Rec.		8270C-S	07/30/14	1
2-Fluorobiphenyl	321-60-8	104.				% Rec.		8270C-S	07/30/14	1
p-Terphenyl-d14	1718-51-0	109.				% Rec.		8270C-S	07/30/14	1

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 09, 2015

ESC Sample # : L711879-09

Date Received : July 24, 2014
Description : Holloman AFB

Site ID :

Sample ID : H-TU515-TRIPBLANK-TT02

Project # : 23446543.0057AA

Collected By :
Collection Date : 07/23/14 15:00

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
TPH (GC/FID) Low Fraction	8006-61-9	U	31	50.	100	ug/l		8015D/G	07/30/14	1
Surrogate Recovery-%										
a,a,a-Trifluorotoluene(FID)	98-08-8	96.4				% Rec.		8015D/G	07/30/14	1
Volatile Organics										
Acetone ~~VJ D-I~~ VJ D-I	67-64-1	U	10	25.	50	ug/l	J3	8260B	07/30/14	1
Benzene	71-43-2	U	0.33	0.50	1	ug/l		8260B	07/30/14	1
Bromobenzene	108-86-1	U	0.35	0.50	1	ug/l		8260B	07/30/14	1
Bromochloromethane	74-97-5	U	0.52	0.75	1	ug/l	J3	8260B	07/30/14	1
Bromodichloromethane	75-27-4	U	0.38	0.50	1	ug/l		8260B	07/30/14	1
Bromoform VJ LCS ~~D-L~~	75-25-2	U	0.47	0.50	1	ug/l	J4J3	8260B	07/30/14	1
Bromomethane	74-83-9	U	0.87	2.5	5	ug/l		8260B	07/30/14	1
n-Butylbenzene	104-51-8	U	0.36	0.50	1	ug/l		8260B	07/30/14	1
sec-Butylbenzene	135-98-8	U	0.36	0.50	1	ug/l		8260B	07/30/14	1
tert-Butylbenzene	98-06-6	U	0.4	0.50	1	ug/l		8260B	07/30/14	1
Carbon Disulfide	75-15-0	U	0.28	0.50	1	ug/l		8260B	07/30/14	1
Carbon tetrachloride	56-23-5	U	0.38	0.50	1	ug/l		8260B	07/30/14	1
Chlorobenzene	108-90-7	U	0.35	0.50	1	ug/l		8260B	07/30/14	1
Chlorodibromomethane ~~VJ LCS-L~~	124-48-1	U	0.33	0.50	1	ug/l	J4	8260B	07/30/14	1
Chloroethane	75-00-3	U	0.45	2.5	5	ug/l		8260B	07/30/14	1
Chloroform	67-66-3	U	0.32	2.5	5	ug/l		8260B	07/30/14	1
Chloromethane	74-87-3	U	0.28	0.50	2.5	ug/l		8260B	07/30/14	1
2-Chlorotoluene	95-49-8	U	0.38	0.50	1	ug/l		8260B	07/30/14	1
4-Chlorotoluene	106-43-4	U	0.35	0.50	1	ug/l		8260B	07/30/14	1
1,2-Dibromo-3-Chloropropane	96-12-8	U	1.3	2.5	5	ug/l		8260B	07/30/14	1
1,2-Dibromoethane	106-93-4	U	0.38	0.50	1	ug/l		8260B	07/30/14	1
Dibromomethane	74-95-3	U	0.35	0.50	1	ug/l		8260B	07/30/14	1
1,2-Dichlorobenzene	95-50-1	U	0.35	0.50	1	ug/l		8260B	07/30/14	1
1,3-Dichlorobenzene	541-73-1	U	0.22	0.50	1	ug/l		8260B	07/30/14	1
1,4-Dichlorobenzene	106-46-7	U	0.27	0.50	1	ug/l		8260B	07/30/14	1
Dichlorodifluoromethane	75-71-8	U	0.55	2.5	5	ug/l		8260B	07/30/14	1
1,1-Dichloroethane	75-34-3	U	0.26	0.50	1	ug/l		8260B	07/30/14	1
1,2-Dichloroethane	107-06-2	U	0.36	0.50	1	ug/l		8260B	07/30/14	1
1,1-Dichloroethene	75-35-4	U	0.4	0.50	1	ug/l		8260B	07/30/14	1
cis-1,2-Dichloroethene	156-59-2	U	0.26	0.50	1	ug/l		8260B	07/30/14	1
trans-1,2-Dichloroethene	156-60-5	U	0.4	0.50	1	ug/l		8260B	07/30/14	1
1,2-Dichloropropane	78-87-5	U	0.31	0.50	1	ug/l		8260B	07/30/14	1
1,1-Dichloropropene	563-58-6	U	0.35	0.50	1	ug/l		8260B	07/30/14	1
1,3-Dichloropropane	142-28-9	U	0.37	0.50	1	ug/l		8260B	07/30/14	1
cis-1,3-Dichloropropene	10061-01-5	U	0.42	0.50	1	ug/l		8260B	07/30/14	1
trans-1,3-Dichloropropene ~~VJ D-I~~	10061-02-6	U	0.42	0.50	1	ug/l	J3	8260B	07/30/14	1
2,2-Dichloropropane	594-20-7	U	0.32	0.50	1	ug/l		8260B	07/30/14	1
Ethylbenzene	100-41-4	U	0.38	0.50	1	ug/l		8260B	07/30/14	1
2-Hexanone	591-78-6	U	3.8	5.0	10	ug/l	J3	8260B	07/30/14	1
Hexachloro-1,3-butadiene	87-68-3	U	0.26	0.50	1	ug/l		8260B	07/30/14	1
Isopropylbenzene	98-82-8	U	0.33	0.50	1	ug/l		8260B	07/30/14	1

U = Not Detected at the LOD
Note:
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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 09, 2015

Date Received : July 24, 2014
Description : Holloman AFB

Sample ID : H-TU515-TRIPBLANK-TT02

Collected By :
Collection Date : 07/23/14 15:00

ESC Sample # : L711879-09

Site ID :

Project # : 23446543.0057AA

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
p-Isopropyltoluene	99-87-6	U	0.35	0.50	1	ug/l		8260B	07/30/14	1
2-Butanone (MEK) ~~UJ D-I~~	78-93-3	U	3.9	5.0	10	ug/l	J3	8260B	07/30/14	1
Methylene Chloride	75-09-2	U	1	2.5	5	ug/l		8260B	07/30/14	1
4-Methyl-2-pentanone (MIBK)	108-10-1	U	2.1	5.0	10	ug/l	J3	8260B	07/30/14	1
Methyl tert-butyl ether	1634-04-4	U	0.37	0.50	1	ug/l		8260B	07/30/14	1
Naphthalene	91-20-3	U	1	2.5	5	ug/l		8260B	07/30/14	1
n-Propylbenzene	103-65-1	U	0.35	0.50	1	ug/l		8260B	07/30/14	1
Styrene	100-42-5	U	0.31	0.50	1	ug/l		8260B	07/30/14	1
1,1,1,2-Tetrachloroethane UJ LCS-L	630-20-6	U	0.38	0.50	1	ug/l		8260B	07/30/14	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.58 ~~0.13~~	0.75	1	ug/l		8260B	07/30/14	1
Tetrachloroethene	127-18-4	U	0.37	0.50	1	ug/l		8260B	07/30/14	1
Toluene	108-88-3	U	0.78	2.5	5	ug/l		8260B	07/30/14	1
1,2,3-Trichlorobenzene	87-61-6	U	0.23	0.50	1	ug/l		8260B	07/30/14	1
1,2,4-Trichlorobenzene	120-82-1	U	0.21	0.50	1	ug/l	J3	8260B	07/30/14	1
1,1,1-Trichloroethane	71-55-6	U	0.319	0.50	1	ug/l		8260B	07/30/14	1
1,1,2-Trichloroethane	79-00-5	U	0.38	0.50	1	ug/l		8260B	07/30/14	1
Trichloroethene	79-01-6	U	0.4	0.50	1	ug/l		8260B	07/30/14	1
Trichlorofluoromethane	75-69-4	U	1.2	2.5	5	ug/l		8260B	07/30/14	1
1,2,3-Trichloropropane	96-18-4	U	0.81	1.0	2.5	ug/l		8260B	07/30/14	1
1,2,4-Trimethylbenzene	95-63-6	U	0.37	0.50	1	ug/l		8260B	07/30/14	1
1,3,5-Trimethylbenzene	108-67-8	U	0.39	0.50	1	ug/l		8260B	07/30/14	1
o-Xylene	95-47-6	U	0.34	0.50	1	ug/l		8260B	07/30/14	1
m&p-Xylene	1330-20-7	U	0.72	1.0	2	ug/l		8260B	07/30/14	1
Vinyl chloride	75-01-4	U	0.26	0.50	1	ug/l		8260B	07/30/14	1
Surrogate Recovery										
Toluene-d8	2037-26-5	105.				% Rec.		8260B	07/30/14	1
Dibromofluoromethane	1868-53-7	107.				% Rec.		8260B	07/30/14	1
4-Bromofluorobenzene	460-00-4	100.				% Rec.		8260B	07/30/14	1

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Holloman AFB
Groundwater Monitoring
Data Review Summary

Data Package Number: L712008
Sampling Event Dates: July 23, 2014
Sample-specific Parameter Review/Laboratory Performance Parameters: Yes
Full Validation (e.g. result recalculation): No
Data Reviewer: Katie Abbott, URS Project Chemist
Date Completed: January 15, 2015
Peer Reviewer: Sheri Fling, URS Project Quality Assurance Manager (QAM)

The table below summarizes the data package and sample identifications discussed in this data review.

Field Identification	Sample Type	Lab Identification	Matrix	Analyses						
				GRO	DRO/ORO	VOCs	PAHs	Total Metals	Dissolved Metals	TDS
L712008										
H-TU506-MW01-ND01	SA	L712008-01	Water	---	---	---	---	---	X	---
H-TU506-MW01-NT01	SA	L712008-02	Water	X	X	X	X	X	---	X
H-TU506-MW02-ND01	SA	L712008-03	Water	---	---	---	---	---	X	---
H-TU506-MW02-DD01	FD	L712008-04	Water	---	---	---	---	---	X	---
H-TU506-MW02-NT01	SA	L712008-05	Water	X	X	X	X	X	---	X
H-TU506-MW02-DT01	FD	L712008-06	Water	X	X	X	X	X	---	X
H-TU506-MW03-ND01	SA	L712008-07	Water	---	---	---	---	---	X^m	---
H-TU506-MW03-NT01	SA	L712008-08	Water	X^m	X^m	X^m	X^m	X^m	---	X
H-TU506-TRIP BLANK-TT02	TB	L712008-09	Water	X	---	X	---	---	---	---

Sample Type: SA – Sample FD - Field Duplicate TB – Trip Blank
X^m - Matrix Spike/Matrix Spike Duplicate

Analyses:
DRO/ORO - Diesel and Oil Range Organics (8015)
GRO – Gasoline Range Organics (8015D)
TDS – Total Dissolved Solids (SM2540C)
Total/Dissolved Metals – Antimony, Arsenic, Cadmium, Chromium, Cobalt, Lead, Nickel, Selenium, Silver, Thallium, Mercury, Aluminum, Barium, Beryllium, Copper, Manganese, Vanadium, Zinc (6010B/6020/7470A)
PAHs – Polynuclear Aromatic Hydrocarbons (8270C)
VOCs – Volatile Organic Compounds (8260B)

The data review was conducted in accordance with the Final Interim Measures Work Plan – Appendix A, Sampling and Analysis Plan/Quality Assurance Project Plan: Former Septic System Site TU904 (URS, September 2014); Group 2 Former Underground Storage Sites: AOC-UST-889 (TU515) (URS, September 2014); and Group 3 Former Underground Storage Tank Sites: AOC-UST-221 (TU503), AOC-UST-298 (TU508), AOC-UST-901 (TU506) and AOC-UST-7003 (TU518) (URS, August 2014); data validation standard operating procedure (SOP) 14;

Department of Defense (DoD) Quality Systems Manual version 4.2 (DoD, 2010); and method requirements.

General Overall Assessment:

_____ Data are usable without qualification.
__X__ Data are usable with qualification (noted below).
_____ Some or all data are unusable for any purpose (detailed below).

Case Narrative Comments: Any laboratory case narrative comments concerning data qualification were addressed in the table below.

Trace level detects, reported between the method detection limit (MDL) and the reporting limit (LOQ), have been qualified as estimated (F SQL-I). All other occurrences of data qualification are covered in the following table.

Review Parameter	Criteria Met?	Comment
Chain of Custody & Sample Receipt	No	The samples were received by ESC Lab Sciences in good condition and were consistent with the accompanying chain of custody (COC). The cooler temperatures upon receipt were within the recommended ≤6 degrees Celsius (°C) temperature range. The laboratory noted that one of the vials submitted for polynuclear hydrocarbons (PAHs) on sample H-TU506-MW01-NT01 was received empty. As sufficient volume remained for the analysis, further action was not necessary.
Reporting	Yes	During review of a representative data package selected for full validation, it was noted that improper reference spectra were displayed in the printed version of the data package for Method 8260B. Due to a LIMS limitation, the data package reference spectra were not consistently representative of the actual spectra for the analytes detected. Because the laboratory data review involves the use of NBS reference spectra and not the reference spectra taken from the instrument calibration, the analyst was not seeing the improper alignment of spectra noted in the data package during his/her review at the instrument. The laboratory revised and reissued the data package with correct reference spectral data, consistent with method requirements, and no results were changed. Therefore, no further action is necessary as a result of this validation finding. Several revisions to the data package were required. Revision 1: Revised reports were issued to remove non-target analytes from the volatile organic compound (VOC) and polynuclear aromatic hydrocarbon (PAH) analyte lists; to include quality assurance project plan (QAPP) required VOC analytes; to correct the matrix spike/matrix spike duplicate (MS/MSD) for diesel range organics/oil range organics (DRO/ORO); to correct the limits of detection (LODs) for 1,1,2,2-tetrachloroethane; 1,2,3-trichloropropane; cadmium; nickel; selenium; and mercury; and to report the continuing calibration blanks (CCBs) and initial calibration blanks (ICBs) to the detection limit (DL). Revision 2: A revised report was issued to correct the DLs, LODs, and LOQs for mercury and several VOC analytes.

Review Parameter	Criteria Met?	Comment
		Revision 3: An addendum was issued to include the isotope results in the quality control samples for Method 6020. Revision 4: A revised report was issued to remove the 1,2,3-trichlorobenzene results for VOCs and to include results for bromochloromethane.
Holding Times	Yes	All samples were analyzed within the method required holding time.
Laboratory Blanks • Method Blank • Continuing Calibration Blank	No	With the exception listed in Table 1, target analytes were not detected within the method or calibration blanks. **Method 6020** The laboratory reported multiple isotopes for a given analyte (e.g. antimony 121 and antimony 123) within the analytical sequence for Method 6020. Therefore, all isotope detections were evaluated in the method blanks and continuing calibration blanks for potential impact to sample result qualification.
Matrix Quality Control • Matrix Spike/ Matrix Spike Duplicate H-TU506-MW03-ND01 (Dissolved Metals) H-TU506-MW03-NT01 (Total Metals, GRO, VOCs, GRO/ORO, SVOCs) • Laboratory Duplicate H-TU506-MW03-ND01 (Dissolved Mercury) H-TU506-MW03-NT01 (Total Mercury) • Total vs. Partial Analyses (Metals)	No	**Matrix Spike/ Matrix Spike Duplicate (MS/MSD)** The frequency of MS/MSDs met the QAPP requirement of one per twenty samples. With the exceptions listed in Table 2, the MS/MSD recoveries and relative percent differences (RPDs) met quality control criteria. DRO and ORO were reported in the ranges of C10-C28 and C28-C40; however, the laboratory performed one spike covering the range of C12-C40. This is considered to be an acceptable representation of precision and accuracy with respect to the reported ranges. Results in the native sample greater than four times the concentration of the spike added during digestions/extractions are not considered to be a representative measure of accuracy. Further action with respect to spike recovery evaluation or qualification of data was not considered necessary. Consistent with standard operating procedure (SOP) 14, when MS/MSD issues accounted for less than 35% of the MS/MSD analyses conducted, applicable data qualification was limited to qualification of the parent sample of the affected analyte. When >35% of the MS/MSD results did not meet criteria, evaluation was extended to all associated samples. See Section 4.1 of the data validation report for overall qualifiers resulting from the MS/MSD evaluation. **Laboratory Duplicate** The comparison between results of the laboratory duplicate pair met the criteria listed below. • When both the sample and duplicate values are >5x the LOQ, acceptable sampling and analytical precision is indicated by an RPD between the results of ≤20% for water samples (≤35% for soil samples).

Review Parameter	Criteria Met?	Comment
		• Where the result for one or both analytes of the laboratory duplicate pair is <5xLOQ, satisfactory precision is indicated if the absolute difference between the laboratory duplicate results is <1xLOQ for water samples (<2xLOQ for soil samples). **Total vs. Partial Analyses (Metals)** Consistent with SOP 14, results for the total analysis of a particular analyte should be greater than the results for a partial analyte of that analyte. The following criteria were used to evaluate the total versus dissolved results: • In instances where the value for a partial analysis exceeds that for a total analysis and both of the results are >5x the LOQ, the criterion utilized is that the two values should agree within ±30%. • In instances where the value for a partial analysis exceeds that for a total analysis and either of the results is ≤5x the LOQ, the absolute difference between the results is compared against an evaluation criterion of 2x the LOQ. The total metal sample results were compared with the associated dissolved metal sample results against the concentration-dependent criteria set forth in SOP 14.
Metals Only • Serial Dilution H-TU506-MW03-ND01 (Dissolved 7470/6010) H-TU506-MW03-NT01 (Total Metals) • Post Digestion Spike H-TU506-MW03-NT01 (Total 6010/6020)	No	**Serial Dilution (Metals Only)** Consistent with the method, only the results that were greater than 50 times their respective DLs were appropriate for comparing to the serial dilution evaluation criterion. All percent differences (%Ds) between the original sample results and the results obtained from the sample-diluted 1:5 were ≤10%. **Post Digestion Spike (PDS) (Metals Only)** With the exceptions listed in Table 3, all PDS recoveries were within the acceptance limits.
Method Quality Control • Surrogates (VOCs, PAHs, GRO, DRO/ORO)	Yes	The surrogate recoveries were within the laboratory specified acceptance criteria.
Field Quality Control • Trip Blank H-TU506-TRIP BLANK-TT02 (GRO, VOCs) • Field Duplicate H-TU506-MW02-ND01/ H-TU506-MW02-DD01 H-TU506-MW02-NT01/ H-TU506-MW02-DT01 • Equipment Blank None in this package • Field Blank None in this package	No	**Trip Blank** Target analytes were not detected in the trip blank. **Field Duplicate** The frequency of field duplicates met the QAPP requirement of one per twenty samples. With the exceptions listed in Table 4, the comparison between results of the field duplicate pair met the criteria listed below. • When both the sample and duplicate values are >5x the LOQ acceptable sampling and analytical precision is indicated by an RPD between the results of ≤30% for water samples (≤50% for soil samples). • Where the result for one or both analytes of the field duplicate pair is <5xLOQ, satisfactory precision is indicated if the absolute difference between the field duplicate results is <2xLOQ for water samples (<3.5xLOQ for soil samples).

Review Parameter	Criteria Met?	Comment
		Consistent with SOP 14, when field duplicate issues accounted for less than 35% of the field duplicate analyses conducted, applicable data qualification was limited to qualification of the parent sample for the affected analyte. When >35% of the field duplicate results did not meet criteria, evaluation was extended to all associated samples. See Section 4.3 of the data validation report for overall qualifiers resulting from the field duplicate evaluation. **Equipment Blank** As dedicated equipment was used to collect these samples, an equipment blank was not submitted for this sampling event. Further action was not necessary. **Field Blank** The frequency of field blanks met the QAPP requirement of one per twenty samples. A field blank was not submitted with this data package. See Section 4.4 of the data validation report for overall qualifiers resulting from the field blank evaluation.
LODs met?	Yes	Due to dilutions, the total silver result for sample H-TU506-MW03-NT01 was reported as non-detect at an elevated LOD and will need to be evaluated by the end user of the data with respect to project objectives. See Section 3.6 of the data validation report for further discussion.
Other Parameters	Yes	Naphthalene (8260B and 8270C-PAHs) was analyzed by multiple methods. Results were selected for reporting using the following criteria: • If both results were non-detect, the non-detect result with the lower reporting limit was selected. • If both results were reported as detected, the higher detected result was selected for reporting. • If one result was reported as non-detect and the other result was reported as detected, the detected result was selected for reporting.
Initial Calibration	Yes	**Method 8260B VOCs** A minimum relative response factor (RRF) of 0.05 was used for the system performance check compounds (SPCCs) and all SPCCs met this criterion. The percent relative standard deviations (%RSDs) over the initial calibration RRFs for all calibration check compounds (CCCs) satisfied the method requirement of <30%. For all other target compounds, a requirement of 15% was used. The %RSD values for all target analytes in the calibration were less than 15%. Therefore, the initial calibration met method acceptance criteria. **Method 8270C PAHs** The %RSD values for all target analytes in the calibration were less than 20%. Therefore, the initial calibration met method acceptance criteria. **Method 8015D Gasoline Range Organics (GRO)** The relationship between instrument response and concentration was established with a blank and at least five standards for each analyte. The %RSD over the initial calibrations curve satisfied the method requirement of <15%. Therefore, the initial calibration met method acceptance criteria.

Review Parameter	Criteria Met?	Comment
		Method 8015 DRO and ORO The relationship between instrument response and concentration was established with a blank and at least five standards for the entire carbon range of C10-C40. The %RSD over the initial calibrations curve satisfied the method requirement of <15%. Therefore, the initial calibration met method acceptance criteria. **Methods 6010B (Inductively Coupled Plasma [ICP] Metals) and 6020 (ICPMS Metals)** The initial calibrations (ICALs) were performed in association with the samples reported in this package. The relationship between instrument response and concentration was established with a blank and at least five standards. The calibrations were verified with the analysis of an initial calibration verification (ICV) standard. All metals were recovered within the method acceptance range of 90-110%. **Method 7470A (Mercury)** The ICALs were performed in association with the samples reported in this package. The relationship between instrument response and concentration was established with five standards. The correlation coefficient was >0.995. The calibration was verified with the analysis of an ICV standard. The analytes were recovered within the acceptance range of 90-110%. Response and linearity criteria were met and data qualification on the basis of initial calibration was not necessary. **Total Dissolved Solids (TDS)** ICALs are not required per the method for TDS.
Initial Calibration Verification/Continuing Calibration Verification	No	**Method 8260B VOCs** With the exception listed in Table 5, the percent differences (%Ds) for all CCCs in the ICVs and continuing calibrations (CCALs) were less than 20%, satisfying method requirements, and other target analytes satisfied the %D criterion of 20%. **Method 8270C Polyaromatic Hydrocarbons (PAHs)** The %D values for all target analytes in the calibration were less than 20%. Therefore, the ICVs and CCALs met method acceptance criteria. **Method 8015D GRO/Method 8015 DRO/ORO** The %Ds for GRO and DRO/ORO (C10-C40) in the ICVs and CCALs were less than 15%. Data qualification was not necessary. **Methods 6010B (ICP Metals), Methods 6020 (ICPMS Metals) & 7470A (Mercury)** Calibration verification analyses were conducted at the proper frequency. All metals were recovered within the DOD QSM 4.2 low level acceptance range of 80-120% and the method medium/high acceptance range of 90-110%. **TDS** Calibration verifications are not required for TDS.

Review Parameter	Criteria Met?	Comment
Interference Check Standard (Metals Only)	No	The interference check standard (ICS) AB solutions were analyzed at the proper frequency. The target analytes were recovered within the acceptance range of 90-10% in the ICS AB solution. With the exceptions listed in Table 6, interferent elements were not present in the samples at concentrations greater than those in the ICSs. The interferent elements aluminum, calcium, iron, and magnesium were present in most samples in this data package at concentrations greater than or equal to those in the ICSs. As such, these samples were evaluated for positive and negative biases suggested by the ICS A. Data qualification was issued if the absolute value of the ICS A result was greater than the MDL and it suggested a positive or negative bias which accounted for more than 25% of associated sample results or reporting limits. (Note: The ICS A solution only contains the interferent elements aluminum, calcium, iron, and magnesium so any positive or negative result for other analytes is inferred to be a bias potentially caused by one or more of the interferent elements present.) Table 6 summarizes the resultant data qualification on the basis of the ICS results.
Internal Standard (VOCs/PAHs/Metals (6020))	Yes	Recoveries for the internal standards in field samples were within the applicable acceptance limits. Therefore, data qualification based on internal standards was not necessary.
Laboratory Control Sample/ Laboratory Control Sample Duplicate	Yes	One laboratory control sample (LCS) and/or laboratory control sample duplicate (LCSD) per method per analytical batch was prepared and analyzed. With the exceptions listed in Table 7, all of the LCS recoveries and LCS/LCSD RPDs were within QAPP acceptance limits. These results are indicative of an acceptable level of accuracy and precision with respect to the analytical method. **Method 8015 DRO/ORO** DRO and ORO were reported in the ranges of C10-C28 and C28-C40; however, the laboratory performed one spike covering the range of C12-C40. This is considered to be an acceptable representation of precision and accuracy with respect to the reported ranges.
Other Parameters	Yes	**Method 8015 DRO/ORO** As the entire area for C10-C40 is used in the calibration to determine response factor, there is a potential bias in the results when you segregate the DRO (C10-C28) and ORO (C28-C40) which is demonstrated in the individual continuing calibration results. Therefore, the DRO/ORO results were qualified as estimated (J/UJ ID-I).
Package Completeness	Yes	The results are usable as qualified for the project objective. The data are 100% complete.

> - Greater Than
< - Less Than
≤ - Less Than or Equal to
± - Plus or Minus
°C – Degrees Celsius
% - Percent
%Ds – Percent Differences
%RSD – Percent Relative Standard Deviation
CCALs – Continuing Calibrations
CCBs – Continuing Calibration Blanks
CCCs – Calibration Check Compounds
COC – Chain of Custody
COD – Coefficient of Determination
DLs – Detection Limits
DRO – Diesel Range Organics
GRO – Gasoline Range Organics
I – Indeterminate Bias
ICAL – Initial Calibration
ICB – Initial Calibration Blank
ICP – Inductively Coupled Plasma
ICS – Interference Check Standard
ICV – Initial Calibration Verification
ID - Identification
LCS – Laboratory Control Sample

LCSD – Laboratory Control Sample Duplicate
LOD – Limit of Detection
LOQ – Limit of Quantitation
MS/MSD – Matrix Spike/ Matrix Spike Duplicate
ORO – Oil Range Organics
PAHs – Polynuclear Aromatic Hydrocarbons
PDS – Post Digestion Spike
QAPP – Quality Assurance Project Plan
RPDs – Relative Percent Differences
RRF – Relative Response Factor
SOP – Standard Operating Procedure
SPCCs – System Performance Check Compounds
TDS – Total Dissolved Solids
UJ/J - Estimated
VOCs – Volatile Organic Compounds

Table 1: Blank Outliers and Resultant Data Qualification

Associated Samples	Analyte	Concentration	Qualification
Total Metals			
MB Batch WG734162 H-TU506-MW01-NT01 H-TU506-MW02-NT01 H-TU506-MW02-DT01 H-TU506-MW03-NT01	Antimony (123)	-0.64 µg/L	As the potential bias was considered to be low, the associated samples reported within 4x the blank contamination were qualified as estimated (UJ/J MB-L).
	Arsenic	-0.31 µg/L	
	Cobalt	-0.41 µg/L	
	Lead	-0.37 µg/L	
	Selenium (82)	-0.58 µg/L	
MB Batch WG734162 H-TU506-MW01-NT01 H-TU506-MW02-DT01 H-TU506-MW03-NT01	Cadmium (114)	-0.52 µg/L	
Dissolved Metals			
MB Batch WG734245 H-TU506-MW01-ND01 H-TU506-MW02-ND01 H-TU506-MW02-DD01 H-TU506-MW03-ND01	Copper	5.96 µg/L	None. The associated results were reported as non-detect or at concentrations >5x the concentration of the blank contamination.
	Manganese	1.63 µg/L	
MB Batch WG734093 H-TU506-MW01-ND01 H-TU506-MW02-ND01 H-TU506-MW02-DD01 H-TU506-MW03-ND01	Antimony (121)	0.230 µg/L	The associated results reported at concentrations <5x the concentration of the blank contamination were qualified as non-detect (U MB-I).
	Arsenic	0.370 µg/L	
CCB 8/2/2014 11:49AM H-TU506-MW01-ND01 H-TU506-MW02-ND01 H-TU506-MW02-DD01		0.490 µg/L	The associated results reported at concentrations <5x the concentration of the blank contamination were qualified as non-detect (U CCB-I).
	Selenium	0.420 µg/L	
CCB 8/2/2014 1:09PM H-TU506-MW01-ND01 H-TU506-MW02-ND01 H-TU506-MW02-DD01 H-TU506-MW03-ND01	Arsenic	0.450 µg/L	
CCB 8/2/2014 1:43PM H-TU506-MW03-ND01		0.680 µg/L	
	Antimony (121)	0.300 µg/L	
CCB 8/4/2014 10:10AM H-TU506-MW02-ND01 H-TU506-MW02-DD01 H-TU506-MW03-ND01	Silver	0.390 µg/L	The associated results reported at concentrations <5x the concentration of the blank contamination were qualified as non-detect (U CCB-I).

Associated Samples	Analyte	Concentration	Qualification
PAHs			
MB Batch WG734073 H-TU506-MW01-NT01 H-TU506-MW02-NT01 H-TU506-MW02-DT01 H-TU506-MW03-NT01	Naphthalene	0.0213 µg/L	None. The associated results were reported as non-detect or at concentrations >5x the concentration of the blank contamination.

> - Greater Than
< - Less Than
µg/L – Micrograms per Liter
CCB – Continuing Calibration Blank
I – Indeterminate Bias
L – Low Bias
MB – Method Blank
PAHs – Polynuclear Aromatic Hydrocarbons
U – Non-detect
UJ/J - Estimated

Table 2: MS/MSD Recovery and RPD Outliers and Resultant Data Qualification

Associated Sample	Analyte	%R (Limits)	RPD (Limit)	Qualification
Total Metals				
H-TU506-MW03-NT01	Aluminum	**131/136** (80-120)	2 (30)	As the potential bias was considered to be high, the associated detected aluminum result for sample H-TU506-MW03-NT01 was qualified as estimated (J MS-H).
	Selenium	**127/130** (80-120)	2 (30)	As the potential bias was considered to be high, the associated detected selenium result for sample H-TU506-MW03-NT01 was qualified as estimated (J MS-H).
Dissolved Metals				
H-TU506-MW03-ND01	Aluminum	**123/138** (80-120)	12 (30)	As the potential bias was considered to be high, the associated detected aluminum result for sample H-TU506-MW03-ND01 was qualified as estimated (J MS-H).
	Selenium	118/**123** (80-120)	4 (30)	As the potential bias was considered to be high, the associated detected selenium result for sample H-TU506-MW03-ND01 was qualified as estimated (J MS-H).
	Silver	**64/70.5** (80-120)	10 (30)	As the potential bias was considered to be low, the associated silver result for sample H-TU506-MW03-ND01 was qualified as estimated (UJ MS-L).
GRO				
H-TU506-MW03-ND01	GRO	**127/123** (80-120)	3.05 (20)	As the potential bias was considered to be high, the associated detected GRO result for sample H-TU506-MW03-ND01 was qualified as estimated (J MS-H).

Associated Sample	Analyte	%R (Limits)	RPD (Limit)	Qualification
PAHs				
H-TU506-MW03-NT01	Anthracene	109/**111** (55-110)	2.00 (20)	As the potential bias was considered to be high, and the assocaited Anthracene result was reported as non-detect, data qualification was not considered necessary.

< - Less Than
> - Greater Than
%R – Percent Recoveries
GRO – Gasoline Range Organics
H – High Bias
L – Low Bias
MS/MSD – Matrix Spike Matrix Spike Duplicate
RPD – Relative Percent Difference
UJ/J - Estimated
Bold indicates a recovery or RPD outside of acceptance limit

Table 3: Post-Digestion Spike Outliers and Resultant Data Qualification

Associated Samples	Analyte	%R (Limits)	Qualification
Total Metals			
H-TU506-MW03-NT01	Selenium	**124** (85-115)	As the potential bias was considered to be high, the associated detected results were qualified as estimated (J PDS-H).
	Silver	**5** (85-115)	As the MS/MSD recovered for sample H-TU506-MW03-NT01 recovered within limits, and PDS for sample H-TU506-MW03-NT01 recovered <30%, the associated non-detect result was qualified as estimated (UJ PDS-L).

%R – Percent Recovery
% - Percent
< - Less Than
H – High Bias
L – Low Bias
PDS – Post Digestion Spike
UJ/J – Estimated
Bold indicates a recovery or RPD outside of acceptance limit

Table 4: Field Duplicate Outliners and Resultant Data Qualification

Field Duplicate Pair	Analyte	Parent Result (µg/L)	FD Result (µg/L)	Criteria not Met	Qualification
Total Metals					
H-TU506-MW02-NT01/ H-TU506-MW02-DT01	Aluminum	240	400	Absolute Difference >2x LOQ	As the RPD between the field duplicate pair results exceeded 30%, the associated results were qualified as estimated (J FD-I).

µg/L – Micrograms per Liter
% - Percent
> - Greater Than
FD – Field Duplicate
I – Indeterminate Bias
J – Estimated
LOQ – Limit of Quantitation
RPD – Relative Percent Difference

Table 5: Continuing Calibration Verification Outliers and Resultant Data Qualification

Associated Samples	Analyte	%D (Limit)	Data Qualification
VOCs			
H-TU506-MW02-NT01 H-TU506-MW02-DT01 H-TU506-MW03-NT01	Naphthalene	23.9 (±20)	As the potential bias was considered to be high, and the associated results were reported as non-detect, data qualification was not considered necessary.
H-TU506-MW01-NT01	Dichlorodifluoromethane	22.1 (±20)	
	Bromomethane	20.9 (±20)	
	Carbon Disulfide	20.5 (±20)	

± - Plus or minus %D – Percent Difference VOCs – Volatile Organic Compounds

Table 6: ICS Outliers and Resultant Data Qualification

Interferent Element	Analyte	ICS A (µg/L)	MDL (µg/L)	Qualified Samples	Qualification
Calcium	Dissolved Copper	-20.1	5.3	H-TU506-MW01-ND01 H-TU506-MW02-ND01 H-TU506-MW02-DD01 H-TU506-MW03-ND01	As the potential bias was considered to be low, the associated results were qualified as estimated (UJ/J ICS-L).
	Dissolved Manganese	-13.4	1.2	H-TU506-MW02-ND01 H-TU506-MW02-DD01	
	Dissolved Vanadium	4.5	1.7	H-TU506-MW01-ND01	As the potential bias was considered to be high, the associated result was qualified as estimated (J ICS-H).
	Total Copper	-24.0	5.3	H-TU506-MW01-NT01 H-TU506-MW02-NT01 H-TU506-MW02-DT01 H-TU506-MW03-NT01	As the potential bias was considered to be low, the associated results were qualified as estimated (UJ/J ICS-L).
	Total Manganese	-13.7	1.2	H-TU506-MW02-NT01 H-TU506-MW02-DT01 H-TU506-MW03-NT01	

µg/L – Micrograms per Liter H – High Bias ICS – Interference Check Standard
L – Low Bias MDL – Method Detection Limit UJ/J - Estimated

Table 7: LCS Recovery Outliers and Resultant Data Qualification

Associated Samples	Analyte	%R (Limits)	RPD (Limits)	Qualification
GRO				
LCS WG734193 H-TU506-MW02-DT01 H-TU506-MW03-NT01 H-TU506-TRIP BLANK-TT02	GRO	**131/125** (80-120)	5 (20)	As the potential bias was considered to be high and the associated sample results were reported as non-detect, data qualification was not considered necessary.

%R – Percent Recoveries GRO – Gasoline Range Organics LCS – Laboratory Control Sample
Bold indicates a recovery outside of acceptance limits.

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 09, 2015

ESC Sample # : L712008-01

Site ID :

Project # : 23446543.0056AA

Date Received : July 24, 2014
Description : Holloman AFB

Sample ID : H-TU506-MW01-ND01

Collected By :
Collection Date : 07/23/14 10:35

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Antimony, Dissolved	7440-36-0	U	0.21	0.50	1	ug/l		6020	08/01/14	1
Arsenic, Dissolved UJ U MB, CCB-I	7440-38-2	1.2	~~0.25~~ 1.2	~~0.50~~ 1.2	~~1~~ 1.2	ug/l		6020	08/02/14	1
Cadmium, Dissolved	7440-43-9	U	0.16	0.25	0.5	ug/l		6020	08/01/14	1
Chromium, Dissolved F SQL-I	7440-47-3	1.1	0.54	1.0	2	ug/l	J	6020	08/01/14	1
Cobalt, Dissolved F SQL-I	7440-48-4	0.62	0.26	0.50	1	ug/l	J	6020	08/01/14	1
Lead, Dissolved	7439-92-1	2.9	0.24	0.50	1	ug/l		6020	08/01/14	1
Nickel, Dissolved	7440-02-0	10.	0.35	0.50	1	ug/l		6020	08/01/14	1
Selenium, Dissolved U CCB-I	7782-49-2	2.0	~~0.30~~ 2.0	~~0.50~~ 2.0	~~1~~ 2.0	ug/l		6020	08/02/14	1
Silver, Dissolved J MS-L	7440-22-4	2.5	0.31	0.50	1	ug/l		6020	08/01/14	1
Thallium, Dissolved	7440-28-0	U	0.19	0.50	1	ug/l		6020	08/01/14	1
Mercury, Dissolved	7439-97-6	U	0.049	0.090	0.2	ug/l		7470A	07/31/14	1
Aluminum, Dissolved ~~F SQL-I~~ FJ SQL, MS-H	7429-90-5	37.	35	50.	100	ug/l	J	6010B	07/30/14	1
Barium, Dissolved	7440-39-3	18.	1.7	2.5	5	ug/l		6010B	07/30/14	1
Beryllium, Dissolved	7440-41-7	U	0.7	1.0	2	ug/l		6010B	07/30/14	1
Copper, Dissolved UJ ICS-L	7440-50-8	U	5.3	10.	20	ug/l		6010B	07/30/14	1
Manganese, Dissolved	7439-96-5	77.	1.2	5.0	10	ug/l		6010B	07/30/14	1
Vanadium, Dissolved UJ ICS-L	7440-62-2	U	2.4	5.0	20	ug/l		6010B	07/30/14	1
Zinc, Dissolved	7440-66-6	U	5.9	15.	50	ug/l		6010B	07/30/14	1

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 09, 2015

Date Received : July 24, 2014
Description : Holloman AFB

Sample ID : H-TU506-MW01-NT01

Collected By :
Collection Date : 07/23/14 10:35

ESC Sample # : L712008-02

Site ID :

Project # : 23446543.0056AA

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Dissolved Solids	DSOLIDS	3400000	2820	5000	10000	ug/l		2540 C-	07/29/14	1
Antimony UJ MB-L	7440-36-0	U	0.21	0.50	1	ug/l		6020	08/04/14	1
Arsenic UJ MB-L	7440-38-2	U	0.25	0.50	1	ug/l		6020	08/04/14	1
Cadmium UJ MB-L	7440-43-9	U	0.16	0.25	0.5	ug/l		6020	08/04/14	1
Chromium	7440-47-3	7.2	0.54	1.0	2	ug/l		6020	08/04/14	1
Cobalt FJ SOL, MB-L	7440-48-4	0.27	0.26	0.50	1	ug/l	J	6020	08/04/14	1
Lead	7439-92-1	3.0	0.24	0.50	1	ug/l		6020	08/04/14	1
Nickel	7440-02-0	11.	0.35	0.50	1	ug/l		6020	08/04/14	1
Selenium FJ ~~MB-L~~ SOL, MB, ~~MS-I~~	7782-49-2	0.57	0.38	0.50	1	ug/l	J	6020	08/04/14	1
Silver	7440-22-4	U	0.31	0.50	1	ug/l		6020	08/04/14	1
Thallium	7440-28-0	U	0.19	0.50	1	ug/l		6020	08/04/14	1
Mercury	7439-97-6	U	0.049	0.090	0.2	ug/l		7470A	07/25/14	1
Aluminum J MS, FD-H	7429-90-5	480	35	50.	100	ug/l		6010B	07/30/14	1
Barium	7440-39-3	27.	1.7	2.5	5	ug/l		6010B	07/30/14	1
Beryllium	7440-41-7	U	0.7	1.0	2	ug/l		6010B	07/30/14	1
Copper UJ ICS-L	7440-50-8	U	5.3	10.	20	ug/l		6010B	07/30/14	1
Manganese	7439-96-5	83.	1.2	5.0	10	ug/l		6010B	07/30/14	1
Vanadium FJ SOL-I	7440-62-2	3.4	2.4	5.0	20	ug/l	J	6010B	07/30/14	1
Zinc	7440-66-6	U	5.9	15.	50	ug/l		6010B	07/30/14	1
TPH (GC/FID) Low Fraction J MS-H	8006-61-9	1300	31	50.	100	ug/l		8015D/G	07/30/14	1
Surrogate Recovery-%										
a,a,a-Trifluorotoluene(FID)	98-08-8	89.0				% Rec.		8015D/G	07/30/14	1
Volatile Organics										
Acetone	67-64-1	89.	10	25.	50	ug/l		8260B	08/01/14	1
Benzene	71-43-2	U	0.33	0.50	1	ug/l		8260B	08/01/14	1
Bromobenzene	108-86-1	U	0.35	0.50	1	ug/l		8260B	08/01/14	1
Bromochloromethane	74-97-5	U	0.52	0.75	1	ug/l		8260B	08/01/14	1
Bromodichloromethane	75-27-4	U	0.38	0.50	1	ug/l		8260B	08/01/14	1
Bromoform	75-25-2	U	0.47	0.50	1	ug/l		8260B	08/01/14	1
Bromomethane	74-83-9	U	0.87	2.5	5	ug/l		8260B	08/01/14	1
n-Butylbenzene FJ SOL-I	104-51-8	0.84	0.36	0.50	1	ug/l	J	8260B	08/01/14	1
sec-Butylbenzene	135-98-8	14.	0.36	0.50	1	ug/l		8260B	08/01/14	1
tert-Butylbenzene	98-06-6	U	0.4	0.50	1	ug/l		8260B	08/01/14	1
Carbon Disulfide	75-15-0	U	0.28	0.50	1	ug/l		8260B	08/01/14	1
Carbon tetrachloride	56-23-5	U	0.38	0.50	1	ug/l		8260B	08/01/14	1
Chlorobenzene	108-90-7	U	0.35	0.50	1	ug/l		8260B	08/01/14	1
Chlorodibromomethane	124-48-1	U	0.33	0.50	1	ug/l		8260B	08/01/14	1
Chloroethane	75-00-3	U	0.45	2.5	5	ug/l		8260B	08/01/14	1
Chloroform	67-66-3	U	0.32	2.5	5	ug/l		8260B	08/01/14	1
Chloromethane	74-87-3	U	0.28	0.50	2.5	ug/l		8260B	08/01/14	1
2-Chlorotoluene	95-49-8	U	0.38	0.50	1	ug/l		8260B	08/01/14	1

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 09, 2015

Date Received : July 24, 2014
Description : Holloman AFB

Sample ID : H-TU506-MW01-NT01

Collected By :
Collection Date : 07/23/14 10:35

ESC Sample # : L712008-02

Site ID :

Project # : 23446543.0056AA

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
4-Chlorotoluene	106-43-4	U	0.35	0.50	1	ug/l		8260B	08/01/14	1
1,2-Dibromo-3-Chloropropane	96-12-8	U	1.3	2.5	5	ug/l		8260B	08/01/14	1
1,2-Dibromoethane UJ MS-L	106-93-4	U	0.38	0.50	1	ug/l		8260B	08/01/14	1
Dibromomethane	74-95-3	U	0.35	0.50	1	ug/l		8260B	08/01/14	1
1,2-Dichlorobenzene	95-50-1	U	0.35	0.50	1	ug/l		8260B	08/01/14	1
1,3-Dichlorobenzene	541-73-1	U	0.22	0.50	1	ug/l		8260B	08/01/14	1
1,4-Dichlorobenzene	106-46-7	U	0.27	0.50	1	ug/l		8260B	08/01/14	1
Dichlorodifluoromethane	75-71-8	U	0.55	2.5	5	ug/l		8260B	08/01/14	1
1,1-Dichloroethane	75-34-3	U	0.26	0.50	1	ug/l		8260B	08/01/14	1
1,2-Dichloroethane	107-06-2	U	0.36	0.50	1	ug/l		8260B	08/01/14	1
1,1-Dichloroethene	75-35-4	U	0.4	0.50	1	ug/l		8260B	08/01/14	1
cis-1,2-Dichloroethene	156-59-2	U	0.26	0.50	1	ug/l		8260B	08/01/14	1
trans-1,2-Dichloroethene	156-60-5	U	0.4	0.50	1	ug/l		8260B	08/01/14	1
1,2-Dichloropropane	78-87-5	U	0.31	0.50	1	ug/l		8260B	08/01/14	1
1,1-Dichloropropene	563-58-6	U	0.35	0.50	1	ug/l		8260B	08/01/14	1
1,3-Dichloropropane	142-28-9	U	0.37	0.50	1	ug/l		8260B	08/01/14	1
cis-1,3-Dichloropropene	10061-01-5	U	0.42	0.50	1	ug/l		8260B	08/01/14	1
trans-1,3-Dichloropropene	10061-02-6	U	0.42	0.50	1	ug/l		8260B	08/01/14	1
2,2-Dichloropropane	594-20-7	U	0.32	0.50	1	ug/l		8260B	08/01/14	1
Ethylbenzene PB SOL-I	100-41-4	0.62	0.38	0.50	1	ug/l	J	8260B	08/01/14	1
2-Hexanone	591-78-6	U	3.8	5.0	10	ug/l		8260B	08/01/14	1
Hexachloro-1,3-butadiene	87-68-3	U	0.26	0.50	1	ug/l		8260B	08/01/14	1
Isopropylbenzene	98-82-8	4.7	0.33	0.50	1	ug/l		8260B	08/01/14	1
p-Isopropyltoluene	99-87-6	U	0.35	0.50	1	ug/l		8260B	08/01/14	1
2-Butanone (MEK)	78-93-3	U	3.9	5.0	10	ug/l		8260B	08/01/14	1
Methylene Chloride	75-09-2	U	1	2.5	5	ug/l		8260B	08/01/14	1
4-Methyl-2-pentanone (MIBK)	108-10-1	U	2.1	5.0	10	ug/l		8260B	08/01/14	1
Methyl tert-butyl ether	1634-04-4	U	0.37	0.50	1	ug/l		8260B	08/01/14	1
Naphthalene DNR	~~91-20-3~~	~~U~~	~~1~~	~~2.5~~	~~5~~	~~ug/l~~		~~8260B~~	~~08/01/14~~	~~1~~
n-Propylbenzene	103-65-1	7.7	0.35	0.50	1	ug/l		8260B	08/01/14	1
Styrene	100-42-5	U	0.31	0.50	1	ug/l		8260B	08/01/14	1
1,1,1,2-Tetrachloroethane UJ MS-L	630-20-6	U	0.38	0.50	1	ug/l		8260B	08/01/14	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.38 ~~0.13~~	0.75	1	ug/l		8260B	08/01/14	1
Tetrachloroethene	127-18-4	U	0.37	0.50	1	ug/l		8260B	08/01/14	1
Toluene	108-88-3	U	0.78	2.5	5	ug/l		8260B	08/01/14	1
1,2,3-Trichlorobenzene	87-61-6	U	0.23	0.50	1	ug/l		8260B	08/01/14	1
1,2,4-Trichlorobenzene	120-82-1	U	0.21	0.50	1	ug/l		8260B	08/01/14	1
1,1,1-Trichloroethane	71-55-6	U	0.319	0.50	1	ug/l		8260B	08/01/14	1
1,1,2-Trichloroethane	79-00-5	U	0.38	0.50	1	ug/l		8260B	08/01/14	1
Trichloroethene	79-01-6	U	0.4	0.50	1	ug/l		8260B	08/01/14	1
Trichlorofluoromethane	75-69-4	U	1.2	2.5	5	ug/l		8260B	08/01/14	1
1,2,3-Trichloropropane	96-18-4	U	0.81	1.0	2.5	ug/l		8260B	08/01/14	1
1,2,4-Trimethylbenzene	95-63-6	U	0.37	0.50	1	ug/l		8260B	08/01/14	1
1,3,5-Trimethylbenzene	108-67-8	U	0.39	0.50	1	ug/l		8260B	08/01/14	1
o-Xylene	95-47-6	U	0.34	0.50	1	ug/l		8260B	08/01/14	1
m&p-Xylene	1330-20-7	U	0.72	1.0	2	ug/l		8260B	08/01/14	1

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 09, 2015

ESC Sample # : L712008-02

Date Received : July 24, 2014
Description : Holloman AFB

Site ID :

Sample ID : H-TU506-MW01-NT01

Project # : 23446543.0056AA

Collected By :
Collection Date : 07/23/14 10:35

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Vinyl chloride	75-01-4	U	0.26	0.50	1	ug/l		8260B	08/01/14	1
Surrogate Recovery										
Toluene-d8	2037-26-5	104.				% Rec.		8260B	08/01/14	1
Dibromofluoromethane	1868-53-7	103.				% Rec.		8260B	08/01/14	1
4-Bromofluorobenzene	460-00-4	102.				% Rec.		8260B	08/01/14	1
Diesel and Oil Ranges										
C10-C28 Diesel Range J ID-I		940	22.2	33.	100	ug/l		8015	07/28/14	1
C28-C40 Oil Range UJ ID-I		U	11.8	33.	100	ug/l		8015	07/28/14	1
Surrogate Recovery										
o-Terphenyl	84-15-1	93.2				% Rec.		8015	07/28/14	1
Polynuclear Aromatic Hydrocarbons										
Anthracene	120-12-7	U	0.00761	0.025	0.05	ug/l		8270C-S	07/30/14	1
Acenaphthene	83-32-9	0.35	0.00818	0.025	0.05	ug/l		8270C-S	07/30/14	1
Acenaphthylene	208-96-8	0.18	0.00682	0.025	0.05	ug/l		8270C-S	07/30/14	1
Benzo(a)anthracene	56-55-3	U	0.0118	0.025	0.05	ug/l		8270C-S	07/30/14	1
Benzo(a)pyrene	50-32-8	U	0.0116	0.025	0.05	ug/l		8270C-S	07/30/14	1
Benzo(b)fluoranthene	205-99-2	U	0.0138	0.025	0.05	ug/l		8270C-S	07/30/14	1
Benzo(g,h,i)perylene	191-24-2	U	0.0114	0.025	0.05	ug/l		8270C-S	07/30/14	1
Benzo(k)fluoranthene	207-08-9	U	0.0136	0.025	0.05	ug/l		8270C-S	07/30/14	1
Chrysene	218-01-9	U	0.0108	0.025	0.05	ug/l		8270C-S	07/30/14	1
Dibenz(a,h)anthracene	53-70-3	U	0.00396	0.025	0.05	ug/l		8270C-S	07/30/14	1
Fluoranthene	206-44-0	U	0.0157	0.025	0.05	ug/l		8270C-S	07/30/14	1
Fluorene	86-73-7	0.48	0.0085	0.025	0.05	ug/l		8270C-S	07/30/14	1
Indeno(1,2,3-cd)pyrene	193-39-5	U	0.0148	0.025	0.05	ug/l		8270C-S	07/30/14	1
Naphthalene	91-20-3	2.6	0.0198	0.025	0.25	ug/l		8270C-S	07/30/14	1
Phenanthrene	85-01-8	0.25	0.0082	0.025	0.05	ug/l		8270C-S	07/30/14	1
Pyrene	129-00-0	U	0.0117	0.025	0.05	ug/l		8270C-S	07/30/14	1
2-Methylnaphthalene	91-57-6	U	0.00902	0.025	0.25	ug/l		8270C-S	07/30/14	1
Surrogate Recovery										
Nitrobenzene-d5	4165-60-0	101.				% Rec.		8270C-S	07/30/14	1
2-Fluorobiphenyl	321-60-8	98.5				% Rec.		8270C-S	07/30/14	1
p-Terphenyl-d14	1718-51-0	115.				% Rec.		8270C-S	07/30/14	1

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 09, 2015

Date Received : July 24, 2014
Description : Holloman AFB

Sample ID : H-TU506-MW02-ND01

Collected By :
Collection Date : 07/23/14 10:55

ESC Sample # : L712008-03

Site ID :

Project # : 23446543.0056AA

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Antimony,Dissolved U MB-1	7440-36-0	0.61	~~0.21~~ 0.61	~~0.50~~ 0.61	1	ug/l	J	6020	08/02/14	1
Arsenic,Dissolved	7440-38-2	6.1	0.25	0.50	1	ug/l		6020	08/02/14	1
Cadmium,Dissolved	7440-43-9	U	0.16	0.25	0.5	ug/l		6020	08/02/14	1
Chromium,Dissolved	7440-47-3	U	0.54	1.0	2	ug/l		6020	08/02/14	1
Cobalt,Dissolved	7440-48-4	U	0.26	0.50	1	ug/l		6020	08/02/14	1
Lead,Dissolved	7439-92-1	U	0.24	0.50	1	ug/l		6020	08/02/14	1
Nickel,Dissolved	7440-02-0	7.4	0.35	0.50	1	ug/l		6020	08/02/14	1
Selenium,Dissolved J MS-H	7782-49-2	3.6	0.38	0.50	1	ug/l		6020	08/02/14	1
Silver,Dissolved UJ CCB, MS-L	7440-22-4	1.5	~~0.31~~ 1.5	~~0.50~~ 1.5	~~1~~ 1.5	ug/l		6020	08/04/14	1
Thallium,Dissolved	7440-28-0	U	0.19	0.50	1	ug/l		6020	08/02/14	1
Mercury,Dissolved	7439-97-6	U	0.049	0.090	0.2	ug/l		7470A	07/31/14	1
Aluminum,Dissolved FJ SOL, MS-H ~~F SOL-I~~	7429-90-5	53.	35	50.	100	ug/l	J	6010B	07/30/14	1
Barium,Dissolved	7440-39-3	18.	1.7	2.5	5	ug/l		6010B	07/30/14	1
Beryllium,Dissolved	7440-41-7	U	0.7	1.0	2	ug/l		6010B	07/30/14	1
Copper,Dissolved UJ ICS-L	7440-50-8	U	5.3	10.	20	ug/l		6010B	07/30/14	1
Manganese,Dissolved UJ ICS-L	7439-96-5	U	1.2	5.0	10	ug/l		6010B	07/30/14	1
Vanadium,Dissolved	7440-62-2	99.	2.4	5.0	20	ug/l		6010B	07/30/14	1
Zinc,Dissolved	7440-66-6	U	5.9	15.	50	ug/l		6010B	07/30/14	1

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 09, 2015

Date Received : July 24, 2014
Description : Holloman AFB

Sample ID : H-TU506-MW02-DD01

Collected By :
Collection Date : 07/23/14 10:55

ESC Sample # : L712008-04

Site ID :

Project # : 23446543.0056AA

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Antimony, Dissolved U MB-I	7440-36-0	~~0.40~~ 0.50	~~0.21~~ 0.40	0.50	1	ug/l	J	6020	08/02/14	1
Arsenic, Dissolved	7440-38-2	6.3	0.25	0.50	1	ug/l		6020	08/02/14	1
Cadmium, Dissolved	7440-43-9	U	0.16	0.25	0.5	ug/l		6020	08/02/14	1
Chromium, Dissolved	7440-47-3	U	0.54	1.0	2	ug/l		6020	08/02/14	1
Cobalt, Dissolved	7440-48-4	U	0.26	0.50	1	ug/l		6020	08/02/14	1
Lead, Dissolved	7439-92-1	U	0.24	0.50	1	ug/l		6020	08/02/14	1
Nickel, Dissolved	7440-02-0	7.4	0.35	0.50	1	ug/l		6020	08/02/14	1
Selenium, Dissolved UJ MS-H	7782-49-2	3.6	0.38	0.50	1	ug/l		6020	08/02/14	1
Silver, Dissolved UJ MS-L	7440-22-4	U	0.31	0.50	1	ug/l		6020	08/04/14	1
Thallium, Dissolved	7440-28-0	U	0.19	0.50	1	ug/l		6020	08/02/14	1
Mercury, Dissolved	7439-97-6	U	0.049	0.090	0.2	ug/l		7470A	07/31/14	1
Aluminum, Dissolved ~~FJ SOL-I~~ FJ SOL, MS-H	7429-90-5	75.	35	50.	100	ug/l	J	6010B	07/30/14	1
Barium, Dissolved	7440-39-3	18.	1.7	2.5	5	ug/l		6010B	07/30/14	1
Beryllium, Dissolved	7440-41-7	U	0.7	1.0	2	ug/l		6010B	07/30/14	1
Copper, Dissolved UJ ICS-L	7440-50-8	U	5.3	10.	20	ug/l		6010B	07/30/14	1
Manganese, Dissolved UJ ICS-L	7439-96-5	U	1.2	5.0	10	ug/l		6010B	07/30/14	1
Vanadium, Dissolved	7440-62-2	100	2.4	5.0	20	ug/l		6010B	07/30/14	1
Zinc, Dissolved	7440-66-6	U	5.9	15.	50	ug/l		6010B	07/30/14	1

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 09, 2015

ESC Sample # : L712008-05

Date Received : July 24, 2014
Description : Holloman AFB

Site ID :

Sample ID : H-TU506-MW02-NT01

Project # : 23446543.0056AA

Collected By :
Collection Date : 07/23/14 10:55

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Dissolved Solids	DSOLIDS	2600000	2820	5000	10000	ug/l		2540 C-	07/29/14	1
Antimony UJ MB-L	7440-36-0	U	0.21	0.50	1	ug/l		6020	08/04/14	1
Arsenic	7440-38-2	5.0	0.25	0.50	1	ug/l		6020	08/04/14	1
Cadmium	7440-43-9	U	0.16	0.25	0.5	ug/l		6020	08/10/14	1
Chromium	7440-47-3	U	0.54	1.0	2	ug/l		6020	08/04/14	1
Cobalt UJ MB-L	7440-48-4	U	0.26	0.50	1	ug/l		6020	08/04/14	1
Lead ~~J~~ FJ SQL, MB-L	7439-92-1	0.33	0.24	0.50	1	ug/l	J	6020	08/04/14	1
Nickel	7440-02-0	10.	0.35	0.50	1	ug/l		6020	08/04/14	1
Selenium J MS-H	7782-49-2	2.4	0.38	0.50	1	ug/l		6020	08/04/14	1
Silver	7440-22-4	U	0.31	0.50	1	ug/l		6020	08/04/14	1
Thallium	7440-28-0	U	0.19	0.50	1	ug/l		6020	08/04/14	1
Mercury	7439-97-6	U	0.049	0.090	0.2	ug/l		7470A	07/25/14	1
Aluminum J FD, MS-H	7429-90-5	240	35	50.	100	ug/l		6010B	07/30/14	1
Barium	7440-39-3	22.	1.7	2.5	5	ug/l		6010B	07/30/14	1
Beryllium	7440-41-7	U	0.7	1.0	2	ug/l		6010B	07/30/14	1
Copper UJ ICS-L	7440-50-8	U	5.3	10.	20	ug/l		6010B	07/30/14	1
Manganese FJ SQL, ICS-L	7439-96-5	2.0	1.2	5.0	10	ug/l	J	6010B	07/30/14	1
Vanadium	7440-62-2	100	2.4	5.0	20	ug/l		6010B	07/30/14	1
Zinc	7440-66-6	U	5.9	15.	50	ug/l		6010B	07/30/14	1
TPH (GC/FID) Low Fraction	8006-61-9	U	31	50.	100	ug/l		8015D/G	07/30/14	1
Surrogate Recovery-%										
a,a,a-Trifluorotoluene(FID)	98-08-8	101.				% Rec.		8015D/G	07/30/14	1
Volatile Organics										
Acetone	67-64-1	U	10	25.	50	ug/l		8260B	07/25/14	1
Benzene	71-43-2	U	0.33	0.50	1	ug/l		8260B	07/25/14	1
Bromobenzene	108-86-1	U	0.35	0.50	1	ug/l		8260B	07/25/14	1
Bromochloromethane	74-97-5	U	0.52	0.75	1	ug/l		8260B	07/25/14	1
Bromodichloromethane	75-27-4	U	0.38	0.50	1	ug/l		8260B	07/25/14	1
Bromoform	75-25-2	U	0.47	0.50	1	ug/l		8260B	07/25/14	1
Bromomethane	74-83-9	U	0.87	2.5	5	ug/l		8260B	07/25/14	1
n-Butylbenzene	104-51-8	U	0.36	0.50	1	ug/l		8260B	07/25/14	1
sec-Butylbenzene	135-98-8	U	0.36	0.50	1	ug/l		8260B	07/25/14	1
tert-Butylbenzene	98-06-6	U	0.4	0.50	1	ug/l		8260B	07/25/14	1
Carbon Disulfide	75-15-0	U	0.28	0.50	1	ug/l		8260B	07/25/14	1
Carbon tetrachloride	56-23-5	U	0.38	0.50	1	ug/l		8260B	07/25/14	1
Chlorobenzene	108-90-7	U	0.35	0.50	1	ug/l		8260B	07/25/14	1
Chlorodibromomethane	124-48-1	U	0.33	0.50	1	ug/l		8260B	07/25/14	1
Chloroethane	75-00-3	U	0.45	2.5	5	ug/l		8260B	07/25/14	1
Chloroform ~~FJ SQL I~~ UFB-I	67-66-3	~~0.56~~ 2.5	~~0.32~~ 0.56	2.5	5	ug/l	J	8260B	07/25/14	1
Chloromethane	74-87-3	U	0.28	0.50	2.5	ug/l		8260B	07/25/14	1
2-Chlorotoluene	95-49-8	U	0.38	0.50	1	ug/l		8260B	07/25/14	1

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 09, 2015

Date Received : July 24, 2014
Description : Holloman AFB

Sample ID : H-TU506-MW02-NT01

Collected By :
Collection Date : 07/23/14 10:55

ESC Sample # : L712008-05

Site ID :

Project # : 23446543.0056AA

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
4-Chlorotoluene	106-43-4	U	0.35	0.50	1	ug/l		8260B	07/25/14	1
1,2-Dibromo-3-Chloropropane	96-12-8	U	1.3	2.5	5	ug/l		8260B	07/25/14	1
1,2-Dibromoethane UJ MS-L	106-93-4	U	0.38	0.50	1	ug/l		8260B	07/25/14	1
Dibromomethane	74-95-3	U	0.35	0.50	1	ug/l		8260B	07/25/14	1
1,2-Dichlorobenzene	95-50-1	U	0.35	0.50	1	ug/l		8260B	07/25/14	1
1,3-Dichlorobenzene	541-73-1	U	0.22	0.50	1	ug/l		8260B	07/25/14	1
1,4-Dichlorobenzene	106-46-7	U	0.27	0.50	1	ug/l		8260B	07/25/14	1
Dichlorodifluoromethane	75-71-8	U	0.55	2.5	5	ug/l		8260B	07/25/14	1
1,1-Dichloroethane	75-34-3	U	0.26	0.50	1	ug/l		8260B	07/25/14	1
1,2-Dichloroethane	107-06-2	U	0.36	0.50	1	ug/l		8260B	07/25/14	1
1,1-Dichloroethene	75-35-4	U	0.4	0.50	1	ug/l		8260B	07/25/14	1
cis-1,2-Dichloroethene	156-59-2	U	0.26	0.50	1	ug/l		8260B	07/25/14	1
trans-1,2-Dichloroethene	156-60-5	U	0.4	0.50	1	ug/l		8260B	07/25/14	1
1,2-Dichloropropane	78-87-5	U	0.31	0.50	1	ug/l		8260B	07/25/14	1
1,1-Dichloropropene	563-58-6	U	0.35	0.50	1	ug/l		8260B	07/25/14	1
1,3-Dichloropropane	142-28-9	U	0.37	0.50	1	ug/l		8260B	07/25/14	1
cis-1,3-Dichloropropene	10061-01-5	U	0.42	0.50	1	ug/l		8260B	07/25/14	1
trans-1,3-Dichloropropene	10061-02-6	U	0.42	0.50	1	ug/l		8260B	07/25/14	1
2,2-Dichloropropane	594-20-7	U	0.32	0.50	1	ug/l		8260B	07/25/14	1
Ethylbenzene	100-41-4	U	0.38	0.50	1	ug/l		8260B	07/25/14	1
2-Hexanone	591-78-6	U	3.8	5.0	10	ug/l		8260B	07/25/14	1
Hexachloro-1,3-butadiene	87-68-3	U	0.26	0.50	1	ug/l		8260B	07/25/14	1
Isopropylbenzene	98-82-8	U	0.33	0.50	1	ug/l		8260B	07/25/14	1
p-Isopropyltoluene	99-87-6	U	0.35	0.50	1	ug/l		8260B	07/25/14	1
2-Butanone (MEK)	78-93-3	U	3.9	5.0	10	ug/l		8260B	07/25/14	1
Methylene Chloride	75-09-2	U	1	2.5	5	ug/l		8260B	07/25/14	1
4-Methyl-2-pentanone (MIBK)	108-10-1	U	2.1	5.0	10	ug/l		8260B	07/25/14	1
Methyl tert-butyl ether	1634-04-4	U	0.37	0.50	1	ug/l		8260B	07/25/14	1
Naphthalene DNR	~~91-20-3~~	~~U~~	~~1~~	~~2.5~~	~~5~~	~~ug/l~~		~~8260B~~	~~07/25/14~~	~~1~~
n-Propylbenzene	103-65-1	U	0.35	0.50	1	ug/l		8260B	07/25/14	1
Styrene	100-42-5	U	0.31	0.50	1	ug/l		8260B	07/25/14	1
1,1,1,2-Tetrachloroethane UJ MS-L	630-20-6	U	0.38	0.50	1	ug/l		8260B	07/25/14	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.58 ~~0.13~~	0.75	1	ug/l		8260B	07/25/14	1
Tetrachloroethene	127-18-4	U	0.37	0.50	1	ug/l		8260B	07/25/14	1
Toluene	108-88-3	U	0.78	2.5	5	ug/l		8260B	07/25/14	1
1,2,3-Trichlorobenzene	87-61-6	U	0.23	0.50	1	ug/l		8260B	07/25/14	1
1,2,4-Trichlorobenzene	120-82-1	U	0.21	0.50	1	ug/l		8260B	07/25/14	1
1,1,1-Trichloroethane	71-55-6	U	0.319	0.50	1	ug/l		8260B	07/25/14	1
1,1,2-Trichloroethane	79-00-5	U	0.38	0.50	1	ug/l		8260B	07/25/14	1
Trichloroethene	79-01-6	U	0.4	0.50	1	ug/l		8260B	07/25/14	1
Trichlorofluoromethane	75-69-4	U	1.2	2.5	5	ug/l		8260B	07/25/14	1
1,2,3-Trichloropropane	96-18-4	U	0.81	1.0	2.5	ug/l		8260B	07/25/14	1
1,2,4-Trimethylbenzene	95-63-6	U	0.37	0.50	1	ug/l		8260B	07/25/14	1
1,3,5-Trimethylbenzene	108-67-8	U	0.39	0.50	1	ug/l		8260B	07/25/14	1
o-Xylene	95-47-6	U	0.34	0.50	1	ug/l		8260B	07/25/14	1
m&p-Xylene	1330-20-7	U	0.72	1.0	2	ug/l		8260B	07/25/14	1

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Est. 1970

REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 09, 2015

ESC Sample # : L712008-05

Date Received : July 24, 2014
Description : Holloman AFB

Site ID :

Sample ID : H-TU506-MW02-NT01

Project # : 23446543.0056AA

Collected By :
Collection Date : 07/23/14 10:55

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Vinyl chloride	75-01-4	U	0.26	0.50	1	ug/l		8260B	07/25/14	1
Surrogate Recovery										
Toluene-d8	2037-26-5	100.				% Rec.		8260B	07/25/14	1
Dibromofluoromethane	1868-53-7	97.1				% Rec.		8260B	07/25/14	1
4-Bromofluorobenzene	460-00-4	108.				% Rec.		8260B	07/25/14	1
Diesel and Oil Ranges										
C10-C28 Diesel Range UJ ID-I		U	22.2	33.	100	ug/l		8015	07/28/14	1
C28-C40 Oil Range UJ ID-I		U	11.8	33.	100	ug/l		8015	07/28/14	1
Surrogate Recovery										
o-Terphenyl	84-15-1	99.2				% Rec.		8015	07/28/14	1
Polynuclear Aromatic Hydrocarbons										
Anthracene	120-12-7	U	0.00761	0.025	0.05	ug/l		8270C-S	07/30/14	1
Acenaphthene	83-32-9	U	0.00818	0.025	0.05	ug/l		8270C-S	07/30/14	1
Acenaphthylene	208-96-8	U	0.00682	0.025	0.05	ug/l		8270C-S	07/30/14	1
Benzo(a)anthracene	56-55-3	U	0.0118	0.025	0.05	ug/l		8270C-S	07/30/14	1
Benzo(a)pyrene	50-32-8	U	0.0116	0.025	0.05	ug/l		8270C-S	07/30/14	1
Benzo(b)fluoranthene	205-99-2	U	0.0138	0.025	0.05	ug/l		8270C-S	07/30/14	1
Benzo(g,h,i)perylene	191-24-2	U	0.0114	0.025	0.05	ug/l		8270C-S	07/30/14	1
Benzo(k)fluoranthene	207-08-9	U	0.0136	0.025	0.05	ug/l		8270C-S	07/30/14	1
Chrysene	218-01-9	U	0.0108	0.025	0.05	ug/l		8270C-S	07/30/14	1
Dibenz(a,h)anthracene	53-70-3	U	0.00396	0.025	0.05	ug/l		8270C-S	07/30/14	1
Fluoranthene	206-44-0	U	0.0157	0.025	0.05	ug/l		8270C-S	07/30/14	1
Fluorene	86-73-7	U	0.0085	0.025	0.05	ug/l		8270C-S	07/30/14	1
Indeno(1,2,3-cd)pyrene	193-39-5	U	0.0148	0.025	0.05	ug/l		8270C-S	07/30/14	1
Naphthalene	91-20-3	U	0.0198	0.025	0.25	ug/l		8270C-S	07/30/14	1
Phenanthrene	85-01-8	U	0.0082	0.025	0.05	ug/l		8270C-S	07/30/14	1
Pyrene	129-00-0	U	0.0117	0.025	0.05	ug/l		8270C-S	07/30/14	1
2-Methylnaphthalene	91-57-6	U	0.00902	0.025	0.25	ug/l		8270C-S	07/30/14	1
Surrogate Recovery										
Nitrobenzene-d5	4165-60-0	101.				% Rec.		8270C-S	07/30/14	1
2-Fluorobiphenyl	321-60-8	108.				% Rec.		8270C-S	07/30/14	1
p-Terphenyl-d14	1718-51-0	115.				% Rec.		8270C-S	07/30/14	1

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 09, 2015

ESC Sample # : L712008-06

Date Received : July 24, 2014
Description : Holloman AFB

Site ID :

Sample ID : H-TU506-MW02-DT01

Project # : 23446543.0056AA

Collected By :
Collection Date : 07/23/14 10:55

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Dissolved Solids	DSOLIDS	2600000	2820	5000	10000	ug/l		2540 C-	07/29/14	1
Antimony UJ MB-L	7440-36-0	U	0.21	0.50	1	ug/l		6020	08/04/14	1
Arsenic	7440-38-2	5.6	0.25	0.50	1	ug/l		6020	08/04/14	1
Cadmium UJ MB-L	7440-43-9	U	0.16	0.25	0.5	ug/l		6020	08/04/14	1
Chromium	7440-47-3	U	0.54	1.0	2	ug/l		6020	08/04/14	1
Cobalt UJ MB-L	7440-48-4	U	0.26	0.50	1	ug/l		6020	08/04/14	1
Lead UJ MB-L	7439-92-1	U	0.24	0.50	1	ug/l		6020	08/04/14	1
Nickel	7440-02-0	10.	0.35	0.50	1	ug/l		6020	08/04/14	1
Selenium J MS-H	7782-49-2	2.6	0.38	0.50	1	ug/l		6020	08/04/14	1
Silver	7440-22-4	U	0.31	0.50	1	ug/l		6020	08/04/14	1
Thallium	7440-28-0	U	0.19	0.50	1	ug/l		6020	08/04/14	1
Mercury	7439-97-6	U	0.049	0.090	0.2	ug/l		7470A	07/26/14	1
Aluminum J FD, MS-H	7429-90-5	400	35	50.	100	ug/l		6010B	07/30/14	1
Barium	7440-39-3	24.	1.7	2.5	5	ug/l		6010B	07/30/14	1
Beryllium	7440-41-7	U	0.7	1.0	2	ug/l		6010B	07/30/14	1
Copper UJ ICS-L	7440-50-8	U	5.3	10.	20	ug/l		6010B	07/30/14	1
Manganese FJ SQL, ICS-L	7439-96-5	3.2	1.2	5.0	10	ug/l	J	6010B	07/30/14	1
Vanadium	7440-62-2	110	2.4	5.0	20	ug/l		6010B	07/30/14	1
Zinc	7440-66-6	U	5.9	15.	50	ug/l		6010B	07/30/14	1
TPH (GC/FID) Low Fraction	8006-61-9	U	31.4	50.	100	ug/l		8015D/G	07/30/14	1
Surrogate Recovery-%										
a,a,a-Trifluorotoluene(FID)	98-08-8	105.				% Rec.		8015D/G	07/30/14	1
Volatile Organics										
Acetone	67-64-1	U	10	25.	50	ug/l		8260B	07/25/14	1
Benzene	71-43-2	U	0.33	0.50	1	ug/l		8260B	07/25/14	1
Bromobenzene	108-86-1	U	0.35	0.50	1	ug/l		8260B	07/25/14	1
Bromochloromethane	74-97-5	U	0.52	0.75	1	ug/l		8260B	07/25/14	1
Bromodichloromethane	75-27-4	U	0.38	0.50	1	ug/l		8260B	07/25/14	1
Bromoform	75-25-2	U	0.47	0.50	1	ug/l		8260B	07/25/14	1
Bromomethane	74-83-9	U	0.87	2.5	5	ug/l		8260B	07/25/14	1
n-Butylbenzene	104-51-8	U	0.36	0.50	1	ug/l		8260B	07/25/14	1
sec-Butylbenzene	135-98-8	U	0.36	0.50	1	ug/l		8260B	07/25/14	1
tert-Butylbenzene	98-06-6	U	0.4	0.50	1	ug/l		8260B	07/25/14	1
Carbon Disulfide	75-15-0	U	0.28	0.50	1	ug/l		8260B	07/25/14	1
Carbon tetrachloride	56-23-5	U	0.38	0.50	1	ug/l		8260B	07/25/14	1
Chlorobenzene	108-90-7	U	0.35	0.50	1	ug/l		8260B	07/25/14	1
Chlorodibromomethane	124-48-1	U	0.33	0.50	1	ug/l		8260B	07/25/14	1
Chloroethane	75-00-3	U	0.45	2.5	5	ug/l		8260B	07/25/14	1
Chloroform ~~FJ SQL~~ J U FB-J	67-66-3	~~0.51~~ 2.5	~~0.33~~ 0.51	2.5	5	ug/l	J	8260B	07/25/14	1
Chloromethane	74-87-3	U	0.28	0.50	2.5	ug/l		8260B	07/25/14	1
2-Chlorotoluene	95-49-8	U	0.38	0.50	1	ug/l		8260B	07/25/14	1

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 09, 2015

ESC Sample # : L712008-06

Date Received : July 24, 2014
Description : Holloman AFB

Site ID :

Sample ID : H-TU506-MW02-DT01

Project # : 23446543.0056AA

Collected By :
Collection Date : 07/23/14 10:55

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
4-Chlorotoluene	106-43-4	U	0.35	0.50	1	ug/l		8260B	07/25/14	1
1,2-Dibromo-3-Chloropropane	96-12-8	U	1.3	2.5	5	ug/l		8260B	07/25/14	1
1,2-Dibromoethane UJ MS-L	106-93-4	U	0.38	0.50	1	ug/l		8260B	07/25/14	1
Dibromomethane	74-95-3	U	0.35	0.50	1	ug/l		8260B	07/25/14	1
1,2-Dichlorobenzene	95-50-1	U	0.35	0.50	1	ug/l		8260B	07/25/14	1
1,3-Dichlorobenzene	541-73-1	U	0.22	0.50	1	ug/l		8260B	07/25/14	1
1,4-Dichlorobenzene	106-46-7	U	0.27	0.50	1	ug/l		8260B	07/25/14	1
Dichlorodifluoromethane	75-71-8	U	0.55	2.5	5	ug/l		8260B	07/25/14	1
1,1-Dichloroethane	75-34-3	U	0.26	0.50	1	ug/l		8260B	07/25/14	1
1,2-Dichloroethane	107-06-2	U	0.36	0.50	1	ug/l		8260B	07/25/14	1
1,1-Dichloroethene	75-35-4	U	0.4	0.50	1	ug/l		8260B	07/25/14	1
cis-1,2-Dichloroethene	156-59-2	U	0.26	0.50	1	ug/l		8260B	07/25/14	1
trans-1,2-Dichloroethene	156-60-5	U	0.4	0.50	1	ug/l		8260B	07/25/14	1
1,2-Dichloropropane	78-87-5	U	0.31	0.50	1	ug/l		8260B	07/25/14	1
1,1-Dichloropropene	563-58-6	U	0.35	0.50	1	ug/l		8260B	07/25/14	1
1,3-Dichloropropane	142-28-9	U	0.37	0.50	1	ug/l		8260B	07/25/14	1
cis-1,3-Dichloropropene	10061-01-5	U	0.42	0.50	1	ug/l		8260B	07/25/14	1
trans-1,3-Dichloropropene	10061-02-6	U	0.42	0.50	1	ug/l		8260B	07/25/14	1
2,2-Dichloropropane	594-20-7	U	0.32	0.50	1	ug/l		8260B	07/25/14	1
Ethylbenzene	100-41-4	U	0.38	0.50	1	ug/l		8260B	07/25/14	1
2-Hexanone	591-78-6	U	3.8	5.0	10	ug/l		8260B	07/25/14	1
Hexachloro-1,3-butadiene	87-68-3	U	0.26	0.50	1	ug/l		8260B	07/25/14	1
Isopropylbenzene	98-82-8	U	0.33	0.50	1	ug/l		8260B	07/25/14	1
p-Isopropyltoluene	99-87-6	U	0.35	0.50	1	ug/l		8260B	07/25/14	1
2-Butanone (MEK)	78-93-3	U	3.9	5.0	10	ug/l		8260B	07/25/14	1
Methylene Chloride	75-09-2	U	1	2.5	5	ug/l		8260B	07/25/14	1
4-Methyl-2-pentanone (MIBK)	108-10-1	U	2.1	5.0	10	ug/l		8260B	07/25/14	1
Methyl tert-butyl ether	1634-04-4	U	0.37	0.50	1	ug/l		8260B	07/25/14	1
Naphthalene DNR	~~91-20-3~~	~~U~~	~~1~~	~~2.5~~	~~5~~	~~ug/l~~		~~8260B~~	~~07/25/14~~	~~1~~
n-Propylbenzene	103-65-1	U	0.35	0.50	1	ug/l		8260B	07/25/14	1
Styrene	100-42-5	U	0.31	0.50	1	ug/l		8260B	07/25/14	1
1,1,1,2-Tetrachloroethane UJ MS-L	630-20-6	U	0.38	0.50	1	ug/l		8260B	07/25/14	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.58 ~~0.13~~	0.75	1	ug/l		8260B	07/25/14	1
Tetrachloroethene	127-18-4	U	0.37	0.50	1	ug/l		8260B	07/25/14	1
Toluene	108-88-3	U	0.78	2.5	5	ug/l		8260B	07/25/14	1
1,2,3-Trichlorobenzene	87-61-6	U	0.23	0.50	1	ug/l		8260B	07/25/14	1
1,2,4-Trichlorobenzene	120-82-1	U	0.21	0.50	1	ug/l		8260B	07/25/14	1
1,1,1-Trichloroethane	71-55-6	U	0.319	0.50	1	ug/l		8260B	07/25/14	1
1,1,2-Trichloroethane	79-00-5	U	0.38	0.50	1	ug/l		8260B	07/25/14	1
Trichloroethene	79-01-6	U	0.4	0.50	1	ug/l		8260B	07/25/14	1
Trichlorofluoromethane	75-69-4	U	1.2	2.5	5	ug/l		8260B	07/25/14	1
1,2,3-Trichloropropane	96-18-4	U	0.81	1.0	2.5	ug/l		8260B	07/25/14	1
1,2,4-Trimethylbenzene	95-63-6	U	0.37	0.50	1	ug/l		8260B	07/25/14	1
1,3,5-Trimethylbenzene	108-67-8	U	0.39	0.50	1	ug/l		8260B	07/25/14	1
o-Xylene	95-47-6	U	0.34	0.50	1	ug/l		8260B	07/25/14	1
m&p-Xylene	1330-20-7	U	0.72	1.0	2	ug/l		8260B	07/25/14	1

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January 09, 2015

ESC Sample # : L712008-06

Date Received : July 24, 2014
Description : Holloman AFB

Site ID :

Sample ID : H-TU506-MW02-DT01

Project # : 23446543.0056AA

Collected By :
Collection Date : 07/23/14 10:55

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Vinyl chloride	75-01-4	U	0.26	0.50	1	ug/l		8260B	07/25/14	1
Surrogate Recovery										
Toluene-d8	2037-26-5	101.				% Rec.		8260B	07/25/14	1
Dibromofluoromethane	1868-53-7	99.7				% Rec.		8260B	07/25/14	1
4-Bromofluorobenzene	460-00-4	109.				% Rec.		8260B	07/25/14	1
Diesel and Oil Ranges										
C10-C28 Diesel Range UJ ID-I		U	22.2	33.	100	ug/l		8015	07/28/14	1
C28-C40 Oil Range UJ ID-I		U	11.8	33.	100	ug/l		8015	07/28/14	1
Surrogate Recovery										
o-Terphenyl	84-15-1	97.4				% Rec.		8015	07/28/14	1
Polynuclear Aromatic Hydrocarbons										
Anthracene	120-12-7	U	0.00761	0.025	0.05	ug/l		8270C-S	07/30/14	1
Acenaphthene	83-32-9	U	0.00818	0.025	0.05	ug/l		8270C-S	07/30/14	1
Acenaphthylene	208-96-8	U	0.00682	0.025	0.05	ug/l		8270C-S	07/30/14	1
Benzo(a)anthracene	56-55-3	U	0.0118	0.025	0.05	ug/l		8270C-S	07/30/14	1
Benzo(a)pyrene	50-32-8	U	0.0116	0.025	0.05	ug/l		8270C-S	07/30/14	1
Benzo(b)fluoranthene	205-99-2	U	0.0138	0.025	0.05	ug/l		8270C-S	07/30/14	1
Benzo(g,h,i)perylene	191-24-2	U	0.0114	0.025	0.05	ug/l		8270C-S	07/30/14	1
Benzo(k)fluoranthene	207-08-9	U	0.0136	0.025	0.05	ug/l		8270C-S	07/30/14	1
Chrysene	218-01-9	U	0.0108	0.025	0.05	ug/l		8270C-S	07/30/14	1
Dibenz(a,h)anthracene	53-70-3	U	0.00396	0.025	0.05	ug/l		8270C-S	07/30/14	1
Fluoranthene	206-44-0	U	0.0157	0.025	0.05	ug/l		8270C-S	07/30/14	1
Fluorene	86-73-7	U	0.0085	0.025	0.05	ug/l		8270C-S	07/30/14	1
Indeno(1,2,3-cd)pyrene	193-39-5	U	0.0148	0.025	0.05	ug/l		8270C-S	07/30/14	1
Naphthalene	91-20-3	U	0.0198	0.025	0.25	ug/l		8270C-S	07/30/14	1
Phenanthrene	85-01-8	U	0.0082	0.025	0.05	ug/l		8270C-S	07/30/14	1
Pyrene	129-00-0	U	0.0117	0.025	0.05	ug/l		8270C-S	07/30/14	1
2-Methylnaphthalene	91-57-6	U	0.00902	0.025	0.25	ug/l		8270C-S	07/30/14	1
Surrogate Recovery										
Nitrobenzene-d5	4165-60-0	98.8				% Rec.		8270C-S	07/30/14	1
2-Fluorobiphenyl	321-60-8	107.				% Rec.		8270C-S	07/30/14	1
p-Terphenyl-d14	1718-51-0	115.				% Rec.		8270C-S	07/30/14	1

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 09, 2015

Date Received : July 24, 2014
Description : Holloman AFB

Sample ID : H-TU506-MW03-ND01

Collected By :
Collection Date : 07/23/14 10:35

ESC Sample # : L712008-07

Site ID :

Project # : 23446543.0056AA

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Antimony, Dissolved U MB, CCB-I	7440-36-0	~~0.32~~ 0.50	~~0.21~~ 0.82	0.50	1	ug/l	J	6020	08/02/14	1
Arsenic, Dissolved	7440-38-2	7.7	0.25	0.50	1	ug/l		6020	08/02/14	1
Cadmium, Dissolved	7440-43-9	U	0.16	0.25	0.5	ug/l		6020	08/02/14	1
Chromium, Dissolved	7440-47-3	2.3	0.54	1.0	2	ug/l		6020	08/02/14	1
Cobalt, Dissolved	7440-48-4	U	0.26	0.50	1	ug/l		6020	08/02/14	1
Lead, Dissolved	7439-92-1	U	0.24	0.50	1	ug/l		6020	08/02/14	1
Nickel, Dissolved	7440-02-0	9.4	0.35	0.50	1	ug/l		6020	08/02/14	1
Selenium, Dissolved J MS-H	7782-49-2	5.2	0.38	0.50	1	ug/l		6020	08/02/14	1
Silver, Dissolved UJ CCB, MS-L	7440-22-4	~~0.48~~ 0.50	~~0.31~~ 0.48	0.50	1	ug/l	JJ6	6020	08/04/14	1
Thallium, Dissolved	7440-28-0	U	0.19	0.50	1	ug/l		6020	08/02/14	1
Mercury, Dissolved	7439-97-6	U	0.049	0.090	0.2	ug/l		7470A	07/31/14	1
Aluminum, Dissolved ~~J~~ FJ SQL, MS-H	7429-90-5	54.	35	50.	100	ug/l	JJ5	6010B	07/30/14	1
Barium, Dissolved	7440-39-3	22.	1.7	2.5	5	ug/l		6010B	07/30/14	1
Beryllium, Dissolved	7440-41-7	U	0.7	1.0	2	ug/l		6010B	07/30/14	1
Copper, Dissolved UJ ICS-L	7440-50-8	U	5.3	10.	20	ug/l		6010B	07/30/14	1
Manganese, Dissolved	7439-96-5	U	1.2	5.0	10	ug/l		6010B	07/30/14	1
Vanadium, Dissolved	7440-62-2	66.	2.4	5.0	20	ug/l		6010B	07/30/14	1
Zinc, Dissolved	7440-66-6	U	5.9	15.	50	ug/l		6010B	07/30/14	1

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Est. 1970

REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 09, 2015

Date Received : July 24, 2014
Description : Holloman AFB

Sample ID : H-TU506-MW03-NT01

Collected By :
Collection Date : 07/23/14 10:35

ESC Sample # : L712008-08

Site ID :

Project # : 23446543.0056AA

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Dissolved Solids	DSOLIDS	3100000	2820	5000	10000	ug/l		2540 C-	07/29/14	1
Antimony UJ MB-L	7440-36-0	U	0.21	0.50	1	ug/l		6020	08/04/14	1
Arsenic	7440-38-2	7.4	0.25	0.50	1	ug/l		6020	08/04/14	1
Cadmium UJ MB-L	7440-43-9	U	0.16	0.25	0.5	ug/l		6020	08/04/14	1
Chromium	7440-47-3	3.1	0.54	1.0	2	ug/l		6020	08/04/14	1
Cobalt ~~UJ MB-L~~ FJ SQL, MB-L	7440-48-4	0.70	0.26	0.50	1	ug/l	J	6020	08/04/14	1
Lead UJ MB-L	7439-92-1	U	0.24	0.50	1	ug/l		6020	08/04/14	1
Nickel	7440-02-0	14.	0.35	0.50	1	ug/l		6020	08/04/14	1
Selenium J MS, PDS-H	7782-49-2	4.4	0.38	0.50	1	ug/l	O1J5	6020	08/04/14	1
Silver ~~UJ PDS-L~~	~~7440-22-4~~	~~U~~ V	~~1.6~~ 1.6	~~2.5~~ 2.5	~~5~~ 5	~~ug/l~~	~~O01~~	~~6020~~	~~08/04/14~~	5
Thallium	7440-28-0	U	0.19	0.50	1	ug/l		6020	08/04/14	1
Mercury	7439-97-6	U	0.049	0.090	0.2	ug/l		7470A	07/26/14	1
Aluminum J MS, FD-H	7429-90-5	790	35	50.	100	ug/l	J5	6010B	07/30/14	1
Barium	7440-39-3	38.	1.7	2.5	5	ug/l		6010B	07/30/14	1
Beryllium	7440-41-7	4.9	0.7	1.0	2	ug/l		6010B	07/30/14	1
Copper FJ SQL, ICS-L	7440-50-8	8.3	5.3	10.	20	ug/l	J	6010B	07/30/14	1
Manganese J ICS-L	7439-96-5	45.	1.2	5.0	10	ug/l		6010B	07/30/14	1
Vanadium	7440-62-2	79.	2.4	5.0	20	ug/l		6010B	07/30/14	1
Zinc	7440-66-6	U	5.9	15.	50	ug/l		6010B	07/30/14	1
TPH (GC/FID) Low Fraction	8006-61-9	U	31.4	50.	100	ug/l		8015D/G	07/30/14	1
Surrogate Recovery-%										
a,a,a-Trifluorotoluene(FID)	98-08-8	105.				% Rec.		8015D/G	07/30/14	1
Volatile Organics										
Acetone	67-64-1	U	10	25.	50	ug/l		8260B	07/31/14	1
Benzene	71-43-2	U	0.33	0.50	1	ug/l		8260B	07/31/14	1
Bromobenzene	108-86-1	U	0.35	0.50	1	ug/l		8260B	07/31/14	1
Bromochloromethane	74-97-5	U	0.52	0.75	1	ug/l		8260B	07/31/14	1
Bromodichloromethane	75-27-4	U	0.38	0.50	1	ug/l		8260B	07/31/14	1
Bromoform	75-25-2	U	0.47	0.50	1	ug/l		8260B	07/31/14	1
Bromomethane	74-83-9	U	0.87	2.5	5	ug/l		8260B	07/31/14	1
n-Butylbenzene	104-51-8	U	0.36	0.50	1	ug/l		8260B	07/31/14	1
sec-Butylbenzene	135-98-8	U	0.36	0.50	1	ug/l		8260B	07/31/14	1
tert-Butylbenzene	98-06-6	U	0.4	0.50	1	ug/l		8260B	07/31/14	1
Carbon Disulfide	75-15-0	U	0.28	0.50	1	ug/l		8260B	07/31/14	1
Carbon tetrachloride	56-23-5	U	0.38	0.50	1	ug/l		8260B	07/31/14	1
Chlorobenzene	108-90-7	U	0.35	0.50	1	ug/l		8260B	07/31/14	1
Chlorodibromomethane	124-48-1	U	0.33	0.50	1	ug/l		8260B	07/31/14	1
Chloroethane	75-00-3	U	0.45	2.5	5	ug/l		8260B	07/31/14	1
Chloroform FJ SQL-I	67-66-3	2.6	0.32	2.5	5	ug/l	J	8260B	07/31/14	1
Chloromethane	74-87-3	U	0.28	0.50	2.5	ug/l		8260B	07/31/14	1
2-Chlorotoluene	95-49-8	U	0.38	0.50	1	ug/l		8260B	07/31/14	1

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 09, 2015

Date Received : July 24, 2014
Description : Holloman AFB

Sample ID : H-TU506-MW03-NT01

Collected By :
Collection Date : 07/23/14 10:35

ESC Sample # : L712008-08

Site ID :

Project # : 23446543.0056AA

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
4-Chlorotoluene	106-43-4	U	0.35	0.50	1	ug/l		8260B	07/31/14	1
1,2-Dibromo-3-Chloropropane	96-12-8	U	1.3	2.5	5	ug/l		8260B	07/31/14	1
1,2-Dibromoethane	106-93-4	U	0.38	0.50	1	ug/l		8260B	07/31/14	1
Dibromomethane	74-95-3	U	0.35	0.50	1	ug/l		8260B	07/31/14	1
1,2-Dichlorobenzene	95-50-1	U	0.35	0.50	1	ug/l		8260B	07/31/14	1
1,3-Dichlorobenzene	541-73-1	U	0.22	0.50	1	ug/l		8260B	07/31/14	1
1,4-Dichlorobenzene	106-46-7	U	0.27	0.50	1	ug/l		8260B	07/31/14	1
Dichlorodifluoromethane	75-71-8	U	0.55	2.5	5	ug/l		8260B	07/31/14	1
1,1-Dichloroethane	75-34-3	U	0.26	0.50	1	ug/l		8260B	07/31/14	1
1,2-Dichloroethane	107-06-2	U	0.36	0.50	1	ug/l		8260B	07/31/14	1
1,1-Dichloroethene	75-35-4	U	0.4	0.50	1	ug/l		8260B	07/31/14	1
cis-1,2-Dichloroethene	156-59-2	U	0.26	0.50	1	ug/l		8260B	07/31/14	1
trans-1,2-Dichloroethene	156-60-5	U	0.4	0.50	1	ug/l		8260B	07/31/14	1
1,2-Dichloropropane	78-87-5	U	0.31	0.50	1	ug/l		8260B	07/31/14	1
1,1-Dichloropropene	563-58-6	U	0.35	0.50	1	ug/l		8260B	07/31/14	1
1,3-Dichloropropane	142-28-9	U	0.37	0.50	1	ug/l		8260B	07/31/14	1
cis-1,3-Dichloropropene	10061-01-5	U	0.42	0.50	1	ug/l		8260B	07/31/14	1
trans-1,3-Dichloropropene	10061-02-6	U	0.42	0.50	1	ug/l		8260B	07/31/14	1
2,2-Dichloropropane	594-20-7	U	0.32	0.50	1	ug/l		8260B	07/31/14	1
Ethylbenzene	100-41-4	U	0.38	0.50	1	ug/l		8260B	07/31/14	1
2-Hexanone	591-78-6	U	3.8	5.0	10	ug/l		8260B	07/31/14	1
Hexachloro-1,3-butadiene	87-68-3	U	0.26	0.50	1	ug/l		8260B	07/31/14	1
Isopropylbenzene	98-82-8	U	0.33	0.50	1	ug/l		8260B	07/31/14	1
p-Isopropyltoluene	99-87-6	U	0.35	0.50	1	ug/l		8260B	07/31/14	1
2-Butanone (MEK)	78-93-3	U	3.9	5.0	10	ug/l		8260B	07/31/14	1
Methylene Chloride	75-09-2	U	1	2.5	5	ug/l		8260B	07/31/14	1
4-Methyl-2-pentanone (MIBK)	108-10-1	U	2.1	5.0	10	ug/l		8260B	07/31/14	1
Methyl tert-butyl ether	1634-04-4	U	0.37	0.50	1	ug/l		8260B	07/31/14	1
Naphthalene DNR	~~91-20-3~~	~~U~~	~~1~~	~~2.5~~	~~5~~	~~ug/l~~		~~8260B~~	~~07/31/14~~	~~1~~
n-Propylbenzene	103-65-1	U	0.35	0.50	1	ug/l		8260B	07/31/14	1
Styrene	100-42-5	U	0.31	0.50	1	ug/l		8260B	07/31/14	1
1,1,1,2-Tetrachloroethane	630-20-6	U	0.38	0.50	1	ug/l		8260B	07/31/14	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.58 ~~0.13~~	0.75	1	ug/l		8260B	07/31/14	1
Tetrachloroethene	127-18-4	U	0.37	0.50	1	ug/l		8260B	07/31/14	1
Toluene	108-88-3	U	0.78	2.5	5	ug/l		8260B	07/31/14	1
1,2,3-Trichlorobenzene	87-61-6	U	0.23	0.50	1	ug/l		8260B	07/31/14	1
1,2,4-Trichlorobenzene	120-82-1	U	0.21	0.50	1	ug/l		8260B	07/31/14	1
1,1,1-Trichloroethane	71-55-6	U	0.319	0.50	1	ug/l		8260B	07/31/14	1
1,1,2-Trichloroethane	79-00-5	U	0.38	0.50	1	ug/l		8260B	07/31/14	1
Trichloroethene	79-01-6	U	0.4	0.50	1	ug/l		8260B	07/31/14	1
Trichlorofluoromethane	75-69-4	U	1.2	2.5	5	ug/l		8260B	07/31/14	1
1,2,3-Trichloropropane	96-18-4	U	0.81	1.0	2.5	ug/l		8260B	07/31/14	1
1,2,4-Trimethylbenzene	95-63-6	U	0.37	0.50	1	ug/l		8260B	07/31/14	1
1,3,5-Trimethylbenzene	108-67-8	U	0.39	0.50	1	ug/l		8260B	07/31/14	1
o-Xylene	95-47-6	U	0.34	0.50	1	ug/l		8260B	07/31/14	1
m&p-Xylene	1330-20-7	U	0.72	1.0	2	ug/l		8260B	07/31/14	1

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 09, 2015

ESC Sample # : L712008-08

Date Received : July 24, 2014
Description : Holloman AFB

Site ID :

Sample ID : H-TU506-MW03-NT01

Project # : 23446543.0056AA

Collected By :
Collection Date : 07/23/14 10:35

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Vinyl chloride	75-01-4	U	0.26	0.50	1	ug/l		8260B	07/31/14	1
Surrogate Recovery										
Toluene-d8	2037-26-5	104.				% Rec.		8260B	07/31/14	1
Dibromofluoromethane	1868-53-7	103.				% Rec.		8260B	07/31/14	1
4-Bromofluorobenzene	460-00-4	103.				% Rec.		8260B	07/31/14	1
Diesel and Oil Ranges										
C10-C28 Diesel Range UJ ID-I		U	22.2		100	ug/l		8015	07/28/14	1
C28-C40 Oil Range UJ ID-I		U	11.8		100	ug/l		8015	07/28/14	1
Surrogate Recovery										
o-Terphenyl	84-15-1	97.6				% Rec.		8015	07/28/14	1
Polynuclear Aromatic Hydrocarbons										
Anthracene	120-12-7	U	0.00761	0.025	0.05	ug/l		8270C-S	07/30/14	1
Acenaphthene	83-32-9	U	0.00818	0.025	0.05	ug/l		8270C-S	07/30/14	1
Acenaphthylene	208-96-8	U	0.00682	0.025	0.05	ug/l		8270C-S	07/30/14	1
Benzo(a)anthracene	56-55-3	U	0.0118	0.025	0.05	ug/l		8270C-S	07/30/14	1
Benzo(a)pyrene	50-32-8	U	0.0116	0.025	0.05	ug/l		8270C-S	07/30/14	1
Benzo(b)fluoranthene	205-99-2	U	0.0138	0.025	0.05	ug/l		8270C-S	07/30/14	1
Benzo(g,h,i)perylene	191-24-2	U	0.0114	0.025	0.05	ug/l		8270C-S	07/30/14	1
Benzo(k)fluoranthene	207-08-9	U	0.0136	0.025	0.05	ug/l		8270C-S	07/30/14	1
Chrysene	218-01-9	U	0.0108	0.025	0.05	ug/l		8270C-S	07/30/14	1
Dibenz(a,h)anthracene	53-70-3	U	0.00396	0.025	0.05	ug/l		8270C-S	07/30/14	1
Fluoranthene	206-44-0	U	0.0157	0.025	0.05	ug/l		8270C-S	07/30/14	1
Fluorene	86-73-7	U	0.0085	0.025	0.05	ug/l		8270C-S	07/30/14	1
Indeno(1,2,3-cd)pyrene	193-39-5	U	0.0148	0.025	0.05	ug/l		8270C-S	07/30/14	1
Naphthalene	91-20-3	U	0.0198	0.025	0.25	ug/l		8270C-S	07/30/14	1
Phenanthrene	85-01-8	U	0.0082	0.025	0.05	ug/l		8270C-S	07/30/14	1
Pyrene	129-00-0	U	0.0117	0.025	0.05	ug/l		8270C-S	07/30/14	1
2-Methylnaphthalene	91-57-6	U	0.00902	0.025	0.25	ug/l		8270C-S	07/30/14	1
Surrogate Recovery										
Nitrobenzene-d5	4165-60-0	92.6				% Rec.		8270C-S	07/30/14	1
2-Fluorobiphenyl	321-60-8	99.3				% Rec.		8270C-S	07/30/14	1
p-Terphenyl-d14	1718-51-0	108.				% Rec.		8270C-S	07/30/14	1

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 09, 2015

Date Received : July 24, 2014
Description : Holloman AFB

Sample ID : H-TU506-TRIPBLANK-TT02

Collected By :
Collection Date : 07/23/14 11:00

ESC Sample # : L712008-09

Site ID :

Project # : 23446543.0056AA

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
TPH (GC/FID) Low Fraction	8006-61-9	U	31.4	50.	100	ug/l		8015D/G	07/30/14	1
Surrogate Recovery-%										
a,a,a-Trifluorotoluene(FID)	98-08-8	105.				% Rec.		8015D/G	07/30/14	1
Volatile Organics										
Acetone	67-64-1	U	10	25.	50	ug/l		8260B	07/25/14	1
Benzene	71-43-2	U	0.33	0.50	1	ug/l		8260B	07/25/14	1
Bromobenzene	108-86-1	U	0.35	0.50	1	ug/l		8260B	07/25/14	1
Bromochloromethane	74-97-5	U	0.52	0.75	1	ug/l		8260B	07/25/14	1
Bromodichloromethane	75-27-4	U	0.38	0.50	1	ug/l		8260B	07/25/14	1
Bromoform	75-25-2	U	0.47	0.50	1	ug/l		8260B	07/25/14	1
Bromomethane	74-83-9	U	0.87	2.5	5	ug/l		8260B	07/25/14	1
n-Butylbenzene	104-51-8	U	0.36	0.50	1	ug/l		8260B	07/25/14	1
sec-Butylbenzene	135-98-8	U	0.36	0.50	1	ug/l		8260B	07/25/14	1
tert-Butylbenzene	98-06-6	U	0.4	0.50	1	ug/l		8260B	07/25/14	1
Carbon Disulfide	75-15-0	U	0.28	0.50	1	ug/l		8260B	07/25/14	1
Carbon tetrachloride	56-23-5	U	0.38	0.50	1	ug/l		8260B	07/25/14	1
Chlorobenzene	108-90-7	U	0.35	0.50	1	ug/l		8260B	07/25/14	1
Chlorodibromomethane	124-48-1	U	0.33	0.50	1	ug/l		8260B	07/25/14	1
Chloroethane	75-00-3	U	0.45	2.5	5	ug/l		8260B	07/25/14	1
Chloroform	67-66-3	U	0.32	2.5	5	ug/l		8260B	07/25/14	1
Chloromethane	74-87-3	U	0.28	0.50	2.5	ug/l		8260B	07/25/14	1
2-Chlorotoluene	95-49-8	U	0.38	0.50	1	ug/l		8260B	07/25/14	1
4-Chlorotoluene	106-43-4	U	0.35	0.50	1	ug/l		8260B	07/25/14	1
1,2-Dibromo-3-Chloropropane	96-12-8	U	1.3	2.5	5	ug/l		8260B	07/25/14	1
1,2-Dibromoethane	106-93-4	U	0.38	0.50	1	ug/l		8260B	07/25/14	1
Dibromomethane	74-95-3	U	0.35	0.50	1	ug/l		8260B	07/25/14	1
1,2-Dichlorobenzene	95-50-1	U	0.35	0.50	1	ug/l		8260B	07/25/14	1
1,3-Dichlorobenzene	541-73-1	U	0.22	0.50	1	ug/l		8260B	07/25/14	1
1,4-Dichlorobenzene	106-46-7	U	0.27	0.50	1	ug/l		8260B	07/25/14	1
Dichlorodifluoromethane	75-71-8	U	0.55	2.5	5	ug/l		8260B	07/25/14	1
1,1-Dichloroethane	75-34-3	U	0.26	0.50	1	ug/l		8260B	07/25/14	1
1,2-Dichloroethane	107-06-2	U	0.36	0.50	1	ug/l		8260B	07/25/14	1
1,1-Dichloroethene	75-35-4	U	0.4	0.50	1	ug/l		8260B	07/25/14	1
cis-1,2-Dichloroethene	156-59-2	U	0.26	0.50	1	ug/l		8260B	07/25/14	1
trans-1,2-Dichloroethene	156-60-5	U	0.4	0.50	1	ug/l		8260B	07/25/14	1
1,2-Dichloropropane	78-87-5	U	0.31	0.50	1	ug/l		8260B	07/25/14	1
1,1-Dichloropropene	563-58-6	U	0.35	0.50	1	ug/l		8260B	07/25/14	1
1,3-Dichloropropane	142-28-9	U	0.37	0.50	1	ug/l		8260B	07/25/14	1
cis-1,3-Dichloropropene	10061-01-5	U	0.42	0.50	1	ug/l		8260B	07/25/14	1
trans-1,3-Dichloropropene	10061-02-6	U	0.42	0.50	1	ug/l		8260B	07/25/14	1
2,2-Dichloropropane	594-20-7	U	0.32	0.50	1	ug/l		8260B	07/25/14	1
Ethylbenzene	100-41-4	U	0.38	0.50	1	ug/l		8260B	07/25/14	1
2-Hexanone	591-78-6	U	3.8	5.0	10	ug/l		8260B	07/25/14	1
Hexachloro-1,3-butadiene	87-68-3	U	0.26	0.50	1	ug/l		8260B	07/25/14	1
Isopropylbenzene	98-82-8	U	0.33	0.50	1	ug/l		8260B	07/25/14	1

U = Not Detected at the LOD
Note:
The reported analytical results relate only to the sample submitted.
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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 09, 2015

ESC Sample # : L712008-09

Date Received : July 24, 2014
Description : Holloman AFB

Site ID :

Sample ID : H-TU506-TRIPBLANK-TT02

Project # : 23446543.0056AA

Collected By :
Collection Date : 07/23/14 11:00

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
p-Isopropyltoluene	99-87-6	U	0.35	0.50	1	ug/l		8260B	07/25/14	1
2-Butanone (MEK)	78-93-3	U	3.9	5.0	10	ug/l		8260B	07/25/14	1
Methylene Chloride	75-09-2	U	1	2.5	5	ug/l		8260B	07/25/14	1
4-Methyl-2-pentanone (MIBK)	108-10-1	U	2.1	5.0	10	ug/l		8260B	07/25/14	1
Methyl tert-butyl ether	1634-04-4	U	0.37	0.50	1	ug/l		8260B	07/25/14	1
Naphthalene	91-20-3	U	1	2.5	5	ug/l		8260B	07/25/14	1
n-Propylbenzene	103-65-1	U	0.35	0.50	1	ug/l		8260B	07/25/14	1
Styrene	100-42-5	U	0.31	0.50	1	ug/l		8260B	07/25/14	1
1,1,1,2-Tetrachloroethane	630-20-6	U	0.38	0.50	1	ug/l		8260B	07/25/14	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.58 ~~0.13~~	0.75	1	ug/l		8260B	07/25/14	1
Tetrachloroethene	127-18-4	U	0.37	0.50	1	ug/l		8260B	07/25/14	1
Toluene	108-88-3	U	0.78	2.5	5	ug/l		8260B	07/25/14	1
1,2,3-Trichlorobenzene	87-61-6	U	0.23	0.50	1	ug/l		8260B	07/25/14	1
1,2,4-Trichlorobenzene	120-82-1	U	0.21	0.50	1	ug/l		8260B	07/25/14	1
1,1,1-Trichloroethane	71-55-6	U	0.319	0.50	1	ug/l		8260B	07/25/14	1
1,1,2-Trichloroethane	79-00-5	U	0.38	0.50	1	ug/l		8260B	07/25/14	1
Trichloroethene	79-01-6	U	0.4	0.50	1	ug/l		8260B	07/25/14	1
Trichlorofluoromethane	75-69-4	U	1.2	2.5	5	ug/l		8260B	07/25/14	1
1,2,3-Trichloropropane	96-18-4	U	0.81	1.0	2.5	ug/l		8260B	07/25/14	1
1,2,4-Trimethylbenzene	95-63-6	U	0.37	0.50	1	ug/l		8260B	07/25/14	1
1,3,5-Trimethylbenzene	108-67-8	U	0.39	0.50	1	ug/l		8260B	07/25/14	1
o-Xylene	95-47-6	U	0.34	0.50	1	ug/l		8260B	07/25/14	1
m&p-Xylene	1330-20-7	U	0.72	1.0	2	ug/l		8260B	07/25/14	1
Vinyl chloride	75-01-4	U	0.26	0.50	1	ug/l		8260B	07/25/14	1
Surrogate Recovery										
Toluene-d8	2037-26-5	99.1				% Rec.		8260B	07/25/14	1
Dibromofluoromethane	1868-53-7	92.9				% Rec.		8260B	07/25/14	1
4-Bromofluorobenzene	460-00-4	100.				% Rec.		8260B	07/25/14	1

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Holloman AFB
Groundwater Monitoring
Data Review Summary

Data Package Number: L712349
Sampling Event Dates: July 24, 2014
Sample-specific Parameter Review/Laboratory Performance Parameters: Yes
Full Validation (e.g. result recalculation): No
Data Reviewer: Katie Abbott, URS Project Chemist
Date Completed: January 15, 2015
Peer Reviewer: Sheri Fling, URS Project Quality Assurance Manager (QAM)

The table below summarizes the data package and sample identifications discussed in this data review.

Field Identification	Sample Type	Lab Identification	Matrix	Analyses					
				TPH High Fraction	PAHs	Total Metals	Dissolved Metals	TDS	DOC
L712349									
H-TU904-MW03-ND01	SA	L712349-01	Water	---	---	---	X^m	---	X
H-TU904-MW03-NT01	SA	L712349-02	Water	X^m	X^m	X^m	---	X	---
H-TU904-MW04-ND01	SA	L712349-03	Water	---	---	---	X	---	X
H-TU904-MW04-NT01	SA	L712349-04	Water	X	X	X	---	X	---

Sample Type: SA – Sample X^m - Matrix Spike/Matrix Spike Duplicate
Analyses:
DOC – Dissolved Organic Carbon (5310B)
TPH High Fraction – Total Petroleum Hydrocarbons (C10-C40) (8015)
TDS – Total Dissolved Solids (SM2540C)
Total/Dissolved Metals – Antimony, Arsenic, Cadmium, Chromium, Cobalt, Lead, Nickel, Selenium, Silver, Thallium, Mercury, Aluminum, Barium, Beryllium, Copper, Manganese, Vanadium, Zinc (6010B/6020/7470A)
PAH – Polyaromatic Hydrocarbons (8270C)

The data review was conducted in accordance with the Final Interim Measures Work Plan – Appendix A, Sampling and Analysis Plan/Quality Assurance Project Plan: Former Septic System Site TU904 (URS, September 2014); Group 2 Former Underground Storage Sites: AOC-UST-889 (TU515) (URS, September 2014); and Group 3 Former Underground Storage Tank Sites: AOC-UST-221 (TU503), AOC-UST-298 (TU508), AOC-UST-901 (TU506) and AOC-UST-7003 (TU518) (URS, August 2014); data validation standard operating procedure (SOP) 14; Department of Defense (DoD) Quality Systems Manual version 4.2 (DoD, 2010); and method requirements.

General Overall Assessment:

_____ Data are usable without qualification.
__X__ Data are usable with qualification (noted below).
_____ Some or all data are unusable for any purpose (detailed below).

Case Narrative Comments: Any laboratory case narrative comments concerning data qualification were addressed in the table below.

Trace level detects, reported between the method detection limit (MDL) and the reporting limit (LOQ), have been qualified as estimated (F SQL-I). All other occurrences of data qualification are covered in the following table.

Review Parameter	Criteria Met?	Comment
Chain of Custody & Sample Receipt	Yes	The samples were received by ESC Lab Sciences in good condition and were consistent with the accompanying chain of custody (COC). The cooler temperatures upon receipt were within the recommended ≤6 degrees Celsius (°C) temperature range.
Reporting	Yes	Several revisions to the data package were required. Revision 1: Revised reports were issued to remove non-target analytes from the volatile organic compound (VOC) and polynuclear aromatic hydrocarbon (PAH) analyte lists; to include quality assurance project plan (QAPP) required VOC analytes; to correct the matrix spike/matrix spike duplicate (MS/MSD) for diesel range organics/oil range organics (DRO/ORO); to correct the limits of detection (LODs) for 1,1,2,2-tetrachloroethane; 1,2,3-trichloropropane; cadmium; nickel; selenium; and mercury; and to report the continuing calibration blanks (CCBs) and initial calibration blanks (ICBs) to the detection limit (DL). Revision 2: A revised report was issued to correct the DLs LODs, and LOQs for mercury and several VOC analytes. Revision 3: An addendum was issued to include the isotope results in the quality control samples for Method 6020. Revision 4: A revised report was issued to remove the 1,2,3-trichlorobenzene results for VOCs and to include results for bromochloromethane. **Method 8015 Diesel Range Organics (DRO)/Oil Range Organics (ORO)** The laboratory incorrectly analyzed the samples in data package L712349 and L712399 for TPH high fraction (C10-C40) analysis, instead of DRO (C10-C28) and ORO (C28-C40). Reanalysis was not performed as the extracts were outside the holding time.
Holding Times	Yes	All samples were analyzed within the method required holding time.
Laboratory Blanks • Method Blank • Continuing Calibration Blank	No	With the exception listed in Table 1, target analytes were not detected within the method or calibration blanks. **Method 6020** The laboratory reported multiple isotopes for a given analyte (e.g. antimony 121 and antimony 123) within the analytical sequence for Method 6020. Therefore, all isotope detections were evaluated in the method blanks and continuing calibration blanks for potential impact to sample result qualification.

Review Parameter	Criteria Met?	Comment
Matrix Quality Control • Matrix Spike/ Matrix Spike Duplicate H-TU904-MW03-ND01 (Dissolved Metals) H-TU904-MW03-NT01 (Total Metals, TPH High Fraction, PAHs) • Laboratory Duplicate H-TU904-MW03-NT01 (Total Mercury) • Total vs. Partial Analyses (Metals)	No	**Matrix Spike/ Matrix Spike Duplicate (MS/MSD)** The frequency of MS/MSDs met the QAPP requirement of one per twenty samples. With the exceptions listed in Table 2, the MS/MSD recoveries and relative percent differences (RPDs) met quality control criteria. Results in the native sample greater than four times the concentration of the spike added during digestions/extractions are not considered to be a representative measure of accuracy. Further action with respect to spike recovery evaluation or qualification of data was not considered necessary. Consistent with standard operating procedure (SOP) 14, when MS/MSD issues accounted for less than 35% of the MS/MSD analyses conducted, applicable data qualification was limited to qualification of the parent sample of the affected analyte. When >35% of the MS/MSD results did not meet criteria, evaluation was extended to all associated samples. See Section 4.1 of the data validation report for overall qualifiers resulting from the MS/MSD evaluation. **Laboratory Duplicate** The comparison between results of the laboratory duplicate pair met the criteria listed below. • When both the sample and duplicate values are >5x the LOQ, acceptable sampling and analytical precision is indicated by an RPD between the results of ≤20% for water samples (≤35% for soil samples). • Where the result for one or both analytes of the laboratory duplicate pair is <5xLOQ, satisfactory precision is indicated if the absolute difference between the laboratory duplicate results is <1xLOQ for water samples (<2xLOQ for soil samples). **Total vs. Partial Analyses (Metals)** Consistent with SOP 14, results for the total analysis of a particular analyte should be greater than the results for a partial analyte of that analyte. The following criteria were used to evaluate the total versus dissolved results: • In instances where the value for a partial analysis exceeds that for a total analysis and both of the results are >5x the LOQ, the criterion utilized is that the two values should agree within ±30%. • In instances where the value for a partial analysis exceeds that for a total analysis and either of the results is ≤5x the LOQ, the absolute difference between the results is compared against an evaluation criterion of 2x the LOQ. The total metal sample results were compared with the associated dissolved metals sample results against the concentration-dependent criteria set forth in SOP 14.

Review Parameter	Criteria Met?	Comment
Metals Only • Serial Dilution H-TU904-MW03-NT01 (Total Metals) • Post Digestion Spike H-TU904-MW03-NT01 (Total 6010)	No	**Serial Dilution (Metals Only)** Consistent with the method, only the results that were greater than 50 times their respective detection limits (DLs) were appropriate for comparing to the serial dilution evaluation criterion. With the exceptions listed in Table 3, all percent differences (%Ds) between the original sample results and the results obtained from the sample-diluted 1:5 were ≤10%. **Post Digestion Spike (PDS) (Metals Only)** With the exceptions listed in Table 4, all PDS recoveries were within the acceptance limits.
Method Quality Control • Surrogates (VOCs, PAHs, GRO, DRO/ORO)	Yes	The surrogate recoveries were within the laboratory specified acceptance criteria.
Field Quality Control • Trip Blank None in this package • Field Duplicate None in this package • Equipment Blank None in this package • Field Blank None in this package	NA	**Trip Blank (Volatile Organic Compounds (VOCs) and Gasoline Range Organics (GRO) Only)** As VOCs and GROs were not analyzed during this sampling event, a trip blank was not required. Further action was not necessary. **Field Duplicate** The frequency of field duplicates met the QAPP requirement of one per twenty samples. A field duplicate was not submitted with the data package. Consistent with SOP 14, when field duplicate issues accounted for less than 35% of the field duplicate analyses conducted, applicable data qualification was limited to qualification of the parent sample for the affected analyte. When >35% of the field duplicate results did not meet criteria, evaluation was extended to all associated samples. See Section 4.3 of the data validation report for overall qualifiers resulting from the field duplicate evaluation. **Equipment Blank** As dedicated equipment was used to collect these samples, an equipment blank was not submitted for this sampling event. Further action was not necessary. **Field Blank** The frequency of field blanks met the QAPP requirement of one per twenty samples. A field blank was not submitted with this data package. See Section 4.4 of the data validation report for overall qualifiers resulting from the field blank evaluation.
LODs met?	Yes	Due to dilutions, the dissolved manganese result for sample H-TU904-MW03-ND01 and the total manganese result for sample H-TU904-MW03-NT01 were reported as non-detect at elevated LODs and will need to be evaluated by the end user of the data with respect to project objectives. See Section 3.6 of the data validation report for further discussion.

Review Parameter	Criteria Met?	Comment
Initial Calibration	Yes	**Method 8270C PAHs** The percent relative standard deviation (%RSD) values for all target analytes in the calibration were less than 20%. Therefore, the initial calibration met method acceptance criteria. **Method 8015 TPH High Fraction** The relationship between instrument response and concentration was established with a blank and at least five standards for each analyte. The %RSD over the initial calibrations curve satisfied the method requirement of <15%. Therefore, the initial calibration met method acceptance criteria. **Methods 6010B (Inductively Coupled Plasma [ICP] Metals) and 6020 (ICPMS Metals)** The initial calibrations (ICALs) were performed in association with the samples reported in this package. The relationship between instrument response and concentration was established with a blank and at least one standard. The calibrations were verified with the analysis of an initial calibration verification standard (ICV). All metals were recovered within the low level acceptance range of 80-120% and the medium/high acceptance range of 90-110%. **Method 7470A (Mercury)/Total Dissolved Solids (TDS)/ DOC** The initial calibrations (ICALs) were performed in association with the samples reported in this package. The relationship between instrument response and concentration was established with a blank and at least five standards. The calibrations were verified with the analysis of an initial calibration verification (ICV) standard. All metals were recovered within the method acceptance range of 90-110%. **Total Dissolved Solids (TDS)** ICALs are not required per the method for TDS.
Initial Calibration Verification/Continuing Calibration Verification	Yes	**8270C PAHs** With the exceptions listed in Table 5, the percent differences (%Ds) for all calibration check compounds (CCCs) in the ICVs and continuing calibrations (CCALs) were less than 20%, satisfying method requirements, and other target analytes satisfied the %D criterion of 20%. **Method 8015 TPH High Fraction** The %Ds for all target compounds in the ICVs and CCALs were less than 15%. Data qualification was not necessary. **Methods 6010B (ICP Metals), Methods 6020 (ICPMS Metals) & 7470A (Mercury)** Calibration verification analyses were conducted at the proper frequency. All metals were recovered within the DOD QSM 4.2 low level acceptance range of 80-120% and the method medium/high acceptance range of 90-110%. **TDS** Calibration verifications are not required for TDS.

Review Parameter	Criteria Met?	Comment
Interference Check Standard (Metals Only)	No	The interference check standard (ICS) AB solutions were analyzed at the proper frequency. The target analytes were recovered within the acceptance range of 90-10% in the ICS AB solution. With the exceptions listed in Table 5, interferent elements were not present in the samples at concentrations greater than those in the ICSs. The interferent elements aluminum, calcium, iron, and magnesium were present in most samples in this data package at concentrations greater than or equal to those in the ICSs. As such, these samples were evaluated for positive and negative biases suggested by the ICS A. Data qualification was issued if the absolute value of the ICS A result was greater than the MDL and it suggested a positive or negative bias which accounted for more than 25% of associated sample results or reporting limits. (Note: The ICS A solution only contains the interferent elements aluminum, calcium, iron, and magnesium so any positive or negative result for other analytes is inferred to be a bias potentially caused by one or more of the interferent elements present.) Table 5 summarizes the resultant data qualification on the basis of the ICS results.
Internal Standard (VOCs/PAHs/Metals (6020))	Yes	Recoveries for the internal standards in field samples were within the applicable acceptance limits. Therefore, data qualification based on internal standards was not necessary.
Laboratory Control Sample/ Laboratory Control Sample Duplicate	Yes	One laboratory control sample (LCS) and/or laboratory control sample duplicate (LCSD) per method per analytical batch was prepared and analyzed. All of the LCS recoveries and LCS/LCSD RPDs were within the QAPP acceptance limits. These results are indicative of an acceptable level of accuracy and precision with respect to the analytical method.
Other Parameters	Yes	**Method 8015 DRO/ORO** As the entire area for C10-C40 is used in the calibration to determine response factor, there is a potential bias in the results when you segregate the DRO (C10-C28) and ORO (C28-C40) which is demonstrated in the individual continuing calibration results. Therefore, the DRO/ORO results were qualified as estimated (J/UJ ID-I).
Package Completeness	Yes	The results are usable as qualified for the project objective. The data are 100% complete.

> - Greater Than
< - Less Than
≤ - Less Than or Equal to
± - Plus or Minus
°C – Degrees Celsius
% - Percent
%Ds – Percent Differences
%RSD – Percent Relative Standard Deviation
CCALs – Continuing Calibrations
CCBs – Continuing Calibration Blanks
CCCs – Calibration Check Compound
COC – Chain of Custody
COD – Coefficient of Determination
DLs – Detection Limits
DOC - Dissolved Organic Carbon
DOD – Department of Defense
DRO – Diesel Range Organics
ICAL – Initial Calibration
ICB – Initial Calibration Blank
ICP – Inductively Coupled Plasma
ICS – Interference Check Standard
ICV – Initial Calibration Verification
LCS – Laboratory Control Sample
LCSD – Laboratory Control Sample Duplicate
LOD – Limit of Detection
LOQ – Limit of Quantitation
MS/MSD – Matrix Spike/ Matrix Spike Duplicate
ORO – Oil Range Organics
PAHs – Polynuclear Aromatic Hydrocarbons
PDS – Post Digestion Spike
QAPP – Quality Assurance Project Plan
QSM – Quality Systems Manual
RPDs – Relative Percent Differences
RRF – Relative Response Factor
SOP – Standard Operating Procedure
SPCCs – System Performance Check Compounds
TDS – Total Dissolved Solids
TPH – Total Petroleum Hydrocarbons
VOCs – Volatile Organic Compounds

Table 1: Blank Outliers and Resultant Data Qualification

Associated Samples	Analyte	Concentration	Qualification
Total Metals			
MB Batch WG734226 H-TU904-MW03-NT01 H-TU904-MW04-NT01	Antimony (121)	0.210 µg/L	The associated results reported at concentrations <5x the concentration of the blank contamination were qualified as non-detect (U MB-I).
	Selenium (82)	-0.47 µg/L	None. The associated results were at concentrations >4x the concentration of the blank contamination.
MB Batch WG734718 H-TU904-MW03-NT01 H-TU904-MW04-NT01	Cadmium (114)	0.20 µg/L	The associated results reported at concentrations <5x the concentration of the blank contamination were qualified as non-detect (U MB-I).
CCB 7/31/2014 2:50PM H-TU904-MW04-NT01		0.240 µg/L	The associated results reported at concentrations <5x the concentration of the blank contamination were qualified as non-detect (U CCB-I).
CCB 7/31/2014 2:41PM H-TU904-MW03-NT01 H-TU904-MW04-NT01	Copper	7.4 µg/L	
Dissolved Metals			
MB Batch WG734093 H-TU904-MW03-ND01 H-TU904-MW04-ND01	Antimony (121)	0.38 µg/L	The associated results reported at concentrations <5x the concentration of the blank contamination were qualified as non-detect (U MB-I).
	Arsenic	0.370 µg/L	None. The associated results were reported as non-detect or at concentrations >5x the concentration of the blank contamination.
CCB 8/2/2014 1:08PM H-TU904-MW03-ND01 H-TU904-MW04-ND01		0.450 µg/L	
CCB 8/2/2014 1:43PM H-TU904-MW04-ND01	Silver	2.09 µg/L	The associated results reported at concentrations <5x the concentration of the blank contamination were qualified as non-detect (U CCB-I).
CCB 8/2/2014 1:43PM H-TU904-MW03-ND01 H-TU904-MW04-ND01	Antimony	0.300 µg/L	
CCB 8/4/2014 10:10AM H-TU904-MW03-ND01	Silver	0.390 µg/L	None. The associated result was reported at a concentration >5x the concentration of the blank contamination.
CCB 8/2/2014 6:28AM	Copper	6.8 µg/L	The associated result for sample H-TU904-MW04-ND01 was reported at a concentration <5x the concentration of the blank contamination and was qualified as non-detect (U CCB-I).
PAHs			
MB Batch WG734218 H-TU904-MW03-NT01 H-TU904-MW04-NT01	2-Methylnaphthalene	0.0104 µg/L	The associated results reported at concentrations <5x the concentration of the blank contamination were qualified as non-detect (U MB-I).
	Naphthalene	0.0206 µg/L	

> - Greater Than
CCB – Continuing Calibration Blank
PAHs – Polynuclear Aromatic Hydrocarbons
< - Less Than
I – Indeterminate
U – Non-detect
µg/L – Micrograms per Liter
MB – Method Blank

Table 2: MS/MSD Recovery and RPD Outliers and Resultant Data Qualification

Associated Sample	Analyte	%R (Limits)	RPD (Limit)	Qualification
Total Metals				
H-TU904-MW03-NT01	Aluminum	**123/135** (80-120)	7 (30)	As the potential bias was considered to be high, the associated detected results for sample H-TU904-MW03-NT01 were qualified as estimated (J MS-H).
	Selenium	112/**128** (80-120)	9 (30)	
Dissolved Metals				
H-TU904-MW03-ND01	Aluminum	125/**128** (80-120)	3 (30)	As the potential bias was considered to be high, the associated detected results for sample H-TU904-MW03-NT01 were qualified as estimated (J MS-H).
	Selenium	**137/127** (80-120)	5 (30)	

< - Less Than
> - Greater Than
%R – Percent Recoveries
H – High Bias
J – Estimated
L – Low Bias
MS/MSD – Matrix Spike Matrix Spike Duplicate
RPD – Relative Percent Difference
Bold indicates a recovery or RPD outside of acceptance limit

Table 3: Serial Dilution Outliers and Resultant Data Qualification

Associated Sample	Analyte	Parent Sample Result (µg/L)	Serial Dilution Result (µg/L)	%D (Limits)	Qualification
Total Metals					
H-TU904-MW03-NT01	Nickel	49.0	56.3	**15** (0-10)	The associated sample results were qualified as estimated (J DL-L). The bias is considered to be low as the native sample concentration is less than the diluted result.
	Selenium	28.0	33.8	**18** (0-10)	

µg/L – Micrograms per Liter
%D – Percent Difference
DL – Serial Dilution
L – Low Bias
Bold indicates a recovery or RPD outside of acceptance limits

Table 4: Post-Digestion Spike Outliers and Resultant Data Qualification

Associated Samples	Analyte	%R (Limits)	Qualification
Total Metals			
H-TU904-MW03-NT01	Aluminum	**133** (75-125)	As the potential bias was considered to be high, the associated detected results were qualified as estimated (J PDS-H).
	Selenium	**136** (85-115)	
	Silver	**76** (85-115)	As the potential bias was considered to be low, the associated result was qualified as estimated (J PDS-L).

%R – Percent Recovery
H – High Bias
J - Estimated
PDS – Post Digestion Spike
Bold indicates a recovery or RPD outside of acceptance limit

Table 5: ICS Outliers and Resultant Data Qualification

Interferent Element	Analyte	ICS A (µg/L)	MDL (µg/L)	Qualified Samples	Qualification
Calcium, Magnesium	Dissolved Copper	-21.3	5.3	H-TU904-MW03-ND01 H-TU904-MW04-ND01	As the potential bias was considered to be low, the associated results were qualified as estimated (UJ/J ICS-L).
	Dissolved Manganese	-13.9	1.2		
	Dissolved Vanadium	-4.8	1.7		
	Total Barium	4.5	1.7	H-TU904-MW03-NT01	As the potential bias was considered to be high, the associated result was qualified as estimated (J ICS-H).
	Total Copper	-20.1	5.3	H-TU904-MW03-NT01 H-TU904-MW04-NT01	As the potential bias was considered to be low, the associated results were qualified as estimated (UJ/J ICS-L).
	Total Manganese	-13.4	1.2		
Calcium	Total Vanadium	-3.6	2.4	H-TU904-MW04-NT01	

µg/L – Micrograms per Liter
L – Low Bias
H – High Bias
MDL – Method Detection Limit
ICS – Interference Check Standard
UJ/J - Estimated

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REPORT OF ANALYSIS

Sheri Fling
URS Corporation - Tucson AZ - 1088
8181 E. Tufts Avenue
Denver, CO 80237

October 24, 2014

ESC Sample # : L712349-01

Date Received : July 26, 2014
Description : Holloman AFB

Site ID :

Sample ID : H-TU904-MW03-ND01

Project # : 23446543.0053AA

Collected By : Jon Mallonee
Collection Date : 07/24/14 10:45

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
DOC		1700	110	300	1000	ug/l		5310 B-	07/29/14	1
Antimony, Dissolved U MB, CCB-I	7440-36-0	~~0.22~~ 0.50	~~0.21~~ 0.22	0.50	1	ug/l	J	6020	08/02/14	1
Arsenic, Dissolved	7440-38-2	3.8	0.25	0.50	1	ug/l		6020	08/02/14	1
Cadmium, Dissolved	7440-43-9	U	0.16	0.25	0.5	ug/l		6020	08/02/14	1
Chromium, Dissolved	7440-47-3	3.2	0.54	1.0	2	ug/l		6020	08/02/14	1
Cobalt, Dissolved FSQL-I	7440-48-4	0.46	0.26	0.50	1	ug/l	J	6020	08/02/14	1
Lead, Dissolved	7439-92-1	U	0.24	0.50	1	ug/l		6020	08/02/14	1
Nickel, Dissolved	7440-02-0	43.	0.35	0.50	1	ug/l		6020	08/02/14	1
Selenium, Dissolved J MS-H	7782-49-2	24.	0.38	0.50	1	ug/l	J5	6020	08/02/14	1
Silver, Dissolved	7440-22-4	2.8	0.31	0.50	1	ug/l		6020	08/04/14	1
Thallium, Dissolved	7440-28-0	U	0.19	0.50	1	ug/l		6020	08/02/14	1
Mercury, Dissolved	7439-97-6	U	0.049	0.090	0.2	ug/l		7470A	07/31/14	1
Aluminum, Dissolved	7429-90-5	U	35	50.	100	ug/l	J5	6010B	08/02/14	1
Barium, Dissolved	7440-39-3	13.	1.7	2.5	5	ug/l		6010B	08/02/14	1
Beryllium, Dissolved	7440-41-7	U	0.7	1.0	2	ug/l		6010B	08/02/14	1
Copper, Dissolved UJ ICS-L	7440-50-8	U	5.3	10.	20	ug/l		6010B	08/02/14	1
Manganese, Dissolved UJ ICS-L	7439-96-5	U	6	25.	50	ug/l	O	6010B	08/02/14	5
Vanadium, Dissolved FJ SQL ICS-L	7440-62-2	15.	2.4	5.0	20	ug/l	J	6010B	08/02/14	1
Zinc, Dissolved	7440-66-6	U	5.9	15.	50	ug/l		6010B	08/02/14	1

U = Not Detected at the LOD
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REPORT OF ANALYSIS

Sheri Fling
URS Corporation - Tucson AZ - 1088
8181 E. Tufts Avenue
Denver, CO 80237

October 24, 2014

ESC Sample # : L712349-02

Date Received : July 26, 2014
Description : Holloman AFB

Site ID :

Sample ID : H-TU904-MW03-NT01

Project # : 23446543.0053AA

Collected By : Jon Mallonee
Collection Date : 07/24/14 10:45

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Dissolved Solids	DSOLIDS	12000000	2800	5000	10000	ug/l		2540 C-	07/30/14	1
			1.0	1.0						
Antimony U MB-I	7440-36-0	1.0	~~0.21~~	~~0.50~~	1	ug/l	J	6020	07/29/14	1
Arsenic	7440-38-2	3.9	0.25	0.50	1	ug/l		6020	07/29/14	1
Cadmium U MB, CCB-I	7440-43-9	0.26	~~0.16~~ 0.26	~~0.25~~ 0.26	0.5	ug/l	J	6020	07/31/14	1
Chromium	7440-47-3	36.	0.54	1.0	2	ug/l		6020	07/29/14	1
Cobalt F SQL-I	7440-48-4	0.87	0.26	0.50	1	ug/l	J	6020	07/29/14	1
Lead	7439-92-1	U	0.24	0.50	1	ug/l		6020	07/29/14	1
Nickel J DL-L	7440-02-0	49.	0.35	0.50	1	ug/l	O1	6020	07/29/14	1
Selenium J MS, DL, PDS-I	7782-49-2	28.	0.38	0.50	1	ug/l	O1J5	6020	07/29/14	1
Silver J PDS-L	7440-22-4	3.9	0.31	0.50	1	ug/l	O1	6020	07/29/14	1
Thallium	7440-28-0	U	0.19	0.50	1	ug/l		6020	07/29/14	1
Mercury	7439-97-6	U	0.049	0.090	0.2	ug/l		7470A	07/29/14	1
Aluminum J MS, PDS, FD-H	7429-90-5	250	35	50.	100	ug/l	O1J5	6010B	07/31/14	1
Barium J ICS-H	7440-39-3	14.	1.7	2.5	5	ug/l		6010B	07/31/14	1
Beryllium	7440-41-7	U	0.7	1.0	2	ug/l		6010B	07/31/14	1
Copper U J ICS-L	7440-50-8	U	5.3	10.	20	ug/l		6010B	07/31/14	1
Manganese U J ICS-L	7439-96-5	U	6	25.	50	ug/l	O	6010B	07/31/14	5
Vanadium F SQL-I	7440-62-2	19.	2.4	5.0	20	ug/l	J	6010B	07/31/14	1
Zinc	7440-66-6	U	5.9	15.	50	ug/l		6010B	07/31/14	1
~~F3 SQL, MS-H~~										
TPH (GC/FID) High Fraction F SQL-I	68334-30-5	58.	25	50.	100	ug/l	J	3511/80	07/30/14	1
Surrogate recovery(%)										
o-Terphenyl	84-15-1	123.				% Rec.		3511/80	07/30/14	1
Polynuclear Aromatic Hydrocarbons										
Anthracene	120-12-7	U	0.0076	0.025	0.05	ug/l		8270C-S	07/30/14	1
Acenaphthene	83-32-9	U	0.0082	0.025	0.05	ug/l		8270C-S	07/30/14	1
Acenaphthylene	208-96-8	U	0.0068	0.025	0.05	ug/l		8270C-S	07/30/14	1
Benzo(a)anthracene	56-55-3	U	0.012	0.025	0.05	ug/l		8270C-S	07/30/14	1
Benzo(a)pyrene	50-32-8	U	0.012	0.025	0.05	ug/l		8270C-S	07/30/14	1
Benzo(b)fluoranthene	205-99-2	U	0.014	0.025	0.05	ug/l		8270C-S	07/30/14	1
Benzo(g,h,i)perylene	191-24-2	U	0.011	0.025	0.05	ug/l		8270C-S	07/30/14	1
Benzo(k)fluoranthene	207-08-9	U	0.014	0.025	0.05	ug/l		8270C-S	07/30/14	1
Chrysene	218-01-9	U	0.011	0.025	0.05	ug/l		8270C-S	07/30/14	1
Dibenz(a,h)anthracene	53-70-3	U	0.004	0.025	0.05	ug/l		8270C-S	07/30/14	1
Fluoranthene	206-44-0	U	0.016	0.025	0.05	ug/l		8270C-S	07/30/14	1
Fluorene	86-73-7	U	0.0085	0.025	0.05	ug/l		8270C-S	07/30/14	1
Indeno(1,2,3-cd)pyrene	193-39-5	U	0.015	0.025	0.05	ug/l		8270C-S	07/30/14	1
Naphthalene U MB-I	91-20-3	0.027	~~0.02~~ 0.027	~~0.025~~ 0.027	0.25	ug/l	J	8270C-S	07/30/14	1
Phenanthrene	85-01-8	U	0.0082	0.025	0.05	ug/l		8270C-S	07/30/14	1
Pyrene	129-00-0	U	0.012	0.025	0.05	ug/l		8270C-S	07/30/14	1
2-Methylnaphthalene U MB-I	91-57-6	~~0.011~~ 0.025	~~0.009~~ 0.011	0.025	0.25	ug/l	J	8270C-S	07/30/14	1
Surrogate Recovery										

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REPORT OF ANALYSIS

Sheri Fling
URS Corporation - Tucson AZ - 1088
8181 E. Tufts Avenue
Denver, CO 80237

October 24, 2014

Date Received : July 26, 2014
Description : Holloman AFB

Sample ID : H-TU904-MW03-NT01

Collected By : Jon Mallonee
Collection Date : 07/24/14 10:45

ESC Sample # : L712349-02

Site ID :

Project # : 23446543.0053AA

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Nitrobenzene-d5	4165-60-0	91.0				% Rec.		8270C-S	07/30/14	1
2-Fluorobiphenyl	321-60-8	98.7				% Rec.		8270C-S	07/30/14	1
p-Terphenyl-d14	1718-51-0	109.				% Rec.		8270C-S	07/30/14	1

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REPORT OF ANALYSIS

Sheri Fling
URS Corporation - Tucson AZ - 1088
8181 E. Tufts Avenue
Denver, CO 80237

October 24, 2014

ESC Sample # : L712349-03

Date Received : July 26, 2014
Description : Holloman AFB

Site ID :

Sample ID : H-TU904-MW04-ND01

Project # : 23446543.0053AA

Collected By : Jon Mallonee
Collection Date : 07/24/14 13:04

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
DOC		1200	110	300	1000	ug/l		5310 B-	07/29/14	1
Antimony, Dissolved U MB,CCB-I	7440-36-0	~~0.25~~ 0.50	~~0.21~~ 0.25	0.50	1	ug/l	J	6020	08/02/14	1
Arsenic, Dissolved	7440-38-2	3.3	0.25	0.50	1	ug/l		6020	08/02/14	1
Cadmium, Dissolved	7440-43-9	U	0.16	0.25	0.5	ug/l		6020	08/02/14	1
Chromium, Dissolved	7440-47-3	4.8	0.54	1.0	2	ug/l		6020	08/02/14	1
Cobalt, Dissolved	7440-48-4	3.2	0.26	0.50	1	ug/l		6020	08/02/14	1
Lead, Dissolved	7439-92-1	U	0.24	0.50	1	ug/l		6020	08/02/14	1
Nickel, Dissolved	7440-02-0	360	0.35	0.50	1	ug/l		6020	08/02/14	1
Selenium, Dissolved J MS-H	7782-49-2	24.	0.38	0.50	1	ug/l		6020	08/02/14	1
Silver, Dissolved UJ CCB,MS-L	7440-22-4	1.2	~~0.31~~ 1.2	~~0.50~~ 1.2	~~1~~ 1.2	ug/l		6020	08/04/14	1
Thallium, Dissolved F SOL-I	7440-28-0	0.24	0.19	0.50	1	ug/l	J	6020	08/02/14	1
Mercury, Dissolved	7439-97-6	U	0.049	0.090	0.2	ug/l		7470A	07/31/14	1
Aluminum, Dissolved ~~F SOL-I~~ FJ SOL,MS-H	7429-90-5	43.	35	50.	100	ug/l	J	6010B	08/02/14	1
Barium, Dissolved	7440-39-3	18.	1.7	2.5	5	ug/l		6010B	08/02/14	1
Beryllium, Dissolved	7440-41-7	U	0.7	1.0	2	ug/l		6010B	08/02/14	1
Copper, Dissolved UJ CCB,ICS-L	7440-50-8	24.	~~5.3~~ 24	~~10~~ 24	~~20~~ 24	ug/l		6010B	08/02/14	1
Manganese, Dissolved J ICS-L	7439-96-5	31.	1.2	5.0	10	ug/l		6010B	08/02/14	1
Vanadium, Dissolved FJ SOL,ICS-L	7440-62-2	7.3	2.4	5.0	20	ug/l	J	6010B	08/02/14	1
Zinc, Dissolved	7440-66-6	U	5.9	15.	50	ug/l		6010B	08/02/14	1

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REPORT OF ANALYSIS

Sheri Fling
URS Corporation - Tucson AZ - 1088
8181 E. Tufts Avenue
Denver, CO 80237

October 24, 2014

ESC Sample # : L712349-04

Site ID :

Project # : 23446543.0053AA

Date Received : July 26, 2014
Description : Holloman AFB

Sample ID : H-TU904-MW04-NT01

Collected By : Jon Mallonee
Collection Date : 07/24/14 13:04

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Dissolved Solids	DSOLIDS	11000000	2800	5000	10000	ug/l		2540 C-	07/30/14	1
Antimony U MB-I	7440-36-0	~~0.27~~ 0.50	~~0.21~~ 0.27	0.50	1	ug/l	J	6020	08/01/14	1
Arsenic	7440-38-2	2.5	0.25	0.50	1	ug/l		6020	08/01/14	1
Cadmium U MB-I	7440-43-9	~~0.23~~ 0.25	~~0.16~~ 0.25	0.25	0.5	ug/l	J	6020	07/31/14	1
Chromium	7440-47-3	11.	0.54	1.0	2	ug/l		6020	08/01/14	1
Cobalt	7440-48-4	3.8	0.26	0.50	1	ug/l		6020	08/01/14	1
Lead	7439-92-1	U	0.24	0.50	1	ug/l		6020	08/01/14	1
Nickel	7440-02-0	390	0.35	0.50	1	ug/l		6020	08/01/14	1
Selenium J MS-H	7782-49-2	23.	0.38	0.50	1	ug/l		6020	08/01/14	1
Silver	7440-22-4	1.2	0.31	0.50	1	ug/l		6020	08/01/14	1
Thallium	7440-28-0	U	0.19	0.50	1	ug/l		6020	08/01/14	1
Mercury	7439-97-6	U	0.049	0.090	0.2	ug/l		7470A	07/29/14	1
Aluminum FJ MS, FD, ~~K~~ SOL-H	7429-90-5	85.	35	50.	100	ug/l	J	6010B	07/31/14	1
Barium	7440-39-3	18.	1.7	2.5	5	ug/l		6010B	07/31/14	1
Beryllium	7440-41-7	U	0.7	1.0	2	ug/l		6010B	07/31/14	1
Copper UJ CCB, ICS-L	7440-50-8	23.	~~5.3~~ 23	~~10.~~ 23	~~20~~ 23	ug/l		6010B	07/31/14	1
Manganese FJ SOL, ICS-L	7439-96-5	40.	6	25.	50	ug/l	J	6010B	07/31/14	5
Vanadium FJ SOL, ICS-L	7440-62-2	12.	2.4	5.0	20	ug/l	J	6010B	07/31/14	1
Zinc	7440-66-6	U	5.9	15.	50	ug/l		6010B	07/31/14	1
TPH (GC/FID) High Fraction	68334-30-5	U	25	50.	100	ug/l		3511/80	07/30/14	1
Surrogate recovery(%)										
o-Terphenyl	84-15-1	122.				% Rec.		3511/80	07/30/14	1
Polynuclear Aromatic Hydrocarbons										
Anthracene	120-12-7	U	0.0076	0.025	0.05	ug/l		8270C-S	07/30/14	1
Acenaphthene	83-32-9	U	0.0082	0.025	0.05	ug/l		8270C-S	07/30/14	1
Acenaphthylene	208-96-8	U	0.0068	0.025	0.05	ug/l		8270C-S	07/30/14	1
Benzo(a)anthracene	56-55-3	U	0.012	0.025	0.05	ug/l		8270C-S	07/30/14	1
Benzo(a)pyrene	50-32-8	U	0.012	0.025	0.05	ug/l		8270C-S	07/30/14	1
Benzo(b)fluoranthene	205-99-2	U	0.014	0.025	0.05	ug/l		8270C-S	07/30/14	1
Benzo(g,h,i)perylene	191-24-2	U	0.011	0.025	0.05	ug/l		8270C-S	07/30/14	1
Benzo(k)fluoranthene	207-08-9	U	0.014	0.025	0.05	ug/l		8270C-S	07/30/14	1
Chrysene	218-01-9	U	0.011	0.025	0.05	ug/l		8270C-S	07/30/14	1
Dibenz(a,h)anthracene	53-70-3	U	0.004	0.025	0.05	ug/l		8270C-S	07/30/14	1
Fluoranthene	206-44-0	U	0.016	0.025	0.05	ug/l		8270C-S	07/30/14	1
Fluorene	86-73-7	U	0.0085	0.025	0.05	ug/l		8270C-S	07/30/14	1
Indeno(1,2,3-cd)pyrene	193-39-5	U	0.015	0.025	0.05	ug/l		8270C-S	07/30/14	1
Naphthalene U MB-I	91-20-3	0.025	~~0.02~~ 0.025	0.025	0.25	ug/l	J	8270C-S	07/30/14	1
Phenanthrene	85-01-8	U	0.0082	0.025	0.05	ug/l		8270C-S	07/30/14	1
Pyrene	129-00-0	U	0.012	0.025	0.05	ug/l		8270C-S	07/30/14	1
2-Methylnaphthalene	91-57-6	U	0.009	0.025	0.25	ug/l		8270C-S	07/30/14	1
Surrogate Recovery										

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URS Corporation - Tucson AZ - 1088
8181 E. Tufts Avenue
Denver, CO 80237

October 24, 2014

ESC Sample # : L712349-04

Site ID :

Project # : 23446543.0053AA

Date Received : July 26, 2014
Description : Holloman AFB

Sample ID : H-TU904-MW04-NT01

Collected By : Jon Mallonee
Collection Date : 07/24/14 13:04

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Nitrobenzene-d5	4165-60-0	90.9				% Rec.		8270C-S	07/30/14	1
2-Fluorobiphenyl	321-60-8	100.				% Rec.		8270C-S	07/30/14	1
p-Terphenyl-d14	1718-51-0	111.				% Rec.		8270C-S	07/30/14	1

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Holloman AFB
Groundwater Monitoring
Data Review Summary

Data Package Number: L712399
Sampling Event Dates: July 24, 2014
Sample-specific Parameter Review/Laboratory Performance Parameters: Yes
Full Validation (e.g. result recalculation): No
Data Reviewer: Katie Abbott, URS Project Chemist
Date Completed: January 15, 2015
Peer Reviewer: Sheri Fling, URS Project Quality Assurance Manager (QAM)

The table below summarizes the data package and sample identifications discussed in this data review.

Field Identification	Sample Type	Lab Identification	Matrix	Analyses						
				GRO	TPH High Fraction	VOCs	PAHs	Total Metals	Dissolved Metals	TDS
L712399										
H-TU-503-FieldBlank-BT01	FB	L712399-01	Water	X	---	X	---	---	---	---
H-TU503-MW01-ND01	SA	L712399-02	Water	---	---	---	---	---	X	---
H-TU503-MW01-NT01	SA	L712399-03	Water	X	X	X	X	X	---	X
H-TU503-MW02-DD01	FD	L712399-04	Water	---	---	---	---	---	X	---
H-TU503-MW02-ND01	SA	L712399-05	Water	---	---	---	---	---	X	---
H-TU503-MW02-NT01	SA	L712399-06	Water	X	X	X	X	X	---	X
H-TU503-MW02-DT01	FD	L712399-07	Water	X	X	X	X	X	---	X
H-TU503-MW03-ND01	SA	L712399-08	Water	---	---	---	---	---	X^m	---
H-TU503-MW03-NT01	SA	L712399-09	Water	X^m	X^m	X^m	X^m	X^m	---	X
H-TU503-TRIP BLANK-TT02	TB	L712399-010	Water	X	---	X	---	---	---	---

Sample Type: SA – Sample FB – Field Blank FD - Field Duplicate TB – Trip Blank
X^m - Matrix Spike/Matrix Spike Duplicate

Analyses:

TPH High Fraction – Total Petroleum Hydrocarbons (C10-C40) (8015)
GRO – Gasoline Range Organics (8015D)
TDS – Total Dissolved Solids (SM2540C)
Total/Dissolved Metals – Antimony, Arsenic, Cadmium, Chromium, Cobalt, Lead, Nickel, Selenium, Silver, Thallium, Mercury, Aluminum, Barium, Beryllium, Copper, Manganese, Vanadium, Zinc (6010B/6020/7470A)
PAH – Polyaromatic Hydrocarbons (8270C)
VOCs – Volatile Organic Compounds (8260B)

The data review was conducted in accordance with the Final Interim Measures Work Plan – Appendix A, Sampling and Analysis Plan/Quality Assurance Project Plan: Former Septic System Site TU904 (URS, September 2014); Group 2 Former Underground Storage Sites: AOC-UST-889 (TU515) (URS, September 2014); and Group 3 Former Underground Storage Tank Sites: AOC-UST-221 (TU503), AOC-UST-298 (TU508), AOC-UST-901 (TU506) and AOC-UST-

7003 (TU518) (URS, August 2014); data validation standard operating procedure (SOP) 14; Department of Defense (DoD) Quality Systems Manual version 4.2 (DoD, 2010); and method requirements.

General Overall Assessment:

_____ Data are usable without qualification.
__X__ Data are usable with qualification (noted below).
_____ Some or all data are unusable for any purpose (detailed below).

Case Narrative Comments: Any laboratory case narrative comments concerning data qualification were addressed in the table below.

Trace level detects, reported between the method detection limit (MDL) and the reporting limit (LOQ), have been qualified as estimated (F SQL-I). All other occurrences of data qualification are covered in the following table.

Review Parameter	Criteria Met?	Comment
Chain of Custody & Sample Receipt	Yes	The samples were received by ESC Lab Sciences in good condition and were consistent with the accompanying chain of custody (COC). The cooler temperatures upon receipt were within the recommended ≤6 degrees Celsius (°C) temperature range.
Reporting	Yes	During review of a representative data package selected for full validation, it was noted that improper reference spectra were displayed in the printed version of the data package for Method 8260B. Due to a LIMS limitation, the data package reference spectra were not consistently representative of the actual spectra for the analytes detected. Because the laboratory data review involves the use of NBS reference spectra and not the reference spectra taken from the instrument calibration, the analyst was not seeing the improper alignment of spectra noted in the data package during his/her review at the instrument. The laboratory revised and reissued the data package with correct reference spectral data, consistent with method requirements, and no results were changed. Therefore, no further action is necessary as a result of this validation finding. Several revisions to the data package were required. Revision 1: Revised reports were issued to remove non-target analytes from the volatile organic compound (VOC) and polynuclear aromatic hydrocarbon (PAH) analyte lists; to include quality assurance project plan (QAPP) required VOC analytes; to correct the matrix spike/matrix spike duplicate (MS/MSD) for diesel range organics/oil range organics (DRO/ORO); to correct the limits of detection (LODs) for 1,1,2,2-tetrachloroethane; 1,2,3-trichloropropane; cadmium; nickel; selenium; and mercury; and to report the continuing calibration blanks (CCBs) and initial calibration blanks (ICBs) to the detection limit (DL). Revision 2: A revised report was issued to correct the VOC analyte list on samples H-TU-503-FieldBlank-BT01 and H-TU503-MW01-NT01. Revision 3: A revised report was issued to correct the DLs LODs, and LOQs for mercury and several VOC analytes.

Review Parameter	Criteria Met?	Comment
		Revision 4: A revised report was issued to remove the 1,2,3-trichlorobenzene results for VOCs and to include results for bromochloromethane. **Method 8015 Diesel Range Organics (DRO)/Oil Range Organics (ORO)** The laboratory incorrectly analyzed the samples in data package L712349 and L712399 for TPH high fraction (C10-C40) analysis, instead of DRO (C10-C28) and ORO (C28-C40). Reanalysis was not performed as the extracts were outside the holding time.
Holding Times	Yes	All samples were analyzed within the method required holding time.
Laboratory Blanks • Method Blank • Continuing Calibration Blank	No	With the exception listed in Table 1, target analytes were not detected within the method or calibration blanks. **Method 6020** The laboratory reported multiple isotopes for a given analyte (e.g. antimony 121 and antimony 123) within the analytical sequence for Method 6020. Therefore, all isotope detections were evaluated in the method blanks and continuing calibration blanks for potential impact to sample result qualification.
Matrix Quality Control • Matrix Spike/ Matrix Spike Duplicate H-TU503-MW03-ND01 (Dissolved Metals) H-TU503-MW03-NT01 (Total Metals, GRO, VOCs) • Laboratory Duplicate H-TU503-MW03-NT01 (Total Mercury) • Total vs. Partial Analyses (Metals)	No	**Matrix Spike/ Matrix Spike Duplicate (MS/MSD)** The frequency of MS/MSDs met the QAPP requirement of one per twenty samples. With the exceptions listed in Table 2, the MS/MSD recoveries and relative percent differences (RPDs) met quality control criteria. Results in the native sample greater than four times the concentration of the spike added during digestions/extractions are not considered to be a representative measure of accuracy. Further action with respect to spike recovery evaluation or qualification of data was not considered necessary. Consistent with standard operating procedure (SOP) 14, when MS/MSD issues accounted for less than 35% of the MS/MSD analyses conducted, applicable data qualification was limited to qualification of the parent sample of the affected analyte. When >35% of the MS/MSD results did not meet criteria, evaluation was extended to all associated samples. See Section 4.1 of the data validation report for overall qualifiers resulting from the MS/MSD evaluation. **Laboratory Duplicate** The comparison between results of the laboratory duplicate pair met the criteria listed below. • When both the sample and duplicate values are >5x the LOQ, acceptable sampling and analytical precision is indicated by an RPD between the results of ≤20% for water samples (≤35% for soil samples). • Where the result for one or both analytes of the laboratory duplicate pair is <5xLOQ, satisfactory precision is indicated if the absolute difference between the laboratory duplicate results is <1xLOQ for water samples (<2xLOQ for soil samples).

Review Parameter	Criteria Met?	Comment
		Total vs. Partial Analyses (Metals) Consistent with SOP 14, results for the total analysis of a particular analyte should be greater than the results for a partial analyte of that analyte. The following criteria were used to evaluate the total versus dissolved results: • In instances where the value for a partial analysis exceeds that for a total analysis and both of the results are >5x the LOQ, the criterion utilized is that the two values should agree within ±30%. • In instances where the value for a partial analysis exceeds that for a total analysis and either of the results is≤ 5x the LOQ, the absolute difference between the results is compared against an evaluation criterion of 2x the LOQ. The total metal sample results were compared with the associated dissolved metal sample results against the concentration-dependent criteria set forth in SOP 14.
Metals Only • Serial Dilution H-TU503-MW03-ND01 (Dissolved 6010/6020) H-TU503-MW03-NT01 (Total Metals) • Post Digestion Spike H-TU503-MW03-ND01 (Dissolved 6010) H-TU503-MW03-NT01 (Total 6010/6020)	No	**Serial Dilution (Metals Only)** Consistent with the method, only the results that were greater than 50 times their respective DLs were appropriate for comparing to the serial dilution evaluation criterion. All percent differences (%Ds) between the original sample results and the results obtained from the sample-diluted 1:5 were ≤10%. **Post Digestion Spike (PDS) (Metals Only)** With the exceptions listed in Table 4, all PDS recoveries were within the acceptance limits.
Method Quality Control • Surrogates (VOCs, PAHs, GRO, DRO/ORO)	Yes	The surrogate recoveries were within the laboratory specified acceptance criteria.
Field Quality Control • Trip Blank H-TU503-TRIP BLANK-TT02 (GRO, VOCs) • Field Duplicate H-TU503-MW02-DD01/ H-TU503-MW02-ND01 H-TU503-MW02-NT01/ H-TU503-MW02-DT01 • Equipment Blank None in this package • Field Blank H-TU-503-FieldBlank-BT01	No	**Trip Blank** Target analytes were not detected in the trip blank. **Field Duplicate** The frequency of field duplicates met the QAPP requirement of one per twenty samples. With the exceptions listed in Table 5, the comparison between results of the field duplicate pair met the criteria listed below. • When both the sample and duplicate values are >5x the LOQ acceptable sampling and analytical precision is indicated by an RPD between the results of ≤30% for water samples (≤50% for soil samples). • Where the result for one or both analytes of the field duplicate pair is <5xLOQ, satisfactory precision is indicated if the absolute difference between the field duplicate results is <2xLOQ for water samples (<3.5xLOQ for soil samples). Consistent with SOP 14, when field duplicate issues accounted for less than 35% of the field duplicate analyses conducted, applicable data qualification was limited to qualification of the parent sample for the affected analyte. When >35% of the field duplicate results did not meet criteria, evaluation

Review Parameter	Criteria Met?	Comment
		was extended to all associated samples. See Section 4.3 of the data validation report for overall qualifiers resulting from the field duplicate evaluation. **Equipment Blank** As dedicated equipment was used to collect these samples, an equipment blank was not submitted for this sampling event. Further action was not necessary. **Field Blank** The frequency of field blanks met the QAPP requirement of one per twenty samples. Chloroform was detected in the field blank at a concentration of 0.39 µg/L. See Section 4.4 of the data validation report for overall qualifiers.
LODs met?	Yes	No results were reported as non-detect at elevated LODs.
Other Parameters	Yes	Naphthalene (8260B and 8270C-Selective Ion Monitoring (SIM)) was analyzed by multiple methods. Results were selected for reporting using the following criteria: • If both results were non-detect, the non-detect result with the lower reporting limit was selected. • If both results were reported as detected, the higher detected result was selected for reporting. • If one result was reported as non-detect and the other result was reported as detected, the detected result was selected for reporting.
Initial Calibration	Yes	**Method 8260B VOCs** A minimum relative response factor (RRF) of 0.05 was used for the system performance check compounds (SPCCs) and all SPCCs met this criterion. The percent relative standard deviations (%RSDs) over the initial calibration RRFs for all calibration compound checks (CCCs) satisfied the method requirement of <30%. For all other target compounds, a requirement of 15% was used. The %RSD values for all target analytes in the calibration were less than 15%. Therefore, the initial calibration met method acceptance criteria. **Method 8270C PAHs** The %RSD values for all target analytes in the calibration were less than 20%. Therefore, the initial calibration met method acceptance criteria. **Method 8015D Gasoline Range Organics (GRO)** The relationship between instrument response and concentration was established with a blank and at least five standards for each analyte. The %RSD over the initial calibrations curve satisfied the method requirement of <15%. Therefore, the initial calibration met method acceptance criteria. **Method 8015 DRO and ORO** The relationship between instrument response and concentration was established with a blank and at least five standards for the entire carbon range of C10-C40. The %RSD over the initial calibrations curve satisfied the method requirement of <15%. Therefore, the initial calibration met method acceptance criteria.

Review Parameter	Criteria Met?	Comment
		Methods 6010B (Inductively Coupled Plasma [ICP] Metals) and 6020 (ICPMS Metals) The initial calibrations (ICALs) were performed in association with the samples reported in this package. The relationship between instrument response and concentration was established with a blank and at least five standards. The calibrations were verified with the analysis of an initial calibration verification (ICV) standard. All metals were recovered within the method acceptance range of 90-110%. **Method 7470A (Mercury)** The ICALs were performed in association with the samples reported in this package. The relationship between instrument response and concentration was established with five standards. The correlation coefficient was >0.995. The calibration was verified with the analysis of an ICV standard. The analytes were recovered within the acceptance range of 90-110%. Response and linearity criteria were met and data qualification on the basis of initial calibration was not necessary. **Total Dissolved Solids (TDS)** ICALs are not required per the method for TDS
Initial Calibration Verification/Continuing Calibration Verification	No	**Method 8260B VOCs/ 8270C PAHs** With the exceptions listed in Table 6, the percent differences (%Ds) for all CCCs in the ICVs and continuing calibrations (CCALs) were less than 20%, satisfying method requirements, and other target analytes satisfied the %D criterion of 20%. **Method 8015D GRO/Method 8015 TPH High Fraction** The %Ds for all target compounds in the ICVs and CCALs were less than 15%. Data qualification was not necessary. **Methods 6010B (ICP Metals), Methods 6020 (ICPMS Metals) & 7470A (Mercury)** Calibration verification analyses were conducted at the proper frequency. All metals were recovered within the DOD QSM 4.2 low level acceptance range of 80-120% and the method medium/high acceptance range of 90-110%. **TDS** Calibration verifications are not required for TDS.
Interference Check Standard (Metals Only)	No	The interference check standard (ICS) AB solutions were analyzed at the proper frequency. The target analytes were recovered within the acceptance range of 90-10% in the ICS AB solution. With the exceptions listed in Table 7, interferent elements were not present in the samples at concentrations greater than those in the ICSs. The interferent elements aluminum, calcium, iron, and magnesium were present in most samples in this data package at concentrations greater than or equal to those in the ICSs. As such, these samples were evaluated for positive and negative biases suggested by the ICS A. Data qualification was issued if the absolute value of the ICS A result was greater than the MDL and it suggested a positive or negative bias which accounted for more than 25% of associated sample results or reporting limits. (Note: The ICS A solution only contains the interferent elements aluminum, calcium, iron,

Review Parameter	Criteria Met?	Comment
		and magnesium so any positive or negative result for other analytes is inferred to be a bias potentially caused by one or more of the interferent elements present.) Table 8 summarizes the resultant data qualification on the basis of the ICS results.
Internal Standard (VOCs/PAHs)	Yes	Recoveries for the internal standards in field samples were within the applicable acceptance limits. Therefore, data qualification based on internal standards was not necessary.
Laboratory Control Sample/ Laboratory Control Sample Duplicate	No	One laboratory control sample (LCS) and/or laboratory control sample duplicate (LCSD) per method per analytical batch was prepared and analyzed. With the exceptions listed in Table 8, all of the LCS recoveries and LCS/LCSD RPDs were within the QAPP acceptance limits. These results are indicative of an acceptable level of accuracy and precision with respect to the analytical method.
Other Parameters	Yes	**Method 8015 DRO/ORO** As the entire area for C10-C40 is used in the calibration to determine response factor, there is a potential bias in the results when you segregate the DRO (C10-C28) and ORO (C28-C40) which is demonstrated in the individual continuing calibration results. Therefore, the DRO/ORO results were qualified as estimated (J/UJ ID-I).
Package Completeness	Yes	The results are usable as qualified for the project objective. The data are 100% complete.

> - Greater Than
< - Less Than
≤ - Less Than or Equal to
± - Plus or Minus
°C – Degrees Celsius
% - Percent
%Ds – Percent Differences
%RSD – Percent Relative Standard Deviation
CCALs – Continuing Calibrations
CCBs – Continuing Calibration Blanks
CCCs – Calibration Check Compounds
COC – Chain of Custody
COD – Coefficient of Determination
DLs – Detection Limits
DRO – Diesel Range Organics
GRO – Gasoline Range Organics
ICAL – Initial Calibration
ICB – Initial Calibration Blank
ICP – Inductively Coupled Plasma
ICS – Interference Check Standard
ICV – Initial Calibration Verification
LCS – Laboratory Control Sample
LCSD – Laboratory Control Sample Duplicate
LOD – Limit of Detection
LOQ – Limit of Quantitation
MS/MSD – Matrix Spike/ Matrix Spike Duplicate
ORO – Oil Range Organics
PAHs – Polyaromatic Hydrocarbons
PDS – Post Digestion Spike
QAPP – Quality Assurance Project Plan
RPDs – Relative Percent Differences
RRF – Relative Response Factor
SOP – Standard Operating Procedure
SPCCs – System Performance Check Compounds
TDS – Total Dissolved Metals
TPH – Total Petroleum Hydrocarbons
VOCs – Volatile Organic Compounds

Table 1: Blank Outliers and Resultant Data Qualification

Associated Samples	Analyte	Concentration	Qualification
Total Metals			
MB Batch WG734495 H-TU503-MW01-NT01 H-TU503-MW02-NT01 H-TU503-MW02-DT01 H-TU503-MW03-NT01	Copper	8.49 µg/L	The associated results reported at a concentration <5x the concentration of the blank contamination were qualified as non-detect (U MB-I).
MB Batch WG734632 H-TU503-MW01-NT01 H-TU503-MW02-NT01 H-TU503-MW02-DT01 H-TU503-MW03-NT01	Selenium (82)	-0.47 µg/L	None. The associated results were reported at concentrations >4x the concentration of the blank contamination.
	Silver	-0.57 µg/L	As the potential bias was considered to be low, the associated samples reported within 4x the blank contamination were qualified as estimated (UJ/J MB-L).
CCB 8/1/2014 11:26AM H-TU503-MW01-NT01 H-TU503-MW02-NT01 H-TU503-MW02-DT01	Copper	7.0 µg/L	The associated results reported at concentrations <5x the concentration of the blank contamination were qualified as non-detect (U CCB-I).
CCB 8/4/2014 12:23AM H-TU503-MW02-NT01 H-TU503-MW02-DT01	Antimony (121)	0.65 µg/L	
	Cadmium (111)	0.25 µg/L	
CCB 8/4/2014 1:15AM H-TU503-MW01-NT01 H-TU503-MW02-NT01 H-TU503-MW02-DT01	Arsenic	0.32 µg/L	None. The associated results were reported at concentrations >5x the concentration of the blank contamination.
CCB 8/4/2014 1:15AM H-TU503-MW02-NT01 H-TU503-MW02-DT01	Antimony (121)	0.530 µg/L	The associated results reported at concentrations <5x the concentration of the blank contamination were qualified as non-detect (U CCB-I).
	Cadmium (111)	0.180 µg/L	
	Selenium (82)	0.680 µg/L	None. The associated results were reported at concentrations >5x the concentration of the blank contamination.
CCB 8/4/2014 10:10AM H-TU503-MW02-NT01 H-TU503-MW02-DT01	Silver	0.390 µg/L	The associated results reported at concentrations <5x the concentration of the blank contamination were qualified as non-detect (U CCB-I).
Dissolved Metals			
MB Batch WG734940 H-TU503-MW01-ND01 H-TU503-MW02-DD01 H-TU503-MW02-ND01 H-TU503-MW03-ND01	Selenium (82)	0.49 µg/L	None. The associated results were reported at concentrations >5x the concentration of the blank contamination.
CCB 8/2/2014 6:28AM H-TU503-MW01-ND01 H-TU503-MW02-DD01 H-TU503-MW02-ND01 H-TU503-MW03-ND01	Copper	7.0 µg/L	The associated results reported at concentrations <5x the concentration of the blank contamination were qualified as non-detect (U CCB-I).

Associated Samples	Analyte	Concentration	Qualification
CCB 8/2/2014 8:19AM H-TU503-MW01-ND01 H-TU503-MW02-DD01 H-TU503-MW02-ND01		5.0 µg/L	
CCB 8/2/2014 10:26AM H-TU503-MW01-ND01 H-TU503-MW02-DD01 H-TU503-MW02-ND01		11.0 µg/L	
CCB 8/5/2014 12:42PM H-TU503-MW03-ND01	Arsenic	0.26 µg/L	None. The associated results were reported at concentrations >5x the concentration of the blank contamination.
CCB 8/5/2014 1:33PM H-TU503-MW01-ND01 H-TU503-MW02-DD01 H-TU503-MW02-ND01	Silver	0.500 µg/L	The associated results reported at concentrations <5x the concentration of the blank contamination were qualified as non-detect (U CCB-I).
	Selenium	0.510 µg/L	None. The associated results were reported at concentrations >5x the concentration of the blank contamination
CCB 8/8/2014 2:41PM H-TU503-MW01-ND01 H-TU503-MW02-DD01 H-TU503-MW02-ND01		0.500 µg/L	
CCB 8/5/2014 5:05PM H-TU503-MW03-ND01		0.460 µg/L	
PAHs			
MB Batch WG734181 H-TU503-MW02-NT01 H-TU503-MW02-DT01 H-TU503-MW03-NT01	Naphthalene	0.0260 µg/L	The associated results reported at a concentration <5x the concentration of the blank contamination were qualified as non-detect (U MB-I).
MB Batch WG734386 H-TU503-MW01-NT01		0.0220 µg/L	

< - Less Than
I – Indeterminate Bias
PAHs – Polynuclear Aromatic Hydrocarbons
µg/L – Micrograms per Liter
L – Low Bias
U – Non-detect
CCB – Continuing Calibration Blank
MB – Method Blank
UJ/J - Estimated

Table 2: MS/MSD Recovery and RPD Outliers and Resultant Data Qualification

Associated Sample	Analyte	%R (Limits)	RPD (Limit)	Qualification
Total Metals				
H-TU503-MW03-NT01	Aluminum	125/**130** (80-120)	3 (30)	As the potential bias was considered to be high, the associated detected aluminum result for sample H-TU503-MW03-NT01 was qualified as estimated (J MS-H).
	Antimony	**127/129** (80-120)	2 (30)	As the potential bias was considered to be high, and the associated result was reported as non-detect, further action was not necessary.
	Arsenic	118/**126** (80-120)	6 (30)	As the potential bias was considered to be high, the associated detected arsenic result for sample H-TU503-

Associated Sample	Analyte	%R (Limits)	RPD (Limit)	Qualification
				MW03-ND01 was qualified as estimated (J MS-H).
	Cadmium	119/**121** (80-120)	2 (30)	As the potential bias was considered to be high, and the associated result was reported as non-detect, further action was not necessary.
	Selenium	**135/144** (80-120)	5 (30)	As the potential bias was considered to be high, the associated detected selenium result for sample H-TU503-MW03-NT01 was qualified as estimated (J MS-H).
	Silver	120/**124** (80-120	3 (30)	As the potential bias was considered to be high, and the associated result was reported as non-detect, further action was not necessary.
Dissolved Metals				
H-TU503-MW03-ND01	Selenium	115/**129** (80-120)	9 (30)	As the potential bias was considered to be high, the associated detected selenium result for sample H-TU503-ND01 was qualified as estimated (J MS-H).
VOCs				
H-TU503-MW03-NT01	1,1,1,2-Tetrachloroethane	70.4/**73.2** (80-130)	3.89 (30)	As the potential bias was considered to be low, the associated results for sample H-TU503-MW03-NT01 were qualified as estimated (UJ MS-L).
	1,2,3-Trichloropropane	**71.6**/76.5 (75-125)	6.8 (30)	
	1,2,4-Trichlorobenzene	**56.2/54.7** (65-135)	2.69 (30)	
	1,2,4-Trimethylbenzene	**68.9/70.8** (75-130)	2.71 (30)	
	1,2-Dibromoethane	**70.8/73** (80-120)	3.12 (30)	
	1,2-Dichlorobenzene	**68/69.5** (70-120)	2.3 (30)	
	1,3,5-Trimethylbenzene	**71.7/73.1** (75-130)	2.69 (30)	
	1,3-Dichlorobenzene	**67/68.3** (75-125)	1.88 (30)	
	1,3-Dichloropropane	**72.3/74.1** (75-125)	2.53 (30)	
	1,4-Dichlorobenzene	**65.7/65** (75-125)	1.06 (30)	
	2-Chlorotoluene	**70.3/73** (75-125)	3.83 (30)	
	4-Chlorotoluene	**70.2/72.6** (75-130)	3.34 (30)	
	Bromobenzene	**71.8**/76.1 (75-125)	5.83 (30)	
	Bromoform	**65.4/69.9** (70-130)	6.62 (30)	

Associated Sample	Analyte	%R (Limits)	RPD (Limit)	Qualification
	Chlorobenzene	**73.3/76.2** (80-120)	3.92 (30)	
	Ethylbenzene	**73.9**/77.1 (75-125)	4.15 (30)	
	n-Butylbenzene	**69/66.7** (70-135)	3.32 (30)	
	o-Xylene	**70.6/73.9** (80-120)	4.57 (30)	
	p-Isopropyltoluene	**72.4/73.4** (75-130)	1.36 (30)	
GRO				
H-TU503-MW03-NT01	GRO	**122/130** (80-120)	6.55 (20)	As the potential bias was considered to be high, the associated detected GRO result for sample H-TU503-MW03-NT01 was qualified as estimated (J MS-H).

< - Less Than
GRO – Gasoline Range Organics
MS/MSD – Matrix Spike Matrix Spike Duplicate
VOCs – Volatile Organic Compounds
> - Greater Than
H – High Bias
RPD – Relative Percent Difference
%R – Percent Recoveries
L – Low Bias
UJ/J – Estimated
Bold indicates a recovery or RPD outside of acceptance limit

Table 3: Total vs. Partial Outliners and Resultant Data Qualification

Sample	Analyte	Total Result (µg/L)	Dissolved Result (µg/L)	Criteria not Met	Qualification
H-TU503-MW02-DT01/ H-TU503-MW02-DD01	Nickel	140	200	RPD >30%	As the RPD between the total and dissolved results exceeded 30%, results were qualified as estimated (J TvP-I).
H-TU503-MW03-NT01/ H-TU503-MW03-ND01	Silver	U (0.60)	4.5	Absolute Difference >2x LOQ	As the absolute difference between the total and dissolved results exceeded 2x the LOQ, results were qualified as estimated (UJ/J TvP-I).

µg/L – Micrograms per Liter
I – Indeterminate Bias
TvP – Total versus Partial
> - Greater Than
LOQ – Limit of Quantitation
U – Non-detect
% - Percent
RPD – Relative Percent Difference
UJ/J - Estimated

Table 4: Post-Digestion Spike Outliers and Resultant Data Qualification

Associated Samples	Analyte	%R (Limits)	Qualification
Total Metals			
H-TU503-MW03-NT01	Antimony	**127** (85-115)	As the potential bias was considered to be high, and the associated sample was reported as non-detect, data qualification was not necessary.
	Arsenic	**118** (85-115)	As the potential bias was considered to be high, the associated detected result was qualified as estimated (J PDS-H).

Associated Samples	Analyte	%R (Limits)	Qualification
	Cadmium	**119** (85-115)	As the potential bias was considered to be high, and the associated sample was reported as non-detect, data qualification was not necessary.
	Selenium	**133** (85-115)	As the potential bias was considered to be high, the associated detected result was qualified as estimated (J PDS-H).
Dissolved Metals			
H-TU503-MW03-ND01	Antimony	**120** (85-115)	As the potential bias was considered to be high, the associated detected result was qualified as estimated (J PDS-H).
	Silver	**77** (85-115)	As the potential bias was considered to be low, the associated result was qualified as estimated (J PDS-L).

%R – Percent Recovery H – High Bias J – Estimated
L – Low Bias PDS – Post Digestion Spike
Bold indicates a recovery or RPD outside of acceptance limit

Table 5: Field Duplicate Outliners and Resultant Data Qualification

Field Duplicate Pair	Analyte	Parent Result (µg/L)	FD Result (µg/L)	Criteria not Met	Qualification
Dissolved Metals					
H-TU503-MW02-DD01/ H-TU503-MW02-ND01	Aluminum	420	130	Absolute Difference >2x LOQ	As the absolute difference between the field duplicate pair results exceeded 2x the LOQ, results were qualified as estimated (J FD-I)
Total Metals					
H-TU503-MW02-NT01 H-TU503-MW02-DT01	Aluminum	1700	1200	RPD >30%	As the RPD between the field duplicate pair results exceeded 30%, results were qualified as estimated (J FD-I).

µg/L – Micrograms per Liter % - Percent > - Greater Than
< - Less Than FD – Field Duplicate I – Indeterminate Bias
J – Estimated LOQ – Limit of Quantitation RPD – Relative Percent Difference

Table 6: Continuing Calibration Verification Outliers and Resultant Data Qualification

Associated Samples	Analyte	%D (Limit)	Data Qualification
VOCs			
H-TU-503-FieldBlank-BT01 H-TU503-MW01-NT01 H-TU503-MW02-NT01 H-TU503-MW02-DT01 H-TU503-MW03-NT01 H-TU503-TRIP BLANK-TT02	Dichlorodifluoromethane	22.1 (±20)	As the potential bias was considered to be high, and the associated results were reported as non-detect, data qualification was not considered necessary.
	1,2-Dibromo-3-Chloropropane	23.3 (±20)	

± - Plus or minus %D – Percent Difference VOCs – Volatile Organic Compounds

Table 7: ICS Outliers and Resultant Data Qualification

Interferent Element	Analyte	ICS A (µg/L)	MDL (µg/L)	Qualified Samples	Qualification
Calcium	Dissolved Barium	4.4	1.7	H-TU503-MW01-ND01	As the potential bias was considered to be high, the associated detected result was qualified as estimated (J ICS-L).
	Dissolved Copper	-21.3	5.3		As the potential bias was considered to be low, the associated result was qualified as estimated (J ICS-L).
Calcium, Magnesium	Dissolved Barium	4.4	1.7	H-TU503-MW02-DD01 H-TU503-MW02-ND01 H-TU503-MW03-ND01	As the potential bias was considered to be high, the associated detected results were qualified as estimated (J ICS-L).
	Dissolved Copper	-21.3	5.3		As the potential bias was considered to be low, the associated results were qualified as estimated (UJ/J ICS-L).
	Dissolved Barium	-4.8	2.4		
	Total Copper	-16.8	5.3	H-TU503-MW01-NT01 H-TU503-MW02-NT01 H-TU503-MW02-DT01	
Calcium				H-TU503-MW03-NT01	

µg/L – Micrograms per Liter
MDL – Method Detection Limit
ICS – Interference Check Standard
UJ/J - Estimated
L – Low Bias

Table 8: LCS Recovery Outliers and Resultant Data Qualification

Associated Samples	Analyte	%R (Limits)	RPD (Limits)	Qualification
GRO				
LCS WG734193 H-TU-503-FieldBlank-BT01 H-TU503-MW01-NT01 H-TU503-MW02-NT01 H-TU503-MW02-DT01 H-TU503-MW03-NT01 H-TU503-TRIP BLANK-TT02	GRO	**131/125** (80-120)	5 (20)	As the potential bias was considered to be high and the associated sample results were reported as non-detect, data qualification was not considered necessary.
PAHs				
LCS WG734193 H-TU503-MW02-NT01 H-TU503-MW02-DT01 H-TU503-MW03-NT01	Anthracene	107/**114** (55-110)	6.8 (20)	As the potential bias was considered to be high and the associated sample results were reported as non-detect, data qualification was not considered necessary.
	Benzo(a)anthracene	110/**113** (55-110)	2.5 (20)	
	Benzo(a)pyrene	110/**114** (55-110)	3.66 (20)	
	Chrysene	110/**114** (55-110)	3 (20)	
	Naphthalene	99.6/**101** (40-100)	1.48 (20)	

%R – Percent Recoveries
GRO – Gasoline Range Organics
LCS – Laboratory Control Sample
PAHs – Polynuclear Aromatic Hydrocarbons
Bold indicates a recovery outside of acceptance limits.

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 13, 2015

ESC Sample # : L712399-01

Date Received : July 26, 2014
Description : Holloman AFB

Site ID :

Sample ID : H-TU503-FIELD BLANK-BT01

Project # : 23446543.0055AA

Collected By : Jon Mallonee
Collection Date : 07/24/14 08:30

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
TPH (GC/FID) Low Fraction	8006-61-9	U	31.4	50.	100	ug/l		8015D/G	07/30/14	1
Surrogate Recovery-%										
a,a,a-Trifluorotoluene(FID)	98-08-8	105.				% Rec.		8015D/G	07/30/14	1
Volatile Organics										
Acetone	67-64-1	U	10	25.	50	ug/l		8260B	07/31/14	1
Benzene	71-43-2	U	0.33	0.50	1	ug/l		8260B	07/31/14	1
Bromobenzene	108-86-1	U	0.35	0.50	1	ug/l		8260B	07/31/14	1
Bromochloromethane	74-97-5	U	0.52	0.75	1	ug/l		8260B	07/31/14	1
Bromodichloromethane	75-27-4	U	0.38	0.50	1	ug/l		8260B	07/31/14	1
Bromoform	75-25-2	U	0.47	0.50	1	ug/l		8260B	07/31/14	1
Bromomethane	74-83-9	U	0.87	2.5	5	ug/l		8260B	07/31/14	1
n-Butylbenzene	104-51-8	U	0.36	0.50	1	ug/l		8260B	07/31/14	1
sec-Butylbenzene	135-98-8	U	0.36	0.50	1	ug/l		8260B	07/31/14	1
tert-Butylbenzene	98-06-6	U	0.4	0.50	1	ug/l		8260B	07/31/14	1
Carbon Disulfide	75-15-0	U	0.28	0.50	1	ug/l		8260B	07/31/14	1
Carbon tetrachloride	56-23-5	U	0.38	0.50	1	ug/l		8260B	07/31/14	1
Chlorobenzene	108-90-7	U	0.35	0.50	1	ug/l		8260B	07/31/14	1
Chlorodibromomethane	124-48-1	U	0.33	0.50	1	ug/l		8260B	07/31/14	1
Chloroethane	75-00-3	U	0.45	2.5	5	ug/l		8260B	07/31/14	1
Chloroform F SQL-I	67-66-3	0.39	0.32	2.5	5	ug/l	J	8260B	07/31/14	1
Chloromethane	74-87-3	U	0.28	0.50	2.5	ug/l		8260B	07/31/14	1
2-Chlorotoluene	95-49-8	U	0.38	0.50	1	ug/l		8260B	07/31/14	1
4-Chlorotoluene	106-43-4	U	0.35	0.50	1	ug/l		8260B	07/31/14	1
1,2-Dibromo-3-Chloropropane	96-12-8	U	1.3	2.5	5	ug/l		8260B	07/31/14	1
1,2-Dibromoethane	106-93-4	U	0.38	0.50	1	ug/l		8260B	07/31/14	1
Dibromomethane	74-95-3	U	0.35	0.50	1	ug/l		8260B	07/31/14	1
1,2-Dichlorobenzene	95-50-1	U	0.35	0.50	1	ug/l		8260B	07/31/14	1
1,3-Dichlorobenzene	541-73-1	U	0.22	0.50	1	ug/l		8260B	07/31/14	1
1,4-Dichlorobenzene	106-46-7	U	0.27	0.50	1	ug/l		8260B	07/31/14	1
Dichlorodifluoromethane	75-71-8	U	0.55	2.5	5	ug/l		8260B	07/31/14	1
1,1-Dichloroethane	75-34-3	U	0.26	0.50	1	ug/l		8260B	07/31/14	1
1,2-Dichloroethane	107-06-2	U	0.36	0.50	1	ug/l		8260B	07/31/14	1
1,1-Dichloroethene	75-35-4	U	0.4	0.50	1	ug/l		8260B	07/31/14	1
cis-1,2-Dichloroethene	156-59-2	U	0.26	0.50	1	ug/l		8260B	07/31/14	1
trans-1,2-Dichloroethene	156-60-5	U	0.4	0.50	1	ug/l		8260B	07/31/14	1
1,2-Dichloropropane	78-87-5	U	0.31	0.50	1	ug/l		8260B	07/31/14	1
1,1-Dichloropropene	563-58-6	U	0.35	0.50	1	ug/l		8260B	07/31/14	1
1,3-Dichloropropane	142-28-9	U	0.37	0.50	1	ug/l		8260B	07/31/14	1
cis-1,3-Dichloropropene	10061-01-5	U	0.42	0.50	1	ug/l		8260B	07/31/14	1
trans-1,3-Dichloropropene	10061-02-6	U	0.42	0.50	1	ug/l		8260B	07/31/14	1
2,2-Dichloropropane	594-20-7	U	0.32	0.50	1	ug/l		8260B	07/31/14	1
Ethylbenzene	100-41-4	U	0.38	0.50	1	ug/l		8260B	07/31/14	1
2-Hexanone	591-78-6	U	3.8	5.0	10	ug/l		8260B	07/31/14	1
Hexachloro-1,3-butadiene	87-68-3	U	0.26	0.50	1	ug/l		8260B	07/31/14	1
Isopropylbenzene	98-82-8	U	0.33	0.50	1	ug/l		8260B	07/31/14	1

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 13, 2015

Date Received : July 26, 2014
Description : Holloman AFB

Sample ID : H-TU503-FIELD BLANK-BT01

Collected By : Jon Mallonee
Collection Date : 07/24/14 08:30

ESC Sample # : L712399-01

Site ID :

Project # : 23446543.0055AA

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
p-Isopropyltoluene	99-87-6	U	0.35	0.50	1	ug/l		8260B	07/31/14	1
2-Butanone (MEK)	78-93-3	U	3.9	5.0	10	ug/l		8260B	07/31/14	1
Methylene Chloride	75-09-2	U	1	2.5	5	ug/l		8260B	07/31/14	1
4-Methyl-2-pentanone (MIBK)	108-10-1	U	2.1	5.0	10	ug/l		8260B	07/31/14	1
Methyl tert-butyl ether	1634-04-4	U	0.37	0.50	1	ug/l		8260B	07/31/14	1
Naphthalene	91-20-3	U	1	2.5	5	ug/l		8260B	07/31/14	1
n-Propylbenzene	103-65-1	U	0.35	0.50	1	ug/l		8260B	07/31/14	1
Styrene	100-42-5	U	0.31	0.50	1	ug/l		8260B	07/31/14	1
1,1,1,2-Tetrachloroethane	630-20-6	U	0.38	0.50	1	ug/l		8260B	07/31/14	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.58 ~~0.13~~	0.75	1	ug/l		8260B	07/31/14	1
Tetrachloroethene	127-18-4	U	0.37	0.50	1	ug/l		8260B	07/31/14	1
Toluene	108-88-3	U	0.78	2.5	5	ug/l		8260B	07/31/14	1
1,2,3-Trichlorobenzene	87-61-6	U	0.23	0.50	1	ug/l		8260B	07/31/14	1
1,2,4-Trichlorobenzene	120-82-1	U	0.21	0.50	1	ug/l		8260B	07/31/14	1
1,1,1-Trichloroethane	71-55-6	U	0.319	0.50	1	ug/l		8260B	07/31/14	1
1,1,2-Trichloroethane	79-00-5	U	0.38	0.50	1	ug/l		8260B	07/31/14	1
Trichloroethene	79-01-6	U	0.4	0.50	1	ug/l		8260B	07/31/14	1
Trichlorofluoromethane	75-69-4	U	1.2	2.5	5	ug/l		8260B	07/31/14	1
1,2,3-Trichloropropane	96-18-4	U	0.81	1.0	2.5	ug/l		8260B	07/31/14	1
1,2,4-Trimethylbenzene	95-63-6	U	0.37	0.50	1	ug/l		8260B	07/31/14	1
1,3,5-Trimethylbenzene	108-67-8	U	0.39	0.50	1	ug/l		8260B	07/31/14	1
o-Xylene	95-47-6	U	0.34	0.50	1	ug/l		8260B	07/31/14	1
m&p-Xylene	1330-20-7	U	0.72	1.0	2	ug/l		8260B	07/31/14	1
Vinyl chloride	75-01-4	U	0.26	0.50	1	ug/l		8260B	07/31/14	1
Surrogate Recovery										
Toluene-d8	2037-26-5	104.				% Rec.		8260B	07/31/14	1
Dibromofluoromethane	1868-53-7	103.				% Rec.		8260B	07/31/14	1
4-Bromofluorobenzene	460-00-4	104.				% Rec.		8260B	07/31/14	1

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 13, 2015

ESC Sample # : L712399-02

Date Received : July 26, 2014
Description : Holloman AFB

Site ID :

Sample ID : H-TU503-MW01-ND01

Project # : 23446543.0055AA

Collected By : Jon Mallonee
Collection Date : 07/24/14 08:20

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Antimony, Dissolved F SOL-I	7440-36-0	0.57	0.21	0.50	1	ug/l	J	6020	08/05/14	1
Arsenic, Dissolved	7440-38-2	3.4	0.25	0.50	1	ug/l		6020	08/05/14	1
Cadmium, Dissolved F SOL-I	7440-43-9	0.20	0.16	0.25	0.5	ug/l	J	6020	08/05/14	1
Chromium, Dissolved F SOL-I	7440-47-3	1.8	0.54	1.0	2	ug/l	J	6020	08/05/14	1
Cobalt, Dissolved	7440-48-4	7.9	0.26	0.50	1	ug/l		6020	08/05/14	1
Lead, Dissolved F SOL-I	7439-92-1	0.94	0.24	0.50	1	ug/l	J	6020	08/05/14	1
Nickel, Dissolved	7440-02-0	220	0.35	0.50	1	ug/l		6020	08/05/14	1
Selenium, Dissolved J MS-H	7782-49-2	9.7	0.38	0.50	1	ug/l		6020	08/05/14	1
Silver, Dissolved UJ CCB, MS-L	7440-22-4	1.1	~~0.31~~ 1.1	~~0.50~~ 1.1	~~1~~ 1.1	ug/l		6020	08/05/14	1
Thallium, Dissolved	7440-28-0	U	0.19	0.50	1	ug/l		6020	08/05/14	1
Mercury, Dissolved	7439-97-6	U	0.049	0.090	0.2	ug/l		7470A	07/31/14	1
Aluminum, Dissolved J MS-H	7429-90-5	240	35	50.	100	ug/l		6010B	08/02/14	1
Barium, Dissolved J ICS-H	7440-39-3	17.	1.7	2.5	5	ug/l		6010B	08/02/14	1
Beryllium, Dissolved	7440-41-7	U	0.7	1.0	2	ug/l		6010B	08/02/14	1
Copper, Dissolved UJ CCB, ICS-L	7440-50-8	11.	~~5.3~~ 11	~~10.~~ 11	20	ug/l	J	6010B	08/02/14	1
Manganese, Dissolved	7439-96-5	610	6	25.	50	ug/l		6010B	08/02/14	5
Vanadium, Dissolved	7440-62-2	48.	2.4	5.0	20	ug/l		6010B	08/02/14	1
Zinc, Dissolved	7440-66-6	U	5.9	15.	50	ug/l		6010B	08/02/14	1

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 13, 2015

ESC Sample # : L712399-03

Date Received : July 26, 2014
Description : Holloman AFB

Site ID :

Sample ID : H-TU503-MW01-NT01

Project # : 23446543.0055AA

Collected By : Jon Mallonee
Collection Date : 07/24/14 08:20

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Dissolved Solids	DSOLIDS	7800000	2800	5000	10000	ug/l		2540 C-	07/30/14	1
Antimony F SQL-I	7440-36-0	0.41	0.21	0.50	1	ug/l	J	6020	08/03/14	1
Arsenic	7440-38-2	4.2	0.25	0.50	1	ug/l		6020	08/04/14	1
Cadmium	7440-43-9	U	0.16	0.25	0.5	ug/l		6020	08/03/14	1
Chromium	7440-47-3	5.5	0.54	1.0	2	ug/l		6020	08/03/14	1
Cobalt	7440-48-4	12.	0.26	0.50	1	ug/l		6020	08/03/14	1
Lead	7439-92-1	2.9	0.24	0.50	1	ug/l		6020	08/03/14	1
Nickel	7440-02-0	260	0.35	0.50	1	ug/l		6020	08/03/14	1
Selenium J MS-H	7782-49-2	10.	0.38	0.50	1	ug/l		6020	08/04/14	1
Silver J MB-L	7440-22-4	1.1	0.31	0.50	1	ug/l		6020	08/04/14	1
Thallium	7440-28-0	U	0.19	0.50	1	ug/l		6020	08/03/14	1
Mercury F SQL-I	7439-97-6	0.051	0.049	0.090	0.2	ug/l	J	7470A	07/30/14	1
Aluminum J MS, FD-H	7429-90-5	1500	35	50.	100	ug/l		6010B	08/01/14	1
Barium	7440-39-3	30.	1.7	2.5	5	ug/l		6010B	08/01/14	1
Beryllium	7440-41-7	U	0.7	1.0	2	ug/l		6010B	08/01/14	1
Copper UJ MB, CCB, ICS-L	7440-50-8	17.	~~5.3~~ 17	~~10.~~ 17	20	ug/l	J	6010B	08/01/14	1
Manganese	7439-96-5	1200	6	25.	50	ug/l		6010B	08/01/14	5
Vanadium	7440-62-2	50.	2.4	5.0	20	ug/l		6010B	08/01/14	1
Zinc	7440-66-6	U	5.9	15.	50	ug/l		6010B	08/01/14	1
TPH (GC/FID) Low Fraction	8006-61-9	U	31.4	50.	100	ug/l		8015D/G	07/30/14	1
Surrogate Recovery-%										
a,a,a-Trifluorotoluene(FID)	98-08-8	106.				% Rec.		8015D/G	07/30/14	1
Volatile Organics										
Acetone	67-64-1	U	10	25.	50	ug/l		8260B	07/31/14	1
Benzene	71-43-2	U	0.33	0.50	1	ug/l		8260B	07/31/14	1
Bromobenzene	108-86-1	U	0.35	0.50	1	ug/l		8260B	07/31/14	1
Bromochloromethane	74-97-5	U	0.52	0.75	1	ug/l		8260B	07/31/14	1
Bromodichloromethane	75-27-4	U	0.38	0.50	1	ug/l		8260B	07/31/14	1
Bromoform	75-25-2	U	0.47	0.50	1	ug/l		8260B	07/31/14	1
Bromomethane	74-83-9	U	0.87	2.5	5	ug/l		8260B	07/31/14	1
n-Butylbenzene	104-51-8	U	0.36	0.50	1	ug/l		8260B	07/31/14	1
sec-Butylbenzene	135-98-8	U	0.36	0.50	1	ug/l		8260B	07/31/14	1
tert-Butylbenzene	98-06-6	U	0.4	0.50	1	ug/l		8260B	07/31/14	1
Carbon Disulfide	75-15-0	U	0.28	0.50	1	ug/l		8260B	07/31/14	1
Carbon tetrachloride	56-23-5	U	0.38	0.50	1	ug/l		8260B	07/31/14	1
Chlorobenzene	108-90-7	U	0.35	0.50	1	ug/l		8260B	07/31/14	1
Chlorodibromomethane	124-48-1	U	0.33	0.50	1	ug/l		8260B	07/31/14	1
Chloroethane	75-00-3	U	0.45	2.5	5	ug/l		8260B	07/31/14	1
Chloroform	67-66-3	U	0.32	2.5	5	ug/l		8260B	07/31/14	1
Chloromethane	74-87-3	U	0.28	0.50	2.5	ug/l		8260B	07/31/14	1
2-Chlorotoluene	95-49-8	U	0.38	0.50	1	ug/l		8260B	07/31/14	1

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 13, 2015

Date Received : July 26, 2014
Description : Holloman AFB

Sample ID : H-TU503-MW01-NT01

Collected By : Jon Mallonee
Collection Date : 07/24/14 08:20

ESC Sample # : L712399-03

Site ID :

Project # : 23446543.0055AA

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
4-Chlorotoluene	106-43-4	U	0.35	0.50	1	ug/l		8260B	07/31/14	1
1,2-Dibromo-3-Chloropropane	96-12-8	U	1.3	2.5	5	ug/l		8260B	07/31/14	1
1,2-Dibromoethane UJ MS-L	106-93-4	U	0.38	0.50	1	ug/l		8260B	07/31/14	1
Dibromomethane	74-95-3	U	0.35	0.50	1	ug/l		8260B	07/31/14	1
1,2-Dichlorobenzene	95-50-1	U	0.35	0.50	1	ug/l		8260B	07/31/14	1
1,3-Dichlorobenzene	541-73-1	U	0.22	0.50	1	ug/l		8260B	07/31/14	1
1,4-Dichlorobenzene	106-46-7	U	0.27	0.50	1	ug/l		8260B	07/31/14	1
Dichlorodifluoromethane	75-71-8	U	0.55	2.5	5	ug/l		8260B	07/31/14	1
1,1-Dichloroethane	75-34-3	U	0.26	0.50	1	ug/l		8260B	07/31/14	1
1,2-Dichloroethane	107-06-2	U	0.36	0.50	1	ug/l		8260B	07/31/14	1
1,1-Dichloroethene	75-35-4	U	0.4	0.50	1	ug/l		8260B	07/31/14	1
cis-1,2-Dichloroethene	156-59-2	U	0.26	0.50	1	ug/l		8260B	07/31/14	1
trans-1,2-Dichloroethene	156-60-5	U	0.4	0.50	1	ug/l		8260B	07/31/14	1
1,2-Dichloropropane	78-87-5	U	0.31	0.50	1	ug/l		8260B	07/31/14	1
1,1-Dichloropropene	563-58-6	U	0.35	0.50	1	ug/l		8260B	07/31/14	1
1,3-Dichloropropane	142-28-9	U	0.37	0.50	1	ug/l		8260B	07/31/14	1
cis-1,3-Dichloropropene	10061-01-5	U	0.42	0.50	1	ug/l		8260B	07/31/14	1
trans-1,3-Dichloropropene	10061-02-6	U	0.42	0.50	1	ug/l		8260B	07/31/14	1
2,2-Dichloropropane	594-20-7	U	0.32	0.50	1	ug/l		8260B	07/31/14	1
Ethylbenzene	100-41-4	U	0.38	0.50	1	ug/l		8260B	07/31/14	1
2-Hexanone	591-78-6	U	3.8	5.0	10	ug/l		8260B	07/31/14	1
Hexachloro-1,3-butadiene	87-68-3	U	0.26	0.50	1	ug/l		8260B	07/31/14	1
Isopropylbenzene	98-82-8	U	0.33	0.50	1	ug/l		8260B	07/31/14	1
p-Isopropyltoluene	99-87-6	U	0.35	0.50	1	ug/l		8260B	07/31/14	1
2-Butanone (MEK)	78-93-3	U	3.9	5.0	10	ug/l		8260B	07/31/14	1
Methylene Chloride	75-09-2	U	1	2.5	5	ug/l		8260B	07/31/14	1
4-Methyl-2-pentanone (MIBK)	108-10-1	U	2.1	5.0	10	ug/l		8260B	07/31/14	1
Methyl tert-butyl ether	1634-04-4	U	0.37	0.50	1	ug/l		8260B	07/31/14	1
Naphthalene DNR	~~91-20-3~~	~~U~~	~~1~~	~~2.5~~	~~5~~	~~ug/l~~		~~8260B~~	~~07/31/14~~	~~1~~
n-Propylbenzene	103-65-1	U	0.35	0.50	1	ug/l		8260B	07/31/14	1
Styrene	100-42-5	U	0.31	0.50	1	ug/l		8260B	07/31/14	1
1,1,1,2-Tetrachloroethane UJ MS-L	630-20-6	U	0.38	0.50	1	ug/l		8260B	07/31/14	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.58 ~~0.13~~	0.75	1	ug/l		8260B	07/31/14	1
Tetrachloroethene	127-18-4	U	0.37	0.50	1	ug/l		8260B	07/31/14	1
Toluene	108-88-3	U	0.78	2.5	5	ug/l		8260B	07/31/14	1
1,2,3-Trichlorobenzene	87-61-6	U	0.23	0.50	1	ug/l		8260B	07/31/14	1
1,2,4-Trichlorobenzene	120-82-1	U	0.21	0.50	1	ug/l		8260B	07/31/14	1
1,1,1-Trichloroethane	71-55-6	U	0.319	0.50	1	ug/l		8260B	07/31/14	1
1,1,2-Trichloroethane	79-00-5	U	0.38	0.50	1	ug/l		8260B	07/31/14	1
Trichloroethene	79-01-6	U	0.4	0.50	1	ug/l		8260B	07/31/14	1
Trichlorofluoromethane	75-69-4	U	1.2	2.5	5	ug/l		8260B	07/31/14	1
1,2,3-Trichloropropane	96-18-4	U	0.81	1.0	2.5	ug/l		8260B	07/31/14	1
1,2,4-Trimethylbenzene	95-63-6	U	0.37	0.50	1	ug/l		8260B	07/31/14	1
1,3,5-Trimethylbenzene	108-67-8	U	0.39	0.50	1	ug/l		8260B	07/31/14	1
o-Xylene	95-47-6	U	0.34	0.50	1	ug/l		8260B	07/31/14	1
m&p-Xylene	1330-20-7	U	0.72	1.0	2	ug/l		8260B	07/31/14	1

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 13, 2015

ESC Sample # : L712399-03

Date Received : July 26, 2014
Description : Holloman AFB

Site ID :

Sample ID : H-TU503-MW01-NT01

Project # : 23446543.0055AA

Collected By : Jon Mallonee
Collection Date : 07/24/14 08:20

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Vinyl chloride	75-01-4	U	0.26	0.50	1	ug/l		8260B	07/31/14	1
Surrogate Recovery										
Toluene-d8	2037-26-5	104.				% Rec.		8260B	07/31/14	1
Dibromofluoromethane	1868-53-7	104.				% Rec.		8260B	07/31/14	1
4-Bromofluorobenzene	460-00-4	101.				% Rec.		8260B	07/31/14	1
TPH (GC/FID) High Fraction	68334-30-5	210	25	50.	100	ug/l		3511/80	07/30/14	1
Surrogate recovery(%)										
o-Terphenyl	84-15-1	115.				% Rec.		3511/80	07/30/14	1
Polynuclear Aromatic Hydrocarbons										
Anthracene	120-12-7	U	0.0076	0.025	0.05	ug/l		8270C-S	07/31/14	1
Acenaphthene	83-32-9	U	0.0082	0.025	0.05	ug/l		8270C-S	07/31/14	1
Acenaphthylene	208-96-8	U	0.0068	0.025	0.05	ug/l		8270C-S	07/31/14	1
Benzo(a)anthracene	56-55-3	U	0.012	0.025	0.05	ug/l		8270C-S	07/31/14	1
Benzo(a)pyrene	50-32-8	U	0.012	0.025	0.05	ug/l		8270C-S	07/31/14	1
Benzo(b)fluoranthene	205-99-2	U	0.014	0.025	0.05	ug/l		8270C-S	07/31/14	1
Benzo(g,h,i)perylene	191-24-2	U	0.011	0.025	0.05	ug/l		8270C-S	07/31/14	1
Benzo(k)fluoranthene	207-08-9	U	0.014	0.025	0.05	ug/l		8270C-S	07/31/14	1
Chrysene	218-01-9	U	0.011	0.025	0.05	ug/l		8270C-S	07/31/14	1
Dibenz(a,h)anthracene	53-70-3	U	0.004	0.025	0.05	ug/l		8270C-S	07/31/14	1
Fluoranthene	206-44-0	U	0.016	0.025	0.05	ug/l		8270C-S	07/31/14	1
Fluorene	86-73-7	U	0.0085	0.025	0.05	ug/l		8270C-S	07/31/14	1
Indeno(1,2,3-cd)pyrene	193-39-5	U	0.015	0.025	0.05	ug/l		8270C-S	07/31/14	1
Naphthalene U MB-I	91-20-3	0.069	~~0.02~~ 0.069	~~0.025~~ 0.069	0.25	ug/l	J	8270C-S	07/31/14	1
Phenanthrene	85-01-8	U	0.0082	0.025	0.05	ug/l		8270C-S	07/31/14	1
Pyrene	129-00-0	U	0.012	0.025	0.05	ug/l		8270C-S	07/31/14	1
2-Methylnaphthalene F SOL-I	91-57-6	0.045	0.009	0.025	0.25	ug/l	J	8270C-S	07/31/14	1
Surrogate Recovery										
Nitrobenzene-d5	4165-60-0	90.4				% Rec.		8270C-S	07/31/14	1
2-Fluorobiphenyl	321-60-8	102.				% Rec.		8270C-S	07/31/14	1
p-Terphenyl-d14	1718-51-0	104.				% Rec.		8270C-S	07/31/14	1

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 13, 2015

Date Received : July 26, 2014
Description : Holloman AFB

Sample ID : H-TU503-MW02-DD01

Collected By : Jon Mallonee
Collection Date : 07/23/14 17:15

ESC Sample # : L712399-04

Site ID :

Project # : 23446543.0055AA

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Antimony,Dissolved F SOL-I	7440-36-0	0.36	0.21	0.50	1	ug/l	J	6020	08/05/14	1
Arsenic,Dissolved	7440-38-2	1.3	0.25	0.50	1	ug/l		6020	08/05/14	1
Cadmium,Dissolved F SOL-I	7440-43-9	0.32	0.16	0.25	0.5	ug/l	J	6020	08/05/14	1
Chromium,Dissolved F SOL-I	7440-47-3	1.5	0.54	1.0	2	ug/l	J	6020	08/05/14	1
Cobalt,Dissolved	7440-48-4	7.5	0.26	0.50	1	ug/l		6020	08/05/14	1
Lead,Dissolved	7439-92-1	U	0.24	0.50	1	ug/l		6020	08/05/14	1
Nickel,Dissolved J TVP-I	7440-02-0	200	0.35	0.50	1	ug/l		6020	08/05/14	1
Selenium,Dissolved J MS-H	7782-49-2	26.	0.38	0.50	1	ug/l		6020	08/05/14	1
Silver,Dissolved UJ CCB,MS-L	7440-22-4	1.7	~~0.31~~ 1.7	~~0.50~~ 1.7	~~1~~ 1.7	ug/l		6020	08/05/14	1
Thallium,Dissolved	7440-28-0	U	0.19	0.50	1	ug/l		6020	08/05/14	1
Mercury,Dissolved	7439-97-6	U	0.049	0.090	0.2	ug/l		7470A	07/31/14	1
Aluminum,Dissolved J FD, I MS-H	7429-90-5	130	35	50.	100	ug/l		6010B	08/02/14	1
Barium,Dissolved	7440-39-3	36.	1.7	2.5	5	ug/l		6010B	08/02/14	1
Beryllium,Dissolved	7440-41-7	U	0.7	1.0	2	ug/l		6010B	08/02/14	1
Copper,Dissolved UJ CCB,ICS-L	7440-50-8	33.	~~5.3~~ 33	~~10.~~ 33	~~20~~ 33	ug/l		6010B	08/02/14	1
Manganese,Dissolved	7439-96-5	95.	6	25.	50	ug/l		6010B	08/02/14	5
Vanadium,Dissolved F SOL, ICS-L	7440-62-2	15.	2.4	5.0	20	ug/l	J	6010B	08/02/14	1
Zinc,Dissolved	7440-66-6	U	5.9	15.	50	ug/l		6010B	08/02/14	1

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 13, 2015

Date Received : July 26, 2014
Description : Holloman AFB

Sample ID : H-TU503-MW02-ND01

Collected By : Jon Mallonee
Collection Date : 07/23/14 17:15

ESC Sample # : L712399-05

Site ID :

Project # : 23446543.0055AA

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Antimony, Dissolved F SOL-J	7440-36-0	0.50	0.21	0.50	1	ug/l	J	6020	08/05/14	1
Arsenic, Dissolved	7440-38-2	3.0	0.25	0.50	1	ug/l		6020	08/05/14	1
Cadmium, Dissolved F SOL-J	7440-43-9	0.33	0.16	0.25	0.5	ug/l	J	6020	08/05/14	1
Chromium, Dissolved	7440-47-3	2.8	0.54	1.0	2	ug/l		6020	08/05/14	1
Cobalt, Dissolved	7440-48-4	7.5	0.26	0.50	1	ug/l		6020	08/05/14	1
Lead, Dissolved	7439-92-1	U	0.24	0.50	1	ug/l		6020	08/05/14	1
Nickel, Dissolved	7440-02-0	200	0.35	0.50	1	ug/l		6020	08/05/14	1
Selenium, Dissolved J MS-H	7782-49-2	28.	0.38	0.50	1	ug/l		6020	08/05/14	1
Silver, Dissolved UJ CCB, MS-L	7440-22-4	0.81	~~0.31~~ 0.81	~~0.50~~ 0.81	1	ug/l	J	6020	08/05/14	1
Thallium, Dissolved	7440-28-0	U	0.19	0.50	1	ug/l		6020	08/05/14	1
Mercury, Dissolved	7439-97-6	U	0.049	0.090	0.2	ug/l		7470A	07/31/14	1
Aluminum, Dissolved ~~J FD, MS-H~~ J FD, MS-H	7429-90-5	420	35	50.	100	ug/l		6010B	08/02/14	1
Barium, Dissolved	7440-39-3	38.	1.7	2.5	5	ug/l		6010B	08/02/14	1
Beryllium, Dissolved	7440-41-7	U	0.7	1.0	2	ug/l		6010B	08/02/14	1
Copper, Dissolved UJ CCB, ICS-L	7440-50-8	24.	~~5.3~~ 24	~~10.~~ 24	~~20~~ 24	ug/l		6010B	08/02/14	1
Manganese, Dissolved	7439-96-5	96.	6	25.	50	ug/l		6010B	08/02/14	5
Vanadium, Dissolved FJ SOL, ICS-L	7440-62-2	15.	2.4	5.0	20	ug/l	J	6010B	08/02/14	1
Zinc, Dissolved	7440-66-6	U	5.9	15.	50	ug/l		6010B	08/02/14	1

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REPORT OF ANALYSIS

Sheri Fling
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8181 E. Tufts Avenue
Denver, CO 80237

January 13, 2015

Date Received : July 26, 2014
Description : Holloman AFB

ESC Sample # : L712399-06

Sample ID : H-TU503-MW02-NT01

Site ID :

Project # : 23446543.0055AA

Collected By : Jon Mallonee
Collection Date : 07/23/14 17:15

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Dissolved Solids	DSOLIDS	19000000	2820	5000	10000	ug/l		2540 C-	07/29/14	1
Antimony U CCB-I	7440-36-0	0.56	~~0.21~~ 0.56	~~0.50~~ 0.56	1	ug/l	J	6020	08/04/14	1
Arsenic	7440-38-2	2.8	0.25	0.50	1	ug/l		6020	08/04/14	1
Cadmium U CCB-I	7440-43-9	~~0.20~~ 0.25	~~0.16~~ 0.20	0.25	0.5	ug/l	J	6020	08/04/14	1
Chromium	7440-47-3	10.	0.54	1.0	2	ug/l		6020	08/04/14	1
Cobalt	7440-48-4	7.2	0.26	0.50	1	ug/l		6020	08/04/14	1
Lead F8 SQL-I	7439-92-1	0.99	0.24	0.50	1	ug/l	J	6020	08/04/14	1
Nickel	7440-02-0	180	0.35	0.50	1	ug/l		6020	08/04/14	1
Selenium J MS-H	7782-49-2	25.	0.38	0.50	1	ug/l		6020	08/04/14	1
Silver UJ MB,CCB-L	7440-22-4	0.60	~~0.31~~ 0.60	~~0.50~~ 0.60	1	ug/l	J	6020	08/04/14	1
Thallium	7440-28-0	U	0.19	0.50	1	ug/l		6020	08/04/14	1
Mercury	7439-97-6	U	0.049	0.090	0.2	ug/l		7470A	07/30/14	1
Aluminum J FD,MS-H	7429-90-5	1700	35	50.	100	ug/l		6010B	08/01/14	1
Barium	7440-39-3	46.	1.7	2.5	5	ug/l		6010B	08/01/14	1
Beryllium	7440-41-7	U	0.7	1.0	2	ug/l		6010B	08/01/14	1
Copper UJ MB,CCB,ICS-L	7440-50-8	36.	~~5.3~~ 36	~~10~~ 36	~~20~~ 36	ug/l		6010B	08/01/14	1
Manganese	7439-96-5	98.	6	25.	50	ug/l		6010B	08/01/14	5
Vanadium	7440-62-2	21.	2.4	5.0	20	ug/l		6010B	08/01/14	1
Zinc	7440-66-6	U	5.9	15.	50	ug/l		6010B	08/01/14	1
TPH (GC/FID) Low Fraction	8006-61-9	U	31.4	50.	100	ug/l		8015D/G	07/30/14	1
Surrogate Recovery-%										
a,a,a-Trifluorotoluene(FID)	98-08-8	106.				% Rec.		8015D/G	07/30/14	1
Volatile Organics										
Acetone	67-64-1	U	10	25.	50	ug/l		8260B	07/31/14	1
Benzene	71-43-2	U	0.33	0.50	1	ug/l		8260B	07/31/14	1
Bromobenzene	108-86-1	U	0.35	0.50	1	ug/l		8260B	07/31/14	1
Bromochloromethane	74-97-5	U	0.52	0.75	1	ug/l		8260B	07/31/14	1
Bromodichloromethane	75-27-4	U	0.38	0.50	1	ug/l		8260B	07/31/14	1
Bromoform	75-25-2	U	0.47	0.50	1	ug/l		8260B	07/31/14	1
Bromomethane	74-83-9	U	0.87	2.5	5	ug/l		8260B	07/31/14	1
n-Butylbenzene	104-51-8	U	0.36	0.50	1	ug/l		8260B	07/31/14	1
sec-Butylbenzene	135-98-8	U	0.36	0.50	1	ug/l		8260B	07/31/14	1
tert-Butylbenzene	98-06-6	U	0.4	0.50	1	ug/l		8260B	07/31/14	1
Carbon Disulfide	75-15-0	U	0.28	0.50	1	ug/l		8260B	07/31/14	1
Carbon tetrachloride	56-23-5	U	0.38	0.50	1	ug/l		8260B	07/31/14	1
Chlorobenzene	108-90-7	U	0.35	0.50	1	ug/l		8260B	07/31/14	1
Chlorodibromomethane	124-48-1	U	0.33	0.50	1	ug/l		8260B	07/31/14	1
Chloroethane	75-00-3	U	0.45	2.5	5	ug/l		8260B	07/31/14	1
Chloroform U FB-I	67-66-3	2.5 ~~0.83~~	~~0.32~~ 0.83	2.5	5	ug/l	J	8260B	07/31/14	1
Chloromethane	74-87-3	U	0.28	0.50	2.5	ug/l		8260B	07/31/14	1
2-Chlorotoluene	95-49-8	U	0.38	0.50	1	ug/l		8260B	07/31/14	1

U = Not Detected at the LOD
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Est. 1970

REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 13, 2015

Date Received : July 26, 2014
Description : Holloman AFB

Sample ID : H-TU503-MW02-NT01

Collected By : Jon Mallonee
Collection Date : 07/23/14 17:15

ESC Sample # : L712399-06

Site ID :

Project # : 23446543.0055AA

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
4-Chlorotoluene	106-43-4	U	0.35	0.50	1	ug/l		8260B	07/31/14	1
1,2-Dibromo-3-Chloropropane	96-12-8	U	1.3	2.5	5	ug/l		8260B	07/31/14	1
1,2-Dibromoethane UJ MS-L	106-93-4	U	0.38	0.50	1	ug/l		8260B	07/31/14	1
Dibromomethane	74-95-3	U	0.35	0.50	1	ug/l		8260B	07/31/14	1
1,2-Dichlorobenzene	95-50-1	U	0.35	0.50	1	ug/l		8260B	07/31/14	1
1,3-Dichlorobenzene	541-73-1	U	0.22	0.50	1	ug/l		8260B	07/31/14	1
1,4-Dichlorobenzene	106-46-7	U	0.27	0.50	1	ug/l		8260B	07/31/14	1
Dichlorodifluoromethane	75-71-8	U	0.55	2.5	5	ug/l		8260B	07/31/14	1
1,1-Dichloroethane	75-34-3	U	0.26	0.50	1	ug/l		8260B	07/31/14	1
1,2-Dichloroethane	107-06-2	U	0.36	0.50	1	ug/l		8260B	07/31/14	1
1,1-Dichloroethene	75-35-4	U	0.4	0.50	1	ug/l		8260B	07/31/14	1
cis-1,2-Dichloroethene	156-59-2	U	0.26	0.50	1	ug/l		8260B	07/31/14	1
trans-1,2-Dichloroethene	156-60-5	U	0.4	0.50	1	ug/l		8260B	07/31/14	1
1,2-Dichloropropane	78-87-5	U	0.31	0.50	1	ug/l		8260B	07/31/14	1
1,1-Dichloropropene	563-58-6	U	0.35	0.50	1	ug/l		8260B	07/31/14	1
1,3-Dichloropropane	142-28-9	U	0.37	0.50	1	ug/l		8260B	07/31/14	1
cis-1,3-Dichloropropene	10061-01-5	U	0.42	0.50	1	ug/l		8260B	07/31/14	1
trans-1,3-Dichloropropene	10061-02-6	U	0.42	0.50	1	ug/l		8260B	07/31/14	1
2,2-Dichloropropane	594-20-7	U	0.32	0.50	1	ug/l		8260B	07/31/14	1
Ethylbenzene	100-41-4	U	0.38	0.50	1	ug/l		8260B	07/31/14	1
2-Hexanone	591-78-6	U	3.8	5.0	10	ug/l		8260B	07/31/14	1
Hexachloro-1,3-butadiene	87-68-3	U	0.26	0.50	1	ug/l		8260B	07/31/14	1
Isopropylbenzene	98-82-8	U	0.33	0.50	1	ug/l		8260B	07/31/14	1
p-Isopropyltoluene	99-87-6	U	0.35	0.50	1	ug/l		8260B	07/31/14	1
2-Butanone (MEK)	78-93-3	U	3.9	5.0	10	ug/l		8260B	07/31/14	1
Methylene Chloride	75-09-2	U	1	2.5	5	ug/l		8260B	07/31/14	1
4-Methyl-2-pentanone (MIBK)	108-10-1	U	2.1	5.0	10	ug/l		8260B	07/31/14	1
Methyl tert-butyl ether	1634-04-4	U	0.37	0.50	1	ug/l		8260B	07/31/14	1
~~Naphthalene DNR~~	~~91-20-3~~	~~U~~	~~1~~	~~2.5~~	~~5~~	~~ug/l~~		~~8260B~~	~~07/31/14~~	~~1~~
n-Propylbenzene	103-65-1	U	0.35	0.50	1	ug/l		8260B	07/31/14	1
Styrene	100-42-5	U	0.31	0.50	1	ug/l		8260B	07/31/14	1
1,1,1,2-Tetrachloroethane UJ MS-L	630-20-6	U	0.38	0.50	1	ug/l		8260B	07/31/14	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.58 ~~0.13~~	0.75	1	ug/l		8260B	07/31/14	1
Tetrachloroethene	127-18-4	U	0.37	0.50	1	ug/l		8260B	07/31/14	1
Toluene	108-88-3	U	0.78	2.5	5	ug/l		8260B	07/31/14	1
1,2,3-Trichlorobenzene	87-61-6	U	0.23	0.50	1	ug/l		8260B	07/31/14	1
1,2,4-Trichlorobenzene	120-82-1	U	0.21	0.50	1	ug/l		8260B	07/31/14	1
1,1,1-Trichloroethane	71-55-6	U	0.319	0.50	1	ug/l		8260B	07/31/14	1
1,1,2-Trichloroethane	79-00-5	U	0.38	0.50	1	ug/l		8260B	07/31/14	1
Trichloroethene	79-01-6	U	0.4	0.50	1	ug/l		8260B	07/31/14	1
Trichlorofluoromethane	75-69-4	U	1.2	2.5	5	ug/l		8260B	07/31/14	1
1,2,3-Trichloropropane	96-18-4	U	0.81	1.0	2.5	ug/l		8260B	07/31/14	1
1,2,4-Trimethylbenzene	95-63-6	U	0.37	0.50	1	ug/l		8260B	07/31/14	1
1,3,5-Trimethylbenzene	108-67-8	U	0.39	0.50	1	ug/l		8260B	07/31/14	1
o-Xylene	95-47-6	U	0.34	0.50	1	ug/l		8260B	07/31/14	1
m&p-Xylene	1330-20-7	U	0.72	1.0	2	ug/l		8260B	07/31/14	1

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 13, 2015

Date Received : July 26, 2014
Description : Holloman AFB

Sample ID : H-TU503-MW02-NT01

Collected By : Jon Mallonee
Collection Date : 07/23/14 17:15

ESC Sample # : L712399-06

Site ID :

Project # : 23446543.0055AA

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Vinyl chloride	75-01-4	U	0.26	0.50	1	ug/l		8260B	07/31/14	1
Surrogate Recovery										
Toluene-d8	2037-26-5	105.				% Rec.		8260B	07/31/14	1
Dibromofluoromethane	1868-53-7	105.				% Rec.		8260B	07/31/14	1
4-Bromofluorobenzene	460-00-4	95.7				% Rec.		8260B	07/31/14	1
TPH (GC/FID) High Fraction F J SQL-I	68334-30-5	31.	25	50.	100	ug/l	J	3511/80	07/30/14	1
Surrogate recovery(%)										
o-Terphenyl	84-15-1	115.				% Rec.		3511/80	07/30/14	1
Polynuclear Aromatic Hydrocarbons										
Anthracene	120-12-7	U	0.0076	0.025	0.05	ug/l		8270C-S	07/31/14	1
Acenaphthene	83-32-9	U	0.0082	0.025	0.05	ug/l		8270C-S	07/31/14	1
Acenaphthylene	208-96-8	U	0.0068	0.025	0.05	ug/l		8270C-S	07/31/14	1
Benzo(a)anthracene	56-55-3	U	0.012	0.025	0.05	ug/l		8270C-S	07/31/14	1
Benzo(a)pyrene	50-32-8	U	0.012	0.025	0.05	ug/l		8270C-S	07/31/14	1
Benzo(b)fluoranthene	205-99-2	U	0.014	0.025	0.05	ug/l		8270C-S	07/31/14	1
Benzo(g,h,i)perylene	191-24-2	U	0.011	0.025	0.05	ug/l		8270C-S	07/31/14	1
Benzo(k)fluoranthene	207-08-9	U	0.014	0.025	0.05	ug/l		8270C-S	07/31/14	1
Chrysene	218-01-9	U	0.011	0.025	0.05	ug/l		8270C-S	07/31/14	1
Dibenz(a,h)anthracene	53-70-3	U	0.004	0.025	0.05	ug/l		8270C-S	07/31/14	1
Fluoranthene	206-44-0	U	0.016	0.025	0.05	ug/l		8270C-S	07/31/14	1
Fluorene	86-73-7	U	0.0085	0.025	0.05	ug/l		8270C-S	07/31/14	1
Indeno(1,2,3-cd)pyrene	193-39-5	U	0.015	0.025	0.05	ug/l		8270C-S	07/31/14	1
Naphthalene U MB-I	91-20-3	0.034	~~0.02~~ 0.034	~~0.025~~ 0.034	0.25	ug/l	J	8270C-S	07/31/14	1
Phenanthrene	85-01-8	U	0.0082	0.025	0.05	ug/l		8270C-S	07/31/14	1
Pyrene	129-00-0	U	0.012	0.025	0.05	ug/l		8270C-S	07/31/14	1
2-Methylnaphthalene F SQL-I	91-57-6	0.014	0.009	0.025	0.25	ug/l	J	8270C-S	07/31/14	1
Surrogate Recovery										
Nitrobenzene-d5	4165-60-0	97.4				% Rec.		8270C-S	07/31/14	1
2-Fluorobiphenyl	321-60-8	100.				% Rec.		8270C-S	07/31/14	1
p-Terphenyl-d14	1718-51-0	102.				% Rec.		8270C-S	07/31/14	1

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 13, 2015

Date Received : July 26, 2014
Description : Holloman AFB

Sample ID : H-TU503-MW02-DT01

Collected By : Jon Mallonee
Collection Date : 07/23/14 17:15

ESC Sample # : L712399-07

Site ID :

Project # : 23446543.0055AA

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Dissolved Solids	DSOLIDS	20000000	2820	5000	10000	ug/l		2540 C-	07/29/14	1
Antimony U CCB-I	7440-36-0	~~0.49~~ 0.56	~~0.21~~ 0.49	0.50	1	ug/l	J	6020	08/04/14	1
Arsenic	7440-38-2	3.4	0.25	0.50	1	ug/l		6020	08/04/14	1
Cadmium U CCB-I	7440-43-9	0.40	~~0.16~~ 0.40	~~0.25~~ 0.40	0.5	ug/l	J	6020	08/04/14	1
Chromium	7440-47-3	7.9	0.54	1.0	2	ug/l		6020	08/04/14	1
Cobalt	7440-48-4	5.7	0.26	0.50	1	ug/l		6020	08/04/14	1
Lead F SQL-I	7439-92-1	0.59	0.24	0.50	1	ug/l	J	6020	08/04/14	1
Nickel J TVP-I	7440-02-0	140	0.35	0.50	1	ug/l		6020	08/04/14	1
Selenium J MS-H	7782-49-2	34.	0.38	0.50	1	ug/l		6020	08/04/14	1
Silver U J MB, CCB-L	7440-22-4	~~0.35~~ 0.50	~~0.31~~ 0.35	0.50	1	ug/l	J	6020	08/04/14	1
Thallium	7440-28-0	U	0.19	0.50	1	ug/l		6020	08/04/14	1
Mercury	7439-97-6	U	0.049	0.090	0.2	ug/l		7470A	07/30/14	1
Aluminum J FD, MS-H	7429-90-5	1200	35	50.	100	ug/l		6010B	08/01/14	1
Barium	7440-39-3	39.	1.7	2.5	5	ug/l		6010B	08/01/14	1
Beryllium	7440-41-7	U	0.7	1.0	2	ug/l		6010B	08/01/14	1
Copper U J MB, CCB, ICS-L	7440-50-8	25.	~~5.3~~ 25	~~10.~~ 25	~~20~~ 25	ug/l		6010B	08/01/14	1
Manganese	7439-96-5	71.	6	25.	50	ug/l		6010B	08/01/14	5
Vanadium	7440-62-2	21.	2.4	5.0	20	ug/l		6010B	08/01/14	1
Zinc	7440-66-6	U	5.9	15.	50	ug/l		6010B	08/01/14	1
TPH (GC/FID) Low Fraction	8006-61-9	U	31.4	50.	100	ug/l		8015D/G	07/30/14	1
Surrogate Recovery-%										
a,a,a-Trifluorotoluene(FID)	98-08-8	106.				% Rec.		8015D/G	07/30/14	1
Volatile Organics										
Acetone	67-64-1	U	10	25.	50	ug/l		8260B	07/31/14	1
Benzene	71-43-2	U	0.33	0.50	1	ug/l		8260B	07/31/14	1
Bromobenzene	108-86-1	U	0.35	0.50	1	ug/l		8260B	07/31/14	1
Bromochloromethane	74-97-5	U	0.52	0.75	1	ug/l		8260B	07/31/14	1
Bromodichloromethane	75-27-4	U	0.38	0.50	1	ug/l		8260B	07/31/14	1
Bromoform	75-25-2	U	0.47	0.50	1	ug/l		8260B	07/31/14	1
Bromomethane	74-83-9	U	0.87	2.5	5	ug/l		8260B	07/31/14	1
n-Butylbenzene	104-51-8	U	0.36	0.50	1	ug/l		8260B	07/31/14	1
sec-Butylbenzene	135-98-8	U	0.36	0.50	1	ug/l		8260B	07/31/14	1
tert-Butylbenzene	98-06-6	U	0.4	0.50	1	ug/l		8260B	07/31/14	1
Carbon Disulfide	75-15-0	U	0.28	0.50	1	ug/l		8260B	07/31/14	1
Carbon tetrachloride	56-23-5	U	0.38	0.50	1	ug/l		8260B	07/31/14	1
Chlorobenzene	108-90-7	U	0.35	0.50	1	ug/l		8260B	07/31/14	1
Chlorodibromomethane	124-48-1	U	0.33	0.50	1	ug/l		8260B	07/31/14	1
Chloroethane	75-00-3	U	0.45	2.5	5	ug/l		8260B	07/31/14	1
Chloroform U FB-I	67-66-3	2.5 ~~0.80~~	~~0.32~~ 0.80	2.5	5	ug/l	J	8260B	07/31/14	1
Chloromethane	74-87-3	U	0.28	0.50	2.5	ug/l		8260B	07/31/14	1
2-Chlorotoluene	95-49-8	U	0.38	0.50	1	ug/l		8260B	07/31/14	1

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January 13, 2015

Date Received : July 26, 2014
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Sample ID : H-TU503-MW02-DT01

Collected By : Jon Mallonee
Collection Date : 07/23/14 17:15

ESC Sample # : L712399-07

Site ID :

Project # : 23446543.0055AA

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
4-Chlorotoluene	106-43-4	U	0.35	0.50	1	ug/l		8260B	07/31/14	1
1,2-Dibromo-3-Chloropropane	96-12-8	U	1.3	2.5	5	ug/l		8260B	07/31/14	1
1,2-Dibromoethane	106-93-4	U	0.38	0.50	1	ug/l		8260B	07/31/14	1
Dibromomethane	74-95-3	U	0.35	0.50	1	ug/l		8260B	07/31/14	1
1,2-Dichlorobenzene UJ MS-L	95-50-1	U	0.35	0.50	1	ug/l		8260B	07/31/14	1
1,3-Dichlorobenzene	541-73-1	U	0.22	0.50	1	ug/l		8260B	07/31/14	1
1,4-Dichlorobenzene	106-46-7	U	0.27	0.50	1	ug/l		8260B	07/31/14	1
Dichlorodifluoromethane	75-71-8	U	0.55	2.5	5	ug/l		8260B	07/31/14	1
1,1-Dichloroethane	75-34-3	U	0.26	0.50	1	ug/l		8260B	07/31/14	1
1,2-Dichloroethane	107-06-2	U	0.36	0.50	1	ug/l		8260B	07/31/14	1
1,1-Dichloroethene	75-35-4	U	0.4	0.50	1	ug/l		8260B	07/31/14	1
cis-1,2-Dichloroethene	156-59-2	U	0.26	0.50	1	ug/l		8260B	07/31/14	1
trans-1,2-Dichloroethene	156-60-5	U	0.4	0.50	1	ug/l		8260B	07/31/14	1
1,2-Dichloropropane	78-87-5	U	0.31	0.50	1	ug/l		8260B	07/31/14	1
1,1-Dichloropropene	563-58-6	U	0.35	0.50	1	ug/l		8260B	07/31/14	1
1,3-Dichloropropane	142-28-9	U	0.37	0.50	1	ug/l		8260B	07/31/14	1
cis-1,3-Dichloropropene	10061-01-5	U	0.42	0.50	1	ug/l		8260B	07/31/14	1
trans-1,3-Dichloropropene	10061-02-6	U	0.42	0.50	1	ug/l		8260B	07/31/14	1
2,2-Dichloropropane	594-20-7	U	0.32	0.50	1	ug/l		8260B	07/31/14	1
Ethylbenzene	100-41-4	U	0.38	0.50	1	ug/l		8260B	07/31/14	1
2-Hexanone	591-78-6	U	3.8	5.0	10	ug/l		8260B	07/31/14	1
Hexachloro-1,3-butadiene	87-68-3	U	0.26	0.50	1	ug/l		8260B	07/31/14	1
Isopropylbenzene	98-82-8	U	0.33	0.50	1	ug/l		8260B	07/31/14	1
p-Isopropyltoluene	99-87-6	U	0.35	0.50	1	ug/l		8260B	07/31/14	1
2-Butanone (MEK)	78-93-3	U	3.9	5.0	10	ug/l		8260B	07/31/14	1
Methylene Chloride	75-09-2	U	1	2.5	5	ug/l		8260B	07/31/14	1
4-Methyl-2-pentanone (MIBK)	108-10-1	U	2.1	5.0	10	ug/l		8260B	07/31/14	1
Methyl tert-butyl ether	1634-04-4	U	0.37	0.50	1	ug/l		8260B	07/31/14	1
~~Naphthalene DNR~~	~~91-20-3~~	~~U~~	~~1~~	~~2.5~~	~~5~~	~~ug/l~~		~~8260B~~	~~07/31/14~~	~~1~~
n-Propylbenzene	103-65-1	U	0.35	0.50	1	ug/l		8260B	07/31/14	1
Styrene	100-42-5	U	0.31	0.50	1	ug/l		8260B	07/31/14	1
1,1,1,2-Tetrachloroethane UJ MS-L	630-20-6	U	0.38	0.50	1	ug/l		8260B	07/31/14	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.58 ~~0.13~~	0.75	1	ug/l		8260B	07/31/14	1
Tetrachloroethene	127-18-4	U	0.37	0.50	1	ug/l		8260B	07/31/14	1
Toluene	108-88-3	U	0.78	2.5	5	ug/l		8260B	07/31/14	1
1,2,3-Trichlorobenzene	87-61-6	U	0.23	0.50	1	ug/l		8260B	07/31/14	1
1,2,4-Trichlorobenzene	120-82-1	U	0.21	0.50	1	ug/l		8260B	07/31/14	1
1,1,1-Trichloroethane	71-55-6	U	0.319	0.50	1	ug/l		8260B	07/31/14	1
1,1,2-Trichloroethane	79-00-5	U	0.38	0.50	1	ug/l		8260B	07/31/14	1
Trichloroethene	79-01-6	U	0.4	0.50	1	ug/l		8260B	07/31/14	1
Trichlorofluoromethane	75-69-4	U	1.2	2.5	5	ug/l		8260B	07/31/14	1
1,2,3-Trichloropropane	96-18-4	U	0.81	1.0	2.5	ug/l		8260B	07/31/14	1
1,2,4-Trimethylbenzene	95-63-6	U	0.37	0.50	1	ug/l		8260B	07/31/14	1
1,3,5-Trimethylbenzene	108-67-8	U	0.39	0.50	1	ug/l		8260B	07/31/14	1
o-Xylene	95-47-6	U	0.34	0.50	1	ug/l		8260B	07/31/14	1
m&p-Xylene	1330-20-7	U	0.72	1.0	2	ug/l		8260B	07/31/14	1

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DNR: Do Not Report

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 13, 2015

Date Received : July 26, 2014
Description : Holloman AFB

Sample ID : H-TU503-MW02-DT01

Collected By : Jon Mallonee
Collection Date : 07/23/14 17:15

ESC Sample # : L712399-07

Site ID :

Project # : 23446543.0055AA

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Vinyl chloride	75-01-4	U	0.26	0.50	1	ug/l		8260B	07/31/14	1
Surrogate Recovery										
Toluene-d8	2037-26-5	105.				% Rec.		8260B	07/31/14	1
Dibromofluoromethane	1868-53-7	104.				% Rec.		8260B	07/31/14	1
4-Bromofluorobenzene	460-00-4	99.1				% Rec.		8260B	07/31/14	1
TPH (GC/FID) High Fraction F8SQL-I	68334-30-5	41.	25	50.	100	ug/l	J	3511/80	07/30/14	1
Surrogate recovery(%)										
o-Terphenyl	84-15-1	117.				% Rec.		3511/80	07/30/14	1
Polynuclear Aromatic Hydrocarbons										
Anthracene	120-12-7	U	0.0076	0.025	0.05	ug/l		8270C-S	08/01/14	1
Acenaphthene	83-32-9	U	0.0082	0.025	0.05	ug/l		8270C-S	08/01/14	1
Acenaphthylene	208-96-8	U	0.0068	0.025	0.05	ug/l		8270C-S	08/01/14	1
Benzo(a)anthracene	56-55-3	U	0.012	0.025	0.05	ug/l		8270C-S	08/01/14	1
Benzo(a)pyrene	50-32-8	U	0.012	0.025	0.05	ug/l		8270C-S	08/01/14	1
Benzo(b)fluoranthene	205-99-2	U	0.014	0.025	0.05	ug/l		8270C-S	08/01/14	1
Benzo(g,h,i)perylene	191-24-2	U	0.011	0.025	0.05	ug/l		8270C-S	08/01/14	1
Benzo(k)fluoranthene	207-08-9	U	0.014	0.025	0.05	ug/l		8270C-S	08/01/14	1
Chrysene	218-01-9	U	0.011	0.025	0.05	ug/l		8270C-S	08/01/14	1
Dibenz(a,h)anthracene	53-70-3	U	0.004	0.025	0.05	ug/l		8270C-S	08/01/14	1
Fluoranthene	206-44-0	U	0.016	0.025	0.05	ug/l		8270C-S	08/01/14	1
Fluorene	86-73-7	U	0.0085	0.025	0.05	ug/l		8270C-S	08/01/14	1
Indeno(1,2,3-cd)pyrene	193-39-5	U	0.015	0.025	0.05	ug/l		8270C-S	08/01/14	1
Naphthalene U MB-I	91-20-3	0.037	~~0.02~~ 0.037	~~0.025~~ 0.037	0.25	ug/l	J	8270C-S	08/01/14	1
Phenanthrene	85-01-8	U	0.0082	0.025	0.05	ug/l		8270C-S	08/01/14	1
Pyrene	129-00-0	U	0.012	0.025	0.05	ug/l		8270C-S	08/01/14	1
2-Methylnaphthalene F SQL-I	91-57-6	0.012	0.009	0.025	0.25	ug/l	J	8270C-S	08/01/14	1
Surrogate Recovery										
Nitrobenzene-d5	4165-60-0	88.5				% Rec.		8270C-S	08/01/14	1
2-Fluorobiphenyl	321-60-8	99.7				% Rec.		8270C-S	08/01/14	1
p-Terphenyl-d14	1718-51-0	106.				% Rec.		8270C-S	08/01/14	1

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Tax I.D. 62-0814289

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 13, 2015

Date Received : July 26, 2014
Description : Holloman AFB

Sample ID : H-TU503-MW03-ND01

Collected By : Jon Mallonee
Collection Date : 07/23/14 17:40

ESC Sample # : L712399-08

Site ID :

Project # : 23446543.0055AA

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Antimony,Dissolved PJ SQL,PDS-H	7440-36-0	0.53	0.21	0.50	1	ug/l	JO1	6020	08/05/14	1
Arsenic,Dissolved	7440-38-2	4.6	0.25	0.50	1	ug/l		6020	08/05/14	1
Cadmium,Dissolved F SQL-I	7440-43-9	0.29	0.16	0.25	0.5	ug/l	J	6020	08/05/14	1
Chromium,Dissolved	7440-47-3	0.70	0.54	1.0	2	ug/l	J	6020	08/05/14	1
Cobalt,Dissolved	7440-48-4	0.79	0.26	0.50	1	ug/l	J	6020	08/05/14	1
Lead,Dissolved	7439-92-1	U	0.24	0.50	1	ug/l		6020	08/05/14	1
Nickel,Dissolved	7440-02-0	13.	0.35	0.50	1	ug/l		6020	08/05/14	1
Selenium,Dissolved J MS-H	7782-49-2	17.	1.9	2.5	5	ug/l	J5	6020	08/05/14	5
Silver,Dissolved J PDS,TVR-L	7440-22-4	4.5	0.31	0.50	1	ug/l	O1	6020	08/05/14	1
Thallium,Dissolved	7440-28-0	U	0.19	0.50	1	ug/l		6020	08/05/14	1
Mercury,Dissolved	7439-97-6	U	0.049	0.090	0.2	ug/l		7470A	07/31/14	1
Aluminum,Dissolved	7429-90-5	U	35	50.	100	ug/l		6010B	08/02/14	1
Barium,Dissolved	7440-39-3	19.	1.7	2.5	5	ug/l		6010B	08/02/14	1
Beryllium,Dissolved	7440-41-7	U	0.7	1.0	2	ug/l		6010B	08/02/14	1
Copper,Dissolved UJ CCB,ICS-L	7440-50-8	14.	~~5.3~~ 14	~~10.~~ 14	20	ug/l	J	6010B	08/02/14	1
Manganese,Dissolved	7439-96-5	110	1.2	5.0	10	ug/l		6010B	08/02/14	1
Vanadium,Dissolved	7440-62-2	92.	2.4	5.0	20	ug/l		6010B	08/02/14	1
Zinc,Dissolved	7440-66-6	U	5.9	15.	50	ug/l		6010B	08/02/14	1

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 13, 2015

ESC Sample # : L712399-09

Date Received : July 26, 2014
Description : Holloman AFB

Site ID :

Sample ID : H-TU503-MW03-NT01

Project # : 23446543.0055AA

Collected By : Jon Mallonee
Collection Date : 07/23/14 17:40

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Dissolved Solids	DSOLIDS	5300000	2820	5000	10000	ug/l		2540 C-	07/29/14	1
Antimony	7440-36-0	U	0.21	0.50	1	ug/l	O1J5	6020	08/03/14	1
Arsenic J MS,PDS-H	7440-38-2	4.3	0.25	0.50	1	ug/l	O1J5	6020	08/03/14	1
Cadmium	7440-43-9	U	0.16	0.50	0.5	ug/l	O1	6020	08/03/14	1
Chromium F SQL-I	7440-47-3	1.1	0.54	1.5	2	ug/l	J	6020	08/03/14	1
Cobalt	7440-48-4	1.0	0.26	0.50	1	ug/l		6020	08/03/14	1
Lead	7439-92-1	U	0.24	0.50	1	ug/l		6020	08/03/14	1
Nickel	7440-02-0	15.	0.35	1.0	1	ug/l		6020	08/03/14	1
Selenium J MS,PDS-H	7782-49-2	16.	0.38	1.0	1	ug/l	O1J5	6020	08/03/14	1
Silver UJ MB,TVP-L	7440-22-4	U	0.31	0.50	1	ug/l		6020	08/03/14	1
Thallium	7440-28-0	U	0.19	0.50	1	ug/l		6020	08/03/14	1
Mercury F SQL-I	7439-97-6	0.050	0.049	0.090	0.2	ug/l	J	7470A	07/30/14	1
Aluminum FJ SQL,MS,FD-H	7429-90-5	38.	35	50.	100	ug/l	JJ5	6010B	08/01/14	1
Barium	7440-39-3	19.	1.7	2.5	5	ug/l		6010B	08/01/14	1
Beryllium	7440-41-7	U	0.7	1.0	2	ug/l		6010B	08/01/14	1
Copper UJ MB,ICS-L,SQL-L	7440-50-8	10.	5.3	10.	20	ug/l	J	6010B	08/01/14	1
Manganese	7439-96-5	110	1.2	5.0	10	ug/l		6010B	08/01/14	1
Vanadium	7440-62-2	92.	2.4	5.0	20	ug/l		6010B	08/01/14	1
Zinc	7440-66-6	U	5.9	15.	50	ug/l		6010B	08/01/14	1
TPH (GC/FID) Low Fraction	8006-61-9	U	31.4	50.	100	ug/l		8015D/G	07/30/14	1
Surrogate Recovery-%										
a,a,a-Trifluorotoluene(FID)	98-08-8	105.				% Rec.		8015D/G	07/30/14	1
Volatile Organics										
Acetone	67-64-1	U	10	25.	50	ug/l		8260B	07/31/14	1
Benzene	71-43-2	U	0.33	0.50	1	ug/l		8260B	07/31/14	1
Bromobenzene UJ MS-L	108-86-1	U	0.35	0.50	1	ug/l		8260B	07/31/14	1
Bromochloromethane	74-97-5	U	0.52	0.75	1	ug/l		8260B	07/31/14	1
Bromodichloromethane	75-27-4	U	0.38	0.50	1	ug/l		8260B	07/31/14	1
Bromoform UJ MS-L	75-25-2	U	0.47	0.50	1	ug/l		8260B	07/31/14	1
Bromomethane	74-83-9	U	0.87	2.5	5	ug/l		8260B	07/31/14	1
n-Butylbenzene UJ MS-L	104-51-8	U	0.36	0.50	1	ug/l		8260B	07/31/14	1
sec-Butylbenzene	135-98-8	U	0.36	0.50	1	ug/l		8260B	07/31/14	1
tert-Butylbenzene	98-06-6	U	0.4	0.50	1	ug/l		8260B	07/31/14	1
Carbon Disulfide	75-15-0	U	0.28	0.50	1	ug/l		8260B	07/31/14	1
Carbon tetrachloride	56-23-5	U	0.38	0.50	1	ug/l		8260B	07/31/14	1
Chlorobenzene UJ MS-L	108-90-7	U	0.35	0.50	1	ug/l		8260B	07/31/14	1
Chlorodibromomethane	124-48-1	U	0.33	0.50	1	ug/l		8260B	07/31/14	1
Chloroethane	75-00-3	U	0.45	2.5	5	ug/l		8260B	07/31/14	1
Chloroform	67-66-3	U	0.32	2.5	5	ug/l		8260B	07/31/14	1
Chloromethane	74-87-3	U	0.28	0.50	2.5	ug/l		8260B	07/31/14	1
2-Chlorotoluene UJ MS-L	95-49-8	U	0.38	0.50	1	ug/l		8260B	07/31/14	1

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 13, 2015

Date Received : July 26, 2014
Description : Holloman AFB

Sample ID : H-TU503-MW03-NT01

Collected By : Jon Mallonee
Collection Date : 07/23/14 17:40

ESC Sample # : L712399-09

Site ID :

Project # : 23446543.0055AA

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
4-Chlorotoluene UJ MS-L	106-43-4	U	0.35	0.50	1	ug/l		8260B	07/31/14	1
1,2-Dibromo-3-Chloropropane	96-12-8	U	1.3	2.5	5	ug/l		8260B	07/31/14	1
1,2-Dibromoethane	106-93-4	U	0.38	0.50	1	ug/l		8260B	07/31/14	1
Dibromomethane	74-95-3	U	0.35	0.50	1	ug/l		8260B	07/31/14	1
1,2-Dichlorobenzene UJ MS-L	95-50-1	U	0.35	0.50	1	ug/l	J6	8260B	07/31/14	1
1,3-Dichlorobenzene UJ MS-L	541-73-1	U	0.22	0.50	1	ug/l		8260B	07/31/14	1
1,4-Dichlorobenzene UJ MS-L	106-46-7	U	0.27	0.50	1	ug/l	J6	8260B	07/31/14	1
Dichlorodifluoromethane	75-71-8	U	0.55	2.5	5	ug/l		8260B	07/31/14	1
1,1-Dichloroethane	75-34-3	U	0.26	0.50	1	ug/l		8260B	07/31/14	1
1,2-Dichloroethane	107-06-2	U	0.36	0.50	1	ug/l		8260B	07/31/14	1
1,1-Dichloroethene	75-35-4	U	0.4	0.50	1	ug/l		8260B	07/31/14	1
cis-1,2-Dichloroethene	156-59-2	U	0.26	0.50	1	ug/l		8260B	07/31/14	1
trans-1,2-Dichloroethene	156-60-5	U	0.4	0.50	1	ug/l		8260B	07/31/14	1
1,2-Dichloropropane	78-87-5	U	0.31	0.50	1	ug/l		8260B	07/31/14	1
1,1-Dichloropropene	563-58-6	U	0.35	0.50	1	ug/l		8260B	07/31/14	1
1,3-Dichloropropane UJ MS-L	142-28-9	U	0.37	0.50	1	ug/l		8260B	07/31/14	1
cis-1,3-Dichloropropene	10061-01-5	U	0.42	0.50	1	ug/l		8260B	07/31/14	1
trans-1,3-Dichloropropene	10061-02-6	U	0.42	0.50	1	ug/l		8260B	07/31/14	1
2,2-Dichloropropane	594-20-7	U	0.32	0.50	1	ug/l		8260B	07/31/14	1
Ethylbenzene UJ MS-L	100-41-4	U	0.38	0.50	1	ug/l		8260B	07/31/14	1
2-Hexanone	591-78-6	U	3.8	5.0	10	ug/l		8260B	07/31/14	1
Hexachloro-1,3-butadiene	87-68-3	U	0.26	0.50	1	ug/l		8260B	07/31/14	1
Isopropylbenzene	98-82-8	U	0.33	0.50	1	ug/l		8260B	07/31/14	1
p-Isopropyltoluene UJ MS-L	99-87-6	U	0.35	0.50	1	ug/l		8260B	07/31/14	1
2-Butanone (MEK)	78-93-3	U	3.9	5.0	10	ug/l		8260B	07/31/14	1
Methylene Chloride	75-09-2	U	1	2.5	5	ug/l		8260B	07/31/14	1
4-Methyl-2-pentanone (MIBK)	108-10-1	U	2.1	5.0	10	ug/l		8260B	07/31/14	1
Methyl tert-butyl ether	1634-04-4	U	0.37	0.50	1	ug/l		8260B	07/31/14	1
~~Naphthalene DNR~~	~~91-20-3~~	~~U~~	~~1~~	~~2.5~~	~~5~~	~~ug/l~~		~~8260B~~	~~07/31/14~~	~~1~~
n-Propylbenzene	103-65-1	U	0.35	0.50	1	ug/l		8260B	07/31/14	1
Styrene	100-42-5	U	0.31	0.50	1	ug/l		8260B	07/31/14	1
1,1,1,2-Tetrachloroethane UJ MS-L	630-20-6	U	0.38	0.50	1	ug/l		8260B	07/31/14	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.58 ~~0.13~~	0.75	1	ug/l		8260B	07/31/14	1
Tetrachloroethene	127-18-4	U	0.37	0.50	1	ug/l		8260B	07/31/14	1
Toluene	108-88-3	U	0.78	2.5	5	ug/l		8260B	07/31/14	1
1,2,3-Trichlorobenzene	87-61-6	U	0.23	0.50	1	ug/l	J6	8260B	07/31/14	1
1,2,4-Trichlorobenzene UJ MS-L	120-82-1	U	0.21	0.50	1	ug/l	J6	8260B	07/31/14	1
1,1,1-Trichloroethane	71-55-6	U	0.319	0.50	1	ug/l		8260B	07/31/14	1
1,1,2-Trichloroethane	79-00-5	U	0.38	0.50	1	ug/l		8260B	07/31/14	1
Trichloroethene	79-01-6	U	0.4	0.50	1	ug/l		8260B	07/31/14	1
Trichlorofluoromethane	75-69-4	U	1.2	2.5	5	ug/l		8260B	07/31/14	1
1,2,3-Trichloropropane UJ MS-L	96-18-4	U	0.81	1.0	2.5	ug/l		8260B	07/31/14	1
1,2,4-Trimethylbenzene UJ MS-L	95-63-6	U	0.37	0.50	1	ug/l		8260B	07/31/14	1
1,3,5-Trimethylbenzene UJ MS-L	108-67-8	U	0.39	0.50	1	ug/l		8260B	07/31/14	1
o-Xylene UJ MS-L	95-47-6	U	0.34	0.50	1	ug/l		8260B	07/31/14	1
m&p-Xylene	1330-20-7	U	0.72	1.0	2	ug/l		8260B	07/31/14	1

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DNR: Do Not Report

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 13, 2015

ESC Sample # : L712399-09

Date Received : July 26, 2014
Description : Holloman AFB

Site ID :

Sample ID : H-TU503-MW03-NT01

Project # : 23446543.0055AA

Collected By : Jon Mallonee
Collection Date : 07/23/14 17:40

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Vinyl chloride	75-01-4	U	0.26	0.50	1	ug/l		8260B	07/31/14	1
Surrogate Recovery										
Toluene-d8	2037-26-5	104.				% Rec.		8260B	07/31/14	1
Dibromofluoromethane	1868-53-7	103.				% Rec.		8260B	07/31/14	1
4-Bromofluorobenzene	460-00-4	97.3				% Rec.		8260B	07/31/14	1
TPH (GC/FID) High Fraction	68334-30-5	160	25	50.	100	ug/l		3511/80	07/30/14	1
Surrogate recovery(%)										
o-Terphenyl	84-15-1	122.				% Rec.		3511/80	07/30/14	1
Polynuclear Aromatic Hydrocarbons										
Anthracene	120-12-7	U	0.0076	0.025	0.05	ug/l		8270C-S	08/01/14	1
Acenaphthene	83-32-9	U	0.0082	0.025	0.05	ug/l		8270C-S	08/01/14	1
Acenaphthylene	208-96-8	U	0.0068	0.025	0.05	ug/l		8270C-S	08/01/14	1
Benzo(a)anthracene	56-55-3	U	0.012	0.025	0.05	ug/l		8270C-S	08/01/14	1
Benzo(a)pyrene	50-32-8	U	0.012	0.025	0.05	ug/l		8270C-S	08/01/14	1
Benzo(b)fluoranthene	205-99-2	U	0.014	0.025	0.05	ug/l		8270C-S	08/01/14	1
Benzo(g,h,i)perylene	191-24-2	U	0.011	0.025	0.05	ug/l		8270C-S	08/01/14	1
Benzo(k)fluoranthene	207-08-9	U	0.014	0.025	0.05	ug/l		8270C-S	08/01/14	1
Chrysene	218-01-9	U	0.011	0.025	0.05	ug/l		8270C-S	08/01/14	1
Dibenz(a,h)anthracene	53-70-3	U	0.004	0.025	0.05	ug/l		8270C-S	08/01/14	1
Fluoranthene	206-44-0	U	0.016	0.025	0.05	ug/l		8270C-S	08/01/14	1
Fluorene	86-73-7	U	0.0085	0.025	0.05	ug/l		8270C-S	08/01/14	1
Indeno(1,2,3-cd)pyrene	193-39-5	U	0.015	0.025	0.05	ug/l		8270C-S	08/01/14	1
Naphthalene U MB-1	91-20-3	0.042	~~0.02~~ 0.042	~~0.025~~ 0.042	0.25	ug/l	J	8270C-S	08/01/14	1
Phenanthrene	85-01-8	U	0.0082	0.025	0.05	ug/l		8270C-S	08/01/14	1
Pyrene	129-00-0	U	0.012	0.025	0.05	ug/l		8270C-S	08/01/14	1
2-Methylnaphthalene	91-57-6	U	0.009	0.025	0.25	ug/l		8270C-S	08/01/14	1
Surrogate Recovery										
Nitrobenzene-d5	4165-60-0	84.1				% Rec.		8270C-S	08/01/14	1
2-Fluorobiphenyl	321-60-8	99.2				% Rec.		8270C-S	08/01/14	1
p-Terphenyl-d14	1718-51-0	107.				% Rec.		8270C-S	08/01/14	1

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 13, 2015

Date Received : July 26, 2014
Description : Holloman AFB

Sample ID : H-TU503-TRIPBLANK-TT02

Collected By : Jon Mallonee
Collection Date : 07/23/14 17:30

ESC Sample # : L712399-10

Site ID :

Project # : 23446543.0055AA

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
TPH (GC/FID) Low Fraction	8006-61-9	U	31.4	50.	100	ug/l		8015D/G	07/30/14	1
Surrogate Recovery-%										
a,a,a-Trifluorotoluene(FID)	98-08-8	105.				% Rec.		8015D/G	07/30/14	1
Volatile Organics										
Acetone	67-64-1	U	10	25.	50	ug/l		8260B	07/31/14	1
Benzene	71-43-2	U	0.33	0.50	1	ug/l		8260B	07/31/14	1
Bromobenzene	108-86-1	U	0.35	0.50	1	ug/l		8260B	07/31/14	1
Bromochloromethane	74-97-5	U	0.52	0.75	1	ug/l		8260B	07/31/14	1
Bromodichloromethane	75-27-4	U	0.38	0.50	1	ug/l		8260B	07/31/14	1
Bromoform	75-25-2	U	0.47	0.50	1	ug/l		8260B	07/31/14	1
Bromomethane	74-83-9	U	0.87	2.5	5	ug/l		8260B	07/31/14	1
n-Butylbenzene	104-51-8	U	0.36	0.50	1	ug/l		8260B	07/31/14	1
sec-Butylbenzene	135-98-8	U	0.36	0.50	1	ug/l		8260B	07/31/14	1
tert-Butylbenzene	98-06-6	U	0.4	0.50	1	ug/l		8260B	07/31/14	1
Carbon Disulfide	75-15-0	U	0.28	0.50	1	ug/l		8260B	07/31/14	1
Carbon tetrachloride	56-23-5	U	0.38	0.50	1	ug/l		8260B	07/31/14	1
Chlorobenzene	108-90-7	U	0.35	0.50	1	ug/l		8260B	07/31/14	1
Chlorodibromomethane	124-48-1	U	0.33	0.50	1	ug/l		8260B	07/31/14	1
Chloroethane	75-00-3	U	0.45	2.5	5	ug/l		8260B	07/31/14	1
Chloroform	67-66-3	U	0.32	2.5	5	ug/l		8260B	07/31/14	1
Chloromethane	74-87-3	U	0.28	0.50	2.5	ug/l		8260B	07/31/14	1
2-Chlorotoluene	95-49-8	U	0.38	0.50	1	ug/l		8260B	07/31/14	1
4-Chlorotoluene	106-43-4	U	0.35	0.50	1	ug/l		8260B	07/31/14	1
1,2-Dibromo-3-Chloropropane	96-12-8	U	1.3	2.5	5	ug/l		8260B	07/31/14	1
1,2-Dibromoethane	106-93-4	U	0.38	0.50	1	ug/l		8260B	07/31/14	1
Dibromomethane	74-95-3	U	0.35	0.50	1	ug/l		8260B	07/31/14	1
1,2-Dichlorobenzene	95-50-1	U	0.35	0.50	1	ug/l		8260B	07/31/14	1
1,3-Dichlorobenzene	541-73-1	U	0.22	0.50	1	ug/l		8260B	07/31/14	1
1,4-Dichlorobenzene	106-46-7	U	0.27	0.50	1	ug/l		8260B	07/31/14	1
Dichlorodifluoromethane	75-71-8	U	0.55	2.5	5	ug/l		8260B	07/31/14	1
1,1-Dichloroethane	75-34-3	U	0.26	0.50	1	ug/l		8260B	07/31/14	1
1,2-Dichloroethane	107-06-2	U	0.36	0.50	1	ug/l		8260B	07/31/14	1
1,1-Dichloroethene	75-35-4	U	0.4	0.50	1	ug/l		8260B	07/31/14	1
cis-1,2-Dichloroethene	156-59-2	U	0.26	0.50	1	ug/l		8260B	07/31/14	1
trans-1,2-Dichloroethene	156-60-5	U	0.4	0.50	1	ug/l		8260B	07/31/14	1
1,2-Dichloropropane	78-87-5	U	0.31	0.50	1	ug/l		8260B	07/31/14	1
1,1-Dichloropropene	563-58-6	U	0.35	0.50	1	ug/l		8260B	07/31/14	1
1,3-Dichloropropane	142-28-9	U	0.37	0.50	1	ug/l		8260B	07/31/14	1
cis-1,3-Dichloropropene	10061-01-5	U	0.42	0.50	1	ug/l		8260B	07/31/14	1
trans-1,3-Dichloropropene	10061-02-6	U	0.42	0.50	1	ug/l		8260B	07/31/14	1
2,2-Dichloropropane	594-20-7	U	0.32	0.50	1	ug/l		8260B	07/31/14	1
Ethylbenzene	100-41-4	U	0.38	0.50	1	ug/l		8260B	07/31/14	1
2-Hexanone	591-78-6	U	3.8	5.0	10	ug/l		8260B	07/31/14	1
Hexachloro-1,3-butadiene	87-68-3	U	0.26	0.50	1	ug/l		8260B	07/31/14	1
Isopropylbenzene	98-82-8	U	0.33	0.50	1	ug/l		8260B	07/31/14	1

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 13, 2015

Date Received : July 26, 2014
Description : Holloman AFB

Sample ID : H-TU503-TRIPBLANK-TT02

Collected By : Jon Mallonee
Collection Date : 07/23/14 17:30

ESC Sample # : L712399-10

Site ID :

Project # : 23446543.0055AA

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
p-Isopropyltoluene	99-87-6	U	0.35	0.50	1	ug/l		8260B	07/31/14	1
2-Butanone (MEK)	78-93-3	U	3.9	5.0	10	ug/l		8260B	07/31/14	1
Methylene Chloride	75-09-2	U	1	2.5	5	ug/l		8260B	07/31/14	1
4-Methyl-2-pentanone (MIBK)	108-10-1	U	2.1	5.0	10	ug/l		8260B	07/31/14	1
Methyl tert-butyl ether	1634-04-4	U	0.37	0.50	1	ug/l		8260B	07/31/14	1
Naphthalene	91-20-3	U	1	2.5	5	ug/l		8260B	07/31/14	1
n-Propylbenzene	103-65-1	U	0.35	0.50	1	ug/l		8260B	07/31/14	1
Styrene	100-42-5	U	0.31	0.50	1	ug/l		8260B	07/31/14	1
1,1,1,2-Tetrachloroethane	630-20-6	U	0.38	0.50	1	ug/l		8260B	07/31/14	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.58 ~~0.13~~	0.75	1	ug/l		8260B	07/31/14	1
Tetrachloroethene	127-18-4	U	0.37	0.50	1	ug/l		8260B	07/31/14	1
Toluene	108-88-3	U	0.78	2.5	5	ug/l		8260B	07/31/14	1
1,2,3-Trichlorobenzene	87-61-6	U	0.23	0.50	1	ug/l		8260B	07/31/14	1
1,2,4-Trichlorobenzene	120-82-1	U	0.21	0.50	1	ug/l		8260B	07/31/14	1
1,1,1-Trichloroethane	71-55-6	U	0.319	0.50	1	ug/l		8260B	07/31/14	1
1,1,2-Trichloroethane	79-00-5	U	0.38	0.50	1	ug/l		8260B	07/31/14	1
Trichloroethene	79-01-6	U	0.4	0.50	1	ug/l		8260B	07/31/14	1
Trichlorofluoromethane	75-69-4	U	1.2	2.5	5	ug/l		8260B	07/31/14	1
1,2,3-Trichloropropane	96-18-4	U	0.81	1.0	2.5	ug/l		8260B	07/31/14	1
1,2,4-Trimethylbenzene	95-63-6	U	0.37	0.50	1	ug/l		8260B	07/31/14	1
1,3,5-Trimethylbenzene	108-67-8	U	0.39	0.50	1	ug/l		8260B	07/31/14	1
o-Xylene	95-47-6	U	0.34	0.50	1	ug/l		8260B	07/31/14	1
m&p-Xylene	1330-20-7	U	0.72	1.0	2	ug/l		8260B	07/31/14	1
Vinyl chloride	75-01-4	U	0.26	0.50	1	ug/l		8260B	07/31/14	1
Surrogate Recovery										
Toluene-d8	2037-26-5	103.				% Rec.		8260B	07/31/14	1
Dibromofluoromethane	1868-53-7	102.				% Rec.		8260B	07/31/14	1
4-Bromofluorobenzene	460-00-4	105.				% Rec.		8260B	07/31/14	1

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Holloman AFB
Groundwater Monitoring
Data Review Summary

Data Package Number: L712422
Sampling Event Dates: July 24, 2014
Sample-specific Parameter Review/Laboratory Performance Parameters: Yes
Full Validation (e.g. result recalculation): No
Data Reviewer: Katie Abbott, URS Project Chemist
Date Completed: January 15, 2015
Peer Reviewer: Sheri Fling, URS Project Quality Assurance Manager (QAM)

The table below summarizes the data package and sample identifications discussed in this data review.

Field Identification	Sample Type	Lab Identification	Matrix	Analyses					
				DRO/ORO	PAHs	Total Metals	Dissolved Metals	TDS	DOC
L712422									
H-TU904-MW01-ND01	SA	L712422-01	Water	---	---	---	X	---	X
H-TU904-MW01-NT01	SA	L712422-02	Water	X	X	X	---	X	---
H-TU904-MW02-DD01	FD	L712422-03	Water	---	---	---	X	---	X
H-TU904-MW02-ND01	SA	L712422-04	Water	---	---	---	X	---	X
H-TU904-MW02-DT01	FD	L712422-05	Water	X	X	X	---	X	---
H-TU904-MW02-NT01	SA	L712422-06	Water	X	X	X	---	X	---
H-TU904-MW07-ND01	SA	L712422-07	Water	---	---	---	X	---	X
H-TU904-MW07-NT01	SA	L712422-08	Water	X	X	X	---	X	---

Sample Type: SA – Sample
Analyses:
DOC – Dissolved Organic Carbon (5310B)
DRO/ORO - Diesel and Oil Range Organics (8015)
TDS – Total Dissolved Solids (SM2540C)
Total/Dissolved Metals – Antimony, Arsenic, Cadmium, Chromium, Cobalt, Lead, Nickel, Selenium, Silver, Thallium, Mercury, Aluminum, Barium, Beryllium, Copper, Manganese, Vanadium, Zinc (6010B/6020/7470A)
PAH – Polynuclear Aromatic Hydrocarbons (8270C)

The data review was conducted in accordance with the Final Interim Measures Work Plan – Appendix A, Sampling and Analysis Plan/Quality Assurance Project Plan: Former Septic System Site TU904 (URS, September 2014); Group 2 Former Underground Storage Sites: AOC-UST-889 (TU515) (URS, September 2014); and Group 3 Former Underground Storage Tank Sites: AOC-UST-221 (TU503), AOC-UST-298 (TU508), AOC-UST-901 (TU506) and AOC-UST-7003 (TU518) (URS, August 2014); data validation standard operating procedure (SOP) 14; Department of Defense (DoD) Quality Systems Manual version 4.2 (DoD, 2010); and method requirements.

General Overall Assessment:

_____ Data are usable without qualification.
__X__ Data are usable with qualification (noted below).
_____ Some or all data are unusable for any purpose (detailed below).

Case Narrative Comments: Any laboratory case narrative comments concerning data qualification were addressed in the table below.

Trace level detects, reported between the method detection limit (MDL) and the reporting limit (LOQ), have been qualified as estimated (F SQL-I). All other occurrences of data qualification are covered in the following table.

Review Parameter	Criteria Met?	Comment
Chain of Custody & Sample Receipt	Yes	The samples were received by ESC Lab Sciences in good condition and were consistent with the accompanying chain of custody (COC). The cooler temperatures upon receipt were within the recommended ≤6 degrees Celsius (°C) temperature range.
Reporting	Yes	Several revisions to the data package were required. Revision 1: Revised reports were issued to remove non-target analytes from the volatile organic compound (VOC) and polynuclear aromatic hydrocarbon (PAH) analyte lists; to include quality assurance project plan (QAPP) required VOC analytes; to correct the matrix spike/matrix spike duplicate (MS/MSD) for diesel range organics/oil range organics (DRO/ORO); to correct the limits of detection (LODs) for 1,1,2,2-tetrachloroethane; 1,2,3-trichloropropane; cadmium; nickel; selenium; and mercury; and to report the continuing calibration blanks (CCBs) and initial calibration blanks (ICBs) to the detection limit (DL). Revision 2: An addendum was issued to include the isotope results in the quality control samples for Method 6020.
Holding Times	Yes	All samples were analyzed within the method required holding time.
Laboratory Blanks • Method Blank • Continuing Calibration Blank	No	With the exception listed in Table 1, target analytes were not detected within the method or calibration blanks. **Method 6020** The laboratory reported multiple isotopes for a given analyte (e.g. antimony 121 and antimony 123) within the analytical sequence for Method 6020. Therefore, all isotope detections were evaluated in the method blanks and continuing calibration blanks for potential impact to sample result qualification.
Matrix Quality Control • Matrix Spike/ Matrix Spike Duplicate None in this package • Laboratory Duplicate H-TU904-MW07-ND01 (DOC) • Total vs. Partial Analyses (Metals)	Yes	**Matrix Spike/ Matrix Spike Duplicate (MS/MSD)** The frequency of MS/MSDs met the QAPP requirement of one per twenty samples. An MS/MSD was not performed on a sample from this data package. Consistent with standard operating procedure (SOP) 14, when MS/MSD issues accounted for less than 35% of the MS/MSD analyses conducted, applicable data qualification was limited to qualification of the parent

Review Parameter	Criteria Met?	Comment
		sample of the affected analyte. When >35% of the MS/MSD results did not meet criteria, evaluation was extended to all associated samples. See Section 4.1 of the data validation report for overall qualifiers resulting from the MS/MSD evaluation. **Laboratory Duplicate** The comparison between results of the laboratory duplicate pair met the criteria listed below. • When both the sample and duplicate values are >5x the LOQ acceptable sampling and analytical precision is indicated by an RPD between the results of ≤20% for water samples (≤35% for soil samples). • Where the result for one or both analytes of the laboratory duplicate pair is <5xLOQ, satisfactory precision is indicated if the absolute difference between the laboratory duplicate results is <1xLOQ for water samples (<2xLOQ for soil samples). **Total vs. Partial Analyses (Metals)** Consistent with SOP 14, results for the total analysis of a particular analyte should be greater than the results for a partial analyte of that analyte. The following criteria were used to evaluate the total versus dissolved results: • In instances where the value for a partial analysis exceeds that for a total analysis and both of the results are >5x the LOQ, the criterion utilized is that the two values should agree within ±30%. • In instances where the value for a partial analysis exceeds that for a total analysis and either of the results is ≤5x the LOQ, the absolute difference between the results is compared against an evaluation criterion of 2x the LOQ. The total metal sample results were compared with the associated dissolved metal sample results against the concentration-dependent criteria set forth in SOP 14.
Metals Only • Serial Dilution None in this package • Post Digestion Spike None in this package	NA	**Serial Dilution (Metals Only)** A serial dilution was not reported in association with the sample in this data package. **Post Digestion Spike (PDS) (Metals Only)** A post digestion spike was not reported in association with the sample in this data package.
Method Quality Control • Surrogates (PAHs, DRO/ORO)	Yes	The surrogate recoveries were within the laboratory specified acceptance criteria.
Field Quality Control • Trip Blank None in this package • Field Duplicate H-TU904-MW02-DD01/ H-TU904-MW02-ND01 H-TU904-MW02-DT01/ H-TU904-MW02-NT01 • Equipment Blank None in this package	Yes	**Trip Blank (Volatile Organic Compounds (VOCs) and Gasoline Range Organics (GRO) Only)** As VOCs and GROs were not analyzed in this data package, a trip blank was not required. Further action was not necessary. **Field Duplicate** The frequency of field duplicates met the QAPP requirement of one per twenty samples.

Review Parameter	Criteria Met?	Comment
• Field Blank None in this package		The comparison between results of the field duplicate pair met the criteria listed below. • When both the sample and duplicate values are >5x the LOQ acceptable sampling and analytical precision is indicated by an RPD between the results of ≤30% for water samples (≤50% for soil samples). • Where the result for one or both analytes of the field duplicate pair is <5xLOQ, satisfactory precision is indicated if the absolute difference between the field duplicate results is <2xLOQ for water samples (<3.5xLOQ for soil samples). Consistent with SOP 14, when field duplicate issues accounted for less than 35% of the field duplicate analyses conducted, applicable data qualification was limited to qualification of the parent sample for the affected analyte. When >35% of the field duplicate results did not meet criteria, evaluation was extended to all associated samples. See Section 4.3 of the data validation report for overall qualifiers resulting from the field duplicate evaluation. **Equipment Blank** As dedicated equipment was used to collect these samples, an equipment blank was not submitted for this sampling event. Further action was not necessary. **Field Blank** The frequency of field blanks met the QAPP requirement of one per twenty samples. A field blank was not submitted with this data package. See Section 4.4 of the data validation report for overall qualifiers resulting from the field blank evaluation.
LODs met?	Yes	No results were reported as non-detect at elevated LODs.
Initial Calibration	Yes	**Method 8270C PAHs** The percent relative standard deviation (%RSD) values for all target analytes in the calibration were less than 20%. Therefore, the initial calibration met method acceptance criteria. **Method 8015 DRO and ORO** The relationship between instrument response and concentration was established with a blank and at least five standards for each analyte. The %RSD over the initial calibrations curve satisfied the method requirement of <15%. Therefore, the initial calibration met method acceptance criteria. As the entire area for C10-C40 is used in the calibration to determine response factor, there is a potential bias in the results when you segregate the DRO (C10-C28) and ORO (C28-C40) which is demonstrated in the individual continuing calibration results. Therefore, the DRO/ORO results were qualified as estimated (J/UJ ID-I). **Methods 6010B (Inductively Coupled Plasma [ICP] Metals) and 6020 (ICPMS Metals)** The initial calibrations (ICALs) were performed in association with the samples reported in this package. The relationship between instrument

Review Parameter	Criteria Met?	Comment
		response and concentration was established with a blank and at least five standards. The calibrations were verified with the analysis of an initial calibration verification (ICV) standard. All metals were recovered within the method acceptance range of 90-110%. **Method 7470A (Mercury)/ DOC** The ICALs were performed in association with the samples reported in this package. The relationship between instrument response and concentration was established with five standards. The correlation coefficient was >0.995. The calibration was verified with the analysis of an ICV standard. The analytes were recovered within the acceptance range of 90-110%. Response and linearity criteria were met and data qualification on the basis of initial calibration was not necessary. **Total Dissolved Solids (TDS)** ICALs are not required per the method for TDS.
Initial Calibration Verification/Continuing Calibration Verification	Yes	**8270C PAHs** With the exceptions listed in Table 5, the percent differences (%Ds) for all calibration check compounds (CCCs) in the ICVs and continuing calibrations (CCALs) were less than 20%, satisfying method requirements, and other target analytes satisfied the %D criterion of 20%. **Method 8015 DRO/ORO** The %Ds for all target compounds in the ICVs and CCALs were less than 15%. Data qualification was not necessary. **Methods 6010B (ICP Metals), Methods 6020 (ICPMS Metals) & 7470A (Mercury)** Calibration verification analyses were conducted at the proper frequency. All metals were recovered within the DOD QSM 4.2 low level acceptance range of 80-120% and the method medium/high acceptance range of 90-110%. **TDS** Calibration verifications are not required for TDS.
Interference Check Standard (Metals Only)	No	The interference check standard (ICS) AB solutions were analyzed at the proper frequency. The target analytes were recovered within the acceptance range of 90-10% in the ICS AB solution. With the exceptions listed in Table 5, interferent elements were not present in the samples at concentrations greater than those in the ICSs. The interferent elements aluminum, calcium, iron, and magnesium were present in most samples in this data package at concentrations greater than or equal to those in the ICSs. As such, these samples were evaluated for positive and negative biases suggested by the ICS A. Data qualification was issued if the absolute value of the ICS A result was greater than the MDL and it suggested a positive or negative bias which accounted for more than 25% of associated sample results or reporting limits. (Note: The ICS A solution only contains the interferent elements aluminum, calcium, iron, and magnesium so any positive or negative result for other analytes is inferred to be a bias potentially caused by one or more of the interferent elements present.) Table 5 summarizes the resultant data qualification on the basis of the ICS results.

Review Parameter	Criteria Met?	Comment
Internal Standard (VOCs/PAHs)	Yes	Recoveries for the internal standards in field samples were within the applicable acceptance limits. Therefore, data qualification based on internal standards was not necessary.
Laboratory Control Sample/ Laboratory Control Sample Duplicate	Yes	One laboratory control sample (LCS) and/or laboratory control sample duplicate (LCSD) per method per analytical batch was prepared and analyzed. All of the LCS recoveries and LCS/LCSD RPDs were within the QAPP acceptance limits. These results are indicative of an acceptable level of accuracy and precision with respect to the analytical method. **Method 8015 DRO/ORO** DRO and ORO were reported in the ranges of C10-C28 and C28-C40; however, the laboratory performed one spike covering the range of C12-C40. This is considered to be an acceptable representation of precision and accuracy with respect to the reported ranges.
Other Parameters	Yes	**Method 8015 DRO/ORO** As the entire area for C10-C40 is used in the calibration to determine response factor, there is a potential bias in the results when you segregate the DRO (C10-C28) and ORO (C28-C40) which is demonstrated in the individual continuing calibration results. Therefore, the DRO/ORO results were qualified as estimated (J/UJ ID-I).
Package Completeness	Yes	The results are usable as qualified for the project objective. The data are 100% complete.

> - Greater Than
< - Less Than
≤ - Less Than or Equal to
± - Plus or Minus
°C – Degrees Celsius
% - Percent
%Ds – Percent Differences
%RSD – Percent Relative Standard Deviation
CCALs – Continuing Calibrations
CCBs – Continuing Calibration Blanks
CCCs – Calibration Check Compounds
COC – Chain of Custody
COD – Coefficient of Determination
DLs – Detection Limits
DRO – Diesel Range Organics
I – Indeterminate Bias
ICAL – Initial Calibration
ICB – Initial Calibration Blank
ICP – Inductively Coupled Plasma
ICS – Interference Check Standard
ICV – Initial Calibration Verification
ID - Identification
LCS – Laboratory Control Sample
LCSD – Laboratory Control Sample Duplicate
LOD – Limit of Detection
LOQ – Limit of Quantitation
MS/MSD – Matrix Spike/ Matrix Spike Duplicate
ORO – Oil Range Organics
PAHs – Polynuclear Aromatic Hydrocarbons
PDS – Post Digestion Spike
QAPP – Quality Assurance Project Plan
RPDs – Relative Percent Differences
RRF – Relative Response Factor
SOP – Standard Operating Procedure
SPCCs – System Performance Check Compounds
TDS – Total Dissolved Solids
UJ - Estimated
VOCs – Volatile Organic Compounds

Table 1: Blank Outliers and Resultant Data Qualification

Associated Samples	Analyte	Concentration	Qualification
Total Metals			
MB Batch WG734495 H-TU904-MW01-NT01	Copper	8.49 µg/L	The associated result for sample H-TU904-MW01-NT01 was reported at a concentration <5x the concentration of the blank contamination and was qualified as non-detect (U MB-I).
MB Batch WG734632 H-TU904-MW01-NT01 H-TU904-MW02-DT01 H-TU904-MW02-NT01 H-TU904-MW07-NT01	Selenium (82)	-0.47 µg/L	None. The associated results were reported at concentrations >4x the concentration of the blank contamination.
	Silver	-0.57 µg/L	As the potential bias was considered to be low, the associated samples reported within 4x the blank contamination were qualified as estimated (UJ/J MB-L).
CCB 8/1/2014 11:26AM H-TU904-MW01-NT01	Copper	7.00 µg/L	The associated results reported at concentrations <5x the concentration of the blank contamination were qualified as non-detect (U CCB-I).
CCB 7/31/2014 2:41PM H-TU904-MW02-DT01 H-TU904-MW02-NT01 H-TU904-MW07-NT01			
CCB 8/4/2014 12:23AM H-TU904-MW01-NT01 H-TU904-MW02-DT01 H-TU904-MW07-NT01	Cadmium (111)	0.200 µg/L	
CCB 8/4/2014 12:23AM H-TU904-MW02-NT01	Cadmium (114)	0.250 µg/L	
CCB 8/4/2014 12:23AM H-TU904-MW01-NT01 H-TU904-MW02-DT01 H-TU904-MW02-NT01 H-TU904-MW07-NT01	Antimony (121)	0.600 µg/L	
CCB 8/4/2014 1:15AM H-TU904-MW01-NT01 H-TU904-MW02-DT01 H-TU904-MW02-NT01 H-TU904-MW07-NT01	Arsenic	0.250 µg/L	None. The associated results were reported at concentrations >5x the concentration of the blank contamination.
CCB 8/4/2014 1:15AM H-TU904-MW01-NT01 H-TU904-MW02-DT01 H-TU904-MW07-NT01	Cadmium (111)	0.180 µg/L	The associated results reported at concentrations <5x the concentration of the blank contamination were qualified as non-detect (U CCB-I).
CCB 8/4/2014 1:15AM H-TU904-MW02-NT01	Cadmium (114)	0.530 µg/L	
CCB 8/4/2014 1:15AM H-TU904-MW01-NT01 H-TU904-MW02-DT01 H-TU904-MW02-NT01 H-TU904-MW07-NT01	Antimony (121)	0.600 µg/L	
	Selenium (82)	0.680 µg/L	None. The associated results were reported at concentrations >5x the concentration of the blank contamination.
CCB 8/4/2014 10:10AM H-TU904-MW01-NT01 H-TU904-MW02-DT01 H-TU904-MW02-NT01 H-TU904-MW07-NT01	Silver	0.390 µg/L	The associated results reported at concentrations <5x the concentration of the blank contamination were qualified as non-detect (U CCB-I).

Associated Samples	Analyte	Concentration	Qualification
Dissolved Metals			
MB Batch WG734940 H-TU904-MW01-ND01 H-TU904-MW02-DD01 H-TU904-MW02-ND01 H-TU904-MW07-ND01	Selenium (82)	0.49 µg/L	None. The associated results were reported as non-detect or at concentrations >5x the concentration of the blank contamination.
CCB 8/5/2014 1:33PM H-TU904-MW01-ND01 H-TU904-MW02-DD01 H-TU904-MW02-ND01 H-TU904-MW07-ND01	Silver	0.500 µg/L	
	Selenium (82)	0.510 µg/L	
CCB 8/5/2014 2:41PM H-TU904-MW01-ND01 H-TU904-MW02-DD01 H-TU904-MW02-ND01 H-TU904-MW07-ND01		0.500 µg/L	
DRO/ORO			
MB Batch WG737184 H-TU904-MW01-NT01 H-TU904-MW02-DT01 H-TU904-MW02-NT01	C10-C28 Diesel Range	34.9 µg/L	The associated results reported at concentrations <5x the concentration of the blank contamination were qualified as non-detect (U MB-I).
MB Batch WG737185 H-TU904-MW07-NT01		52.7 µg/L	
PAHs			
MB Batch WG734386 H-TU904-MW01-NT01 H-TU904-MW02-DT01 H-TU904-MW02-NT01 H-TU904-MW07-NT01	Naphthalene	0.0220 µg/L	The associated results reported at concentrations <5x the concentration of the blank contamination were qualified as non-detect (U MB-I).

< - Less Than
DRO – Diesel Range Organics
MB – Method Blank
U – Non-detect
µg/L – Micrograms per Liter
I – Indeterminate Bias
ORO – Oil Range Organics
UJ/J - Estimated
CCB – Continuing Calibration Blank
L – Low Bias
PAHs – Polynuclear Aromatic Hydrocarbons

Table 2: ICS Outliers and Resultant Data Qualification

Interferent Element	Analyte	ICS A (µg/L)	MDL (µg/L)	Qualified Samples	Qualification
Calcium	Barium	4.5	1.7	H-TU904-MW01-ND01 H-TU904-MW02-DD01 H-TU904-MW02-ND01	As the potential bias was considered to be high, the associated result was qualified as estimated (J ICS-H).
	Copper	-20.1	5.3	H-TU904-MW01-ND01 H-TU904-MW01-NT01 H-TU904-MW02-DD01 H-TU904-MW02-ND01 H-TU904-MW02-DT01 H-TU904-MW02-NT01 H-TU904-MW07-ND01 H-TU904-MW07-NT01	As the potential bias was considered to be low, the associated results were qualified as estimated (UJ/J ICS-L).
	Manganese	-13.4	1.2		
	Vanadium	-3.6	2.4	H-TU904-MW01-ND01 H-TU904-MW01-NT01	
	Zinc	28.5	5.9	H-TU904-MW02-ND01	As the potential bias was considered to be high, the associated results were qualified as estimated (J ICS-H).
Calcium, Magnesium	Copper	-20.1	5.3	H-TU904-MW07-ND01 H-TU904-MW07-NT01 H-TU904-MW07-ND01	As the potential bias was considered to be low, the associated results were qualified as estimated (UJ/J ICS-L).
	Manganese	-13.4	1.2		
	Vanadium	-3.6	2.4		
	Zinc	28.5	5.9		As the potential bias was considered to be high, the associated result was qualified as estimated (J ICS-H).

µg/L – Micrograms per Liter
L – Low Bias
H – High Bias
MDL – Method Detection Limit
ICS – Interference Check Standard
UJ/J - Estimated

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REPORT OF ANALYSIS

Sheri Fling
URS Corporation - Tucson AZ - 1088
8181 E. Tufts Avenue
Denver, CO 80237

October 24, 2014

ESC Sample # : L712422-01

Site ID :

Project # : 23446543.0053AA

Date Received : July 26, 2014
Description : Holloman AFB

Sample ID : H-TU904-MW-01-ND01

Collected By : Jon Mallonee
Collection Date : 07/24/14 13:05

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Antimony,Dissolved FJ SQL-I	7440-36-0	0.30	0.21	0.50	1	ug/l	J	6020	08/05/14	1
Arsenic,Dissolved	7440-38-2	2.5	0.25	0.50	1	ug/l		6020	08/05/14	1
Cadmium,Dissolved	7440-43-9	U	0.16	0.25	0.5	ug/l		6020	08/05/14	1
Chromium,Dissolved FJ SQL-I	7440-47-3	1.1	0.54	1.0	2	ug/l	J	6020	08/05/14	1
Cobalt,Dissolved	7440-48-4	2.3	0.26	0.50	1	ug/l		6020	08/05/14	1
Lead,Dissolved	7439-92-1	U	0.24	0.50	1	ug/l		6020	08/05/14	1
Nickel,Dissolved	7440-02-0	76.	0.35	0.50	1	ug/l		6020	08/05/14	1
Selenium,Dissolved J MS-H	7782-49-2	21.	0.38	0.50	1	ug/l		6020	08/05/14	1
Silver,Dissolved UJ MS-L	7440-22-4	U	0.31	0.50	1	ug/l		6020	08/05/14	1
Thallium,Dissolved	7440-28-0	U	0.19	0.50	1	ug/l		6020	08/05/14	1
Mercury,Dissolved	7439-97-6	U	0.049	0.090	0.2	ug/l		7470A	07/31/14	1
Aluminum,Dissolved FJ SQL,MS-H ~~FJ SQL-I~~	7429-90-5	43.	35	50.	100	ug/l	J	6010B	07/31/14	1
Barium,Dissolved J ICS-H	7440-39-3	15.	1.7	2.5	5	ug/l		6010B	07/31/14	1
Beryllium,Dissolved	7440-41-7	U	0.7	1.0	2	ug/l		6010B	07/31/14	1
Copper,Dissolved FJ SQL,ICS-L	7440-50-8	7.3	5.3	10.	20	ug/l	J	6010B	07/31/14	1
Manganese,Dissolved J ICS-L	7439-96-5	18.	1.2	5.0	10	ug/l		6010B	07/31/14	1
Vanadium,Dissolved FJ SQL,ICS-L	7440-62-2	12.	2.4	5.0	20	ug/l	J	6010B	07/31/14	1
Zinc,Dissolved	7440-66-6	U	5.9	15.	50	ug/l		6010B	07/31/14	1

U = Not Detected at the LOD
Note:
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REPORT OF ANALYSIS

Sheri Fling
URS Corporation - Tucson AZ - 1088
8181 E. Tufts Avenue
Denver, CO 80237

October 24, 2014

ESC Sample # : L712422-02

Site ID :

Project # : 23446543.0053AA

Date Received : July 26, 2014
Description : Holloman AFB

Sample ID : H-TU904-MW-01-NT01

Collected By : Jon Mallonee
Collection Date : 07/24/14 13:05

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Dissolved Solids	DSOLIDS	10000000	2800	5000	10000	ug/l		2540 C-	07/30/14	1
Antimony U CCB-I	7440-36-0	~~0.43~~ 0.50	~~0.21~~ 0.43	0.50	1	ug/l	J	6020	08/04/14	1
Arsenic	7440-38-2	3.9	0.25	0.50	1	ug/l		6020	08/04/14	1
Cadmium U CCB-I	7440-43-9	~~0.24~~ 0.25	~~0.16~~ 0.24	0.25	0.5	ug/l	J	6020	08/04/14	1
Chromium	7440-47-3	6.7	0.54	1.0	2	ug/l		6020	08/04/14	1
Cobalt	7440-48-4	2.3	0.26	0.50	1	ug/l		6020	08/04/14	1
Lead FJ SQL-I	7439-92-1	0.38	0.24	0.50	1	ug/l	J	6020	08/04/14	1
Nickel	7440-02-0	70.	0.35	0.50	1	ug/l		6020	08/04/14	1
Selenium J MS-H	7782-49-2	26.	0.38	0.50	1	ug/l		6020	08/04/14	1
Silver J MB-L	7440-22-4	2.0	0.31	0.50	1	ug/l		6020	08/04/14	1
Thallium	7440-28-0	U	0.19	0.50	1	ug/l		6020	08/04/14	1
Mercury	7439-97-6	U	0.049	0.090	0.2	ug/l		7470A	07/30/14	1
Aluminum J MS,FD-H	7429-90-5	650	35	50.	100	ug/l		6010B	08/01/14	1
Barium	7440-39-3	20.	1.7	2.5	5	ug/l		6010B	08/01/14	1
Beryllium	7440-41-7	U	0.7	1.0	2	ug/l		6010B	08/01/14	1
Copper UJ MB,CCB,ICS-L	7440-50-8	~~7.7~~ 10	~~5.3~~ 7.7	10.	20	ug/l	J	6010B	08/01/14	1
Manganese J ICS-L	7439-96-5	20.	1.2	5.0	10	ug/l		6010B	08/01/14	1
Vanadium FJ SQL,ICS-L	7440-62-2	15.	2.4	5.0	20	ug/l	J	6010B	08/01/14	1
Zinc	7440-66-6	U	5.9	15.	50	ug/l		6010B	08/01/14	1
Diesel and Oil Ranges										
C10-C28 Diesel Range UJ MB,ID-I		38.	~~22~~ 38	~~33.~~ 38	100	ug/l	J	8015	08/14/14	1
C28-C40 Oil Range UJ ID-I		U	12	33.	100	ug/l		8015	08/14/14	1
Surrogate Recovery										
o-Terphenyl	84-15-1	126.				% Rec.		8015	08/14/14	1
Polynuclear Aromatic Hydrocarbons										
Anthracene	120-12-7	U	0.0076	0.025	0.05	ug/l		8270C-S	07/31/14	1
Acenaphthene	83-32-9	U	0.0082	0.025	0.05	ug/l		8270C-S	07/31/14	1
Acenaphthylene	208-96-8	U	0.0068	0.025	0.05	ug/l		8270C-S	07/31/14	1
Benzo(a)anthracene	56-55-3	U	0.012	0.025	0.05	ug/l		8270C-S	07/31/14	1
Benzo(a)pyrene	50-32-8	U	0.012	0.025	0.05	ug/l		8270C-S	07/31/14	1
Benzo(b)fluoranthene	205-99-2	U	0.014	0.025	0.05	ug/l		8270C-S	07/31/14	1
Benzo(g,h,i)perylene	191-24-2	U	0.011	0.025	0.05	ug/l		8270C-S	07/31/14	1
Benzo(k)fluoranthene	207-08-9	U	0.014	0.025	0.05	ug/l		8270C-S	07/31/14	1
Chrysene	218-01-9	U	0.011	0.025	0.05	ug/l		8270C-S	07/31/14	1
Dibenz(a,h)anthracene	53-70-3	U	0.004	0.025	0.05	ug/l		8270C-S	07/31/14	1
Fluoranthene	206-44-0	U	0.016	0.025	0.05	ug/l		8270C-S	07/31/14	1
Fluorene	86-73-7	U	0.0085	0.025	0.05	ug/l		8270C-S	07/31/14	1
Indeno(1,2,3-cd)pyrene	193-39-5	U	0.015	0.025	0.05	ug/l		8270C-S	07/31/14	1
Naphthalene U MB-I	91-20-3	0.025	~~0.02~~ 0.05	0.025	0.25	ug/l	J	8270C-S	07/31/14	1
Phenanthrene	85-01-8	U	0.0082	0.025	0.05	ug/l		8270C-S	07/31/14	1
Pyrene	129-00-0	U	0.012	0.025	0.05	ug/l		8270C-S	07/31/14	1

U = Not Detected at the LOD
Note:
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REPORT OF ANALYSIS

Sheri Fling
URS Corporation - Tucson AZ - 1088
8181 E. Tufts Avenue
Denver, CO 80237

October 24, 2014

ESC Sample # : L712422-02

Date Received : July 26, 2014
Description : Holloman AFB

Site ID :

Sample ID : H-TU904-MW-01-NT01

Project # : 23446543.0053AA

Collected By : Jon Mallonee
Collection Date : 07/24/14 13:05

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
2-Methylnaphthalene	91-57-6	U	0.009	0.025	0.25	ug/l		8270C-S	07/31/14	1
Surrogate Recovery										
Nitrobenzene-d5	4165-60-0	88.1				% Rec.		8270C-S	07/31/14	1
2-Fluorobiphenyl	321-60-8	98.1				% Rec.		8270C-S	07/31/14	1
p-Terphenyl-d14	1718-51-0	107.				% Rec.		8270C-S	07/31/14	1

U = Not Detected at the LOD
Note:
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REPORT OF ANALYSIS

Sheri Fling
URS Corporation - Tucson AZ - 1088
8181 E. Tufts Avenue
Denver, CO 80237

October 24, 2014

Date Received : July 26, 2014
Description : Holloman AFB

Sample ID : H-TU904-MW-02-DD01

Collected By : Jon Mallonee
Collection Date : 07/24/14 10:30

ESC Sample # : L712422-03

Site ID :

Project # : 23446543.0053AA

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Antimony,Dissolved FB SQL-I	7440-36-0	0.30	0.21	0.50	1	ug/l	J	6020	08/05/14	1
Arsenic,Dissolved	7440-38-2	4.0	0.25	0.50	1	ug/l		6020	08/05/14	1
Cadmium,Dissolved	7440-43-9	U	0.16	0.25	0.5	ug/l		6020	08/05/14	1
Chromium,Dissolved	7440-47-3	3.2	0.54	1.0	2	ug/l		6020	08/05/14	1
Cobalt,Dissolved FB SQL-I	7440-48-4	0.62	0.26	0.50	1	ug/l	J	6020	08/05/14	1
Lead,Dissolved	7439-92-1	U	0.24	0.50	1	ug/l		6020	08/05/14	1
Nickel,Dissolved	7440-02-0	19.	0.35	0.50	1	ug/l		6020	08/05/14	1
Selenium,Dissolved J MS-H	7782-49-2	21.	0.38	0.50	1	ug/l		6020	08/05/14	1
Silver,Dissolved UJ MS-L	7440-22-4	U	0.31	0.50	1	ug/l		6020	08/05/14	1
Thallium,Dissolved	7440-28-0	U	0.19	0.50	1	ug/l		6020	08/05/14	1
Mercury,Dissolved	7439-97-6	U	0.049	0.090	0.2	ug/l		7470A	07/31/14	1
Aluminum,Dissolved J MS-H	7429-90-5	110	35	50.	100	ug/l		6010B	07/31/14	1
Barium,Dissolved J ICS-H	7440-39-3	16.	1.7	2.5	5	ug/l		6010B	07/31/14	1
Beryllium,Dissolved	7440-41-7	U	0.7	1.0	2	ug/l		6010B	07/31/14	1
Copper,Dissolved UJ ICS-L	7440-50-8	U	5.3	10.	20	ug/l		6010B	07/31/14	1
Manganese,Dissolved UJ ICS-L	7439-96-5	U	1.2	5.0	10	ug/l		6010B	07/31/14	1
Vanadium,Dissolved FB SQL-I	7440-62-2	15.	2.4	5.0	20	ug/l	J	6010B	07/31/14	1
Zinc,Dissolved	7440-66-6	U	5.9	15.	50	ug/l		6010B	07/31/14	1

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Tax I.D. 62-0814289

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REPORT OF ANALYSIS

Sheri Fling
URS Corporation - Tucson AZ - 1088
8181 E. Tufts Avenue
Denver, CO 80237

October 24, 2014

ESC Sample # : L712422-04

Site ID :

Project # : 23446543.0053AA

Date Received : July 26, 2014
Description : Holloman AFB

Sample ID : H-TU904-MW-02-ND01

Collected By : Jon Mallonee
Collection Date : 07/24/14 10:30

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Antimony, Dissolved FJ SQL-I	7440-36-0	0.28	0.21	0.50	1	ug/l	J	6020	08/05/14	1
Arsenic, Dissolved	7440-38-2	4.5	0.25	0.50	1	ug/l		6020	08/05/14	1
Cadmium, Dissolved FJ SQL-I	7440-43-9	0.16	0.16	0.25	0.5	ug/l	J	6020	08/05/14	1
Chromium, Dissolved	7440-47-3	3.4	0.54	1.0	2	ug/l		6020	08/05/14	1
Cobalt, Dissolved FJ SQL-I	7440-48-4	0.62	0.26	0.50	1	ug/l	J	6020	08/05/14	1
Lead, Dissolved	7439-92-1	U	0.24	0.50	1	ug/l		6020	08/05/14	1
Nickel, Dissolved	7440-02-0	20.	0.35	0.50	1	ug/l		6020	08/05/14	1
Selenium, Dissolved J MS-H	7782-49-2	22.	0.38	0.50	1	ug/l		6020	08/05/14	1
Silver, Dissolved UJ MS-L	7440-22-4	U	0.31	0.50	1	ug/l		6020	08/05/14	1
Thallium, Dissolved	7440-28-0	U	0.19	0.50	1	ug/l		6020	08/05/14	1
Mercury, Dissolved	7439-97-6	U	0.049	0.090	0.2	ug/l		7470A	07/31/14	1
Aluminum, Dissolved ~~FJ SQL-I~~ FJ SQL, MS-H	7429-90-5	96.	35	50.	100	ug/l	J	6010B	07/31/14	1
Barium, Dissolved J ICS-H	7440-39-3	17.	1.7	2.5	5	ug/l		6010B	07/31/14	1
Beryllium, Dissolved	7440-41-7	U	0.7	1.0	2	ug/l		6010B	07/31/14	1
Copper, Dissolved UJ ICS-L	7440-50-8	U	5.3	10.	20	ug/l		6010B	07/31/14	1
Manganese, Dissolved UJ ICS-L	7439-96-5	U	1.2	5.0	10	ug/l		6010B	07/31/14	1
Vanadium, Dissolved FJ SQL-I	7440-62-2	15.	2.4	5.0	20	ug/l	J	6010B	07/31/14	1
Zinc, Dissolved FJ SQL, ICS-H	7440-66-6	7.3	5.9	15.	50	ug/l	J	6010B	07/31/14	1

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REPORT OF ANALYSIS

Sheri Fling
URS Corporation - Tucson AZ - 1088
8181 E. Tufts Avenue
Denver, CO 80237

October 24, 2014

Date Received : July 26, 2014
Description : Holloman AFB

ESC Sample # : L712422-05

Sample ID : H-TU904-MW-02-DT01

Site ID :

Project # : 23446543.0053AA

Collected By : Jon Mallonee
Collection Date : 07/24/14 10:30

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Dissolved Solids	DSOLIDS	10000000	2800	5000	10000	ug/l		2540 C-	07/30/14	1
Antimony U CCB-I	7440-36-0	~~0.42~~ 0.50	~~0.21~~ 0.42	0.50	1	ug/l	J	6020	08/04/14	1
Arsenic	7440-38-2	4.2	0.25	0.50	1	ug/l		6020	08/04/14	1
Cadmium U CCB-I	7440-43-9	~~0.22~~ 0.25	~~0.16~~ 0.22	0.25	0.5	ug/l	J	6020	08/04/14	1
Chromium	7440-47-3	5.9	0.54	1.0	2	ug/l		6020	08/04/14	1
Cobalt ~~FB~~ SOL-I	7440-48-4	0.94	0.26	0.50	1	ug/l	J	6020	08/04/14	1
Lead	7439-92-1	U	0.24	0.50	1	ug/l		6020	08/04/14	1
Nickel	7440-02-0	22.	0.35	0.50	1	ug/l		6020	08/04/14	1
Selenium J MS-H	7782-49-2	24.	0.38	0.50	1	ug/l		6020	08/04/14	1
Silver UJ MB,CCB-L	7440-22-4	0.59	~~0.31~~ 0.59	~~0.50~~ 0.59	1	ug/l	J	6020	08/04/14	1
Thallium	7440-28-0	U	0.19	0.50	1	ug/l		6020	08/04/14	1
Mercury	7439-97-6	U	0.049	0.090	0.2	ug/l		7470A	07/30/14	1
Aluminum J MS-H	7429-90-5	420	35	50.	100	ug/l		6010B	07/31/14	1
Barium	7440-39-3	18.	1.7	2.5	5	ug/l		6010B	07/31/14	1
Beryllium	7440-41-7	U	0.7	1.0	2	ug/l		6010B	07/31/14	1
Copper UJ CCB,ICS-L	7440-50-8	~~7.7~~ 10	~~5.3~~ 10	10.	20	ug/l	J	6010B	07/31/14	1
Manganese UJ ICS-L	7439-96-5	U	1.2	5.0	10	ug/l		6010B	07/31/14	1
Vanadium ~~FB~~ SOL-I	7440-62-2	16.	2.4	5.0	20	ug/l	J	6010B	07/31/14	1
Zinc	7440-66-6	U	5.9	15.	50	ug/l		6010B	07/31/14	1
Diesel and Oil Ranges										
C10-C28 Diesel Range UJ MB,ID-I		46.	~~22.~~ 46	~~33.~~ 46	100	ug/l	J	8015	08/14/14	1
C28-C40 Oil Range UJ ID-I		U	12	33.	100	ug/l		8015	08/14/14	1
Surrogate Recovery										
o-Terphenyl	84-15-1	122.				% Rec.		8015	08/14/14	1
Polynuclear Aromatic Hydrocarbons										
Anthracene	120-12-7	U	0.0076	0.025	0.05	ug/l		8270C-S	07/31/14	1
Acenaphthene	83-32-9	U	0.0082	0.025	0.05	ug/l		8270C-S	07/31/14	1
Acenaphthylene	208-96-8	U	0.0068	0.025	0.05	ug/l		8270C-S	07/31/14	1
Benzo(a)anthracene	56-55-3	U	0.012	0.025	0.05	ug/l		8270C-S	07/31/14	1
Benzo(a)pyrene	50-32-8	U	0.012	0.025	0.05	ug/l		8270C-S	07/31/14	1
Benzo(b)fluoranthene	205-99-2	U	0.014	0.025	0.05	ug/l		8270C-S	07/31/14	1
Benzo(g,h,i)perylene	191-24-2	U	0.011	0.025	0.05	ug/l		8270C-S	07/31/14	1
Benzo(k)fluoranthene	207-08-9	U	0.014	0.025	0.05	ug/l		8270C-S	07/31/14	1
Chrysene	218-01-9	U	0.011	0.025	0.05	ug/l		8270C-S	07/31/14	1
Dibenz(a,h)anthracene	53-70-3	U	0.004	0.025	0.05	ug/l		8270C-S	07/31/14	1
Fluoranthene	206-44-0	U	0.016	0.025	0.05	ug/l		8270C-S	07/31/14	1
Fluorene	86-73-7	U	0.0085	0.025	0.05	ug/l		8270C-S	07/31/14	1
Indeno(1,2,3-cd)pyrene	193-39-5	U	0.015	0.025	0.05	ug/l		8270C-S	07/31/14	1
Naphthalene U MB-I	91-20-3	0.025	~~0.0205~~	0.025	0.25	ug/l	J	8270C-S	07/31/14	1
Phenanthrene	85-01-8	U	0.0082	0.025	0.05	ug/l		8270C-S	07/31/14	1
Pyrene	129-00-0	U	0.012	0.025	0.05	ug/l		8270C-S	07/31/14	1

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REPORT OF ANALYSIS

Sheri Fling
URS Corporation - Tucson AZ - 1088
8181 E. Tufts Avenue
Denver, CO 80237

October 24, 2014

Date Received : July 26, 2014
Description : Holloman AFB

Sample ID : H-TU904-MW-02-DT01

Collected By : Jon Mallonee
Collection Date : 07/24/14 10:30

ESC Sample # : L712422-05

Site ID :

Project # : 23446543.0053AA

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
2-Methylnaphthalene	91-57-6	U	0.009	0.025	0.25	ug/l		8270C-S	07/31/14	1
Surrogate Recovery										
Nitrobenzene-d5	4165-60-0	88.3				% Rec.		8270C-S	07/31/14	1
2-Fluorobiphenyl	321-60-8	99.9				% Rec.		8270C-S	07/31/14	1
p-Terphenyl-d14	1718-51-0	109.				% Rec.		8270C-S	07/31/14	1

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REPORT OF ANALYSIS

Sheri Fling
URS Corporation - Tucson AZ - 1088
8181 E. Tufts Avenue
Denver, CO 80237

October 24, 2014

ESC Sample # : L712422-06

Date Received : July 26, 2014
Description : Holloman AFB

Site ID :

Sample ID : H-TU904-MW-02-NT01

Project # : 23446543.0053AA

Collected By : Jon Mallonee
Collection Date : 07/24/14 10:30

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Dissolved Solids	DSOLIDS	10000000	2800	5000	10000	ug/l		2540 C-	07/30/14	1
Antimony U CCB-I	7440-36-0	~~0.42~~ 0.50	~~0.21~~ 0.42	0.50	1	ug/l	J	6020	08/04/14	1
Arsenic	7440-38-2	3.6	0.25	0.50	1	ug/l		6020	08/04/14	1
Cadmium U CCB-I	7440-43-9	0.25	~~0.16~~ 0.25	0.25	0.5	ug/l	J	6020	08/04/14	1
Chromium	7440-47-3	6.2	0.54	1.0	2	ug/l		6020	08/04/14	1
Cobalt	7440-48-4	1.1	0.26	0.50	1	ug/l		6020	08/04/14	1
Lead F SQL-I	7439-92-1	0.24	0.24	0.50	1	ug/l	J	6020	08/04/14	1
Nickel	7440-02-0	22.	0.35	0.50	1	ug/l		6020	08/04/14	1
Selenium J MS-H	7782-49-2	24.	0.38	0.50	1	ug/l		6020	08/04/14	1
Silver UJ MB,CCB-L	7440-22-4	~~0.36~~ 0.50	~~0.31~~ 0.50	0.50	1	ug/l	J	6020	08/04/14	1
Thallium	7440-28-0	U	0.19	0.50	1	ug/l		6020	08/04/14	1
Mercury F SQL-I	7439-97-6	0.092	0.049	0.090	0.2	ug/l	J	7470A	07/30/14	1
Aluminum J MS-H	7429-90-5	490	35	50.	100	ug/l		6010B	07/31/14	1
Barium	7440-39-3	19.	1.7	2.5	5	ug/l		6010B	07/31/14	1
Beryllium	7440-41-7	U	0.7	1.0	2	ug/l		6010B	07/31/14	1
Copper UJ ICS-L	7440-50-8	U	5.3	10.	20	ug/l		6010B	07/31/14	1
Manganese UJ ICSL	7439-96-5	U	1.2	5.0	10	ug/l		6010B	07/31/14	1
Vanadium F SQL-I	7440-62-2	18.	2.4	5.0	20	ug/l	J	6010B	07/31/14	1
Zinc	7440-66-6	U	5.9	15.	50	ug/l		6010B	07/31/14	1
Diesel and Oil Ranges										
C10-C28 Diesel Range UJ MB,ID-I		41.	~~22~~ 41	~~33.~~ 41	100	ug/l	J	8015	08/14/14	1
C28-C40 Oil Range UJ ID-I		U	12	33.	100	ug/l		8015	08/14/14	1
Surrogate Recovery										
o-Terphenyl	84-15-1	112.				% Rec.		8015	08/14/14	1
Polynuclear Aromatic Hydrocarbons										
Anthracene	120-12-7	U	0.0076	0.025	0.05	ug/l		8270C-S	07/31/14	1
Acenaphthene	83-32-9	U	0.0082	0.025	0.05	ug/l		8270C-S	07/31/14	1
Acenaphthylene	208-96-8	U	0.0068	0.025	0.05	ug/l		8270C-S	07/31/14	1
Benzo(a)anthracene	56-55-3	U	0.012	0.025	0.05	ug/l		8270C-S	07/31/14	1
Benzo(a)pyrene	50-32-8	U	0.012	0.025	0.05	ug/l		8270C-S	07/31/14	1
Benzo(b)fluoranthene	205-99-2	U	0.014	0.025	0.05	ug/l		8270C-S	07/31/14	1
Benzo(g,h,i)perylene	191-24-2	U	0.011	0.025	0.05	ug/l		8270C-S	07/31/14	1
Benzo(k)fluoranthene	207-08-9	U	0.014	0.025	0.05	ug/l		8270C-S	07/31/14	1
Chrysene	218-01-9	U	0.011	0.025	0.05	ug/l		8270C-S	07/31/14	1
Dibenz(a,h)anthracene	53-70-3	U	0.004	0.025	0.05	ug/l		8270C-S	07/31/14	1
Fluoranthene	206-44-0	U	0.016	0.025	0.05	ug/l		8270C-S	07/31/14	1
Fluorene	86-73-7	U	0.0085	0.025	0.05	ug/l		8270C-S	07/31/14	1
Indeno(1,2,3-cd)pyrene	193-39-5	U	0.015	0.025	0.05	ug/l		8270C-S	07/31/14	1
Naphthalene U MB-I	91-20-3	0.029	0.029	~~0.025~~ 0.029	0.25	ug/l	J	8270C-S	07/31/14	1
Phenanthrene	85-01-8	U	0.0082	0.025	0.05	ug/l		8270C-S	07/31/14	1
Pyrene	129-00-0	U	0.012	0.025	0.05	ug/l		8270C-S	07/31/14	1

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REPORT OF ANALYSIS

Sheri Fling
URS Corporation - Tucson AZ - 1088
8181 E. Tufts Avenue
Denver, CO 80237

October 24, 2014

ESC Sample # : L712422-06

Date Received : July 26, 2014
Description : Holloman AFB

Site ID :

Sample ID : H-TU904-MW-02-NT01

Project # : 23446543.0053AA

Collected By : Jon Mallonee
Collection Date : 07/24/14 10:30

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
2-Methylnaphthalene	91-57-6	U	0.009	0.025	0.25	ug/l		8270C-S	07/31/14	1
Surrogate Recovery										
Nitrobenzene-d5	4165-60-0	87.7				% Rec.		8270C-S	07/31/14	1
2-Fluorobiphenyl	321-60-8	98.1				% Rec.		8270C-S	07/31/14	1
p-Terphenyl-d14	1718-51-0	108.				% Rec.		8270C-S	07/31/14	1

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REPORT OF ANALYSIS

Sheri Fling
URS Corporation - Tucson AZ - 1088
8181 E. Tufts Avenue
Denver, CO 80237

October 24, 2014

ESC Sample # : L712422-07

Date Received : July 26, 2014
Description : Holloman AFB

Site ID :

Sample ID : H-TU904-MW-07-ND01

Project # : 23446543.0053AA

Collected By : Jon Mallonee
Collection Date : 07/25/14 08:25

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
DOC		2300	110	300	1000	ug/l		5310 B-	07/29/14	1
Antimony,Dissolved FSQL-I	7440-36-0	0.36	0.21	0.50	1	ug/l	J	6020	08/05/14	1
Arsenic,Dissolved	7440-38-2	2.7	0.25	0.50	1	ug/l		6020	08/05/14	1
Cadmium,Dissolved F SQL-I	7440-43-9	0.18	0.16	0.25	0.5	ug/l	J	6020	08/05/14	1
Chromium,Dissolved F SQL-I	7440-47-3	0.69	0.54	1.0	2	ug/l	J	6020	08/05/14	1
Cobalt,Dissolved	7440-48-4	1.0	0.26	0.50	1	ug/l		6020	08/05/14	1
Lead,Dissolved	7439-92-1	U	0.24	0.50	1	ug/l		6020	08/05/14	1
Nickel,Dissolved	7440-02-0	36.	0.35	0.50	1	ug/l		6020	08/05/14	1
Selenium,Dissolved J MS-H	7782-49-2	22.	0.38	0.50	1	ug/l		6020	08/05/14	1
Silver,Dissolved UJ MS-L	7440-22-4	U	0.31	0.50	1	ug/l		6020	08/05/14	1
Thallium,Dissolved	7440-28-0	U	0.19	0.50	1	ug/l		6020	08/05/14	1
Mercury,Dissolved	7439-97-6	U	0.049	0.090	0.2	ug/l		7470A	07/31/14	1
Aluminum,Dissolved	7429-90-5	U	35	50.	100	ug/l		6010B	07/31/14	1
Barium,Dissolved	7440-39-3	19.	1.7	2.5	5	ug/l		6010B	07/31/14	1
Beryllium,Dissolved	7440-41-7	U	0.7	1.0	2	ug/l		6010B	07/31/14	1
Copper,Dissolved UJ ICS-L	7440-50-8	U	5.3	10.	20	ug/l		6010B	07/31/14	1
Manganese,Dissolved FJ SQL,ICS-L	7439-96-5	13.	6	25.	50	ug/l	J	6010B	07/31/14	5
Vanadium,Dissolved FJ SQL,ICS-L	7440-62-2	11.	2.4	5.0	20	ug/l	J	6010B	07/31/14	1
Zinc,Dissolved FJ SQL,ICS-L	7440-66-6	10.	5.9	15.	50	ug/l	J	6010B	07/31/14	1

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Est. 1970

REPORT OF ANALYSIS

Sheri Fling
URS Corporation - Tucson AZ - 1088
8181 E. Tufts Avenue
Denver, CO 80237

October 24, 2014

ESC Sample # : L712422-08

Date Received : July 26, 2014
Description : Holloman AFB

Site ID :

Sample ID : H-TU904-MW-07-NT01

Project # : 23446543.0053AA

Collected By : Jon Mallonee
Collection Date : 07/25/14 08:25

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Dissolved Solids	DSOLIDS	11000000	2800	5000	10000	ug/l		2540 C-	07/30/14	1
Antimony U CCB-I	7440-36-0	0.50	~~0.21~~ 0.50	0.50	1	ug/l	J	6020	08/04/14	1
Arsenic	7440-38-2	3.9	0.25	0.50	1	ug/l		6020	08/04/14	1
Cadmium U CCB-I	7440-43-9	0.25	~~0.16~~ 0.25	0.25	0.5	ug/l	J	6020	08/04/14	1
Chromium	7440-47-3	3.3	0.54	1.0	2	ug/l		6020	08/04/14	1
Cobalt	7440-48-4	1.6	0.26	0.50	1	ug/l		6020	08/04/14	1
Lead F SQL-I	7439-92-1	0.55	0.24	0.50	1	ug/l	J	6020	08/04/14	1
Nickel	7440-02-0	50.	0.35	0.50	1	ug/l		6020	08/04/14	1
Selenium J MS-H	7782-49-2	26.	0.38	0.50	1	ug/l		6020	08/04/14	1
Silver UJ MB-L	7440-22-4	U	0.31	0.50	1	ug/l		6020	08/04/14	1
Thallium	7440-28-0	U	0.19	0.50	1	ug/l		6020	08/04/14	1
Mercury F SQL-I	7439-97-6	0.18	0.049	0.090	0.2	ug/l	J	7470A	07/30/14	1
Aluminum J MS,FD-H	7429-90-5	480	35	50.	100	ug/l		6010B	07/31/14	1
Barium	7440-39-3	27.	1.7	2.5	5	ug/l		6010B	07/31/14	1
Beryllium	7440-41-7	U	0.7	1.0	2	ug/l		6010B	07/31/14	1
Copper UJ ICS-L	7440-50-8	U	5.3	10.	20	ug/l		6010B	07/31/14	1
Manganese FJ SQL,ICS-L	7439-96-5	36.	6	25.	50	ug/l	J	6010B	07/31/14	5
Vanadium F SQL-I	7440-62-2	15.	2.4	5.0	20	ug/l	J	6010B	07/31/14	1
Zinc	7440-66-6	U	5.9	15.	50	ug/l		6010B	07/31/14	1
Diesel and Oil Ranges										
C10-C28 Diesel Range UJ MB,ID-I		82.	~~22~~ 82	~~33.~~ 82	100	ug/l	JB	8015	08/14/14	1
C28-C40 Oil Range UJ ~~ICS~~ ID-I		U	12	33.	100	ug/l		8015	08/14/14	1
Surrogate Recovery										
o-Terphenyl	84-15-1	130.				% Rec.		8015	08/14/14	1
Polynuclear Aromatic Hydrocarbons										
Anthracene	120-12-7	U	0.0076	0.025	0.05	ug/l		8270C-S	07/31/14	1
Acenaphthene	83-32-9	U	0.0082	0.025	0.05	ug/l		8270C-S	07/31/14	1
Acenaphthylene	208-96-8	U	0.0068	0.025	0.05	ug/l		8270C-S	07/31/14	1
Benzo(a)anthracene	56-55-3	U	0.012	0.025	0.05	ug/l		8270C-S	07/31/14	1
Benzo(a)pyrene	50-32-8	U	0.012	0.025	0.05	ug/l		8270C-S	07/31/14	1
Benzo(b)fluoranthene	205-99-2	U	0.014	0.025	0.05	ug/l		8270C-S	07/31/14	1
Benzo(g,h,i)perylene	191-24-2	U	0.011	0.025	0.05	ug/l		8270C-S	07/31/14	1
Benzo(k)fluoranthene	207-08-9	U	0.014	0.025	0.05	ug/l		8270C-S	07/31/14	1
Chrysene	218-01-9	U	0.011	0.025	0.05	ug/l		8270C-S	07/31/14	1
Dibenz(a,h)anthracene	53-70-3	U	0.004	0.025	0.05	ug/l		8270C-S	07/31/14	1
Fluoranthene	206-44-0	U	0.016	0.025	0.05	ug/l		8270C-S	07/31/14	1
Fluorene	86-73-7	U	0.0085	0.025	0.05	ug/l		8270C-S	07/31/14	1
Indeno(1,2,3-cd)pyrene	193-39-5	U	0.015	0.025	0.05	ug/l		8270C-S	07/31/14	1
Naphthalene U MB-I	91-20-3	~~0.022~~ 0.025	~~0.02~~ 0.025	0.025	0.25	ug/l	J	8270C-S	07/31/14	1
Phenanthrene	85-01-8	U	0.0082	0.025	0.05	ug/l		8270C-S	07/31/14	1
Pyrene	129-00-0	U	0.012	0.025	0.05	ug/l		8270C-S	07/31/14	1

U = Not Detected at the LOD
Note:
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REPORT OF ANALYSIS

Sheri Fling
URS Corporation - Tucson AZ - 1088
8181 E. Tufts Avenue
Denver, CO 80237

October 24, 2014

ESC Sample # : L712422-08

Date Received : July 26, 2014
Description : Holloman AFB

Site ID :

Sample ID : H-TU904-MW-07-NT01

Project # : 23446543.0053AA

Collected By : Jon Mallonee
Collection Date : 07/25/14 08:25

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
2-Methylnaphthalene	91-57-6	U	0.009	0.025	0.25	ug/l		8270C-S	07/31/14	1
Surrogate Recovery										
Nitrobenzene-d5	4165-60-0	88.7				% Rec.		8270C-S	07/31/14	1
2-Fluorobiphenyl	321-60-8	99.3				% Rec.		8270C-S	07/31/14	1
p-Terphenyl-d14	1718-51-0	109.				% Rec.		8270C-S	07/31/14	1

U = Not Detected at the LOD
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KA 1/13/15

Holloman AFB
Groundwater Monitoring
Data Review Summary

Data Package Number: L712424
Sampling Event Dates: July 24-25, 2014
Sample-specific Parameter Review/Laboratory Performance Parameters: Yes
Full Validation (e.g. result recalculation): No
Data Reviewer: Katie Abbott, URS Project Chemist
Date Completed: January 15, 2015
Peer Reviewer: Sheri Fling, URS Project Quality Assurance Manager (QAM)

The table below summarizes the data package and sample identifications discussed in this data review.

Field Identification	Sample Type	Lab Identification	Matrix	Analyses	
				GRO	VOCs
L712424					
H-TU904-FieldBlank-BT01	FB	L712424-01	Water	X	X
H-TU904-MW01-NT01	SA	L712424-02	Water	X	X
H-TU904-MW02-NT01	SA	L712424-03	Water	X	X
H-TU904-MW02-DT01	FD	L712424-04	Water	X	X
H-TU904-MW03-NT01	SA	L712424-05	Water	X^m	X^m
H-TU904-MW04-NT01	SA	L712424-06	Water	X	X
H-TU904-MW07-NT01	SA	L712424-07	Water	X	X
H-TU904-TRIP BLANK-TT02	TB	L712424-08	Water	X	X

Sample Type: SA – Sample X^m - Matrix Spike/Matrix Spike Duplicate
Analyses:
GRO – Gasoline Range Organics (8015D)
VOCs – Volatile Organic Compounds (8260B)

The data review was conducted in accordance with the Final Interim Measures Work Plan – Appendix A, Sampling and Analysis Plan/Quality Assurance Project Plan: Former Septic System Site TU904 (URS, September 2014); Group 2 Former Underground Storage Sites: AOC-UST-889 (TU515) (URS, September 2014); and Group 3 Former Underground Storage Tank Sites: AOC-UST-221 (TU503), AOC-UST-298 (TU508), AOC-UST-901 (TU506) and AOC-UST-7003 (TU518) (URS, August 2014); data validation standard operating procedure (SOP) 14; Department of Defense (DoD) Quality Systems Manual version 4.2 (DoD, 2010); and method requirements.

General Overall Assessment:

_____ Data are usable without qualification.
__X__ Data are usable with qualification (noted below).
_____ Some or all data are unusable for any purpose (detailed below).

Case Narrative Comments: Any laboratory case narrative comments concerning data qualification were addressed in the table below.

Trace level detects, reported between the method detection limit (MDL) and the reporting limit (LOQ), have been qualified as estimated (F SQL-I). All other occurrences of data qualification are covered in the following table.

Review Parameter	Criteria Met?	Comment
Chain of Custody & Sample Receipt	Yes	The samples were received by ESC Lab Sciences in good condition and were consistent with the accompanying chain of custody (COC). The cooler temperatures upon receipt were within the recommended ≤6 degrees Celsius (°C) temperature range.
Reporting	Yes	During review of a representative data package selected for full validation, it was noted that improper reference spectra were displayed in the printed version of the data package for Method 8260B. Due to a LIMS limitation, the data package reference spectra were not consistently representative of the actual spectra for the analytes detected. Because the laboratory data review involves the use of NBS reference spectra and not the reference spectra taken from the instrument calibration, the analyst was not seeing the improper alignment of spectra noted in the data package during his/her review at the instrument. The laboratory revised and reissued the data package with correct reference spectral data, consistent with method requirements, and no results were changed. Therefore, no further action is necessary as a result of this validation finding. Several revisions to the data package were required. Revision 1: Revised reports were issued to remove non-target analytes from the volatile organic compound (VOC) and polynuclear aromatic hydrocarbon (PAH) analyte lists; to include quality assurance project plan (QAPP) required VOC analytes; to correct the matrix spike/matrix spike duplicate (MS/MSD) for diesel range organics/oil range organics (DRO/ORO); to correct the limits of detection (LODs) for 1,1,2,2-tetrachloroethane; 1,2,3-trichloropropane; cadmium; nickel; selenium; and mercury; and to report the continuing calibration blanks (CCBs) and initial calibration blanks (ICBs) to the detection limit (DL). Revision 2: A revised report was issued to correct the DLs LODs, and LOQs for mercury and several VOC analytes, and to include the VOC results for sample H-TU904-MW01-NT01. Revision 3: A revised report was issued to remove the 1,2,3-trichlorobenzene results for VOCs and to include results for bromochloromethane.
Holding Times	Yes	All samples were analyzed within the method required holding time.

Review Parameter	Criteria Met?	Comment
Laboratory Blanks • Method Blank	No	With the exception listed in Table 1, target analytes were not detected within the method blanks.
Matrix Quality Control • Matrix Spike/ Matrix Spike Duplicate H-TU904-MW03-NT01 (GRO, VOCs) • Laboratory Duplicate None in this package	No	**Matrix Spike/ Matrix Spike Duplicate (MS/MSD)** The frequency of MS/MSDs met the QAPP requirement of one per twenty samples. With the exceptions listed in Table 2, the MS/MSD recoveries and relative percent differences (RPDs) met quality control criteria. Results in the native sample greater than four times the concentration of the spike added during digestions/extractions are not considered to be a representative measure of accuracy. Further action with respect to spike recovery evaluation or qualification of data was not considered necessary. Consistent with standard operating procedure (SOP) 14, when MS/MSD issues accounted for less than 35% of the MS/MSD analyses conducted, applicable data qualification was limited to qualification of the parent sample of the affected analyte. When >35% of the MS/MSD results did not meet criteria, evaluation was extended to all associated samples. See Section 4.1 of the data validation report for overall qualifiers resulting from the MS/MSD evaluation. **Laboratory Duplicate** The comparison between results of the laboratory duplicate pair met the criteria listed below. • When both the sample and duplicate values are >5x the LOQ acceptable sampling and analytical precision is indicated by an RPD between the results of ≤20% for water samples (≤35% for soil samples). • Where the result for one or both analytes of the laboratory duplicate pair is <5xLOQ, satisfactory precision is indicated if the absolute difference between the laboratory duplicate results is <1xLOQ for water samples (<2xLOQ for soil samples).
Method Quality Control • Surrogates (VOCs, GRO)	Yes	The surrogate recoveries were within the laboratory specified acceptance criteria.
Field Quality Control • Trip Blank H-TU904-TRIP BLANK-TT02 (GRO, VOCs) • Field Duplicate H-TU904-MW02-NT01/ H-TU904-MW02-DT01 • Equipment Blank None in this package • Field Blank H-TU904-FieldBlank-BT01	Yes	**Trip Blank (VOCs and Gasoline Range Organics (GRO) Only)** Target analytes were not detected in the trip blank. **Field Duplicate** The frequency of field duplicates met the QAPP requirement of one per twenty samples. The comparison between results of the field duplicate pair met the criteria listed below. • When both the sample and duplicate values are >5x the LOQ acceptable sampling and analytical precision is indicated by an RPD between the results of ≤30% for water samples (≤50% for soil samples). • Where the result for one or both analytes of the field duplicate pair is <5xLOQ, satisfactory precision is indicated if the absolute difference

Review Parameter	Criteria Met?	Comment
		between the field duplicate results is <2xLOQ for water samples (<3.5xLOQ for soil samples). Consistent with SOP 14, when field duplicate issues accounted for less than 35% of the field duplicate analyses conducted, applicable data qualification was limited to qualification of the parent sample for the affected analyte. When >35% of the field duplicate results did not meet criteria, evaluation was extended to all associated samples. See Section 4.3 of the data validation report for overall qualifiers resulting from the field duplicate evaluation **Equipment Blank** As dedicated equipment was used to collect these samples, an equipment blank was not submitted for this sampling event. Further action was not necessary. **Field Blank** The frequency of field blanks met the QAPP requirement of one per twenty samples. Chloroform was detected in the field blank at a concentration of 0.41 µg/L. See Section 4.4 of the data validation report for overall qualifiers.
LODs met?	Yes	No results were reported as non-detect at elevated LODs.
Initial Calibration	Yes	**Method 8260B VOCs** A minimum relative response factor (RRF) of 0.05 was used for the system performance check compounds (SPCCs) and all SPCCs met this criterion. The percent relative standard deviations (%RSDs) over the initial calibration RRFs for all calibration check compounds (CCCs) satisfied the method requirement of <30%. For all other target compounds, a requirement of 15% was used. The %RSD values for all target analytes in the calibration were less than 15%. Therefore, the initial calibration met method acceptance criteria. **Method 8015D Gasoline Range Organics (GRO)** The relationship between instrument response and concentration was established with a blank and at least five standards for each analyte. The %RSD over the initial calibrations curve satisfied the method requirement of <15%. Therefore, the initial calibration met method acceptance criteria.
Initial Calibration Verification/Continuing Calibration Verification	Yes	**Method 8260B (VOCs)** The percent differences (%Ds) for all CCCs in the initial calibrations (ICALs) and continuing calibrations (CCALs) were less than 20%, satisfying method requirements, and other target analytes satisfied the %D criterion of 20%. **Method 8015 GRO** The %Ds for all target compounds in the initial calibration verifications (ICVs) and CCALs were less than 15%. Data qualification was not necessary.

Review Parameter	Criteria Met?	Comment
Internal Standard (VOCs)	Yes	Recoveries for the internal standards in field samples were within the applicable acceptance limits. Therefore, data qualification based on internal standards was not necessary.
Laboratory Control Sample/ Laboratory Control Sample Duplicate	Yes	One laboratory control sample (LCS) and/or laboratory control sample duplicate (LCSD) per method per analytical batch was prepared and analyzed. All of the LCS recoveries and LCS/LCSD RPDs were within the QAPP acceptance limits. These results are indicative of an acceptable level of accuracy and precision with respect to the analytical method.
Package Completeness	Yes	The results are usable as qualified for the project objective. The data are 100% complete.

> - Greater Than
< - Less Than
≤ - Less Than or Equal to
± - Plus or Minus
°C – Degrees Celsius
% - Percent
%Ds – Percent Differences
$RSD – Percent Relative Standard Deviation
DLs – Detection Limits
CCALs – Continuing Calibrations
CCCs – Calibration Check Compounds
COC – Chain of Custody
COD – Coefficient of Determination
GRO – Gasoline Range Organics
ICAL – Initial Calibration
ICV – Initial Calibration Verification
LCS – Laboratory Control Sample
LCSD – Laboratory Control Sample Duplicate
LOD – Limit of Detection
LOQ – Limit of Quantitation
MS/MSD – Matrix Spike/ Matrix Spike Duplicate
QAPP – Quality Assurance Project Plan
RPDs – Relative Percent Differences
RRF – Relative Response Factor
SOP – Standard Operating Procedure
SPCCs – System Performance Check Compounds
VOCs – Volatile Organic Compounds

Table 1: Blank Outliers and Resultant Data Qualification

Associated Samples	Analyte	Concentration	Qualification
VOCs			
MB Batch WG734030 H-TU904-FieldBlank-BT01 H-TU904-MW01-NT01 H-TU904-MW02-NT01 H-TU904-MW02-DT01 H-TU904-MW03-NT01 H-TU904-MW04-DT01 H-TU904-MW07-NT01 H-TU904-TRIP BLANK-TT02	Methylene Chloride	0.00100 µg/L	None. The associated results were reported as non-detect.

µg/L – Micrograms per Liter
VOCs – Volatile Organic Compounds

Table 2: MS/MSD Recovery and RPD Outliers and Resultant Data Qualification

Associated Sample	Analyte	%R (Limits)	RPD (Limit)	Qualification
VOCs				
H-TU904-MW03-NT01	1,1,1,2-Tetrachloroethane	81.9/**77** (80-130)	6.17 (30)	As the potential bias was considered to be low, the associated results for sample H-TU904-MW03-NT01 were qualified as estimated (UJ MS-L).
	o-Xylene	83.7/**79.6** (80-120)	4.93 (30)	
	1,2-Dibromoethane	80.8/**77.5** (80-120)	4.17 (30)	

< - Less Than
> - Greater Than
%R – Percent Recoveries
L – Low Bias
MS/MSD – Matrix Spike Matrix Spike Duplicate
RPD – Relative Percent Difference
UJ – Estimated
VOCs – Volatile Organic Compounds
Bold indicates a recovery or RPD outside of acceptance limit

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 09, 2015

ESC Sample # : L712424-01

Site ID :

Project # : 23446543.0053AA

Date Received : July 26, 2014
Description : Holloman AFB

Sample ID : H-TU904-FIELDBLANK-BT01

Collected By : Jon Mallonee
Collection Date : 07/25/14 09:00

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
TPH (GC/FID) Low Fraction	8006-61-9	U	31	50.	100	ug/l		8015D/G	07/30/14	1
Surrogate Recovery-%										
a,a,a-Trifluorotoluene(FID)	98-08-8	96.4				% Rec.		8015D/G	07/30/14	1
Volatile Organics										
Acetone	67-64-1	U	10	25.	50	ug/l		8260B	07/29/14	1
Benzene	71-43-2	U	0.33	0.50	1	ug/l		8260B	07/29/14	1
Bromobenzene	108-86-1	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
Bromochloromethane	74-97-5	U	0.52	0.75	1	ug/l		8260B	07/29/14	1
Bromodichloromethane	75-27-4	U	0.38	0.50	1	ug/l		8260B	07/29/14	1
Bromoform	75-25-2	U	0.47	0.50	1	ug/l		8260B	07/29/14	1
Bromomethane	74-83-9	U	0.87	2.5	5	ug/l		8260B	07/29/14	1
n-Butylbenzene	104-51-8	U	0.36	0.50	1	ug/l		8260B	07/29/14	1
sec-Butylbenzene	135-98-8	U	0.36	0.50	1	ug/l		8260B	07/29/14	1
tert-Butylbenzene	98-06-6	U	0.4	0.50	1	ug/l		8260B	07/29/14	1
Carbon Disulfide	75-15-0	U	0.28	0.50	1	ug/l		8260B	07/29/14	1
Carbon tetrachloride	56-23-5	U	0.38	0.50	1	ug/l		8260B	07/29/14	1
Chlorobenzene	108-90-7	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
Chlorodibromomethane	124-48-1	U	0.33	0.50	1	ug/l		8260B	07/29/14	1
Chloroethane	75-00-3	U	0.45	2.5	5	ug/l		8260B	07/29/14	1
Chloroform FD SQL-I	67-66-3	0.41	0.32	2.5	5	ug/l	J	8260B	07/29/14	1
Chloromethane	74-87-3	U	0.28	0.50	2.5	ug/l		8260B	07/29/14	1
2-Chlorotoluene	95-49-8	U	0.38	0.50	1	ug/l		8260B	07/29/14	1
4-Chlorotoluene	106-43-4	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
1,2-Dibromo-3-Chloropropane	96-12-8	U	1.3	2.5	5	ug/l		8260B	07/29/14	1
1,2-Dibromoethane	106-93-4	U	0.38	0.50	1	ug/l		8260B	07/29/14	1
Dibromomethane	74-95-3	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
1,2-Dichlorobenzene	95-50-1	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
1,3-Dichlorobenzene	541-73-1	U	0.22	0.50	1	ug/l		8260B	07/29/14	1
1,4-Dichlorobenzene	106-46-7	U	0.27	0.50	1	ug/l		8260B	07/29/14	1
Dichlorodifluoromethane	75-71-8	U	0.55	2.5	5	ug/l		8260B	07/29/14	1
1,1-Dichloroethane	75-34-3	U	0.26	0.50	1	ug/l		8260B	07/29/14	1
1,2-Dichloroethane	107-06-2	U	0.36	0.50	1	ug/l		8260B	07/29/14	1
1,1-Dichloroethene	75-35-4	U	0.4	0.50	1	ug/l		8260B	07/29/14	1
cis-1,2-Dichloroethene	156-59-2	U	0.26	0.50	1	ug/l		8260B	07/29/14	1
trans-1,2-Dichloroethene	156-60-5	U	0.4	0.50	1	ug/l		8260B	07/29/14	1
1,2-Dichloropropane	78-87-5	U	0.31	0.50	1	ug/l		8260B	07/29/14	1
1,1-Dichloropropene	563-58-6	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
1,3-Dichloropropane	142-28-9	U	0.37	0.50	1	ug/l		8260B	07/29/14	1
cis-1,3-Dichloropropene	10061-01-5	U	0.42	0.50	1	ug/l		8260B	07/29/14	1
trans-1,3-Dichloropropene	10061-02-6	U	0.42	0.50	1	ug/l		8260B	07/29/14	1
2,2-Dichloropropane	594-20-7	U	0.32	0.50	1	ug/l		8260B	07/29/14	1
Ethylbenzene	100-41-4	U	0.38	0.50	1	ug/l		8260B	07/29/14	1
2-Hexanone	591-78-6	U	3.8	5.0	10	ug/l		8260B	07/29/14	1
Hexachloro-1,3-butadiene	87-68-3	U	0.26	0.50	1	ug/l		8260B	07/29/14	1
Isopropylbenzene	98-82-8	U	0.33	0.50	1	ug/l		8260B	07/29/14	1

U = Not Detected at the LOD
Note:
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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 09, 2015

Date Received : July 26, 2014
Description : Holloman AFB

Sample ID : H-TU904-FIELDBLANK-BT01

Collected By : Jon Mallonee
Collection Date : 07/25/14 09:00

ESC Sample # : L712424-01

Site ID :

Project # : 23446543.0053AA

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
p-Isopropyltoluene	99-87-6	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
2-Butanone (MEK)	78-93-3	U	3.9	5.0	10	ug/l		8260B	07/29/14	1
Methylene Chloride	75-09-2	U	1	2.5	5	ug/l		8260B	07/29/14	1
4-Methyl-2-pentanone (MIBK)	108-10-1	U	2.1	5.0	10	ug/l		8260B	07/29/14	1
Methyl tert-butyl ether	1634-04-4	U	0.37	0.50	1	ug/l		8260B	07/29/14	1
Naphthalene	91-20-3	U	1	2.5	5	ug/l		8260B	07/29/14	1
n-Propylbenzene	103-65-1	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
Styrene	100-42-5	U	0.31	0.50	1	ug/l		8260B	07/29/14	1
1,1,1,2-Tetrachloroethane	630-20-6	U	0.38	0.50	1	ug/l		8260B	07/29/14	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.58 ~~0.13~~	0.75	1	ug/l		8260B	07/29/14	1
Tetrachloroethene	127-18-4	U	0.37	0.50	1	ug/l		8260B	07/29/14	1
Toluene	108-88-3	U	0.78	2.5	5	ug/l		8260B	07/29/14	1
1,2,3-Trichlorobenzene	87-61-6	U	0.23	0.50	1	ug/l		8260B	07/29/14	1
1,2,4-Trichlorobenzene	120-82-1	U	0.21	0.50	1	ug/l		8260B	07/29/14	1
1,1,1-Trichloroethane	71-55-6	U	0.319	0.50	1	ug/l		8260B	07/29/14	1
1,1,2-Trichloroethane	79-00-5	U	0.38	0.50	1	ug/l		8260B	07/29/14	1
Trichloroethene	79-01-6	U	0.4	0.50	1	ug/l		8260B	07/29/14	1
Trichlorofluoromethane	75-69-4	U	1.2	2.5	5	ug/l		8260B	07/29/14	1
1,2,3-Trichloropropane	96-18-4	U	0.81	1.0	2.5	ug/l		8260B	07/29/14	1
1,2,4-Trimethylbenzene	95-63-6	U	0.37	0.50	1	ug/l		8260B	07/29/14	1
1,3,5-Trimethylbenzene	108-67-8	U	0.39	0.50	1	ug/l		8260B	07/29/14	1
o-Xylene	95-47-6	U	0.34	0.50	1	ug/l		8260B	07/29/14	1
m&p-Xylene	1330-20-7	U	0.72	1.0	2	ug/l		8260B	07/29/14	1
Vinyl chloride	75-01-4	U	0.26	0.50	1	ug/l		8260B	07/29/14	1
Surrogate Recovery										
Toluene-d8	2037-26-5	104.				% Rec.		8260B	07/29/14	1
Dibromofluoromethane	1868-53-7	100.				% Rec.		8260B	07/29/14	1
4-Bromofluorobenzene	460-00-4	102.				% Rec.		8260B	07/29/14	1

U = Not Detected at the LOD
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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 09, 2015

Date Received : July 26, 2014
Description : Holloman AFB

Sample ID : H-TU904-MW01-NT01

Collected By : Jon Mallonee
Collection Date : 07/24/14 13:05

ESC Sample # : L712424-02

Site ID :

Project # : 23446543.0053AA

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
TPH (GC/FID) Low Fraction	8006-61-9	U	31	50.	100	ug/l		8015D/G	07/30/14	1
Surrogate Recovery-%										
a,a,a-Trifluorotoluene(FID)	98-08-8	96.1				% Rec.		8015D/G	07/30/14	1
Volatile Organics										
Acetone	67-64-1	U	10	25.	50	ug/l		8260B	07/30/14	1
Benzene	71-43-2	U	0.33	0.50	1	ug/l		8260B	07/30/14	1
Bromobenzene	108-86-1	U	0.35	0.50	1	ug/l		8260B	07/30/14	1
Bromochloromethane	74-97-5	U	0.52	0.75	1	ug/l		8260B	07/30/14	1
Bromodichloromethane	75-27-4	U	0.38	0.50	1	ug/l		8260B	07/30/14	1
Bromoform	75-25-2	U	0.47	0.50	1	ug/l		8260B	07/30/14	1
Bromomethane	74-83-9	U	0.87	2.5	5	ug/l		8260B	07/30/14	1
n-Butylbenzene	104-51-8	U	0.36	0.50	1	ug/l		8260B	07/30/14	1
sec-Butylbenzene	135-98-8	U	0.36	0.50	1	ug/l		8260B	07/30/14	1
tert-Butylbenzene	98-06-6	U	0.4	0.50	1	ug/l		8260B	07/30/14	1
Carbon Disulfide	75-15-0	U	0.28	0.50	1	ug/l		8260B	07/30/14	1
Carbon tetrachloride	56-23-5	U	0.38	0.50	1	ug/l		8260B	07/30/14	1
Chlorobenzene	108-90-7	U	0.35	0.50	1	ug/l		8260B	07/30/14	1
Chlorodibromomethane	124-48-1	U	0.33	0.50	1	ug/l		8260B	07/30/14	1
Chloroethane	75-00-3	U	0.45	2.5	5	ug/l		8260B	07/30/14	1
Chloroform	67-66-3	U	0.32	2.5	5	ug/l		8260B	07/30/14	1
Chloromethane	74-87-3	U	0.28	0.50	2.5	ug/l		8260B	07/30/14	1
2-Chlorotoluene	95-49-8	U	0.38	0.50	1	ug/l		8260B	07/30/14	1
4-Chlorotoluene	106-43-4	U	0.35	0.50	1	ug/l		8260B	07/30/14	1
1,2-Dibromo-3-Chloropropane	96-12-8	U	1.3	2.5	5	ug/l		8260B	07/30/14	1
1,2-Dibromoethane VJ MS-L	106-93-4	U	0.38	0.50	1	ug/l		8260B	07/30/14	1
Dibromomethane	74-95-3	U	0.35	0.50	1	ug/l		8260B	07/30/14	1
1,2-Dichlorobenzene	95-50-1	U	0.35	0.50	1	ug/l		8260B	07/30/14	1
1,3-Dichlorobenzene	541-73-1	U	0.22	0.50	1	ug/l		8260B	07/30/14	1
1,4-Dichlorobenzene	106-46-7	U	0.27	0.50	1	ug/l		8260B	07/30/14	1
Dichlorodifluoromethane	75-71-8	U	0.55	2.5	5	ug/l		8260B	07/30/14	1
1,1-Dichloroethane	75-34-3	U	0.26	0.50	1	ug/l		8260B	07/30/14	1
1,2-Dichloroethane	107-06-2	U	0.36	0.50	1	ug/l		8260B	07/30/14	1
1,1-Dichloroethene	75-35-4	U	0.4	0.50	1	ug/l		8260B	07/30/14	1
cis-1,2-Dichloroethene	156-59-2	U	0.26	0.50	1	ug/l		8260B	07/30/14	1
trans-1,2-Dichloroethene	156-60-5	U	0.4	0.50	1	ug/l		8260B	07/30/14	1
1,2-Dichloropropane	78-87-5	U	0.31	0.50	1	ug/l		8260B	07/30/14	1
1,1-Dichloropropene	563-58-6	U	0.35	0.50	1	ug/l		8260B	07/30/14	1
1,3-Dichloropropane	142-28-9	U	0.37	0.50	1	ug/l		8260B	07/30/14	1
cis-1,3-Dichloropropene	10061-01-5	U	0.42	0.50	1	ug/l		8260B	07/30/14	1
trans-1,3-Dichloropropene	10061-02-6	U	0.42	0.50	1	ug/l		8260B	07/30/14	1
2,2-Dichloropropane	594-20-7	U	0.32	0.50	1	ug/l		8260B	07/30/14	1
Ethylbenzene	100-41-4	U	0.38	0.50	1	ug/l		8260B	07/30/14	1
2-Hexanone	591-78-6	U	3.8	5.0	10	ug/l		8260B	07/30/14	1
Hexachloro-1,3-butadiene	87-68-3	U	0.26	0.50	1	ug/l		8260B	07/30/14	1
Isopropylbenzene	98-82-8	U	0.33	0.50	1	ug/l		8260B	07/30/14	1

U = Not Detected at the LOD
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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 09, 2015

ESC Sample # : L712424-02

Date Received : July 26, 2014
Description : Holloman AFB

Site ID :

Sample ID : H-TU904-MW01-NT01

Project # : 23446543.0053AA

Collected By : Jon Mallonee
Collection Date : 07/24/14 13:05

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
p-Isopropyltoluene	99-87-6	U	0.35	0.50	1	ug/l		8260B	07/30/14	1
2-Butanone (MEK)	78-93-3	U	3.9	5.0	10	ug/l		8260B	07/30/14	1
Methylene Chloride	75-09-2	U	1	2.5	5	ug/l		8260B	07/30/14	1
4-Methyl-2-pentanone (MIBK)	108-10-1	U	2.1	5.0	10	ug/l		8260B	07/30/14	1
Methyl tert-butyl ether	1634-04-4	U	0.37	0.50	1	ug/l		8260B	07/30/14	1
Naphthalene	91-20-3	U	1	2.5	5	ug/l		8260B	07/30/14	1
n-Propylbenzene	103-65-1	U	0.35	0.50	1	ug/l		8260B	07/30/14	1
Styrene	100-42-5	U	0.31	0.50	1	ug/l		8260B	07/30/14	1
1,1,1,2-Tetrachloroethane UJ MS-L	630-20-6	U	0.38	0.50	1	ug/l		8260B	07/30/14	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.50 ~~0.13~~	0.75	1	ug/l		8260B	07/30/14	1
Tetrachloroethene	127-18-4	U	0.37	0.50	1	ug/l		8260B	07/30/14	1
Toluene	108-88-3	U	0.78	2.5	5	ug/l		8260B	07/30/14	1
1,2,3-Trichlorobenzene	87-61-6	U	0.23	0.50	1	ug/l		8260B	07/30/14	1
1,2,4-Trichlorobenzene	120-82-1	U	0.21	0.50	1	ug/l		8260B	07/30/14	1
1,1,1-Trichloroethane	71-55-6	U	0.319	0.50	1	ug/l		8260B	07/30/14	1
1,1,2-Trichloroethane	79-00-5	U	0.38	0.50	1	ug/l		8260B	07/30/14	1
Trichloroethene	79-01-6	5.0	0.4	0.50	1	ug/l		8260B	07/30/14	1
Trichlorofluoromethane	75-69-4	U	1.2	2.5	5	ug/l		8260B	07/30/14	1
1,2,3-Trichloropropane	96-18-4	U	0.81	1.0	2.5	ug/l		8260B	07/30/14	1
1,2,4-Trimethylbenzene	95-63-6	U	0.37	0.50	1	ug/l		8260B	07/30/14	1
1,3,5-Trimethylbenzene	108-67-8	U	0.39	0.50	1	ug/l		8260B	07/30/14	1
o-Xylene	95-47-6	U	0.34	0.50	1	ug/l		8260B	07/30/14	1
m&p-Xylene	1330-20-7	U	0.72	1.0	2	ug/l		8260B	07/30/14	1
Vinyl chloride	75-01-4	U	0.26	0.50	1	ug/l		8260B	07/30/14	1
Surrogate Recovery										
Toluene-d8	2037-26-5	103.				% Rec.		8260B	07/30/14	1
Dibromofluoromethane	1868-53-7	101.				% Rec.		8260B	07/30/14	1
4-Bromofluorobenzene	460-00-4	102.				% Rec.		8260B	07/30/14	1

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 09, 2015

Date Received : July 26, 2014
Description : Holloman AFB

Sample ID : H-TU904-MW02-NT01

Collected By : Jon Mallonee
Collection Date : 07/24/14 10:30

ESC Sample # : L712424-03

Site ID :

Project # : 23446543.0053AA

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
TPH (GC/FID) Low Fraction	8006-61-9	U	31	50.	100	ug/l		8015D/G	07/30/14	1
Surrogate Recovery-%										
a,a,a-Trifluorotoluene(FID)	98-08-8	95.9				% Rec.		8015D/G	07/30/14	1
Volatile Organics										
Acetone	67-64-1	U	10	25.	50	ug/l		8260B	07/30/14	1
Benzene	71-43-2	U	0.33	0.50	1	ug/l		8260B	07/30/14	1
Bromobenzene	108-86-1	U	0.35	0.50	1	ug/l		8260B	07/30/14	1
Bromochloromethane	74-97-5	U	0.52	0.75	1	ug/l		8260B	07/30/14	1
Bromodichloromethane	75-27-4	U	0.38	0.50	1	ug/l		8260B	07/30/14	1
Bromoform	75-25-2	U	0.47	0.50	1	ug/l		8260B	07/30/14	1
Bromomethane	74-83-9	U	0.87	2.5	5	ug/l		8260B	07/30/14	1
n-Butylbenzene	104-51-8	U	0.36	0.50	1	ug/l		8260B	07/30/14	1
sec-Butylbenzene	135-98-8	U	0.36	0.50	1	ug/l		8260B	07/30/14	1
tert-Butylbenzene	98-06-6	U	0.4	0.50	1	ug/l		8260B	07/30/14	1
Carbon Disulfide	75-15-0	U	0.28	0.50	1	ug/l		8260B	07/30/14	1
Carbon tetrachloride	56-23-5	U	0.38	0.50	1	ug/l		8260B	07/30/14	1
Chlorobenzene	108-90-7	U	0.35	0.50	1	ug/l		8260B	07/30/14	1
Chlorodibromomethane	124-48-1	U	0.33	0.50	1	ug/l		8260B	07/30/14	1
Chloroethane	75-00-3	U	0.45	2.5	5	ug/l		8260B	07/30/14	1
Chloroform	67-66-3	U	0.32	2.5	5	ug/l		8260B	07/30/14	1
Chloromethane	74-87-3	U	0.28	0.50	2.5	ug/l		8260B	07/30/14	1
2-Chlorotoluene	95-49-8	U	0.38	0.50	1	ug/l		8260B	07/30/14	1
4-Chlorotoluene	106-43-4	U	0.35	0.50	1	ug/l		8260B	07/30/14	1
1,2-Dibromo-3-Chloropropane	96-12-8	U	1.3	2.5	5	ug/l		8260B	07/30/14	1
1,2-Dibromoethane VJ MS-L	106-93-4	U	0.38	0.50	1	ug/l		8260B	07/30/14	1
Dibromomethane	74-95-3	U	0.35	0.50	1	ug/l		8260B	07/30/14	1
1,2-Dichlorobenzene	95-50-1	U	0.35	0.50	1	ug/l		8260B	07/30/14	1
1,3-Dichlorobenzene	541-73-1	U	0.22	0.50	1	ug/l		8260B	07/30/14	1
1,4-Dichlorobenzene	106-46-7	U	0.27	0.50	1	ug/l		8260B	07/30/14	1
Dichlorodifluoromethane	75-71-8	U	0.55	2.5	5	ug/l		8260B	07/30/14	1
1,1-Dichloroethane	75-34-3	U	0.26	0.50	1	ug/l		8260B	07/30/14	1
1,2-Dichloroethane	107-06-2	U	0.36	0.50	1	ug/l		8260B	07/30/14	1
1,1-Dichloroethene	75-35-4	U	0.4	0.50	1	ug/l		8260B	07/30/14	1
cis-1,2-Dichloroethene	156-59-2	U	0.26	0.50	1	ug/l		8260B	07/30/14	1
trans-1,2-Dichloroethene	156-60-5	U	0.4	0.50	1	ug/l		8260B	07/30/14	1
1,2-Dichloropropane	78-87-5	U	0.31	0.50	1	ug/l		8260B	07/30/14	1
1,1-Dichloropropene	563-58-6	U	0.35	0.50	1	ug/l		8260B	07/30/14	1
1,3-Dichloropropane	142-28-9	U	0.37	0.50	1	ug/l		8260B	07/30/14	1
cis-1,3-Dichloropropene	10061-01-5	U	0.42	0.50	1	ug/l		8260B	07/30/14	1
trans-1,3-Dichloropropene	10061-02-6	U	0.42	0.50	1	ug/l		8260B	07/30/14	1
2,2-Dichloropropane	594-20-7	U	0.32	0.50	1	ug/l		8260B	07/30/14	1
Ethylbenzene	100-41-4	U	0.38	0.50	1	ug/l		8260B	07/30/14	1
2-Hexanone	591-78-6	U	3.8	5.0	10	ug/l		8260B	07/30/14	1
Hexachloro-1,3-butadiene	87-68-3	U	0.26	0.50	1	ug/l		8260B	07/30/14	1
Isopropylbenzene	98-82-8	U	0.33	0.50	1	ug/l		8260B	07/30/14	1

U = Not Detected at the LOD
Note:
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Tax I.D. 62-0814289

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 09, 2015

Date Received : July 26, 2014
Description : Holloman AFB

Sample ID : H-TU904-MW02-NT01

Collected By : Jon Mallonee
Collection Date : 07/24/14 10:30

ESC Sample # : L712424-03

Site ID :

Project # : 23446543.0053AA

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
p-Isopropyltoluene	99-87-6	U	0.35	0.50	1	ug/l		8260B	07/30/14	1
2-Butanone (MEK)	78-93-3	U	3.9	5.0	10	ug/l		8260B	07/30/14	1
Methylene Chloride	75-09-2	U	1	2.5	5	ug/l		8260B	07/30/14	1
4-Methyl-2-pentanone (MIBK)	108-10-1	U	2.1	5.0	10	ug/l		8260B	07/30/14	1
Methyl tert-butyl ether	1634-04-4	U	0.37	0.50	1	ug/l		8260B	07/30/14	1
Naphthalene	91-20-3	U	1	2.5	5	ug/l		8260B	07/30/14	1
n-Propylbenzene	103-65-1	U	0.35	0.50	1	ug/l		8260B	07/30/14	1
Styrene	100-42-5	U	0.31	0.50	1	ug/l		8260B	07/30/14	1
1,1,1,2-Tetrachloroethane UJ MS-L	630-20-6	U	0.38	0.50	1	ug/l		8260B	07/30/14	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.58 ~~0.13~~	0.75	1	ug/l		8260B	07/30/14	1
Tetrachloroethene	127-18-4	U	0.37	0.50	1	ug/l		8260B	07/30/14	1
Toluene	108-88-3	U	0.78	2.5	5	ug/l		8260B	07/30/14	1
1,2,3-Trichlorobenzene	87-61-6	U	0.23	0.50	1	ug/l		8260B	07/30/14	1
1,2,4-Trichlorobenzene	120-82-1	U	0.21	0.50	1	ug/l		8260B	07/30/14	1
1,1,1-Trichloroethane	71-55-6	U	0.319	0.50	1	ug/l		8260B	07/30/14	1
1,1,2-Trichloroethane	79-00-5	U	0.38	0.50	1	ug/l		8260B	07/30/14	1
Trichloroethene	79-01-6	4.2	0.4	0.50	1	ug/l		8260B	07/30/14	1
Trichlorofluoromethane	75-69-4	U	1.2	2.5	5	ug/l		8260B	07/30/14	1
1,2,3-Trichloropropane	96-18-4	U	0.81	1.0	2.5	ug/l		8260B	07/30/14	1
1,2,4-Trimethylbenzene	95-63-6	U	0.37	0.50	1	ug/l		8260B	07/30/14	1
1,3,5-Trimethylbenzene	108-67-8	U	0.39	0.50	1	ug/l		8260B	07/30/14	1
o-Xylene	95-47-6	U	0.34	0.50	1	ug/l		8260B	07/30/14	1
m&p-Xylene	1330-20-7	U	0.72	1.0	2	ug/l		8260B	07/30/14	1
Vinyl chloride	75-01-4	U	0.26	0.50	1	ug/l		8260B	07/30/14	1
Surrogate Recovery										
Toluene-d8	2037-26-5	103.				% Rec.		8260B	07/30/14	1
Dibromofluoromethane	1868-53-7	102.				% Rec.		8260B	07/30/14	1
4-Bromofluorobenzene	460-00-4	101.				% Rec.		8260B	07/30/14	1

U = Not Detected at the LOD
Note:
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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 09, 2015

ESC Sample # : L712424-04

Date Received : July 26, 2014
Description : Holloman AFB

Site ID :

Sample ID : H-TU904-MW02-DT01

Project # : 23446543.0053AA

Collected By : Jon Mallonee
Collection Date : 07/24/14 10:30

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
TPH (GC/FID) Low Fraction	8006-61-9	U	31	50.	100	ug/l		8015D/G	07/30/14	1
Surrogate Recovery-%										
a,a,a-Trifluorotoluene(FID)	98-08-8	96.0				% Rec.		8015D/G	07/30/14	1
Volatile Organics										
Acetone	67-64-1	U	10	25.	50	ug/l		8260B	07/30/14	1
Benzene	71-43-2	U	0.33	0.50	1	ug/l		8260B	07/30/14	1
Bromobenzene	108-86-1	U	0.35	0.50	1	ug/l		8260B	07/30/14	1
Bromochloromethane	74-97-5	U	0.52	0.75	1	ug/l		8260B	07/30/14	1
Bromodichloromethane	75-27-4	U	0.38	0.50	1	ug/l		8260B	07/30/14	1
Bromoform	75-25-2	U	0.47	0.50	1	ug/l		8260B	07/30/14	1
Bromomethane	74-83-9	U	0.87	2.5	5	ug/l		8260B	07/30/14	1
n-Butylbenzene	104-51-8	U	0.36	0.50	1	ug/l		8260B	07/30/14	1
sec-Butylbenzene	135-98-8	U	0.36	0.50	1	ug/l		8260B	07/30/14	1
tert-Butylbenzene	98-06-6	U	0.4	0.50	1	ug/l		8260B	07/30/14	1
Carbon Disulfide	75-15-0	U	0.28	0.50	1	ug/l		8260B	07/30/14	1
Carbon tetrachloride	56-23-5	U	0.38	0.50	1	ug/l		8260B	07/30/14	1
Chlorobenzene	108-90-7	U	0.35	0.50	1	ug/l		8260B	07/30/14	1
Chlorodibromomethane	124-48-1	U	0.33	0.50	1	ug/l		8260B	07/30/14	1
Chloroethane	75-00-3	U	0.45	2.5	5	ug/l		8260B	07/30/14	1
Chloroform	67-66-3	U	0.32	2.5	5	ug/l		8260B	07/30/14	1
Chloromethane	74-87-3	U	0.28	0.50	2.5	ug/l		8260B	07/30/14	1
2-Chlorotoluene	95-49-8	U	0.38	0.50	1	ug/l		8260B	07/30/14	1
4-Chlorotoluene	106-43-4	U	0.35	0.50	1	ug/l		8260B	07/30/14	1
1,2-Dibromo-3-Chloropropane	96-12-8	U	1.3	2.5	5	ug/l		8260B	07/30/14	1
1,2-Dibromoethane US MS-L	106-93-4	U	0.38	0.50	1	ug/l		8260B	07/30/14	1
Dibromomethane	74-95-3	U	0.35	0.50	1	ug/l		8260B	07/30/14	1
1,2-Dichlorobenzene	95-50-1	U	0.35	0.50	1	ug/l		8260B	07/30/14	1
1,3-Dichlorobenzene	541-73-1	U	0.22	0.50	1	ug/l		8260B	07/30/14	1
1,4-Dichlorobenzene	106-46-7	U	0.27	0.50	1	ug/l		8260B	07/30/14	1
Dichlorodifluoromethane	75-71-8	U	0.55	2.5	5	ug/l		8260B	07/30/14	1
1,1-Dichloroethane	75-34-3	U	0.26	0.50	1	ug/l		8260B	07/30/14	1
1,2-Dichloroethane	107-06-2	U	0.36	0.50	1	ug/l		8260B	07/30/14	1
1,1-Dichloroethene	75-35-4	U	0.4	0.50	1	ug/l		8260B	07/30/14	1
cis-1,2-Dichloroethene	156-59-2	U	0.26	0.50	1	ug/l		8260B	07/30/14	1
trans-1,2-Dichloroethene	156-60-5	U	0.4	0.50	1	ug/l		8260B	07/30/14	1
1,2-Dichloropropane	78-87-5	U	0.31	0.50	1	ug/l		8260B	07/30/14	1
1,1-Dichloropropene	563-58-6	U	0.35	0.50	1	ug/l		8260B	07/30/14	1
1,3-Dichloropropane	142-28-9	U	0.37	0.50	1	ug/l		8260B	07/30/14	1
cis-1,3-Dichloropropene	10061-01-5	U	0.42	0.50	1	ug/l		8260B	07/30/14	1
trans-1,3-Dichloropropene	10061-02-6	U	0.42	0.50	1	ug/l		8260B	07/30/14	1
2,2-Dichloropropane	594-20-7	U	0.32	0.50	1	ug/l		8260B	07/30/14	1
Ethylbenzene	100-41-4	U	0.38	0.50	1	ug/l		8260B	07/30/14	1
2-Hexanone	591-78-6	U	3.8	5.0	10	ug/l		8260B	07/30/14	1
Hexachloro-1,3-butadiene	87-68-3	U	0.26	0.50	1	ug/l		8260B	07/30/14	1
Isopropylbenzene	98-82-8	U	0.33	0.50	1	ug/l		8260B	07/30/14	1

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 09, 2015

Date Received : July 26, 2014
Description : Holloman AFB

Sample ID : H-TU904-MW02-DT01

Collected By : Jon Mallonee
Collection Date : 07/24/14 10:30

ESC Sample # : L712424-04

Site ID :

Project # : 23446543.0053AA

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
p-Isopropyltoluene	99-87-6	U	0.35	0.50	1	ug/l		8260B	07/30/14	1
2-Butanone (MEK)	78-93-3	U	3.9	5.0	10	ug/l		8260B	07/30/14	1
Methylene Chloride	75-09-2	U	1	2.5	5	ug/l		8260B	07/30/14	1
4-Methyl-2-pentanone (MIBK)	108-10-1	U	2.1	5.0	10	ug/l		8260B	07/30/14	1
Methyl tert-butyl ether	1634-04-4	U	0.37	0.50	1	ug/l		8260B	07/30/14	1
Naphthalene	91-20-3	U	1	2.5	5	ug/l		8260B	07/30/14	1
n-Propylbenzene	103-65-1	U	0.35	0.50	1	ug/l		8260B	07/30/14	1
Styrene	100-42-5	U	0.31	0.50	1	ug/l		8260B	07/30/14	1
1,1,1,2-Tetrachloroethane	630-20-6	U	0.38	0.50	1	ug/l	UJ MS-L	8260B	07/30/14	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.58 ~~0.13~~	0.75	1	ug/l		8260B	07/30/14	1
Tetrachloroethene	127-18-4	U	0.37	0.50	1	ug/l		8260B	07/30/14	1
Toluene	108-88-3	U	0.78	2.5	5	ug/l		8260B	07/30/14	1
1,2,3-Trichlorobenzene	87-61-6	U	0.23	0.50	1	ug/l		8260B	07/30/14	1
1,2,4-Trichlorobenzene	120-82-1	U	0.21	0.50	1	ug/l		8260B	07/30/14	1
1,1,1-Trichloroethane	71-55-6	U	0.319	0.50	1	ug/l		8260B	07/30/14	1
1,1,2-Trichloroethane	79-00-5	U	0.38	0.50	1	ug/l		8260B	07/30/14	1
Trichloroethene	79-01-6	4.5	0.4	0.50	1	ug/l		8260B	07/30/14	1
Trichlorofluoromethane	75-69-4	U	1.2	2.5	5	ug/l		8260B	07/30/14	1
1,2,3-Trichloropropane	96-18-4	U	0.81	1.0	2.5	ug/l		8260B	07/30/14	1
1,2,4-Trimethylbenzene	95-63-6	U	0.37	0.50	1	ug/l		8260B	07/30/14	1
1,3,5-Trimethylbenzene	108-67-8	U	0.39	0.50	1	ug/l		8260B	07/30/14	1
o-Xylene	95-47-6	U	0.34	0.50	1	ug/l		8260B	07/30/14	1
m&p-Xylene	1330-20-7	U	0.72	1.0	2	ug/l		8260B	07/30/14	1
Vinyl chloride	75-01-4	U	0.26	0.50	1	ug/l		8260B	07/30/14	1
Surrogate Recovery										
Toluene-d8	2037-26-5	102.				% Rec.		8260B	07/30/14	1
Dibromofluoromethane	1868-53-7	103.				% Rec.		8260B	07/30/14	1
4-Bromofluorobenzene	460-00-4	102.				% Rec.		8260B	07/30/14	1

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Note:
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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 09, 2015

ESC Sample # : L712424-05

Date Received : July 26, 2014
Description : Holloman AFB

Site ID :

Sample ID : H-TU904-MW03-NT01

Project # : 23446543.0053AA

Collected By : Jon Mallonee
Collection Date : 07/24/14 10:45

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
TPH (GC/FID) Low Fraction	8006-61-9	U	31	50.	100	ug/l		8015D/G	07/30/14	1
Surrogate Recovery-%										
a,a,a-Trifluorotoluene(FID)	98-08-8	96.2				% Rec.		8015D/G	07/30/14	1
Volatile Organics										
Acetone	67-64-1	U	10	25.	50	ug/l		8260B	07/29/14	1
Benzene	71-43-2	U	0.33	0.50	1	ug/l		8260B	07/29/14	1
Bromobenzene	108-86-1	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
Bromochloromethane	74-97-5	U	0.52	0.75	1	ug/l		8260B	07/29/14	1
Bromodichloromethane	75-27-4	U	0.38	0.50	1	ug/l		8260B	07/29/14	1
Bromoform	75-25-2	U	0.47	0.50	1	ug/l		8260B	07/29/14	1
Bromomethane	74-83-9	U	0.87	2.5	5	ug/l		8260B	07/29/14	1
n-Butylbenzene	104-51-8	U	0.36	0.50	1	ug/l		8260B	07/29/14	1
sec-Butylbenzene	135-98-8	U	0.36	0.50	1	ug/l		8260B	07/29/14	1
tert-Butylbenzene	98-06-6	U	0.4	0.50	1	ug/l		8260B	07/29/14	1
Carbon Disulfide	75-15-0	U	0.28	0.50	1	ug/l		8260B	07/29/14	1
Carbon tetrachloride	56-23-5	U	0.38	0.50	1	ug/l		8260B	07/29/14	1
Chlorobenzene	108-90-7	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
Chlorodibromomethane	124-48-1	U	0.33	0.50	1	ug/l		8260B	07/29/14	1
Chloroethane	75-00-3	U	0.45	2.5	5	ug/l		8260B	07/29/14	1
Chloroform U FB-I	67-66-3	~~0.50~~ 2.5	~~0.32~~ 0.50	2.5	5	ug/l	J	8260B	07/29/14	1
Chloromethane	74-87-3	U	0.28	0.50	2.5	ug/l		8260B	07/29/14	1
2-Chlorotoluene	95-49-8	U	0.38	0.50	1	ug/l		8260B	07/29/14	1
4-Chlorotoluene	106-43-4	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
1,2-Dibromo-3-Chloropropane	96-12-8	U	1.3	2.5	5	ug/l		8260B	07/29/14	1
1,2-Dibromoethane UJ MS-L	106-93-4	U	0.38	0.50	1	ug/l		8260B	07/29/14	1
Dibromomethane	74-95-3	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
1,2-Dichlorobenzene	95-50-1	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
1,3-Dichlorobenzene	541-73-1	U	0.22	0.50	1	ug/l		8260B	07/29/14	1
1,4-Dichlorobenzene	106-46-7	U	0.27	0.50	1	ug/l		8260B	07/29/14	1
Dichlorodifluoromethane	75-71-8	U	0.55	2.5	5	ug/l		8260B	07/29/14	1
1,1-Dichloroethane	75-34-3	U	0.26	0.50	1	ug/l		8260B	07/29/14	1
1,2-Dichloroethane	107-06-2	U	0.36	0.50	1	ug/l		8260B	07/29/14	1
1,1-Dichloroethene	75-35-4	U	0.4	0.50	1	ug/l		8260B	07/29/14	1
cis-1,2-Dichloroethene	156-59-2	U	0.26	0.50	1	ug/l		8260B	07/29/14	1
trans-1,2-Dichloroethene	156-60-5	U	0.4	0.50	1	ug/l		8260B	07/29/14	1
1,2-Dichloropropane	78-87-5	U	0.31	0.50	1	ug/l		8260B	07/29/14	1
1,1-Dichloropropene	563-58-6	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
1,3-Dichloropropane	142-28-9	U	0.37	0.50	1	ug/l		8260B	07/29/14	1
cis-1,3-Dichloropropene	10061-01-5	U	0.42	0.50	1	ug/l		8260B	07/29/14	1
trans-1,3-Dichloropropene	10061-02-6	U	0.42	0.50	1	ug/l		8260B	07/29/14	1
2,2-Dichloropropane	594-20-7	U	0.32	0.50	1	ug/l		8260B	07/29/14	1
Ethylbenzene	100-41-4	U	0.38	0.50	1	ug/l		8260B	07/29/14	1
2-Hexanone	591-78-6	U	3.8	5.0	10	ug/l		8260B	07/29/14	1
Hexachloro-1,3-butadiene	87-68-3	U	0.26	0.50	1	ug/l		8260B	07/29/14	1
Isopropylbenzene	98-82-8	U	0.33	0.50	1	ug/l		8260B	07/29/14	1

U = Not Detected at the LOD
Note:
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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 09, 2015

Date Received : July 26, 2014
Description : Holloman AFB

Sample ID : H-TU904-MW03-NT01

Collected By : Jon Mallonee
Collection Date : 07/24/14 10:45

ESC Sample # : L712424-05

Site ID :

Project # : 23446543.0053AA

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
p-Isopropyltoluene	99-87-6	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
2-Butanone (MEK)	78-93-3	U	3.9	5.0	10	ug/l		8260B	07/29/14	1
Methylene Chloride	75-09-2	U	1	2.5	5	ug/l		8260B	07/29/14	1
4-Methyl-2-pentanone (MIBK)	108-10-1	U	2.1	5.0	10	ug/l		8260B	07/29/14	1
Methyl tert-butyl ether	1634-04-4	U	0.37	0.50	1	ug/l		8260B	07/29/14	1
Naphthalene	91-20-3	U	1	2.5	5	ug/l		8260B	07/29/14	1
n-Propylbenzene	103-65-1	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
Styrene	100-42-5	U	0.31	0.50	1	ug/l		8260B	07/29/14	1
1,1,1,2-Tetrachloroethane UJ MS-L	630-20-6	U	0.38	0.50	1	ug/l		8260B	07/29/14	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.58 ~~0.13~~	0.75	1	ug/l		8260B	07/29/14	1
Tetrachloroethene	127-18-4	U	0.37	0.50	1	ug/l		8260B	07/29/14	1
Toluene	108-88-3	U	0.78	2.5	5	ug/l		8260B	07/29/14	1
1,2,3-Trichlorobenzene	87-61-6	U	0.23	0.50	1	ug/l		8260B	07/29/14	1
1,2,4-Trichlorobenzene	120-82-1	U	0.21	0.50	1	ug/l		8260B	07/29/14	1
1,1,1-Trichloroethane	71-55-6	U	0.319	0.50	1	ug/l		8260B	07/29/14	1
1,1,2-Trichloroethane	79-00-5	U	0.38	0.50	1	ug/l		8260B	07/29/14	1
Trichloroethene	79-01-6	8.7	0.4	0.50	1	ug/l		8260B	07/29/14	1
Trichlorofluoromethane	75-69-4	U	1.2	2.5	5	ug/l		8260B	07/29/14	1
1,2,3-Trichloropropane	96-18-4	U	0.81	1.0	2.5	ug/l		8260B	07/29/14	1
1,2,4-Trimethylbenzene	95-63-6	U	0.37	0.50	1	ug/l		8260B	07/29/14	1
1,3,5-Trimethylbenzene	108-67-8	U	0.39	0.50	1	ug/l		8260B	07/29/14	1
o-Xylene UJ MS-L	95-47-6	U	0.34	0.50	1	ug/l		8260B	07/29/14	1
m&p-Xylene	1330-20-7	U	0.72	1.0	2	ug/l		8260B	07/29/14	1
Vinyl chloride	75-01-4	U	0.26	0.50	1	ug/l		8260B	07/29/14	1
Surrogate Recovery										
Toluene-d8	2037-26-5	101.				% Rec.		8260B	07/29/14	1
Dibromofluoromethane	1868-53-7	103.				% Rec.		8260B	07/29/14	1
4-Bromofluorobenzene	460-00-4	103.				% Rec.		8260B	07/29/14	1

U = Not Detected at the LOD
Note:
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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 09, 2015

Date Received : July 26, 2014
Description : Holloman AFB

Sample ID : H-TU904-MW04-NT01

Collected By : Jon Mallonee
Collection Date : 07/24/14 13:04

ESC Sample # : L712424-06

Site ID :

Project # : 23446543.0053AA

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
TPH (GC/FID) Low Fraction	8006-61-9	U	31	50.	100	ug/l		8015D/G	07/30/14	1
Surrogate Recovery-%										
a,a,a-Trifluorotoluene(FID)	98-08-8	95.9				% Rec.		8015D/G	07/30/14	1
Volatile Organics										
Acetone	67-64-1	U	10	25.	50	ug/l		8260B	07/30/14	1
Benzene	71-43-2	U	0.33	0.50	1	ug/l		8260B	07/30/14	1
Bromobenzene	108-86-1	U	0.35	0.50	1	ug/l		8260B	07/30/14	1
Bromochloromethane	74-97-5	U	0.52	0.75	1	ug/l		8260B	07/30/14	1
Bromodichloromethane	75-27-4	U	0.38	0.50	1	ug/l		8260B	07/30/14	1
Bromoform	75-25-2	U	0.47	0.50	1	ug/l		8260B	07/30/14	1
Bromomethane	74-83-9	U	0.87	2.5	5	ug/l		8260B	07/30/14	1
n-Butylbenzene	104-51-8	U	0.36	0.50	1	ug/l		8260B	07/30/14	1
sec-Butylbenzene	135-98-8	U	0.36	0.50	1	ug/l		8260B	07/30/14	1
tert-Butylbenzene	98-06-6	U	0.4	0.50	1	ug/l		8260B	07/30/14	1
Carbon Disulfide	75-15-0	U	0.28	0.50	1	ug/l		8260B	07/30/14	1
Carbon tetrachloride	56-23-5	U	0.38	0.50	1	ug/l		8260B	07/30/14	1
Chlorobenzene	108-90-7	U	0.35	0.50	1	ug/l		8260B	07/30/14	1
Chlorodibromomethane	124-48-1	U	0.33	0.50	1	ug/l		8260B	07/30/14	1
Chloroethane	75-00-3	U	0.45	2.5	5	ug/l		8260B	07/30/14	1
Chloroform	67-66-3	U	0.32	2.5	5	ug/l		8260B	07/30/14	1
Chloromethane	74-87-3	U	0.28	0.50	2.5	ug/l		8260B	07/30/14	1
2-Chlorotoluene	95-49-8	U	0.38	0.50	1	ug/l		8260B	07/30/14	1
4-Chlorotoluene	106-43-4	U	0.35	0.50	1	ug/l		8260B	07/30/14	1
1,2-Dibromo-3-Chloropropane	96-12-8	U	1.3	2.5	5	ug/l		8260B	07/30/14	1
1,2-Dibromoethane VJ MS-L	106-93-4	U	0.38	0.50	1	ug/l		8260B	07/30/14	1
Dibromomethane	74-95-3	U	0.35	0.50	1	ug/l		8260B	07/30/14	1
1,2-Dichlorobenzene	95-50-1	U	0.35	0.50	1	ug/l		8260B	07/30/14	1
1,3-Dichlorobenzene	541-73-1	U	0.22	0.50	1	ug/l		8260B	07/30/14	1
1,4-Dichlorobenzene	106-46-7	U	0.27	0.50	1	ug/l		8260B	07/30/14	1
Dichlorodifluoromethane	75-71-8	U	0.55	2.5	5	ug/l		8260B	07/30/14	1
1,1-Dichloroethane	75-34-3	U	0.26	0.50	1	ug/l		8260B	07/30/14	1
1,2-Dichloroethane	107-06-2	U	0.36	0.50	1	ug/l		8260B	07/30/14	1
1,1-Dichloroethene	75-35-4	U	0.4	0.50	1	ug/l		8260B	07/30/14	1
cis-1,2-Dichloroethene	156-59-2	U	0.26	0.50	1	ug/l		8260B	07/30/14	1
trans-1,2-Dichloroethene	156-60-5	U	0.4	0.50	1	ug/l		8260B	07/30/14	1
1,2-Dichloropropane	78-87-5	U	0.31	0.50	1	ug/l		8260B	07/30/14	1
1,1-Dichloropropene	563-58-6	U	0.35	0.50	1	ug/l		8260B	07/30/14	1
1,3-Dichloropropane	142-28-9	U	0.37	0.50	1	ug/l		8260B	07/30/14	1
cis-1,3-Dichloropropene	10061-01-5	U	0.42	0.50	1	ug/l		8260B	07/30/14	1
trans-1,3-Dichloropropene	10061-02-6	U	0.42	0.50	1	ug/l		8260B	07/30/14	1
2,2-Dichloropropane	594-20-7	U	0.32	0.50	1	ug/l		8260B	07/30/14	1
Ethylbenzene	100-41-4	U	0.38	0.50	1	ug/l		8260B	07/30/14	1
2-Hexanone	591-78-6	U	3.8	5.0	10	ug/l		8260B	07/30/14	1
Hexachloro-1,3-butadiene	87-68-3	U	0.26	0.50	1	ug/l		8260B	07/30/14	1
Isopropylbenzene	98-82-8	U	0.33	0.50	1	ug/l		8260B	07/30/14	1

U = Not Detected at the LOD
Note:
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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 09, 2015

Date Received : July 26, 2014
Description : Holloman AFB

Sample ID : H-TU904-MW04-NT01

Collected By : Jon Mallonee
Collection Date : 07/24/14 13:04

ESC Sample # : L712424-06

Site ID :

Project # : 23446543.0053AA

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
p-Isopropyltoluene	99-87-6	U	0.35	0.50	1	ug/l		8260B	07/30/14	1
2-Butanone (MEK)	78-93-3	U	3.9	5.0	10	ug/l		8260B	07/30/14	1
Methylene Chloride	75-09-2	U	1	2.5	5	ug/l		8260B	07/30/14	1
4-Methyl-2-pentanone (MIBK)	108-10-1	U	2.1	5.0	10	ug/l		8260B	07/30/14	1
Methyl tert-butyl ether	1634-04-4	U	0.37	0.50	1	ug/l		8260B	07/30/14	1
Naphthalene	91-20-3	U	1	2.5	5	ug/l		8260B	07/30/14	1
n-Propylbenzene	103-65-1	U	0.35	0.50	1	ug/l		8260B	07/30/14	1
Styrene	100-42-5	U	0.31	0.50	1	ug/l		8260B	07/30/14	1
1,1,1,2-Tetrachloroethane UJ MS-L	630-20-6	U	0.38	0.50	1	ug/l		8260B	07/30/14	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.58 ~~0.13~~	0.75	1	ug/l		8260B	07/30/14	1
Tetrachloroethene	127-18-4	U	0.37	0.50	1	ug/l		8260B	07/30/14	1
Toluene	108-88-3	U	0.78	2.5	5	ug/l		8260B	07/30/14	1
1,2,3-Trichlorobenzene	87-61-6	U	0.23	0.50	1	ug/l		8260B	07/30/14	1
1,2,4-Trichlorobenzene	120-82-1	U	0.21	0.50	1	ug/l		8260B	07/30/14	1
1,1,1-Trichloroethane	71-55-6	U	0.319	0.50	1	ug/l		8260B	07/30/14	1
1,1,2-Trichloroethane	79-00-5	U	0.38	0.50	1	ug/l		8260B	07/30/14	1
Trichloroethene	79-01-6	2.0	0.4	0.50	1	ug/l		8260B	07/30/14	1
Trichlorofluoromethane	75-69-4	U	1.2	2.5	5	ug/l		8260B	07/30/14	1
1,2,3-Trichloropropane	96-18-4	U	0.81	1.0	2.5	ug/l		8260B	07/30/14	1
1,2,4-Trimethylbenzene	95-63-6	U	0.37	0.50	1	ug/l		8260B	07/30/14	1
1,3,5-Trimethylbenzene	108-67-8	U	0.39	0.50	1	ug/l		8260B	07/30/14	1
o-Xylene	95-47-6	U	0.34	0.50	1	ug/l		8260B	07/30/14	1
m&p-Xylene	1330-20-7	U	0.72	1.0	2	ug/l		8260B	07/30/14	1
Vinyl chloride	75-01-4	U	0.26	0.50	1	ug/l		8260B	07/30/14	1
Surrogate Recovery										
Toluene-d8	2037-26-5	103.				% Rec.		8260B	07/30/14	1
Dibromofluoromethane	1868-53-7	104.				% Rec.		8260B	07/30/14	1
4-Bromofluorobenzene	460-00-4	104.				% Rec.		8260B	07/30/14	1

U = Not Detected at the LOD
Note:
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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 09, 2015

ESC Sample # : L712424-07

Date Received : July 26, 2014
Description : Holloman AFB

Site ID :

Sample ID : H-TU904-MW07-NT01

Project # : 23446543.0053AA

Collected By : Jon Mallonee
Collection Date : 07/25/14 08:25

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
TPH (GC/FID) Low Fraction	8006-61-9	U	31	50.	100	ug/l		8015D/G	07/30/14	1
Surrogate Recovery-%										
a,a,a-Trifluorotoluene(FID)	98-08-8	95.9				% Rec.		8015D/G	07/30/14	1
Volatile Organics										
Acetone	67-64-1	U	10	25.	50	ug/l		8260B	07/30/14	1
Benzene	71-43-2	U	0.33	0.50	1	ug/l		8260B	07/30/14	1
Bromobenzene	108-86-1	U	0.35	0.50	1	ug/l		8260B	07/30/14	1
Bromochloromethane	74-97-5	U	0.52	0.75	1	ug/l		8260B	07/30/14	1
Bromodichloromethane	75-27-4	U	0.38	0.50	1	ug/l		8260B	07/30/14	1
Bromoform	75-25-2	U	0.47	0.50	1	ug/l		8260B	07/30/14	1
Bromomethane	74-83-9	U	0.87	2.5	5	ug/l		8260B	07/30/14	1
n-Butylbenzene	104-51-8	U	0.36	0.50	1	ug/l		8260B	07/30/14	1
sec-Butylbenzene	135-98-8	U	0.36	0.50	1	ug/l		8260B	07/30/14	1
tert-Butylbenzene	98-06-6	U	0.4	0.50	1	ug/l		8260B	07/30/14	1
Carbon Disulfide	75-15-0	U	0.28	0.50	1	ug/l		8260B	07/30/14	1
Carbon tetrachloride	56-23-5	U	0.38	0.50	1	ug/l		8260B	07/30/14	1
Chlorobenzene	108-90-7	U	0.35	0.50	1	ug/l		8260B	07/30/14	1
Chlorodibromomethane	124-48-1	U	0.33	0.50	1	ug/l		8260B	07/30/14	1
Chloroethane	75-00-3	U	0.45	2.5	5	ug/l		8260B	07/30/14	1
Chloroform U FB-I	67-66-3	~~0.42~~ 2.5	~~0.32~~ 0.42	2.5	5	ug/l	J	8260B	07/30/14	1
Chloromethane	74-87-3	U	0.28	0.50	2.5	ug/l		8260B	07/30/14	1
2-Chlorotoluene	95-49-8	U	0.38	0.50	1	ug/l		8260B	07/30/14	1
4-Chlorotoluene	106-43-4	U	0.35	0.50	1	ug/l		8260B	07/30/14	1
1,2-Dibromo-3-Chloropropane	96-12-8	U	1.3	2.5	5	ug/l		8260B	07/30/14	1
1,2-Dibromoethane UJ MS-L	106-93-4	U	0.38	0.50	1	ug/l		8260B	07/30/14	1
Dibromomethane	74-95-3	U	0.35	0.50	1	ug/l		8260B	07/30/14	1
1,2-Dichlorobenzene	95-50-1	U	0.35	0.50	1	ug/l		8260B	07/30/14	1
1,3-Dichlorobenzene	541-73-1	U	0.22	0.50	1	ug/l		8260B	07/30/14	1
1,4-Dichlorobenzene	106-46-7	U	0.27	0.50	1	ug/l		8260B	07/30/14	1
Dichlorodifluoromethane	75-71-8	U	0.55	2.5	5	ug/l		8260B	07/30/14	1
1,1-Dichloroethane	75-34-3	U	0.26	0.50	1	ug/l		8260B	07/30/14	1
1,2-Dichloroethane	107-06-2	U	0.36	0.50	1	ug/l		8260B	07/30/14	1
1,1-Dichloroethene	75-35-4	U	0.4	0.50	1	ug/l		8260B	07/30/14	1
cis-1,2-Dichloroethene	156-59-2	U	0.26	0.50	1	ug/l		8260B	07/30/14	1
trans-1,2-Dichloroethene	156-60-5	U	0.4	0.50	1	ug/l		8260B	07/30/14	1
1,2-Dichloropropane	78-87-5	U	0.31	0.50	1	ug/l		8260B	07/30/14	1
1,1-Dichloropropene	563-58-6	U	0.35	0.50	1	ug/l		8260B	07/30/14	1
1,3-Dichloropropane	142-28-9	U	0.37	0.50	1	ug/l		8260B	07/30/14	1
cis-1,3-Dichloropropene	10061-01-5	U	0.42	0.50	1	ug/l		8260B	07/30/14	1
trans-1,3-Dichloropropene	10061-02-6	U	0.42	0.50	1	ug/l		8260B	07/30/14	1
2,2-Dichloropropane	594-20-7	U	0.32	0.50	1	ug/l		8260B	07/30/14	1
Ethylbenzene	100-41-4	U	0.38	0.50	1	ug/l		8260B	07/30/14	1
2-Hexanone	591-78-6	U	3.8	5.0	10	ug/l		8260B	07/30/14	1
Hexachloro-1,3-butadiene	87-68-3	U	0.26	0.50	1	ug/l		8260B	07/30/14	1
Isopropylbenzene	98-82-8	U	0.33	0.50	1	ug/l		8260B	07/30/14	1

U = Not Detected at the LOD
Note:
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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 09, 2015

ESC Sample # : L712424-07

Date Received : July 26, 2014
Description : Holloman AFB

Site ID :

Sample ID : H-TU904-MW07-NT01

Project # : 23446543.0053AA

Collected By : Jon Mallonee
Collection Date : 07/25/14 08:25

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
p-Isopropyltoluene	99-87-6	U	0.35	0.50	1	ug/l		8260B	07/30/14	1
2-Butanone (MEK)	78-93-3	U	3.9	5.0	10	ug/l		8260B	07/30/14	1
Methylene Chloride	75-09-2	U	1	2.5	5	ug/l		8260B	07/30/14	1
4-Methyl-2-pentanone (MIBK)	108-10-1	U	2.1	5.0	10	ug/l		8260B	07/30/14	1
Methyl tert-butyl ether	1634-04-4	U	0.37	0.50	1	ug/l		8260B	07/30/14	1
Naphthalene	91-20-3	U	1	2.5	5	ug/l		8260B	07/30/14	1
n-Propylbenzene	103-65-1	U	0.35	0.50	1	ug/l		8260B	07/30/14	1
Styrene	100-42-5	U	0.31	0.50	1	ug/l		8260B	07/30/14	1
1,1,1,2-Tetrachloroethane UJ MS-C	630-20-6	U	0.38	0.50	1	ug/l		8260B	07/30/14	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.50 ~~0.13~~	0.75	1	ug/l		8260B	07/30/14	1
Tetrachloroethene	127-18-4	U	0.37	0.50	1	ug/l		8260B	07/30/14	1
Toluene	108-88-3	U	0.78	2.5	5	ug/l		8260B	07/30/14	1
1,2,3-Trichlorobenzene	87-61-6	U	0.23	0.50	1	ug/l		8260B	07/30/14	1
1,2,4-Trichlorobenzene	120-82-1	U	0.21	0.50	1	ug/l		8260B	07/30/14	1
1,1,1-Trichloroethane	71-55-6	U	0.319	0.50	1	ug/l		8260B	07/30/14	1
1,1,2-Trichloroethane	79-00-5	U	0.38	0.50	1	ug/l		8260B	07/30/14	1
Trichloroethene	79-01-6	6.7	0.4	0.50	1	ug/l		8260B	07/30/14	1
Trichlorofluoromethane	75-69-4	U	1.2	2.5	5	ug/l		8260B	07/30/14	1
1,2,3-Trichloropropane	96-18-4	U	0.81	1.0	2.5	ug/l		8260B	07/30/14	1
1,2,4-Trimethylbenzene	95-63-6	U	0.37	0.50	1	ug/l		8260B	07/30/14	1
1,3,5-Trimethylbenzene	108-67-8	U	0.39	0.50	1	ug/l		8260B	07/30/14	1
o-Xylene	95-47-6	U	0.34	0.50	1	ug/l		8260B	07/30/14	1
m&p-Xylene	1330-20-7	U	0.72	1.0	2	ug/l		8260B	07/30/14	1
Vinyl chloride	75-01-4	U	0.26	0.50	1	ug/l		8260B	07/30/14	1
Surrogate Recovery										
Toluene-d8	2037-26-5	103.				% Rec.		8260B	07/30/14	1
Dibromofluoromethane	1868-53-7	104.				% Rec.		8260B	07/30/14	1
4-Bromofluorobenzene	460-00-4	102.				% Rec.		8260B	07/30/14	1

U = Not Detected at the LOD
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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 09, 2015

ESC Sample # : L712424-08

Date Received : July 26, 2014
Description : Holloman AFB

Site ID :

Sample ID : H-TU904-TRIPBLANK-TT02

Project # : 23446543.0053AA

Collected By : Jon Mallonee
Collection Date : 07/24/14 11:00

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
TPH (GC/FID) Low Fraction	8006-61-9	U	31	50.	100	ug/l		8015D/G	07/30/14	1
Surrogate Recovery-%										
a,a,a-Trifluorotoluene(FID)	98-08-8	96.3				% Rec.		8015D/G	07/30/14	1
Volatile Organics										
Acetone	67-64-1	U	10	25.	50	ug/l		8260B	07/29/14	1
Benzene	71-43-2	U	0.33	0.50	1	ug/l		8260B	07/29/14	1
Bromobenzene	108-86-1	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
Bromochloromethane	74-97-5	U	0.52	0.75	1	ug/l		8260B	07/29/14	1
Bromodichloromethane	75-27-4	U	0.38	0.50	1	ug/l		8260B	07/29/14	1
Bromoform	75-25-2	U	0.47	0.50	1	ug/l		8260B	07/29/14	1
Bromomethane	74-83-9	U	0.87	2.5	5	ug/l		8260B	07/29/14	1
n-Butylbenzene	104-51-8	U	0.36	0.50	1	ug/l		8260B	07/29/14	1
sec-Butylbenzene	135-98-8	U	0.36	0.50	1	ug/l		8260B	07/29/14	1
tert-Butylbenzene	98-06-6	U	0.4	0.50	1	ug/l		8260B	07/29/14	1
Carbon Disulfide	75-15-0	U	0.28	0.50	1	ug/l		8260B	07/29/14	1
Carbon tetrachloride	56-23-5	U	0.38	0.50	1	ug/l		8260B	07/29/14	1
Chlorobenzene	108-90-7	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
Chlorodibromomethane	124-48-1	U	0.33	0.50	1	ug/l		8260B	07/29/14	1
Chloroethane	75-00-3	U	0.45	2.5	5	ug/l		8260B	07/29/14	1
Chloroform	67-66-3	U	0.32	2.5	5	ug/l		8260B	07/29/14	1
Chloromethane	74-87-3	U	0.28	0.50	2.5	ug/l		8260B	07/29/14	1
2-Chlorotoluene	95-49-8	U	0.38	0.50	1	ug/l		8260B	07/29/14	1
4-Chlorotoluene	106-43-4	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
1,2-Dibromo-3-Chloropropane	96-12-8	U	1.3	2.5	5	ug/l		8260B	07/29/14	1
1,2-Dibromoethane	106-93-4	U	0.38	0.50	1	ug/l		8260B	07/29/14	1
Dibromomethane	74-95-3	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
1,2-Dichlorobenzene	95-50-1	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
1,3-Dichlorobenzene	541-73-1	U	0.22	0.50	1	ug/l		8260B	07/29/14	1
1,4-Dichlorobenzene	106-46-7	U	0.27	0.50	1	ug/l		8260B	07/29/14	1
Dichlorodifluoromethane	75-71-8	U	0.55	2.5	5	ug/l		8260B	07/29/14	1
1,1-Dichloroethane	75-34-3	U	0.26	0.50	1	ug/l		8260B	07/29/14	1
1,2-Dichloroethane	107-06-2	U	0.36	0.50	1	ug/l		8260B	07/29/14	1
1,1-Dichloroethene	75-35-4	U	0.4	0.50	1	ug/l		8260B	07/29/14	1
cis-1,2-Dichloroethene	156-59-2	U	0.26	0.50	1	ug/l		8260B	07/29/14	1
trans-1,2-Dichloroethene	156-60-5	U	0.4	0.50	1	ug/l		8260B	07/29/14	1
1,2-Dichloropropane	78-87-5	U	0.31	0.50	1	ug/l		8260B	07/29/14	1
1,1-Dichloropropene	563-58-6	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
1,3-Dichloropropane	142-28-9	U	0.37	0.50	1	ug/l		8260B	07/29/14	1
cis-1,3-Dichloropropene	10061-01-5	U	0.42	0.50	1	ug/l		8260B	07/29/14	1
trans-1,3-Dichloropropene	10061-02-6	U	0.42	0.50	1	ug/l		8260B	07/29/14	1
2,2-Dichloropropane	594-20-7	U	0.32	0.50	1	ug/l		8260B	07/29/14	1
Ethylbenzene	100-41-4	U	0.38	0.50	1	ug/l		8260B	07/29/14	1
2-Hexanone	591-78-6	U	3.8	5.0	10	ug/l		8260B	07/29/14	1
Hexachloro-1,3-butadiene	87-68-3	U	0.26	0.50	1	ug/l		8260B	07/29/14	1
Isopropylbenzene	98-82-8	U	0.33	0.50	1	ug/l		8260B	07/29/14	1

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
Denver, CO 80237

January 09, 2015

Date Received : July 26, 2014
Description : Holloman AFB

Sample ID : H-TU904-TRIPBLANK-TT02

Collected By : Jon Mallonee
Collection Date : 07/24/14 11:00

ESC Sample # : L712424-08

Site ID :

Project # : 23446543.0053AA

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
p-Isopropyltoluene	99-87-6	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
2-Butanone (MEK)	78-93-3	U	3.9	5.0	10	ug/l		8260B	07/29/14	1
Methylene Chloride	75-09-2	U	1	2.5	5	ug/l		8260B	07/29/14	1
4-Methyl-2-pentanone (MIBK)	108-10-1	U	2.1	5.0	10	ug/l		8260B	07/29/14	1
Methyl tert-butyl ether	1634-04-4	U	0.37	0.50	1	ug/l		8260B	07/29/14	1
Naphthalene	91-20-3	U	1	2.5	5	ug/l		8260B	07/29/14	1
n-Propylbenzene	103-65-1	U	0.35	0.50	1	ug/l		8260B	07/29/14	1
Styrene	100-42-5	U	0.31	0.50	1	ug/l		8260B	07/29/14	1
1,1,1,2-Tetrachloroethane	630-20-6	U	0.38	0.50	1	ug/l		8260B	07/29/14	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.58 ~~0.13~~	0.75	1	ug/l		8260B	07/29/14	1
Tetrachloroethene	127-18-4	U	0.37	0.50	1	ug/l		8260B	07/29/14	1
Toluene	108-88-3	U	0.78	2.5	5	ug/l		8260B	07/29/14	1
1,2,3-Trichlorobenzene	87-61-6	U	0.23	0.50	1	ug/l		8260B	07/29/14	1
1,2,4-Trichlorobenzene	120-82-1	U	0.21	0.50	1	ug/l		8260B	07/29/14	1
1,1,1-Trichloroethane	71-55-6	U	0.319	0.50	1	ug/l		8260B	07/29/14	1
1,1,2-Trichloroethane	79-00-5	U	0.38	0.50	1	ug/l		8260B	07/29/14	1
Trichloroethene	79-01-6	U	0.4	0.50	1	ug/l		8260B	07/29/14	1
Trichlorofluoromethane	75-69-4	U	1.2	2.5	5	ug/l		8260B	07/29/14	1
1,2,3-Trichloropropane	96-18-4	U	0.81	1.0	2.5	ug/l		8260B	07/29/14	1
1,2,4-Trimethylbenzene	95-63-6	U	0.37	0.50	1	ug/l		8260B	07/29/14	1
1,3,5-Trimethylbenzene	108-67-8	U	0.39	0.50	1	ug/l		8260B	07/29/14	1
o-Xylene	95-47-6	U	0.34	0.50	1	ug/l		8260B	07/29/14	1
m&p-Xylene	1330-20-7	U	0.72	1.0	2	ug/l		8260B	07/29/14	1
Vinyl chloride	75-01-4	U	0.26	0.50	1	ug/l		8260B	07/29/14	1
Surrogate Recovery										
Toluene-d8	2037-26-5	104.				% Rec.		8260B	07/29/14	1
Dibromofluoromethane	1868-53-7	100.				% Rec.		8260B	07/29/14	1
4-Bromofluorobenzene	460-00-4	103.				% Rec.		8260B	07/29/14	1

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