F I N A L

FINAL DATA VALIDATION REPORT

JULY 2015

Prepared for

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TABLE OF CONTENTS

Section 1 Introduction 1-1

Section 2 Data Evaluation Procedures 2-1

Section 3 Data Validation and Data Quality Indicators 3-1

3.1 Precision 3-1
3.1.1 Field Quality Control Samples 3-1
3.1.2 Matrix-Dependent Quality Control 3-2
3.1.3 Method-Specific Quality Control Measures 3-3
3.2 Accuracy 3-3
3.2.1 Matrix-Dependent Quality Control 3-3
3.2.2 Laboratory and Method-Specific Quality Control Measures 3-3
3.3 Representativeness 3-4
3.4 Comparability 3-4
3.5 Analytical Competeness 3-4
3.6 Sensitivity 3-5
3.6.1 Metals 3-5
3.6.2 General Chemistry Parameters 3-5
3.6.3 Organic Parameters 3-5

Section 4 QC Samples Collected 4-1

4.1 Matrix Spike/Matrix Spike Duplicate 4-1
4.2 Laboratory Duplicates 4-2
4.3 Field Duplicate Samples 4-2
4.4 Field Blanks 4-3
4.5 Equipment Blanks 4-3

Section 5 References 5-1

TABLE OF CONTENTS

List of Tables

Section 2 – Data Evaluation Procedures

Table 2.1 List of Analytical Methods

Table 2.2 Data Validation Qualifier Definitions

Table 2.3 Data Validation Qualifier Reason and Bias Direction Codes

Section 4 – QC Samples

Table 4.1a July 2015 MS/MSD Samples

Table 4.1b July 2015 MS/MSD Recovery Overall Qualifiers

Table 4.2 July 2015 Laboratory Duplicate Samples

Table 4.3a July 2015 Field Duplicate Samples

Table 4.3b July 2015 Field Duplicate Overall Qualifiers

Table 4.4a July 2015 Field Blank Samples

Table 4.4b July 2015 Field Blank Overall Qualifiers

List of Appendices

Appendix A – Individual Data Review Summaries and Qualified Data Sheets

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 Methods
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 2015 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 SW8270C	SVOCs
EPA SW6020	Total/Dissolved Metals
SM2540C	TDS

EPA – U.S. Environmental Protection Agency
Physical/Chemical Methods (SW-846)
PAHs – Polynuclear Aromatic Hydrocarbons
SM – Standard Methods
SW – Test Methods for Evaluating Solid Waste
SVOCs- Semi Volatile Organic Compounds
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 two 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 14% of the July 2015 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 L779535 – volatile organic compounds (VOCs), polynuclear aromatic hydrocarbons (PAHs), semi volatile organic compounds (SVOCs), total metals, dissolved metals, and total dissolved solids (TDS)

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 2015 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, two 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, >96% 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, one laboratory duplicate was 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 > 99% 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 96% 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, 100% 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, three results were qualified as unusable (rejected) out of 1,069 total results for the project (i.e., >.01%). As such, the overall analytical completeness for this program is >99%. 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

No metal analyzes were reported as ND at levels that exceeded 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 714 groundwater results out of 751 organics results where results for a given analyte were reported as ND or qualified as ND due to blank contamination. Of these 714 results, the 1,2-dibromo-3-chloropropane results for one sample and the 1,2-dibromoethane results for one sample, 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 2015 MS/MSD Samples

Sample Identification	Data Package	Analyses
H-TU904-MW20-NT01	L779535	SVOCs, VOCs, Dissolved Metals, Total Metals
H-SS013-MW01-ND01	L778844	Dissolved Metals, Total Metals

PAHs – Polynuclear Aromatic Hydrocarbons SVOCS – Semi Vol 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 2015 MS/MSD Recovery 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
PAHs					
4,6-Dinitro-2-Methylphenol	2	0	2	100%	As the potential bias was considered to be low, the associated 4,6-dinitro-2-methylphenol result for sample H-TU904-MW20-NT01 was qualified as estimated (UJ MS-L).
4-Nitroaniline	0	1	2	50%	As the potential bias was considered to be high, and the associated 4-nitroanailine result was reported as non-detect, data qualification was not considered necessary.

– Number % – Percentage L – Low Bias
MS – Matrix Spike MSD – Matrix Spike Duplicate PAHs – Polynuclear Aromatic Hydrocarbons
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 2015 Laboratory Duplicate Samples

Sample Identification	Data Package	Analyses
H-SS013-MW04S-NT01	L778844	TDS

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 2015 Field Duplicate Samples

Field Duplicate Pair	Data Package	Analyses
H-TU904-MW21-NT01 H-TU904-MW21-DT01	L779535	TDS, Total Metals
H-TU904-MW21-ND01/ H-TU904-MW21-DD01	L779535	Dissolved Metals

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 2015 Field Duplicate Overall Qualifiers

Analyte	# of FDs Outside Control Limits	Total # of FDs	% FD Outside of Control Limits	Qualification
Metals				
Total Aluminum	1	2	50%	All 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.
Total Cobalt	1	2	50%	
Total Lead	1	2	50%	
Total Vanadium	1	2	50%	

– 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 2015 Field Blank Samples

Field Blank Identification	Data Package	Analyses
H-TU904-FIELDBLANK-FT01	L779535	VOCs

VOCs – Volatile Organic Compounds

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

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: L778844
Sampling Event Dates: July 22, 2015
Sample-specific Parameter Review/Laboratory Performance Parameters: Yes
Full Validation (e.g. result recalculation): No
Data Reviewer: Katie Abbott, URS Project Chemist
Date Completed: September 11, 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	SVOCs	Dissolved Metals	Total Metals	TDS
L778844											
H-SS013-MW01-ND01	SA	L778844-01	Water	---	---	---	---	---	X^m	---	---
H-SS013-MW01-NT01	SA	L778844-02	Water	---	---	---	---	---	---	X^m	X
H-SS013-MW02-ND01	SA	L778844-03	Water	---	---	---	---	---	X	---	---
H-SS013-MW02-NT01	SA	L778844-04	Water	---	---	---	---	---	---	X	X
H-SS013-MW04D-NT01	SA	L778844-05	Water	---	---	---	---	---	---	X	X
H-SS013-MW04D-ND01	SA	L778844-06	Water	---	---	---	---	---	X	---	---
H-SS013-MW04S-ND01	SA	L778844-07	Water	---	---	---	---	---	X	---	---
H-SS013-MW04S-NT01	SA	L778844-08	Water	---	---	---	---	---	---	X	X
H-TUQC-TRIPBLANK-TT01	TB	L778844-09	Water	---	---	X	---	---	---	---	---
H-TU518-MW04-NT01	SA	L778844-10	Water	---	---	---	X	---	---	---	X
H-TU518-MW07-NT01	SA	L778844-11	Water	---	---	---	X	---	---	---	X
H-OT32-TMW09-NT01	SA	L778844-12	Water	---	---	X	---	---	---	---	X

Sample Type: SA – Sample TB - Time Blank
X^m - Matrix Spike/Matrix Spike Duplicate

Analyses:

DRO/ORO - Diesel and Oil Range Organics (8015D)
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 (6020/7470A)
PAHs – Polynuclear Aromatic Hydrocarbons (8270C SIM)
SIM – Selective Ion Monitoring
SVOCs – Semivolatile Organic Compounds (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.
_____ Data are usable with qualification (noted below).
__X__ 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. Mercury was requested on the COC, but not performed by the laboratory. Therefore, mercury results could not be evaluated for the associated samples in this data package.
Holding Times	Yes	All samples were analyzed within the method required holding time.
Laboratory Blanks • Method Blank • Continuing Calibration Blank	No	With the exceptions listed in Table 1, target analytes were not detected within the method or calibration blanks.
Matrix Quality Control • Matrix Spike/ Matrix Spike Duplicate H-SS013-MW01-ND01 (Dissolved Metals) H-SS013-MW01-NT01 (Total Metals) • Laboratory Duplicate H-SS013-MW04S-NT01 (TDS) • Total vs. Partial Analyses (Metals)	Yes	**Matrix Spike/ Matrix Spike Duplicate (MS/MSD)** The frequency of MS/MSDs met the quality assurance project plan (QAPP) requirement of one per twenty samples. The MS/MSD recoveries and relative percent differences (RPDs) met quality control criteria.

Review Parameter	Criteria Met?	Comment
		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 limit of quantitation (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 field 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 exceed that for a total analysis and both of the results are >5xLOQ, 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 2xLOQ. The total metal sample results were compared with the associated dissolved sample results against the concentration-dependent criteria set forth in SOP 14.
Metals Only • Serial Dilution H-SS013-MW01-ND01 (6020) H-SS013-MW01-NT01 (6020) • Post Digestion Spike None in this package	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 2, 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)** A post digestion spike was not reported in association with the sample in this data package.

Review Parameter	Criteria Met?	Comment
Method Quality Control • Surrogates (VOCs, PAHs, SVOCs)	Yes	The surrogate recoveries were within the laboratory specified acceptance criteria.
Field Quality Control • Trip Blank H-TUQC-TRIPBLANK-TT01 • Field Duplicate None in this package • Equipment Blank None in this package • Field Blank None in this package	No	**Trip Blank** With the exceptions listed in Table 3, 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. 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	No results were reported as non-detect at elevated limits of detection (LODs).
Initial Calibration	Yes	**Method 8260B Volatile Organic Compounds (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 Polynuclear Aromatic Hydrocarbons (PAHs)** The %RSD values for all target analytes in the calibration were less than 20%. Therefore, the initial calibration met method acceptance criteria. **Method 6020 (Inductively Coupled Plasma Mass Spectrometer (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%. **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 exceptions listed in Table 4, 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%. **Method 6020 (ICPMS Metals)** Calibration verification analyses were conducted at the proper frequency. All metals were recovered within the Department of Defense (DOD) Quality Systems Manual (QSM) version 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 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, potassium, magnesium, molydenum, sodium, and/or titanium 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 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.

Review Parameter	Criteria Met?	Comment
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
CCCs – Calibration Check Compounds
COC – Chain of Custody
DLs – Detection Limits
DOD – Department of Defense
ICAL – Initial Calibration
ICPMS - Inductively Coupled Plasma Mass Spectrometry
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
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
VOCs – Volatile Organic Compounds

Table 1: Blank Outliers and Resultant Data Qualification

Associated Samples	Analyte	Concentration	Qualification
Total Metals			
MB Batch WG805263 H-SS013-MW01-NT01 H-SS013-MW02-NT01 H-SS013-MW04D-NT01 H-SS013-MW04S-NT01	Copper	0.537 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 WG806615 H-SS013-MW01-NT01 H-SS013-MW02-NT01 H-SS013-MW04D-NT01 H-SS013-MW04S-NT01	Aluminum	7.83 µg/L	
CCB 8/2/2015 10:51PM H-SS013-MW02-NT01 H-SS013-MW04D-NT01 H-SS013-MW04S-NT01	Vanadium	0.197 µg/L	None. The associated results were reported at concentrations >5x the concentration of the blank contamination.
Dissolved Metals			
MB Batch WG805265 H-SS013-MW01-ND01 H-SS013-MW02-ND01 H-SS013-MW04D-ND01 H-SS013-MW04S-ND01	Aluminum	5.14 µg/L	The associated results reported at concentrations <5x the concentration of the blank contamination were qualified as non-detect (U MB-I).
	Antimony	0.383 µg/L	
PAHs			
MB Batch WG805257 H-TU518-MW04-NT01 H-TU518-MW07-NT01	Acenaphthylene	0.0215 µg/L	As the potential bias was high, and the associated acenaphthylene results were reported as non-detect, data qualification was not considered necessary.
	Benzo(b)fluoranthene	0.0107 µg/L	The associated benzo(b)fluoranthene results reported at concentrations <5x the concentration of the blank contamination were qualified as non-detect (U MB-I).

Associated Samples	Analyte	Concentration	Qualification
	Benzo(g,h,i)perylene	0.0103 µg/L	As the potential bias was high, and the associated results were reported as non-detect, data qualification was not considered necessary.
	Dibenz(a,h)anthracene	0.00598 µg/L	
	Indeno(1,2,3-cd) pyrene	0.00935 µg/L	
	Naphthalene	0.0333 µg/L	The associated naphthalene results reported at concentrations <5x the concentration of the blank contamination were qualified as non-detect (U MB-I).

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

Table 2: Serial Dilution Outliers and Resultant Data Qualification

Associated Sample	Analyte	Parent Sample Result (µg/L)	Serial Dilution Result (µg/L)	%D (Limits)	Qualification
Dissolved Metals					
H-SS013-MW01-ND01	Manganese	362.5	427	**18** (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.
	Vanadium	22.5	25.6	**14** (10)	

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

Table 3: Trip Blank Outliers and Resultant Data Qualification

Associated Samples	Analyte	Concentration	Qualification
H-TUQC-TRIPBLANK-TT01 H-OT32-TMW09-NT01	Methylene Chloride	1.4 µg/L	As the potential bias was high, and the associated methylene chloride result was reported as non-detect, data qualification was not considered necessary.

µg/L – Micrograms per Liter

Table 4: Initial/Continuing Calibration Verification Outliers and Resultant Data Qualification

Associated Samples	Analyte	%D (Limit)	Data Qualification
VOCs			
H-TUQC-TRIPBLANK-TT01	Bromomethane	-24.8 (±20)	As the potential bias was considered to be low, the associated results were qualified as estimated (UJ CCAL-L).
	Chloroethane	-23.5 (±20)	
	Trichlorofluoromethane	-23.3 (±20)	
H-OT32-TMW09-NT01	Acetone	+35.2 (±20)	As the potential bias was high, and the associated acetone result was reported as non-detect, data qualification was not considered necessary.

Associated Samples	Analyte	%D (Limit)	Data Qualification
	Carbon Disulfide	-24.5 (±20)	As the potential bias was considered to be low, the associated carbon disulfide result was qualified as estimated (UJ CCAL-L).
	2-Butanone (MEK)	+47.8 (±20)	As the potential bias was high, and the associated results were reported as non-detect, data qualification was not considered necessary.
	4-Methyl-2-pentaone (MIBK)	+34.5 (±20)	
	2-Hexanone	+21.1 (±20)	

± - Plus or minus
%D – Percent Difference
CCAL – Continuing Calibration
L – Low Bias
UJ – Estimated
VOCs – Volatile Organic Compounds

Table 5: ICS Outliers and Resultant Data Qualification

Analyte	ICS A (µg/L)	DL (µg/L)	Qualified Samples	Qualification
Copper	0.8	0.52	H-SS013-MW01-ND01 H-SS013-MW02-ND01 H-SS013-MW04S-ND01	As the potential bias was considered to be high, the associated detected results were qualified as estimated (J ICS-H).
Lead	0.4	0.24		
Chromium	1.2	0.54	H-SS013-MW01-NT01 H-SS013-MW02-NT01 H-SS013-MW04S-NT01	
Lead	0.4	0.24		
Chromium	1.2	0.54	H-SS013-MW04D-NT01	
Lead	0.4	0.24		
Copper	0.8	0.52	H-SS013-MW04D-ND01	
Lead	0.4	0.24		

µg/L – Micrograms per Liter
DL – Detection Limit
H – High Bias
ICS – Interference Check Standard
J - Estimated

Table 6: LCS Recovery Outliers and Resultant Data Qualification

Associated Samples	Analyte	%R (Limits)	RPD (Limits)	Qualification
Total Metals				
LCS WG805263 H-SS013-MW01-NT01 H-SS013-MW02-NT01 H-SS013-MW04D-NT01 H-SS013-MW04S-NT01	Zinc	**129**/102 (80-120)	23 (30)	As the potential bias was considered to be high, and the associated results were reported as non-detect, data qualification was not considered necessary.
VOCs				
LCS WG804784 H-TUQC-TRIPBLANK-TT01	Bromoform	**132/138** (70-130)	5.01 (30)	As the potential bias was considered to be high, and the associated results were reported as non-detect, data qualification was not considered necessary.

%R – Percent Recoveries
LCS – Laboratory Control Sample
RPD – Relative Percent Difference
VOCs – Volatile Organic Compounds
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

August 21, 2015

Date Received : July 24, 2015
Description : Hollman AFB

Sample ID : H-SS013-MW01-ND01

Collected By : Jon Mallonee
Collection Date : 07/22/15 10:20

ESC Sample # : L778844-01

Site ID :

Project # : 60425210 23446543.00

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Aluminum,Dissolved U MB-I	7429-90-5	~~15.4~~ 50.0	~~2~~ 15.4	50.0	100	ug/l	J	6020	07/29/15	1
Antimony,Dissolved U MB-I	7440-36-0	0.569	~~0.21~~ 0.569	~~0.500~~ 0.569	2	ug/l	J	6020	07/29/15	1
Arsenic,Dissolved	7440-38-2	6.58	0.25	0.500	2	ug/l		6020	07/29/15	1
Barium,Dissolved	7440-39-3	18.7	0.36	1.00	5	ug/l		6020	07/29/15	1
Beryllium,Dissolved	7440-41-7	U	0.12	0.500	2	ug/l		6020	07/29/15	1
Cadmium,Dissolved	7440-43-9	U	0.16	0.500	1	ug/l		6020	07/29/15	1
Chromium,Dissolved	7440-47-3	U	0.54	1.50	2	ug/l		6020	07/29/15	1
Copper,Dissolved PS SQL, ICS-H	7440-50-8	3.20	0.52	1.50	5	ug/l	J	6020	07/29/15	1
Cobalt,Dissolved F SQL-I	7440-48-4	0.358	0.26	0.500	2	ug/l	J	6020	07/29/15	1
Lead,Dissolved PS SQL, ICS-H	7439-92-1	0.406	0.24	0.500	2	ug/l	J	6020	07/29/15	1
Manganese,Dissolved J DL-L	7439-96-5	362.	0.25	0.500	5	ug/l		6020	07/29/15	1
Nickel,Dissolved F SQL-I	7440-02-0	0.972	0.35	1.00	2	ug/l	J	6020	07/29/15	1
Selenium,Dissolved F SQL-I	7782-49-2	1.19	0.38	1.00	2	ug/l	J	6020	07/29/15	1
Silver,Dissolved	7440-22-4	U	0.31	0.500	2	ug/l		6020	07/29/15	1
Thallium,Dissolved	7440-28-0	U	0.19	0.500	2	ug/l		6020	07/29/15	1
Vanadium,Dissolved J DL-L	7440-62-2	22.5	0.18	0.500	5	ug/l		6020	07/29/15	1
Zinc,Dissolved	7440-66-6	U	2.56	5.00	25	ug/l		6020	07/29/15	1

U = Not Detected at the LOD
Note:
The reported analytical results relate only to the sample submitted.
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KA 9/11/15
BMS 9/14/15

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REPORT OF ANALYSIS

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

August 21, 2015

ESC Sample # : L778844-02

Date Received : July 24, 2015
Description : Hollman AFB

Site ID :

Sample ID : H-SS013-MW01-NT01

Project # : 60425210 23446543.00

Collected By : Jon Mallonee
Collection Date : 07/22/15 10:20

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Dissolved Solids	DSOLIDS	7100000	2800	5000	10000	ug/l		2540 C-	07/28/15	1
Aluminum UJ MB, FD-I	7429-90-5	~~16.~~ 50	~~2~~ 10	50.	100	ug/l	J	6020	08/03/15	1
Antimony F SQL-I	7440-36-0	0.45	0.21	0.50	2	ug/l	J	6020	08/02/15	1
Arsenic	7440-38-2	7.4	0.25	0.50	2	ug/l		6020	08/02/15	1
Barium	7440-39-3	22.	0.36	1.0	5	ug/l		6020	08/02/15	1
Beryllium	7440-41-7	U	0.12	0.50	2	ug/l		6020	08/02/15	1
Cadmium	7440-43-9	U	0.16	0.50	1	ug/l		6020	08/02/15	1
Chromium FJ SQL, ICS-H	7440-47-3	0.59	0.54	1.5	2	ug/l	J	6020	08/02/15	1
Copper U MB-I	7440-50-8	~~0.80~~ 1.5	~~0.52~~ 0.80	1.5	5	ug/l	J	6020	08/02/15	1
Cobalt FJ SQL, FD-I	7440-48-4	0.36	0.26	0.50	2	ug/l	J	6020	08/02/15	1
Lead FJ SQL, ICS, FD-H	7439-92-1	0.36	0.24	0.50	2	ug/l	J	6020	08/02/15	1
Manganese	7439-96-5	410	0.25	0.50	5	ug/l		6020	08/02/15	1
Nickel F SQL-I	7440-02-0	1.4	0.35	1.0	2	ug/l	J	6020	08/02/15	1
Selenium F SQL-I	7782-49-2	1.2	0.38	1.0	2	ug/l	J	6020	08/02/15	1
Silver	7440-22-4	U	0.31	0.50	2	ug/l		6020	08/02/15	1
Thallium	7440-28-0	U	0.19	0.50	2	ug/l		6020	08/02/15	1
Vanadium J FD-I	7440-62-2	24.	0.18	0.50	5	ug/l		6020	08/02/15	1
Zinc	7440-66-6	U	2.6	5.0	25	ug/l	J4J3	6020	08/02/15	1

U = Not Detected at the LOD
Note:
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BMS 9/14/15

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REPORT OF ANALYSIS

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

August 21, 2015

Date Received : July 24, 2015
Description : Hollman AFB

Sample ID : H-SS013-MW02-ND01

Collected By : Jon Mallonee
Collection Date : 07/22/15 10:14

ESC Sample # : L778844-03

Site ID :

Project # : 60425210 23446543.00

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Aluminum,Dissolved U MB-I	7429-90-5	~~15.~~ 50	~~2~~ 15	50.	100	ug/l	J	6020	07/29/15	1
Antimony,Dissolved U MB-I	7440-36-0	~~0.48~~ 0.50	~~0.21~~ 0.48	0.50	2	ug/l	J	6020	07/29/15	1
Arsenic,Dissolved	7440-38-2	11.	0.25	0.50	2	ug/l		6020	07/29/15	1
Barium,Dissolved	7440-39-3	17.	0.36	1.0	5	ug/l		6020	07/29/15	1
Beryllium,Dissolved	7440-41-7	U	0.12	0.50	2	ug/l		6020	07/29/15	1
Cadmium,Dissolved	7440-43-9	U	0.16	0.50	1	ug/l		6020	07/29/15	1
Chromium,Dissolved	7440-47-3	U	0.54	1.5	2	ug/l		6020	07/29/15	1
Copper,Dissolved FJ SQL, ICS-H	7440-50-8	1.0	0.52	1.5	5	ug/l	J	6020	07/29/15	1
Cobalt,Dissolved F SQL-I	7440-48-4	1.1	0.26	0.50	2	ug/l	J	6020	07/29/15	1
Lead,Dissolved	7439-92-1	U	0.24	0.50	2	ug/l		6020	07/29/15	1
Manganese,Dissolved	7439-96-5	630	0.25	0.50	5	ug/l		6020	07/29/15	1
Nickel,Dissolved	7440-02-0	2.4	0.35	1.0	2	ug/l		6020	07/29/15	1
Selenium,Dissolved F SQL-I	7782-49-2	1.4	0.38	1.0	2	ug/l	J	6020	07/29/15	1
Silver,Dissolved	7440-22-4	U	0.31	0.50	2	ug/l		6020	07/29/15	1
Thallium,Dissolved	7440-28-0	U	0.19	0.50	2	ug/l		6020	07/29/15	1
Vanadium,Dissolved	7440-62-2	88.	0.18	0.50	5	ug/l		6020	07/29/15	1
Zinc,Dissolved	7440-66-6	U	2.6	5.0	25	ug/l		6020	07/29/15	1

U = Not Detected at the LOD
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REPORT OF ANALYSIS

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

August 21, 2015

Date Received : July 24, 2015
Description : Hollman AFB

Sample ID : H-SS013-MW02-NT01

Collected By : Jon Mallonee
Collection Date : 07/22/15 10:14

ESC Sample # : L778844-04

Site ID :

Project # : 60425210 23446543.00

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Dissolved Solids	DSOLIDS	6600000	2800	5000	10000	ug/l		2540 C-	07/28/15	1
Aluminum ~~J FD-I~~ FJ SQL,FD-I	7429-90-5	84.	2	50.	100	ug/l	J	6020	08/03/15	1
Antimony F SQL-I	7440-36-0	0.76	0.21	0.50	2	ug/l	J	6020	08/02/15	1
Arsenic	7440-38-2	12.	0.25	0.50	2	ug/l		6020	08/02/15	1
Barium	7440-39-3	18.	0.36	1.0	5	ug/l		6020	08/02/15	1
Beryllium	7440-41-7	U	0.12	0.50	2	ug/l		6020	08/02/15	1
Cadmium FJ SQL, ICS-H	7440-43-9	U	0.16	0.50	1	ug/l		6020	08/02/15	1
Chromium	7440-47-3	0.74	0.54	1.5	2	ug/l	J	6020	08/02/15	1
Copper U MB-I	7440-50-8	1.6	~~0.52~~ 1.6	~~1.5~~ 1.6	5	ug/l	J	6020	08/02/15	1
Cobalt FJ SQL,FD-I	7440-48-4	1.1	0.26	0.50	2	ug/l	J	6020	08/02/15	1
Lead FJ SQL, ICS-H, FD-H	7439-92-1	0.42	0.24	0.50	2	ug/l	J	6020	08/02/15	1
Manganese	7439-96-5	630	0.25	0.50	5	ug/l		6020	08/02/15	1
Nickel	7440-02-0	2.5	0.35	1.0	2	ug/l		6020	08/02/15	1
Selenium F SQL-I	7782-49-2	1.9	0.38	1.0	2	ug/l	J	6020	08/02/15	1
Silver F SQL-I	7440-22-4	0.39	0.31	0.50	2	ug/l	J	6020	08/02/15	1
Thallium	7440-28-0	U	0.19	0.50	2	ug/l		6020	08/02/15	1
Vanadium J FD-I	7440-62-2	91.	0.18	0.50	5	ug/l		6020	08/02/15	1
Zinc	7440-66-6	U	2.6	5.0	25	ug/l	J4J3	6020	08/02/15	1

U = Not Detected at the LOD
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REPORT OF ANALYSIS

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

August 21, 2015

Date Received : July 24, 2015
Description : Hollman AFB

Sample ID : H-SS013-MW04D-NT01

Collected By : Jon Mallonee
Collection Date : 07/22/15 11:48

ESC Sample # : L778844-05

Site ID :

Project # : 60425210 23446543.00

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Dissolved Solids	DSOLIDS	29000000	2800	5000	10000	ug/l		2540 C-	07/28/15	1
Aluminum UJMB-~~7~~ FD-I	7429-90-5	~~14.~~ 50	~~2~~ 14	50.	100	ug/l	J	6020	08/03/15	1
Antimony F SQL-I	7440-36-0	0.97	0.21	0.50	2	ug/l	J	6020	08/02/15	1
Arsenic	7440-38-2	37.	0.25	0.50	2	ug/l		6020	08/02/15	1
Barium	7440-39-3	17.	0.36	1.0	5	ug/l		6020	08/02/15	1
Beryllium	7440-41-7	U	0.12	0.50	2	ug/l		6020	08/02/15	1
Cadmium	7440-43-9	U	0.16	0.50	1	ug/l		6020	08/02/15	1
Chromium FJ SQL, ICS-H	7440-47-3	0.99	0.54	1.5	2	ug/l	J	6020	08/02/15	1
Copper F SQL-I	7440-50-8	4.8	0.52	1.5	5	ug/l	J	6020	08/02/15	1
Cobalt UJ FD-I	7440-48-4	U	0.26	0.50	2	ug/l		6020	08/02/15	1
Lead FJ SQL, ~~ICS-H~~, FD, ICS-H	7439-92-1	1.5	0.24	0.50	2	ug/l	J	6020	08/02/15	1
Manganese	7439-96-5	14.	0.25	0.50	5	ug/l		6020	08/02/15	1
Nickel F SQL-I	7440-02-0	0.81	0.35	1.0	2	ug/l	J	6020	08/02/15	1
Selenium	7782-49-2	5.2	0.38	1.0	2	ug/l		6020	08/02/15	1
Silver	7440-22-4	U	0.31	0.50	2	ug/l		6020	08/02/15	1
Thallium	7440-28-0	U	0.19	0.50	2	ug/l		6020	08/02/15	1
Vanadium J FD-I	7440-62-2	76.	0.18	0.50	5	ug/l		6020	08/02/15	1
Zinc	7440-66-6	U	2.6	5.0	25	ug/l	J4J3	6020	08/02/15	1

U = Not Detected at the LOD
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REPORT OF ANALYSIS

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

August 21, 2015

Date Received : July 24, 2015
Description : Hollman AFB

Sample ID : H-SS013-MW04D-ND01

Collected By : Jon Mallonee
Collection Date : 07/22/15 11:48

ESC Sample # : L778844-06

Site ID :

Project # : 60425210 23446543.00

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Aluminum, Dissolved U MB-I	7429-90-5	~~16.~~ 50	~~2~~ 16	50.	100	ug/l	J	6020	07/29/15	1
Antimony, Dissolved U MB-I	7440-36-0	0.80	~~0.21~~ 0.80	~~0.50~~ 0.80	2	ug/l	J	6020	07/29/15	1
Arsenic, Dissolved	7440-38-2	34.	0.25	0.50	2	ug/l		6020	07/29/15	1
Barium, Dissolved	7440-39-3	17.	0.36	1.0	5	ug/l		6020	07/29/15	1
Beryllium, Dissolved	7440-41-7	U	0.12	0.50	2	ug/l		6020	07/29/15	1
Cadmium, Dissolved	7440-43-9	U	0.16	0.50	1	ug/l		6020	07/29/15	1
Chromium, Dissolved	7440-47-3	U	0.54	1.5	2	ug/l		6020	07/29/15	1
Copper, Dissolved FJ SQL, ICS-H	7440-50-8	1.3	0.52	1.5	5	ug/l	J	6020	07/29/15	1
Cobalt, Dissolved	7440-48-4	U	0.26	0.50	2	ug/l		6020	07/29/15	1
Lead, Dissolved	7439-92-1	U	0.24	0.50	2	ug/l		6020	07/29/15	1
Manganese, Dissolved	7439-96-5	12.	0.25	0.50	5	ug/l		6020	07/29/15	1
Nickel, Dissolved F SQL-I	7440-02-0	0.63	0.35	1.0	2	ug/l	J	6020	07/29/15	1
Selenium, Dissolved	7782-49-2	4.9	0.38	1.0	2	ug/l		6020	07/29/15	1
Silver, Dissolved	7440-22-4	U	0.31	0.50	2	ug/l		6020	07/29/15	1
Thallium, Dissolved	7440-28-0	U	0.19	0.50	2	ug/l		6020	07/29/15	1
Vanadium, Dissolved	7440-62-2	64.	0.18	0.50	5	ug/l		6020	07/29/15	1
Zinc, Dissolved	7440-66-6	U	2.6	5.0	25	ug/l		6020	07/29/15	1

U = Not Detected at the LOD
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REPORT OF ANALYSIS

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

August 21, 2015

Date Received : July 24, 2015
Description : Hollman AFB

Sample ID : H-SS013-MW04S-ND01

Collected By : Jon Mallonee
Collection Date : 07/22/15 11:20

ESC Sample # : L778844-07

Site ID :

Project # : 60425210 23446543.00

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Aluminum,Dissolved U MB-I	7429-90-5	~~20.~~ 50	~~2~~ 20	50.	100	ug/l	J	6020	07/29/15	1
Antimony,Dissolved U MB-I	7440-36-0	0.56	~~0.21~~ 0.56	~~0.50~~ 0.56	2	ug/l	J	6020	07/29/15	1
Arsenic,Dissolved	7440-38-2	6.9	0.25	0.50	2	ug/l		6020	07/29/15	1
Barium,Dissolved	7440-39-3	15.	0.36	1.0	5	ug/l		6020	07/29/15	1
Beryllium,Dissolved	7440-41-7	U	0.12	0.50	2	ug/l		6020	07/29/15	1
Cadmium,Dissolved	7440-43-9	U	0.16	0.50	1	ug/l		6020	07/29/15	1
Chromium,Dissolved	7440-47-3	U	0.54	1.5	2	ug/l		6020	07/29/15	1
Copper,Dissolved FJ SQL,ICS-H	7440-50-8	1.1	0.52	1.5	5	ug/l	J	6020	07/29/15	1
Cobalt,Dissolved F SQL-I	7440-48-4	0.59	0.26	0.50	2	ug/l	J	6020	07/29/15	1
Lead,Dissolved FJ SQL,ICS-H	7439-92-1	0.26	0.24	0.50	2	ug/l	J	6020	07/29/15	1
Manganese,Dissolved	7439-96-5	130	0.25	0.50	5	ug/l		6020	07/29/15	1
Nickel,Dissolved	7440-02-0	2.0	0.35	1.0	2	ug/l		6020	07/29/15	1
Selenium,Dissolved	7782-49-2	3.5	0.38	1.0	2	ug/l		6020	07/29/15	1
Silver,Dissolved	7440-22-4	U	0.31	0.50	2	ug/l		6020	07/29/15	1
Thallium,Dissolved	7440-28-0	U	0.19	0.50	2	ug/l		6020	07/29/15	1
Vanadium,Dissolved	7440-62-2	79.	0.18	0.50	5	ug/l		6020	07/29/15	1
Zinc,Dissolved	7440-66-6	U	2.6	5.0	25	ug/l		6020	07/29/15	1

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REPORT OF ANALYSIS

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

August 21, 2015

ESC Sample # : L778844-08

Date Received : July 24, 2015
Description : Hollman AFB

Site ID :

Sample ID : H-SS013-MW04S-NT01

Project # : 60425210 23446543.00

Collected By : Jon Mallonee
Collection Date : 07/22/15 11:20

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Dissolved Solids	DSOLIDS	6200000	2800	5000	10000	ug/l		2540 C-	07/28/15	1
Aluminum UJMB ~~I~~, FD-I	7429-90-5	50 ~~21.~~	21 ~~2~~	50.	100	ug/l	J	6020	08/03/15	1
Antimony F SQL-I	7440-36-0	0.77	0.21	0.50	2	ug/l	J	6020	08/02/15	1
Arsenic	7440-38-2	7.1	0.25	0.50	2	ug/l		6020	08/02/15	1
Barium	7440-39-3	16.	0.36	1.0	5	ug/l		6020	08/02/15	1
Beryllium	7440-41-7	U	0.12	0.50	2	ug/l		6020	08/02/15	1
Cadmium	7440-43-9	U	0.16	0.50	1	ug/l		6020	08/02/15	1
Chromium FJ SQL, ICS-H	7440-47-3	0.90	0.54	1.5	2	ug/l	J	6020	08/02/15	1
Copper U MB-I	7440-50-8	2.2	~~0.52~~ 2.2	~~1.5~~ 2.2	5	ug/l	J	6020	08/02/15	1
Cobalt ~~J FD-I~~ FJ SQL, FD-J	7440-48-4	0.48	0.26	0.50	2	ug/l	J	6020	08/02/15	1
Lead FJ SQL, ICS ~~H~~, FD-H	7439-92-1	0.65	0.24	0.50	2	ug/l	J	6020	08/02/15	1
Manganese	7439-96-5	150	0.25	0.50	5	ug/l		6020	08/02/15	1
Nickel	7440-02-0	2.2	0.35	1.0	2	ug/l		6020	08/02/15	1
Selenium	7782-49-2	3.4	0.38	1.0	2	ug/l		6020	08/02/15	1
Silver	7440-22-4	U	0.31	0.50	2	ug/l		6020	08/02/15	1
Thallium	7440-28-0	U	0.19	0.50	2	ug/l		6020	08/02/15	1
Vanadium J FD-I	7440-62-2	87.	0.18	0.50	5	ug/l		6020	08/02/15	1
Zinc	7440-66-6	U	2.6	5.0	25	ug/l	J4J3	6020	08/02/15	1

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REPORT OF ANALYSIS

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

August 21, 2015

Date Received : July 24, 2015
Description : Hollman AFB

Sample ID : H-TUQC-TRIPBLANK-TT01

Collected By : Jon Mallonee
Collection Date : 07/23/15 08:00

ESC Sample # : L778844-09

Site ID :

Project # : 60425210 23446543.00

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Volatile Organics										
Acetone	67-64-1	U	10	25.	50	ug/l		8260B	07/25/15	1
Benzene	71-43-2	U	0.33	0.50	1	ug/l		8260B	07/25/15	1
Bromobenzene	108-86-1	U	0.35	0.50	1	ug/l		8260B	07/25/15	1
Bromochloromethane	74-97-5	U	0.52	0.75	1	ug/l		8260B	07/25/15	1
Bromodichloromethane	75-27-4	U	0.38	0.50	1	ug/l		8260B	07/25/15	1
Bromoform	75-25-2	U	0.47	0.50	1	ug/l	J4	8260B	07/25/15	1
Bromomethane UJ CCAL-L	74-83-9	U	0.87	2.5	5	ug/l		8260B	07/25/15	1
n-Butylbenzene	104-51-8	U	0.36	0.50	1	ug/l		8260B	07/25/15	1
sec-Butylbenzene	135-98-8	U	0.36	0.50	1	ug/l		8260B	07/25/15	1
tert-Butylbenzene	98-06-6	U	0.4	0.50	1	ug/l		8260B	07/25/15	1
Carbon Disulfide	75-15-0	U	0.28	0.50	1	ug/l		8260B	07/25/15	1
Carbon tetrachloride	56-23-5	U	0.38	0.50	1	ug/l		8260B	07/25/15	1
Chlorobenzene	108-90-7	U	0.35	0.50	1	ug/l		8260B	07/25/15	1
Chlorodibromomethane	124-48-1	U	0.33	0.50	1	ug/l		8260B	07/25/15	1
Chloroethane UJ CCAL-L	75-00-3	U	0.45	2.5	5	ug/l		8260B	07/25/15	1
Chloroform	67-66-3	U	0.32	2.5	5	ug/l		8260B	07/25/15	1
Chloromethane	74-87-3	U	0.28	0.50	2.5	ug/l		8260B	07/25/15	1
2-Chlorotoluene	95-49-8	U	0.38	0.50	1	ug/l		8260B	07/25/15	1
4-Chlorotoluene	106-43-4	U	0.35	0.50	1	ug/l		8260B	07/25/15	1
1,2-Dibromo-3-Chloropropane	96-12-8	U	1.3	2.5	5	ug/l		8260B	07/25/15	1
1,2-Dibromoethane	106-93-4	U	0.38	0.50	1	ug/l		8260B	07/25/15	1
Dibromomethane	74-95-3	U	0.35	0.50	1	ug/l		8260B	07/25/15	1
1,2-Dichlorobenzene	95-50-1	U	0.35	0.50	1	ug/l		8260B	07/25/15	1
1,3-Dichlorobenzene	541-73-1	U	0.22	0.50	1	ug/l		8260B	07/25/15	1
1,4-Dichlorobenzene	106-46-7	U	0.27	0.50	1	ug/l		8260B	07/25/15	1
Dichlorodifluoromethane	75-71-8	U	0.55	2.5	5	ug/l		8260B	07/25/15	1
1,1-Dichloroethane	75-34-3	U	0.26	0.50	1	ug/l		8260B	07/25/15	1
1,2-Dichloroethane	107-06-2	U	0.36	0.50	1	ug/l		8260B	07/25/15	1
1,1-Dichloroethene	75-35-4	U	0.4	0.50	1	ug/l		8260B	07/25/15	1
cis-1,2-Dichloroethene	156-59-2	U	0.26	0.50	1	ug/l		8260B	07/25/15	1
trans-1,2-Dichloroethene	156-60-5	U	0.4	0.50	1	ug/l		8260B	07/25/15	1
1,2-Dichloropropane	78-87-5	U	0.31	0.50	1	ug/l		8260B	07/25/15	1
1,1-Dichloropropene	563-58-6	U	0.35	0.50	1	ug/l		8260B	07/25/15	1
1,3-Dichloropropane	142-28-9	U	0.37	0.50	1	ug/l		8260B	07/25/15	1
cis-1,3-Dichloropropene	10061-01-5	U	0.42	0.50	1	ug/l		8260B	07/25/15	1
trans-1,3-Dichloropropene	10061-02-6	U	0.42	0.50	1	ug/l		8260B	07/25/15	1
2,2-Dichloropropane	594-20-7	U	0.32	0.50	1	ug/l		8260B	07/25/15	1
Ethylbenzene	100-41-4	U	0.38	0.50	1	ug/l		8260B	07/25/15	1
2-Hexanone	591-78-6	U	3.8	5.0	10	ug/l		8260B	07/25/15	1
Hexachloro-1,3-butadiene	87-68-3	U	0.26	0.50	1	ug/l		8260B	07/25/15	1
Isopropylbenzene	98-82-8	U	0.33	0.50	1	ug/l		8260B	07/25/15	1
p-Isopropyltoluene	99-87-6	U	0.35	0.50	1	ug/l		8260B	07/25/15	1
2-Butanone (MEK)	78-93-3	U	3.9	5.0	10	ug/l		8260B	07/25/15	1
Methylene Chloride F SQL-I	75-09-2	1.4	1	2.5	5	ug/l	J	8260B	07/25/15	1
4-Methyl-2-pentanone (MIBK)	108-10-1	U	2.1	5.0	10	ug/l		8260B	07/25/15	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

August 21, 2015

Date Received : July 24, 2015
Description : Hollman AFB

Sample ID : H-TUQC-TRIPBLANK-TT01

Collected By : Jon Mallonee
Collection Date : 07/23/15 08:00

ESC Sample # : L778844-09

Site ID :

Project # : 60425210 23446543.00

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Methyl tert-butyl ether	1634-04-4	U	0.37	0.50	1	ug/l		8260B	07/25/15	1
Naphthalene	91-20-3	U	1	2.5	5	ug/l		8260B	07/25/15	1
n-Propylbenzene	103-65-1	U	0.35	0.50	1	ug/l		8260B	07/25/15	1
Styrene	100-42-5	U	0.31	0.50	1	ug/l		8260B	07/25/15	1
1,1,1,2-Tetrachloroethane	630-20-6	U	0.38	0.50	1	ug/l		8260B	07/25/15	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.13	0.75	1	ug/l		8260B	07/25/15	1
Tetrachloroethene	127-18-4	U	0.37	0.50	1	ug/l		8260B	07/25/15	1
Toluene	108-88-3	U	0.78	2.5	5	ug/l		8260B	07/25/15	1
1,2,3-Trichlorobenzene	87-61-6	U	0.23	0.50	1	ug/l		8260B	07/25/15	1
1,2,4-Trichlorobenzene	120-82-1	U	0.36	0.50	1	ug/l		8260B	07/25/15	1
1,1,1-Trichloroethane	71-55-6	U	0.319	0.50	1	ug/l		8260B	07/25/15	1
1,1,2-Trichloroethane	79-00-5	U	0.38	0.50	1	ug/l		8260B	07/25/15	1
Trichloroethene	79-01-6	U	0.4	0.50	1	ug/l		8260B	07/25/15	1
Trichlorofluoromethane UJ CCAL-L	75-69-4	U	1.2	2.5	5	ug/l		8260B	07/25/15	1
1,2,3-Trichloropropane	96-18-4	U	0.81	1.0	2.5	ug/l		8260B	07/25/15	1
1,2,4-Trimethylbenzene	95-63-6	U	0.37	0.50	1	ug/l		8260B	07/25/15	1
1,3,5-Trimethylbenzene	108-67-8	U	0.39	0.50	1	ug/l		8260B	07/25/15	1
o-Xylene	95-47-6	U	0.34	0.50	1	ug/l		8260B	07/25/15	1
m&p-Xylene	1330-20-7	U	0.72	1.0	2	ug/l		8260B	07/25/15	1
Vinyl chloride	75-01-4	U	0.26	0.50	1	ug/l		8260B	07/25/15	1
Surrogate Recovery										
Toluene-d8	2037-26-5	107.				% Rec.		8260B	07/25/15	1
Dibromofluoromethane	1868-53-7	95.5				% Rec.		8260B	07/25/15	1
4-Bromofluorobenzene	460-00-4	107.				% Rec.		8260B	07/25/15	1

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REPORT OF ANALYSIS

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

August 21, 2015

ESC Sample # : L778844-10

Date Received : July 24, 2015
Description : Hollman AFB

Site ID :

Sample ID : H-TU518-MW04-NT01

Project # : 60425210 23446543.00

Collected By : Jon Mallonee
Collection Date : 07/21/15 09:49

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Dissolved Solids	DSOLIDS	11000000	2800	5000	10000	ug/l		2540 C-	07/28/15	1
Polynuclear Aromatic Hydrocarbons										
Anthracene	120-12-7	U	0.008	0.025	0.05	ug/l		8270 C-	07/30/15	1
Acenaphthene	83-32-9	U	0.01	0.025	0.05	ug/l		8270 C-	07/30/15	1
Acenaphthylene	208-96-8	U	0.007	0.025	0.05	ug/l		8270 C-	07/30/15	1
Benzo(a)anthracene	56-55-3	U	0.0083	0.025	0.05	ug/l		8270 C-	07/30/15	1
Benzo(a)pyrene	50-32-8	U	0.016	0.025	0.05	ug/l		8270 C-	07/30/15	1
Benzo(b)fluoranthene F SQL-I	205-99-2	0.0023	0.0021	0.025	0.05	ug/l	J	8270 C-	07/30/15	1
Benzo(g,h,i)perylene	191-24-2	U	0.0023	0.025	0.05	ug/l		8270 C-	07/30/15	1
Benzo(k)fluoranthene	207-08-9	U	0.026	0.035	0.05	ug/l		8270 C-	07/30/15	1
Chrysene	218-01-9	U	0.014	0.025	0.05	ug/l		8270 C-	07/30/15	1
Dibenz(a,h)anthracene	53-70-3	U	0.0045	0.025	0.05	ug/l		8270 C-	07/30/15	1
Fluoranthene	206-44-0	U	0.016	0.025	0.05	ug/l		8270 C-	07/30/15	1
Fluorene	86-73-7	U	0.009	0.025	0.05	ug/l		8270 C-	07/30/15	1
Indeno(1,2,3-cd)pyrene	193-39-5	U	0.0074	0.025	0.05	ug/l		8270 C-	07/30/15	1
Naphthalene U MB-I	91-20-3	~~0.014~~ 0.025	~~0.012~~ 0.04	0.025	0.25	ug/l	J	8270 C-	07/30/15	1
Phenanthrene	85-01-8	U	0.018	0.025	0.05	ug/l		8270 C-	07/30/15	1
Pyrene	129-00-0	U	0.016	0.025	0.05	ug/l		8270 C-	07/30/15	1
1-Methylnaphthalene	90-12-0	U	0.018	0.025	0.25	ug/l		8270 C-	07/30/15	1
2-Methylnaphthalene	91-57-6	U	0.016	0.025	0.25	ug/l		8270 C-	07/30/15	1
Surrogate Recovery										
Nitrobenzene-d5	4165-60-0	75.3				% Rec.		8270 C-	07/30/15	1
2-Fluorobiphenyl	321-60-8	87.2				% Rec.		8270 C-	07/30/15	1
p-Terphenyl-d14	1718-51-0	91.9				% Rec.		8270 C-	07/30/15	1

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REPORT OF ANALYSIS

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

August 21, 2015

Date Received : July 24, 2015
Description : Hollman AFB

Sample ID : H-TU518-MW07-NT01

Collected By : Jon Mallonee
Collection Date : 07/21/15 10:28

ESC Sample # : L778844-11

Site ID :

Project # : 60425210 23446543.00

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Dissolved Solids	DSOLIDS	5800000	2800	5000	10000	ug/l		2540 C-	07/28/15	1
Polynuclear Aromatic Hydrocarbons										
Anthracene	120-12-7	U	0.008	0.025	0.05	ug/l		8270 C-	07/30/15	1
Acenaphthene	83-32-9	U	0.01	0.025	0.05	ug/l		8270 C-	07/30/15	1
Acenaphthylene	208-96-8	U	0.007	0.025	0.05	ug/l		8270 C-	07/30/15	1
Benzo(a)anthracene F SQL-I	56-55-3	0.0088	0.0083	0.025	0.05	ug/l	J	8270 C-	07/30/15	1
Benzo(a)pyrene	50-32-8	0.025 U	0.016	0.0083 0.025	0.05	ug/l		8270 C-	07/30/15	1
Benzo(b)fluoranthene U MB-I	205-99-2	~~0.0039~~	~~0.0021~~	0.025	0.05	ug/l	J	8270 C-	07/30/15	1
Benzo(g,h,i)perylene	191-24-2	U	0.0023	0.025	0.05	ug/l		8270 C-	07/30/15	1
Benzo(k)fluoranthene	207-08-9	U	0.026	0.035	0.05	ug/l		8270 C-	07/30/15	1
Chrysene	218-01-9	U	0.014	0.025	0.05	ug/l		8270 C-	07/30/15	1
Dibenz(a,h)anthracene	53-70-3	U	0.0045	0.025	0.05	ug/l		8270 C-	07/30/15	1
Fluoranthene	206-44-0	U	0.016	0.025	0.05	ug/l		8270 C-	07/30/15	1
Fluorene	86-73-7	U	0.009	0.025	0.05	ug/l		8270 C-	07/30/15	1
Indeno(1,2,3-cd)pyrene	193-39-5	U	0.0074	0.025	0.05	ug/l		8270 C-	07/30/15	1
Naphthalene U MB-I	91-20-3	0.037	~~0.012~~	0.037 ~~0.025~~ 0.037	0.25	ug/l	J	8270 C-	07/30/15	1
Phenanthrene	85-01-8	U	0.018	0.025	0.05	ug/l		8270 C-	07/30/15	1
Pyrene	129-00-0	U	0.016	0.025	0.05	ug/l		8270 C-	07/30/15	1
1-Methylnaphthalene	90-12-0	U	0.018	0.025	0.25	ug/l		8270 C-	07/30/15	1
2-Methylnaphthalene	91-57-6	U	0.016	0.025	0.25	ug/l		8270 C-	07/30/15	1
Surrogate Recovery										
Nitrobenzene-d5	4165-60-0	81.1				% Rec.		8270 C-	07/30/15	1
2-Fluorobiphenyl	321-60-8	85.5				% Rec.		8270 C-	07/30/15	1
p-Terphenyl-d14	1718-51-0	86.2				% Rec.		8270 C-	07/30/15	1

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REPORT OF ANALYSIS

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

August 21, 2015

Date Received : July 24, 2015
Description : Hollman AFB

Sample ID : H-OT032-TMW09-NT01

Collected By : Jon Mallonee
Collection Date : 07/22/15 13:54

ESC Sample # : L778844-12

Site ID :

Project # : 60425210 23446543.00

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Dissolved Solids	DSOLIDS	14000000	2800	5000	10000	ug/l		2540 C-	07/28/15	1
Volatile Organics										
Acetone	67-64-1	U	10	25.	50	ug/l		8260B	07/26/15	1
Benzene F SQL-I	71-43-2	0.35	0.33	0.50	1	ug/l	J	8260B	07/26/15	1
Bromobenzene	108-86-1	U	0.35	0.50	1	ug/l		8260B	07/26/15	1
Bromochloromethane	74-97-5	U	0.52	0.75	1	ug/l		8260B	07/26/15	1
Bromodichloromethane	75-27-4	U	0.38	0.50	1	ug/l		8260B	07/26/15	1
Bromoform	75-25-2	U	0.47	0.50	1	ug/l		8260B	07/26/15	1
Bromomethane	74-83-9	U	0.87	2.5	5	ug/l		8260B	07/26/15	1
n-Butylbenzene	104-51-8	U	0.36	0.50	1	ug/l		8260B	07/26/15	1
sec-Butylbenzene	135-98-8	U	0.36	0.50	1	ug/l		8260B	07/26/15	1
tert-Butylbenzene	98-06-6	U	0.4	0.50	1	ug/l		8260B	07/26/15	1
Carbon Disulfide UJ CC AL-L	75-15-0	U	0.28	0.50	1	ug/l		8260B	07/26/15	1
Carbon tetrachloride	56-23-5	U	0.38	0.50	1	ug/l		8260B	07/26/15	1
Chlorobenzene	108-90-7	U	0.35	0.50	1	ug/l		8260B	07/26/15	1
Chlorodibromomethane	124-48-1	U	0.33	0.50	1	ug/l		8260B	07/26/15	1
Chloroethane	75-00-3	U	0.45	2.5	5	ug/l		8260B	07/26/15	1
Chloroform U F B-I	67-66-3	10.	10 ~~0.32~~	P ~~2.5~~	10 ~~5~~	ug/l		8260B	07/26/15	1
Chloromethane	74-87-3	U	0.28	0.50	2.5	ug/l		8260B	07/26/15	1
2-Chlorotoluene	95-49-8	U	0.38	0.50	1	ug/l		8260B	07/26/15	1
4-Chlorotoluene	106-43-4	U	0.35	0.50	1	ug/l		8260B	07/26/15	1
1,2-Dibromo-3-Chloropropane	96-12-8	U	1.3	2.5	5	ug/l		8260B	07/26/15	1
1,2-Dibromoethane	106-93-4	U	0.38	0.50	1	ug/l		8260B	07/26/15	1
Dibromomethane	74-95-3	U	0.35	0.50	1	ug/l		8260B	07/26/15	1
1,2-Dichlorobenzene	95-50-1	U	0.35	0.50	1	ug/l		8260B	07/26/15	1
1,3-Dichlorobenzene	541-73-1	U	0.22	0.50	1	ug/l		8260B	07/26/15	1
1,4-Dichlorobenzene	106-46-7	U	0.27	0.50	1	ug/l		8260B	07/26/15	1
Dichlorodifluoromethane	75-71-8	U	0.55	2.5	5	ug/l		8260B	07/26/15	1
1,1-Dichloroethane	75-34-3	6.8	0.26	0.50	1	ug/l		8260B	07/26/15	1
1,2-Dichloroethane	107-06-2	U	0.36	0.50	1	ug/l		8260B	07/26/15	1
1,1-Dichloroethene	75-35-4	7.5	0.4	0.50	1	ug/l		8260B	07/26/15	1
cis-1,2-Dichloroethene	156-59-2	U	0.26	0.50	1	ug/l		8260B	07/26/15	1
trans-1,2-Dichloroethene	156-60-5	U	0.4	0.50	1	ug/l		8260B	07/26/15	1
1,2-Dichloropropane	78-87-5	U	0.31	0.50	1	ug/l		8260B	07/26/15	1
1,1-Dichloropropene	563-58-6	U	0.35	0.50	1	ug/l		8260B	07/26/15	1
1,3-Dichloropropane	142-28-9	U	0.37	0.50	1	ug/l		8260B	07/26/15	1
cis-1,3-Dichloropropene	10061-01-5	U	0.42	0.50	1	ug/l		8260B	07/26/15	1
trans-1,3-Dichloropropene	10061-02-6	U	0.42	0.50	1	ug/l		8260B	07/26/15	1
2,2-Dichloropropane	594-20-7	U	0.32	0.50	1	ug/l		8260B	07/26/15	1
Ethylbenzene	100-41-4	U	0.38	0.50	1	ug/l		8260B	07/26/15	1
2-Hexanone	591-78-6	U	3.8	5.0	10	ug/l		8260B	07/26/15	1
Hexachloro-1,3-butadiene	87-68-3	U	0.26	0.50	1	ug/l		8260B	07/26/15	1
Isopropylbenzene	98-82-8	U	0.33	0.50	1	ug/l		8260B	07/26/15	1
p-Isopropyltoluene	99-87-6	U	0.35	0.50	1	ug/l		8260B	07/26/15	1
2-Butanone (MEK)	78-93-3	U	3.9	5.0	10	ug/l		8260B	07/26/15	1

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REPORT OF ANALYSIS

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

August 21, 2015

Date Received : July 24, 2015
Description : Hollman AFB

Sample ID : H-OT032-TMW09-NT01

Collected By : Jon Mallonee
Collection Date : 07/22/15 13:54

ESC Sample # : L778844-12

Site ID :

Project # : 60425210 23446543.00

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Methylene Chloride	75-09-2	U	1	2.5	5	ug/l		8260B	07/26/15	1
4-Methyl-2-pentanone (MIBK)	108-10-1	U	2.1	5.0	10	ug/l		8260B	07/26/15	1
Methyl tert-butyl ether	1634-04-4	U	0.37	0.50	1	ug/l		8260B	07/26/15	1
Naphthalene	91-20-3	U	1	2.5	5	ug/l		8260B	07/26/15	1
n-Propylbenzene	103-65-1	U	0.35	0.50	1	ug/l		8260B	07/26/15	1
Styrene	100-42-5	U	0.31	0.50	1	ug/l		8260B	07/26/15	1
1,1,1,2-Tetrachloroethane	630-20-6	U	0.38	0.50	1	ug/l		8260B	07/26/15	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.13	0.75	1	ug/l		8260B	07/26/15	1
Tetrachloroethene	127-18-4	U	0.37	0.50	1	ug/l		8260B	07/26/15	1
Toluene	108-88-3	U	0.78	2.5	5	ug/l		8260B	07/26/15	1
1,2,3-Trichlorobenzene	87-61-6	U	0.23	0.50	1	ug/l		8260B	07/26/15	1
1,2,4-Trichlorobenzene	120-82-1	U	0.36	0.50	1	ug/l		8260B	07/26/15	1
1,1,1-Trichloroethane	71-55-6	U	0.319	0.50	1	ug/l		8260B	07/26/15	1
1,1,2-Trichloroethane	79-00-5	U	0.38	0.50	1	ug/l		8260B	07/26/15	1
Trichloroethene	79-01-6	U	0.4	0.50	1	ug/l		8260B	07/26/15	1
Trichlorofluoromethane	75-69-4	U	1.2	2.5	5	ug/l		8260B	07/26/15	1
1,2,3-Trichloropropane	96-18-4	U	0.81	1.0	2.5	ug/l		8260B	07/26/15	1
1,2,4-Trimethylbenzene	95-63-6	U	0.37	0.50	1	ug/l		8260B	07/26/15	1
1,3,5-Trimethylbenzene	108-67-8	U	0.39	0.50	1	ug/l		8260B	07/26/15	1
o-Xylene	95-47-6	U	0.34	0.50	1	ug/l		8260B	07/26/15	1
m&p-Xylene	1330-20-7	U	0.72	1.0	2	ug/l		8260B	07/26/15	1
Vinyl chloride	75-01-4	U	0.26	0.50	1	ug/l		8260B	07/26/15	1
Surrogate Recovery										
Toluene-d8	2037-26-5	105.				% Rec.		8260B	07/26/15	1
Dibromofluoromethane	1868-53-7	106.				% Rec.		8260B	07/26/15	1
4-Bromofluorobenzene	460-00-4	93.8				% Rec.		8260B	07/26/15	1

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Holloman AFB
Groundwater Monitoring
Data Review Summary

Data Package Number: L779535
Sampling Event Dates: July 22, 2015
Sample-specific Parameter Review/Laboratory Performance Parameters: Yes
Full Validation (e.g. result recalculation): Yes
Data Reviewer: Katie Abbott, URS Project Chemist
Date Completed: September 11, 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	SVOCs	Dissolved Metals	Total Metals	TDS
L779535											
H-TU904-MW0A-NT01	SA	L779535-01	Water	---	---	---	---	---	---	X*	---
H-TU904-MW19-NT01	SA	L779535-02	Water	---	---	---	---	---	---	X	X
H-TU904-MW19-ND01	SA	L779535-03	Water	---	---	---	---	---	X	---	---
H-TU904-MW20-ND01	SA	L779535-04	Water	---	---	---	---	---	X^m	---	---
H-TU904-MW20-NT01	SA	L779535-05	Water	---	---	---	---	---	---	X^m	X
H-TU904-MW21-DT01	FD	L779535-06	Water	---	---	---	---	---	---	X	X
H-TU904-MW21-DD01	FD	L779535-07	Water	---	---	---	---	---	X	---	---
H-TU904-MW21-NT01	SA	L779535-08	Water	---	---	---	---	---	---	X	X
H-TU904-MW21-ND01	SA	L779535-09	Water	---	---	---	---	---	X	---	---
H-TU904-FIELDBLANK-FT01	FB	L779535-10	Water	---	---	X	---	---	---	---	---
H-TU904-MW19-NT01	SA	L779535-11	Water	---	---	X	X	X	---	---	---
H-TU904-MW20-NT01	SA	L779535-12	Water	---	---	X^m	X	X^m	---	---	---
H-TU904-MW21-DT01	FD	L779535-13	Water	---	---	X	X	X	---	---	---
H-TU904-MW21-NT01	SA	L779535-14	Water	---	---	X	X	X	---	---	---
H-TU518-MW08-NT01	SA	L779535-15	Water	---	---	X	X	X	---	---	---
H-TU518-MW08-ND01	SA	L779535-16	Water	---	---	---	---	---	X	---	---
H-TU518-MW08-NT01	SA	L779535-17	Water	---	---	---	---	---	---	X	X
H-TUQC-TRIPBLANK-TT02	TB	L779535-18	Water	---	---	X	---	---	---	---	---

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

Analyses:

DRO/ORO - Diesel and Oil Range Organics (8015D)
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 (6020/7470A)
PAHs – Polynuclear Aromatic Hydrocarbons (8270C SIM)
SIM – Selective Ion Monitoring
SVOCs – Semivolatile Organic Compounds (8270C)
VOCs – Volatile Organic Compounds (8260B)

*Proficiency Test (PT) sample, analyzed for arsenic only

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.
_____ Data are usable with qualification (noted below).
__X__ 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. Mercury was requested on the COC, but not performed by the laboratory. Therefore, mercury results could not be evaluated for the associated samples in this data package.

Review Parameter	Criteria Met?	Comment
		Sample H-TU904-MW0A-NT01 was submitted as a proficiency test (PT) sample and analyzed for arsenic only. A third party vendor spiked the sample with 12 micrograms per liter (µg/L) of arsenic. The sample was shipped with ice and under custody to the sampling location, the PT sample was submitted with the field samples to the laboratory for analysis. ESC Lab Sciences analyzed and reported an arsenic result of 13 µg/L, with the acceptance range of 1.2-30 µg/L. Therefore, further action was not necessary. **Method 8270C Semivolatile Organic Compounds (SVOCs)** The results for 1,2-dichlorobenzene, 1,3-dichlorobenzene, and 1,4-dichlorobenzene are not reported by Method 8270C SVOCs but are reported by Method 8260B volatile organic compounds (VOCs). As the detection limits (DLs), limits of detection (LODs), and limits of quantitation (LOQs) are lower by Method 8260B, further action was not necessary. The laboratory noted 4-methylphenol cannot be reported as 3 & 4-methylphenol coelute during the analysis; therefore, the analytes are reported together and 3&4-methylphenol on the data sheets and in the electronic database.
Holding Times	Yes	All samples were analyzed within the method required holding time.
Laboratory Blanks • Method Blank • Continuing Calibration Blank	No	With the exceptions listed in Table 1, target analytes were not detected within the method or calibration blanks.
Matrix Quality Control • Matrix Spike/ Matrix Spike Duplicate H-TU904-MW20-ND01 (Dissolved 6020) H-TU904-MW20-NT01 (Total 6020) H-TU904-MW20-NT01 (VOCs, SVOCs) • Total vs. Partial Analyses (Metals)	No	**Matrix Spike/ Matrix Spike Duplicate (MS/MSD)** With the exception of Method 8270C polynuclear aromatic hydrocarbons (PAHs), the frequency of MS/MSDs met the quality assurance project plan (QAPP) requirement of one per twenty samples. Due to laboratory error, the requested MS/MSD for Method 8270C PAHs was not performed; therefore, there is no measure of accuracy and precision with respect to the sample matrix for this sampling event. With the exception listed in Table 3, 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. **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:

Review Parameter	Criteria Met?	Comment
		• In instances where the value for a partial analysis exceed that for a total analysis and both of the results are >5xLOQ, 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 2xLOQ. The total metal sample results were compared with the associated dissolved sample results against the concentration-dependent criteria set forth in SOP 14.
Metals Only • Serial Dilution H-TU904-MW20-ND01 (Dissolved 6020) H-TU904-MW20-NT01 (Total 6020) • Post Digestion Spike None in this package	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. 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)** A post digestion spike was not reported in association with the sample in this data package.
Method Quality Control • Surrogates (VOCs, PAHs, SVOCs)	Yes	The surrogate recoveries were within the laboratory specified acceptance criteria.
Field Quality Control • Trip Blank H-TUQC-TRIPBLANK-TT02 • Field Duplicate H-TU904-MW21-NT01/ H-TU904-MW21-DT01 H-TU904-MW21-ND01 /H-TU904-MW21-DD01 • Equipment Blank None in this package • Field Blank H-TU904-FIELDBLANK-FT01	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). 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.

Review Parameter	Criteria Met?	Comment
		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. 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.
Laboratory Performance Review		
Initial Calibration	Yes	**Methods 8260B VOCs & 8270C SVOCs** 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 Polynuclear Aromatic Hydrocarbons (PAHs)** The %RSD values for all target analytes in the calibration were less than 20%. Therefore, the initial calibration met method acceptance criteria. **Method 6020 (Inductively Coupled Plasma 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%. **Total Dissolved Solids (TDS)** ICALs are not required per the method for TDS.
Tuning (as applicable to the method)	Yes	**Methods 8260B VOCs/ 8270C SVOCs** 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

Review Parameter	Criteria Met?	Comment
		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.
Initial Calibration Verification/Continuing Calibration Verification	No	**Method 8260B VOCs** With the exceptions listed in Table 5, 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%. **Methods 8270C SVOCs/8270C PAHs** With the exceptions listed in Table 5, the %D values for all target analytes in the calibration were less than 20%. **Method 6020 (ICPMS Metals)** Calibration verification analyses were conducted at the proper frequency. All metals were recovered within the Department of Defense (DOD) Quality Systems Manual (QSM) version 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 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, potassium, magnesium, molydenum, sodium, and/or titanium 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 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	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 7, 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.

Review Parameter	Criteria Met?	Comment
Target Compound Identification	Yes	**Methods 8260C VOCs/ 8270C SVOCs/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 6020 (ICPMS Metals)** The instrument printouts were reviewed. Results obtained for quality control 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.
Package Completeness	Yes	With the exception of the benzoic acid results, which were qualified as unusable due to LCS/LCSD recoveries <10%, the results are usable as qualified for the project objective. The data are 99% 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
µg/L – Micrograms per Liter
CCALs – Continuing Calibrations
CCCs – Calibration Check Compounds
CLP – Contract Laboratory Program
COC – Chain of Custody
DFTPP - Decafluorotriphenylphosphine
DLs – Detection Limits
DOD – Department of Defense
ICAL – Initial Calibration
ICPMS - Inductively Coupled Plasma Mass Spectrometry
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
PAHs – Polynuclear Aromatic Hydrocarbons
PDS – Post Digestion Spike
PT – Proficiency Test
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
VOCs – Volatile Organic Compounds

Table 1: Blank Outliers and Resultant Data Qualification

Associated Samples	Analyte	Concentration	Qualification
Total Metals			
MB Batch WG805841 H-TU904-MW0A-NT01 H-TU904-MW19-NT01 H-TU904-MW20-NT01 H-TU904-MW21-DT01 H-TU904-MW21-NT01 H-TU518-MW08-NT01	Aluminum	40.7 µg/L	None. The associated aluminum results were reported at concentrations >5x the concentration of the blank contamination.
	Antimony	0.386 µg/L	The associated results reported at concentrations <5x the concentration of the blank contamination were qualified as non-detect (U MB-I).
	Copper	0.874 µg/L	
	Manganese	0.278 µg/L	None. The associated results were reported at concentrations >5x the concentration of the blank contamination.
	Nickel	0.379 µg/L	
	Vanadium	0.284 µg/L	
CCB 8/4/2015 1:51PM H-TU904-MW0A-NT01 H-TU904-MW19-NT01 H-TU904-MW20-NT01 H-TU904-MW21-DT01 H-TU904-MW21-NT01 H-TU518-MW08-NT01	Aluminum	6.42 µg/L	
	Lead	0.249 µg/L	The associated results reported at concentrations <5x the concentration of the blank contamination were qualified as non-detect (U CCB-I).
	Antimony	0.444 µg/L	
CCB 8/4/2015 2:16PM H-TU904-MW0A-NT01 H-TU904-MW19-NT01 H-TU904-MW21-DT01 H-TU904-MW21-NT01 H-TU518-MW08-NT01	Aluminum	7.34 µg/L	None. The associated aluminum results were reported at concentrations >5x the concentration of the blank contamination.
	Antimony	0.331 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 WG805903 H-TU904-MW19-ND01 H-TU904-MW20-ND01 H-TU904-MW21-DD01 H-TU904-MW21-ND01 H-TU518-MW08-ND01	Aluminum	34.4 µg/L	The associated results reported at concentrations <5x the concentration of the blank contamination were qualified as non-detect (U MB-I).
	Antimony	0.352 µg/L	
	Copper	0.778 µg/L	
	Manganese	0.945 µg/L	None. The associated results were reported at concentrations >5x the concentration of the blank contamination.
	Vanadium	0.258 µg/L	
CCB 8/4/2015 12:22PM H-TU904-MW19-ND01 H-TU904-MW20-ND01 H-TU904-MW21-DD01 H-TU904-MW21-ND01 H-TU518-MW08-ND01	Aluminum	6.23 µg/L	The associated results reported at concentrations <5x the concentration of the blank contamination were qualified as non-detect (U CCB-I).
	Lead	0.242 µg/L	
CCB 8/4/2015 12:45PM H-TU904-MW19-ND01 H-TU904-MW21-DD01 H-TU904-MW21-ND01 H-TU518-MW08-ND01	Aluminum	4.52 µg/L	
	Copper	0.805 µg/L	
	Lead	0.244 µg/L	

Associated Samples	Analyte	Concentration	Qualification
PAHs			
MB Batch WG806040 H-TU904-MW19-NT01 H-TU904-MW20-NT01 H-TU904-MW21-DT01 H-TU904-MW21-NT01 H-TU518-MW08-NT01	Acenaphthylene	0.00983 µg/L	None. The associated acenaphthylene results were reported as non-detect or at concentrations >5x the concentration of the blank contamination.
	Benzo(b)fluoranthene	0.00504 µg/L	The associated benzo(b)fluoranthene result for sample H-TU904-MW19-NT01 was reported at a concentration <5x the concentration of the blank contamination and was qualified as non-detect (U MB-I).
	Benzo(g,h,i)perylene	0.00462 µg/L	None. The associated results were reported as non-detect or at concentrations >5x the concentration of the blank contamination.
	Naphthalene	0.0331 µg/L	

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

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

Associated Sample	Analyte	%R (Limits)	RPD (Limit)	Qualification
SVOCs				
H-TU904-MW20-NT01	4,6-Dinitro-2-Methylphenol	**34/33.4** (40-130)	1.77 (30	As the potential bias was considered to be low, the associated 4,6-dinitro-2-methylphenol result for sample H-TU904-MW20-NT01 was qualified as estimated (UJ MS-L).
	4-Nitroaniline	120/**121** (35-120)	12.9 (30)	As the potential bias was considered to be high, and the associated 4-nitroanailine result was reported as non-detect, data qualification was not considered necessary.

%R – Percent Recoveries
L – Low Bias
MS/MSD – Matrix Spike Matrix Spike Duplicate
RPD – Relative Percent Difference
SVOCs – Semivolatile Organic Compounds
UJ – Estimated
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
Dissolved Metals					
H-TU904-MW20-NT01	Manganese	128.82	144.46	**12** (10)	The associated results for sample H-TU904-MW20-NT01 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.
	Vanadium	22.516	25.587	**14** (10)	

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

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-TU904-MW21-NT01/ H-TU904-MW21-DT01	Aluminum	9700	14000	RPD >30%	As the absolute difference between the field duplicate pair results exceeded 2x the LOQ, results were qualified as estimated (J FD-I)
	Cobalt	6.0	8.1	Absolute Difference >2x LOQ	
	Lead	6.9	10		
	Vanadium	23	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
FD – Field Duplicate
I – Indeterminate Bias
J – Estimated
LOQ – Limit of Quantitation
RPD – Relative Percent Difference

Table 5: Initial/Continuing Calibration Verification Outliers and Resultant Data Qualification

Associated Samples	Analyte	%D (Limit)	Data Qualification
VOCs			
H-TU904-FIELDBLANK-FT01 H-TU904-MW19-NT01 H-TU904-MW20-NT01 H-TU904-MW21-DT01 H-TU904-MW21-NT01 H-TU518-MW08-NT01 H-TUQC-TRIPBLANK-TT02	1,2,4-Trichlorobenzene	-21.9 (±20)	As the potential bias was considered to be low, the associated results were qualified as estimated (UJ CCAL-L).
	Naphthalene	-32.6 (±20)	
	1,2,3-Trichlorobenzene	-33 (±20)	

Associated Samples	Analyte	%D (Limit)	Data Qualification
SVOCs			
H-TU904-MW19-NT01 H-TU904-MW20-NT01 H-TU904-MW21-DT01 H-TU904-MW21-NT01	3&4-Methyl Phenol	-53.7 (±20)	As the potential bias was considered to be low, the associated results were qualified as estimated (UJ CCAL-L).
H-TU518-MW08-NT01		-54.6 (±20)	

± - Plus or minus
L – Low Bias
VOCs – Volatile Organic Compounds
%D – Percent Difference
SVOCs – Semivolatile Organic Compounds
CCAL – Continuing Calibration
UJ – Estimated

Table 6: ICS Outliers and Resultant Data Qualification

Interferent Element	Analyte	ICS A (µg/L)	DL (µg/L)	Qualified Samples	Qualification
Calcium	Chromium	1.2	0.54	H-TU904-MW19-NT01	As the potential bias was considered to be high, the associated detected results were qualified as estimated (J ICS-H).
	Chromium	1.2	0.54	H-TU904-MW19-ND01	
	Nickel	0.6	0.35	H-TU904-MW20-ND01	
	Chromium	1.2	0.54	H-TU904-MW20-NT01	
	Lead	0.5	0.24		
	Nickel	0.6	0.35		
	Cadmium	0.3	0.16	H-TU904-MW21-DT01 H-TU904-MW21-NT01	
	Nickel	0.6	0.35	H-TU904-MW21-DD01 H-TU904-MW21-ND01	
Calcium, Magnesium	Chromium	1.2	0.54	H-TU518-MW08-ND01 H-TU518-MW08-NT01	

µg/L – Micrograms per Liter
ICS – Interference Check Standard
DL – Detection Limit
J - Estimated
H – High Bias

Table 7: LCS Recovery Outliers and Resultant Data Qualification

Associated Samples	Analyte	%R (Limits)	RPD (Limits)	Qualification
SVOCs				
LCS WG805815 H-TU904-MW19-NT01 H-TU904-MW20-NT01 H-TU904-MW21-DT01 H-TU904-MW21-NT01 H-TU518-MW08-NT01	Benzoic Acid	**6.68/5.7** (10-125)	15.8 (30)	As the potential bias was considered to be low, and the LCS/LCSD %Rs were <10%, the associated non-detect benzoic acid results were qualified as unusable (R) and the detected results were qualified as estimated (J LCS-L).
	4-Nitroaniline	110/**126** (35-120)	13 (30)	As the potential bias was considered to be high, and the associated 4-nitroanailine results were reported as non-detect, data qualification was not considered necessary.
	4,6-Dinitro-2-Methylphenol	63.5/90.4 (40-130)	**34.9** (30)	As the RPD was outside control limits, the associated 4,6-dinitro-2-methylphenol results were qualified as estimated (UJ LCS-I).

Associated Samples	Analyte	%R (Limits)	RPD (Limits)	Qualification
PAHs				
LCS WG806040 H-TU904-MW19-NT01 H-TU904-MW20-NT01 H-TU904-MW21-DT01 H-TU904-MW21-NT01 H-TU518-MW08-NT01	Benzo(g,h,i)perylene	54.6/91.5 (40-125)	**50.4** (20)	As the RPDs were outside control limits, the associated results were qualified as estimated (UJ/J LCS-I).
	Dibenz(a,h)anthracene	50.7/91.9 (40-120)	**57.9** (20)	
	Chrysene	106/**111** (55-110)	4.44 (20)	As the potential bias was considered to be high, and the associated chrysene results were reported as non-detect, data qualification was not considered necessary.

% - Percent
%R – Percent Recoveries
< - Less Than
I – Indeterminate Bias
L – Low Bias
LCS – Laboratory Control Sample
LCSD – Laboratory Control Sample Duplicate
PAHs – Polynuclear Aromatic Hydrocarbons
R – Unusable
RPD – Relative Percent Difference
SVOCs – Semivolatile Organic Compounds
UJ/J - 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

August 06, 2015

Date Received : July 29, 2015
Description : Hollman AFB

Sample ID : H-TU904-MW0A-NT01

Collected By : Jon Mallonee
Collection Date : 07/27/15 10:11

ESC Sample # : L779535-01

Site ID :

Project # : 6042521023446543005A

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Arsenic	7440-38-2	13.	0.25	0.50	2	ug/l		6020	08/04/15	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

August 06, 2015

Date Received : July 29, 2015
Description : Hollman AFB

Sample ID : H-TU904-MW19-NT01

Collected By : Jon Mallonee
Collection Date : 07/27/15 10:11

ESC Sample # : L779535-02

Site ID :

Project # : 6042521023446543005A

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Dissolved Solids	DSOLIDS	8600000	2800	5000	10000	ug/l		2540 C-	07/31/15	1
Aluminum J FD-I	7429-90-5	2300	2	50.	100	ug/l		6020	08/04/15	1
Antimony U MB, I CCB-I	7440-36-0	0.72	~~0.21~~ 0.72	~~0.50~~ 0.72	2	ug/l	J	6020	08/04/15	1
Arsenic F SQL-I	7440-38-2	1.4	0.25	0.50	2	ug/l	J	6020	08/04/15	1
Barium	7440-39-3	100	0.36	1.0	5	ug/l		6020	08/04/15	1
Beryllium F SQL-I	7440-41-7	0.25	0.12	0.50	2	ug/l	J	6020	08/04/15	1
Cadmium	7440-43-9	U	0.16	0.50	1	ug/l		6020	08/04/15	1
Chromium J ICS-H	7440-47-3	4.8	0.54	1.5	2	ug/l		6020	08/04/15	1
Copper F SQL-I	7440-50-8	3.2	0.52	1.5	5	ug/l	J	6020	08/04/15	1
Cobalt J FD-I	7440-48-4	2.3	0.26	0.50	2	ug/l		6020	08/04/15	1
Lead J FD-I	7439-92-1	2.2	0.24	0.50	2	ug/l		6020	08/04/15	1
Manganese	7439-96-5	200	0.25	0.50	5	ug/l		6020	08/04/15	1
Nickel	7440-02-0	3.3	0.35	1.0	2	ug/l		6020	08/04/15	1
Selenium	7782-49-2	12.	0.38	1.0	2	ug/l		6020	08/04/15	1
Silver	7440-22-4	U	0.31	0.50	2	ug/l		6020	08/04/15	1
Thallium	7440-28-0	U	0.19	0.50	2	ug/l		6020	08/04/15	1
Vanadium ~~F J~~ SM, FD-I	7440-62-2	4.2	0.18	0.50	5	ug/l	J	6020	08/04/15	1
Zinc F SQL-I	7440-66-6	17.	2.6	5.0	25	ug/l	J	6020	08/04/15	1

U = Not Detected at the LOD
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REPORT OF ANALYSIS

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

August 06, 2015

Date Received : July 29, 2015
Description : Hollman AFB

Sample ID : H-TU904-MW19-ND01

Collected By : Jon Mallonee
Collection Date : 07/27/15 10:11

ESC Sample # : L779535-03

Site ID :

Project # : 6042521023446543005A

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Aluminum, Dissolved U MB, ~~ICCB-I~~	7429-90-5	~~25.~~ 50	~~2~~ 25	50.	100	ug/l	J	6020	08/04/15	1
Antimony, Dissolved U MB-I	7440-36-0	0.63	~~0.21~~ 0.63	~~0.50~~ 0.63	2	ug/l	J	6020	08/04/15	1
Arsenic, Dissolved F SQL-I	7440-38-2	0.95	0.25	0.50	2	ug/l	J	6020	08/04/15	1
Barium, Dissolved	7440-39-3	63.	0.36	1.0	5	ug/l		6020	08/04/15	1
Beryllium, Dissolved	7440-41-7	U	0.12	0.50	2	ug/l		6020	08/04/15	1
Cadmium, Dissolved	7440-43-9	U	0.16	0.50	1	ug/l		6020	08/04/15	1
Chromium, Dissolved FJ ICS ~~-H SQL-H~~	7440-47-3	1.5	0.54	1.5	2	ug/l	J	6020	08/04/15	1
Copper, Dissolved U MB, ~~ICCB-I~~	7440-50-8	1.9	~~0.52~~ 1.9	~~1.5~~ 1.9	5	ug/l	J	6020	08/04/15	1
Cobalt, Dissolved F SQL-I	7440-48-4	1.3	0.26	0.50	2	ug/l	J	6020	08/04/15	1
Lead, Dissolved U CCB-I	7439-92-1	~~0.30~~ 0.50	~~0.24~~ 0.30	0.50	2	ug/l	J	6020	08/04/15	1
Manganese, Dissolved	7439-96-5	150	0.25	0.50	5	ug/l		6020	08/04/15	1
Nickel, Dissolved J ICS-H	7440-02-0	2.2	0.35	1.0	2	ug/l		6020	08/04/15	1
Selenium, Dissolved	7782-49-2	11.	0.38	1.0	2	ug/l		6020	08/04/15	1
Silver, Dissolved	7440-22-4	U	0.31	0.50	2	ug/l		6020	08/04/15	1
Thallium, Dissolved	7440-28-0	U	0.19	0.50	2	ug/l		6020	08/04/15	1
Vanadium, Dissolved F SQL-I	7440-62-2	1.8	0.18	0.50	5	ug/l	J	6020	08/04/15	1
Zinc, Dissolved F SQL-I	7440-66-6	5.5	2.6	5.0	25	ug/l	J	6020	08/04/15	1

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Note:
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REPORT OF ANALYSIS

Sheri Fling
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August 06, 2015

Date Received : July 29, 2015
Description : Hollman AFB

Sample ID : H-TU904-MW20-ND01

Collected By : Jon Mallonee
Collection Date : 07/27/15 12:03

ESC Sample # : L779535-04

Site ID :

Project # : 60425210234465430 05A

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Aluminum, Dissolved U MB, ~~ICCB-I~~	7429-90-5	~~23.~~ 50	~~2~~ 23	50.	100	ug/l	J	6020	08/04/15	1
Antimony, Dissolved U MB-I	7440-36-0	0.71	~~0.21~~ 0.71	~~0.50~~ 0.71	2	ug/l	J	6020	08/04/15	1
Arsenic, Dissolved F SQL-I	7440-38-2	1.2	0.25	0.50	2	ug/l	J	6020	08/04/15	1
Barium, Dissolved	7440-39-3	45.	0.36	1.0	5	ug/l		6020	08/04/15	1
Beryllium, Dissolved	7440-41-7	U	0.12	0.50	2	ug/l		6020	08/04/15	1
Cadmium, Dissolved	7440-43-9	U	0.16	0.50	1	ug/l		6020	08/04/15	1
Chromium, Dissolved FJ SQL, ICS-H	7440-47-3	2.0	0.54	1.5	2	ug/l	J	6020	08/04/15	1
Copper, Dissolved U MB, ~~ICCB-I~~	7440-50-8	~~1.1~~ 1.5	~~0.52~~ 1.1	1.5	5	ug/l	J	6020	08/04/15	1
Cobalt, Dissolved F SQL-I	7440-48-4	1.3	0.26	0.50	2	ug/l	J	6020	08/04/15	1
Lead, Dissolved	7439-92-1	U	0.24	0.50	2	ug/l		6020	08/04/15	1
Manganese, Dissolved	7439-96-5	140	0.25	0.50	5	ug/l		6020	08/04/15	1
Nickel, Dissolved J ICS-H	7440-02-0	2.4	0.35	1.0	2	ug/l		6020	08/04/15	1
Selenium, Dissolved	7782-49-2	4.2	0.38	1.0	2	ug/l		6020	08/04/15	1
Silver, Dissolved	7440-22-4	U	0.31	0.50	2	ug/l		6020	08/04/15	1
Thallium, Dissolved	7440-28-0	U	0.19	0.50	2	ug/l		6020	08/04/15	1
Vanadium, Dissolved F SQL-I	7440-62-2	4.0	0.18	0.50	5	ug/l	J	6020	08/04/15	1
Zinc, Dissolved F SQL-I	7440-66-6	5.8	2.6	5.0	25	ug/l	J	6020	08/04/15	1

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REPORT OF ANALYSIS

Sheri Fling
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August 06, 2015

Date Received : July 29, 2015
Description : Hollman AFB

Sample ID : H-TU904-MW20-NT01

Collected By : Jon Mallonee
Collection Date : 07/27/15 12:03

ESC Sample # : L779535-05

Site ID :

Project # : 6042521023446543005A

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Dissolved Solids	DSOLIDS	5200000	2800	5000	10000	ug/l		2540 C-	07/31/15	1
Aluminum J FD-I	7429-90-5	750	2	50.	100	ug/l		6020	08/04/15	1
Antimony U MB, ICCB-I	7440-36-0	~~0.40~~ 0.50	~~0.21~~ 0.40	0.50	2	ug/l	J	6020	08/04/15	1
Arsenic F SQL-I	7440-38-2	1.8	0.25	0.50	2	ug/l	J	6020	08/04/15	1
Barium	7440-39-3	57.	0.36	1.0	5	ug/l		6020	08/04/15	1
Beryllium F SQL-I	7440-41-7	0.18	0.12	0.50	2	ug/l	J	6020	08/04/15	1
Cadmium	7440-43-9	U	0.16	0.50	1	ug/l		6020	08/04/15	1
Chromium J ICS-H	7440-47-3	4.4	0.54	1.5	2	ug/l		6020	08/04/15	1
Copper U MB-I	7440-50-8	2.4	~~0.52~~ 2.4	~~1.5~~ 2.4	5	ug/l	J	6020	08/04/15	1
Cobalt FJ SQL, FD-I	7440-48-4	1.5	0.26	0.50	2	ug/l	J	6020	08/04/15	1
Lead FJ SQL, ICS-~~H~~, FD-H	7439-92-1	1.8	0.24	0.50	2	ug/l	J	6020	08/04/15	1
Manganese J DL-L	7439-96-5	130	0.25	0.50	5	ug/l		6020	08/04/15	1
Nickel J ICS-H	7440-02-0	2.4	0.35	1.0	2	ug/l		6020	08/04/15	1
Selenium	7782-49-2	4.5	0.38	1.0	2	ug/l		6020	08/04/15	1
Silver	7440-22-4	U	0.31	0.50	2	ug/l		6020	08/04/15	1
Thallium	7440-28-0	U	0.19	0.50	2	ug/l		6020	08/04/15	1
Vanadium J FD-I	7440-62-2	7.1	0.18	0.50	5	ug/l		6020	08/04/15	1
Zinc F SQL-I	7440-66-6	14.	2.6	5.0	25	ug/l	J	6020	08/04/15	1

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REPORT OF ANALYSIS

Sheri Fling
URS
8181 E. Tufts Avenue
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August 06, 2015

ESC Sample # : L779535-06

Date Received : July 29, 2015
Description : Hollman AFB

Site ID :

Sample ID : H-TU904-MW21-DT01

Project # : 60425210234465430 05A

Collected By : Jon Mallonee
Collection Date : 07/27/15 13:55

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Dissolved Solids	DSOLIDS	7400000	2800	5000	10000	ug/l		2540 C-	07/31/15	1
Aluminum J FD-I	7429-90-5	14000	2	50.	100	ug/l		6020	08/04/15	1
Antimony U MB, ~~J~~ CCB-I	7440-36-0	0.74	~~0.21~~ 0.74	~~0.50~~ 0.74	2	ug/l	J	6020	08/04/15	1
Arsenic	7440-38-2	7.4	0.25	0.50	2	ug/l		6020	08/04/15	1
Barium	7440-39-3	200	0.36	1.0	5	ug/l		6020	08/04/15	1
Beryllium F SQL-I	7440-41-7	1.1	0.12	0.50	2	ug/l	J	6020	08/04/15	1
Cadmium FJ SQL, ICS-H	7440-43-9	0.30	0.16	0.50	1	ug/l	J	6020	08/04/15	1
Chromium	7440-47-3	32.	0.54	1.5	2	ug/l		6020	08/04/15	1
Copper	7440-50-8	13.	0.52	1.5	5	ug/l		6020	08/04/15	1
Cobalt J FD-I	7440-48-4	8.1	0.26	0.50	2	ug/l		6020	08/04/15	1
Lead J FD-I	7439-92-1	10.	0.24	0.50	2	ug/l		6020	08/04/15	1
Manganese	7439-96-5	400	0.25	0.50	5	ug/l		6020	08/04/15	1
Nickel	7440-02-0	16.	0.35	1.0	2	ug/l		6020	08/04/15	1
Selenium	7782-49-2	5.8	0.38	1.0	2	ug/l		6020	08/04/15	1
Silver	7440-22-4	U	0.31	0.50	2	ug/l		6020	08/04/15	1
Thallium F SQL-I	7440-28-0	0.25	0.19	0.50	2	ug/l	J	6020	08/04/15	1
Vanadium J FD-I	7440-62-2	30.	0.18	0.50	5	ug/l		6020	08/04/15	1
Zinc	7440-66-6	55.	2.6	5.0	25	ug/l		6020	08/04/15	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

August 06, 2015

Date Received : July 29, 2015
Description : Hollman AFB

Sample ID : H-TU904-MW21-DD01

Collected By : Jon Mallonee
Collection Date : 07/27/15 13:55

ESC Sample # : L779535-07

Site ID :

Project # : 6042521023446543005A

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Aluminum, Dissolved U MB & CCB-I	7429-90-5	~~29.~~ 50	~~2~~ 29	50.	100	ug/l	J	6020	08/04/15	1
Antimony, Dissolved U MB-I	7440-36-0	0.54	~~0.21~~ 0.54	~~0.50~~ 0.54	2	ug/l	J	6020	08/04/15	1
Arsenic, Dissolved	7440-38-2	2.0	0.25	0.50	2	ug/l		6020	08/04/15	1
Barium, Dissolved	7440-39-3	35.	0.36	1.0	5	ug/l		6020	08/04/15	1
Beryllium, Dissolved	7440-41-7	U	0.12	0.50	2	ug/l		6020	08/04/15	1
Cadmium, Dissolved	7440-43-9	U	0.16	0.50	1	ug/l		6020	08/04/15	1
Chromium, Dissolved	7440-47-3	16.	0.54	1.5	2	ug/l		6020	08/04/15	1
Copper, Dissolved U MB & CCB-I	7440-50-8	2.9	~~0.52~~ 2.9	~~1.5~~ 2.9	5	ug/l	J	6020	08/04/15	1
Cobalt, Dissolved F SQL-I	7440-48-4	1.0	0.26	0.50	2	ug/l	J	6020	08/04/15	1
Lead, Dissolved U CCB-I	7439-92-1	0.51	~~0.24~~ 0.51	~~0.50~~ 0.51	2	ug/l	J	6020	08/04/15	1
Manganese, Dissolved	7439-96-5	120	0.25	0.50	5	ug/l		6020	08/04/15	1
Nickel, Dissolved FJ SQL, ICS-H	7440-02-0	1.4	0.35	1.0	2	ug/l	J	6020	08/04/15	1
Selenium, Dissolved	7782-49-2	6.1	0.38	1.0	2	ug/l		6020	08/04/15	1
Silver, Dissolved	7440-22-4	U	0.31	0.50	2	ug/l		6020	08/04/15	1
Thallium, Dissolved	7440-28-0	U	0.19	0.50	2	ug/l		6020	08/04/15	1
Vanadium, Dissolved	7440-62-2	5.2	0.18	0.50	5	ug/l		6020	08/04/15	1
Zinc, Dissolved F & QL-I	7440-66-6	2.7	2.6	5.0	25	ug/l	J	6020	08/04/15	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

August 06, 2015

ESC Sample # : L779535-08

Date Received : July 29, 2015
Description : Hollman AFB

Site ID :

Sample ID : H-TU904-MW21-NT01

Project # : 60425210234465430 05A

Collected By : Jon Mallonee
Collection Date : 07/27/15 13:55

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Dissolved Solids	DSOLIDS	7900000	2800	5000	10000	ug/l		2540 C-	07/31/15	1
Aluminum J FD-I	7429-90-5	9700	2	50.	100	ug/l		6020	08/04/15	1
Antimony U MB+ICCB-I	7440-36-0	0.78	~~0.21~~ 0.78	~~0.50~~ 0.78	2	ug/l	J	6020	08/04/15	1
Arsenic	7440-38-2	6.0	0.25	0.50	2	ug/l		6020	08/04/15	1
Barium	7440-39-3	160	0.36	1.0	5	ug/l		6020	08/04/15	1
Beryllium F SOL-I	7440-41-7	0.81	0.12	0.50	2	ug/l	J	6020	08/04/15	1
Cadmium FJ SOL, ICS-H	7440-43-9	0.24	0.16	0.50	1	ug/l	J	6020	08/04/15	1
Chromium	7440-47-3	28.	0.54	1.5	2	ug/l		6020	08/04/15	1
Copper ~~J FD-I~~	7440-50-8	10.	0.52	1.5	5	ug/l		6020	08/04/15	1
Cobalt J FD-I	7440-48-4	6.0	0.26	0.50	2	ug/l		6020	08/04/15	1
Lead J FD-I	7439-92-1	6.9	0.24	0.50	2	ug/l		6020	08/04/15	1
Manganese	7439-96-5	320	0.25	0.50	5	ug/l		6020	08/04/15	1
Nickel	7440-02-0	12.	0.35	1.0	2	ug/l		6020	08/04/15	1
Selenium	7782-49-2	6.6	0.38	1.0	2	ug/l		6020	08/04/15	1
Silver	7440-22-4	U	0.31	0.50	2	ug/l		6020	08/04/15	1
Thallium	7440-28-0	U	0.19	0.50	2	ug/l		6020	08/04/15	1
Vanadium J FD-I	7440-62-2	23.	0.18	0.50	5	ug/l		6020	08/04/15	1
Zinc	7440-66-6	38.	2.6	5.0	25	ug/l		6020	08/04/15	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

August 06, 2015

Date Received : July 29, 2015
Description : Hollman AFB

Sample ID : H-TU904-MW21-ND01

Collected By : Jon Mallonee
Collection Date : 07/27/15 13:55

ESC Sample # : L779535-09

Site ID :

Project # : 6042521023446543005A

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Aluminum, Dissolved U MB-I, CCB-I	7429-90-5	~~21.~~ 50	~~2~~ 21	50.	100	ug/l	J	6020	08/04/15	1
Antimony, Dissolved U MB-I	7440-36-0	0.52	~~0.21~~ 0.52	~~0.50~~ 0.52	2	ug/l	J	6020	08/04/15	1
Arsenic, Dissolved F SQL-I	7440-38-2	1.9	0.25	0.50	2	ug/l	J	6020	08/04/15	1
Barium, Dissolved	7440-39-3	32.	0.36	1.0	5	ug/l		6020	08/04/15	1
Beryllium, Dissolved	7440-41-7	U	0.12	0.50	2	ug/l		6020	08/04/15	1
Cadmium, Dissolved	7440-43-9	U	0.16	0.50	1	ug/l		6020	08/04/15	1
Chromium, Dissolved	7440-47-3	17.	0.54	1.5	2	ug/l		6020	08/04/15	1
Copper, Dissolved U MB-I, CCB-I	7440-50-8	3.6	~~0.52~~ 3.6	~~1.5~~ 3.6	5	ug/l	J	6020	08/04/15	1
Cobalt, Dissolved F SQL-I	7440-48-4	1.0	0.26	0.50	2	ug/l	J	6020	08/04/15	1
Lead, Dissolved U CCB-I	7439-92-1	0.50	~~0.24~~ 0.50	0.50	2	ug/l	J	6020	08/04/15	1
Manganese, Dissolved	7439-96-5	120	0.25	0.50	5	ug/l		6020	08/04/15	1
Nickel, Dissolved FJ SQL, ICS-A	7440-02-0	1.7	0.35	1.0	2	ug/l	J	6020	08/04/15	1
Selenium, Dissolved	7782-49-2	5.7	0.38	1.0	2	ug/l		6020	08/04/15	1
Silver, Dissolved	7440-22-4	U	0.31	0.50	2	ug/l		6020	08/04/15	1
Thallium, Dissolved	7440-28-0	U	0.19	0.50	2	ug/l		6020	08/04/15	1
Vanadium, Dissolved F SQL-I	7440-62-2	4.9	0.18	0.50	5	ug/l	J	6020	08/04/15	1
Zinc, Dissolved F SQL-I	7440-66-6	5.5	2.6	5.0	25	ug/l	J	6020	08/04/15	1

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REPORT OF ANALYSIS

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

August 06, 2015

Date Received : July 29, 2015
Description : Hollman AFB

Sample ID : H-TU904-FIELDBLANK-FT01

Collected By : Jon Mallonee
Collection Date : 07/27/15 10:11

ESC Sample # : L779535-10

Site ID :

Project # : 60425210234465430 05A

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Volatile Organics										
Acetone	67-64-1	U	10	25.	50	ug/l		8260B	08/04/15	1
Benzene	71-43-2	U	0.33	0.50	1	ug/l		8260B	08/04/15	1
Bromobenzene	108-86-1	U	0.35	0.50	1	ug/l		8260B	08/04/15	1
Bromochloromethane	74-97-5	U	0.52	0.75	1	ug/l		8260B	08/04/15	1
Bromodichloromethane	75-27-4	U	0.38	0.50	1	ug/l		8260B	08/04/15	1
Bromoform	75-25-2	U	0.47	0.50	1	ug/l		8260B	08/04/15	1
Bromomethane	74-83-9	U	0.87	2.5	5	ug/l		8260B	08/04/15	1
n-Butylbenzene	104-51-8	U	0.36	0.50	1	ug/l		8260B	08/04/15	1
sec-Butylbenzene	135-98-8	U	0.36	0.50	1	ug/l		8260B	08/04/15	1
tert-Butylbenzene	98-06-6	U	0.4	0.50	1	ug/l		8260B	08/04/15	1
Carbon Disulfide	75-15-0	U	0.28	0.50	1	ug/l		8260B	08/04/15	1
Carbon tetrachloride	56-23-5	U	0.38	0.50	1	ug/l		8260B	08/04/15	1
Chlorobenzene	108-90-7	U	0.35	0.50	1	ug/l		8260B	08/04/15	1
Chlorodibromomethane	124-48-1	U	0.33	0.50	1	ug/l		8260B	08/04/15	1
Chloroethane	75-00-3	U	0.45	2.5	5	ug/l		8260B	08/04/15	1
Chloroform ≤ SQL-I	67-66-3	3.8	0.32	2.5	5	ug/l	J	8260B	08/04/15	1
Chloromethane	74-87-3	U	0.28	0.50	2.5	ug/l		8260B	08/04/15	1
2-Chlorotoluene	95-49-8	U	0.38	0.50	1	ug/l		8260B	08/04/15	1
4-Chlorotoluene	106-43-4	U	0.35	0.50	1	ug/l		8260B	08/04/15	1
1,2-Dibromo-3-Chloropropane	96-12-8	U	1.3	2.5	5	ug/l		8260B	08/04/15	1
1,2-Dibromoethane	106-93-4	U	0.38	0.50	1	ug/l		8260B	08/04/15	1
Dibromomethane	74-95-3	U	0.35	0.50	1	ug/l		8260B	08/04/15	1
1,2-Dichlorobenzene	95-50-1	U	0.35	0.50	1	ug/l		8260B	08/04/15	1
1,3-Dichlorobenzene	541-73-1	U	0.22	0.50	1	ug/l		8260B	08/04/15	1
1,4-Dichlorobenzene	106-46-7	U	0.27	0.50	1	ug/l		8260B	08/04/15	1
Dichlorodifluoromethane	75-71-8	U	0.55	2.5	5	ug/l		8260B	08/04/15	1
1,1-Dichloroethane	75-34-3	U	0.26	0.50	1	ug/l		8260B	08/04/15	1
1,2-Dichloroethane	107-06-2	U	0.36	0.50	1	ug/l		8260B	08/04/15	1
1,1-Dichloroethene	75-35-4	U	0.4	0.50	1	ug/l		8260B	08/04/15	1
cis-1,2-Dichloroethene	156-59-2	U	0.26	0.50	1	ug/l		8260B	08/04/15	1
trans-1,2-Dichloroethene	156-60-5	U	0.4	0.50	1	ug/l		8260B	08/04/15	1
1,2-Dichloropropane	78-87-5	U	0.31	0.50	1	ug/l		8260B	08/04/15	1
1,1-Dichloropropene	563-58-6	U	0.35	0.50	1	ug/l		8260B	08/04/15	1
1,3-Dichloropropane	142-28-9	U	0.37	0.50	1	ug/l		8260B	08/04/15	1
cis-1,3-Dichloropropene	10061-01-5	U	0.42	0.50	1	ug/l		8260B	08/04/15	1
trans-1,3-Dichloropropene	10061-02-6	U	0.42	0.50	1	ug/l		8260B	08/04/15	1
2,2-Dichloropropane	594-20-7	U	0.32	0.50	1	ug/l		8260B	08/04/15	1
Ethylbenzene	100-41-4	U	0.38	0.50	1	ug/l		8260B	08/04/15	1
2-Hexanone	591-78-6	U	3.8	5.0	10	ug/l		8260B	08/04/15	1
Hexachloro-1,3-butadiene	87-68-3	U	0.26	0.50	1	ug/l		8260B	08/04/15	1
Isopropylbenzene	98-82-8	U	0.33	0.50	1	ug/l		8260B	08/04/15	1
p-Isopropyltoluene	99-87-6	U	0.35	0.50	1	ug/l		8260B	08/04/15	1
2-Butanone (MEK)	78-93-3	U	3.9	5.0	10	ug/l		8260B	08/04/15	1
Methylene Chloride	75-09-2	U	1	2.5	5	ug/l		8260B	08/04/15	1
4-Methyl-2-pentanone (MIBK)	108-10-1	U	2.1	5.0	10	ug/l		8260B	08/04/15	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

August 06, 2015

Date Received : July 29, 2015
Description : Hollman AFB

Sample ID : H-TU904-FIELDBLANK-FT01

Collected By : Jon Mallonee
Collection Date : 07/27/15 10:11

ESC Sample # : L779535-10

Site ID :

Project # : 60425210234465430 05A

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Methyl tert-butyl ether	1634-04-4	U	0.37	0.50	1	ug/l		8260B	08/04/15	1
Naphthalene	91-20-3	U	1	2.5	5	ug/l	J4	8260B	08/04/15	1
n-Propylbenzene	103-65-1	U	0.35	0.50	1	ug/l		8260B	08/04/15	1
Styrene	100-42-5	U	0.31	0.50	1	ug/l		8260B	08/04/15	1
1,1,1,2-Tetrachloroethane	630-20-6	U	0.38	0.50	1	ug/l		8260B	08/04/15	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.13	0.75	1	ug/l		8260B	08/04/15	1
Tetrachloroethene	127-18-4	U	0.37	0.50	1	ug/l		8260B	08/04/15	1
Toluene	108-88-3	U	0.78	2.5	5	ug/l		8260B	08/04/15	1
1,2,3-Trichlorobenzene	87-61-6	U	0.23	0.50	1	ug/l	J4	8260B	08/04/15	1
1,2,4-Trichlorobenzene	120-82-1	U	0.36	0.50	1	ug/l	J4	8260B	08/04/15	1
1,1,1-Trichloroethane	71-55-6	U	0.319	0.50	1	ug/l		8260B	08/04/15	1
1,1,2-Trichloroethane	79-00-5	U	0.38	0.50	1	ug/l		8260B	08/04/15	1
Trichloroethene	79-01-6	U	0.4	0.50	1	ug/l		8260B	08/05/15	1
Trichlorofluoromethane	75-69-4	U	1.2	2.5	5	ug/l		8260B	08/04/15	1
1,2,3-Trichloropropane	96-18-4	U	0.81	1.0	2.5	ug/l		8260B	08/04/15	1
1,2,4-Trimethylbenzene	95-63-6	U	0.37	0.50	1	ug/l		8260B	08/04/15	1
1,3,5-Trimethylbenzene	108-67-8	U	0.39	0.50	1	ug/l		8260B	08/04/15	1
o-Xylene	95-47-6	U	0.34	0.50	1	ug/l		8260B	08/04/15	1
m&p-Xylene	1330-20-7	U	0.72	1.0	2	ug/l		8260B	08/04/15	1
Vinyl chloride	75-01-4	U	0.26	0.50	1	ug/l		8260B	08/04/15	1
Surrogate Recovery										
Toluene-d8	2037-26-5	105.				% Rec.		8260B	08/04/15	1
Dibromofluoromethane	1868-53-7	103.				% Rec.		8260B	08/04/15	1
4-Bromofluorobenzene	460-00-4	103.				% Rec.		8260B	08/04/15	1

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REPORT OF ANALYSIS

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

August 06, 2015

Date Received : July 29, 2015
Description : Hollman AFB

Sample ID : H-TU904-MW19-NT01

Collected By : Jon Mallonee
Collection Date : 07/27/15 10:11

ESC Sample # : L779535-11

Site ID :

Project # : 6042521023446543005A

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Volatile Organics										
Acetone	67-64-1	U	10	25.	50	ug/l		8260B	08/04/15	1
Benzene	71-43-2	U	0.33	0.50	1	ug/l		8260B	08/04/15	1
Bromobenzene	108-86-1	U	0.35	0.50	1	ug/l		8260B	08/04/15	1
Bromochloromethane	74-97-5	U	0.52	0.75	1	ug/l		8260B	08/04/15	1
Bromodichloromethane	75-27-4	U	0.38	0.50	1	ug/l		8260B	08/04/15	1
Bromoform	75-25-2	U	0.47	0.50	1	ug/l		8260B	08/04/15	1
Bromomethane	74-83-9	U	0.87	2.5	5	ug/l		8260B	08/04/15	1
n-Butylbenzene	104-51-8	U	0.36	0.50	1	ug/l		8260B	08/04/15	1
sec-Butylbenzene	135-98-8	U	0.36	0.50	1	ug/l		8260B	08/04/15	1
tert-Butylbenzene	98-06-6	U	0.4	0.50	1	ug/l		8260B	08/04/15	1
Carbon Disulfide	75-15-0	U	0.28	0.50	1	ug/l		8260B	08/04/15	1
Carbon tetrachloride	56-23-5	U	0.38	0.50	1	ug/l		8260B	08/04/15	1
Chlorobenzene	108-90-7	U	0.35	0.50	1	ug/l		8260B	08/04/15	1
Chlorodibromomethane	124-48-1	U	0.33	0.50	1	ug/l		8260B	08/04/15	1
Chloroethane	75-00-3	U	0.45	2.5	5	ug/l		8260B	08/04/15	1
Chloroform	67-66-3	U	0.32	2.5	5	ug/l		8260B	08/04/15	1
Chloromethane	74-87-3	U	0.28	0.50	2.5	ug/l		8260B	08/04/15	1
2-Chlorotoluene	95-49-8	U	0.38	0.50	1	ug/l		8260B	08/04/15	1
4-Chlorotoluene	106-43-4	U	0.35	0.50	1	ug/l		8260B	08/04/15	1
1,2-Dibromo-3-Chloropropane	96-12-8	U	1.3	2.5	5	ug/l		8260B	08/04/15	1
1,2-Dibromoethane	106-93-4	U	0.38	0.50	1	ug/l		8260B	08/04/15	1
Dibromomethane	74-95-3	U	0.35	0.50	1	ug/l		8260B	08/04/15	1
1,2-Dichlorobenzene	95-50-1	U	0.35	0.50	1	ug/l		8260B	08/04/15	1
1,3-Dichlorobenzene	541-73-1	U	0.22	0.50	1	ug/l		8260B	08/04/15	1
1,4-Dichlorobenzene	106-46-7	U	0.27	0.50	1	ug/l		8260B	08/04/15	1
Dichlorodifluoromethane	75-71-8	U	0.55	2.5	5	ug/l		8260B	08/04/15	1
1,1-Dichloroethane	75-34-3	U	0.26	0.50	1	ug/l		8260B	08/04/15	1
1,2-Dichloroethane	107-06-2	U	0.36	0.50	1	ug/l		8260B	08/04/15	1
1,1-Dichloroethene	75-35-4	U	0.4	0.50	1	ug/l		8260B	08/04/15	1
cis-1,2-Dichloroethene	156-59-2	U	0.26	0.50	1	ug/l		8260B	08/04/15	1
trans-1,2-Dichloroethene	156-60-5	U	0.4	0.50	1	ug/l		8260B	08/04/15	1
1,2-Dichloropropane	78-87-5	U	0.31	0.50	1	ug/l		8260B	08/04/15	1
1,1-Dichloropropene	563-58-6	U	0.35	0.50	1	ug/l		8260B	08/04/15	1
1,3-Dichloropropane	142-28-9	U	0.37	0.50	1	ug/l		8260B	08/04/15	1
cis-1,3-Dichloropropene	10061-01-5	U	0.42	0.50	1	ug/l		8260B	08/04/15	1
trans-1,3-Dichloropropene	10061-02-6	U	0.42	0.50	1	ug/l		8260B	08/04/15	1
2,2-Dichloropropane	594-20-7	U	0.32	0.50	1	ug/l		8260B	08/04/15	1
Ethylbenzene	100-41-4	U	0.38	0.50	1	ug/l		8260B	08/04/15	1
2-Hexanone	591-78-6	U	3.8	5.0	10	ug/l		8260B	08/04/15	1
Hexachloro-1,3-butadiene	87-68-3	U	0.26	0.50	1	ug/l		8260B	08/04/15	1
Isopropylbenzene	98-82-8	U	0.33	0.50	1	ug/l		8260B	08/04/15	1
p-Isopropyltoluene	99-87-6	U	0.35	0.50	1	ug/l		8260B	08/04/15	1
2-Butanone (MEK)	78-93-3	U	3.9	5.0	10	ug/l		8260B	08/04/15	1
Methylene Chloride	75-09-2	U	1	2.5	5	ug/l		8260B	08/04/15	1
4-Methyl-2-pentanone (MIBK)	108-10-1	U	2.1	5.0	10	ug/l		8260B	08/04/15	1

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REPORT OF ANALYSIS

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

August 06, 2015

ESC Sample # : L779535-11

Date Received : July 29, 2015
Description : Hollman AFB

Site ID :

Sample ID : H-TU904-MW19-NT01

Project # : 60425210234465430 05A

Collected By : Jon Mallonee
Collection Date : 07/27/15 10:11

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Methyl tert-butyl ether	1634-04-4	U	0.37	0.50	1	ug/l		8260B	08/04/15	1
Naphthalene UJ CCAL-L ONR	~~91-20-3~~	~~U~~	~~1~~	~~2.5~~	~~5~~	~~ug/l~~	~~J4~~	~~8260B~~	~~08/04/15~~	1
n-Propylbenzene	103-65-1	U	0.35	0.50	1	ug/l		8260B	08/04/15	1
Styrene	100-42-5	U	0.31	0.50	1	ug/l		8260B	08/04/15	1
1,1,1,2-Tetrachloroethane	630-20-6	U	0.38	0.50	1	ug/l		8260B	08/04/15	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.13	0.75	1	ug/l		8260B	08/04/15	1
Tetrachloroethene	127-18-4	U	0.37	0.50	1	ug/l		8260B	08/04/15	1
Toluene	108-88-3	U	0.78	2.5	5	ug/l		8260B	08/04/15	1
1,2,3-Trichlorobenzene UJ CCAL-L	87-61-6	U	0.23	0.50	1	ug/l	J4	8260B	08/04/15	1
1,2,4-Trichlorobenzene	120-82-1	U	0.36	0.50	1	ug/l	J4	8260B	08/04/15	1
1,1,1-Trichloroethane	71-55-6	U	0.319	0.50	1	ug/l		8260B	08/04/15	1
1,1,2-Trichloroethane	79-00-5	U	0.38	0.50	1	ug/l		8260B	08/04/15	1
Trichloroethene	79-01-6	U	0.4	0.50	1	ug/l		8260B	08/05/15	1
Trichlorofluoromethane	75-69-4	U	1.2	2.5	5	ug/l		8260B	08/04/15	1
1,2,3-Trichloropropane	96-18-4	U	0.81	1.0	2.5	ug/l		8260B	08/04/15	1
1,2,4-Trimethylbenzene	95-63-6	U	0.37	0.50	1	ug/l		8260B	08/04/15	1
1,3,5-Trimethylbenzene	108-67-8	U	0.39	0.50	1	ug/l		8260B	08/04/15	1
o-Xylene	95-47-6	U	0.34	0.50	1	ug/l		8260B	08/04/15	1
m&p-Xylene	1330-20-7	U	0.72	1.0	2	ug/l		8260B	08/04/15	1
Vinyl chloride	75-01-4	U	0.26	0.50	1	ug/l		8260B	08/04/15	1
Surrogate Recovery										
Toluene-d8	2037-26-5	107.				% Rec.		8260B	08/04/15	1
Dibromofluoromethane	1868-53-7	103.				% Rec.		8260B	08/04/15	1
4-Bromofluorobenzene	460-00-4	108.				% Rec.		8260B	08/04/15	1
Polynuclear Aromatic Hydrocarbons										
Anthracene	120-12-7	U	0.008	0.025	0.05	ug/l		8270 C-	08/04/15	1
Acenaphthene	83-32-9	U	0.01	0.025	0.05	ug/l		8270 C-	08/04/15	1
Acenaphthylene	208-96-8	U	0.007	0.025	0.05	ug/l		8270 C-	08/04/15	1
Benzo(a)anthracene	56-55-3	U	0.0083	0.025	0.05	ug/l		8270 C-	08/04/15	1
Benzo(a)pyrene	50-32-8	0.025 U	0.016	0.025	0.05	ug/l		8270 C-	08/04/15	1
Benzo(b)fluoranthene U MB-I	205-99-2	~~0.0023~~	~~0.0021~~ 0.0025	0.025	0.05	ug/l	J	8270 C-	08/04/15	1
Benzo(g,h,i)perylene UJ LCS-I	191-24-2	U	0.0023	0.025	0.05	ug/l	J3	8270 C-	08/04/15	1
Benzo(k)fluoranthene	207-08-9	U	0.026	0.035	0.05	ug/l		8270 C-	08/04/15	1
Chrysene	218-01-9	U	0.014	0.025	0.05	ug/l		8270 C-	08/04/15	1
Dibenz(a,h)anthracene UJ LCS-I	53-70-3	U	0.0045	0.025	0.05	ug/l	J3	8270 C-	08/04/15	1
Fluoranthene F SQL-I	206-44-0	0.017	0.016	0.025	0.05	ug/l	J	8270 C-	08/04/15	1
Fluorene	86-73-7	U	0.009	0.025	0.05	ug/l		8270 C-	08/04/15	1
Indeno(1,2,3-cd)pyrene	193-39-5	U	0.0074	0.025	0.05	ug/l		8270 C-	08/04/15	1
Naphthalene	91-20-3	U	0.012	0.025	0.25	ug/l		8270 C-	08/04/15	1
Phenanthrene	85-01-8	U	0.018	0.025	0.05	ug/l		8270 C-	08/04/15	1
Pyrene	129-00-0	U	0.016	0.025	0.05	ug/l		8270 C-	08/04/15	1
1-Methylnaphthalene	90-12-0	U	0.018	0.025	0.25	ug/l		8270 C-	08/04/15	1
2-Methylnaphthalene	91-57-6	U	0.016	0.025	0.25	ug/l		8270 C-	08/04/15	1
Surrogate Recovery										
Nitrobenzene-d5	4165-60-0	108.				% Rec.		8270 C-	08/04/15	1

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

Est. 1970

REPORT OF ANALYSIS

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

August 06, 2015

Date Received : July 29, 2015
Description : Hollman AFB

Sample ID : H-TU904-MW19-NT01

Collected By : Jon Mallonee
Collection Date : 07/27/15 10:11

ESC Sample # : L779535-11

Site ID :

Project # : 6042521023446543005A

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
2-Fluorobiphenyl	321-60-8	92.9				% Rec.		8270 C-	08/04/15	1
p-Terphenyl-d14	1718-51-0	89.3				% Rec.		8270 C-	08/04/15	1
Base/Neutral Extractables										
Bis(2-chlorethoxy)methane	111-91-1	U	0.33	5.0	10	ug/l		8270C	07/31/15	1
Bis(2-chloroethyl)ether	111-44-4	U	1.6	5.0	10	ug/l		8270C	07/31/15	1
Bis(2-chloroisopropyl)ether	39638-32-9	U	0.44	5.0	10	ug/l		8270C	07/31/15	1
Benzyl Alcohol	100-51-6	U	0.39	5.0	10	ug/l		8270C	07/31/15	1
Carbazole	86-74-8	U	0.26	5.0	10	ug/l		8270C	07/31/15	1
Benzoic acid FJ SGL, LCS-I	65-85-0	4.8	0.44	5.0	10	ug/l	J	8270C	07/31/15	1
Dibenzofuran	132-64-9	U	0.34	5.0	10	ug/l		8270C	07/31/15	1
4-Bromophenyl-phenylether	101-55-3	U	0.34	5.0	10	ug/l		8270C	07/31/15	1
2-Chloronaphthalene	91-58-7	U	0.33	0.50	1	ug/l		8270C	07/31/15	1
4-Chlorophenyl-phenylether	7005-72-3	U	0.3	5.0	10	ug/l		8270C	07/31/15	1
3,3-Dichlorobenzidine	91-94-1	U	2	5.0	10	ug/l		8270C	07/31/15	1
2,4-Dinitrotoluene	121-14-2	U	1.6	5.0	10	ug/l		8270C	07/31/15	1
2,6-Dinitrotoluene	606-20-2	U	0.28	5.0	10	ug/l		8270C	07/31/15	1
Hexachlorobenzene	118-74-1	U	0.34	0.50	1	ug/l	J3	8270C	07/31/15	1
Hexachloro-1,3-butadiene DNR	~~87-68-3~~	~~U~~	~~0.33~~	~~5.0~~	~~10~~	~~ug/l~~		~~8270C~~	~~07/31/15~~	~~1~~
Hexachloroethane	67-72-1	U	0.36	5.0	10	ug/l		8270C	07/31/15	1
Isophorone	78-59-1	U	0.27	5.0	10	ug/l	J3	8270C	07/31/15	1
Nitrobenzene	98-95-3	U	0.37	5.0	10	ug/l		8270C	07/31/15	1
n-Nitrosodimethylamine	62-75-9	U	1.3	5.0	10	ug/l		8270C	07/31/15	1
n-Nitrosodiphenylamine	86-30-6	U	0.3	5.0	10	ug/l		8270C	07/31/15	1
n-Nitrosodi-n-propylamine	621-64-7	U	0.4	5.0	10	ug/l	J3	8270C	07/31/15	1
Benzylbutyl phthalate	85-68-7	U	0.28	1.0	3	ug/l		8270C	07/31/15	1
Bis(2-ethylhexyl)phthalate	117-81-7	U	0.71	1.0	3	ug/l		8270C	07/31/15	1
Di-n-butyl phthalate F SGL-I	84-74-2	0.30	0.27	1.0	3	ug/l	J	8270C	07/31/15	1
Diethyl phthalate	84-66-2	U	0.28	1.0	3	ug/l		8270C	07/31/15	1
Dimethyl phthalate	131-11-3	U	0.28	1.0	3	ug/l		8270C	07/31/15	1
Di-n-octyl phthalate	117-84-0	U	0.28	1.0	3	ug/l		8270C	07/31/15	1
1,2,4-Trichlorobenzene DNR	~~120-82-1~~	~~U~~	~~0.36~~	~~5.0~~	~~10~~	~~ug/l~~		~~8270C~~	~~07/31/15~~	1
Acid Extractables										
4-Chloro-3-methylphenol	59-50-7	U	0.26	5.0	10	ug/l		8270C	07/31/15	1
2-Chlorophenol	95-57-8	U	0.28	5.0	10	ug/l		8270C	07/31/15	1
2,4-Dichlorophenol	120-83-2	U	0.28	5.0	10	ug/l		8270C	07/31/15	1
2,4-Dimethylphenol	105-67-9	U	0.62	5.0	10	ug/l		8270C	07/31/15	1
4,6-Dinitro-2-methylphenol US LCS, MS-L	534-52-1	U	2.6	5.0	10	ug/l	J3	8270C	07/31/15	1
2,4-Dinitrophenol	51-28-5	U	3.2	5.0	10	ug/l		8270C	07/31/15	1
2-Methylphenol	95-48-7	U	0.31	5.0	10	ug/l		8270C	07/31/15	1
3&4-Methyl Phenol US CCAL-I	3&4-Methyl	U	0.27	5.0	10	ug/l		8270C	07/31/15	1
2-Nitrophenol	88-75-5	U	0.32	5.0	10	ug/l		8270C	07/31/15	1
4-Nitrophenol	100-02-7	U	2	5.0	10	ug/l	J4	8270C	07/31/15	1
4-Chloroaniline	106-47-8	U	0.38	5.0	10	ug/l		8270C	07/31/15	1
2-Nitroaniline	88-74-4	U	1.9	5.0	10	ug/l		8270C	07/31/15	1
3-Nitroaniline	99-09-2	U	0.31	5.0	10	ug/l		8270C	07/31/15	1

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REPORT OF ANALYSIS

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

August 06, 2015

Date Received : July 29, 2015
Description : Hollman AFB

Sample ID : H-TU904-MW19-NT01

Collected By : Jon Mallonee
Collection Date : 07/27/15 10:11

ESC Sample # : L779535-11

Site ID :

Project # : 6042521023446543005A

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
1,2-Diphenylhydrazine	103-33-3	U	0.32	5.0	10	ug/l		8270C	07/31/15	1
4-Nitroaniline	100-01-6	U	0.35	5.0	10	ug/l	J4	8270C	07/31/15	1
Pentachlorophenol	87-86-5	U	0.31	5.0	10	ug/l		8270C	07/31/15	1
Phenol	108-95-2	U	0.33	5.0	10	ug/l		8270C	07/31/15	1
2,4,5-Trichlorophenol	95-95-4	U	0.24	5.0	10	ug/l		8270C	07/31/15	1
2,4,6-Trichlorophenol	88-06-2	U	0.3	5.0	10	ug/l		8270C	07/31/15	1
Surrogate Recovery										
2-Fluorophenol	367-12-4	60.8				% Rec.		8270C	07/31/15	1
Phenol-d5	4165-62-2	49.6				% Rec.		8270C	07/31/15	1
Nitrobenzene-d5	4165-60-0	73.7				% Rec.		8270C	07/31/15	1
2-Fluorobiphenyl	321-60-8	77.2				% Rec.		8270C	07/31/15	1
2,4,6-Tribromophenol	118-79-6	68.3				% Rec.		8270C	07/31/15	1
p-Terphenyl-d14	1718-51-0	67.9				% Rec.		8270C	07/31/15	1

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REPORT OF ANALYSIS

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

August 06, 2015

Date Received : July 29, 2015
Description : Hollman AFB

Sample ID : H-TU904-MW20-NT01

Collected By : Jon Mallonee
Collection Date : 07/27/15 12:03

ESC Sample # : L779535-12

Site ID :

Project # : 60425210234465430 05A

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Volatile Organics										
Acetone	67-64-1	U	10	25.	50	ug/l		8260B	08/04/15	1
Benzene	71-43-2	U	0.33	0.50	1	ug/l		8260B	08/04/15	1
Bromobenzene	108-86-1	U	0.35	0.50	1	ug/l		8260B	08/04/15	1
Bromochloromethane	74-97-5	U	0.52	0.75	1	ug/l		8260B	08/04/15	1
Bromodichloromethane	75-27-4	1.5	0.38	0.50	1	ug/l		8260B	08/04/15	1
Bromoform	75-25-2	U	0.47	0.50	1	ug/l		8260B	08/04/15	1
Bromomethane	74-83-9	U	0.87	2.5	5	ug/l		8260B	08/04/15	1
n-Butylbenzene	104-51-8	U	0.36	0.50	1	ug/l		8260B	08/04/15	1
sec-Butylbenzene	135-98-8	U	0.36	0.50	1	ug/l		8260B	08/04/15	1
tert-Butylbenzene	98-06-6	U	0.4	0.50	1	ug/l		8260B	08/04/15	1
Carbon Disulfide	75-15-0	U	0.28	0.50	1	ug/l		8260B	08/04/15	1
Carbon tetrachloride	56-23-5	U	0.38	0.50	1	ug/l		8260B	08/04/15	1
Chlorobenzene	108-90-7	U	0.35	0.50	1	ug/l		8260B	08/04/15	1
Chlorodibromomethane	124-48-1	U	0.33	0.50	1	ug/l		8260B	08/04/15	1
Chloroethane	75-00-3	U	0.45	2.5	5	ug/l		8260B	08/04/15	1
Chloroform U FB-I	67-66-3	2.6	~~0.33~~ 2.6	~~2.5~~ 2.6	5	ug/l	J	8260B	08/04/15	1
Chloromethane	74-87-3	U	0.28	0.50	2.5	ug/l		8260B	08/04/15	1
2-Chlorotoluene	95-49-8	U	0.38	0.50	1	ug/l		8260B	08/04/15	1
4-Chlorotoluene	106-43-4	U	0.35	0.50	1	ug/l		8260B	08/04/15	1
1,2-Dibromo-3-Chloropropane	96-12-8	U	1.3	2.5	5	ug/l		8260B	08/04/15	1
1,2-Dibromoethane	106-93-4	U	0.38	0.50	1	ug/l		8260B	08/04/15	1
Dibromomethane	74-95-3	U	0.35	0.50	1	ug/l		8260B	08/04/15	1
1,2-Dichlorobenzene	95-50-1	U	0.35	0.50	1	ug/l		8260B	08/04/15	1
1,3-Dichlorobenzene	541-73-1	U	0.22	0.50	1	ug/l		8260B	08/04/15	1
1,4-Dichlorobenzene	106-46-7	U	0.27	0.50	1	ug/l		8260B	08/04/15	1
Dichlorodifluoromethane	75-71-8	U	0.55	2.5	5	ug/l		8260B	08/04/15	1
1,1-Dichloroethane F SQL-I	75-34-3	0.75	0.26	0.50	1	ug/l	J	8260B	08/04/15	1
1,2-Dichloroethane	107-06-2	U	0.36	0.50	1	ug/l		8260B	08/04/15	1
1,1-Dichloroethene	75-35-4	2.4	0.4	0.50	1	ug/l		8260B	08/04/15	1
cis-1,2-Dichloroethene	156-59-2	U	0.26	0.50	1	ug/l		8260B	08/04/15	1
trans-1,2-Dichloroethene	156-60-5	U	0.4	0.50	1	ug/l		8260B	08/04/15	1
1,2-Dichloropropane	78-87-5	U	0.31	0.50	1	ug/l		8260B	08/04/15	1
1,1-Dichloropropene	563-58-6	U	0.35	0.50	1	ug/l		8260B	08/04/15	1
1,3-Dichloropropane	142-28-9	U	0.37	0.50	1	ug/l		8260B	08/04/15	1
cis-1,3-Dichloropropene	10061-01-5	U	0.42	0.50	1	ug/l		8260B	08/04/15	1
trans-1,3-Dichloropropene	10061-02-6	U	0.42	0.50	1	ug/l		8260B	08/04/15	1
2,2-Dichloropropane	594-20-7	U	0.32	0.50	1	ug/l		8260B	08/04/15	1
Ethylbenzene	100-41-4	U	0.38	0.50	1	ug/l		8260B	08/04/15	1
2-Hexanone	591-78-6	U	3.8	5.0	10	ug/l		8260B	08/04/15	1
Hexachloro-1,3-butadiene	87-68-3	U	0.26	0.50	1	ug/l		8260B	08/04/15	1
Isopropylbenzene	98-82-8	U	0.33	0.50	1	ug/l		8260B	08/04/15	1
p-Isopropyltoluene	99-87-6	U	0.35	0.50	1	ug/l		8260B	08/04/15	1
2-Butanone (MEK)	78-93-3	U	3.9	5.0	10	ug/l		8260B	08/04/15	1
Methylene Chloride	75-09-2	U	1	2.5	5	ug/l		8260B	08/04/15	1
4-Methyl-2-pentanone (MIBK)	108-10-1	U	2.1	5.0	10	ug/l		8260B	08/04/15	1

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REPORT OF ANALYSIS

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

August 06, 2015

Date Received : July 29, 2015
Description : Hollman AFB

ESC Sample # : L779535-12

Site ID :

Sample ID : H-TU904-MW20-NT01

Project # : 60425210234465430 05A

Collected By : Jon Mallonee
Collection Date : 07/27/15 12:03

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Methyl tert-butyl ether	1634-04-4	U	0.37	0.50	1	ug/l		8260B	08/04/15	1
Naphthalene UJ CCAL-L DNR	91-20-3	U	1	2.5	5	ug/l	J4J6	8260B	08/04/15	1
n-Propylbenzene	103-65-1	U	0.35	0.50	1	ug/l		8260B	08/04/15	1
Styrene	100-42-5	U	0.31	0.50	1	ug/l		8260B	08/04/15	1
1,1,1,2-Tetrachloroethane	630-20-6	U	0.38	0.50	1	ug/l		8260B	08/04/15	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.13	0.75	1	ug/l		8260B	08/04/15	1
Tetrachloroethene	127-18-4	U	0.37	0.50	1	ug/l		8260B	08/04/15	1
Toluene	108-88-3	U	0.78	2.5	5	ug/l		8260B	08/04/15	1
1,2,3-Trichlorobenzene UJ CCAL-L	87-61-6	U	0.23	0.50	1	ug/l	J4J6	8260B	08/04/15	1
1,2,4-Trichlorobenzene	120-82-1	U	0.36	0.50	1	ug/l	J4J6	8260B	08/04/15	1
1,1,1-Trichloroethane	71-55-6	U	0.319	0.50	1	ug/l		8260B	08/04/15	1
1,1,2-Trichloroethane	79-00-5	U	0.38	0.50	1	ug/l		8260B	08/04/15	1
Trichloroethene F SQL-I	79-01-6	0.76	0.4	0.50	1	ug/l	J	8260B	08/04/15	1
Trichlorofluoromethane	75-69-4	U	1.2	2.5	5	ug/l		8260B	08/04/15	1
1,2,3-Trichloropropane	96-18-4	U	0.81	1.0	2.5	ug/l		8260B	08/04/15	1
1,2,4-Trimethylbenzene	95-63-6	U	0.37	0.50	1	ug/l		8260B	08/04/15	1
1,3,5-Trimethylbenzene	108-67-8	U	0.39	0.50	1	ug/l		8260B	08/04/15	1
o-Xylene	95-47-6	U	0.34	0.50	1	ug/l		8260B	08/04/15	1
m&p-Xylene	1330-20-7	U	0.72	1.0	2	ug/l		8260B	08/04/15	1
Vinyl chloride	75-01-4	U	0.26	0.50	1	ug/l		8260B	08/04/15	1
Surrogate Recovery										
Toluene-d8	2037-26-5	106.				% Rec.		8260B	08/04/15	1
Dibromofluoromethane	1868-53-7	102.				% Rec.		8260B	08/04/15	1
4-Bromofluorobenzene	460-00-4	107.				% Rec.		8260B	08/04/15	1
Polynuclear Aromatic Hydrocarbons										
Anthracene	120-12-7	U	0.008	0.025	0.05	ug/l		8270 C-	08/04/15	1
Acenaphthene	83-32-9	U	0.01	0.025	0.05	ug/l		8270 C-	08/04/15	1
Acenaphthylene	208-96-8	U	0.007	0.025	0.05	ug/l		8270 C-	08/04/15	1
Benzo(a)anthracene	56-55-3	U	0.0083	0.025	0.05	ug/l		8270 C-	08/04/15	1
Benzo(a)pyrene	50-32-8	U	0.016	0.025	0.05	ug/l		8270 C-	08/04/15	1
Benzo(b)fluoranthene	205-99-2	U	0.0021	0.025	0.05	ug/l		8270 C-	08/04/15	1
Benzo(g,h,i)perylene UJ LCS-I	191-24-2	U	0.0023	0.025	0.05	ug/l	J3	8270 C-	08/04/15	1
Benzo(k)fluoranthene	207-08-9	U	0.026	0.035	0.05	ug/l		8270 C-	08/04/15	1
Chrysene	218-01-9	U	0.014	0.025	0.05	ug/l		8270 C-	08/04/15	1
Dibenz(a,h)anthracene UJ LCS-I	53-70-3	U	0.0045	0.025	0.05	ug/l	J3	8270 C-	08/04/15	1
Fluoranthene	206-44-0	U	0.016	0.025	0.05	ug/l		8270 C-	08/04/15	1
Fluorene	86-73-7	U	0.009	0.025	0.05	ug/l		8270 C-	08/04/15	1
Indeno(1,2,3-cd)pyrene	193-39-5	U	0.0074	0.025	0.05	ug/l		8270 C-	08/04/15	1
Naphthalene	91-20-3	U	0.012	0.025	0.25	ug/l		8270 C-	08/04/15	1
Phenanthrene	85-01-8	U	0.018	0.025	0.05	ug/l		8270 C-	08/04/15	1
Pyrene	129-00-0	U	0.016	0.025	0.05	ug/l		8270 C-	08/04/15	1
1-Methylnaphthalene	90-12-0	U	0.018	0.025	0.25	ug/l		8270 C-	08/04/15	1
2-Methylnaphthalene	91-57-6	U	0.016	0.025	0.25	ug/l		8270 C-	08/04/15	1
Surrogate Recovery										
Nitrobenzene-d5	4165-60-0	98.7				% Rec.		8270 C-	08/04/15	1

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REPORT OF ANALYSIS

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

August 06, 2015

Date Received : July 29, 2015
Description : Hollman AFB

Sample ID : H-TU904-MW20-NT01

Collected By : Jon Mallonee
Collection Date : 07/27/15 12:03

ESC Sample # : L779535-12

Site ID :

Project # : 60425210234465430 05A

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
2-Fluorobiphenyl	321-60-8	93.2				% Rec.		8270 C-	08/04/15	1
p-Terphenyl-d14	1718-51-0	89.3				% Rec.		8270 C-	08/04/15	1
Base/Neutral Extractables										
Bis(2-chlorethoxy)methane	111-91-1	U	0.33	5.0	10	ug/l		8270C	07/31/15	1
Bis(2-chloroethyl)ether	111-44-4	U	1.6	5.0	10	ug/l		8270C	07/31/15	1
Bis(2-chloroisopropyl)ether	39638-32-9	U	0.44	5.0	10	ug/l		8270C	07/31/15	1
Benzyl Alcohol	100-51-6	U	0.39	5.0	10	ug/l		8270C	07/31/15	1
Carbazole	86-74-8	U	0.26	5.0	10	ug/l		8270C	07/31/15	1
Benzoic acid	65-85-0	U	0.44	5.0	10	ug/l		8270C	07/31/15	1
Dibenzofuran	132-64-9	U	0.34	5.0	10	ug/l		8270C	07/31/15	1
4-Bromophenyl-phenylether	101-55-3	U	0.34	5.0	10	ug/l		8270C	07/31/15	1
2-Chloronaphthalene	91-58-7	U	0.33	0.50	1	ug/l		8270C	07/31/15	1
4-Chlorophenyl-phenylether	7005-72-3	U	0.3	5.0	10	ug/l		8270C	07/31/15	1
3,3-Dichlorobenzidine	91-94-1	U	2	5.0	10	ug/l		8270C	07/31/15	1
2,4-Dinitrotoluene	121-14-2	U	1.6	5.0	10	ug/l		8270C	07/31/15	1
2,6-Dinitrotoluene	606-20-2	U	0.28	5.0	10	ug/l		8270C	07/31/15	1
Hexachlorobenzene	118-74-1	U	0.34	0.50	1	ug/l		8270C	07/31/15	1
Hexachloro-1,3-butadiene DNR	~~87-68-3~~	~~U~~	~~0.33~~	~~5.0~~	~~10~~	~~ug/l~~		~~8270C~~	~~07/31/15~~	~~1~~
Hexachloroethane	67-72-1	U	0.36	5.0	10	ug/l		8270C	07/31/15	1
Isophorone	78-59-1	U	0.27	5.0	10	ug/l		8270C	07/31/15	1
Nitrobenzene	98-95-3	U	0.37	5.0	10	ug/l		8270C	07/31/15	1
n-Nitrosodimethylamine	62-75-9	U	1.3	5.0	10	ug/l		8270C	07/31/15	1
n-Nitrosodiphenylamine	86-30-6	U	0.3	5.0	10	ug/l		8270C	07/31/15	1
n-Nitrosodi-n-propylamine	621-64-7	U	0.4	5.0	10	ug/l		8270C	07/31/15	1
Benzylbutyl phthalate	85-68-7	U	0.28	1.0	3	ug/l		8270C	07/31/15	1
Bis(2-ethylhexyl)phthalate	117-81-7	U	0.71	1.0	3	ug/l		8270C	07/31/15	1
Di-n-butyl phthalate	84-74-2	U	0.27	1.0	3	ug/l		8270C	07/31/15	1
Diethyl phthalate	84-66-2	U	0.28	1.0	3	ug/l		8270C	07/31/15	1
Dimethyl phthalate	131-11-3	U	0.28	1.0	3	ug/l		8270C	07/31/15	1
Di-n-octyl phthalate	117-84-0	U	0.28	1.0	3	ug/l		8270C	07/31/15	1
1,2,4-Trichlorobenzene DNR	~~120-82-1~~	~~U~~	~~0.36~~	~~5.0~~	~~10~~	~~ug/l~~		~~8270C~~	~~07/31/15~~	~~1~~
Acid Extractables										
4-Chloro-3-methylphenol	59-50-7	U	0.26	5.0	10	ug/l		8270C	07/31/15	1
2-Chlorophenol	95-57-8	U	0.28	5.0	10	ug/l		8270C	07/31/15	1
2,4-Dichlorophenol	120-83-2	U	0.28	5.0	10	ug/l		8270C	07/31/15	1
2,4-Dimethylphenol	105-67-9	U	0.62	5.0	10	ug/l		8270C	07/31/15	1
4,6-Dinitro-2-methylphenol VJ LCS,MS-L	534-52-1	U	2.6	5.0	10	ug/l		8270C	07/31/15	1
2,4-Dinitrophenol	51-28-5	U	3.2	5.0	10	ug/l		8270C	07/31/15	1
2-Methylphenol	95-48-7	U	0.31	5.0	10	ug/l		8270C	07/31/15	1
3&4-Methyl Phenol VJ CCAL-L	3&4-Methyl	U	0.27	5.0	10	ug/l		8270C	07/31/15	1
2-Nitrophenol	88-75-5	U	0.32	5.0	10	ug/l		8270C	07/31/15	1
4-Nitrophenol	100-02-7	U	2	5.0	10	ug/l	J4	8270C	07/31/15	1
4-Chloroaniline	106-47-8	U	0.38	5.0	10	ug/l		8270C	07/31/15	1
2-Nitroaniline	88-74-4	U	1.9	5.0	10	ug/l		8270C	07/31/15	1
3-Nitroaniline	99-09-2	U	0.31	5.0	10	ug/l		8270C	07/31/15	1

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REPORT OF ANALYSIS

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

August 06, 2015

Date Received : July 29, 2015
Description : Hollman AFB

Sample ID : H-TU904-MW20-NT01

Collected By : Jon Mallonee
Collection Date : 07/27/15 12:03

ESC Sample # : L779535-12

Site ID :

Project # : 6042521023446543005A

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
1,2-Diphenylhydrazine	103-33-3	U	0.32	5.0	10	ug/l		8270C	07/31/15	1
4-Nitroaniline	100-01-6	U	0.35	5.0	10	ug/l	J4	8270C	07/31/15	1
Pentachlorophenol	87-86-5	U	0.31	5.0	10	ug/l		8270C	07/31/15	1
Phenol	108-95-2	U	0.33	5.0	10	ug/l		8270C	07/31/15	1
2,4,5-Trichlorophenol	95-95-4	U	0.24	5.0	10	ug/l		8270C	07/31/15	1
2,4,6-Trichlorophenol	88-06-2	U	0.3	5.0	10	ug/l		8270C	07/31/15	1
Surrogate Recovery										
2-Fluorophenol	367-12-4	58.4				% Rec.		8270C	07/31/15	1
Phenol-d5	4165-62-2	44.4				% Rec.		8270C	07/31/15	1
Nitrobenzene-d5	4165-60-0	70.0				% Rec.		8270C	07/31/15	1
2-Fluorobiphenyl	321-60-8	73.9				% Rec.		8270C	07/31/15	1
2,4,6-Tribromophenol	118-79-6	73.0				% Rec.		8270C	07/31/15	1
p-Terphenyl-d14	1718-51-0	62.7				% Rec.		8270C	07/31/15	1

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REPORT OF ANALYSIS

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

August 06, 2015

Date Received : July 29, 2015
Description : Hollman AFB

Sample ID : H-TU904-MW21-DT01

Collected By : Jon Mallonee
Collection Date : 07/27/15 13:55

ESC Sample # : L779535-13

Site ID :

Project # : 60425210234465430 05A

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Volatile Organics										
Acetone	67-64-1	U	10	25.	50	ug/l		8260B	08/04/15	1
Benzene	71-43-2	U	0.33	0.50	1	ug/l		8260B	08/04/15	1
Bromobenzene	108-86-1	U	0.35	0.50	1	ug/l		8260B	08/04/15	1
Bromochloromethane	74-97-5	U	0.52	0.75	1	ug/l		8260B	08/04/15	1
Bromodichloromethane	75-27-4	U	0.38	0.50	1	ug/l		8260B	08/04/15	1
Bromoform	75-25-2	U	0.47	0.50	1	ug/l		8260B	08/04/15	1
Bromomethane	74-83-9	U	0.87	2.5	5	ug/l		8260B	08/04/15	1
n-Butylbenzene	104-51-8	U	0.36	0.50	1	ug/l		8260B	08/04/15	1
sec-Butylbenzene	135-98-8	U	0.36	0.50	1	ug/l		8260B	08/04/15	1
tert-Butylbenzene	98-06-6	U	0.4	0.50	1	ug/l		8260B	08/04/15	1
Carbon Disulfide	75-15-0	U	0.28	0.50	1	ug/l		8260B	08/04/15	1
Carbon tetrachloride	56-23-5	U	0.38	0.50	1	ug/l		8260B	08/04/15	1
Chlorobenzene	108-90-7	U	0.35	0.50	1	ug/l		8260B	08/04/15	1
Chlorodibromomethane	124-48-1	U	0.33	0.50	1	ug/l		8260B	08/04/15	1
Chloroethane	75-00-3	U	0.45	2.5	5	ug/l		8260B	08/04/15	1
Chloroform U FB-I	67-66-3	2.5 ~~0.61~~	2.5 ~~0.32~~	2.5	5	ug/l	J	8260B	08/04/15	1
Chloromethane	74-87-3	U	0.28	0.50	2.5	ug/l		8260B	08/04/15	1
2-Chlorotoluene	95-49-8	U	0.38	0.50	1	ug/l		8260B	08/04/15	1
4-Chlorotoluene	106-43-4	U	0.35	0.50	1	ug/l		8260B	08/04/15	1
1,2-Dibromo-3-Chloropropane	96-12-8	U	1.3	2.5	5	ug/l		8260B	08/04/15	1
1,2-Dibromoethane	106-93-4	U	0.38	0.50	1	ug/l		8260B	08/04/15	1
Dibromomethane	74-95-3	U	0.35	0.50	1	ug/l		8260B	08/04/15	1
1,2-Dichlorobenzene	95-50-1	U	0.35	0.50	1	ug/l		8260B	08/04/15	1
1,3-Dichlorobenzene	541-73-1	U	0.22	0.50	1	ug/l		8260B	08/04/15	1
1,4-Dichlorobenzene	106-46-7	U	0.27	0.50	1	ug/l		8260B	08/04/15	1
Dichlorodifluoromethane	75-71-8	U	0.55	2.5	5	ug/l		8260B	08/04/15	1
1,1-Dichloroethane	75-34-3	U	0.26	0.50	1	ug/l		8260B	08/04/15	1
1,2-Dichloroethane	107-06-2	U	0.36	0.50	1	ug/l		8260B	08/04/15	1
1,1-Dichloroethene	75-35-4	U	0.4	0.50	1	ug/l		8260B	08/04/15	1
cis-1,2-Dichloroethene	156-59-2	U	0.26	0.50	1	ug/l		8260B	08/04/15	1
trans-1,2-Dichloroethene	156-60-5	U	0.4	0.50	1	ug/l		8260B	08/04/15	1
1,2-Dichloropropane	78-87-5	U	0.31	0.50	1	ug/l		8260B	08/04/15	1
1,1-Dichloropropene	563-58-6	U	0.35	0.50	1	ug/l		8260B	08/04/15	1
1,3-Dichloropropane	142-28-9	U	0.37	0.50	1	ug/l		8260B	08/04/15	1
cis-1,3-Dichloropropene	10061-01-5	U	0.42	0.50	1	ug/l		8260B	08/04/15	1
trans-1,3-Dichloropropene	10061-02-6	U	0.42	0.50	1	ug/l		8260B	08/04/15	1
2,2-Dichloropropane	594-20-7	U	0.32	0.50	1	ug/l		8260B	08/04/15	1
Ethylbenzene	100-41-4	U	0.38	0.50	1	ug/l		8260B	08/04/15	1
2-Hexanone	591-78-6	U	3.8	5.0	10	ug/l		8260B	08/04/15	1
Hexachloro-1,3-butadiene	87-68-3	U	0.26	0.50	1	ug/l		8260B	08/04/15	1
Isopropylbenzene	98-82-8	U	0.33	0.50	1	ug/l		8260B	08/04/15	1
p-Isopropyltoluene	99-87-6	U	0.35	0.50	1	ug/l		8260B	08/04/15	1
2-Butanone (MEK)	78-93-3	U	3.9	5.0	10	ug/l		8260B	08/04/15	1
Methylene Chloride	75-09-2	U	1	2.5	5	ug/l		8260B	08/04/15	1
4-Methyl-2-pentanone (MIBK)	108-10-1	U	2.1	5.0	10	ug/l		8260B	08/04/15	1

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REPORT OF ANALYSIS

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

August 06, 2015

Date Received : July 29, 2015
Description : Hollman AFB

Sample ID : H-TU904-MW21-DT01

Collected By : Jon Mallonee
Collection Date : 07/27/15 13:55

ESC Sample # : L779535-13

Site ID :

Project # : 6042521023446543005A

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Methyl tert-butyl ether	1634-04-4	U	0.37	0.50	1	ug/l		8260B	08/04/15	1
Naphthalene US CCAL-L ONR	~~91-20-3~~	~~U~~	~~1~~	~~2.5~~	~~5~~	~~ug/l~~	~~J4~~	~~8260B~~	~~08/04/15~~	~~1~~
n-Propylbenzene	103-65-1	U	0.35	0.50	1	ug/l		8260B	08/04/15	1
Styrene	100-42-5	U	0.31	0.50	1	ug/l		8260B	08/04/15	1
1,1,1,2-Tetrachloroethane	630-20-6	U	0.38	0.50	1	ug/l		8260B	08/04/15	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.13	0.75	1	ug/l		8260B	08/04/15	1
Tetrachloroethene	127-18-4	U	0.37	0.50	1	ug/l		8260B	08/04/15	1
Toluene	108-88-3	U	0.78	2.5	5	ug/l		8260B	08/04/15	1
1,2,3-Trichlorobenzene US CCAL-L	87-61-6	U	0.23	0.50	1	ug/l	J4	8260B	08/04/15	1
1,2,4-Trichlorobenzene	120-82-1	U	0.36	0.50	1	ug/l	J4	8260B	08/04/15	1
1,1,1-Trichloroethane	71-55-6	U	0.319	0.50	1	ug/l		8260B	08/04/15	1
1,1,2-Trichloroethane	79-00-5	U	0.38	0.50	1	ug/l		8260B	08/04/15	1
Trichloroethene	79-01-6	1.1	0.4	0.50	1	ug/l		8260B	08/05/15	1
Trichlorofluoromethane	75-69-4	U	1.2	2.5	5	ug/l		8260B	08/04/15	1
1,2,3-Trichloropropane	96-18-4	U	0.81	1.0	2.5	ug/l		8260B	08/04/15	1
1,2,4-Trimethylbenzene	95-63-6	U	0.37	0.50	1	ug/l		8260B	08/04/15	1
1,3,5-Trimethylbenzene	108-67-8	U	0.39	0.50	1	ug/l		8260B	08/04/15	1
o-Xylene	95-47-6	U	0.34	0.50	1	ug/l		8260B	08/04/15	1
m&p-Xylene	1330-20-7	U	0.72	1.0	2	ug/l		8260B	08/04/15	1
Vinyl chloride	75-01-4	U	0.26	0.50	1	ug/l		8260B	08/04/15	1
Surrogate Recovery										
Toluene-d8	2037-26-5	107.				% Rec.		8260B	08/04/15	1
Dibromofluoromethane	1868-53-7	104.				% Rec.		8260B	08/04/15	1
4-Bromofluorobenzene	460-00-4	107.				% Rec.		8260B	08/04/15	1
Polynuclear Aromatic Hydrocarbons										
Anthracene	120-12-7	U	0.008	0.025	0.05	ug/l		8270 C-	08/04/15	1
Acenaphthene	83-32-9	U	0.01	0.025	0.05	ug/l		8270 C-	08/04/15	1
Acenaphthylene	208-96-8	U	0.007	0.025	0.05	ug/l		8270 C-	08/04/15	1
Benzo(a)anthracene	56-55-3	U	0.0083	0.025	0.05	ug/l		8270 C-	08/04/15	1
Benzo(a)pyrene	50-32-8	U	0.016	0.025	0.05	ug/l		8270 C-	08/04/15	1
Benzo(b)fluoranthene	205-99-2	U	0.0021	0.025	0.05	ug/l		8270 C-	08/04/15	1
Benzo(g,h,i)perylene US LCS-I	191-24-2	U	0.0023	0.025	0.05	ug/l	J3	8270 C-	08/04/15	1
Benzo(k)fluoranthene	207-08-9	U	0.026	0.035	0.05	ug/l		8270 C-	08/04/15	1
Chrysene	218-01-9	U	0.014	0.025	0.05	ug/l		8270 C-	08/04/15	1
Dibenz(a,h)anthracene US LCS-I	53-70-3	U	0.0045	0.025	0.05	ug/l	J3	8270 C-	08/04/15	1
Fluoranthene	206-44-0	U	0.016	0.025	0.05	ug/l		8270 C-	08/04/15	1
Fluorene	86-73-7	U	0.009	0.025	0.05	ug/l		8270 C-	08/04/15	1
Indeno(1,2,3-cd)pyrene	193-39-5	U	0.0074	0.025	0.05	ug/l		8270 C-	08/04/15	1
Naphthalene	91-20-3	U	0.012	0.025	0.25	ug/l		8270 C-	08/04/15	1
Phenanthrene	85-01-8	U	0.018	0.025	0.05	ug/l		8270 C-	08/04/15	1
Pyrene	129-00-0	U	0.016	0.025	0.05	ug/l		8270 C-	08/04/15	1
1-Methylnaphthalene	90-12-0	U	0.018	0.025	0.25	ug/l		8270 C-	08/04/15	1
2-Methylnaphthalene	91-57-6	U	0.016	0.025	0.25	ug/l		8270 C-	08/04/15	1
Surrogate Recovery										
Nitrobenzene-d5	4165-60-0	96.1				% Rec.		8270 C-	08/04/15	1

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Est. 1970

REPORT OF ANALYSIS

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

August 06, 2015

ESC Sample # : L779535-13

Date Received : July 29, 2015
Description : Hollman AFB

Site ID :

Sample ID : H-TU904-MW21-DT01

Project # : 6042521023446543005A

Collected By : Jon Mallonee
Collection Date : 07/27/15 13:55

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
2-Fluorobiphenyl	321-60-8	77.5				% Rec.		8270 C-	08/04/15	1
p-Terphenyl-d14	1718-51-0	75.8				% Rec.		8270 C-	08/04/15	1
Base/Neutral Extractables										
Bis(2-chlorethoxy)methane	111-91-1	U	0.33	5.0	10	ug/l		8270C	07/31/15	1
Bis(2-chloroethyl)ether	111-44-4	U	1.6	5.0	10	ug/l		8270C	07/31/15	1
Bis(2-chloroisopropyl)ether	39638-32-9	U	0.44	5.0	10	ug/l		8270C	07/31/15	1
Benzyl Alcohol	100-51-6	U	0.39	5.0	10	ug/l		8270C	07/31/15	1
Carbazole	86-74-8	U	0.26	5.0	10	ug/l		8270C	07/31/15	1
Benzoic acid R	~~65-85-0~~	~~U~~	~~0.44~~	~~5.0~~	~~10~~	~~ug/l~~		~~8270C~~	~~07/31/15~~	1
Dibenzofuran	132-64-9	U	0.34	5.0	10	ug/l		8270C	07/31/15	1
4-Bromophenyl-phenylether	101-55-3	U	0.34	5.0	10	ug/l		8270C	07/31/15	1
2-Chloronaphthalene	91-58-7	U	0.33	0.50	1	ug/l		8270C	07/31/15	1
4-Chlorophenyl-phenylether	7005-72-3	U	0.3	5.0	10	ug/l		8270C	07/31/15	1
3,3-Dichlorobenzidine	91-94-1	U	2	5.0	10	ug/l		8270C	07/31/15	1
2,4-Dinitrotoluene	121-14-2	U	1.6	5.0	10	ug/l		8270C	07/31/15	1
2,6-Dinitrotoluene	606-20-2	U	0.28	5.0	10	ug/l		8270C	07/31/15	1
Hexachlorobenzene	118-74-1	U	0.34	0.50	1	ug/l	J3	8270C	07/31/15	1
Hexachloro-1,3-butadiene ONR	~~87-68-3~~	~~U~~	~~0.33~~	~~5.0~~	~~10~~	~~ug/l~~		~~8270C~~	~~07/31/15~~	1
Hexachloroethane	67-72-1	U	0.36	5.0	10	ug/l		8270C	07/31/15	1
Isophorone	78-59-1	U	0.27	5.0	10	ug/l	J3	8270C	07/31/15	1
Nitrobenzene	98-95-3	U	0.37	5.0	10	ug/l		8270C	07/31/15	1
n-Nitrosodimethylamine	62-75-9	U	1.3	5.0	10	ug/l		8270C	07/31/15	1
n-Nitrosodiphenylamine	86-30-6	U	0.3	5.0	10	ug/l		8270C	07/31/15	1
n-Nitrosodi-n-propylamine	621-64-7	U	0.4	5.0	10	ug/l	J3	8270C	07/31/15	1
Benzylbutyl phthalate	85-68-7	U	0.28	1.0	3	ug/l		8270C	07/31/15	1
Bis(2-ethylhexyl)phthalate	117-81-7	U	0.71	1.0	3	ug/l		8270C	07/31/15	1
Di-n-butyl phthalate F SQL-I	84-74-2	0.50	0.27	1.0	3	ug/l	J	8270C	07/31/15	1
Diethyl phthalate	84-66-2	U	0.28	1.0	3	ug/l		8270C	07/31/15	1
Dimethyl phthalate	131-11-3	U	0.28	1.0	3	ug/l		8270C	07/31/15	1
Di-n-octyl phthalate	117-84-0	U	0.28	1.0	3	ug/l		8270C	07/31/15	1
1,2,4-Trichlorobenzene ONR	~~120-82-1~~	~~U~~	~~0.36~~	~~5.0~~	~~10~~	~~ug/l~~		~~8270C~~	~~07/31/15~~	1
Acid Extractables										
4-Chloro-3-methylphenol	59-50-7	U	0.26	5.0	10	ug/l		8270C	07/31/15	1
2-Chlorophenol	95-57-8	U	0.28	5.0	10	ug/l		8270C	07/31/15	1
2,4-Dichlorophenol	120-83-2	U	0.28	5.0	10	ug/l		8270C	07/31/15	1
2,4-Dimethylphenol MS	105-67-9	U	0.62	5.0	10	ug/l		8270C	07/31/15	1
4,6-Dinitro-2-methylphenol UJ LCS, AS-L	534-52-1	U	2.6	5.0	10	ug/l	J3	8270C	07/31/15	1
2,4-Dinitrophenol	51-28-5	U	3.2	5.0	10	ug/l		8270C	07/31/15	1
2-Methylphenol	95-48-7	U	0.31	5.0	10	ug/l		8270C	07/31/15	1
3&4-Methyl Phenol UJ CCAL-L	3&4-Methyl	U	0.27	5.0	10	ug/l		8270C	07/31/15	1
2-Nitrophenol	88-75-5	U	0.32	5.0	10	ug/l		8270C	07/31/15	1
4-Nitrophenol	100-02-7	U	2	5.0	10	ug/l	J4	8270C	07/31/15	1
4-Chloroaniline	106-47-8	U	0.38	5.0	10	ug/l		8270C	07/31/15	1
2-Nitroaniline	88-74-4	U	1.9	5.0	10	ug/l		8270C	07/31/15	1
3-Nitroaniline	99-09-2	U	0.31	5.0	10	ug/l		8270C	07/31/15	1

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REPORT OF ANALYSIS

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

August 06, 2015

Date Received : July 29, 2015
Description : Hollman AFB

Sample ID : H-TU904-MW21-DT01

Collected By : Jon Mallonee
Collection Date : 07/27/15 13:55

ESC Sample # : L779535-13

Site ID :

Project # : 60425210234465430 05A

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
1,2-Diphenylhydrazine	103-33-3	U	0.32	5.0	10	ug/l		8270C	07/31/15	1
4-Nitroaniline	100-01-6	U	0.35	5.0	10	ug/l	J4	8270C	07/31/15	1
Pentachlorophenol	87-86-5	U	0.31	5.0	10	ug/l		8270C	07/31/15	1
Phenol	108-95-2	U	0.33	5.0	10	ug/l		8270C	07/31/15	1
2,4,5-Trichlorophenol	95-95-4	U	0.24	5.0	10	ug/l		8270C	07/31/15	1
2,4,6-Trichlorophenol	88-06-2	U	0.3	5.0	10	ug/l		8270C	07/31/15	1
Surrogate Recovery										
2-Fluorophenol	367-12-4	47.8				% Rec.		8270C	07/31/15	1
Phenol-d5	4165-62-2	38.7				% Rec.		8270C	07/31/15	1
Nitrobenzene-d5	4165-60-0	56.1				% Rec.		8270C	07/31/15	1
2-Fluorobiphenyl	321-60-8	61.7				% Rec.		8270C	07/31/15	1
2,4,6-Tribromophenol	118-79-6	67.5				% Rec.		8270C	07/31/15	1
p-Terphenyl-d14	1718-51-0	62.1				% Rec.		8270C	07/31/15	1

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REPORT OF ANALYSIS

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

August 06, 2015

Date Received : July 29, 2015
Description : Hollman AFB

Sample ID : H-TU904-MW21-NT01

Collected By : Jon Mallonee
Collection Date : 07/27/15 13:55

ESC Sample # : L779535-14

Site ID :

Project # : 6042521023446543005A

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Volatile Organics										
Acetone	67-64-1	U	10	25.	50	ug/l		8260B	08/04/15	1
Benzene	71-43-2	U	0.33	0.50	1	ug/l		8260B	08/04/15	1
Bromobenzene	108-86-1	U	0.35	0.50	1	ug/l		8260B	08/04/15	1
Bromochloromethane	74-97-5	U	0.52	0.75	1	ug/l		8260B	08/04/15	1
Bromodichloromethane	75-27-4	U	0.38	0.50	1	ug/l		8260B	08/04/15	1
Bromoform	75-25-2	U	0.47	0.50	1	ug/l		8260B	08/04/15	1
Bromomethane	74-83-9	U	0.87	2.5	5	ug/l		8260B	08/04/15	1
n-Butylbenzene	104-51-8	U	0.36	0.50	1	ug/l		8260B	08/04/15	1
sec-Butylbenzene	135-98-8	U	0.36	0.50	1	ug/l		8260B	08/04/15	1
tert-Butylbenzene	98-06-6	U	0.4	0.50	1	ug/l		8260B	08/04/15	1
Carbon Disulfide	75-15-0	U	0.28	0.50	1	ug/l		8260B	08/04/15	1
Carbon tetrachloride	56-23-5	U	0.38	0.50	1	ug/l		8260B	08/04/15	1
Chlorobenzene	108-90-7	U	0.35	0.50	1	ug/l		8260B	08/04/15	1
Chlorodibromomethane	124-48-1	U	0.33	0.50	1	ug/l		8260B	08/04/15	1
Chloroethane	75-00-3	U	0.45	2.5	5	ug/l		8260B	08/04/15	1
Chloroform U FB-I	67-66-3	2.5 ~~0.62~~	~~0.32~~ 0.42	2.5	5	ug/l	J	8260B	08/04/15	1
Chloromethane	74-87-3	U	0.28	0.50	2.5	ug/l		8260B	08/04/15	1
2-Chlorotoluene	95-49-8	U	0.38	0.50	1	ug/l		8260B	08/04/15	1
4-Chlorotoluene	106-43-4	U	0.35	0.50	1	ug/l		8260B	08/04/15	1
1,2-Dibromo-3-Chloropropane	96-12-8	U	1.3	2.5	5	ug/l		8260B	08/04/15	1
1,2-Dibromoethane	106-93-4	U	0.38	0.50	1	ug/l		8260B	08/04/15	1
Dibromomethane	74-95-3	U	0.35	0.50	1	ug/l		8260B	08/04/15	1
1,2-Dichlorobenzene	95-50-1	U	0.35	0.50	1	ug/l		8260B	08/04/15	1
1,3-Dichlorobenzene	541-73-1	U	0.22	0.50	1	ug/l		8260B	08/04/15	1
1,4-Dichlorobenzene	106-46-7	U	0.27	0.50	1	ug/l		8260B	08/04/15	1
Dichlorodifluoromethane	75-71-8	U	0.55	2.5	5	ug/l		8260B	08/04/15	1
1,1-Dichloroethane	75-34-3	U	0.26	0.50	1	ug/l		8260B	08/04/15	1
1,2-Dichloroethane	107-06-2	U	0.36	0.50	1	ug/l		8260B	08/04/15	1
1,1-Dichloroethene	75-35-4	U	0.4	0.50	1	ug/l		8260B	08/04/15	1
cis-1,2-Dichloroethene	156-59-2	U	0.26	0.50	1	ug/l		8260B	08/04/15	1
trans-1,2-Dichloroethene	156-60-5	U	0.4	0.50	1	ug/l		8260B	08/04/15	1
1,2-Dichloropropane	78-87-5	U	0.31	0.50	1	ug/l		8260B	08/04/15	1
1,1-Dichloropropene	563-58-6	U	0.35	0.50	1	ug/l		8260B	08/04/15	1
1,3-Dichloropropane	142-28-9	U	0.37	0.50	1	ug/l		8260B	08/04/15	1
cis-1,3-Dichloropropene	10061-01-5	U	0.42	0.50	1	ug/l		8260B	08/04/15	1
trans-1,3-Dichloropropene	10061-02-6	U	0.42	0.50	1	ug/l		8260B	08/04/15	1
2,2-Dichloropropane	594-20-7	U	0.32	0.50	1	ug/l		8260B	08/04/15	1
Ethylbenzene	100-41-4	U	0.38	0.50	1	ug/l		8260B	08/04/15	1
2-Hexanone	591-78-6	U	3.8	5.0	10	ug/l		8260B	08/04/15	1
Hexachloro-1,3-butadiene	87-68-3	U	0.26	0.50	1	ug/l		8260B	08/04/15	1
Isopropylbenzene	98-82-8	U	0.33	0.50	1	ug/l		8260B	08/04/15	1
p-Isopropyltoluene	99-87-6	U	0.35	0.50	1	ug/l		8260B	08/04/15	1
2-Butanone (MEK)	78-93-3	U	3.9	5.0	10	ug/l		8260B	08/04/15	1
Methylene Chloride	75-09-2	U	1	2.5	5	ug/l		8260B	08/04/15	1
4-Methyl-2-pentanone (MIBK)	108-10-1	U	2.1	5.0	10	ug/l		8260B	08/04/15	1

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REPORT OF ANALYSIS

Sheri Fling
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8181 E. Tufts Avenue
Denver, CO 80237

August 06, 2015

Date Received : July 29, 2015
Description : Hollman AFB

Sample ID : H-TU904-MW21-NT01

Collected By : Jon Mallonee
Collection Date : 07/27/15 13:55

ESC Sample # : L779535-14

Site ID :

Project # : 60425210234465430 05A

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Methyl tert-butyl ether	1634-04-4	U	0.37	0.50	1	ug/l		8260B	08/04/15	1
Naphthalene UJ CCAL-L DNR	~~91-20-3~~	~~U~~	~~1~~	~~2.5~~	~~5~~	~~ug/l~~	~~J4~~	~~8260B~~	~~08/04/15~~	~~1~~
n-Propylbenzene	103-65-1	U	0.35	0.50	1	ug/l		8260B	08/04/15	1
Styrene	100-42-5	U	0.31	0.50	1	ug/l		8260B	08/04/15	1
1,1,1,2-Tetrachloroethane	630-20-6	U	0.38	0.50	1	ug/l		8260B	08/04/15	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.13	0.75	1	ug/l		8260B	08/04/15	1
Tetrachloroethene	127-18-4	U	0.37	0.50	1	ug/l		8260B	08/04/15	1
Toluene	108-88-3	U	0.78	2.5	5	ug/l		8260B	08/04/15	1
1,2,3-Trichlorobenzene UJ CCAL-L	87-61-6	U	0.23	0.50	1	ug/l	J4	8260B	08/04/15	1
1,2,4-Trichlorobenzene	120-82-1	U	0.36	0.50	1	ug/l	J4	8260B	08/04/15	1
1,1,1-Trichloroethane	71-55-6	U	0.319	0.50	1	ug/l		8260B	08/04/15	1
1,1,2-Trichloroethane	79-00-5	U	0.38	0.50	1	ug/l		8260B	08/04/15	1
Trichloroethene	79-01-6	1.4	0.4	0.50	1	ug/l		8260B	08/05/15	1
Trichlorofluoromethane	75-69-4	U	1.2	2.5	5	ug/l		8260B	08/04/15	1
1,2,3-Trichloropropane	96-18-4	U	0.81	1.0	2.5	ug/l		8260B	08/04/15	1
1,2,4-Trimethylbenzene	95-63-6	U	0.37	0.50	1	ug/l		8260B	08/04/15	1
1,3,5-Trimethylbenzene	108-67-8	U	0.39	0.50	1	ug/l		8260B	08/04/15	1
o-Xylene	95-47-6	U	0.34	0.50	1	ug/l		8260B	08/04/15	1
m&p-Xylene	1330-20-7	U	0.72	1.0	2	ug/l		8260B	08/04/15	1
Vinyl chloride	75-01-4	U	0.26	0.50	1	ug/l		8260B	08/04/15	1
Surrogate Recovery										
Toluene-d8	2037-26-5	107.				% Rec.		8260B	08/04/15	1
Dibromofluoromethane	1868-53-7	105.				% Rec.		8260B	08/04/15	1
4-Bromofluorobenzene	460-00-4	107.				% Rec.		8260B	08/04/15	1
Polynuclear Aromatic Hydrocarbons										
Anthracene	120-12-7	U	0.008	0.025	0.05	ug/l		8270 C-	08/04/15	1
Acenaphthene	83-32-9	U	0.01	0.025	0.05	ug/l		8270 C-	08/04/15	1
Acenaphthylene	208-96-8	U	0.007	0.025	0.05	ug/l		8270 C-	08/04/15	1
Benzo(a)anthracene	56-55-3	U	0.0083	0.025	0.05	ug/l		8270 C-	08/04/15	1
Benzo(a)pyrene	50-32-8	U	0.016	0.025	0.05	ug/l		8270 C-	08/04/15	1
Benzo(b)fluoranthene F SQL-I	205-99-2	0.0051	0.0021	0.025	0.05	ug/l	J	8270 C-	08/04/15	1
Benzo(g,h,i)perylene VFJ SQL,LCS-I	191-24-2	0.0052	0.0023	0.025	0.05	ug/l	JJ3	8270 C-	08/04/15	1
Benzo(k)fluoranthene	207-08-9	U	0.026	0.035	0.05	ug/l		8270 C-	08/04/15	1
Chrysene	218-01-9	U	0.014	0.025	0.05	ug/l		8270 C-	08/04/15	1
Dibenz(a,h)anthracene FJ SQL,LCS-I	53-70-3	0.0060	0.0045	0.025	0.05	ug/l	JJ3	8270 C-	08/04/15	1
Fluoranthene	206-44-0	U	0.016	0.025	0.05	ug/l		8270 C-	08/04/15	1
Fluorene	86-73-7	U	0.009	0.025	0.05	ug/l		8270 C-	08/04/15	1
Indeno(1,2,3-cd)pyrene	193-39-5	U	0.0074	0.025	0.05	ug/l		8270 C-	08/04/15	1
Naphthalene	91-20-3	U	0.012	0.025	0.25	ug/l		8270 C-	08/04/15	1
Phenanthrene	85-01-8	U	0.018	0.025	0.05	ug/l		8270 C-	08/04/15	1
Pyrene	129-00-0	U	0.016	0.025	0.05	ug/l		8270 C-	08/04/15	1
1-Methylnaphthalene	90-12-0	U	0.018	0.025	0.25	ug/l		8270 C-	08/04/15	1
2-Methylnaphthalene	91-57-6	U	0.016	0.025	0.25	ug/l		8270 C-	08/04/15	1
Surrogate Recovery										
Nitrobenzene-d5	4165-60-0	106.				% Rec.		8270 C-	08/04/15	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

August 06, 2015

Date Received : July 29, 2015
Description : Hollman AFB

ESC Sample # : L779535-14

Sample ID : H-TU904-MW21-NT01

Site ID :

Project # : 6042521023446543005A

Collected By : Jon Mallonee
Collection Date : 07/27/15 13:55

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
2-Fluorobiphenyl	321-60-8	86.2				% Rec.		8270 C-	08/04/15	1
p-Terphenyl-d14	1718-51-0	83.1				% Rec.		8270 C-	08/04/15	1
Base/Neutral Extractables										
Bis(2-chlorethoxy)methane	111-91-1	U	0.33	5.0	10	ug/l		8270C	07/31/15	1
Bis(2-chloroethyl)ether	111-44-4	U	1.6	5.0	10	ug/l		8270C	07/31/15	1
Bis(2-chloroisopropyl)ether	39638-32-9	U	0.44	5.0	10	ug/l		8270C	07/31/15	1
Benzyl Alcohol	100-51-6	U	0.39	5.0	10	ug/l		8270C	07/31/15	1
Carbazole	86-74-8	U	0.26	5.0	10	ug/l		8270C	07/31/15	1
Benzoic acid R	~~65-85-0~~	~~U~~	~~0.44~~	~~5.0~~	~~10~~	~~ug/l~~		~~8270C~~	~~07/31/15~~	1
Dibenzofuran	132-64-9	U	0.34	5.0	10	ug/l		8270C	07/31/15	1
4-Bromophenyl-phenylether	101-55-3	U	0.34	5.0	10	ug/l		8270C	07/31/15	1
2-Chloronaphthalene	91-58-7	U	0.33	0.50	1	ug/l		8270C	07/31/15	1
4-Chlorophenyl-phenylether	7005-72-3	U	0.3	5.0	10	ug/l		8270C	07/31/15	1
3,3-Dichlorobenzidine	91-94-1	U	2	5.0	10	ug/l		8270C	07/31/15	1
2,4-Dinitrotoluene	121-14-2	U	1.6	5.0	10	ug/l		8270C	07/31/15	1
2,6-Dinitrotoluene	606-20-2	U	0.28	5.0	10	ug/l		8270C	07/31/15	1
Hexachlorobenzene	118-74-1	U	0.34	0.50	1	ug/l	J3	8270C	07/31/15	1
Hexachloro-1,3-butadiene DNR	~~87-68-3~~	~~U~~	~~0.33~~	~~5.0~~	~~10~~	~~ug/l~~		~~8270C~~	~~07/31/15~~	~~1~~
Hexachloroethane	67-72-1	U	0.36	5.0	10	ug/l		8270C	07/31/15	1
Isophorone	78-59-1	U	0.27	5.0	10	ug/l	J3	8270C	07/31/15	1
Nitrobenzene	98-95-3	U	0.37	5.0	10	ug/l		8270C	07/31/15	1
n-Nitrosodimethylamine	62-75-9	U	1.3	5.0	10	ug/l		8270C	07/31/15	1
n-Nitrosodiphenylamine	86-30-6	U	0.3	5.0	10	ug/l		8270C	07/31/15	1
n-Nitrosodi-n-propylamine	621-64-7	U	0.4	5.0	10	ug/l	J3	8270C	07/31/15	1
Benzylbutyl phthalate	85-68-7	U	0.28	1.0	3	ug/l		8270C	07/31/15	1
Bis(2-ethylhexyl)phthalate	117-81-7	U	0.71	1.0	3	ug/l		8270C	07/31/15	1
Di-n-butyl phthalate	84-74-2	U	0.27	1.0	3	ug/l		8270C	07/31/15	1
Diethyl phthalate	84-66-2	U	0.28	1.0	3	ug/l		8270C	07/31/15	1
Dimethyl phthalate	131-11-3	U	0.28	1.0	3	ug/l		8270C	07/31/15	1
Di-n-octyl phthalate	117-84-0	U	0.28	1.0	3	ug/l		8270C	07/31/15	1
1,2,4-Trichlorobenzene DNR	~~120-82-1~~	~~U~~	~~0.36~~	~~5.0~~	~~10~~	~~ug/l~~		~~8270C~~	~~07/31/15~~	~~1~~
Acid Extractables										
4-Chloro-3-methylphenol	59-50-7	U	0.26	5.0	10	ug/l		8270C	07/31/15	1
2-Chlorophenol	95-57-8	U	0.28	5.0	10	ug/l		8270C	07/31/15	1
2,4-Dichlorophenol	120-83-2	U	0.28	5.0	10	ug/l		8270C	07/31/15	1
2,4-Dimethylphenol	105-67-9	U	0.62	5.0	10	ug/l		8270C	07/31/15	1
4,6-Dinitro-2-methylphenol UJ LCS,MS-L	534-52-1	U	2.6	5.0	10	ug/l	J3	8270C	07/31/15	1
2,4-Dinitrophenol	51-28-5	U	3.2	5.0	10	ug/l		8270C	07/31/15	1
2-Methylphenol	95-48-7	U	0.31	5.0	10	ug/l		8270C	07/31/15	1
3&4-Methyl Phenol UJ CCAL-L	3&4-Methyl	U	0.27	5.0	10	ug/l		8270C	07/31/15	1
2-Nitrophenol	88-75-5	U	0.32	5.0	10	ug/l		8270C	07/31/15	1
4-Nitrophenol	100-02-7	U	2	5.0	10	ug/l	J4	8270C	07/31/15	1
4-Chloroaniline	106-47-8	U	0.38	5.0	10	ug/l		8270C	07/31/15	1
2-Nitroaniline	88-74-4	U	1.9	5.0	10	ug/l		8270C	07/31/15	1
3-Nitroaniline	99-09-2	U	0.31	5.0	10	ug/l		8270C	07/31/15	1

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REPORT OF ANALYSIS

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

August 06, 2015

Date Received : July 29, 2015
Description : Hollman AFB

Sample ID : H-TU904-MW21-NT01

Collected By : Jon Mallonee
Collection Date : 07/27/15 13:55

ESC Sample # : L779535-14

Site ID :

Project # : 6042521023446543005A

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
1,2-Diphenylhydrazine	103-33-3	U	0.32	5.0	10	ug/l		8270C	07/31/15	1
4-Nitroaniline	100-01-6	U	0.35	5.0	10	ug/l	J4	8270C	07/31/15	1
Pentachlorophenol	87-86-5	U	0.31	5.0	10	ug/l		8270C	07/31/15	1
Phenol	108-95-2	U	0.33	5.0	10	ug/l		8270C	07/31/15	1
2,4,5-Trichlorophenol	95-95-4	U	0.24	5.0	10	ug/l		8270C	07/31/15	1
2,4,6-Trichlorophenol	88-06-2	U	0.3	5.0	10	ug/l		8270C	07/31/15	1
Surrogate Recovery										
2-Fluorophenol	367-12-4	26.6				% Rec.		8270C	07/31/15	1
Phenol-d5	4165-62-2	21.1				% Rec.		8270C	07/31/15	1
Nitrobenzene-d5	4165-60-0	30.5				% Rec.		8270C	07/31/15	1
2-Fluorobiphenyl	321-60-8	41.3				% Rec.		8270C	07/31/15	1
2,4,6-Tribromophenol	118-79-6	52.9				% Rec.		8270C	07/31/15	1
p-Terphenyl-d14	1718-51-0	51.0				% Rec.		8270C	07/31/15	1

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REPORT OF ANALYSIS

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

August 06, 2015

ESC Sample # : L779535-15

Date Received : July 29, 2015
Description : Hollman AFB

Site ID :

Sample ID : H-TU518-MW08-NT01

Project # : 60425210234465430 05A

Collected By : Jon Mallonee
Collection Date : 07/27/15 16:04

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Volatile Organics										
Acetone	67-64-1	U	10	25.	50	ug/l		8260B	08/04/15	1
Benzene	71-43-2	3.0	0.33	0.50	1	ug/l		8260B	08/04/15	1
Bromobenzene	108-86-1	U	0.35	0.50	1	ug/l		8260B	08/04/15	1
Bromochloromethane	74-97-5	U	0.52	0.75	1	ug/l		8260B	08/04/15	1
Bromodichloromethane	75-27-4	U	0.38	0.50	1	ug/l		8260B	08/04/15	1
Bromoform	75-25-2	U	0.47	0.50	1	ug/l		8260B	08/04/15	1
Bromomethane	74-83-9	U	0.87	2.5	5	ug/l		8260B	08/04/15	1
n-Butylbenzene	104-51-8	U	0.36	0.50	1	ug/l		8260B	08/04/15	1
sec-Butylbenzene	135-98-8	2.3	0.36	0.50	1	ug/l		8260B	08/04/15	1
tert-Butylbenzene	98-06-6	U	0.4	0.50	1	ug/l		8260B	08/04/15	1
Carbon Disulfide	75-15-0	U	0.28	0.50	1	ug/l		8260B	08/04/15	1
Carbon tetrachloride	56-23-5	U	0.38	0.50	1	ug/l		8260B	08/04/15	1
Chlorobenzene	108-90-7	U	0.35	0.50	1	ug/l		8260B	08/04/15	1
Chlorodibromomethane	124-48-1	U	0.33	0.50	1	ug/l		8260B	08/04/15	1
Chloroethane	75-00-3	U	0.45	2.5	5	ug/l		8260B	08/04/15	1
Chloroform	67-66-3	U	0.32	2.5	5	ug/l		8260B	08/04/15	1
Chloromethane	74-87-3	U	0.28	0.50	2.5	ug/l		8260B	08/04/15	1
2-Chlorotoluene	95-49-8	U	0.38	0.50	1	ug/l		8260B	08/04/15	1
4-Chlorotoluene	106-43-4	U	0.35	0.50	1	ug/l		8260B	08/04/15	1
1,2-Dibromo-3-Chloropropane	96-12-8	U	1.3	2.5	5	ug/l		8260B	08/04/15	1
1,2-Dibromoethane	106-93-4	U	0.38	0.50	1	ug/l		8260B	08/04/15	1
Dibromomethane	74-95-3	U	0.35	0.50	1	ug/l		8260B	08/04/15	1
1,2-Dichlorobenzene	95-50-1	U	0.35	0.50	1	ug/l		8260B	08/04/15	1
1,3-Dichlorobenzene	541-73-1	U	0.22	0.50	1	ug/l		8260B	08/04/15	1
1,4-Dichlorobenzene	106-46-7	U	0.27	0.50	1	ug/l		8260B	08/04/15	1
Dichlorodifluoromethane	75-71-8	U	0.55	2.5	5	ug/l		8260B	08/04/15	1
1,1-Dichloroethane	75-34-3	U	0.26	0.50	1	ug/l		8260B	08/04/15	1
1,2-Dichloroethane	107-06-2	U	0.36	0.50	1	ug/l		8260B	08/04/15	1
1,1-Dichloroethene	75-35-4	U	0.4	0.50	1	ug/l		8260B	08/04/15	1
cis-1,2-Dichloroethene	156-59-2	U	0.26	0.50	1	ug/l		8260B	08/04/15	1
trans-1,2-Dichloroethene	156-60-5	U	0.4	0.50	1	ug/l		8260B	08/04/15	1
1,2-Dichloropropane	78-87-5	U	0.31	0.50	1	ug/l		8260B	08/04/15	1
1,1-Dichloropropene	563-58-6	U	0.35	0.50	1	ug/l		8260B	08/04/15	1
1,3-Dichloropropane	142-28-9	U	0.37	0.50	1	ug/l		8260B	08/04/15	1
cis-1,3-Dichloropropene	10061-01-5	U	0.42	0.50	1	ug/l		8260B	08/04/15	1
trans-1,3-Dichloropropene	10061-02-6	U	0.42	0.50	1	ug/l		8260B	08/04/15	1
2,2-Dichloropropane	594-20-7	U	0.32	0.50	1	ug/l		8260B	08/04/15	1
Ethylbenzene F SQL-J	100-41-4	0.46	0.38	0.50	1	ug/l	J	8260B	08/04/15	1
2-Hexanone	591-78-6	U	3.8	5.0	10	ug/l		8260B	08/04/15	1
Hexachloro-1,3-butadiene	87-68-3	U	0.26	0.50	1	ug/l		8260B	08/04/15	1
Isopropylbenzene	98-82-8	3.0	0.33	0.50	1	ug/l		8260B	08/04/15	1
p-Isopropyltoluene F SQL-J	99-87-6	0.40	0.35	0.50	1	ug/l	J	8260B	08/04/15	1
2-Butanone (MEK)	78-93-3	U	3.9	5.0	10	ug/l		8260B	08/04/15	1
Methylene Chloride	75-09-2	U	1	2.5	5	ug/l		8260B	08/04/15	1
4-Methyl-2-pentanone (MIBK)	108-10-1	U	2.1	5.0	10	ug/l		8260B	08/04/15	1

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REPORT OF ANALYSIS

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

August 06, 2015

Date Received : July 29, 2015
Description : Hollman AFB

Sample ID : H-TU518-MW08-NT01

Collected By : Jon Mallonee
Collection Date : 07/27/15 16:04

ESC Sample # : L779535-15

Site ID :

Project # : 6042521023446543005A

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Methyl tert-butyl ether	1634-04-4	U	0.37	0.50	1	ug/l		8260B	08/04/15	1
Naphthalene ~~UJ CCAL-L~~ ONR	~~91-20-3~~	~~U~~	~~1~~	~~2.5~~	~~5~~	~~ug/l~~	~~J4~~	~~8260B~~	~~08/04/15~~	~~1~~
n-Propylbenzene F SQL-I	103-65-1	0.97	0.35	0.50	1	ug/l	J	8260B	08/04/15	1
Styrene	100-42-5	U	0.31	0.50	1	ug/l		8260B	08/04/15	1
1,1,1,2-Tetrachloroethane	630-20-6	U	0.38	0.50	1	ug/l		8260B	08/04/15	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.13	0.75	1	ug/l		8260B	08/04/15	1
Tetrachloroethene	127-18-4	U	0.37	0.50	1	ug/l		8260B	08/04/15	1
Toluene	108-88-3	U	0.78	2.5	5	ug/l		8260B	08/04/15	1
1,2,3-Trichlorobenzene UJ CCAL-L	87-61-6	U	0.23	0.50	1	ug/l	J4	8260B	08/04/15	1
1,2,4-Trichlorobenzene	120-82-1	U	0.36	0.50	1	ug/l	J4	8260B	08/04/15	1
1,1,1-Trichloroethane	71-55-6	U	0.319	0.50	1	ug/l		8260B	08/04/15	1
1,1,2-Trichloroethane	79-00-5	U	0.38	0.50	1	ug/l		8260B	08/04/15	1
Trichloroethene	79-01-6	U	0.4	0.50	1	ug/l		8260B	08/04/15	1
Trichlorofluoromethane	75-69-4	U	1.2	2.5	5	ug/l		8260B	08/04/15	1
1,2,3-Trichloropropane	96-18-4	U	0.81	1.0	2.5	ug/l		8260B	08/04/15	1
1,2,4-Trimethylbenzene	95-63-6	U	0.37	0.50	1	ug/l		8260B	08/04/15	1
1,3,5-Trimethylbenzene	108-67-8	U	0.39	0.50	1	ug/l		8260B	08/04/15	1
o-Xylene	95-47-6	U	0.34	0.50	1	ug/l		8260B	08/04/15	1
m&p-Xylene	1330-20-7	U	0.72	1.0	2	ug/l		8260B	08/04/15	1
Vinyl chloride	75-01-4	U	0.26	0.50	1	ug/l		8260B	08/04/15	1
Surrogate Recovery										
Toluene-d8	2037-26-5	107.				% Rec.		8260B	08/04/15	1
Dibromofluoromethane	1868-53-7	104.				% Rec.		8260B	08/04/15	1
4-Bromofluorobenzene	460-00-4	106.				% Rec.		8260B	08/04/15	1
Polynuclear Aromatic Hydrocarbons										
Anthracene	120-12-7	0.13	0.008	0.025	0.05	ug/l		8270 C-	08/04/15	1
Acenaphthene	83-32-9	0.66	0.01	0.025	0.05	ug/l		8270 C-	08/04/15	1
Acenaphthylene	208-96-8	0.092	0.007	0.025	0.05	ug/l		8270 C-	08/04/15	1
Benzo(a)anthracene F SQL-I	56-55-3	0.0096	0.0083	0.025	0.05	ug/l	J	8270 C-	08/04/15	1
Benzo(a)pyrene	50-32-8	U	0.016	0.025	0.05	ug/l		8270 C-	08/04/15	1
Benzo(b)fluoranthene	205-99-2	U	0.0021	0.025	0.05	ug/l		8270 C-	08/04/15	1
Benzo(g,h,i)perylene UJ LCS-I	191-24-2	U	0.0023	0.025	0.05	ug/l	J3	8270 C-	08/04/15	1
Benzo(k)fluoranthene	207-08-9	U	0.026	0.035	0.05	ug/l		8270 C-	08/04/15	1
Chrysene	218-01-9	U	0.014	0.025	0.05	ug/l		8270 C-	08/04/15	1
Dibenz(a,h)anthracene UJ LCS-I	53-70-3	U	0.0045	0.025	0.05	ug/l	J3	8270 C-	08/04/15	1
Fluoranthene	206-44-0	U	0.016	0.025	0.05	ug/l		8270 C-	08/04/15	1
Fluorene	86-73-7	1.8	0.009	0.025	0.05	ug/l		8270 C-	08/04/15	1
Indeno(1,2,3-cd)pyrene	193-39-5	U	0.0074	0.025	0.05	ug/l		8270 C-	08/04/15	1
Naphthalene	91-20-3	U	0.012	0.025	0.25	ug/l		8270 C-	08/04/15	1
Phenanthrene	85-01-8	1.0	0.018	0.025	0.05	ug/l		8270 C-	08/04/15	1
Pyrene	129-00-0	0.092	0.016	0.025	0.05	ug/l		8270 C-	08/04/15	1
1-Methylnaphthalene	90-12-0	3.2	0.018	0.025	0.25	ug/l		8270 C-	08/04/15	1
2-Methylnaphthalene	91-57-6	U	0.016	0.025	0.25	ug/l		8270 C-	08/04/15	1
Surrogate Recovery										
Nitrobenzene-d5	4165-60-0	103.				% Rec.		8270 C-	08/04/15	1

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REPORT OF ANALYSIS

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

August 06, 2015

ESC Sample # : L779535-15

Date Received : July 29, 2015
Description : Hollman AFB

Site ID :

Sample ID : H-TU518-MW08-NT01

Project # : 60425210234465430 05A

Collected By : Jon Mallonee
Collection Date : 07/27/15 16:04

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
2-Fluorobiphenyl	321-60-8	81.4				% Rec.		8270 C-	08/04/15	1
p-Terphenyl-d14	1718-51-0	87.9				% Rec.		8270 C-	08/04/15	1
Base/Neutral Extractables										
Bis(2-chlorethoxy)methane	111-91-1	U	0.33	5.0	10	ug/l		8270C	08/03/15	1
Bis(2-chloroethyl)ether	111-44-4	U	1.6	5.0	10	ug/l		8270C	08/03/15	1
Bis(2-chloroisopropyl)ether	39638-32-9	U	0.44	5.0	10	ug/l		8270C	08/03/15	1
Benzyl Alcohol	100-51-6	U	0.39	5.0	10	ug/l		8270C	08/03/15	1
Carbazole	86-74-8	U	0.26	5.0	10	ug/l		8270C	08/03/15	1
Benzoic acid R	~~65-85-0~~	~~U~~	~~0.44~~	~~5.0~~	~~10~~	~~ug/l~~		~~8270C~~	~~08/03/15~~	~~1~~
Dibenzofuran F SQL-I	132-64-9	1.8	0.34	5.0	10	ug/l	J	8270C	08/03/15	1
4-Bromophenyl-phenylether	101-55-3	U	0.34	5.0	10	ug/l		8270C	08/03/15	1
2-Chloronaphthalene	91-58-7	U	0.33	0.50	1	ug/l		8270C	08/03/15	1
4-Chlorophenyl-phenylether	7005-72-3	U	0.3	5.0	10	ug/l		8270C	08/03/15	1
3,3-Dichlorobenzidine	91-94-1	U	2	5.0	10	ug/l		8270C	08/03/15	1
2,4-Dinitrotoluene	121-14-2	U	1.6	5.0	10	ug/l		8270C	08/03/15	1
2,6-Dinitrotoluene	606-20-2	U	0.28	5.0	10	ug/l		8270C	08/03/15	1
Hexachlorobenzene	118-74-1	U	0.34	0.50	1	ug/l		8270C	08/03/15	1
Hexachloro-1,3-butadiene DNR	~~87-68-3~~	~~U~~	~~0.33~~	~~5.0~~	~~10~~	~~ug/l~~		~~8270C~~	~~08/03/15~~	~~1~~
Hexachloroethane	67-72-1	U	0.36	5.0	10	ug/l		8270C	08/03/15	1
Isophorone	78-59-1	U	0.27	5.0	10	ug/l		8270C	08/03/15	1
Nitrobenzene	98-95-3	U	0.37	5.0	10	ug/l		8270C	08/03/15	1
n-Nitrosodimethylamine	62-75-9	U	1.3	5.0	10	ug/l		8270C	08/03/15	1
n-Nitrosodiphenylamine	86-30-6	U	0.3	5.0	10	ug/l		8270C	08/03/15	1
n-Nitrosodi-n-propylamine	621-64-7	U	0.4	5.0	10	ug/l		8270C	08/03/15	1
Benzylbutyl phthalate	85-68-7	U	0.28	1.0	3	ug/l		8270C	08/03/15	1
Bis(2-ethylhexyl)phthalate	117-81-7	U	0.71	1.0	3	ug/l		8270C	08/03/15	1
Di-n-butyl phthalate	84-74-2	U	0.27	1.0	3	ug/l		8270C	08/03/15	1
Diethyl phthalate	84-66-2	U	0.28	1.0	3	ug/l		8270C	08/03/15	1
Dimethyl phthalate	131-11-3	U	0.28	1.0	3	ug/l		8270C	08/03/15	1
Di-n-octyl phthalate	117-84-0	U	0.28	1.0	3	ug/l		8270C	08/03/15	1
1,2,4-Trichlorobenzene DNR	~~120-82-1~~	~~U~~	~~0.36~~	~~5.0~~	~~10~~	~~ug/l~~		~~8270C~~	~~08/03/15~~	~~1~~
Acid Extractables										
4-Chloro-3-methylphenol	59-50-7	U	0.26	5.0	10	ug/l		8270C	08/03/15	1
2-Chlorophenol	95-57-8	U	0.28	5.0	10	ug/l		8270C	08/03/15	1
2,4-Dichlorophenol	120-83-2	U	0.28	5.0	10	ug/l		8270C	08/03/15	1
2,4-Dimethylphenol	105-67-9	U	0.62	5.0	10	ug/l		8270C	08/03/15	1
4,6-Dinitro-2-methylphenol UJ LCS, MS-L	534-52-1	U	2.6	5.0	10	ug/l		8270C	08/03/15	1
2,4-Dinitrophenol	51-28-5	U	3.2	5.0	10	ug/l		8270C	08/03/15	1
2-Methylphenol	95-48-7	U	0.31	5.0	10	ug/l		8270C	08/03/15	1
3&4-Methyl Phenol UJ CCAL-L	3&4-Methyl	U	0.27	5.0	10	ug/l		8270C	08/03/15	1
2-Nitrophenol	88-75-5	U	0.32	5.0	10	ug/l		8270C	08/03/15	1
4-Nitrophenol	100-02-7	U	2	5.0	10	ug/l		8270C	08/03/15	1
4-Chloroaniline	106-47-8	U	0.38	5.0	10	ug/l		8270C	08/03/15	1
2-Nitroaniline	88-74-4	U	1.9	5.0	10	ug/l		8270C	08/03/15	1
3-Nitroaniline	99-09-2	U	0.31	5.0	10	ug/l		8270C	08/03/15	1

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REPORT OF ANALYSIS

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

August 06, 2015

Date Received : July 29, 2015
Description : Hollman AFB

Sample ID : H-TU518-MW08-NT01

Collected By : Jon Mallonee
Collection Date : 07/27/15 16:04

ESC Sample # : L779535-15

Site ID :

Project # : 6042521023446543005A

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
1,2-Diphenylhydrazine	103-33-3	U	0.32	5.0	10	ug/l		8270C	08/03/15	1
4-Nitroaniline	100-01-6	U	0.35	5.0	10	ug/l		8270C	08/03/15	1
Pentachlorophenol	87-86-5	U	0.31	5.0	10	ug/l		8270C	08/03/15	1
Phenol F SQL-I	108-95-2	0.55	0.33	5.0	10	ug/l	J	8270C	08/03/15	1
2,4,5-Trichlorophenol	95-95-4	U	0.24	5.0	10	ug/l		8270C	08/03/15	1
2,4,6-Trichlorophenol	88-06-2	U	0.3	5.0	10	ug/l		8270C	08/03/15	1
Surrogate Recovery										
2-Fluorophenol	367-12-4	53.6				% Rec.		8270C	08/03/15	1
Phenol-d5	4165-62-2	42.6				% Rec.		8270C	08/03/15	1
Nitrobenzene-d5	4165-60-0	71.3				% Rec.		8270C	08/03/15	1
2-Fluorobiphenyl	321-60-8	76.4				% Rec.		8270C	08/03/15	1
2,4,6-Tribromophenol	118-79-6	117.				% Rec.		8270C	08/03/15	1
p-Terphenyl-d14	1718-51-0	67.2				% Rec.		8270C	08/03/15	1

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REPORT OF ANALYSIS

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

August 06, 2015

Date Received : July 29, 2015
Description : Hollman AFB

Sample ID : H-TU518-MW08-ND01

Collected By : Jon Mallonee
Collection Date : 07/27/15 16:04

ESC Sample # : L779535-16

Site ID :

Project # : 6042521023446543005A

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Aluminum,Dissolved U MB-I	7429-90-5	56.	~~2~~ 56	~~50.~~ 56	100	ug/l	J	6020	08/04/15	1
Antimony,Dissolved U MB-I	7440-36-0	1.2	~~0.21~~ 1.2	~~0.50~~ 1.2	2	ug/l	J	6020	08/04/15	1
Arsenic,Dissolved	7440-38-2	4.4	0.25	0.50	2	ug/l		6020	08/04/15	1
Barium,Dissolved	7440-39-3	59.	0.36	1.0	5	ug/l		6020	08/04/15	1
Beryllium,Dissolved	7440-41-7	U	0.12	0.50	2	ug/l		6020	08/04/15	1
Cadmium,Dissolved	7440-43-9	U	0.16	0.50	1	ug/l		6020	08/04/15	1
Chromium,Dissolved FJ SOL,ICS-H	7440-47-3	0.60	0.54	1.5	2	ug/l	J	6020	08/04/15	1
Copper,Dissolved U MB7,CCB-I	7440-50-8	3.0	~~0.52~~ 3.0	~~1.5~~ 3.0	5	ug/l	J	6020	08/04/15	1
Cobalt,Dissolved F 284-I	7440-48-4	0.80	0.26	0.50	2	ug/l	J	6020	08/04/15	1
Lead,Dissolved U CCB-I	7439-92-1	0.70	~~0.24~~ 0.70	~~0.50~~ 0.70	2	ug/l	J	6020	08/04/15	1
Manganese,Dissolved	7439-96-5	820	0.25	0.50	5	ug/l		6020	08/04/15	1
Nickel,Dissolved	7440-02-0	4.2	0.35	1.0	2	ug/l		6020	08/04/15	1
Selenium,Dissolved	7782-49-2	2.7	0.38	1.0	2	ug/l		6020	08/04/15	1
Silver,Dissolved	7440-22-4	U	0.31	0.50	2	ug/l		6020	08/04/15	1
Thallium,Dissolved	7440-28-0	U	0.19	0.50	2	ug/l		6020	08/04/15	1
Vanadium,Dissolved	7440-62-2	6.6	0.18	0.50	5	ug/l		6020	08/04/15	1
Zinc,Dissolved	7440-66-6	U	2.6	5.0	25	ug/l		6020	08/04/15	1

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REPORT OF ANALYSIS

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

August 06, 2015

ESC Sample # : L779535-17

Date Received : July 29, 2015
Description : Hollman AFB

Site ID :

Sample ID : H-TU518-MW08-NT01

Project # : 60425210234465430 05A

Collected By : Jon Mallonee
Collection Date : 07/27/15 16:04

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Dissolved Solids	DSOLIDS	14000000	2800	5000	10000	ug/l		2540 C-	07/31/15	1
Aluminum J FD-I	7429-90-5	490	2	50.	100	ug/l		6020	08/04/15	1
Antimony U MB, ICCB-I	7440-36-0	1.5	~~0.21~~ 1.5	~~0.50~~ 1.5	2	ug/l	J	6020	08/04/15	1
Arsenic	7440-38-2	4.8	0.25	0.50	2	ug/l		6020	08/04/15	1
Barium	7440-39-3	65.	0.36	1.0	5	ug/l		6020	08/04/15	1
Beryllium	7440-41-7	U	0.12	0.50	2	ug/l		6020	08/04/15	1
Cadmium	7440-43-9	U	0.16	0.50	1	ug/l		6020	08/04/15	1
Chromium FJ SQL, ICS-H	7440-47-3	1.1	0.54	1.5	2	ug/l	J	6020	08/04/15	1
Copper U MB-I	7440-50-8	1.9	~~0.52~~ 1.9	~~1.5~~ 1.9	5	ug/l	J	6020	08/04/15	1
Cobalt FJ SQL, FD-I	7440-48-4	1.8	0.26	0.50	2	ug/l	J	6020	08/04/15	1
Lead U CCB-I, FD-I	7439-92-1	1.1	~~0.24~~ 1.1	~~0.50~~ 1.1	2	ug/l	J	6020	08/04/15	1
Manganese	7439-96-5	860	0.25	0.50	5	ug/l		6020	08/04/15	1
Nickel	7440-02-0	4.0	0.35	1.0	2	ug/l		6020	08/04/15	1
Selenium	7782-49-2	2.8	0.38	1.0	2	ug/l		6020	08/04/15	1
Silver	7440-22-4	U	0.31	0.50	2	ug/l		6020	08/04/15	1
Thallium	7440-28-0	U	0.19	0.50	2	ug/l		6020	08/04/15	1
Vanadium J FD-I	7440-62-2	9.0	0.18	0.50	5	ug/l		6020	08/04/15	1
Zinc F SQL-I	7440-66-6	4.5	2.6	5.0	25	ug/l	J	6020	08/04/15	1

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REPORT OF ANALYSIS

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

August 06, 2015

Date Received : July 29, 2015
Description : Hollman AFB

Sample ID : H-TUQC-TRIPBLANK-TT02

Collected By : Jon Mallonee
Collection Date : 07/28/15 08:00

ESC Sample # : L779535-18

Site ID :

Project # : 6042521023446543005A

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Volatile Organics										
Acetone	67-64-1	U	10	25.	50	ug/l		8260B	08/04/15	1
Benzene	71-43-2	U	0.33	0.50	1	ug/l		8260B	08/04/15	1
Bromobenzene	108-86-1	U	0.35	0.50	1	ug/l		8260B	08/04/15	1
Bromochloromethane	74-97-5	U	0.52	0.75	1	ug/l		8260B	08/04/15	1
Bromodichloromethane	75-27-4	U	0.38	0.50	1	ug/l		8260B	08/04/15	1
Bromoform	75-25-2	U	0.47	0.50	1	ug/l		8260B	08/04/15	1
Bromomethane	74-83-9	U	0.87	2.5	5	ug/l		8260B	08/04/15	1
n-Butylbenzene	104-51-8	U	0.36	0.50	1	ug/l		8260B	08/04/15	1
sec-Butylbenzene	135-98-8	U	0.36	0.50	1	ug/l		8260B	08/04/15	1
tert-Butylbenzene	98-06-6	U	0.4	0.50	1	ug/l		8260B	08/04/15	1
Carbon Disulfide	75-15-0	U	0.28	0.50	1	ug/l		8260B	08/04/15	1
Carbon tetrachloride	56-23-5	U	0.38	0.50	1	ug/l		8260B	08/04/15	1
Chlorobenzene	108-90-7	U	0.35	0.50	1	ug/l		8260B	08/04/15	1
Chlorodibromomethane	124-48-1	U	0.33	0.50	1	ug/l		8260B	08/04/15	1
Chloroethane	75-00-3	U	0.45	2.5	5	ug/l		8260B	08/04/15	1
Chloroform	67-66-3	U	0.32	2.5	5	ug/l		8260B	08/04/15	1
Chloromethane	74-87-3	U	0.28	0.50	2.5	ug/l		8260B	08/04/15	1
2-Chlorotoluene	95-49-8	U	0.38	0.50	1	ug/l		8260B	08/04/15	1
4-Chlorotoluene	106-43-4	U	0.35	0.50	1	ug/l		8260B	08/04/15	1
1,2-Dibromo-3-Chloropropane	96-12-8	U	1.3	2.5	5	ug/l		8260B	08/04/15	1
1,2-Dibromoethane	106-93-4	U	0.38	0.50	1	ug/l		8260B	08/04/15	1
Dibromomethane	74-95-3	U	0.35	0.50	1	ug/l		8260B	08/04/15	1
1,2-Dichlorobenzene	95-50-1	U	0.35	0.50	1	ug/l		8260B	08/04/15	1
1,3-Dichlorobenzene	541-73-1	U	0.22	0.50	1	ug/l		8260B	08/04/15	1
1,4-Dichlorobenzene	106-46-7	U	0.27	0.50	1	ug/l		8260B	08/04/15	1
Dichlorodifluoromethane	75-71-8	U	0.55	2.5	5	ug/l		8260B	08/04/15	1
1,1-Dichloroethane	75-34-3	U	0.26	0.50	1	ug/l		8260B	08/04/15	1
1,2-Dichloroethane	107-06-2	U	0.36	0.50	1	ug/l		8260B	08/04/15	1
1,1-Dichloroethene	75-35-4	U	0.4	0.50	1	ug/l		8260B	08/04/15	1
cis-1,2-Dichloroethene	156-59-2	U	0.26	0.50	1	ug/l		8260B	08/04/15	1
trans-1,2-Dichloroethene	156-60-5	U	0.4	0.50	1	ug/l		8260B	08/04/15	1
1,2-Dichloropropane	78-87-5	U	0.31	0.50	1	ug/l		8260B	08/04/15	1
1,1-Dichloropropene	563-58-6	U	0.35	0.50	1	ug/l		8260B	08/04/15	1
1,3-Dichloropropane	142-28-9	U	0.37	0.50	1	ug/l		8260B	08/04/15	1
cis-1,3-Dichloropropene	10061-01-5	U	0.42	0.50	1	ug/l		8260B	08/04/15	1
trans-1,3-Dichloropropene	10061-02-6	U	0.42	0.50	1	ug/l		8260B	08/04/15	1
2,2-Dichloropropane	594-20-7	U	0.32	0.50	1	ug/l		8260B	08/04/15	1
Ethylbenzene	100-41-4	U	0.38	0.50	1	ug/l		8260B	08/04/15	1
2-Hexanone	591-78-6	U	3.8	5.0	10	ug/l		8260B	08/04/15	1
Hexachloro-1,3-butadiene	87-68-3	U	0.26	0.50	1	ug/l		8260B	08/04/15	1
Isopropylbenzene	98-82-8	U	0.33	0.50	1	ug/l		8260B	08/04/15	1
p-Isopropyltoluene	99-87-6	U	0.35	0.50	1	ug/l		8260B	08/04/15	1
2-Butanone (MEK)	78-93-3	U	3.9	5.0	10	ug/l		8260B	08/04/15	1
Methylene Chloride	75-09-2	U	1	2.5	5	ug/l		8260B	08/04/15	1
4-Methyl-2-pentanone (MIBK)	108-10-1	U	2.1	5.0	10	ug/l		8260B	08/04/15	1

U = Not Detected at the LOD
Note:
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KA 9/13/15

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REPORT OF ANALYSIS

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

August 06, 2015

ESC Sample # : L779535-18

Date Received : July 29, 2015
Description : Hollman AFB

Site ID :

Sample ID : H-TUQC-TRIPBLANK-TT02

Project # : 60425210234465430 05A

Collected By : Jon Mallonee
Collection Date : 07/28/15 08:00

Parameter	CAS#	Result	DL	LOD	LOQ	Units	Qual	Method	Date	Dil.
Methyl tert-butyl ether	1634-04-4	U	0.37	0.50	1	ug/l		8260B	08/04/15	1
Naphthalene USCCAL-L	91-20-3	U	1	2.5	5	ug/l	J4	8260B	08/04/15	1
n-Propylbenzene	103-65-1	U	0.35	0.50	1	ug/l		8260B	08/04/15	1
Styrene	100-42-5	U	0.31	0.50	1	ug/l		8260B	08/04/15	1
1,1,1,2-Tetrachloroethane	630-20-6	U	0.38	0.50	1	ug/l		8260B	08/04/15	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.13	0.75	1	ug/l		8260B	08/04/15	1
Tetrachloroethene	127-18-4	U	0.37	0.50	1	ug/l		8260B	08/04/15	1
Toluene	108-88-3	U	0.78	2.5	5	ug/l		8260B	08/04/15	1
1,2,3-Trichlorobenzene USCCAL-I	87-61-6	U	0.23	0.50	1	ug/l	J4	8260B	08/04/15	1
1,2,4-Trichlorobenzene	120-82-1	U	0.36	0.50	1	ug/l	J4	8260B	08/04/15	1
1,1,1-Trichloroethane	71-55-6	U	0.319	0.50	1	ug/l		8260B	08/04/15	1
1,1,2-Trichloroethane	79-00-5	U	0.38	0.50	1	ug/l		8260B	08/04/15	1
Trichloroethene	79-01-6	U	0.4	0.50	1	ug/l		8260B	08/04/15	1
Trichlorofluoromethane	75-69-4	U	1.2	2.5	5	ug/l		8260B	08/04/15	1
1,2,3-Trichloropropane	96-18-4	U	0.81	1.0	2.5	ug/l		8260B	08/04/15	1
1,2,4-Trimethylbenzene	95-63-6	U	0.37	0.50	1	ug/l		8260B	08/04/15	1
1,3,5-Trimethylbenzene	108-67-8	U	0.39	0.50	1	ug/l		8260B	08/04/15	1
o-Xylene	95-47-6	U	0.34	0.50	1	ug/l		8260B	08/04/15	1
m&p-Xylene	1330-20-7	U	0.72	1.0	2	ug/l		8260B	08/04/15	1
Vinyl chloride	75-01-4	U	0.26	0.50	1	ug/l		8260B	08/04/15	1
Surrogate Recovery										
Toluene-d8	2037-26-5	106.				% Rec.		8260B	08/04/15	1
Dibromofluoromethane	1868-53-7	99.8				% Rec.		8260B	08/04/15	1
4-Bromofluorobenzene	460-00-4	110.				% Rec.		8260B	08/04/15	1

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