GOLDER
MEMBER OF WSP

January 19, 2022

Ms. Maureen Hatfield, P.G.
Texas Commission on Environmental Quality
MC-127
VCP-CA Section, Team 1, Remediation Division
P.O. Box 13087
Austin, Texas 78711-3087

RE: WEEKLY STATUS UPDATE – ENGLEWOOD YARD NORTH BYPASS PROJECT
UNION PACIFIC RAILROAD HOUSTON WOOD PRESERVING WORKS SITE
4910 LIBERTY ROAD FACILITY, HOUSTON, TEXAS
POST-CLOSURE CARE PERMIT NO. 50343, INDUSTRIAL SWR NO. 31547

Dear Ms. Hatfield:

Golder Associates USA Inc. (Golder), a member of WSP, on behalf of Union Pacific Railroad (UPRR), prepared this weekly status update for the Englewood Yard North By-Pass Project (the Project) that includes areas of construction within the UPRR Houston Wood Preserving Works (HWPW) site (the Site) (Post-Closure Care Permit No. 50343) located at 4910 Liberty Road, Houston, Texas. Below is a summary of the Project activities conducted at the Site for the reporting period:

Week Period: *January 10 through January 16, 2022*

- **Dust Control and Air Monitoring**
  - Construction activities performed during this reporting period did not involve excavation of soils within the Project Area. Therefore, Dust Control and Air Monitoring was not conducted during this reporting period.
- **Soil Management**
  - Construction activities performed during this reporting period did not involve excavation of soils within the Project Area. Therefore, Soil Management was not conducted during this reporting period.
  - The final analytical report (**Attachment A**) for the wash water sample collected on December 16, 2021 was submitted for waste profiling and disposal as liquid classified as impacted with listed hazardous waste (F034/K001) at US Ecology Texas in Robstown, TX.
  - Three 40-yard roll-off containers containing old, weathered power poles were approved for disposal at Republic Services – Blue Ridge Landfill in Houston, TX.
  - One roll-off container containing approximately 15 cubic yards (CY) of soil classified as impacted with listed hazardous waste (F034/K001) was shipped to US Ecology Texas on January 6, 2022 (Hazardous Waste Manifest Number: 022648999JJK).

Golder Associates USA Inc.
14950 Heathrow Forest Parkway, Suite 280, Houston, Texas, USA 77032 T: +1 281 821-6868

- **Stormwater Management**
  - There was no rainfall during this reporting period that resulted in management of stormwater within the Project area.

Planned Construction Activities for the period between **January 17 and January 23, 2022**:

- Per the Contractor schedule, no soil generating activities are planned for the period between January 17 and January 23, 2022. Construction activities are tentatively scheduled to resume within the Site in February 2022. The planned activities include construction of a shallow trench for installation of new signal lines within the Railroad Ballast Cap area.

If you have any questions or need additional information, please feel free to contact Mr. Kevin Peterburs of UPRR at (414) 267-4164.

Sincerely,

Golder Associates USA Inc.

Jacqueline M. Engel
Project Geologist

Eric Matzner
Practice Leader/ Principal

ATTACHMENT A

Laboratory Analytical Report

ANALYTICAL REPORT

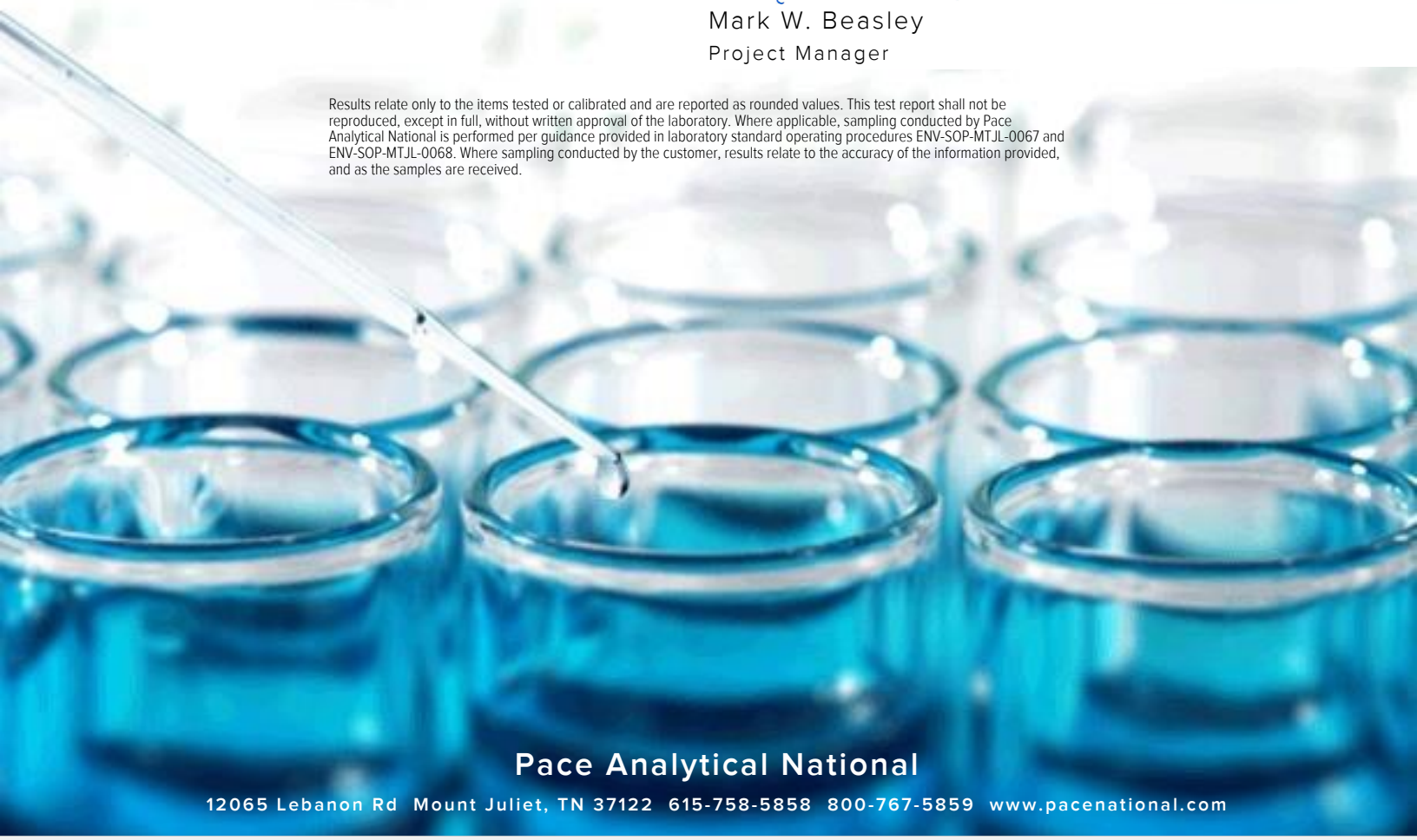
January 17, 2022

UPRR - Golder Associates

Sample Delivery Group:	L1443938
Samples Received:	12/17/2021
Project Number:	1712
Description:	Houston TX-Houston Subd. MP358.2-360.3 Englewood Yard North
Site:	DISPOSAL SUPPORT
Report To:	Patrick Marty
	2201 Double Creek Dr., Ste 4004
	Round Rock, TX 78664

Entire Report Reviewed By:

Mark W. Beasley
Project Manager



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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SAMPLE SUMMARY

WW-1712-VB01-20211216 L1443938-01 GW

Collected by: Chris Elofson
Collected date/time: 12/16/21 12:13
Received date/time: 12/17/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 4500 CN E-2016	WG1793319	1	12/22/21 07:32	12/28/21 11:40	KEG	Mt. Juliet, TN
Wet Chemistry by Method 4500 S2 D-2011	WG1792514	1	12/21/21 15:57	12/21/21 15:57	BMD	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG1793608	1	12/22/21 15:00	12/22/21 15:00	PSN	Mt. Juliet, TN
Mercury by Method 7470A	WG1792073	1	12/29/21 10:29	12/30/21 10:24	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1801455	1	01/14/22 15:33	01/17/22 14:33	CCE	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1792709	1	12/21/21 15:08	12/21/21 15:08	BMB	Mt. Juliet, TN
TPH by TCEQ Method 1005	WG1795405	1	12/28/21 13:59	12/29/21 00:24	JDG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG1792971	1	12/23/21 08:04	12/28/21 20:53	AO	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG1792971	500	12/23/21 08:04	12/29/21 20:15	JNJ	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Mark W. Beasley
Project Manager

Project Narrative

All Reactive Cyanide results reported in the attached report were determined as totals using method 4500 CN E-2016.
All Reactive Sulfide results reported in the attached report were determined as totals using method 4500 S2 D-2011.

Laboratory Data Package Cover Page

This data package consists of this signature page, the laboratory review checklist, and the following reportable data as applicable:

R1 - Field chain-of-custody documentation;

R2 - Sample identification cross-reference;

R3 - Test reports (analytical data sheets) for each environmental sample that includes:

a. Items consistent with NELAC Chapter 5,

b. dilution factors,

c. preparation methods,

d. cleanup methods, and

e. if required for the project, tentatively identified compounds (TICs).

R4 - Surrogate recovery data including:

a. Calculated recovery (%R), and

b. The laboratory's surrogate QC limits.

R5 - Test reports/summary forms for blank samples;

R6 - Test reports/summary forms for laboratory control samples (LCSs) including:

a. LCS spiking amounts,

b. Calculated %R for each analyte, and

c. The laboratory's LCS QC limits.

R7 - Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

a. Samples associated with the MS/MSD clearly identified,

b. MS/MSD spiking amounts,

c. Concentration of each MS/MSD analyte measured in the parent and spiked samples,

d. Calculated %Rs and relative percent differences (RPDs), and

e. The laboratory's MS/MSD QC limits

R8 - Laboratory analytical duplicate (if applicable) recovery and precision:

a. The amount of analyte measured in the duplicate,

b. The calculated RPD, and

c. The laboratory's QC limits for analytical duplicates.

R9 - List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.

R10 - Other problems or anomalies.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Mark W. Beasley
Project Manager

Laboratory Review Checklist: Reportable Data

Laboratory Name: Pace Analytical National	LRC Date: 01/17/2022 18:51
Project Name: Houston TX-Houston Subd. MP358.2-360.3 Englewood Yard North	Laboratory Job Number: L1443938-01
Reviewer Name: Mark W. Beasley	Prep Batch Number(s): WG1792709, WG1792514, WG1793608, WG1792971, WG1793319, WG1795405, WG1792073 and WG1801455

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
R1	OI	Chain-of-custody (C-O-C)					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?			X		
R2	OI	Sample and quality control (QC) identification					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	Test reports					
		Were all samples prepared and analyzed within holding times?		X			1
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?	X				
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
		If required for the project, are TICs reported?			X		
R4	O	Surrogate recovery data					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?		X			2
R5	OI	Test reports/summary forms for blank samples					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	Laboratory control samples (LCS):					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?	X				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		X			3
		Were MS/MSD RPDs within laboratory QC limits?		X			4
R8	OI	Analytical duplicate data					
		Were appropriate analytical duplicates analyzed for each matrix?	X				
		Were analytical duplicates analyzed at the appropriate frequency?	X				
		Were RPDs or relative standard deviations within the laboratory QC limits?	X				
R9	OI	Method quantitation limits (MQLs):					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
R10	OI	Other problems/anomalies					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Review Checklist: Supporting Data

Laboratory Name: Pace Analytical National	LRC Date: 01/17/2022 18:51
Project Name: Houston TX-Houston Subd. MP358.2-360.3 Englewood Yard North	Laboratory Job Number: L1443938-01
Reviewer Name: Mark W. Beasley	Prep Batch Number(s): WG1792709, WG1792514, WG1793608, WG1792971, WG1793319, WG1795405, WG1792073 and WG1801455

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	Initial calibration (ICAL)					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
S3	O	Mass spectral tuning					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	X				
S4	O	Internal standards (IS)					
		Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	Raw data (NELAC Section 5.5.10)					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	Dual column confirmation					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	Tentatively identified compounds (TICs)					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	Interference Check Sample (ICS) results					
		Were percent recoveries within method QC limits?	X				
S9	I	Serial dilutions, post digestion spikes, and method of standard additions					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
S10	OI	Method detection limit (MDL) studies					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	Proficiency test reports					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	Standards documentation					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	Compound/analyte identification procedures					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	Demonstration of analyst competency (DOC)					
		Was DOC conducted consistent with NELAC Chapter 5?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	Verification/validation documentation for methods (NELAC Chapter 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	Laboratory standard operating procedures (SOPs)					
		Are laboratory SOPs current and on file for each method performed	X				

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
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3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Review Checklist: Exception Reports

Laboratory Name: Pace Analytical National	LRC Date: 01/17/2022 18:51
Project Name: Houston TX-Houston Subd. MP358.2-360.3 Englewood Yard North	Laboratory Job Number: L1443938-01
Reviewer Name: Mark W. Beasley	Prep Batch Number(s): WG1792709, WG1792514, WG1793608, WG1792971, WG1793319, WG1795405, WG1792073 and WG1801455

ER #[1]	Description
1	9040C WG1793608 L1443938-01: Prepared and/or analyzed past holding time as defined in the method. Concentrations should be considered minimum values.
2	8270C WG1792971 Phenol-d5, 2,4,6-Tribromophenol, 2-Fluorobiphenyl, 2-Fluorophenol, Nitrobenzene-d5, p-Terphenyl-d14 L1443938-01: Percent Recovery is outside of established control limits.
3	4500 CN E-2016 WG1793319 Reactive Cyanide: Percent Recovery is outside of established control limits.
4	8270C WG1792971 Pyridine: Relative Percent Difference is outside of established control limits.

1. Items identified by the letter “R” must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter “S” should be retained and made available upon request for the appropriate retention period.
2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if “NR” or “No” is checked).

Wet Chemistry by Method 4500 CN E-2016

Analyte	Result	Qualifier	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Reactive Cyanide	ND		0.00500	0.00500	1	12/28/2021 11:40	WG1793319

Wet Chemistry by Method 4500 S2 D-2011

Analyte	Result	Qualifier	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Reactive Sulfide	ND		0.0500	0.0500	1	12/21/2021 15:57	WG1792514

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	8.45	T8	1	12/22/2021 15:00	WG1793608

Sample Narrative:

L1443938-01 WG1793608: 8.45 at 16.4C

Mercury by Method 7470A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Mercury	0.000851		0.000100	0.000200	0.000200	1	12/30/2021 10:24	WG1792073

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Arsenic	0.0300		0.00440	0.0100	0.0100	1	01/17/2022 14:33	WG1801455
Barium	0.757		0.000736	0.00500	0.00500	1	01/17/2022 14:33	WG1801455
Cadmium	0.00316		0.000479	0.00200	0.00200	1	01/17/2022 14:33	WG1801455
Chromium	0.0268		0.00140	0.0100	0.0100	1	01/17/2022 14:33	WG1801455
Lead	0.234		0.00299	0.00600	0.00600	1	01/17/2022 14:33	WG1801455
Selenium	U		0.00735	0.0100	0.0100	1	01/17/2022 14:33	WG1801455
Silver	U		0.00154	0.00500	0.00500	1	01/17/2022 14:33	WG1801455

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Acetone	0.0495	J	0.0113	0.0500	0.0500	1	12/21/2021 15:08	WG1792709
Acrolein	U		0.00254	0.0500	0.0500	1	12/21/2021 15:08	WG1792709
Acrylonitrile	U		0.000671	0.0100	0.0100	1	12/21/2021 15:08	WG1792709
Benzene	0.000440	J	0.0000941	0.00100	0.00100	1	12/21/2021 15:08	WG1792709
Bromobenzene	U		0.000118	0.00100	0.00100	1	12/21/2021 15:08	WG1792709
Bromochloromethane	U		0.000128	0.00100	0.00100	1	12/21/2021 15:08	WG1792709
Bromodichloromethane	U		0.000136	0.00100	0.00100	1	12/21/2021 15:08	WG1792709
Bromoform	U		0.000129	0.00100	0.00100	1	12/21/2021 15:08	WG1792709
Bromomethane	U		0.000605	0.00500	0.00500	1	12/21/2021 15:08	WG1792709
n-Butylbenzene	0.00216		0.000157	0.00100	0.00100	1	12/21/2021 15:08	WG1792709
sec-Butylbenzene	0.000955	J	0.000125	0.00100	0.00100	1	12/21/2021 15:08	WG1792709
tert-Butylbenzene	0.000149	J	0.000127	0.00100	0.00100	1	12/21/2021 15:08	WG1792709
Carbon disulfide	0.000261	J	0.0000962	0.00100	0.00100	1	12/21/2021 15:08	WG1792709
Carbon tetrachloride	U		0.000128	0.00100	0.00100	1	12/21/2021 15:08	WG1792709
Chlorobenzene	0.000429	J	0.000116	0.00100	0.00100	1	12/21/2021 15:08	WG1792709
Chlorodibromomethane	U		0.000140	0.00100	0.00100	1	12/21/2021 15:08	WG1792709
Chloroethane	U		0.000192	0.00500	0.00500	1	12/21/2021 15:08	WG1792709
Chloroform	U		0.000111	0.00500	0.00500	1	12/21/2021 15:08	WG1792709
Chloromethane	U		0.000960	0.00250	0.00250	1	12/21/2021 15:08	WG1792709

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
2-Chlorotoluene	U		0.000106	0.00100	0.00100	1	12/21/2021 15:08	WG1792709
4-Chlorotoluene	U		0.000114	0.00100	0.00100	1	12/21/2021 15:08	WG1792709
1,2-Dibromo-3-Chloropropane	U		0.000276	0.00500	0.00500	1	12/21/2021 15:08	WG1792709
1,2-Dibromoethane	U		0.000126	0.00100	0.00100	1	12/21/2021 15:08	WG1792709
Dibromomethane	U		0.000122	0.00100	0.00100	1	12/21/2021 15:08	WG1792709
1,2-Dichlorobenzene	U		0.000107	0.00100	0.00100	1	12/21/2021 15:08	WG1792709
1,3-Dichlorobenzene	U		0.000110	0.00100	0.00100	1	12/21/2021 15:08	WG1792709
1,4-Dichlorobenzene	U		0.000120	0.00100	0.00100	1	12/21/2021 15:08	WG1792709
Dichlorodifluoromethane	U		0.000374	0.00500	0.00500	1	12/21/2021 15:08	WG1792709
1,1-Dichloroethane	U		0.000100	0.00100	0.00100	1	12/21/2021 15:08	WG1792709
1,2-Dichloroethane	U		0.0000819	0.00100	0.00100	1	12/21/2021 15:08	WG1792709
1,1-Dichloroethene	U		0.000188	0.00100	0.00100	1	12/21/2021 15:08	WG1792709
cis-1,2-Dichloroethene	U		0.000126	0.00100	0.00100	1	12/21/2021 15:08	WG1792709
trans-1,2-Dichloroethene	U		0.000149	0.00100	0.00100	1	12/21/2021 15:08	WG1792709
1,2-Dichloropropane	U		0.000149	0.00100	0.00100	1	12/21/2021 15:08	WG1792709
1,1-Dichloropropene	U		0.000142	0.00100	0.00100	1	12/21/2021 15:08	WG1792709
1,3-Dichloropropane	U		0.000110	0.00100	0.00100	1	12/21/2021 15:08	WG1792709
cis-1,3-Dichloropropene	U		0.000111	0.00100	0.00100	1	12/21/2021 15:08	WG1792709
trans-1,3-Dichloropropene	U		0.000118	0.00100	0.00100	1	12/21/2021 15:08	WG1792709
2,2-Dichloropropane	U		0.000161	0.00100	0.00100	1	12/21/2021 15:08	WG1792709
Di-isopropyl ether	U		0.000105	0.00100	0.00100	1	12/21/2021 15:08	WG1792709
Ethylbenzene	0.00213		0.000137	0.00100	0.00100	1	12/21/2021 15:08	WG1792709
Hexachloro-1,3-butadiene	U		0.000337	0.00100	0.00100	1	12/21/2021 15:08	WG1792709
2-Hexanone	U		0.000787	0.0100	0.0100	1	12/21/2021 15:08	WG1792709
Isopropylbenzene	0.00443		0.000105	0.00100	0.00100	1	12/21/2021 15:08	WG1792709
p-Isopropyltoluene	0.000580	J	0.000120	0.00100	0.00100	1	12/21/2021 15:08	WG1792709
2-Butanone (MEK)	0.00315	J	0.00119	0.0100	0.0100	1	12/21/2021 15:08	WG1792709
Methylene Chloride	U		0.000430	0.00500	0.00500	1	12/21/2021 15:08	WG1792709
4-Methyl-2-pentanone (MIBK)	0.000840	J	0.000478	0.0100	0.0100	1	12/21/2021 15:08	WG1792709
Methyl tert-butyl ether	U		0.000101	0.00100	0.00100	1	12/21/2021 15:08	WG1792709
Naphthalene	0.0548		0.00100	0.00500	0.00500	1	12/21/2021 15:08	WG1792709
n-Propylbenzene	0.00296		0.0000993	0.00100	0.00100	1	12/21/2021 15:08	WG1792709
Styrene	U		0.000118	0.00100	0.00100	1	12/21/2021 15:08	WG1792709
1,1,1,2-Tetrachloroethane	U		0.000147	0.00100	0.00100	1	12/21/2021 15:08	WG1792709
1,1,2,2-Tetrachloroethane	U		0.000133	0.00100	0.00100	1	12/21/2021 15:08	WG1792709
1,1,2-Trichlorotrifluoroethane	U		0.000180	0.00100	0.00100	1	12/21/2021 15:08	WG1792709
Tetrachloroethene	U		0.000300	0.00100	0.00100	1	12/21/2021 15:08	WG1792709
Toluene	0.00107		0.000278	0.00100	0.00100	1	12/21/2021 15:08	WG1792709
1,2,3-Trichlorobenzene	U		0.000230	0.00100	0.00100	1	12/21/2021 15:08	WG1792709
1,2,4-Trichlorobenzene	U		0.000481	0.00100	0.00100	1	12/21/2021 15:08	WG1792709
1,1,1-Trichloroethane	U		0.000149	0.00100	0.00100	1	12/21/2021 15:08	WG1792709
1,1,2-Trichloroethane	U		0.000158	0.00100	0.00100	1	12/21/2021 15:08	WG1792709
Trichloroethene	U		0.000190	0.00100	0.00100	1	12/21/2021 15:08	WG1792709
Trichlorofluoromethane	U		0.000160	0.00500	0.00500	1	12/21/2021 15:08	WG1792709
1,2,3-Trichloropropane	U		0.000237	0.00250	0.00250	1	12/21/2021 15:08	WG1792709
1,2,4-Trimethylbenzene	0.0142		0.000322	0.00100	0.00100	1	12/21/2021 15:08	WG1792709
1,2,3-Trimethylbenzene	0.00974		0.000104	0.00100	0.00100	1	12/21/2021 15:08	WG1792709
1,3,5-Trimethylbenzene	0.00324		0.000104	0.00100	0.00100	1	12/21/2021 15:08	WG1792709
Vinyl chloride	U		0.000234	0.00100	0.00100	1	12/21/2021 15:08	WG1792709
Xylenes, Total	0.0117		0.000174	0.00300	0.00300	1	12/21/2021 15:08	WG1792709
(S) Toluene-d8	*120*				*80.0-120*		*12/21/2021 15:08*	WG1792709
(S) 4-Bromofluorobenzene	*112*				*77.0-126*		*12/21/2021 15:08*	WG1792709
(S) 1,2-Dichloroethane-d4	*124*				*70.0-130*		*12/21/2021 15:08*	WG1792709

TPH by TCEQ Method 1005

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
TPH C6 - C12	2.55		0.600	0.900	0.900	1	12/29/2021 00:24	WG1795405
TPH C12 - C28	29.6		0.600	0.900	0.900	1	12/29/2021 00:24	WG1795405
TPH C28 - C35	0.838	J	0.600	0.900	0.900	1	12/29/2021 00:24	WG1795405
TPH C6 - C35	33.0		0.600	0.900	0.900	1	12/29/2021 00:24	WG1795405
(S) o-Terphenyl	*93.0*				*70.0-130*		*12/29/2021 00:24*	WG1795405
(S) 1-chlorooctane	*116*				*70.0-130*		*12/29/2021 00:24*	WG1795405

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	0.0357		0.0000886	0.00100	0.00100	1	12/28/2021 20:53	WG1792971
Acenaphthylene	U		0.0000921	0.00100	0.00100	1	12/28/2021 20:53	WG1792971
Anthracene	0.0119		0.0000804	0.00100	0.00100	1	12/28/2021 20:53	WG1792971
Benzo(a)anthracene	0.00127		0.000199	0.00100	0.00100	1	12/28/2021 20:53	WG1792971
Benzo(b)fluoranthene	0.000505	J	0.000130	0.00100	0.00100	1	12/28/2021 20:53	WG1792971
Benzo(k)fluoranthene	0.000225	J	0.000120	0.00100	0.00100	1	12/28/2021 20:53	WG1792971
Benzo(g,h,i)perylene	0.000213	J	0.000121	0.00100	0.00100	1	12/28/2021 20:53	WG1792971
Benzo(a)pyrene	0.000341	J	0.0000381	0.00100	0.00100	1	12/28/2021 20:53	WG1792971
Bis(2-chlorethoxy)methane	U		0.000116	0.0100	0.0100	1	12/28/2021 20:53	WG1792971
Bis(2-chloroethyl)ether	U		0.000137	0.0100	0.0100	1	12/28/2021 20:53	WG1792971
2,2-Oxybis(1-Chloropropane)	U		0.000210	0.0100	0.0100	1	12/28/2021 20:53	WG1792971
4-Bromophenyl-phenylether	U		0.0000877	0.0100	0.0100	1	12/28/2021 20:53	WG1792971
2-Chloronaphthalene	U		0.0000648	0.00100	0.00100	1	12/28/2021 20:53	WG1792971
4-Chlorophenyl-phenylether	U		0.0000926	0.0100	0.0100	1	12/28/2021 20:53	WG1792971
Chrysene	0.00111		0.000130	0.00100	0.00100	1	12/28/2021 20:53	WG1792971
Dibenz(a,h)anthracene	U		0.0000644	0.00100	0.00100	1	12/28/2021 20:53	WG1792971
3,3-Dichlorobenzidine	U		0.000212	0.0100	0.0100	1	12/28/2021 20:53	WG1792971
1,2-Dichlorobenzene	U		0.0000713	0.0100	0.0100	1	12/28/2021 20:53	WG1792971
1,3-Dichlorobenzene	U		0.000132	0.0100	0.0100	1	12/28/2021 20:53	WG1792971
1,4-Dichlorobenzene	U		0.0000942	0.0100	0.0100	1	12/28/2021 20:53	WG1792971
2,4-Dinitrotoluene	U		0.0000983	0.0100	0.0100	1	12/28/2021 20:53	WG1792971
2,6-Dinitrotoluene	U		0.000250	0.0100	0.0100	1	12/28/2021 20:53	WG1792971
Fluoranthene	0.0136		0.000102	0.00100	0.00100	1	12/28/2021 20:53	WG1792971
Fluorene	0.0258		0.0000844	0.00100	0.00100	1	12/28/2021 20:53	WG1792971
Hexachlorobenzene	U		0.0000755	0.00100	0.00100	1	12/28/2021 20:53	WG1792971
Hexachloro-1,3-butadiene	U		0.0000968	0.0100	0.0100	1	12/28/2021 20:53	WG1792971
Hexachlorocyclopentadiene	U		0.0000598	0.0100	0.0100	1	12/28/2021 20:53	WG1792971
Hexachloroethane	U		0.000127	0.0100	0.0100	1	12/28/2021 20:53	WG1792971
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100	0.00100	1	12/28/2021 20:53	WG1792971
Isophorone	0.0131		0.000143	0.0100	0.0100	1	12/28/2021 20:53	WG1792971
Naphthalene	0.0308		0.000159	0.00100	0.00100	1	12/28/2021 20:53	WG1792971
Nitrobenzene	U		0.000297	0.0100	0.0100	1	12/28/2021 20:53	WG1792971
n-Nitrosodimethylamine	U		0.000998	0.0100	0.0100	1	12/28/2021 20:53	WG1792971
n-Nitrosodiphenylamine	U		0.00237	0.0100	0.0100	1	12/28/2021 20:53	WG1792971
n-Nitrosodi-n-propylamine	U		0.000261	0.0100	0.0100	1	12/28/2021 20:53	WG1792971
Phenanthrene	0.0511		0.000112	0.00100	0.00100	1	12/28/2021 20:53	WG1792971
Benzylbutyl phthalate	U		0.000765	0.00300	0.00300	1	12/28/2021 20:53	WG1792971
Bis(2-ethylhexyl)phthalate	U		0.000895	0.00300	0.00300	1	12/28/2021 20:53	WG1792971
Di-n-butyl phthalate	0.0176		0.000453	0.00300	0.00300	1	12/28/2021 20:53	WG1792971
Diethyl phthalate	U		0.000287	0.00300	0.00300	1	12/28/2021 20:53	WG1792971
Dimethyl phthalate	U		0.000260	0.00300	0.00300	1	12/28/2021 20:53	WG1792971
Di-n-octyl phthalate	U		0.000932	0.00300	0.00300	1	12/28/2021 20:53	WG1792971
Pyrene	0.00847		0.000107	0.00100	0.00100	1	12/28/2021 20:53	WG1792971
1,2,4-Trichlorobenzene	U		0.0000698	0.0100	0.0100	1	12/28/2021 20:53	WG1792971
2-Methylnaphthalene	0.0218		0.000117	0.00100	0.00100	1	12/28/2021 20:53	WG1792971
2-Nitroaniline	U		0.000102	0.0100	0.0100	1	12/28/2021 20:53	WG1792971

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
3-Nitroaniline	U		0.0000869	0.0100	0.0100	1	12/28/2021 20:53	WG1792971
4-Chloroaniline	U		0.000234	0.0100	0.0100	1	12/28/2021 20:53	WG1792971
4-Nitroaniline	U		0.0000910	0.0100	0.0100	1	12/28/2021 20:53	WG1792971
Benzoic acid	U		0.00170	0.0500	0.0500	1	12/28/2021 20:53	WG1792971
Benzyl alcohol	U		0.000563	0.0100	0.0100	1	12/28/2021 20:53	WG1792971
Carbazole	0.0121		0.000111	0.0100	0.0100	1	12/28/2021 20:53	WG1792971
Dibenzofuran	0.0227		0.0000970	0.0100	0.0100	1	12/28/2021 20:53	WG1792971
Pyridine	U		0.000627	0.0100	0.0100	1	12/28/2021 20:53	WG1792971
4-Chloro-3-methylphenol	U		0.000131	0.0100	0.0100	1	12/28/2021 20:53	WG1792971
2-Chlorophenol	U		0.000133	0.0100	0.0100	1	12/28/2021 20:53	WG1792971
2,4-Dichlorophenol	U		0.000102	0.0100	0.0100	1	12/28/2021 20:53	WG1792971
2,4-Dimethylphenol	U		0.0000636	0.0100	0.0100	1	12/28/2021 20:53	WG1792971
4,6-Dinitro-2-methylphenol	U		0.00112	0.0100	0.0100	1	12/28/2021 20:53	WG1792971
2,4-Dinitrophenol	U		0.00593	0.0100	0.0100	1	12/28/2021 20:53	WG1792971
2-Nitrophenol	U		0.000117	0.0100	0.0100	1	12/28/2021 20:53	WG1792971
4-Nitrophenol	U		0.000143	0.0100	0.0100	1	12/28/2021 20:53	WG1792971
Pentachlorophenol	17.3		0.157	0.0100	5.00	500	12/29/2021 20:15	WG1792971
Phenol	U		0.00433	0.0100	0.0100	1	12/28/2021 20:53	WG1792971
2,4,6-Trichlorophenol	U		0.000100	0.0100	0.0100	1	12/28/2021 20:53	WG1792971
2,4,5-Trichlorophenol	0.00245	J	0.000109	0.0100	0.0100	1	12/28/2021 20:53	WG1792971
2-Methylphenol	U		0.0000929	0.0100	0.0100	1	12/28/2021 20:53	WG1792971
3&4-Methyl Phenol	U		0.000168	0.0100	0.0100	1	12/28/2021 20:53	WG1792971
(S) 2-Fluorophenol	*0.000*	J7			*10.0-120*		*12/29/2021 20:15*	WG1792971
(S) 2-Fluorophenol	*27.6*				*10.0-120*		*12/28/2021 20:53*	WG1792971
(S) Phenol-d5	*0.000*	J2			*10.0-120*		*12/28/2021 20:53*	WG1792971
(S) Phenol-d5	*0.000*	J7			*10.0-120*		*12/29/2021 20:15*	WG1792971
(S) Nitrobenzene-d5	*68.8*				*10.0-127*		*12/28/2021 20:53*	WG1792971
(S) Nitrobenzene-d5	*0.000*	J7			*10.0-127*		*12/29/2021 20:15*	WG1792971
(S) 2-Fluorobiphenyl	*0.000*	J7			*10.0-130*		*12/29/2021 20:15*	WG1792971
(S) 2-Fluorobiphenyl	*67.6*				*10.0-130*		*12/28/2021 20:53*	WG1792971
(S) 2,4,6-Tribromophenol	*93.0*				*10.0-155*		*12/28/2021 20:53*	WG1792971
(S) 2,4,6-Tribromophenol	*0.000*	J7			*10.0-155*		*12/29/2021 20:15*	WG1792971
(S) p-Terphenyl-d14	*0.000*	J7			*10.0-128*		*12/29/2021 20:15*	WG1792971
(S) p-Terphenyl-d14	*83.0*				*10.0-128*		*12/28/2021 20:53*	WG1792971

Sample Narrative:

L1443938-01 WG1792971: Surrogate failure due to matrix interference

QUALITY CONTROL SUMMARY

L1443938-01

Method Blank (MB)

(MB) R3745401-1 12/28/21 11:20

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Reactive Cyanide	U		0.00180	0.00500

L1443882-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1443882-03 12/28/21 11:34 • (DUP) R3745401-3 12/28/21 11:35

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Reactive Cyanide	ND	ND	1	0.000		20

L1444090-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1444090-02 12/28/21 11:47 • (DUP) R3745401-6 12/28/21 11:48

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Reactive Cyanide	ND	ND	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3745401-2 12/28/21 11:21

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Reactive Cyanide	0.100	0.0986	98.6	87.1-120	

L1443883-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1443883-03 12/28/21 11:36 • (MS) R3745401-4 12/28/21 11:37 • (MSD) R3745401-5 12/28/21 11:38

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Reactive Cyanide	0.100	ND	0.0516	0.0511	51.6	51.1	1	90.0-110	J6	J6	0.974	20

L1444397-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1444397-03 12/28/21 11:53 • (MS) R3745401-7 12/28/21 11:54 • (MSD) R3745401-8 12/28/21 11:57

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Reactive Cyanide	0.100	ND	0.0586	0.0643	58.6	64.3	1	90.0-110	J6	J6	9.28	20

Method Blank (MB)

(MB) R3743381-1 12/21/21 15:57

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Reactive Sulfide	U		0.0250	0.0500

L1443938-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1443938-01 12/21/21 15:57 • (DUP) R3743381-3 12/21/21 15:57

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Reactive Sulfide	ND	ND	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3743381-2 12/21/21 15:57

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Reactive Sulfide	0.500	0.497	99.4	85.0-115	

L1443636-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1443636-01 12/22/21 15:00 • (DUP) R3743949-2 12/22/21 15:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.57	7.57	1	0.000		1

Sample Narrative:

OS: 7.57 at 17.9C

DUP: 7.57 at 18.4C

L1443650-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1443650-02 12/22/21 15:00 • (DUP) R3743949-3 12/22/21 15:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.61	7.62	1	0.131		1

Sample Narrative:

OS: 7.61 at 16.4C

DUP: 7.62 at 18C

Laboratory Control Sample (LCS)

(LCS) R3743949-1 12/22/21 15:00

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	su	su	%	%	
pH	10.0	9.95	99.5	99.0-101	

Sample Narrative:

LCS: 9.95 at 18.8C

QUALITY CONTROL SUMMARY

L1443938-01

Method Blank (MB)

(MB) R3746316-1 12/30/21 09:46

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Mercury	U		0.000100	0.000200

Laboratory Control Sample (LCS)

(LCS) R3746316-2 12/30/21 09:48

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Mercury	0.00300	0.00307	102	80.0-120	

L1443916-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1443916-03 12/30/21 09:50 • (MS) R3746316-3 12/30/21 09:52 • (MSD) R3746316-4 12/30/21 09:58

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	0.00300	U	0.00284	0.00288	94.7	96.1	1	75.0-125			1.49	20

1 Cp
2 Tc
3 Ss
4 Cn
5 Tr
6 Sr
7 Qc
8 Gl
9 Al
10 Sc

Method Blank (MB)

(MB) R3750682-1 01/17/22 13:45

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Arsenic	U		0.00440	0.0100
Barium	0.000761		0.000736	0.00500
Cadmium	U		0.000479	0.00200
Chromium	0.00150	J	0.00140	0.0100
Lead	U		0.00299	0.00600
Selenium	U		0.00735	0.0100
Silver	U		0.00154	0.00500

Laboratory Control Sample (LCS)

(LCS) R3750682-2 01/17/22 13:47

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	1.00	0.951	95.1	80.0-120	
Barium	1.00	0.955	95.5	80.0-120	
Cadmium	1.00	0.926	92.6	80.0-120	
Chromium	1.00	0.953	95.3	80.0-120	
Lead	1.00	0.932	93.2	80.0-120	
Selenium	1.00	0.942	94.2	80.0-120	
Silver	0.200	0.184	92.1	80.0-120	

L1443879-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1443879-01 01/17/22 13:50 • (MS) R3750682-4 01/17/22 13:56 • (MSD) R3750682-5 01/17/22 13:58

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	1.00	U	0.955	0.967	95.5	96.7	1	75.0-125			1.33	20
Barium	1.00	0.198	1.16	1.14	96.0	94.2	1	75.0-125			1.57	20
Cadmium	1.00	U	0.934	0.932	93.4	93.2	1	75.0-125			0.265	20
Chromium	1.00	0.00266	0.968	0.956	96.5	95.3	1	75.0-125			1.24	20
Lead	1.00	U	0.933	0.935	93.3	93.5	1	75.0-125			0.287	20
Selenium	1.00	U	0.945	0.954	94.5	95.4	1	75.0-125			0.975	20
Silver	0.200	U	0.187	0.184	93.4	91.8	1	75.0-125			1.74	20

Method Blank (MB)

(MB) R3743249-3 12/21/21 08:48

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Acetone	U		0.0113	0.0500
Acrolein	U		0.00254	0.0500
Acrylonitrile	U		0.000671	0.0100
Benzene	U		0.0000941	0.00100
Bromobenzene	U		0.000118	0.00100
Bromodichloromethane	U		0.000136	0.00100
Bromochloromethane	U		0.000128	0.00100
Bromoform	U		0.000129	0.00100
Bromomethane	U		0.000605	0.00500
n-Butylbenzene	U		0.000157	0.00100
sec-Butylbenzene	U		0.000125	0.00100
tert-Butylbenzene	U		0.000127	0.00100
Carbon disulfide	U		0.0000962	0.00100
Carbon tetrachloride	U		0.000128	0.00100
Chlorobenzene	U		0.000116	0.00100
Chlorodibromomethane	U		0.000140	0.00100
Chloroethane	U		0.000192	0.00500
Chloroform	U		0.000111	0.00500
Chloromethane	U		0.000960	0.00250
2-Chlorotoluene	U		0.000106	0.00100
4-Chlorotoluene	U		0.000114	0.00100
1,2-Dibromo-3-Chloropropane	U		0.000276	0.00500
1,2-Dibromoethane	U		0.000126	0.00100
Dibromomethane	U		0.000122	0.00100
1,2-Dichlorobenzene	U		0.000107	0.00100
1,3-Dichlorobenzene	U		0.000110	0.00100
1,4-Dichlorobenzene	U		0.000120	0.00100
Dichlorodifluoromethane	U		0.000374	0.00500
1,1-Dichloroethane	U		0.000100	0.00100
1,2-Dichloroethane	U		0.0000819	0.00100
1,1-Dichloroethene	U		0.000188	0.00100
cis-1,2-Dichloroethene	U		0.000126	0.00100
trans-1,2-Dichloroethene	U		0.000149	0.00100
1,2-Dichloropropane	U		0.000149	0.00100
1,1-Dichloropropene	U		0.000142	0.00100
1,3-Dichloropropane	U		0.000110	0.00100
cis-1,3-Dichloropropene	U		0.000111	0.00100
trans-1,3-Dichloropropene	U		0.000118	0.00100
2,2-Dichloropropane	U		0.000161	0.00100
Di-isopropyl ether	U		0.000105	0.00100

Method Blank (MB)

(MB) R3743249-3 12/21/21 08:48

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Ethylbenzene	U		0.000137	0.00100
Hexachloro-1,3-butadiene	U		0.000337	0.00100
2-Hexanone	U		0.000787	0.0100
Isopropylbenzene	U		0.000105	0.00100
p-Isopropyltoluene	U		0.000120	0.00100
2-Butanone (MEK)	U		0.00119	0.0100
Methylene Chloride	U		0.000430	0.00500
4-Methyl-2-pentanone (MIBK)	U		0.000478	0.0100
Methyl tert-butyl ether	U		0.000101	0.00100
Naphthalene	U		0.00100	0.00500
n-Propylbenzene	U		0.0000993	0.00100
Styrene	U		0.000118	0.00100
1,1,1,2-Tetrachloroethane	U		0.000147	0.00100
1,1,2,2-Tetrachloroethane	U		0.000133	0.00100
Tetrachloroethene	U		0.000300	0.00100
Toluene	U		0.000278	0.00100
1,1,2-Trichlorotrifluoroethane	U		0.000180	0.00100
1,2,3-Trichlorobenzene	U		0.000230	0.00100
1,2,4-Trichlorobenzene	U		0.000481	0.00100
1,1,1-Trichloroethane	U		0.000149	0.00100
1,1,2-Trichloroethane	U		0.000158	0.00100
Trichloroethene	U		0.000190	0.00100
Trichlorofluoromethane	U		0.000160	0.00500
1,2,3-Trichloropropane	U		0.000237	0.00250
1,2,3-Trimethylbenzene	U		0.000104	0.00100
1,2,4-Trimethylbenzene	U		0.000322	0.00100
1,3,5-Trimethylbenzene	U		0.000104	0.00100
Vinyl chloride	U		0.000234	0.00100
Xylenes, Total	U		0.000174	0.00300
(S) Toluene-d8	*117*			*80.0-120*
(S) 4-Bromofluorobenzene	*104*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*120*			*70.0-130*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3743249-1 12/21/21 06:36 • (LCSD) R3743249-2 12/21/21 06:57

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	0.0250	0.0287	0.0283	115	113	19.0-160			1.40	27
Acrolein	0.0250	0.0289	0.0256	116	102	10.0-160			12.1	26
Acrylonitrile	0.0250	0.0268	0.0258	107	103	55.0-149			3.80	20
Benzene	0.00500	0.00480	0.00454	96.0	90.8	70.0-123			5.57	20
Bromobenzene	0.00500	0.00470	0.00465	94.0	93.0	73.0-121			1.07	20
Bromodichloromethane	0.00500	0.00491	0.00472	98.2	94.4	75.0-120			3.95	20
Bromochloromethane	0.00500	0.00494	0.00493	98.8	98.6	76.0-122			0.203	20
Bromoform	0.00500	0.00486	0.00485	97.2	97.0	68.0-132			0.206	20
Bromomethane	0.00500	0.00133	0.00150	26.6	30.0	10.0-160			12.0	25
n-Butylbenzene	0.00500	0.00391	0.00405	78.2	81.0	73.0-125			3.52	20
sec-Butylbenzene	0.00500	0.00417	0.00434	83.4	86.8	75.0-125			4.00	20
tert-Butylbenzene	0.00500	0.00441	0.00435	88.2	87.0	76.0-124			1.37	20
Carbon disulfide	0.00500	0.00429	0.00415	85.8	83.0	61.0-128			3.32	20
Carbon tetrachloride	0.00500	0.00441	0.00444	88.2	88.8	68.0-126			0.678	20
Chlorobenzene	0.00500	0.00453	0.00447	90.6	89.4	80.0-121			1.33	20
Chlorodibromomethane	0.00500	0.00478	0.00451	95.6	90.2	77.0-125			5.81	20
Chloroethane	0.00500	0.00486	0.00476	97.2	95.2	47.0-150			2.08	20
Chloroform	0.00500	0.00463	0.00459	92.6	91.8	73.0-120			0.868	20
Chloromethane	0.00500	0.00329	0.00320	65.8	64.0	41.0-142			2.77	20
2-Chlorotoluene	0.00500	0.00463	0.00448	92.6	89.6	76.0-123			3.29	20
4-Chlorotoluene	0.00500	0.00455	0.00465	91.0	93.0	75.0-122			2.17	20
1,2-Dibromo-3-Chloropropane	0.00500	0.00479	0.00450	95.8	90.0	58.0-134			6.24	20
1,2-Dibromoethane	0.00500	0.00488	0.00477	97.6	95.4	80.0-122			2.28	20
Dibromomethane	0.00500	0.00487	0.00468	97.4	93.6	80.0-120			3.98	20
1,2-Dichlorobenzene	0.00500	0.00430	0.00438	86.0	87.6	79.0-121			1.84	20
1,3-Dichlorobenzene	0.00500	0.00436	0.00431	87.2	86.2	79.0-120			1.15	20
1,4-Dichlorobenzene	0.00500	0.00434	0.00446	86.8	89.2	79.0-120			2.73	20
Dichlorodifluoromethane	0.00500	0.00470	0.00438	94.0	87.6	51.0-149			7.05	20
1,1-Dichloroethane	0.00500	0.00504	0.00487	101	97.4	70.0-126			3.43	20
1,2-Dichloroethane	0.00500	0.00481	0.00468	96.2	93.6	70.0-128			2.74	20
1,1-Dichloroethene	0.00500	0.00440	0.00422	88.0	84.4	71.0-124			4.18	20
cis-1,2-Dichloroethene	0.00500	0.00502	0.00446	100	89.2	73.0-120			11.8	20
trans-1,2-Dichloroethene	0.00500	0.00493	0.00444	98.6	88.8	73.0-120			10.5	20
1,2-Dichloropropane	0.00500	0.00507	0.00470	101	94.0	77.0-125			7.57	20
1,1-Dichloropropene	0.00500	0.00469	0.00422	93.8	84.4	74.0-126			10.5	20
1,3-Dichloropropane	0.00500	0.00479	0.00486	95.8	97.2	80.0-120			1.45	20
cis-1,3-Dichloropropene	0.00500	0.00490	0.00464	98.0	92.8	80.0-123			5.45	20
trans-1,3-Dichloropropene	0.00500	0.00488	0.00451	97.6	90.2	78.0-124			7.88	20
2,2-Dichloropropane	0.00500	0.00421	0.00392	84.2	78.4	58.0-130			7.13	20
Di-isopropyl ether	0.00500	0.00520	0.00494	104	98.8	58.0-138			5.13	20

1 Cp
2 Tc
3 Ss
4 Cn
5 Tr
6 Sr
7 Qc
8 Gl
9 Al
10 Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3743249-1 12/21/21 06:36 • (LCSD) R3743249-2 12/21/21 06:57

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Ethylbenzene	0.00500	0.00456	0.00451	91.2	90.2	79.0-123			1.10	20
Hexachloro-1,3-butadiene	0.00500	0.00432	0.00410	86.4	82.0	54.0-138			5.23	20
2-Hexanone	0.0250	0.0282	0.0272	113	109	67.0-149			3.61	20
Isopropylbenzene	0.00500	0.00426	0.00430	85.2	86.0	76.0-127			0.935	20
p-Isopropyltoluene	0.00500	0.00431	0.00440	86.2	88.0	76.0-125			2.07	20
2-Butanone (MEK)	0.0250	0.0283	0.0281	113	112	44.0-160			0.709	20
Methylene Chloride	0.00500	0.00470	0.00451	94.0	90.2	67.0-120			4.13	20
4-Methyl-2-pentanone (MIBK)	0.0250	0.0282	0.0272	113	109	68.0-142			3.61	20
Methyl tert-butyl ether	0.00500	0.00511	0.00489	102	97.8	68.0-125			4.40	20
Naphthalene	0.00500	0.00381	0.00422	76.2	84.4	54.0-135			10.2	20
n-Propylbenzene	0.00500	0.00435	0.00449	87.0	89.8	77.0-124			3.17	20
Styrene	0.00500	0.00442	0.00420	88.4	84.0	73.0-130			5.10	20
1,1,1,2-Tetrachloroethane	0.00500	0.00453	0.00464	90.6	92.8	75.0-125			2.40	20
1,1,2,2-Tetrachloroethane	0.00500	0.00473	0.00460	94.6	92.0	65.0-130			2.79	20
Tetrachloroethene	0.00500	0.00434	0.00444	86.8	88.8	72.0-132			2.28	20
Toluene	0.00500	0.00462	0.00450	92.4	90.0	79.0-120			2.63	20
1,1,2-Trichlorotrifluoroethane	0.00500	0.00482	0.00470	96.4	94.0	69.0-132			2.52	20
1,2,3-Trichlorobenzene	0.00500	0.00440	0.00452	88.0	90.4	50.0-138			2.69	20
1,2,4-Trichlorobenzene	0.00500	0.00404	0.00431	80.8	86.2	57.0-137			6.47	20
1,1,1-Trichloroethane	0.00500	0.00453	0.00446	90.6	89.2	73.0-124			1.56	20
1,1,2-Trichloroethane	0.00500	0.00479	0.00471	95.8	94.2	80.0-120			1.68	20
Trichloroethene	0.00500	0.00497	0.00460	99.4	92.0	78.0-124			7.73	20
Trichlorofluoromethane	0.00500	0.00435	0.00435	87.0	87.0	59.0-147			0.000	20
1,2,3-Trichloropropane	0.00500	0.00494	0.00499	98.8	99.8	73.0-130			1.01	20
1,2,3-Trimethylbenzene	0.00500	0.00441	0.00445	88.2	89.0	77.0-120			0.903	20
1,2,4-Trimethylbenzene	0.00500	0.00425	0.00430	85.0	86.0	76.0-121			1.17	20
1,3,5-Trimethylbenzene	0.00500	0.00452	0.00449	90.4	89.8	76.0-122			0.666	20
Vinyl chloride	0.00500	0.00457	0.00431	91.4	86.2	67.0-131			5.86	20
Xylenes, Total	0.0150	0.0136	0.0135	90.7	90.0	79.0-123			0.738	20
(S) Toluene-d8				*117*	*116*	*80.0-120*				
(S) 4-Bromofluorobenzene				*103*	*102*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*123*	*121*	*70.0-130*				

Method Blank (MB)

(MB) R3746078-1 12/28/21 21:45

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TPH C6 - C12	U		0.600	0.900
TPH C12 - C28	U		0.600	0.900
TPH C28 - C35	U		0.600	0.900
TPH C6 - C35	U		0.600	0.900
(S) o-Terphenyl	*87.7*			*70.0-130*
(S) 1-chlorooctane	*105*			*70.0-130*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3746078-2 12/28/21 22:01 • (LCSD) R3746078-3 12/28/21 22:17

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH C6 - C12	41.7	41.9	46.2	100	111	75.0-125			9.76	20
TPH C12 - C28	41.7	37.8	42.0	90.6	101	75.0-125			10.5	20
TPH C6 - C35	83.4	79.7	88.2	95.6	106	75.0-125			10.1	20
(S) o-Terphenyl				*85.1*	*93.7*	*70.0-130*				
(S) 1-chlorooctane				*123*	*121*	*70.0-130*				

Method Blank (MB)

(MB) R3744675-2 12/23/21 14:36

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Acenaphthene	U		0.0000886	0.00100
Acenaphthylene	U		0.0000921	0.00100
Anthracene	U		0.0000804	0.00100
Benzo(a)anthracene	U		0.000199	0.00100
Benzo(b)fluoranthene	U		0.000130	0.00100
Benzo(k)fluoranthene	U		0.000120	0.00100
Benzo(g,h,i)perylene	U		0.000121	0.00100
Benzo(a)pyrene	U		0.0000381	0.00100
Bis(2-chlorethoxy)methane	U		0.000116	0.0100
Bis(2-chloroethyl)ether	U		0.000137	0.0100
2,2-oxybis(1-chloropropane)	U		0.000210	0.0100
4-Bromophenyl-phenylether	U		0.0000877	0.0100
Carbazole	U		0.000111	0.0100
2-Chloronaphthalene	U		0.0000648	0.00100
4-Chlorophenyl-phenylether	U		0.0000926	0.0100
Chrysene	U		0.000130	0.00100
Dibenz(a,h)anthracene	U		0.0000644	0.00100
1,2-Dichlorobenzene	U		0.0000713	0.0100
1,3-Dichlorobenzene	U		0.000132	0.0100
1,4-Dichlorobenzene	U		0.0000942	0.0100
3,3-Dichlorobenzidine	U		0.000212	0.0100
2,4-Dinitrotoluene	U		0.0000983	0.0100
2,6-Dinitrotoluene	U		0.000250	0.0100
Fluoranthene	U		0.000102	0.00100
Fluorene	U		0.0000844	0.00100
Hexachlorobenzene	U		0.0000755	0.00100
Hexachloro-1,3-butadiene	U		0.0000968	0.0100
Hexachlorocyclopentadiene	U		0.0000598	0.0100
Hexachloroethane	U		0.000127	0.0100
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100
Isophorone	U		0.000143	0.0100
Naphthalene	U		0.000159	0.00100
Nitrobenzene	U		0.000297	0.0100
n-Nitrosodimethylamine	U		0.000998	0.0100
n-Nitrosodiphenylamine	U		0.00237	0.0100
n-Nitrosodi-n-propylamine	U		0.000261	0.0100
Phenanthrene	U		0.000112	0.00100
Benzylbutyl phthalate	U		0.000765	0.00300
Bis(2-ethylhexyl)phthalate	U		0.000895	0.00300
Di-n-butyl phthalate	U		0.000453	0.00300

Method Blank (MB)

(MB) R3744675-2 12/23/21 14:36

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Diethyl phthalate	U		0.000287	0.00300
Dimethyl phthalate	U		0.000260	0.00300
Di-n-octyl phthalate	U		0.000932	0.00300
Pyrene	U		0.000107	0.00100
1,2,4-Trichlorobenzene	U		0.0000698	0.0100
Benzoic Acid	U		0.00170	0.0500
Benzyl Alcohol	U		0.000563	0.0100
4-Chloroaniline	U		0.000234	0.0100
4-Chloro-3-methylphenol	U		0.000131	0.0100
2-Chlorophenol	U		0.000133	0.0100
2-Nitrophenol	U		0.000117	0.0100
4-Nitrophenol	U		0.000143	0.0100
Pentachlorophenol	U		0.000313	0.0100
Phenol	U		0.00433	0.0100
Pyridine	U		0.000627	0.0100
2,4,6-Trichlorophenol	U		0.000100	0.0100
Dibenzofuran	U		0.0000970	0.0100
2,4-Dichlorophenol	U		0.000102	0.0100
2,4-Dimethylphenol	U		0.0000636	0.0100
4,6-Dinitro-2-methylphenol	U		0.00112	0.0100
2,4-Dinitrophenol	U		0.00593	0.0100
2-Methylnaphthalene	U		0.000117	0.00100
2-Methylphenol	U		0.0000929	0.0100
3&4-Methyl Phenol	U		0.000168	0.0100
2-Nitroaniline	U		0.000102	0.0100
3-Nitroaniline	U		0.0000869	0.0100
4-Nitroaniline	U		0.0000910	0.0100
2,4,5-Trichlorophenol	U		0.000109	0.0100
(S) Nitrobenzene-d5	*67.2*			*10.0-127*
(S) 2-Fluorobiphenyl	*65.7*			*10.0-130*
(S) p-Terphenyl-d14	*84.6*			*10.0-128*
(S) Phenol-d5	*23.9*			*10.0-120*
(S) 2-Fluorophenol	*39.8*			*10.0-120*
(S) 2,4,6-Tribromophenol	*52.0*			*10.0-155*

Laboratory Control Sample (LCS)

(LCS) R3744675-1 12/23/21 14:15

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acenaphthene	0.0500	0.0387	77.4	41.0-120	
Acenaphthylene	0.0500	0.0408	81.6	43.0-120	
Anthracene	0.0500	0.0424	84.8	45.0-120	
Benzo(a)anthracene	0.0500	0.0437	87.4	47.0-120	
Benzo(b)fluoranthene	0.0500	0.0455	91.0	46.0-120	
Benzo(k)fluoranthene	0.0500	0.0437	87.4	46.0-120	
Benzo(g,h,i)perylene	0.0500	0.0369	73.8	48.0-121	
Benzo(a)pyrene	0.0500	0.0372	74.4	47.0-120	
Bis(2-chlorethoxy)methane	0.0500	0.0332	66.4	33.0-120	
Bis(2-chloroethyl)ether	0.0500	0.0355	71.0	23.0-120	
2,2-oxybis(1-chloropropane)	0.0500	0.0359	71.8	28.0-120	
4-Bromophenyl-phenylether	0.0500	0.0362	72.4	45.0-120	
Carbazole	0.0500	0.0425	85.0	51.0-122	
2-Chloronaphthalene	0.0500	0.0379	75.8	37.0-120	
4-Chlorophenyl-phenylether	0.0500	0.0347	69.4	44.0-120	
Chrysene	0.0500	0.0420	84.0	48.0-120	
Dibenz(a,h)anthracene	0.0500	0.0362	72.4	47.0-120	
3,3-Dichlorobenzidine	0.100	0.0777	77.7	44.0-120	
2,4-Dinitrotoluene	0.0500	0.0411	82.2	49.0-124	
2,6-Dinitrotoluene	0.0500	0.0392	78.4	46.0-120	
Fluoranthene	0.0500	0.0407	81.4	51.0-120	
Fluorene	0.0500	0.0383	76.6	47.0-120	
Hexachlorobenzene	0.0500	0.0317	63.4	44.0-120	
Hexachloro-1,3-butadiene	0.0500	0.0258	51.6	19.0-120	
Hexachlorocyclopentadiene	0.0500	0.0204	40.8	15.0-120	
Hexachloroethane	0.0500	0.0338	67.6	15.0-120	
Indeno(1,2,3-cd)pyrene	0.0500	0.0388	77.6	49.0-122	
Isophorone	0.0500	0.0366	73.2	36.0-120	
Naphthalene	0.0500	0.0315	63.0	27.0-120	
Nitrobenzene	0.0500	0.0343	68.6	27.0-120	
n-Nitrosodimethylamine	0.0500	0.0312	62.4	10.0-120	
n-Nitrosodiphenylamine	0.0500	0.0383	76.6	47.0-120	
n-Nitrosodi-n-propylamine	0.0500	0.0391	78.2	31.0-120	
Phenanthrene	0.0500	0.0418	83.6	46.0-120	
Benzylbutyl phthalate	0.0500	0.0485	97.0	43.0-121	
Bis(2-ethylhexyl)phthalate	0.0500	0.0445	89.0	43.0-122	
Di-n-butyl phthalate	0.0500	0.0479	95.8	49.0-121	
Diethyl phthalate	0.0500	0.0423	84.6	48.0-122	
Dimethyl phthalate	0.0500	0.0392	78.4	48.0-120	
Di-n-octyl phthalate	0.0500	0.0457	91.4	42.0-125	

Laboratory Control Sample (LCS)

(LCS) R3744675-1 12/23/21 14:15

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Pyrene	0.0500	0.0474	94.8	47.0-120	
1,2,4-Trichlorobenzene	0.0500	0.0289	57.8	24.0-120	
Benzoic Acid	0.100	0.0312	31.2	10.0-120	
Benzyl Alcohol	0.0500	0.0287	57.4	25.0-120	
4-Chloroaniline	0.0500	0.0304	60.8	25.0-120	
4-Chloro-3-methylphenol	0.0500	0.0360	72.0	40.0-120	
2-Chlorophenol	0.0500	0.0301	60.2	25.0-120	
Dibenzofuran	0.0500	0.0387	77.4	44.0-120	
2,4-Dichlorophenol	0.0500	0.0316	63.2	36.0-120	
2,4-Dimethylphenol	0.0500	0.0328	65.6	33.0-120	
4,6-Dinitro-2-methylphenol	0.0500	0.0439	87.8	38.0-138	
2,4-Dinitrophenol	0.0500	0.0418	83.6	10.0-120	
2-Methylnaphthalene	0.0500	0.0317	63.4	33.0-120	
2-Methylphenol	0.0500	0.0270	54.0	28.0-120	
3&4-Methyl Phenol	0.0500	0.0283	56.6	31.0-120	
2-Nitroaniline	0.0500	0.0444	88.8	43.0-120	
3-Nitroaniline	0.0500	0.0422	84.4	38.0-120	
4-Nitroaniline	0.0500	0.0430	86.0	18.0-160	
2-Nitrophenol	0.0500	0.0338	67.6	31.0-120	
4-Nitrophenol	0.0500	0.0138	27.6	10.0-120	
Pentachlorophenol	0.0500	0.0351	70.2	23.0-120	
Phenol	0.0500	0.0119	23.8	10.0-120	
Pyridine	0.0500	0.00897	17.9	10.0-120	
2,4,6-Trichlorophenol	0.0500	0.0362	72.4	42.0-120	
2,4,5-Trichlorophenol	0.0500	0.0363	72.6	44.0-120	
1,2-Dichlorobenzene	0.0500	0.0348	69.6	20.0-120	
1,3-Dichlorobenzene	0.0500	0.0341	68.2	17.0-120	
1,4-Dichlorobenzene	0.0500	0.0343	68.6	18.0-120	
(S) Nitrobenzene-d5			*65.4*	*10.0-127*	
(S) 2-Fluorobiphenyl			*70.8*	*10.0-130*	
(S) p-Terphenyl-d14			*84.6*	*10.0-128*	
(S) Phenol-d5			*21.8*	*10.0-120*	
(S) 2-Fluorophenol			*36.3*	*10.0-120*	
(S) 2,4,6-Tribromophenol			*60.0*	*10.0-155*	

L1444152-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1444152-01 12/23/21 16:47 • (MS) R3744675-3 12/23/21 17:09 • (MSD) R3744675-4 12/23/21 17:30

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Carbazole	0.0500	U	0.0403	0.0416	80.6	83.2	1	38.0-127			3.17	21
Fluoranthene	0.0500	U	0.0391	0.0405	78.2	81.0	1	41.0-121			3.52	22
Naphthalene	0.0500	U	0.0294	0.0303	58.8	60.6	1	10.0-120			3.02	31
Bis(2-ethylhexyl)phthalate	0.0500	U	0.0445	0.0453	89.0	90.6	1	33.0-126			1.78	25
Acenaphthene	0.0500	U	0.0370	0.0373	74.0	74.6	1	28.0-120			0.808	25
Acenaphthylene	0.0500	U	0.0378	0.0388	75.6	77.6	1	31.0-121			2.61	25
Anthracene	0.0500	U	0.0401	0.0414	80.2	82.8	1	36.0-120			3.19	23
Benzo(a)anthracene	0.0500	U	0.0415	0.0424	83.0	84.8	1	39.0-120			2.15	23
Benzo(b)fluoranthene	0.0500	U	0.0430	0.0440	86.0	88.0	1	37.0-120			2.30	23
Benzo(k)fluoranthene	0.0500	U	0.0410	0.0426	82.0	85.2	1	37.0-120			3.83	26
Benzo(g,h,i)perylene	0.0500	U	0.0347	0.0356	69.4	71.2	1	37.0-123			2.56	25
Benzo(a)pyrene	0.0500	U	0.0367	0.0372	73.4	74.4	1	37.0-120			1.35	24
Bis(2-chlorethoxy)methane	0.0500	U	0.0311	0.0319	62.2	63.8	1	17.0-120			2.54	31
Bis(2-chloroethyl)ether	0.0500	U	0.0334	0.0351	66.8	70.2	1	14.0-120			4.96	33
2,2-Oxybis(1-Chloropropane)	0.0500	U	0.0322	0.0335	64.4	67.0	1	18.0-120			3.96	34
4-Bromophenyl-phenylether	0.0500	U	0.0344	0.0355	68.8	71.0	1	37.0-120			3.15	24
4-Chloroaniline	0.0500	U	0.0326	0.0317	65.2	63.4	1	10.0-120			2.80	31
2-Chloronaphthalene	0.0500	U	0.0361	0.0366	72.2	73.2	1	29.0-120			1.38	28
4-Chlorophenyl-phenylether	0.0500	U	0.0331	0.0334	66.2	66.8	1	36.0-120			0.902	23
Chrysene	0.0500	U	0.0402	0.0410	80.4	82.0	1	38.0-120			1.97	23
Dibenz(a,h)anthracene	0.0500	U	0.0337	0.0345	67.4	69.0	1	36.0-121			2.35	24
Dibenzofuran	0.0500	U	0.0364	0.0370	72.8	74.0	1	32.0-120			1.63	26
1,2-Dichlorobenzene	0.0500	U	0.0319	0.0337	63.8	67.4	1	18.0-120			5.49	40
1,3-Dichlorobenzene	0.0500	U	0.0314	0.0331	62.8	66.2	1	15.0-120			5.27	40
1,4-Dichlorobenzene	0.0500	U	0.0316	0.0329	63.2	65.8	1	17.0-120			4.03	40
3,3-Dichlorobenzidine	0.100	U	0.0737	0.0715	73.7	71.5	1	10.0-134			3.03	30
2,4-Dinitrotoluene	0.0500	U	0.0390	0.0400	78.0	80.0	1	39.0-125			2.53	25
2,6-Dinitrotoluene	0.0500	U	0.0370	0.0377	74.0	75.4	1	36.0-120			1.87	27
Fluorene	0.0500	U	0.0365	0.0374	73.0	74.8	1	37.0-120			2.44	24
Hexachlorobenzene	0.0500	U	0.0299	0.0310	59.8	62.0	1	35.0-122			3.61	24
Hexachloro-1,3-butadiene	0.0500	U	0.0238	0.0249	47.6	49.8	1	12.0-120			4.52	34
Hexachlorocyclopentadiene	0.0500	U	0.0195	0.0209	39.0	41.8	1	10.0-120			6.93	33
Hexachloroethane	0.0500	U	0.0306	0.0325	61.2	65.0	1	10.0-120			6.02	40
Indeno(1,2,3-cd)pyrene	0.0500	U	0.0367	0.0378	73.4	75.6	1	38.0-125			2.95	24
Isophorone	0.0500	U	0.0344	0.0358	68.8	71.6	1	21.0-120			3.99	27
2-Methylnaphthalene	0.0500	U	0.0298	0.0308	59.6	61.6	1	17.0-120			3.30	28
2-Nitroaniline	0.0500	U	0.0426	0.0434	85.2	86.8	1	33.0-120			1.86	27
3-Nitroaniline	0.0500	U	0.0416	0.0416	83.2	83.2	1	20.0-120			0.000	27
4-Nitroaniline	0.0500	U	0.0424	0.0428	84.8	85.6	1	10.0-160			0.939	26
Nitrobenzene	0.0500	U	0.0317	0.0333	63.4	66.6	1	12.0-120			4.92	30

L1444152-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1444152-01 12/23/21 16:47 • (MS) R3744675-3 12/23/21 17:09 • (MSD) R3744675-4 12/23/21 17:30

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
n-Nitrosodimethylamine	0.0500	U	0.0349	0.0365	69.8	73.0	1	10.0-120			4.48	40
n-Nitrosodiphenylamine	0.0500	U	0.0375	0.0372	75.0	74.4	1	37.0-120			0.803	24
n-Nitrosodi-n-propylamine	0.0500	U	0.0368	0.0382	73.6	76.4	1	16.0-120			3.73	30
Phenanthrene	0.0500	U	0.0393	0.0404	78.6	80.8	1	33.0-120			2.76	22
Benzylbutyl phthalate	0.0500	U	0.0487	0.0503	97.4	101	1	34.0-126			3.23	24
Di-n-butyl phthalate	0.0500	U	0.0475	0.0493	95.0	98.6	1	35.0-128			3.72	23
Diethyl phthalate	0.0500	U	0.0408	0.0416	81.6	83.2	1	39.0-125			1.94	24
Dimethyl phthalate	0.0500	U	0.0372	0.0380	74.4	76.0	1	37.0-120			2.13	24
Di-n-octyl phthalate	0.0500	U	0.0457	0.0469	91.4	93.8	1	25.0-135			2.59	26
Pyrene	0.0500	U	0.0464	0.0478	92.8	95.6	1	39.0-120			2.97	22
Pyridine	0.0500	U	0.0223	0.0126	44.6	25.2	1	10.0-120		J3	55.6	37
1,2,4-Trichlorobenzene	0.0500	U	0.0266	0.0280	53.2	56.0	1	15.0-120			5.13	31
Benzoic Acid	0.100	0.00193	0.0343	0.0363	32.4	34.4	1	10.0-120			5.67	40
Benzyl Alcohol	0.0500	U	0.0299	0.0320	59.8	64.0	1	14.0-120			6.79	38
4-Chloro-3-methylphenol	0.0500	U	0.0350	0.0368	70.0	73.6	1	26.0-120			5.01	27
2-Chlorophenol	0.0500	U	0.0286	0.0302	57.2	60.4	1	18.0-120			5.44	34
2-Methylphenol	0.0500	0.00170	0.0265	0.0279	49.6	52.4	1	10.0-120			5.15	30
3&4-Methyl Phenol	0.0500	0.00391	0.0281	0.0297	48.4	51.6	1	10.0-120			5.54	36
2,4-Dichlorophenol	0.0500	U	0.0297	0.0314	59.4	62.8	1	19.0-120			5.56	27
2,4-Dimethylphenol	0.0500	0.00152	0.0326	0.0330	62.2	63.0	1	15.0-120			1.22	28
4,6-Dinitro-2-methylphenol	0.0500	U	0.0411	0.0438	82.2	87.6	1	10.0-144			6.36	39
2,4-Dinitrophenol	0.0500	U	0.0394	0.0395	78.8	79.0	1	10.0-120			0.253	40
2-Nitrophenol	0.0500	U	0.0314	0.0334	62.8	66.8	1	20.0-120			6.17	30
4-Nitrophenol	0.0500	U	0.0132	0.0142	26.4	28.4	1	10.0-120			7.30	40
Pentachlorophenol	0.0500	U	0.0329	0.0351	65.8	70.2	1	10.0-128			6.47	37
Phenol	0.0500	U	0.0126	0.0136	25.2	27.2	1	10.0-120			7.63	40
2,4,5-Trichlorophenol	0.0500	U	0.0348	0.0360	69.6	72.0	1	33.0-120			3.39	31
2,4,6-Trichlorophenol	0.0500	U	0.0342	0.0353	68.4	70.6	1	26.0-120			3.17	31
(S) Nitrobenzene-d5					*60.3*	*62.9*		*10.0-127*				
(S) 2-Fluorobiphenyl					*66.5*	*68.7*		*10.0-130*				
(S) p-Terphenyl-d14					*83.8*	*85.5*		*10.0-128*				
(S) Phenol-d5					*20.5*	*22.6*		*10.0-120*				
(S) 2-Fluorophenol					*35.3*	*37.1*		*10.0-120*				
(S) 2,4,6-Tribromophenol					*54.0*	*58.5*		*10.0-155*				

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
MQL	Method Quantitation Limit.
ND	Not detected at the Method Quantitation Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
SDL	Sample Detection Limit.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Sample Detection Limit.
Unadj. MQL	Unadjusted Method Quantitation Limit.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits.
J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.
T8	Sample(s) received past/too close to holding time expiration.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
UPRR - Golder Associates

2201 Double Creek Dr., Ste 4004
Round Rock, TX 78664

Billing Information:
Kevin Peterburs
4823 N 119th Street
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Pres Chk

Report to:
Patrick Marty

Email To:
Patrick_marty@golder.com;chris_elofson@gold

Project Description:
Houston TX-Houston Subd. MP358.2-360.3 Englewood

City/State Collected:

Please Circle: PT MT CT ET

Phone: 512-671-3434

Client Project #
1712

Lab Project #
UPRRGOLD-1712

Collected by (print):
Chris Elofson

Site/Facility ID #
DISPOSAL SUPPORT

P.O. #

Collected by (signature):
Chris Elofson

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

No. of Cntrs

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	8270 100ml Amb NoPres	MRCRA8 250mlHDPE-HNO3	PH 125mlHDPE-NoPres	REACTCN 250mlHDPEAmb-NaOH	REACTS 250mlAmb-S-NaOH+ZnAc	TPHTX 40mlAmbHCl-BT-trwted	V8260 40mlAmb-HCl	Remarks	Sample # (lab only)
WW-1712-VB01-20211216	G	GW	—	12/16/21	1213	11	X	X	X	X	X	X	✓		-01
		GW													
		GW													
		GW													

Chain of Custody Page ___ of ___

Pace Analytical

12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of th Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1443938
B140

Acctnum: UPRRGOLD
Template: T200649
Prelogin: P892912
PM: 134 - Mark W. Beasley
PB:
Shipped Via:

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 531899534311

Sample Receipt Checklist
COC Seal Present/Intact: NP Y
COC Signed/Accurate: Y
Bottles arrive intact: Y
Correct bottles used: Y
Sufficient volume sent: Y
If Applicable
VOA Zero Headspace: Y
Preservation Correct/Checked: Y
RAD Screen <0.5 mR/hr: Y

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
Chris Elofson	12/16/21	1240		
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C 4.6 to 4.6 Bottles Received: 11
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 12/17/21 Time: 900

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK