GeoDesign Inc
An NV5 Company

LIMITED SOIL CHARACTERIZATION INVESTIGATION

St. Helens Riverwalk Phase I
270 Strand Street
St. Helens, Oregon
DEQ ECSI No. 3283

For
Mayer/Reed, Inc.
June 2, 2021

Project: StHelens-4-02

GeoDesign Inc
AN NV5 COMPANY

June 2, 2021

Mayer/Reed, Inc.
319 SW Washington Street, Suite 820
Portland, OR 97204

Attention: Shannon Simms

Limited Soil Characterization Investigation
St. Helens Riverwalk Phase I
270 Strand Street
St. Helens, Oregon
DEQ ECSI No. 3283
Project: StHelens-4-02

GeoDesign, Inc. DBA NV5 (GeoDesign) is pleased to submit this report summarizing the results of a limited soil characterization investigation conducted at the St. Helens Riverwalk Phase I project located at 270 Strand Street in St. Helens, Oregon. Our services were performed in accordance with the subconsultant agreement dated March 18, 2021.

We appreciate the opportunity to be of service to Mayer/Reed, Inc. Please contact us if you have questions regarding this report.

Sincerely,

GeoDesign, Inc., DBA NV5

Colby R. Hunt, C.H.M.M.
Principal

cc: Jeramie Shane, Mayer/Reed, Inc. (via email only)

KTH:CRH:kt
Attachments
One copy submitted (via email only)
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ACRONYMS AND ABBREVIATIONS

ADA	Americans with Disabilities Act
ASTM	American Society for Testing and Materials
BGS	below ground surface
BS	blank spike
BSD	blank spike duplicate
CFSL	Clean Fill Screening Level
CMMP	Contaminated Media Management Plan
DEQ	Oregon Department of Environmental Quality
ECSI	Environmental Cleanup Site Information
EPA	U.S. Environmental Protection Agency
eV	electronvolt
I.D.	identification
IDW	investigation-derived waste
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
MS	matrix spike
MSD	matrix spike duplicate
NE	not established
NFA	No Further Action
not detected	compound not detected at a concentration equal to or greater than the laboratory method reporting limit or reporting detection limit
PAH	polyaromatic hydrocarbon
PID	photoionization detector
PPA	Prospective Purchaser Agreement
ppmv	parts per million by volume
QC	quality control
RBC	risk-based concentration
RBDM	*Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites*
RCRA	Resource Conservation and Recovery Act
RPD	relative percent difference
TMB	trimethylbenzene
VOC	volatile organic compound

1.0 INTRODUCTION

This report summarizes the results of a limited soil characterization investigation of the St. Helens Riverwalk Phase I project located at 270 Strand Street in St. Helens, Oregon (Riverwalk). The Riverwalk includes an approximately 5,600-square-foot portion of Tax Lot 7500 of Columbia County Tax Map 40103BA, currently developed with Columbia View Park, and an approximately 2,300-square-foot portion of Tax Lot 100 of Columbia County Tax Map 4010300, which is a portion of the former Boise Cascade Veneer Plant (Veneer Plant) and is listed on the DEQ ECSI database (ECSI No. 3283). The Riverwalk is shown relative to surrounding physical features on Figure 1. The Riverwalk layout and surrounding properties are shown on Figure 2. Acronyms and abbreviations used herein are defined above, immediately following the Table of Contents.

2.0 BACKGROUND

Columbia View Park was constructed sometime prior to 1990 and consists of a stone- and grass-terraced park with paved walkways, restrooms, and an amphitheater. The Veneer Plant was occupied by a sawmill by at least 1911 and operated until 1969. A veneer mill was constructed on the southern portion of the Veneer Plant in 1971. The sawmill was demolished through a controlled burn in 1985. The veneer mill operated until 2009 and was demolished in 2013.

The Veneer Plant is listed as ECSI File No. 3283. Between 1987 and 2014 multiple environmental investigations and remedial actions were conducted at the Veneer Plant. The investigations identified residual petroleum hydrocarbon-impacted soil beneath the former lathe area located on the southern portion of the Veneer Plant and residual lead-impacted soil located adjacent to 317 Strand Street. The known residual impacts are located outside of the current Riverwalk boundaries. Petroleum hydrocarbons, PAHs, and VOCs were detected at low concentrations in groundwater beneath the Veneer Plant.

DEQ issued an NFA determination for the Veneer Plant in June 2015 with the following conditions and restrictions:

- Restricted consumption or other beneficial use of groundwater beneath the Veneer Plant
- Required an impermeable cap in the lathe area to prevent exposure and leaching of contamination into shallow groundwater
- Required that any contaminated soil or groundwater removed from the Veneer Plant be managed in accordance with a DEQ-approved CMMP

Prior to purchasing the Veneer Plant, the City of St. Helens (the City) entered into a PPA with DEQ, dated May 2, 2016. The PPA required that the City adhere to the conditions and restrictions outlined above.

3.0 PROPOSED REDEVELOPMENT

The St. Helens Riverwalk will create public access at and along the Columbia River's bank and may include cantilevered boardwalk structures, hard surface paths, and overlooks within

Columbia View Park. The boardwalk and/or pathways will be fully ADA-compliant and wide enough to accommodate two-way pedestrian and bicycle traffic. Other Riverwalk Phase I projects may include riverbank stabilization, riprap repair, riparian restoration and construction lighting, railings, furnishings, and areas for public art and interpretive signage.

4.0 SCOPE OF SERVICES

The purpose of the limited soil characterization investigation was to obtain soil chemical analytical data to evaluate end-use disposal options for soil that will be generated during construction activities. The soil characterization investigation was approved by DEQ in an email dated April 23, 2021. The specific scope of services is presented as follows:

- Contacted Oregon's one-call Utility Notification Center to mark the location of public utilities beneath the Riverwalk.
- Prepared a site-specific Health and Safety Plan.
- Subcontracted Applied Professional Services, Inc. of Portland, Oregon, to clear the proposed boring locations of potential utility conflicts.
- Subcontracted Stratus Corporation of Gaston, Oregon, to advance 10 direct-push borings (DP-1 through DP-10) to 10 feet BGS at the locations shown on Figure 2.
- Collected continuous soil samples from the borings for field screening purposes. Field screening included observing the soil for visual indicators of contamination, water sheen testing, and headspace vapor concentration measurements using a PID with a 10.6-eV lamp.
- Divided the Riverwalk into four composite areas, as shown on Figure 2.
- Collected two composite soil samples from each composite area representative of soil between 0 and 5 feet BGS and between 5 and 10 feet BGS for a total of eight composite soil samples. Composite soil samples were collected by field compositing the entire recovered portion of each 5-foot sampling interval of the borings within a composite area. Samples collected for analysis of VOCs were collected in general accordance with EPA Method 5035A by collected two discrete "plungers" of soil from each boring within a depth interval.
- Submitted the eight composite soil samples to Pace Analytical of Mount Juliet, Tennessee, for analysis of the following: gasoline-range hydrocarbons by Method NWTPH-Gx, diesel- and oil-range hydrocarbons by Method NWTPH-Dx, VOCs by EPA Method 8260D, RCRA 8 metals by EPA Methods 6020B/7471B, and PAHs by EPA Method 8270E SIM.
- Containerized IDW generated during the investigation in a labeled drum and disposed of it off site.
- Decommissioned each boring by backfilling with bentonite chips.
- Summarized the methods, results, and our conclusions from the limited soil characterization investigation in this report.

5.0 FIELD ACTIVITIES

Stratus Corporation of Gaston, Oregon, advanced 10 direct-push borings (DP-1 through DP-10) at the Riverwalk to a depth of 10 feet BGS on May 3, 2020. The borings were relatively evenly spaced along the Riverwalk as shown on Figure 2. A detailed description of our field exploration program is presented in Appendix A and summarized below.

5.1 SUBSURFACE CONDITIONS

In general, subsurface soil at the Riverwalk consists of alternating layers of silt, gravel, and sand that appeared to be fill material to the maximum depth explored of 10 feet BGS. Groundwater was not encountered in the explorations conducted at the Riverwalk to the maximum depth explored. The exploration logs are presented in Appendix A.

5.2 SOIL SAMPLING

A GeoDesign representative observed the drilling activities and collected continuous soil samples from the borings for field screening purposes and potential chemical analysis. The Riverwalk was divided into four composite areas, including three composite areas on the Columbia View Park portion of the Riverwalk and one composite area on the Veneer Plant portion of the Riverwalk, as shown on Figure 2. GeoDesign field composited the entire 5-foot recovered sampling interval of each boring within a composite area. The table below summarizes the borings that comprise each composite sample.

Composite Area	Borings
Comp-1	DP-1 and DP-2
Comp-2	DP-3 and DP-4
Comp-3	DP-5, DP-6, and D-7
Comp-4	DP-8, DP-9, and DP-10

Soil samples intended for analysis of VOCs were collected in general accordance with EPA sampling Method 5035A by collecting two "plungers" of soil from each boring within a depth interval. Soil samples were placed immediately in an ice chest and kept cool with wet ice until delivery to the laboratory. Standard chain-of-custody procedures were observed during transport of the samples to the laboratory.

Field screening included visual and olfactory observation, water sheen screening, and headspace vapor screening using a hand-held PID. Field screening evidence of petroleum contamination was not observed in the soil samples collected from borings DP-1 through DP-10. Field screening results are shown on the exploration logs presented in Appendix A.

6.0 REGULATORY SCREENING LEVELS

A formal conceptual site model has not been developed for the Riverwalk. As a conservative measure, soil sample analytical results were compared to the most conservative DEQ RBCs. To characterize soil for management/disposal purposes, soil sample chemical analytical results were also compared to DEQ CFSLs. Soil that does not appear stained, does not have a chemical- or petroleum-like odor, and does not contain contaminants at concentrations greater than DEQ CFSLs can be managed as clean fill. DEQ CFSLs are based on DEQ-established geographical areas. The Riverwalk is located along the boundary of the Portland Basin and Coast Range geographic boundaries; therefore, analytical results were compared to the CFSLs for both geographic areas.

7.0 CHEMICAL ANALYTICAL RESULTS

The eight composite soil samples[1] collected during this investigation were submitted to Pace Analytical of Mount Juliet, Tennessee, for chemical analysis of the following:

- Gasoline-range hydrocarbons by Method NWTPH-Gx
- Diesel- and oil-range hydrocarbons by Method NWTPH-Dx
- VOCs by EPA Method 8260D
- RCRA 8 total metals by EPA Methods 6020B/7471B
- PAHs by EPA Method 8270E SIM

Arsenic was detected in the eight composite soil samples at concentrations between 1.98 and 3.30 mg/kg. These detected concentrations were greater than the DEQ *Soil Ingestion, Dermal Contact, and Inhalation* RBCs for residential and occupational receptors, but less than the DEQ *Soil Ingestion, Dermal Contact, and Inhalation* RBCs for construction worker and excavation worker receptors. However, the detected concentrations of arsenic were less than the DEQ-established, naturally occurring background concentration of arsenic in the area of 8.8 or 12 mg/kg and are therefore not considered exceedances of the RBCs.

Petroleum hydrocarbons, VOCs, RCRA 8 total metals, and PAHs were otherwise either not detected or were detected at concentrations less than the most stringent DEQ RBCs and DEQ CFSLs. A comparison of the soil sample chemical analytical results to regulatory criteria is shown in Tables 1 through 3. The chemical analytical program details, laboratory report, and chain-of-custody documentation are presented in Appendix B.

8.0 CONCLUSIONS AND RECOMMENDATIONS

GeoDesign conducted a limited soil characterization investigation of the St. Helens Riverwalk Phase I project located at 270 Strand Street in St. Helens, Oregon. Petroleum hydrocarbons, VOCs, RCRA 8 total metals, and PAHs were either not detected or were detected at concentrations less than the most stringent DEQ RBCs, DEQ CFSLs, and/or DEQ-established background concentrations. Based on the results of the investigation, it appears that soil generated from Columbia River Park can be managed as clean fill in the Coast Range and the Portland Basin geographic areas.

Based on the results of this limited soil characterization, it appears that soil generated from the Veneer Plant portion of the Riverwalk qualifies for disposal as non-hazardous solid waste at a RCRA Subtitle D Landfill or other DEQ-approved facility. DEQ stated that they may require additional sampling of soil from the Veneer Plant portion of the Riverwalk to approve management of this soil as clean fill. However, given the low concentrations of contaminants observed in the composite soil sample collected from the Veneer Plant portion of the Riverwalk, we recommend submitting this information to DEQ with a request to manage soil generated from the Veneer Plant during Riverwalk construction as clean fill.

[1] Comp-1(0-1), Comp-1(5-10), Comp-2(0-5), Comp-2(5-10), Comp-3(0-5), Comp-3(5-10), Comp-4(0-5), Comp-4(5-10)

9.0 LIMITATIONS

This report has been prepared for Mayer/Reed, Inc. This report is not intended for use by others, and the information contained herein is not applicable to other sites. Reliance by other parties must be approved by GeoDesign, Inc. in accordance with our standard contractual process for third-party reliance. Our interpretations of subsurface conditions are based on data from select soil samples collected from this limited area. The results of the analyses only indicate the presence or absence of those chemical constituents analyzed in those discrete sample locations at the time of the investigation. It is always possible that contamination could exist between the widely spaced exploration locations. Analytical data from the laboratory samples should only be considered as indicators of Riverwalk conditions and not a guarantee of the absence of subsurface impact in areas not sampled.

The conclusions presented in this report are based on our observations made during field investigations and chemical analytical data. The findings of this investigation should be considered as a professional opinion based on our evaluation of select and limited data.

Our services have been executed in accordance with the generally accepted practices in this area at the time this report was prepared. No warranty or other conditions, express or implied, should be understood.

♦ ♦ ♦

We appreciate the opportunity to be of service. Please call if you have questions regarding this report.

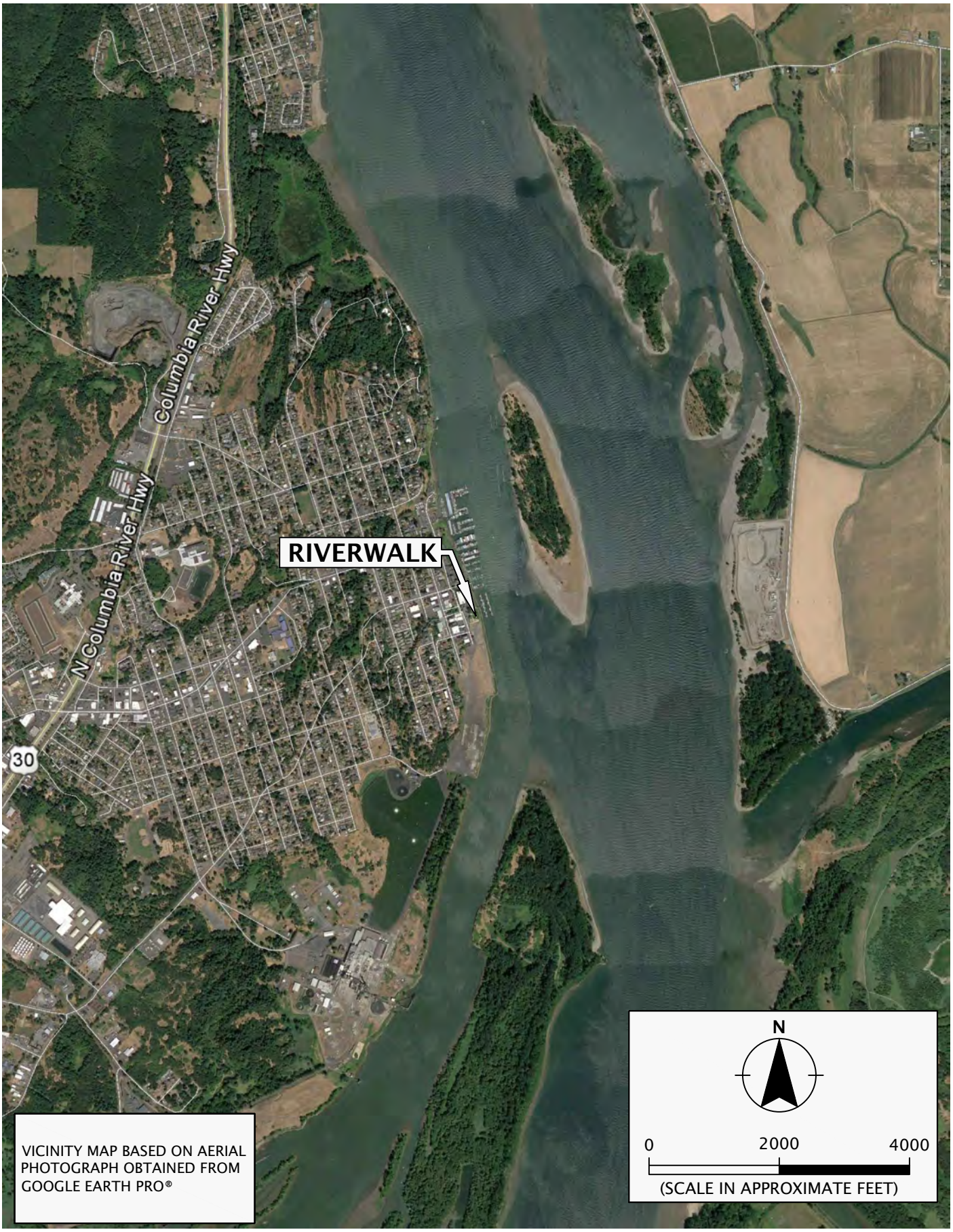
Sincerely,

GeoDesign, Inc., DBA NV5

Kyle Haggart, G.I.T.
Project Manager

Colby R. Hunt, C.H.M.M.
Principal

FIGURES



VICINITY MAP BASED ON AERIAL PHOTOGRAPH OBTAINED FROM GOOGLE EARTH PRO®

GEODESIGN INC AN NV5 COMPANY	STHELENS-4-02	**VICINITY MAP**	
	JUNE 2021	ST. HELENS RIVERWALK PHASE 1 ST. HELENS, OR	**FIGURE 1**

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File Name: J:\S-Z\StHelens\StHelens-4\StHelens-4-02\Figures\CAD\StHelens-4-02-VM01.dwg | Layout: FIGURE 1

LEGEND:

RIVERWALK BOUNDARY	
DP-1 ●	BORING
COMP-1	COMPOSITE SAMPLING AREA

N

0 50 100

(SCALE IN FEET)

SITE PLAN BASED ON AERIAL PHOTOGRAPH OBTAINED FROM GOOGLE EARTH PRO®, APRIL 21, 2021

SITE PLAN

ST. HELENS RIVERWALK PHASE 1
ST. HELENS, OR

FIGURE 2

STHELENS-4-02

JUNE 2021

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TABLES

TABLE 1
Summary of Soil Sample Chemical Analytical Results
Petroleum Hydrocarbons and VOCs
St. Helens Riverwalk Phase I
270 Strand Street
St. Helens, Oregon

Sample I.D. (depth in feet BGS)	Sample Date	Gasoline-Range Hydrocarbons Method NWTPH-Gx (mg/kg)		Diesel- and Oil-Range Hydrocarbons Method NWTPH-Dx (mg/kg)				VOCs[1] EPA Method 8260D (mg/kg)					
				Diesel-Range		Oil-Range		2-Butanone (MEK)		1,2,4-TMB		Total Xylenes	
Comp-1(0-5)	05/03/21	1.28	U	**2.11**	J	**5.53**	J	**0.122**	J	0.00244	U	**0.00373**	J
Comp-1(5-10)	05/03/21	0.952	U	1.41	U	3.53	U	0.0713	U	**0.00331**	J	**0.00433**	J
Comp-2(0-5)	05/03/21	1.24	U	**2.54**	J	**7.02**	J	**0.119**	B, J	0.00230	U	**0.00186**	J
Comp-2(5-10)	05/03/21	0.962	U	1.42	U	3.55	U	**0.0773**	B, J	0.00181	U	**0.00148**	J
Comp-3(0-5)	05/03/21	1.07	U	**3.39**	J, J3	**11.7**		**0.105**	B, J	0.00201	U	0.00112	U
Comp-3(5-10)	05/03/21	1.47	U	**4.21**	J	**20.2**		**0.0963**	B, J	0.00217	U	**0.00142**	J
Comp-4(0-5)	05/03/21	0.972	U	**1.96**	J	**9.22**	J	0.0744	U	0.00185	U	**0.00134**	J
Comp-4(5-10)	05/03/21	1.06	U	1.49	U	3.73	U	**0.140**	B, J	0.00230	U	**0.00164**	J
DEQ Generic RBCs[2]													
Soil Ingestion, Dermal Contact, and Inhalation													
Residential		1,200		1,100		NE		NE		430		1,400	
Occupational		20,000		14,000		NE		NE		6,900		25,000	
Construction Worker		9,700		4,600		NE		NE		2,900		20,000	
Excavation Worker		>Max		>Max		NE		NE		81,000		560,000	
Volatilization to Outdoor Air													
Residential		5,900		>Max		NE		NE		>Csat		>Csat	
Occupational		69,000		>Max		NE		NE		>Csat		>Csat	
Vapor Intrusion into Buildings													
Residential		94		>Max		NE		NE		140		160	
Occupational		>Max		>Max		NE		NE		>Csat		>Csat	
DEQ CFSLs[3]		31		1,100		NE		72		10		1.4	

Notes:
1. Only VOCs detected during this investigation are listed. For a complete listing of VOCs, refer to the laboratory report in Appendix B.
2. DEQ Generic RBCs dated May 2018
3. DEQ CFSLs dated February 21, 2019

B: The same analyte is found in the associated blank.
>Csat: This soil RBC exceeds the limit of three-phase equilibrium partitioning. Refer to Appendix D of DEQ's RBDM guidance document for the corresponding value of Csat. Soil concentrations in excess of Csat indicate that free product might be present.
>Max: The constituent RBC for this pathway is calculated as greater than 1,000,000 mg/kg or 1,000,000 mg/L. Therefore, this substance is deemed not to pose risks in this scenario.
J: The identification of the analyte is acceptable; the reported value is an estimate.
J3: The associated batch QC was outside the established quality control range for precision.
U: Not detected. Reporting or detection limit shown.
Bolding indicates analyte detection.

TABLE 2
Summary of Soil Sample Chemical Analytical Results
RCRA 8 Total Metals
St. Helens Riverwalk Phase I
270 Strand Street
St. Helens, Oregon

Sample I.D. (depth in feet BGS)	Sample Date	RCRA 8 Total Metals EPA Method 6020B/7471B (mg/kg)							
		Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
Comp-1(0-5)	05/03/21	**3.30**	**155**	**0.116** J	**14.9**	**7.03**	**0.0260** J	**0.521** J	0.109 U
Comp-1(5-10)	05/03/21	**2.04**	**56.6** O1	**0.196** J	**7.02**	**3.82**	0.0191 U	**0.222** J	0.0918 U
Comp-2(0-5)	05/03/21	**3.05**	**154**	**0.151** J	**15.3**	**7.53**	**0.0289** J	**0.487** J	**0.107** J
Comp-2(5-10)	05/03/21	**1.98**	**47.1**	**0.185** J	**6.92**	**3.34**	**0.0232** J	0.192 U	0.0922 U
Comp-3(0-5)	05/03/21	**2.89**	**94.5**	**0.137** J	**9.27**	**5.50**	**0.0320** J	0.203 U	**0.266** J
Comp-3(5-10)	05/03/21	**2.42**	**96.3**	**0.110** J	**10.5**	**5.76**	**0.0224** J	**0.282** J	0.102 U
Comp-4(0-5)	05/03/21	**2.12**	**46.6**	**0.161** J	**5.16** J	**4.67**	**0.0466**	0.193 U	0.0925 U
Comp-4(5-10)	05/03/21	**2.67**	**58.3**	**0.163** J	**9.48**	**4.06**	**0.0214** J	0.202 U	0.0969 U
DEQ Generic RBCs[1]									
Soil Ingestion, Dermal Contact, and Inhalation									
Residential		0.43[2]	15,000	78	120,000	400	23	NE	390
Occupational		1.9[2]	220,000	1,100	>Max	800	350	NE	5,800
Construction Worker		15	69,000	350	530,000	800	110	NE	1,800
Excavation Worker		420	>Max	9,700	>Max	800	2,900	NE	49,000
Volatilization to Outdoor Air									
Residential		NV	NV	NV	NV	NV	NV	NE	NV
Occupational		NV	NV	NV	NV	NV	NV	NE	NV
Vapor Intrusion into Buildings									
Residential		NV	NV	NV	NV	NV	NV	NE	NV
Occupational		NV	NV	NV	NV	NV	NV	NE	NV

TABLE 2
Summary of Soil Sample Chemical Analytical Results
RCRA 8 Total Metals
St. Helens Riverwalk Phase I
270 Strand Street
St. Helens, Oregon

Sample I.D. (depth in feet BGS)	Sample Date	RCRA 8 Total Metals EPA Method 6020B/7471B (mg/kg)							
		Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
DEQ CFSLs - Portland Basin[3]		8.8	790	0.63	76	28	0.23	0.71	0.82
DEQ CFSLs - Coast Range[3]		12	630	0.54	240	34	0.11	1.5	0.41

Notes:

1. DEQ Generic RBCs dated May 2018

2. While the detected concentrations of arsenic are greater than this RBC, they are within the range of naturally occurring arsenic concentrations in soil in this area. Exceedance of these RBCs are not shaded.

3. DEQ CFSLs dated February 21, 2019

J: The identification of the analyte is acceptable; the reported value is an estimate.

>Max: The constituent RBC for this pathway is calculated as greater than 1,000,000 mg/kg or 1,000,000 mg/L. Therefore, this substance is deemed not to pose risks in this scenario.

NV: chemical is considered non-volatile

O1: The analyte failed the method required serial dilution test and/or subsequent post-spike criteria. These failures indicate matrix interference.

U: Not detected. Reporting or detection limit shown.

Bolding indicates analyte detection.

TABLE 3
Summary of Soil Sample Chemical Analytical Results
PAHs
St. Helens Riverwalk Phase I
270 Strand Street
St. Helens, Oregon

Sample I.D. (depth in feet BGS)	Sample Date	PAHs EPA Method 8270E SIM (mg/kg)																		
		Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(g,h,i)perylene	2-Chloronaphthalene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	1-Methylnaphthalene	2-Methylnaphthalene	Naphthalene	Phenanthrene	Pyrene
Comp-1(0-5)	05/03/21	0.00289 U	0.00271 U	0.00262 U	0.00217 U	0.00225 U	0.00192 U	0.00270 U	0.00222 U	0.00585 U	0.00291 U	0.00216 U	0.00285 U	0.00257 U	0.00227 U	0.00563 U	0.00536 U	0.00512 U	0.00290 U	**0.00280 J**
Comp-1(5-10)	05/03/21	0.00222 U	0.00229 U	0.00244 U	0.00184 U	0.00190 U	0.00162 U	0.00228 U	0.00188 U	0.00495 U	0.00246 U	0.00183 U	0.00241 U	0.00218 U	0.00192 U	0.00477 U	0.00453 U	0.00433 U	0.00245 U	0.00212 U
Comp-2(0-5)	05/03/21	0.00254 U	0.00262 U	0.00279 U	0.00210 U	0.00217 U	**0.003 J**	0.00261 U	0.00215 U	0.00566 U	0.00282 U	0.00209 U	**0.0042 J**	0.00249 U	0.00220 U	0.00545 U	0.00519 U	0.00496 U	**0.0031 J**	**0.0039 J**
Comp-2(5-10)	05/03/21	0.00223 U	0.00230 U	0.00245 U	0.00184 U	0.00191 U	0.00163 U	0.00229 U	0.00189 U	0.00497 U	0.00247 U	0.00183 U	0.00242 U	0.00219 U	0.00193 U	0.00479 U	0.00455 U	0.00435 U	0.00246 U	0.00213 U
Comp-3(0-5)	05/03/21	0.00236 U	0.00244 U	0.00260 U	**0.0025 J**	**0.0034 J**	**0.0043 J**	0.00243 U	**0.0056 J**	0.00526 U	**0.0036 J**	0.00194 U	**0.0038 J**	0.00231 U	**0.0031 J**	0.00507 U	0.00482 U	0.00461 U	0.00261 U	**0.0041 J**
Comp-3(5-10)	05/03/21	0.00247 U	0.00255 U	0.00272 U	**0.0039 J**	**0.0056 J**	**0.0067 J**	0.00254 U	**0.0078**	0.00550 U	**0.0058 J**	0.00203 U	**0.0035 J**	0.00242 U	**0.0049 J**	0.00530 U	0.00504 U	0.00482 U	0.00273 U	**0.0046 J**
Comp-4(0-5)	05/03/21	0.00224 U	0.00231 U	0.00246 U	**0.0114**	**0.0107**	**0.0110**	**0.004 J**	**0.0278**	0.00499 U	**0.0204**	**0.00640 J**	**0.0049 J**	0.00219 U	**0.0077**	0.00480 U	0.00457 U	0.00437 U	**0.0054 J**	**0.0170**
Comp-4(5-10)	05/03/21	0.00234 U	0.00242 U	0.00258 U	0.00194 U	0.00200 U	0.00171 U	0.00241 U	0.00198 U	0.00522 U	0.00260 U	0.00193 U	0.00254 U	0.0023 U	0.00203 U	0.00503 U	0.00478 U	0.00457 U	0.00259 U	0.00224 U
DEQ Generic RBCs[1]																				
Soil Ingestion, Dermal Contact, and Inhalation																				
Residential		4,700	NE	23,000	1.1	0.11	1.1	11	NE	NE	110	0.11	2,400	3,100	1.1	NE	NE	5.3	NE	1,800
Occupational		70,000	NE	350,000	21	2.1	21	210	NE	NE	2,100	2.1	30,000	47,000	21	NE	NE	23	NE	23,000
Construction Worker		21,000	NE	110,000	170	17	170	1,700	NE	NE	17,000	17	10,000	14,000	170	NE	NE	580	NE	7,500
Excavation Worker		590,000	NE	>Max	4,800	490	4,900	49,000	NE	NE	490,000	490	280,000	390,000	4,900	NE	NE	16,000	NE	210,000
Volatilization to Outdoor Air																				
Residential		>Max	NE	>Max	>Csat	NV	NV	NV	NE	NE	NV	NV	NV	>Max	NV	NE	NE	6.4	NE	>Max
Occupational		>Max	NE	>Max	>Csat	NV	NV	NV	NE	NE	NV	NV	NV	>Max	NV	NE	NE	83	NE	>Max
Vapor Intrusion into Buildings																				
Residential		>Max	NE	>Max	>Csat	NV	NV	NV	NE	NE	NV	NV	NV	>Max	NV	NE	NE	6.4	NE	>Max
Occupational		>Max	NE	>Max	>Csat	NV	NV	NV	NE	NE	NV	NV	NV	>Max	NV	NE	NE	83	NE	>Max
DEQ CFSLs[2]		0.25	120	6.8	0.73	0.11	1.1	11	25	230	3.1	0.11	10	3.7	1.1	0.36	11	0.077	5.5	10

Notes:
1. DEQ Generic RBCs dated May 2018
2. DEQ CFSLs dated February 21, 2019
>Csat: This soil RBC exceeds the limit of three-phase equilibrium partitioning. Refer to Appendix D of DEQ's RBDM guidance document for the corresponding value of Csat. Soil concentrations in excess of Csat indicate that free product might be present.
J: The identification of the analyte is acceptable; the reported value is an estimate.
>Max: The constituent RBC for this pathway is calculated as greater than 1,000,000 mg/kg or 1,000,000 mg/L. Therefore, this substance is deemed not to pose risks in this scenario.
NV: chemical is considered non-volatile
U: Not detected. Reporting or detection limit shown.
Bolding indicates analyte detection.

APPENDIX A

APPENDIX A

FIELD PROCEDURES

EXPLORATIONS

Stratus Corporation of Gaston, Oregon, advanced 10 direct-push borings (DP-1 through DP-10) at the Riverwalk to a depth of 10 feet BGS on May 3, 2020. The locations of the explorations are shown on Figure 2. The exploration logs are presented in this appendix. A GeoDesign field representative observed the drilling activities and collected soil samples from the borings. The soil encountered in the borings was visually classified in general accordance with ASTM D2488.

Soil Sampling

Continuous soil samples were collected from the borings. Soil samples collected from the direct-push borings were collected from 2-inch-diameter, 60-inch-long samplers lined with acrylic sleeves. The Riverwalk was divided into four composite areas, as shown on Figure 2. GeoDesign field composited the entire 5-foot recovered sampling interval of each boring within a composite area. The table below summarizes the borings that comprise each composite sample.

Composite Area	Borings
Comp-1	DP-1 and DP-2
Comp-2	DP-3 and DP-4
Comp-3	DP-5, DP-6, and D-7
Comp-4	DP-8, DP-9, and DP-10

Soil samples intended for analysis of VOCs were collected in general accordance with EPA sampling Method 5035A by collecting two "plungers" of soil from each boring within a depth interval. Soil samples were placed immediately in an ice chest and kept cool with wet ice until delivery to the laboratory. Standard chain-of-custody procedures were observed during transport of the samples to the laboratory.

Soil Sampling Field Screening Methods

A GeoDesign representative performed field screening tests on select soil samples collected from the borings. Field screening results aided in the selection of soil samples for chemical analysis. Screening methods included visual examination, water sheen screening, and headspace vapor screening using a 10.6-eV MiniRAE 3000 PID. Visual screening consisted of inspecting the soil for discoloration indicative of the presence of petroleum contamination in the sample. Water sheen screening involved placing soil in water and observing the water surface for signs of sheen. Sheen classifications are as follows:

No Sheen	No visible sheen on the water surface.
Slight Sheen	Light, colorless, dull sheen; spread is irregular, not rapid; sheen dissipates rapidly. Natural organic matter in the soil may produce a slight sheen.

Moderate Sheen	Light to heavy sheen; may have some color/iridescence; spread is irregular to flowing, may be rapid; few remaining areas of no sheen on water surface.
Heavy Sheen	Heavy sheen with color/iridescence; spread is rapid; entire water surface may be covered with sheen.

Headspace vapor screening is performed by placing a soil sample in a plastic bag. Air is captured in the bag, and the bag is shaken to expose the soil to the air trapped in the bag. The probe of a MiniRAE 3000 PID is inserted into the bag, and the MiniRAE PID measures VOC vapor concentrations in units of ppmv. The MiniRAE 3000 PID is calibrated to isobutylene. The MiniRAE PID is designed to quantify VOC vapor concentrations in the range between 10 and 2,000 ppmv with an accuracy of 2 percent of the reading and between 2,000 and 10,000 ppmv with an accuracy of 20 percent of the reading.

Field screening results are site and exploration specific. The results may vary with temperature, soil moisture content, soil type, and type of contaminant.

DECONTAMINATION

All sampling equipment used in the collection of samples was decontaminated prior to use. Decontamination was performed on all sample re-usable processing equipment that came into contact with sampling media, including tools, stainless steel implements, trowels, etc. Decontamination was performed prior to sampling each location using the following procedures:

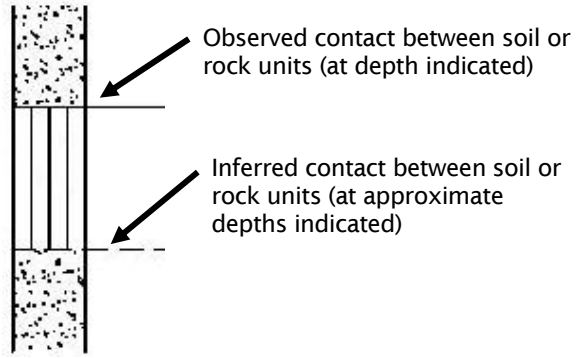
1. Rinsed with tap water and scrubbed with a scrub brush until free of large particles (e.g., sediment or soil).
2. Washed with phosphate-free (Alconox™) detergent solution.
3. Rinsed with tap water.
4. Rinsed with distilled water.

IDW MANAGEMENT

IDW from the borings (soil cuttings) was placed into a drum and disposed of off site.

SYMBOL	SAMPLING DESCRIPTION
	Location of sample collected in general accordance with ASTM D1586 using Standard Penetration Test with recovery
	Location of sample collected using thin-wall Shelby tube or Geoprobe® sampler in general accordance with ASTM D1587 with recovery
	Location of sample collected using Dames & Moore sampler and 300-pound hammer or pushed with recovery
	Location of sample collected using Dames & Moore sampler and 140-pound hammer or pushed with recovery
	Location of sample collected using 3-inch-O.D. California split-spoon sampler and 140-pound hammer with recovery
	Location of grab sample
	Rock coring interval
	Water level during drilling
	Water level taken on date shown

Graphic Log of Soil and Rock Types



GEOTECHNICAL TESTING EXPLANATIONS

ATT	Atterberg Limits	P	Pushed Sample
CBR	California Bearing Ratio	PP	Pocket Penetrometer
CON	Consolidation	P200	Percent Passing U.S. Standard No. 200 Sieve
DD	Dry Density		
DS	Direct Shear	RES	Resilient Modulus
HYD	Hydrometer Gradation	SIEV	Sieve Gradation
MC	Moisture Content	TOR	Torvane
MD	Moisture-Density Relationship	UC	Unconfined Compressive Strength
NP	Non-Plastic	VS	Vane Shear
OC	Organic Content	kPa	Kilopascal

ENVIRONMENTAL TESTING EXPLANATIONS

CA	Sample Submitted for Chemical Analysis	ND	Not Detected
P	Pushed Sample	NS	No Visible Sheen
PID	Photoionization Detector Headspace Analysis	SS	Slight Sheen
		MS	Moderate Sheen
ppm	Parts per Million	HS	Heavy Sheen

RELATIVE DENSITY - COARSE-GRAINED SOIL

Relative Density	Standard Penetration Resistance	Dames & Moore Sampler (140-pound hammer)	Dames & Moore Sampler (300-pound hammer)
Very Loose	0 – 4	0 – 11	0 – 4
Loose	4 – 10	11 – 26	4 – 10
Medium Dense	10 – 30	26 – 74	10 – 30
Dense	30 – 50	74 – 120	30 – 47
Very Dense	More than 50	More than 120	More than 47

CONSISTENCY - FINE-GRAINED SOIL

Consistency	Standard Penetration Resistance	Dames & Moore Sampler (140-pound hammer)	Dames & Moore Sampler (300-pound hammer)	Unconfined Compressive Strength (tsf)
Very Soft	Less than 2	Less than 3	Less than 2	Less than 0.25
Soft	2 – 4	3 – 6	2 – 5	0.25 – 0.50
Medium Stiff	4 – 8	6 – 12	5 – 9	0.50 – 1.0
Stiff	8 – 15	12 – 25	9 – 19	1.0 – 2.0
Very Stiff	15 – 30	25 – 65	19 – 31	2.0 – 4.0
Hard	More than 30	More than 65	More than 31	More than 4.0

PRIMARY SOIL DIVISIONS			GROUP SYMBOL	GROUP NAME
COARSE-GRAINED SOIL (more than 50% retained on No. 200 sieve)	GRAVEL (more than 50% of coarse fraction retained on No. 4 sieve)	CLEAN GRAVEL (< 5% fines)	GW or GP	GRAVEL
		GRAVEL WITH FINES (≥ 5% and ≤ 12% fines)	GW-GM or GP-GM	GRAVEL with silt
			GW-GC or GP-GC	GRAVEL with clay
		GRAVEL WITH FINES (> 12% fines)	GM	silty GRAVEL
			GC	clayey GRAVEL
			GC-GM	silty, clayey GRAVEL
	SAND (50% or more of coarse fraction passing No. 4 sieve)	CLEAN SAND (<5% fines)	SW or SP	SAND
		SAND WITH FINES (≥ 5% and ≤ 12% fines)	SW-SM or SP-SM	SAND with silt
			SW-SC or SP-SC	SAND with clay
		SAND WITH FINES (> 12% fines)	SM	silty SAND
			SC	clayey SAND
			SC-SM	silty, clayey SAND
FINE-GRAINED SOIL (50% or more passing No. 200 sieve)	SILT AND CLAY	Liquid limit less than 50	ML	SILT
			CL	CLAY
			CL-ML	silty CLAY
			OL	ORGANIC SILT or ORGANIC CLAY
		Liquid limit 50 or greater	MH	SILT
			CH	CLAY
			OH	ORGANIC SILT or ORGANIC CLAY
HIGHLY ORGANIC SOIL			PT	PEAT

MOISTURE CLASSIFICATION

Term	Field Test
dry	very low moisture, dry to touch
moist	damp, without visible moisture
wet	visible free water, usually saturated

ADDITIONAL CONSTITUENTS

Secondary granular components or other materials such as organics, man-made debris, etc.

Percent	Silt and Clay In: Fine-Grained Soil	Silt and Clay In: Coarse-Grained Soil	Percent	Sand and Gravel In: Fine-Grained Soil	Sand and Gravel In: Coarse-Grained Soil
< 5	trace	trace	< 5	trace	trace
5 – 12	minor	with	5 – 15	minor	minor
> 12	some	silty/clayey	15 – 30	with	with
			> 30	sandy/gravelly	Indicate %

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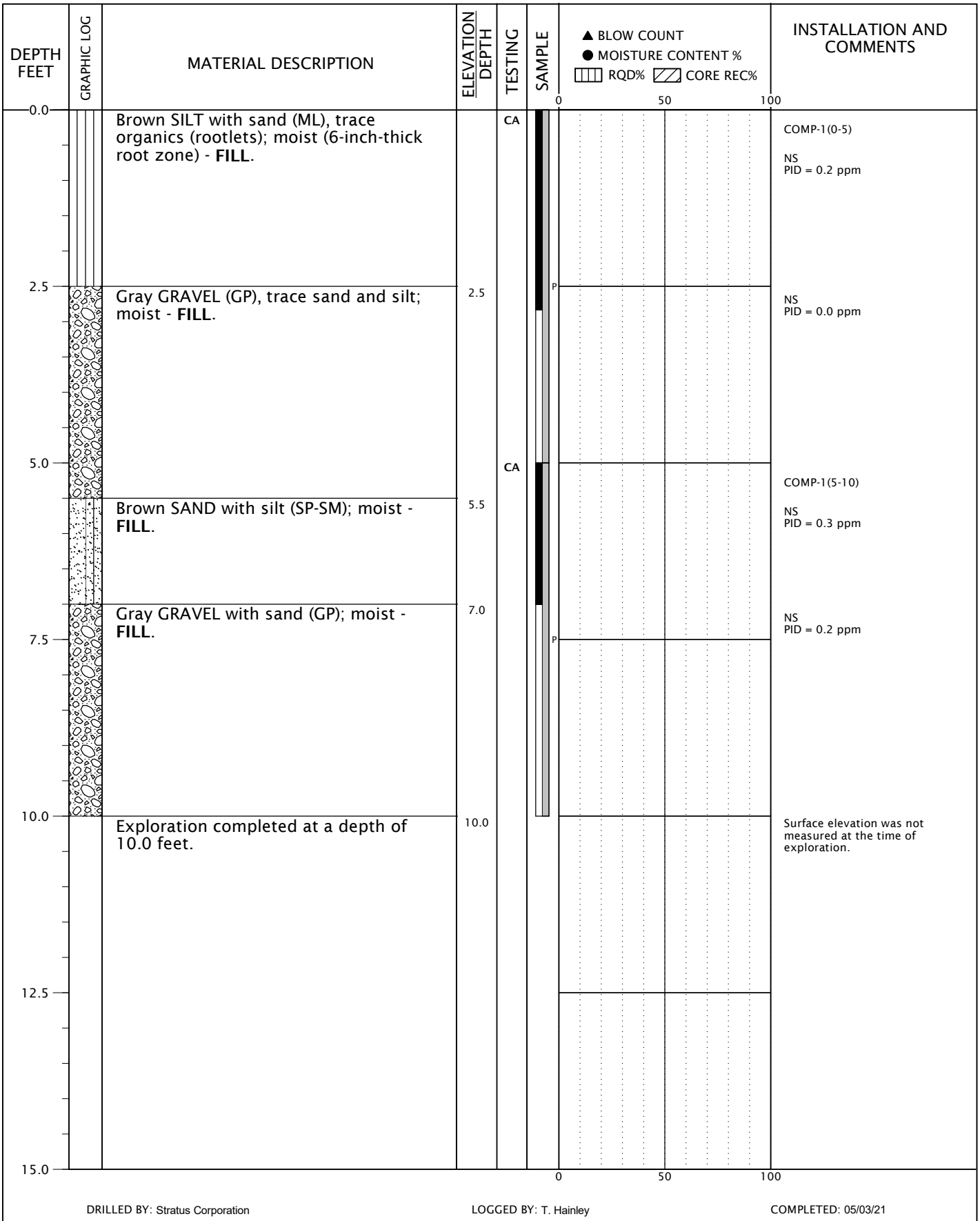
SOIL CLASSIFICATION SYSTEM

TABLE A-2



DRILLED BY: Stratus Corporation

LOGGED BY: T. Hainley

COMPLETED: 05/03/21

BORING METHOD: direct push (see document text)

BORING BIT DIAMETER: 2 1/4 inches

GeoDesign Inc
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STHELENS-4-02

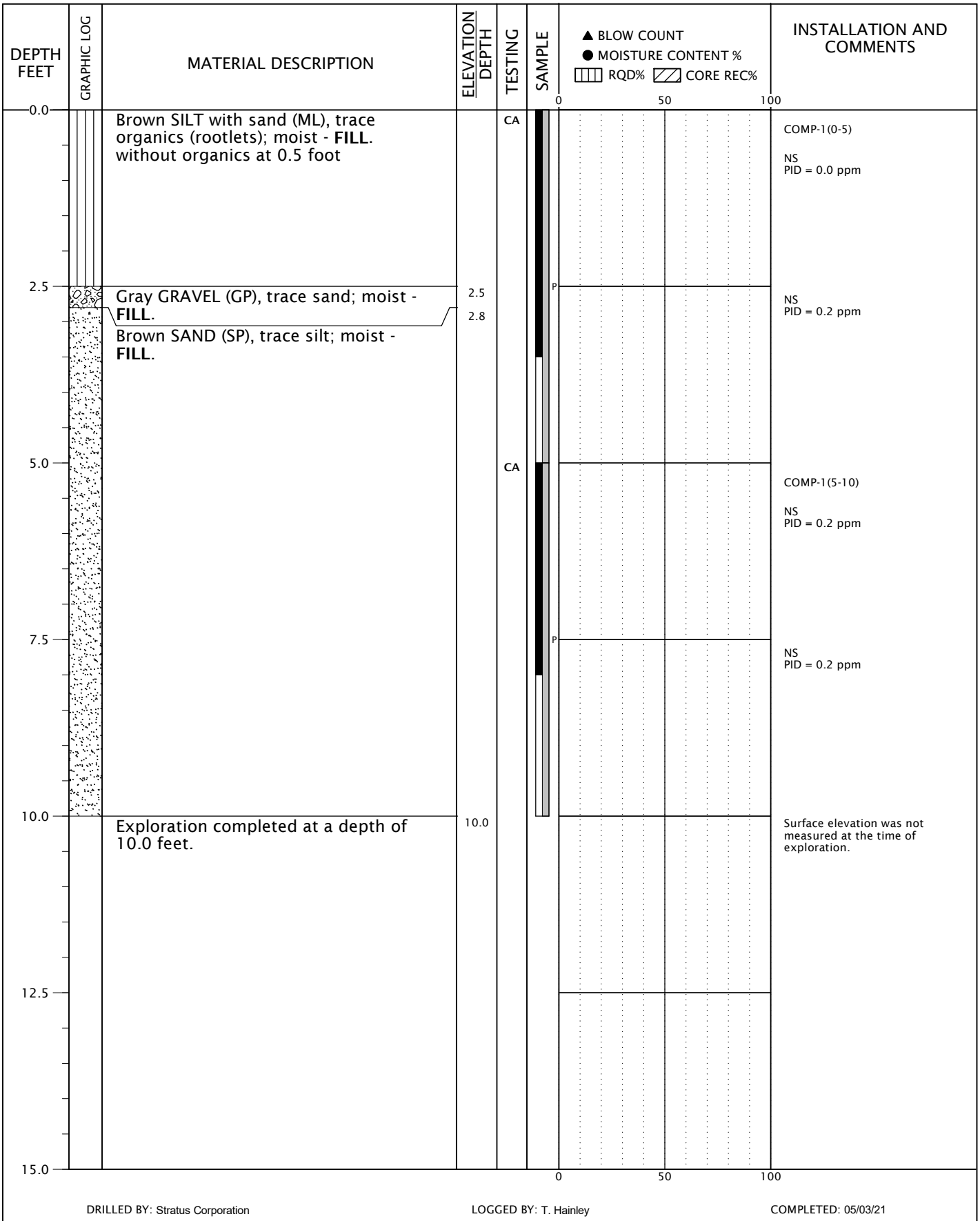
BORING DP-1

JUNE 2021

ST. HELENS RIVERWALK
ST. HELENS, OR

FIGURE A-1

BORING LOG - GDI-NV5 - 1 PER PAGE STHELENS-4-02-DP1_10.GPJ GDI_NV5.GDT PRINT DATE: 6/1/21:KT



DRILLED BY: Stratus Corporation

LOGGED BY: T. Hainley

COMPLETED: 05/03/21

BORING METHOD: direct push (see document text)

BORING BIT DIAMETER: 2 1/4 inches

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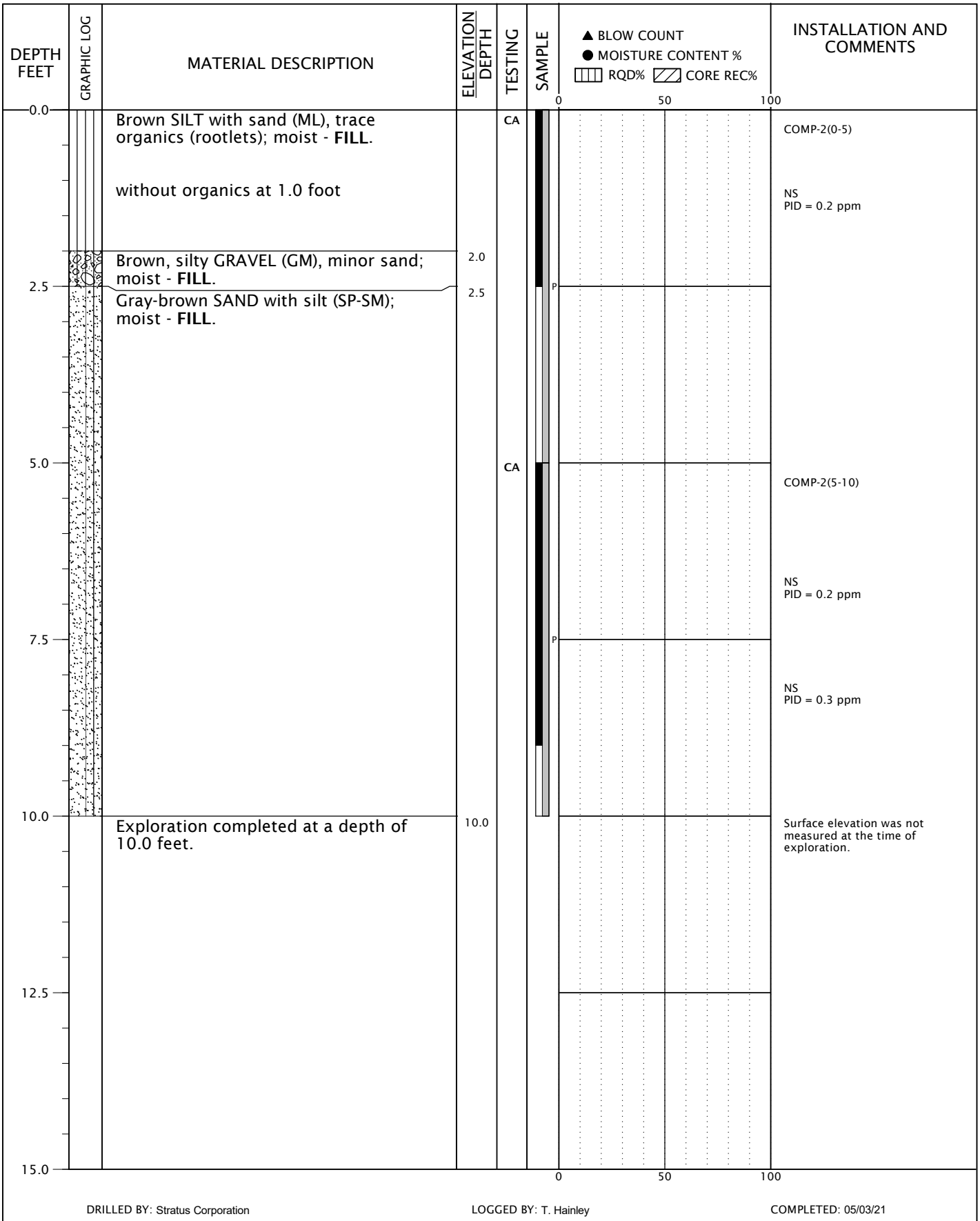
FIGURE A-2

BORING LOG - GDI-NV5 - 1 PER PAGE STHELENS-4-02-DP1_10.GPJ GDI_NV5.GDT PRINT DATE: 6/1/21:KT



DRILLED BY: Stratus Corporation

LOGGED BY: T. Hainley

COMPLETED: 05/03/21

BORING METHOD: direct push (see document text)

BORING BIT DIAMETER: 2 1/4 inches

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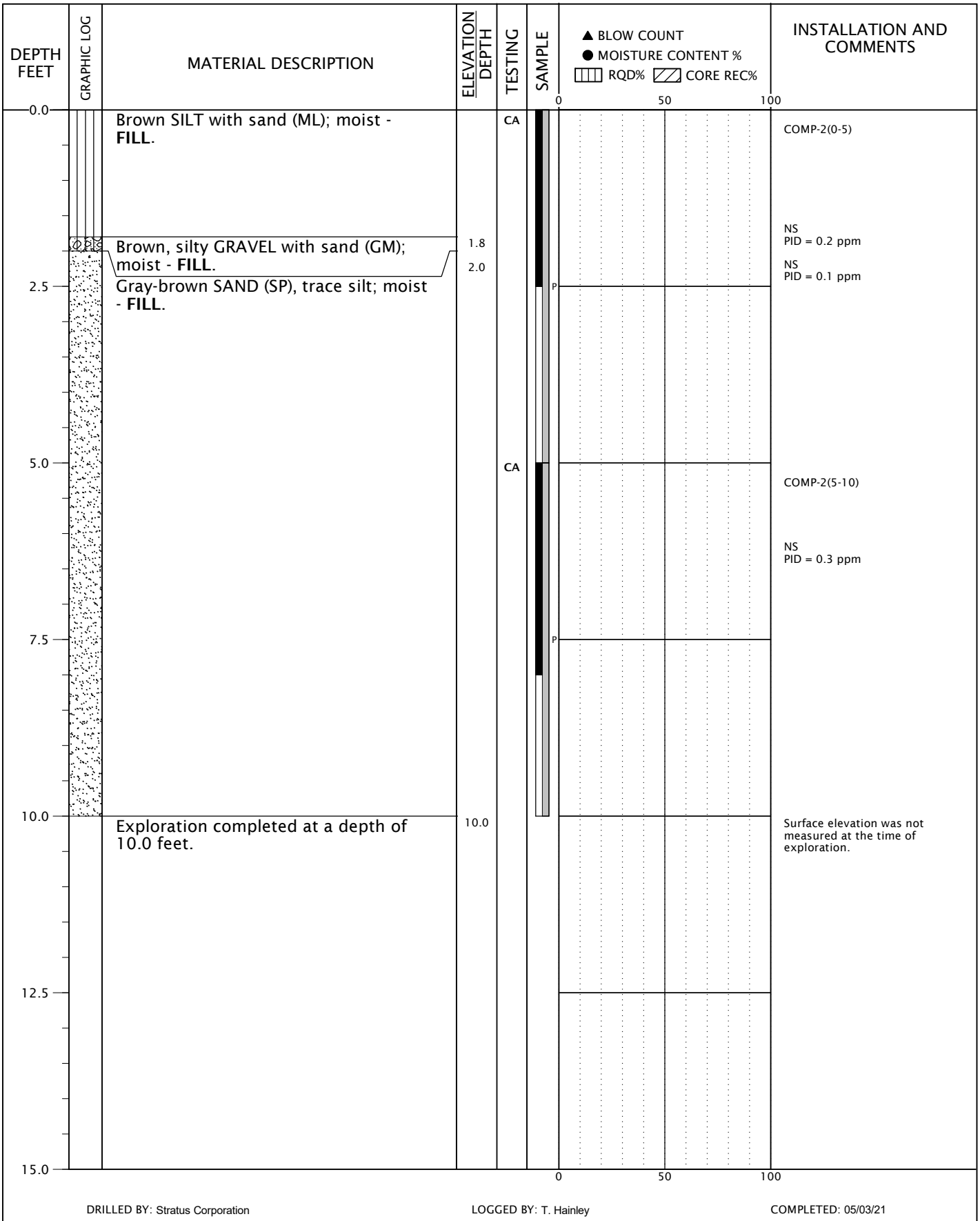
BORING DP-3

JUNE 2021

ST. HELENS RIVERWALK
ST. HELENS, OR

FIGURE A-3

BORING LOG - GDI-NV5 - 1 PER PAGE STHELENS-4-02-DP1_10.GPJ GDI_NV5.GDT PRINT DATE: 6/1/21:KT



DRILLED BY: Stratus Corporation

LOGGED BY: T. Hainley

COMPLETED: 05/03/21

BORING METHOD: direct push (see document text)

BORING BIT DIAMETER: 2 1/4 inches

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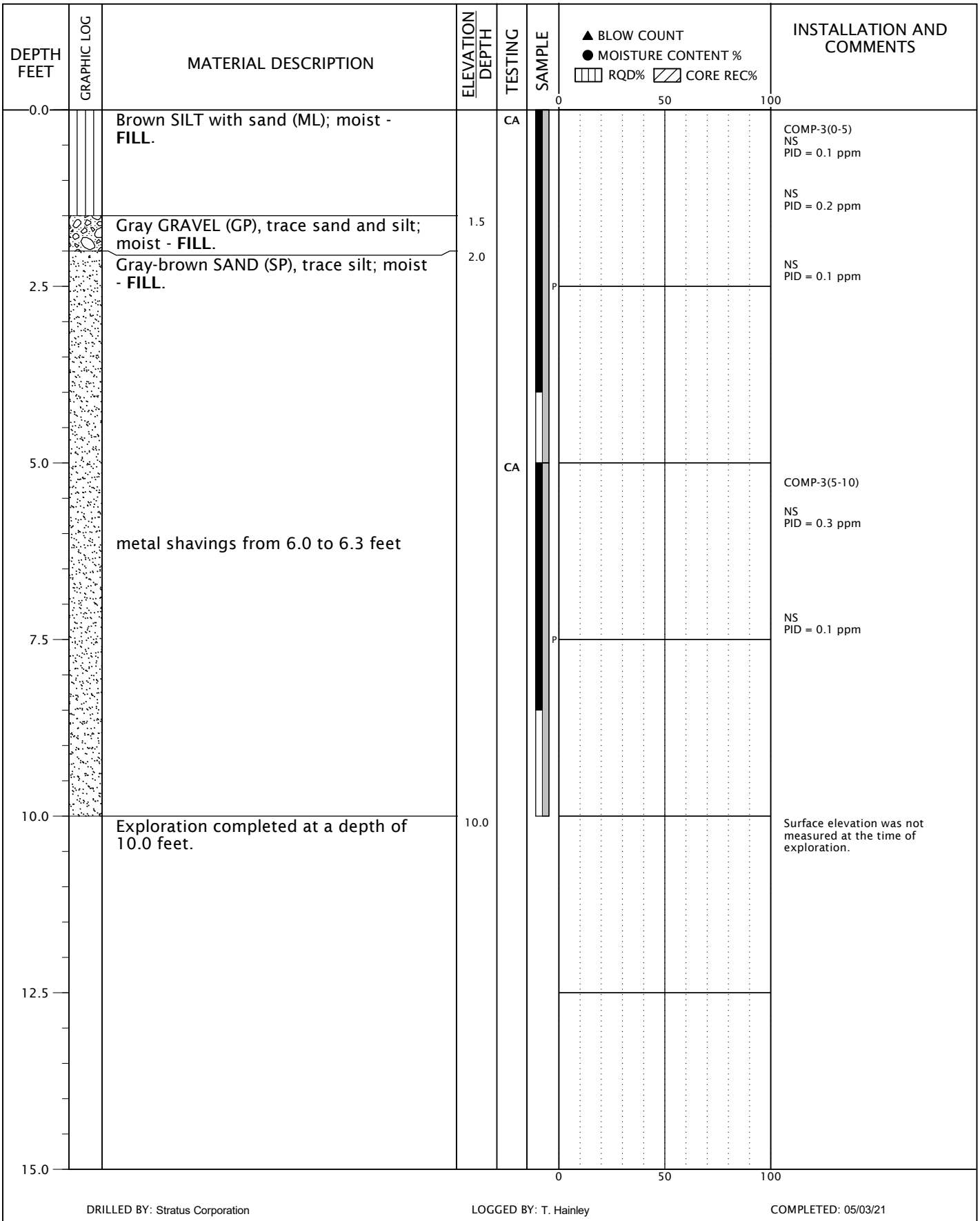
BORING DP-4

JUNE 2021

ST. HELENS RIVERWALK
ST. HELENS, OR

FIGURE A-4

BORING LOG - GDI-NV5 - 1 PER PAGE STHELENS-4-02-DP1_10.GPJ GDI_NV5.GDT PRINT DATE: 6/1/21:KT



DRILLED BY: Stratus Corporation

LOGGED BY: T. Hainley

COMPLETED: 05/03/21

BORING METHOD: direct push (see document text)

BORING BIT DIAMETER: 2 1/4 inches

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STHELENS-4-02

BORING DP-5

JUNE 2021

ST. HELENS RIVERWALK
ST. HELENS, OR

FIGURE A-5

BORING LOG - GDI-NV5 - 1 PER PAGE STHELENS-4-02-DP1_10.GPJ GDI_NV5.GDT PRINT DATE: 6/1/21:KT

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION / DEPTH	TESTING	SAMPLE	▲ BLOW COUNT ● MOISTURE CONTENT % RQD% CORE REC% (0 50 100)	INSTALLATION AND COMMENTS
0.0		Brown SILT with sand (ML), trace organics (rootlets); moist (6-inch-thick root zone) - **FILL**. without organics at 0.5 foot		CA			COMP-3(0-5) NS PID = 0.1 ppm
		Gray-brown, silty GRAVEL with sand (GM); moist - **FILL**.	2.0				NS PID = 0.2 ppm
2.5		Gray-brown SAND with silt (SP-SM); moist - **FILL**.	2.5		P		NS PID = 0.1 ppm
5.0				CA			COMP-3(5-10) NS PID = 0.2 ppm
7.5					P		NS PID = 0.1 ppm
10.0		Exploration completed at a depth of 10.0 feet.	10.0				Surface elevation was not measured at the time of exploration.
12.5							
15.0							

DRILLED BY: Stratus Corporation | LOGGED BY: T. Hainley | COMPLETED: 05/03/21

BORING METHOD: direct push (see document text) | BORING BIT DIAMETER: 2 1/4 inches

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STHELENS-4-02

BORING DP-6

JUNE 2021

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FIGURE A-6

BORING LOG - GDI-NV5 - 1 PER PAGE STHELENS-4-02-DP1_10.GPJ GDI_NV5.GDT PRINT DATE: 6/1/21:KT

DEPTH FEET	MATERIAL DESCRIPTION	ELEVATION / DEPTH	TESTING	SAMPLE	▲ BLOW COUNT ● MOISTURE CONTENT % RQD% CORE REC% (0 50 100)	INSTALLATION AND COMMENTS
0.0	Brown SILT with sand (ML), trace gravel; moist (3-inch-thick root zone) - **FILL**.		CA			COMP-3(0-5) NS PID = 0.2 ppm
	Gray-brown GRAVEL with silt and sand (GP-GM); moist - **FILL**.	1.5				
2.5				P		NS PID = 0.1 ppm
	Gray-brown SAND with silt (SP-SM); moist - **FILL**.	3.0				NS PID = 0.2 ppm
5.0			CA			COMP-3(5-10) NS PID = 0.1 ppm
7.5				P		NS PID = 0.2 ppm
10.0	Exploration completed at a depth of 10.0 feet.	10.0				Surface elevation was not measured at the time of exploration.
12.5						
15.0						

DRILLED BY: Stratus Corporation | LOGGED BY: T. Hainley | COMPLETED: 05/03/21

BORING METHOD: direct push (see document text) | BORING BIT DIAMETER: 2 1/4 inches

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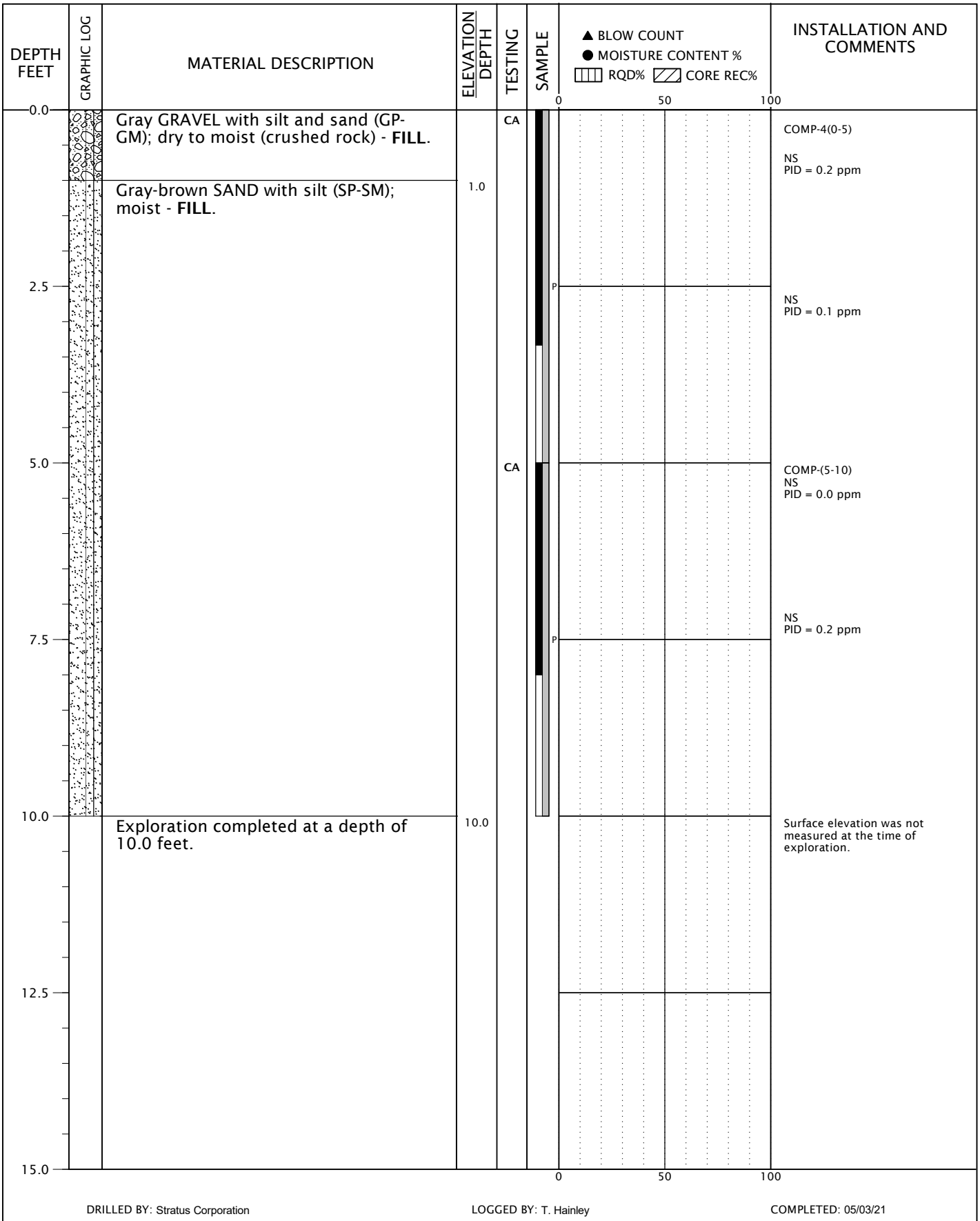
BORING DP-7

JUNE 2021

ST. HELENS RIVERWALK
ST. HELENS, OR

FIGURE A-7

BORING LOG - GDI-NV5 - 1 PER PAGE STHELENS-4-02-DP1_10.GPJ GDI_NV5.GDT PRINT DATE: 6/1/21:KT



DRILLED BY: Stratus Corporation

LOGGED BY: T. Hainley

COMPLETED: 05/03/21

BORING METHOD: direct push (see document text)

BORING BIT DIAMETER: 2 1/4 inches

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STHELENS-4-02

BORING DP-8

JUNE 2021

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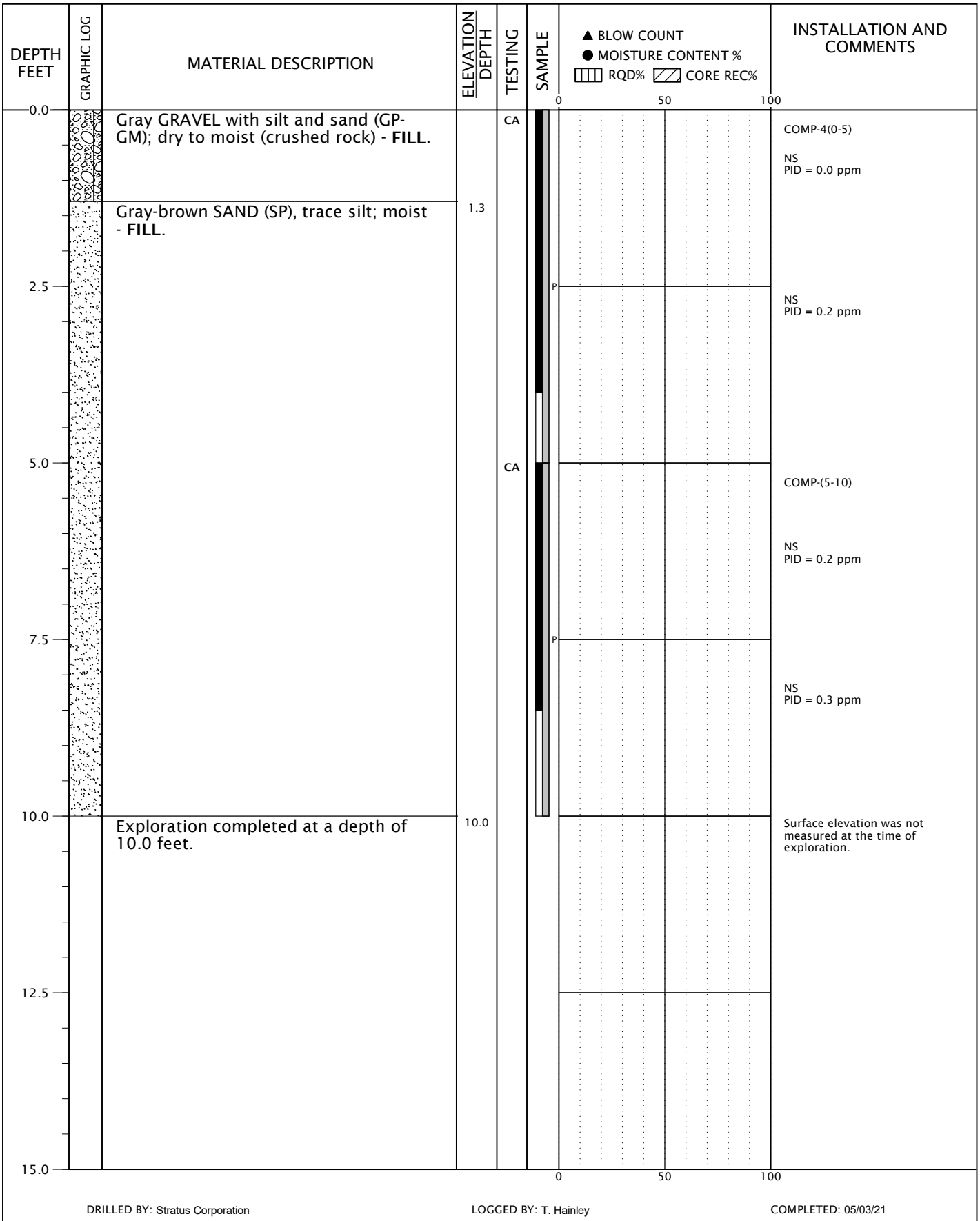
ST. HELENS, OR

FIGURE A-8

BORING LOG - GDI-NV5 - 1 PER PAGE STHELENS-4-02-DP1_10.GPJ GDI_NV5.GDT PRINT DATE: 6/1/21:KT



DRILLED BY: Stratus Corporation

LOGGED BY: T. Hainley

COMPLETED: 05/03/21

BORING METHOD: direct push (see document text)

BORING BIT DIAMETER: 2 1/4 inches

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BORING DP-9

JUNE 2021

ST. HELENS RIVERWALK
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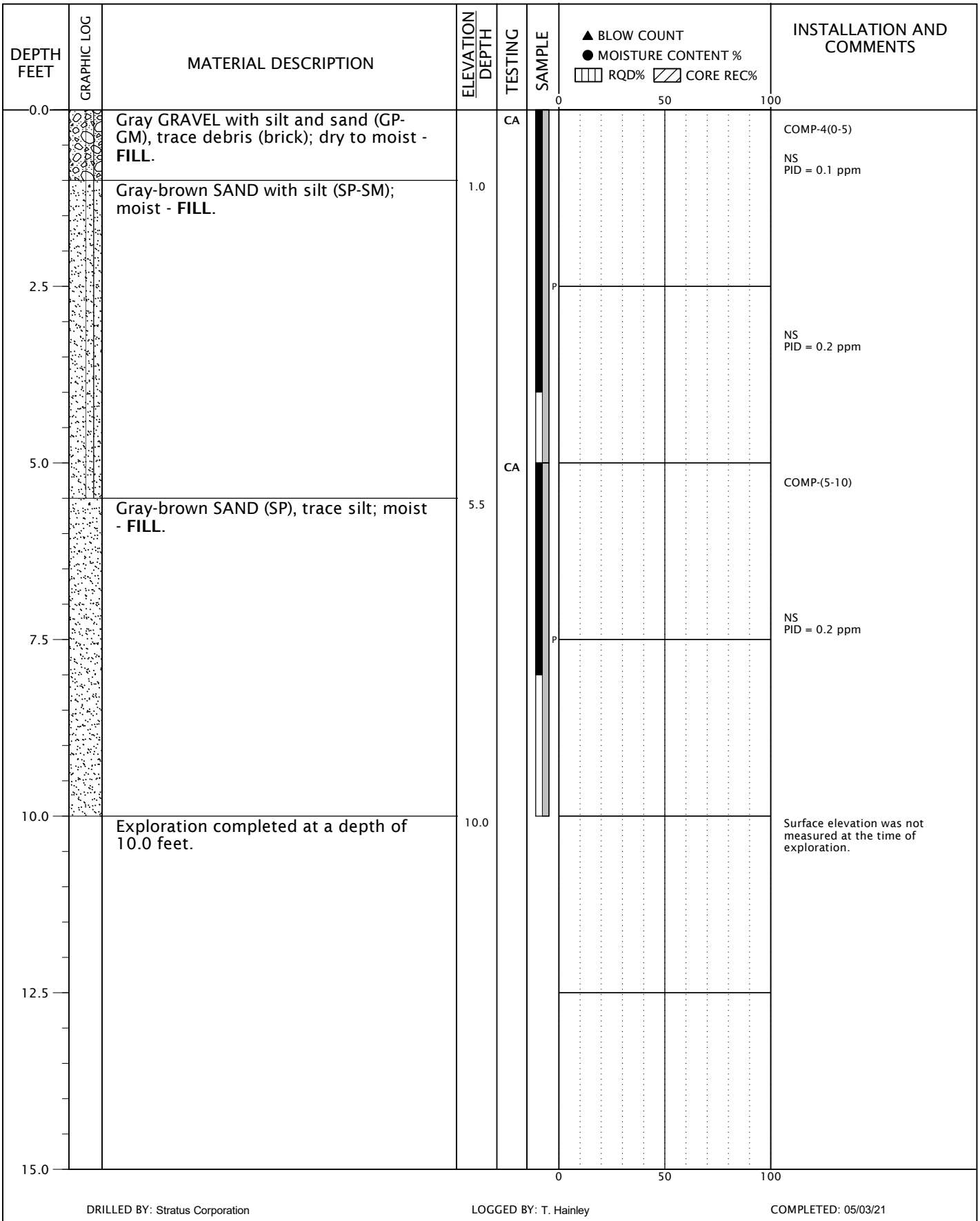
FIGURE A-9

BORING LOG - GDI-NV5 - 1 PER PAGE STHELENS-4-02-DP1_10.GPJ GDI_NV5.GDT PRINT DATE: 6/1/21:KT



DRILLED BY: Stratus Corporation

LOGGED BY: T. Hainley

COMPLETED: 05/03/21

BORING METHOD: direct push (see document text)

BORING BIT DIAMETER: 2 1/4 inches

GeoDesign Inc
AN NV5 COMPANY

STHELENS-4-02

BORING DP-10

JUNE 2021

ST. HELENS RIVERWALK
ST. HELENS, OR

FIGURE A-10

BORING LOG - GDI-NV5 - 1 PER PAGE STHELENS-4-02-DP1_10.GPJ GDI_NV5.GDT PRINT DATE: 6/1/21:KT

APPENDIX B

APPENDIX B

CHEMICAL ANALYTICAL PROGRAM

GENERAL

Chain-of-custody procedures were followed during handling and transport of the soil samples to the analytical laboratory. The laboratory holds the samples in cold storage pending extraction and/or analysis. The analytical results, analytical methods reference, and laboratory QC records are presented in this appendix. The analytical results also are summarized in the tables of this report.

REVIEW OF ANALYTICAL DATA

The analytical laboratories used for this project maintain an internal quality assurance programs consisting of a combination of the following:

Blanks: Blanks are laboratory-prepared water samples that are free of contaminants. The blanks are carried through the analysis procedure along with the field samples to document that contaminants were not introduced to the samples during sample handling and analysis.

Surrogate Recoveries: Surrogates are organic compounds that are similar in nature to the analytes of concern but are not normally found in nature. The surrogates are added to QC and field samples prior to analysis. The percent recovery of the surrogate is calculated to demonstrate acceptable method performance.

Duplicates: Duplicates are obtained by splitting a sample into two parts. The two separate parts are carried through the analyses. The analytical results are then compared by calculating the RPD between the samples.

MS/MSD Recoveries: An MS sample is a sample that has been split into a second portion. The MSD is obtained by further splitting the MS sample. A known concentration of the analyte of interest is added to the MS and MSD samples. The analytical results for both samples are then compared for RPD and percent recovery to demonstrate acceptable method performance.

BS/BSD Recoveries: BS and BSD samples are obtained and analyzed in the same procedure as the MS/MSD samples; however, the laboratory blank sample is used to obtain the BS/BSD samples. The percent recovery and RPD of the known concentration of analyte of interest added to the BS/BSD sample is calculated after chemical analyses to demonstrate acceptable method performance.

SUMMARY OF ANALYTICAL DATA REVIEW

GeoDesign reviewed the attached analytical data report for data quality exceptions and deviations from acceptable method performance criteria. Based on the review, the analytical data appear acceptable for their intended use.

ANALYTICAL REPORT

May 11, 2021

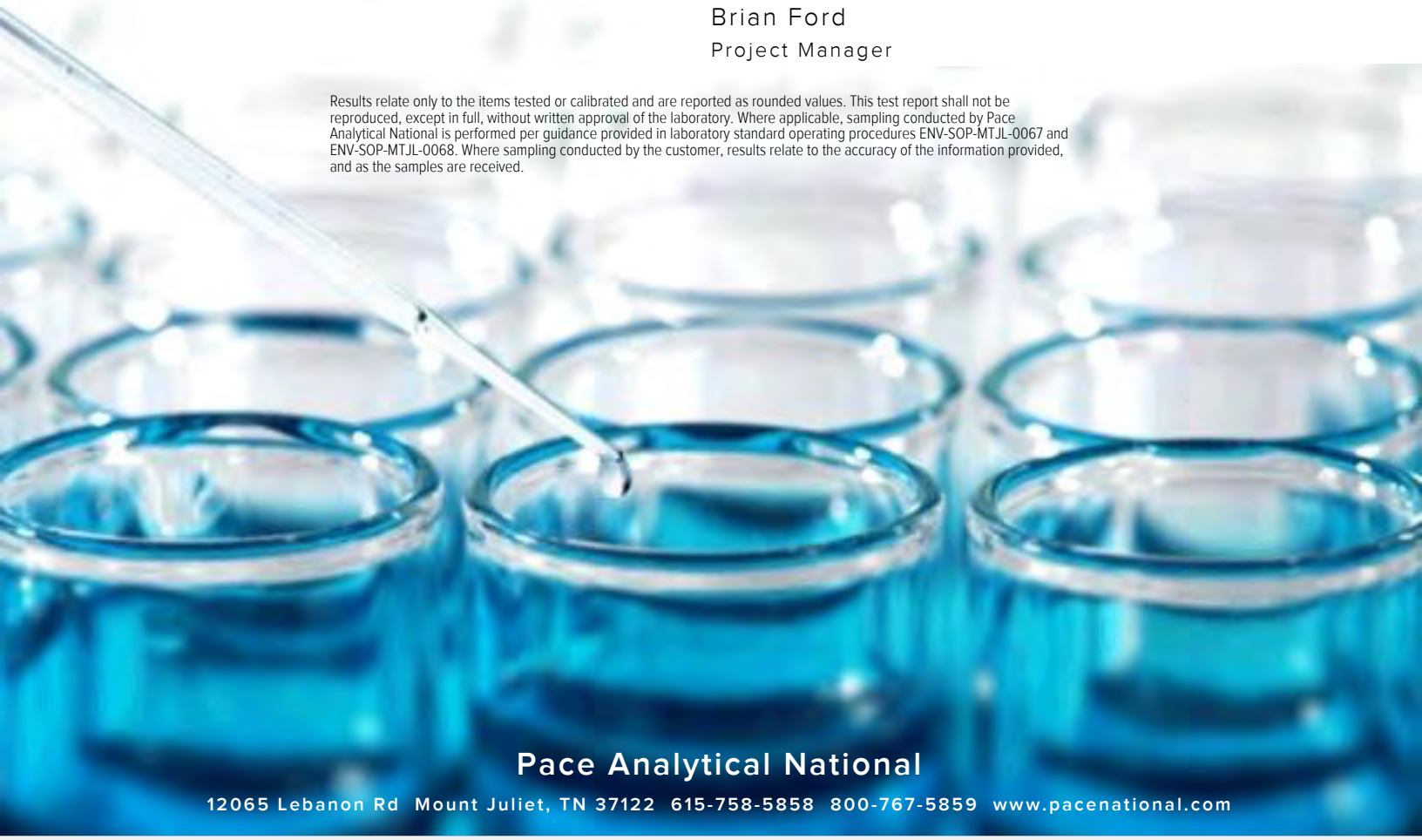
NV5 - Wilsonville, OR

Sample Delivery Group:	L1347619
Samples Received:	05/04/2021
Project Number:	StHelens-4-02
Description:	St. Helens Riverwalk

Report To: Kyle Haggart
9450 SW Commerce Circle
Ste. 300
Wilsonville, OR 97070

Entire Report Reviewed By:

Brian Ford
Project Manager



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

TABLE OF CONTENTS

COMP-1(0-5) L1347619-01 Solid

Collected by: Tim Hainley | Collected date/time: 05/03/21 09:00 | Received date/time: 05/04/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1665890	1	05/06/21 17:33	05/06/21 17:58	KDW	Mt. Juliet, TN
Mercury by Method 7471B	WG1665626	1	05/06/21 15:54	05/07/21 13:58	ABL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1665517	5	05/10/21 16:11	05/10/21 22:12	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1665517	5	05/10/21 16:11	05/11/21 00:50	TM	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1666156	25	05/03/21 09:00	05/09/21 06:44	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1665062	1	05/03/21 09:00	05/06/21 18:30	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1666702	1	05/08/21 00:09	05/08/21 22:27	CAG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1667244	1	05/10/21 10:33	05/10/21 23:57	AAT	Mt. Juliet, TN

COMP-1(5-10) L1347619-02 Solid

Collected by: Tim Hainley | Collected date/time: 05/03/21 09:15 | Received date/time: 05/04/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1665890	1	05/06/21 17:33	05/06/21 17:58	KDW	Mt. Juliet, TN
Mercury by Method 7471B	WG1665626	1	05/06/21 15:54	05/07/21 14:01	ABL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1665517	5	05/10/21 16:11	05/10/21 20:56	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1665517	5	05/10/21 16:11	05/11/21 00:10	TM	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1666156	25	05/03/21 09:15	05/09/21 07:06	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1665062	1	05/03/21 09:15	05/06/21 18:50	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1666702	1	05/08/21 00:09	05/08/21 22:40	CAG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1667244	1	05/10/21 10:33	05/10/21 22:38	AAT	Mt. Juliet, TN

COMP-2(0-5) L1347619-03 Solid

Collected by: Tim Hainley | Collected date/time: 05/03/21 09:30 | Received date/time: 05/04/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1665890	1	05/06/21 17:33	05/06/21 17:58	KDW	Mt. Juliet, TN
Mercury by Method 7471B	WG1665626	1	05/06/21 15:54	05/07/21 14:03	ABL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1665517	5	05/10/21 16:11	05/10/21 22:15	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1665517	5	05/10/21 16:11	05/11/21 00:53	TM	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1666156	25	05/03/21 09:30	05/09/21 07:28	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1665926	1	05/03/21 09:30	05/06/21 23:16	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1666732	1	05/08/21 06:40	05/08/21 15:26	CAG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1667244	1	05/10/21 10:33	05/10/21 22:57	AAT	Mt. Juliet, TN

COMP-2(5-10) L1347619-04 Solid

Collected by: Tim Hainley | Collected date/time: 05/03/21 09:40 | Received date/time: 05/04/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1665890	1	05/06/21 17:33	05/06/21 17:58	KDW	Mt. Juliet, TN
Mercury by Method 7471B	WG1665626	1	05/06/21 15:54	05/07/21 14:06	ABL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1665517	5	05/10/21 16:11	05/10/21 22:18	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1665517	5	05/10/21 16:11	05/11/21 00:57	TM	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1666156	25	05/03/21 09:40	05/09/21 07:49	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1665926	1.01	05/03/21 09:40	05/06/21 23:34	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1666732	1	05/08/21 06:40	05/08/21 15:39	CAG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1667246	1	05/09/21 21:11	05/10/21 08:20	AAT	Mt. Juliet, TN

COMP-3(0-5) L1347619-05 Solid

Collected by: Tim Hainley | Collected date/time: 05/03/21 10:00 | Received date/time: 05/04/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1665890	1	05/06/21 17:33	05/06/21 17:58	KDW	Mt. Juliet, TN
Mercury by Method 7471B	WG1665626	1	05/06/21 15:54	05/07/21 14:08	ABL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1665517	5	05/10/21 16:11	05/10/21 22:22	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1665517	5	05/10/21 16:11	05/11/21 01:00	TM	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1666156	25	05/03/21 10:00	05/09/21 08:11	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1665926	1	05/03/21 10:00	05/06/21 23:53	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1666732	1	05/08/21 06:40	05/08/21 16:55	CAG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1667246	1	05/09/21 21:11	05/10/21 08:37	AAT	Mt. Juliet, TN

COMP-3(5-10) L1347619-06 Solid

Collected by: Tim Hainley | Collected date/time: 05/03/21 10:15 | Received date/time: 05/04/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1665890	1	05/06/21 17:33	05/06/21 17:58	KDW	Mt. Juliet, TN
Mercury by Method 7471B	WG1665626	1	05/06/21 15:54	05/07/21 14:16	ABL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1665517	5	05/10/21 16:11	05/10/21 22:25	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1665517	5	05/10/21 16:11	05/11/21 01:04	TM	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1666156	32.8	05/03/21 10:15	05/09/21 08:33	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1665926	1	05/03/21 10:15	05/07/21 00:12	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1666732	1	05/08/21 06:40	05/08/21 17:33	CAG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1667246	1	05/09/21 21:11	05/10/21 08:55	AAT	Mt. Juliet, TN

COMP-4(0-5) L1347619-07 Solid

Collected by: Tim Hainley | Collected date/time: 05/03/21 10:45 | Received date/time: 05/04/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1665890	1	05/06/21 17:33	05/06/21 17:58	KDW	Mt. Juliet, TN
Mercury by Method 7471B	WG1665626	1	05/06/21 15:54	05/07/21 14:18	ABL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1665517	5	05/10/21 16:11	05/10/21 22:28	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1665517	5	05/10/21 16:11	05/11/21 01:07	TM	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1666156	25	05/03/21 10:45	05/09/21 08:55	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1665926	1.03	05/03/21 10:45	05/07/21 00:31	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1666732	1	05/08/21 06:40	05/08/21 17:45	CAG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1667246	1	05/09/21 21:11	05/10/21 10:22	AAT	Mt. Juliet, TN

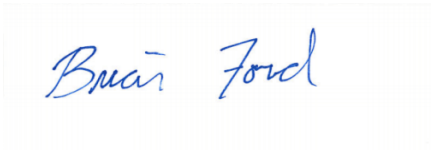
COMP-4(5-10) L1347619-08 Solid

Collected by: Tim Hainley | Collected date/time: 05/03/21 11:00 | Received date/time: 05/04/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1665909	1	05/06/21 17:22	05/06/21 17:31	KDW	Mt. Juliet, TN
Mercury by Method 7471B	WG1665626	1	05/06/21 15:54	05/07/21 14:21	ABL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1666839	5	05/08/21 16:00	05/09/21 18:49	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1666156	25	05/03/21 11:00	05/09/21 09:17	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1665926	1.19	05/03/21 11:00	05/07/21 00:50	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1666732	1	05/08/21 06:40	05/08/21 16:04	CAG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1667246	1	05/09/21 21:11	05/10/21 09:12	AAT	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.



Brian Ford
Project Manager

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	79.7		1	05/06/2021 17:58	WG1665890

Mercury by Method 7471B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	0.0260	J	0.0226	0.0502	1	05/07/2021 13:58	WG1665626

Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	3.30		0.125	1.25	5	05/10/2021 22:12	WG1665517
Barium	155		0.191	3.14	5	05/10/2021 22:12	WG1665517
Cadmium	0.116	J	0.107	1.25	5	05/10/2021 22:12	WG1665517
Chromium	14.9		0.371	6.27	5	05/11/2021 00:50	WG1665517
Lead	7.03		0.124	2.51	5	05/10/2021 22:12	WG1665517
Selenium	0.521	J	0.226	3.14	5	05/10/2021 22:12	WG1665517
Silver	U		0.109	0.627	5	05/10/2021 22:12	WG1665517

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Gasoline Range Organics-NWTPH	U		1.28	3.78	25	05/09/2021 06:44	WG1666156
(S) a,a,a-Trifluorotoluene(FID)	*96.4*			*77.0-120*		*05/09/2021 06:44*	WG1666156

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	U		0.0563	0.0771	1	05/06/2021 18:30	WG1665062
Acrylonitrile	U		0.00556	0.0193	1	05/06/2021 18:30	WG1665062
Benzene	U		0.000720	0.00154	1	05/06/2021 18:30	WG1665062
Bromobenzene	U		0.00139	0.0193	1	05/06/2021 18:30	WG1665062
Bromodichloromethane	U		0.00112	0.00385	1	05/06/2021 18:30	WG1665062
Bromoform	U		0.00180	0.0385	1	05/06/2021 18:30	WG1665062
Bromomethane	U		0.00304	0.0193	1	05/06/2021 18:30	WG1665062
n-Butylbenzene	U		0.00809	0.0193	1	05/06/2021 18:30	WG1665062
sec-Butylbenzene	U		0.00444	0.0193	1	05/06/2021 18:30	WG1665062
tert-Butylbenzene	U		0.00301	0.00771	1	05/06/2021 18:30	WG1665062
Carbon tetrachloride	U		0.00138	0.00771	1	05/06/2021 18:30	WG1665062
Chlorobenzene	U		0.000324	0.00385	1	05/06/2021 18:30	WG1665062
Chlorodibromomethane	U		0.000943	0.00385	1	05/06/2021 18:30	WG1665062
Chloroethane	U		0.00262	0.00771	1	05/06/2021 18:30	WG1665062
Chloroform	U		0.00159	0.00385	1	05/06/2021 18:30	WG1665062
Chloromethane	U		0.00670	0.0193	1	05/06/2021 18:30	WG1665062
2-Chlorotoluene	U		0.00133	0.00385	1	05/06/2021 18:30	WG1665062
4-Chlorotoluene	U		0.000694	0.00771	1	05/06/2021 18:30	WG1665062
1,2-Dibromo-3-Chloropropane	U		0.00601	0.0385	1	05/06/2021 18:30	WG1665062
1,2-Dibromoethane	U		0.000999	0.00385	1	05/06/2021 18:30	WG1665062
Dibromomethane	U		0.00116	0.00771	1	05/06/2021 18:30	WG1665062
1,2-Dichlorobenzene	U		0.000655	0.00771	1	05/06/2021 18:30	WG1665062
1,3-Dichlorobenzene	U		0.000925	0.00771	1	05/06/2021 18:30	WG1665062
1,4-Dichlorobenzene	U		0.00108	0.00771	1	05/06/2021 18:30	WG1665062
Dichlorodifluoromethane	U		0.00248	0.00385	1	05/06/2021 18:30	WG1665062
1,1-Dichloroethane	U		0.000757	0.00385	1	05/06/2021 18:30	WG1665062
1,2-Dichloroethane	U		0.00100	0.00385	1	05/06/2021 18:30	WG1665062

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
1,1-Dichloroethene	U		0.000934	0.00385	1	05/06/2021 18:30	WG1665062
cis-1,2-Dichloroethene	U		0.00113	0.00385	1	05/06/2021 18:30	WG1665062
trans-1,2-Dichloroethene	U		0.00160	0.00771	1	05/06/2021 18:30	WG1665062
1,2-Dichloropropane	U		0.00219	0.00771	1	05/06/2021 18:30	WG1665062
1,1-Dichloropropene	U		0.00125	0.00385	1	05/06/2021 18:30	WG1665062
1,3-Dichloropropane	U		0.000772	0.00771	1	05/06/2021 18:30	WG1665062
cis-1,3-Dichloropropene	U		0.00117	0.00385	1	05/06/2021 18:30	WG1665062
trans-1,3-Dichloropropene	U		0.00176	0.00771	1	05/06/2021 18:30	WG1665062
2,2-Dichloropropane	U		0.00213	0.00385	1	05/06/2021 18:30	WG1665062
Di-isopropyl ether	U		0.000632	0.00154	1	05/06/2021 18:30	WG1665062
Ethylbenzene	U		0.00114	0.00385	1	05/06/2021 18:30	WG1665062
Hexachloro-1,3-butadiene	U		0.00925	0.0385	1	05/06/2021 18:30	WG1665062
Isopropylbenzene	U		0.000655	0.00385	1	05/06/2021 18:30	WG1665062
p-Isopropyltoluene	U		0.00393	0.00771	1	05/06/2021 18:30	WG1665062
2-Butanone (MEK)	0.122	J	0.0979	0.154	1	05/06/2021 18:30	WG1665062
Methylene Chloride	U		0.0102	0.0385	1	05/06/2021 18:30	WG1665062
4-Methyl-2-pentanone (MIBK)	U		0.00351	0.0385	1	05/06/2021 18:30	WG1665062
Methyl tert-butyl ether	U		0.000539	0.00154	1	05/06/2021 18:30	WG1665062
Naphthalene	U		0.00752	0.0193	1	05/06/2021 18:30	WG1665062
n-Propylbenzene	U		0.00146	0.00771	1	05/06/2021 18:30	WG1665062
Styrene	U		0.000353	0.0193	1	05/06/2021 18:30	WG1665062
1,1,1,2-Tetrachloroethane	U		0.00146	0.00385	1	05/06/2021 18:30	WG1665062
1,1,2,2-Tetrachloroethane	U		0.00107	0.00385	1	05/06/2021 18:30	WG1665062
1,1,2-Trichlorotrifluoroethane	U		0.00116	0.00385	1	05/06/2021 18:30	WG1665062
Tetrachloroethene	U		0.00138	0.00385	1	05/06/2021 18:30	WG1665062
Toluene	U		0.00200	0.00771	1	05/06/2021 18:30	WG1665062
1,2,3-Trichlorobenzene	U		0.0113	0.0193	1	05/06/2021 18:30	WG1665062
1,2,4-Trichlorobenzene	U		0.00678	0.0193	1	05/06/2021 18:30	WG1665062
1,1,1-Trichloroethane	U		0.00142	0.00385	1	05/06/2021 18:30	WG1665062
1,1,2-Trichloroethane	U		0.000920	0.00385	1	05/06/2021 18:30	WG1665062
Trichloroethene	U		0.000900	0.00154	1	05/06/2021 18:30	WG1665062
Trichlorofluoromethane	U		0.00127	0.00385	1	05/06/2021 18:30	WG1665062
1,2,3-Trichloropropane	U		0.00250	0.0193	1	05/06/2021 18:30	WG1665062
1,2,4-Trimethylbenzene	U		0.00244	0.00771	1	05/06/2021 18:30	WG1665062
1,2,3-Trimethylbenzene	U		0.00244	0.00771	1	05/06/2021 18:30	WG1665062
1,3,5-Trimethylbenzene	U		0.00308	0.00771	1	05/06/2021 18:30	WG1665062
Vinyl chloride	U		0.00179	0.00385	1	05/06/2021 18:30	WG1665062
Xylenes, Total	0.00373	J	0.00136	0.0100	1	05/06/2021 18:30	WG1665062
(S) Toluene-d8	*104*			*75.0-131*		*05/06/2021 18:30*	WG1665062
(S) 4-Bromofluorobenzene	*95.2*			*67.0-138*		*05/06/2021 18:30*	WG1665062
(S) 1,2-Dichloroethane-d4	*82.5*			*70.0-130*		*05/06/2021 18:30*	WG1665062

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	2.11	J	1.67	5.02	1	05/08/2021 22:27	WG1666702
Residual Range Organics (RRO)	5.53	J	4.18	12.5	1	05/08/2021 22:27	WG1666702
(S) o-Terphenyl	*74.9*			*18.0-148*		*05/08/2021 22:27*	WG1666702

Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00289	0.00753	1	05/10/2021 23:57	WG1667244
Acenaphthene	U		0.00262	0.00753	1	05/10/2021 23:57	WG1667244
Acenaphthylene	U		0.00271	0.00753	1	05/10/2021 23:57	WG1667244
Benzo(a)anthracene	U		0.00217	0.00753	1	05/10/2021 23:57	WG1667244
Benzo(a)pyrene	U		0.00225	0.00753	1	05/10/2021 23:57	WG1667244
Benzo(b)fluoranthene	U		0.00192	0.00753	1	05/10/2021 23:57	WG1667244
Benzo(g,h,i)perylene	U		0.00222	0.00753	1	05/10/2021 23:57	WG1667244
Benzo(k)fluoranthene	U		0.00270	0.00753	1	05/10/2021 23:57	WG1667244
Chrysene	U		0.00291	0.00753	1	05/10/2021 23:57	WG1667244
Dibenz(a,h)anthracene	U		0.00216	0.00753	1	05/10/2021 23:57	WG1667244
Fluoranthene	U		0.00285	0.00753	1	05/10/2021 23:57	WG1667244
Fluorene	U		0.00257	0.00753	1	05/10/2021 23:57	WG1667244
Indeno(1,2,3-cd)pyrene	U		0.00227	0.00753	1	05/10/2021 23:57	WG1667244
Naphthalene	U		0.00512	0.0251	1	05/10/2021 23:57	WG1667244
Phenanthrene	U		0.00290	0.00753	1	05/10/2021 23:57	WG1667244
Pyrene	0.00280	J	0.00251	0.00753	1	05/10/2021 23:57	WG1667244
1-Methylnaphthalene	U		0.00563	0.0251	1	05/10/2021 23:57	WG1667244
2-Methylnaphthalene	U		0.00536	0.0251	1	05/10/2021 23:57	WG1667244
2-Chloronaphthalene	U		0.00585	0.0251	1	05/10/2021 23:57	WG1667244
(S) Nitrobenzene-d5	*63.9*			*14.0-149*		*05/10/2021 23:57*	WG1667244
(S) 2-Fluorobiphenyl	*69.3*			*34.0-125*		*05/10/2021 23:57*	WG1667244
(S) p-Terphenyl-d14	*72.0*			*23.0-120*		*05/10/2021 23:57*	WG1667244

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	94.2		1	05/06/2021 17:58	WG1665890

Mercury by Method 7471B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	U		0.0191	0.0425	1	05/07/2021 14:01	WG1665626

Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	2.04		0.106	1.06	5	05/10/2021 20:56	WG1665517
Barium	56.6	O1	0.161	2.65	5	05/10/2021 20:56	WG1665517
Cadmium	0.196	J	0.0908	1.06	5	05/10/2021 20:56	WG1665517
Chromium	7.02		0.314	5.31	5	05/11/2021 00:10	WG1665517
Lead	3.82		0.105	2.12	5	05/10/2021 20:56	WG1665517
Selenium	0.222	J	0.191	2.65	5	05/10/2021 20:56	WG1665517
Silver	U		0.0918	0.531	5	05/10/2021 20:56	WG1665517

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Gasoline Range Organics-NWTPH	U		0.952	2.81	25	05/09/2021 07:06	WG1666156
(S) a,a,a-Trifluorotoluene(FID)	*96.3*			*77.0-120*		*05/09/2021 07:06*	WG1666156

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	U		0.0410	0.0562	1	05/06/2021 18:50	WG1665062
Acrylonitrile	U		0.00405	0.0140	1	05/06/2021 18:50	WG1665062
Benzene	U		0.000524	0.00112	1	05/06/2021 18:50	WG1665062
Bromobenzene	U		0.00101	0.0140	1	05/06/2021 18:50	WG1665062
Bromodichloromethane	U		0.000814	0.00281	1	05/06/2021 18:50	WG1665062
Bromoform	U		0.00131	0.0281	1	05/06/2021 18:50	WG1665062
Bromomethane	U		0.00221	0.0140	1	05/06/2021 18:50	WG1665062
n-Butylbenzene	U		0.00590	0.0140	1	05/06/2021 18:50	WG1665062
sec-Butylbenzene	U		0.00323	0.0140	1	05/06/2021 18:50	WG1665062
tert-Butylbenzene	U		0.00219	0.00562	1	05/06/2021 18:50	WG1665062
Carbon tetrachloride	U		0.00101	0.00562	1	05/06/2021 18:50	WG1665062
Chlorobenzene	U		0.000236	0.00281	1	05/06/2021 18:50	WG1665062
Chlorodibromomethane	U		0.000687	0.00281	1	05/06/2021 18:50	WG1665062
Chloroethane	U		0.00191	0.00562	1	05/06/2021 18:50	WG1665062
Chloroform	U		0.00116	0.00281	1	05/06/2021 18:50	WG1665062
Chloromethane	U		0.00489	0.0140	1	05/06/2021 18:50	WG1665062
2-Chlorotoluene	U		0.000971	0.00281	1	05/06/2021 18:50	WG1665062
4-Chlorotoluene	U		0.000505	0.00562	1	05/06/2021 18:50	WG1665062
1,2-Dibromo-3-Chloropropane	U		0.00438	0.0281	1	05/06/2021 18:50	WG1665062
1,2-Dibromoethane	U		0.000728	0.00281	1	05/06/2021 18:50	WG1665062
Dibromomethane	U		0.000842	0.00562	1	05/06/2021 18:50	WG1665062
1,2-Dichlorobenzene	U		0.000477	0.00562	1	05/06/2021 18:50	WG1665062
1,3-Dichlorobenzene	U		0.000674	0.00562	1	05/06/2021 18:50	WG1665062
1,4-Dichlorobenzene	U		0.000786	0.00562	1	05/06/2021 18:50	WG1665062
Dichlorodifluoromethane	U		0.00181	0.00281	1	05/06/2021 18:50	WG1665062
1,1-Dichloroethane	U		0.000551	0.00281	1	05/06/2021 18:50	WG1665062
1,2-Dichloroethane	U		0.000729	0.00281	1	05/06/2021 18:50	WG1665062

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
1,1-Dichloroethene	U		0.000681	0.00281	1	05/06/2021 18:50	WG1665062
cis-1,2-Dichloroethene	U		0.000824	0.00281	1	05/06/2021 18:50	WG1665062
trans-1,2-Dichloroethene	U		0.00117	0.00562	1	05/06/2021 18:50	WG1665062
1,2-Dichloropropane	U		0.00159	0.00562	1	05/06/2021 18:50	WG1665062
1,1-Dichloropropene	U		0.000909	0.00281	1	05/06/2021 18:50	WG1665062
1,3-Dichloropropane	U		0.000563	0.00562	1	05/06/2021 18:50	WG1665062
cis-1,3-Dichloropropene	U		0.000850	0.00281	1	05/06/2021 18:50	WG1665062
trans-1,3-Dichloropropene	U		0.00128	0.00562	1	05/06/2021 18:50	WG1665062
2,2-Dichloropropane	U		0.00155	0.00281	1	05/06/2021 18:50	WG1665062
Di-isopropyl ether	U		0.000460	0.00112	1	05/06/2021 18:50	WG1665062
Ethylbenzene	U		0.000828	0.00281	1	05/06/2021 18:50	WG1665062
Hexachloro-1,3-butadiene	U		0.00674	0.0281	1	05/06/2021 18:50	WG1665062
Isopropylbenzene	U		0.000477	0.00281	1	05/06/2021 18:50	WG1665062
p-Isopropyltoluene	U		0.00286	0.00562	1	05/06/2021 18:50	WG1665062
2-Butanone (MEK)	U		0.0713	0.112	1	05/06/2021 18:50	WG1665062
Methylene Chloride	U		0.00746	0.0281	1	05/06/2021 18:50	WG1665062
4-Methyl-2-pentanone (MIBK)	U		0.00256	0.0281	1	05/06/2021 18:50	WG1665062
Methyl tert-butyl ether	U		0.000393	0.00112	1	05/06/2021 18:50	WG1665062
Naphthalene	U		0.00548	0.0140	1	05/06/2021 18:50	WG1665062
n-Propylbenzene	U		0.00107	0.00562	1	05/06/2021 18:50	WG1665062
Styrene	U		0.000257	0.0140	1	05/06/2021 18:50	WG1665062
1,1,1,2-Tetrachloroethane	U		0.00106	0.00281	1	05/06/2021 18:50	WG1665062
1,1,2,2-Tetrachloroethane	U		0.000781	0.00281	1	05/06/2021 18:50	WG1665062
1,1,2-Trichlorotrifluoroethane	U		0.000847	0.00281	1	05/06/2021 18:50	WG1665062
Tetrachloroethene	U		0.00101	0.00281	1	05/06/2021 18:50	WG1665062
Toluene	U		0.00146	0.00562	1	05/06/2021 18:50	WG1665062
1,2,3-Trichlorobenzene	U		0.00823	0.0140	1	05/06/2021 18:50	WG1665062
1,2,4-Trichlorobenzene	U		0.00494	0.0140	1	05/06/2021 18:50	WG1665062
1,1,1-Trichloroethane	U		0.00104	0.00281	1	05/06/2021 18:50	WG1665062
1,1,2-Trichloroethane	U		0.000670	0.00281	1	05/06/2021 18:50	WG1665062
Trichloroethene	U		0.000656	0.00112	1	05/06/2021 18:50	WG1665062
Trichlorofluoromethane	U		0.000929	0.00281	1	05/06/2021 18:50	WG1665062
1,2,3-Trichloropropane	U		0.00182	0.0140	1	05/06/2021 18:50	WG1665062
1,2,4-Trimethylbenzene	0.00331	J	0.00177	0.00562	1	05/06/2021 18:50	WG1665062
1,2,3-Trimethylbenzene	U		0.00177	0.00562	1	05/06/2021 18:50	WG1665062
1,3,5-Trimethylbenzene	U		0.00225	0.00562	1	05/06/2021 18:50	WG1665062
Vinyl chloride	U		0.00130	0.00281	1	05/06/2021 18:50	WG1665062
Xylenes, Total	0.00433	J	0.000988	0.00730	1	05/06/2021 18:50	WG1665062
(S) Toluene-d8	*106*			*75.0-131*		*05/06/2021 18:50*	WG1665062
(S) 4-Bromofluorobenzene	*96.1*			*67.0-138*		*05/06/2021 18:50*	WG1665062
(S) 1,2-Dichloroethane-d4	*86.5*			*70.0-130*		*05/06/2021 18:50*	WG1665062

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	U		1.41	4.25	1	05/08/2021 22:40	WG1666702
Residual Range Organics (RRO)	U		3.53	10.6	1	05/08/2021 22:40	WG1666702
(S) o-Terphenyl	*67.2*			*18.0-148*		*05/08/2021 22:40*	WG1666702

Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00244	0.00637	1	05/10/2021 22:38	WG1667244
Acenaphthene	U		0.00222	0.00637	1	05/10/2021 22:38	WG1667244
Acenaphthylene	U		0.00229	0.00637	1	05/10/2021 22:38	WG1667244
Benzo(a)anthracene	U		0.00184	0.00637	1	05/10/2021 22:38	WG1667244
Benzo(a)pyrene	U		0.00190	0.00637	1	05/10/2021 22:38	WG1667244
Benzo(b)fluoranthene	U		0.00162	0.00637	1	05/10/2021 22:38	WG1667244
Benzo(g,h,i)perylene	U		0.00188	0.00637	1	05/10/2021 22:38	WG1667244
Benzo(k)fluoranthene	U		0.00228	0.00637	1	05/10/2021 22:38	WG1667244
Chrysene	U		0.00246	0.00637	1	05/10/2021 22:38	WG1667244
Dibenz(a,h)anthracene	U		0.00183	0.00637	1	05/10/2021 22:38	WG1667244
Fluoranthene	U		0.00241	0.00637	1	05/10/2021 22:38	WG1667244
Fluorene	U		0.00218	0.00637	1	05/10/2021 22:38	WG1667244
Indeno(1,2,3-cd)pyrene	U		0.00192	0.00637	1	05/10/2021 22:38	WG1667244
Naphthalene	U		0.00433	0.0212	1	05/10/2021 22:38	WG1667244
Phenanthrene	U		0.00245	0.00637	1	05/10/2021 22:38	WG1667244
Pyrene	U		0.00212	0.00637	1	05/10/2021 22:38	WG1667244
1-Methylnaphthalene	U		0.00477	0.0212	1	05/10/2021 22:38	WG1667244
2-Methylnaphthalene	U		0.00453	0.0212	1	05/10/2021 22:38	WG1667244
2-Chloronaphthalene	U		0.00495	0.0212	1	05/10/2021 22:38	WG1667244
(S) Nitrobenzene-d5	*56.9*			*14.0-149*		*05/10/2021 22:38*	WG1667244
(S) 2-Fluorobiphenyl	*67.2*			*34.0-125*		*05/10/2021 22:38*	WG1667244
(S) p-Terphenyl-d14	*77.6*			*23.0-120*		*05/10/2021 22:38*	WG1667244

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	82.3		1	05/06/2021 17:58	WG1665890

Mercury by Method 7471B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	0.0289	J	0.0219	0.0486	1	05/07/2021 14:03	WG1665626

Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	3.05		0.121	1.21	5	05/10/2021 22:15	WG1665517
Barium	154		0.185	3.04	5	05/10/2021 22:15	WG1665517
Cadmium	0.151	J	0.104	1.21	5	05/10/2021 22:15	WG1665517
Chromium	15.3		0.359	6.07	5	05/11/2021 00:53	WG1665517
Lead	7.53		0.120	2.43	5	05/10/2021 22:15	WG1665517
Selenium	0.487	J	0.219	3.04	5	05/10/2021 22:15	WG1665517
Silver	0.107	J	0.105	0.607	5	05/10/2021 22:15	WG1665517

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Gasoline Range Organics-NWTPH	U		1.24	3.67	25	05/09/2021 07:28	WG1666156
(S) a,a,a-Trifluorotoluene(FID)	*95.6*			*77.0-120*		*05/09/2021 07:28*	WG1666156

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	U		0.0531	0.0727	1	05/06/2021 23:16	WG1665926
Acrylonitrile	U		0.00525	0.0182	1	05/06/2021 23:16	WG1665926
Benzene	U		0.000679	0.00145	1	05/06/2021 23:16	WG1665926
Bromobenzene	U		0.00131	0.0182	1	05/06/2021 23:16	WG1665926
Bromodichloromethane	U		0.00105	0.00363	1	05/06/2021 23:16	WG1665926
Bromoform	U		0.00170	0.0363	1	05/06/2021 23:16	WG1665926
Bromomethane	U		0.00286	0.0182	1	05/06/2021 23:16	WG1665926
n-Butylbenzene	U		0.00763	0.0182	1	05/06/2021 23:16	WG1665926
sec-Butylbenzene	U		0.00419	0.0182	1	05/06/2021 23:16	WG1665926
tert-Butylbenzene	U		0.00283	0.00727	1	05/06/2021 23:16	WG1665926
Carbon tetrachloride	U		0.00131	0.00727	1	05/06/2021 23:16	WG1665926
Chlorobenzene	U		0.000305	0.00363	1	05/06/2021 23:16	WG1665926
Chlorodibromomethane	U		0.000890	0.00363	1	05/06/2021 23:16	WG1665926
Chloroethane	U		0.00247	0.00727	1	05/06/2021 23:16	WG1665926
Chloroform	U		0.00150	0.00363	1	05/06/2021 23:16	WG1665926
Chloromethane	U		0.00632	0.0182	1	05/06/2021 23:16	WG1665926
2-Chlorotoluene	U		0.00126	0.00363	1	05/06/2021 23:16	WG1665926
4-Chlorotoluene	U		0.000654	0.00727	1	05/06/2021 23:16	WG1665926
1,2-Dibromo-3-Chloropropane	U		0.00567	0.0363	1	05/06/2021 23:16	WG1665926
1,2-Dibromoethane	U		0.000942	0.00363	1	05/06/2021 23:16	WG1665926
Dibromomethane	U		0.00109	0.00727	1	05/06/2021 23:16	WG1665926
1,2-Dichlorobenzene	U		0.000618	0.00727	1	05/06/2021 23:16	WG1665926
1,3-Dichlorobenzene	U		0.000872	0.00727	1	05/06/2021 23:16	WG1665926
1,4-Dichlorobenzene	U		0.00102	0.00727	1	05/06/2021 23:16	WG1665926
Dichlorodifluoromethane	U		0.00234	0.00363	1	05/06/2021 23:16	WG1665926
1,1-Dichloroethane	U		0.000714	0.00363	1	05/06/2021 23:16	WG1665926
1,2-Dichloroethane	U		0.000943	0.00363	1	05/06/2021 23:16	WG1665926

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
1,1-Dichloroethene	U		0.000881	0.00363	1	05/06/2021 23:16	WG1665926
cis-1,2-Dichloroethene	U		0.00107	0.00363	1	05/06/2021 23:16	WG1665926
trans-1,2-Dichloroethene	U		0.00151	0.00727	1	05/06/2021 23:16	WG1665926
1,2-Dichloropropane	U		0.00206	0.00727	1	05/06/2021 23:16	WG1665926
1,1-Dichloropropene	U		0.00118	0.00363	1	05/06/2021 23:16	WG1665926
1,3-Dichloropropane	U		0.000728	0.00727	1	05/06/2021 23:16	WG1665926
cis-1,3-Dichloropropene	U		0.00110	0.00363	1	05/06/2021 23:16	WG1665926
trans-1,3-Dichloropropene	U		0.00166	0.00727	1	05/06/2021 23:16	WG1665926
2,2-Dichloropropane	U		0.00201	0.00363	1	05/06/2021 23:16	WG1665926
Di-isopropyl ether	U		0.000596	0.00145	1	05/06/2021 23:16	WG1665926
Ethylbenzene	U		0.00107	0.00363	1	05/06/2021 23:16	WG1665926
Hexachloro-1,3-butadiene	U		0.00872	0.0363	1	05/06/2021 23:16	WG1665926
Isopropylbenzene	U		0.000618	0.00363	1	05/06/2021 23:16	WG1665926
p-Isopropyltoluene	U		0.00371	0.00727	1	05/06/2021 23:16	WG1665926
2-Butanone (MEK)	0.119	B J	0.0923	0.145	1	05/06/2021 23:16	WG1665926
Methylene Chloride	U		0.00965	0.0363	1	05/06/2021 23:16	WG1665926
4-Methyl-2-pentanone (MIBK)	U		0.00331	0.0363	1	05/06/2021 23:16	WG1665926
Methyl tert-butyl ether	U		0.000509	0.00145	1	05/06/2021 23:16	WG1665926
Naphthalene	U		0.00709	0.0182	1	05/06/2021 23:16	WG1665926
n-Propylbenzene	U		0.00138	0.00727	1	05/06/2021 23:16	WG1665926
Styrene	U		0.000333	0.0182	1	05/06/2021 23:16	WG1665926
1,1,1,2-Tetrachloroethane	U		0.00138	0.00363	1	05/06/2021 23:16	WG1665926
1,1,2,2-Tetrachloroethane	U		0.00101	0.00363	1	05/06/2021 23:16	WG1665926
1,1,2-Trichlorotrifluoroethane	U		0.00110	0.00363	1	05/06/2021 23:16	WG1665926
Tetrachloroethene	U		0.00130	0.00363	1	05/06/2021 23:16	WG1665926
Toluene	U		0.00189	0.00727	1	05/06/2021 23:16	WG1665926
1,2,3-Trichlorobenzene	U		0.0107	0.0182	1	05/06/2021 23:16	WG1665926
1,2,4-Trichlorobenzene	U		0.00640	0.0182	1	05/06/2021 23:16	WG1665926
1,1,1-Trichloroethane	U		0.00134	0.00363	1	05/06/2021 23:16	WG1665926
1,1,2-Trichloroethane	U		0.000868	0.00363	1	05/06/2021 23:16	WG1665926
Trichloroethene	U		0.000849	0.00145	1	05/06/2021 23:16	WG1665926
Trichlorofluoromethane	U		0.00120	0.00363	1	05/06/2021 23:16	WG1665926
1,2,3-Trichloropropane	U		0.00235	0.0182	1	05/06/2021 23:16	WG1665926
1,2,4-Trimethylbenzene	U		0.00230	0.00727	1	05/06/2021 23:16	WG1665926
1,2,3-Trimethylbenzene	U		0.00230	0.00727	1	05/06/2021 23:16	WG1665926
1,3,5-Trimethylbenzene	U		0.00291	0.00727	1	05/06/2021 23:16	WG1665926
Vinyl chloride	U		0.00169	0.00363	1	05/06/2021 23:16	WG1665926
Xylenes, Total	0.00186	J	0.00128	0.00945	1	05/06/2021 23:16	WG1665926
(S) Toluene-d8	*100*			*75.0-131*		*05/06/2021 23:16*	WG1665926
(S) 4-Bromofluorobenzene	*101*			*67.0-138*		*05/06/2021 23:16*	WG1665926
(S) 1,2-Dichloroethane-d4	*93.1*			*70.0-130*		*05/06/2021 23:16*	WG1665926

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	2.54	J	1.62	4.86	1	05/08/2021 15:26	WG1666732
Residual Range Organics (RRO)	7.02	J	4.04	12.1	1	05/08/2021 15:26	WG1666732
(S) o-Terphenyl	*68.5*			*18.0-148*		*05/08/2021 15:26*	WG1666732

Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00279	0.00729	1	05/10/2021 22:57	WG1667244
Acenaphthene	U		0.00254	0.00729	1	05/10/2021 22:57	WG1667244
Acenaphthylene	U		0.00262	0.00729	1	05/10/2021 22:57	WG1667244
Benzo(a)anthracene	U		0.00210	0.00729	1	05/10/2021 22:57	WG1667244
Benzo(a)pyrene	U		0.00217	0.00729	1	05/10/2021 22:57	WG1667244
Benzo(b)fluoranthene	0.00298	J	0.00186	0.00729	1	05/10/2021 22:57	WG1667244
Benzo(g,h,i)perylene	U		0.00215	0.00729	1	05/10/2021 22:57	WG1667244
Benzo(k)fluoranthene	U		0.00261	0.00729	1	05/10/2021 22:57	WG1667244
Chrysene	U		0.00282	0.00729	1	05/10/2021 22:57	WG1667244
Dibenz(a,h)anthracene	U		0.00209	0.00729	1	05/10/2021 22:57	WG1667244
Fluoranthene	0.00417	J	0.00276	0.00729	1	05/10/2021 22:57	WG1667244
Fluorene	U		0.00249	0.00729	1	05/10/2021 22:57	WG1667244
Indeno(1,2,3-cd)pyrene	U		0.00220	0.00729	1	05/10/2021 22:57	WG1667244
Naphthalene	U		0.00496	0.0243	1	05/10/2021 22:57	WG1667244
Phenanthrene	0.00305	J	0.00281	0.00729	1	05/10/2021 22:57	WG1667244
Pyrene	0.00389	J	0.00243	0.00729	1	05/10/2021 22:57	WG1667244
1-Methylnaphthalene	U		0.00545	0.0243	1	05/10/2021 22:57	WG1667244
2-Methylnaphthalene	U		0.00519	0.0243	1	05/10/2021 22:57	WG1667244
2-Chloronaphthalene	U		0.00566	0.0243	1	05/10/2021 22:57	WG1667244
(S) Nitrobenzene-d5	*60.7*			*14.0-149*		*05/10/2021 22:57*	WG1667244
(S) 2-Fluorobiphenyl	*64.3*			*34.0-125*		*05/10/2021 22:57*	WG1667244
(S) p-Terphenyl-d14	*64.8*			*23.0-120*		*05/10/2021 22:57*	WG1667244

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	93.8		1	05/06/2021 17:58	WG1665890

Mercury by Method 7471B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	0.0232	J	0.0192	0.0426	1	05/07/2021 14:06	WG1665626

Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	1.98		0.107	1.07	5	05/10/2021 22:18	WG1665517
Barium	47.1		0.162	2.67	5	05/10/2021 22:18	WG1665517
Cadmium	0.185	J	0.0912	1.07	5	05/10/2021 22:18	WG1665517
Chromium	6.92		0.316	5.33	5	05/11/2021 00:57	WG1665517
Lead	3.34		0.106	2.13	5	05/10/2021 22:18	WG1665517
Selenium	U		0.192	2.67	5	05/10/2021 22:18	WG1665517
Silver	U		0.0922	0.533	5	05/10/2021 22:18	WG1665517

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Gasoline Range Organics-NWTPH	U		0.962	2.83	25	05/09/2021 07:49	WG1666156
(S) a,a,a-Trifluorotoluene(FID)	*95.8*			*77.0-120*		*05/09/2021 07:49*	WG1666156

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	U		0.0417	0.0571	1.01	05/06/2021 23:34	WG1665926
Acrylonitrile	U		0.00413	0.0143	1.01	05/06/2021 23:34	WG1665926
Benzene	U		0.000534	0.00114	1.01	05/06/2021 23:34	WG1665926
Bromobenzene	U		0.00103	0.0143	1.01	05/06/2021 23:34	WG1665926
Bromodichloromethane	U		0.000828	0.00286	1.01	05/06/2021 23:34	WG1665926
Bromoform	U		0.00134	0.0286	1.01	05/06/2021 23:34	WG1665926
Bromomethane	U		0.00225	0.0143	1.01	05/06/2021 23:34	WG1665926
n-Butylbenzene	U		0.00600	0.0143	1.01	05/06/2021 23:34	WG1665926
sec-Butylbenzene	U		0.00329	0.0143	1.01	05/06/2021 23:34	WG1665926
tert-Butylbenzene	U		0.00223	0.00571	1.01	05/06/2021 23:34	WG1665926
Carbon tetrachloride	U		0.00103	0.00571	1.01	05/06/2021 23:34	WG1665926
Chlorobenzene	U		0.000240	0.00286	1.01	05/06/2021 23:34	WG1665926
Chlorodibromomethane	U		0.000699	0.00286	1.01	05/06/2021 23:34	WG1665926
Chloroethane	U		0.00195	0.00571	1.01	05/06/2021 23:34	WG1665926
Chloroform	U		0.00118	0.00286	1.01	05/06/2021 23:34	WG1665926
Chloromethane	U		0.00497	0.0143	1.01	05/06/2021 23:34	WG1665926
2-Chlorotoluene	U		0.000989	0.00286	1.01	05/06/2021 23:34	WG1665926
4-Chlorotoluene	U		0.000515	0.00571	1.01	05/06/2021 23:34	WG1665926
1,2-Dibromo-3-Chloropropane	U		0.00446	0.0286	1.01	05/06/2021 23:34	WG1665926
1,2-Dibromoethane	U		0.000740	0.00286	1.01	05/06/2021 23:34	WG1665926
Dibromomethane	U		0.000856	0.00571	1.01	05/06/2021 23:34	WG1665926
1,2-Dichlorobenzene	U		0.000485	0.00571	1.01	05/06/2021 23:34	WG1665926
1,3-Dichlorobenzene	U		0.000686	0.00571	1.01	05/06/2021 23:34	WG1665926
1,4-Dichlorobenzene	U		0.000800	0.00571	1.01	05/06/2021 23:34	WG1665926
Dichlorodifluoromethane	U		0.00184	0.00286	1.01	05/06/2021 23:34	WG1665926
1,1-Dichloroethane	U		0.000561	0.00286	1.01	05/06/2021 23:34	WG1665926
1,2-Dichloroethane	U		0.000741	0.00286	1.01	05/06/2021 23:34	WG1665926

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
1,1-Dichloroethene	U		0.000692	0.00286	1.01	05/06/2021 23:34	WG1665926
cis-1,2-Dichloroethene	U		0.000838	0.00286	1.01	05/06/2021 23:34	WG1665926
trans-1,2-Dichloroethene	U		0.00119	0.00571	1.01	05/06/2021 23:34	WG1665926
1,2-Dichloropropane	U		0.00162	0.00571	1.01	05/06/2021 23:34	WG1665926
1,1-Dichloropropene	U		0.000924	0.00286	1.01	05/06/2021 23:34	WG1665926
1,3-Dichloropropane	U		0.000572	0.00571	1.01	05/06/2021 23:34	WG1665926
cis-1,3-Dichloropropene	U		0.000866	0.00286	1.01	05/06/2021 23:34	WG1665926
trans-1,3-Dichloropropene	U		0.00130	0.00571	1.01	05/06/2021 23:34	WG1665926
2,2-Dichloropropane	U		0.00157	0.00286	1.01	05/06/2021 23:34	WG1665926
Di-isopropyl ether	U		0.000468	0.00114	1.01	05/06/2021 23:34	WG1665926
Ethylbenzene	U		0.000842	0.00286	1.01	05/06/2021 23:34	WG1665926
Hexachloro-1,3-butadiene	U		0.00686	0.0286	1.01	05/06/2021 23:34	WG1665926
Isopropylbenzene	U		0.000485	0.00286	1.01	05/06/2021 23:34	WG1665926
p-Isopropyltoluene	U		0.00292	0.00571	1.01	05/06/2021 23:34	WG1665926
2-Butanone (MEK)	0.0773	B J	0.0725	0.114	1.01	05/06/2021 23:34	WG1665926
Methylene Chloride	U		0.00759	0.0286	1.01	05/06/2021 23:34	WG1665926
4-Methyl-2-pentanone (MIBK)	U		0.00260	0.0286	1.01	05/06/2021 23:34	WG1665926
Methyl tert-butyl ether	U		0.000399	0.00114	1.01	05/06/2021 23:34	WG1665926
Naphthalene	U		0.00558	0.0143	1.01	05/06/2021 23:34	WG1665926
n-Propylbenzene	U		0.00109	0.00571	1.01	05/06/2021 23:34	WG1665926
Styrene	U		0.000261	0.0143	1.01	05/06/2021 23:34	WG1665926
1,1,1,2-Tetrachloroethane	U		0.00108	0.00286	1.01	05/06/2021 23:34	WG1665926
1,1,2,2-Tetrachloroethane	U		0.000794	0.00286	1.01	05/06/2021 23:34	WG1665926
1,1,2-Trichlorotrifluoroethane	U		0.000862	0.00286	1.01	05/06/2021 23:34	WG1665926
Tetrachloroethene	U		0.00102	0.00286	1.01	05/06/2021 23:34	WG1665926
Toluene	U		0.00148	0.00571	1.01	05/06/2021 23:34	WG1665926
1,2,3-Trichlorobenzene	U		0.00837	0.0143	1.01	05/06/2021 23:34	WG1665926
1,2,4-Trichlorobenzene	U		0.00502	0.0143	1.01	05/06/2021 23:34	WG1665926
1,1,1-Trichloroethane	U		0.00105	0.00286	1.01	05/06/2021 23:34	WG1665926
1,1,2-Trichloroethane	U		0.000682	0.00286	1.01	05/06/2021 23:34	WG1665926
Trichloroethene	U		0.000668	0.00114	1.01	05/06/2021 23:34	WG1665926
Trichlorofluoromethane	U		0.000945	0.00286	1.01	05/06/2021 23:34	WG1665926
1,2,3-Trichloropropane	U		0.00186	0.0143	1.01	05/06/2021 23:34	WG1665926
1,2,4-Trimethylbenzene	U		0.00181	0.00571	1.01	05/06/2021 23:34	WG1665926
1,2,3-Trimethylbenzene	U		0.00181	0.00571	1.01	05/06/2021 23:34	WG1665926
1,3,5-Trimethylbenzene	U		0.00229	0.00571	1.01	05/06/2021 23:34	WG1665926
Vinyl chloride	U		0.00132	0.00286	1.01	05/06/2021 23:34	WG1665926
Xylenes, Total	0.00148	J	0.00101	0.00742	1.01	05/06/2021 23:34	WG1665926
(S) Toluene-d8	*102*			*75.0-131*		*05/06/2021 23:34*	WG1665926
(S) 4-Bromofluorobenzene	*101*			*67.0-138*		*05/06/2021 23:34*	WG1665926
(S) 1,2-Dichloroethane-d4	*94.4*			*70.0-130*		*05/06/2021 23:34*	WG1665926

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	U		1.42	4.26	1	05/08/2021 15:39	WG1666732
Residual Range Organics (RRO)	U		3.55	10.7	1	05/08/2021 15:39	WG1666732
(S) o-Terphenyl	*69.5*			*18.0-148*		*05/08/2021 15:39*	WG1666732

Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00245	0.00640	1	05/10/2021 08:20	WG1667246
Acenaphthene	U		0.00223	0.00640	1	05/10/2021 08:20	WG1667246
Acenaphthylene	U		0.00230	0.00640	1	05/10/2021 08:20	WG1667246
Benzo(a)anthracene	U		0.00184	0.00640	1	05/10/2021 08:20	WG1667246
Benzo(a)pyrene	U		0.00191	0.00640	1	05/10/2021 08:20	WG1667246
Benzo(b)fluoranthene	U		0.00163	0.00640	1	05/10/2021 08:20	WG1667246
Benzo(g,h,i)perylene	U		0.00189	0.00640	1	05/10/2021 08:20	WG1667246
Benzo(k)fluoranthene	U		0.00229	0.00640	1	05/10/2021 08:20	WG1667246
Chrysene	U		0.00247	0.00640	1	05/10/2021 08:20	WG1667246
Dibenz(a,h)anthracene	U		0.00183	0.00640	1	05/10/2021 08:20	WG1667246
Fluoranthene	U		0.00242	0.00640	1	05/10/2021 08:20	WG1667246
Fluorene	U		0.00219	0.00640	1	05/10/2021 08:20	WG1667246
Indeno(1,2,3-cd)pyrene	U		0.00193	0.00640	1	05/10/2021 08:20	WG1667246
Naphthalene	U		0.00435	0.0213	1	05/10/2021 08:20	WG1667246
Phenanthrene	U		0.00246	0.00640	1	05/10/2021 08:20	WG1667246
Pyrene	U		0.00213	0.00640	1	05/10/2021 08:20	WG1667246
1-Methylnaphthalene	U		0.00479	0.0213	1	05/10/2021 08:20	WG1667246
2-Methylnaphthalene	U		0.00455	0.0213	1	05/10/2021 08:20	WG1667246
2-Chloronaphthalene	U		0.00497	0.0213	1	05/10/2021 08:20	WG1667246
(S) Nitrobenzene-d5	*80.6*			*14.0-149*		*05/10/2021 08:20*	WG1667246
(S) 2-Fluorobiphenyl	*79.1*			*34.0-125*		*05/10/2021 08:20*	WG1667246
(S) p-Terphenyl-d14	*87.8*			*23.0-120*		*05/10/2021 08:20*	WG1667246

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	88.6		1	05/06/2021 17:58	WG1665890

Mercury by Method 7471B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	0.0320	J	0.0203	0.0452	1	05/07/2021 14:08	WG1665626

Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	2.89		0.113	1.13	5	05/10/2021 22:22	WG1665517
Barium	94.5		0.172	2.82	5	05/10/2021 22:22	WG1665517
Cadmium	0.137	J	0.0965	1.13	5	05/10/2021 22:22	WG1665517
Chromium	9.27		0.334	5.64	5	05/11/2021 01:00	WG1665517
Lead	5.50		0.112	2.26	5	05/10/2021 22:22	WG1665517
Selenium	U		0.203	2.82	5	05/10/2021 22:22	WG1665517
Silver	0.266	J	0.0977	0.564	5	05/10/2021 22:22	WG1665517

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Gasoline Range Organics-NWTPH	U		1.07	3.15	25	05/09/2021 08:11	WG1666156
(S) a,a,a-Trifluorotoluene(FID)	*95.9*			*77.0-120*		*05/09/2021 08:11*	WG1666156

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	U		0.0464	0.0636	1	05/06/2021 23:53	WG1665926
Acrylonitrile	U		0.00459	0.0159	1	05/06/2021 23:53	WG1665926
Benzene	U		0.000594	0.00127	1	05/06/2021 23:53	WG1665926
Bromobenzene	U		0.00114	0.0159	1	05/06/2021 23:53	WG1665926
Bromodichloromethane	U		0.000922	0.00318	1	05/06/2021 23:53	WG1665926
Bromoform	U		0.00149	0.0318	1	05/06/2021 23:53	WG1665926
Bromomethane	U		0.00251	0.0159	1	05/06/2021 23:53	WG1665926
n-Butylbenzene	U		0.00668	0.0159	1	05/06/2021 23:53	WG1665926
sec-Butylbenzene	U		0.00366	0.0159	1	05/06/2021 23:53	WG1665926
tert-Butylbenzene	U		0.00248	0.00636	1	05/06/2021 23:53	WG1665926
Carbon tetrachloride	U		0.00114	0.00636	1	05/06/2021 23:53	WG1665926
Chlorobenzene	U		0.000267	0.00318	1	05/06/2021 23:53	WG1665926
Chlorodibromomethane	U		0.000778	0.00318	1	05/06/2021 23:53	WG1665926
Chloroethane	U		0.00216	0.00636	1	05/06/2021 23:53	WG1665926
Chloroform	U		0.00131	0.00318	1	05/06/2021 23:53	WG1665926
Chloromethane	U		0.00553	0.0159	1	05/06/2021 23:53	WG1665926
2-Chlorotoluene	U		0.00110	0.00318	1	05/06/2021 23:53	WG1665926
4-Chlorotoluene	U		0.000572	0.00636	1	05/06/2021 23:53	WG1665926
1,2-Dibromo-3-Chloropropane	U		0.00496	0.0318	1	05/06/2021 23:53	WG1665926
1,2-Dibromoethane	U		0.000824	0.00318	1	05/06/2021 23:53	WG1665926
Dibromomethane	U		0.000954	0.00636	1	05/06/2021 23:53	WG1665926
1,2-Dichlorobenzene	U		0.000541	0.00636	1	05/06/2021 23:53	WG1665926
1,3-Dichlorobenzene	U		0.000763	0.00636	1	05/06/2021 23:53	WG1665926
1,4-Dichlorobenzene	U		0.000890	0.00636	1	05/06/2021 23:53	WG1665926
Dichlorodifluoromethane	U		0.00205	0.00318	1	05/06/2021 23:53	WG1665926
1,1-Dichloroethane	U		0.000624	0.00318	1	05/06/2021 23:53	WG1665926
1,2-Dichloroethane	U		0.000825	0.00318	1	05/06/2021 23:53	WG1665926

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
1,1-Dichloroethene	U		0.000771	0.00318	1	05/06/2021 23:53	WG1665926
cis-1,2-Dichloroethene	U		0.000934	0.00318	1	05/06/2021 23:53	WG1665926
trans-1,2-Dichloroethene	U		0.00132	0.00636	1	05/06/2021 23:53	WG1665926
1,2-Dichloropropane	U		0.00181	0.00636	1	05/06/2021 23:53	WG1665926
1,1-Dichloropropene	U		0.00103	0.00318	1	05/06/2021 23:53	WG1665926
1,3-Dichloropropane	U		0.000637	0.00636	1	05/06/2021 23:53	WG1665926
cis-1,3-Dichloropropene	U		0.000963	0.00318	1	05/06/2021 23:53	WG1665926
trans-1,3-Dichloropropene	U		0.00145	0.00636	1	05/06/2021 23:53	WG1665926
2,2-Dichloropropane	U		0.00176	0.00318	1	05/06/2021 23:53	WG1665926
Di-isopropyl ether	U		0.000521	0.00127	1	05/06/2021 23:53	WG1665926
Ethylbenzene	U		0.000937	0.00318	1	05/06/2021 23:53	WG1665926
Hexachloro-1,3-butadiene	U		0.00763	0.0318	1	05/06/2021 23:53	WG1665926
Isopropylbenzene	U		0.000541	0.00318	1	05/06/2021 23:53	WG1665926
p-Isopropyltoluene	U		0.00324	0.00636	1	05/06/2021 23:53	WG1665926
2-Butanone (MEK)	0.105	B J	0.0808	0.127	1	05/06/2021 23:53	WG1665926
Methylene Chloride	U		0.00844	0.0318	1	05/06/2021 23:53	WG1665926
4-Methyl-2-pentanone (MIBK)	U		0.00290	0.0318	1	05/06/2021 23:53	WG1665926
Methyl tert-butyl ether	U		0.000445	0.00127	1	05/06/2021 23:53	WG1665926
Naphthalene	U		0.00621	0.0159	1	05/06/2021 23:53	WG1665926
n-Propylbenzene	U		0.00121	0.00636	1	05/06/2021 23:53	WG1665926
Styrene	U		0.000291	0.0159	1	05/06/2021 23:53	WG1665926
1,1,1,2-Tetrachloroethane	U		0.00121	0.00318	1	05/06/2021 23:53	WG1665926
1,1,2,2-Tetrachloroethane	U		0.000884	0.00318	1	05/06/2021 23:53	WG1665926
1,1,2-Trichlorotrifluoroethane	U		0.000959	0.00318	1	05/06/2021 23:53	WG1665926
Tetrachloroethene	U		0.00114	0.00318	1	05/06/2021 23:53	WG1665926
Toluene	U		0.00165	0.00636	1	05/06/2021 23:53	WG1665926
1,2,3-Trichlorobenzene	U		0.00932	0.0159	1	05/06/2021 23:53	WG1665926
1,2,4-Trichlorobenzene	U		0.00560	0.0159	1	05/06/2021 23:53	WG1665926
1,1,1-Trichloroethane	U		0.00117	0.00318	1	05/06/2021 23:53	WG1665926
1,1,2-Trichloroethane	U		0.000759	0.00318	1	05/06/2021 23:53	WG1665926
Trichloroethene	U		0.000743	0.00127	1	05/06/2021 23:53	WG1665926
Trichlorofluoromethane	U		0.00105	0.00318	1	05/06/2021 23:53	WG1665926
1,2,3-Trichloropropane	U		0.00206	0.0159	1	05/06/2021 23:53	WG1665926
1,2,4-Trimethylbenzene	U		0.00201	0.00636	1	05/06/2021 23:53	WG1665926
1,2,3-Trimethylbenzene	U		0.00201	0.00636	1	05/06/2021 23:53	WG1665926
1,3,5-Trimethylbenzene	U		0.00254	0.00636	1	05/06/2021 23:53	WG1665926
Vinyl chloride	U		0.00148	0.00318	1	05/06/2021 23:53	WG1665926
Xylenes, Total	U		0.00112	0.00827	1	05/06/2021 23:53	WG1665926
(S) Toluene-d8	*103*			*75.0-131*		*05/06/2021 23:53*	WG1665926
(S) 4-Bromofluorobenzene	*102*			*67.0-138*		*05/06/2021 23:53*	WG1665926
(S) 1,2-Dichloroethane-d4	*93.5*			*70.0-130*		*05/06/2021 23:53*	WG1665926

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	3.39	J J3	1.50	4.52	1	05/08/2021 16:55	WG1666732
Residual Range Organics (RRO)	11.7		3.76	11.3	1	05/08/2021 16:55	WG1666732
(S) o-Terphenyl	*82.2*			*18.0-148*		*05/08/2021 16:55*	WG1666732

Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00260	0.00677	1	05/10/2021 08:37	WG1667246
Acenaphthene	U		0.00236	0.00677	1	05/10/2021 08:37	WG1667246
Acenaphthylene	U		0.00244	0.00677	1	05/10/2021 08:37	WG1667246
Benzo(a)anthracene	0.00253	J	0.00195	0.00677	1	05/10/2021 08:37	WG1667246
Benzo(a)pyrene	0.00338	J	0.00202	0.00677	1	05/10/2021 08:37	WG1667246
Benzo(b)fluoranthene	0.00432	J	0.00173	0.00677	1	05/10/2021 08:37	WG1667246
Benzo(g,h,i)perylene	0.00561	J	0.00200	0.00677	1	05/10/2021 08:37	WG1667246
Benzo(k)fluoranthene	U		0.00243	0.00677	1	05/10/2021 08:37	WG1667246
Chrysene	0.00361	J	0.00262	0.00677	1	05/10/2021 08:37	WG1667246
Dibenz(a,h)anthracene	U		0.00194	0.00677	1	05/10/2021 08:37	WG1667246
Fluoranthene	0.00378	J	0.00256	0.00677	1	05/10/2021 08:37	WG1667246
Fluorene	U		0.00231	0.00677	1	05/10/2021 08:37	WG1667246
Indeno(1,2,3-cd)pyrene	0.00307	J	0.00204	0.00677	1	05/10/2021 08:37	WG1667246
Naphthalene	U		0.00461	0.0226	1	05/10/2021 08:37	WG1667246
Phenanthrene	U		0.00261	0.00677	1	05/10/2021 08:37	WG1667246
Pyrene	0.00414	J	0.00226	0.00677	1	05/10/2021 08:37	WG1667246
1-Methylnaphthalene	U		0.00507	0.0226	1	05/10/2021 08:37	WG1667246
2-Methylnaphthalene	U		0.00482	0.0226	1	05/10/2021 08:37	WG1667246
2-Chloronaphthalene	U		0.00526	0.0226	1	05/10/2021 08:37	WG1667246
(S) Nitrobenzene-d5	*80.5*			*14.0-149*		*05/10/2021 08:37*	WG1667246
(S) 2-Fluorobiphenyl	*77.8*			*34.0-125*		*05/10/2021 08:37*	WG1667246
(S) p-Terphenyl-d14	*85.6*			*23.0-120*		*05/10/2021 08:37*	WG1667246

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	84.7		1	05/06/2021 17:58	WG1665890

Mercury by Method 7471B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	0.0224	J	0.0213	0.0472	1	05/07/2021 14:16	WG1665626

Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	2.42		0.118	1.18	5	05/10/2021 22:25	WG1665517
Barium	96.3		0.180	2.95	5	05/10/2021 22:25	WG1665517
Cadmium	0.110	J	0.101	1.18	5	05/10/2021 22:25	WG1665517
Chromium	10.5		0.350	5.91	5	05/11/2021 01:04	WG1665517
Lead	5.76		0.117	2.36	5	05/10/2021 22:25	WG1665517
Selenium	0.282	J	0.213	2.95	5	05/10/2021 22:25	WG1665517
Silver	U		0.102	0.591	5	05/10/2021 22:25	WG1665517

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Gasoline Range Organics-NWTPH	U		1.47	4.33	32.8	05/09/2021 08:33	WG1666156
(S) a,a,a-Trifluorotoluene(FID)	*94.8*			*77.0-120*		*05/09/2021 08:33*	WG1666156

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	U		0.0502	0.0687	1	05/07/2021 00:12	WG1665926
Acrylonitrile	U		0.00496	0.0172	1	05/07/2021 00:12	WG1665926
Benzene	U		0.000642	0.00137	1	05/07/2021 00:12	WG1665926
Bromobenzene	U		0.00124	0.0172	1	05/07/2021 00:12	WG1665926
Bromodichloromethane	U		0.000996	0.00344	1	05/07/2021 00:12	WG1665926
Bromoform	U		0.00161	0.0344	1	05/07/2021 00:12	WG1665926
Bromomethane	U		0.00271	0.0172	1	05/07/2021 00:12	WG1665926
n-Butylbenzene	U		0.00721	0.0172	1	05/07/2021 00:12	WG1665926
sec-Butylbenzene	U		0.00396	0.0172	1	05/07/2021 00:12	WG1665926
tert-Butylbenzene	U		0.00268	0.00687	1	05/07/2021 00:12	WG1665926
Carbon tetrachloride	U		0.00123	0.00687	1	05/07/2021 00:12	WG1665926
Chlorobenzene	U		0.000289	0.00344	1	05/07/2021 00:12	WG1665926
Chlorodibromomethane	U		0.000841	0.00344	1	05/07/2021 00:12	WG1665926
Chloroethane	U		0.00234	0.00687	1	05/07/2021 00:12	WG1665926
Chloroform	U		0.00142	0.00344	1	05/07/2021 00:12	WG1665926
Chloromethane	U		0.00598	0.0172	1	05/07/2021 00:12	WG1665926
2-Chlorotoluene	U		0.00119	0.00344	1	05/07/2021 00:12	WG1665926
4-Chlorotoluene	U		0.000618	0.00687	1	05/07/2021 00:12	WG1665926
1,2-Dibromo-3-Chloropropane	U		0.00536	0.0344	1	05/07/2021 00:12	WG1665926
1,2-Dibromoethane	U		0.000891	0.00344	1	05/07/2021 00:12	WG1665926
Dibromomethane	U		0.00103	0.00687	1	05/07/2021 00:12	WG1665926
1,2-Dichlorobenzene	U		0.000584	0.00687	1	05/07/2021 00:12	WG1665926
1,3-Dichlorobenzene	U		0.000825	0.00687	1	05/07/2021 00:12	WG1665926
1,4-Dichlorobenzene	U		0.000962	0.00687	1	05/07/2021 00:12	WG1665926
Dichlorodifluoromethane	U		0.00221	0.00344	1	05/07/2021 00:12	WG1665926
1,1-Dichloroethane	U		0.000675	0.00344	1	05/07/2021 00:12	WG1665926
1,2-Dichloroethane	U		0.000892	0.00344	1	05/07/2021 00:12	WG1665926

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
1,1-Dichloroethene	U		0.000833	0.00344	1	05/07/2021 00:12	WG1665926
cis-1,2-Dichloroethene	U		0.00101	0.00344	1	05/07/2021 00:12	WG1665926
trans-1,2-Dichloroethene	U		0.00143	0.00687	1	05/07/2021 00:12	WG1665926
1,2-Dichloropropane	U		0.00195	0.00687	1	05/07/2021 00:12	WG1665926
1,1-Dichloropropene	U		0.00111	0.00344	1	05/07/2021 00:12	WG1665926
1,3-Dichloropropane	U		0.000689	0.00687	1	05/07/2021 00:12	WG1665926
cis-1,3-Dichloropropene	U		0.00104	0.00344	1	05/07/2021 00:12	WG1665926
trans-1,3-Dichloropropene	U		0.00157	0.00687	1	05/07/2021 00:12	WG1665926
2,2-Dichloropropane	U		0.00190	0.00344	1	05/07/2021 00:12	WG1665926
Di-isopropyl ether	U		0.000563	0.00137	1	05/07/2021 00:12	WG1665926
Ethylbenzene	U		0.00101	0.00344	1	05/07/2021 00:12	WG1665926
Hexachloro-1,3-butadiene	U		0.00825	0.0344	1	05/07/2021 00:12	WG1665926
Isopropylbenzene	U		0.000584	0.00344	1	05/07/2021 00:12	WG1665926
p-Isopropyltoluene	U		0.00350	0.00687	1	05/07/2021 00:12	WG1665926
2-Butanone (MEK)	0.0963	B J	0.0873	0.137	1	05/07/2021 00:12	WG1665926
Methylene Chloride	U		0.00913	0.0344	1	05/07/2021 00:12	WG1665926
4-Methyl-2-pentanone (MIBK)	U		0.00313	0.0344	1	05/07/2021 00:12	WG1665926
Methyl tert-butyl ether	U		0.000481	0.00137	1	05/07/2021 00:12	WG1665926
Naphthalene	U		0.00671	0.0172	1	05/07/2021 00:12	WG1665926
n-Propylbenzene	U		0.00131	0.00687	1	05/07/2021 00:12	WG1665926
Styrene	U		0.000315	0.0172	1	05/07/2021 00:12	WG1665926
1,1,1,2-Tetrachloroethane	U		0.00130	0.00344	1	05/07/2021 00:12	WG1665926
1,1,2,2-Tetrachloroethane	U		0.000955	0.00344	1	05/07/2021 00:12	WG1665926
1,1,2-Trichlorotrifluoroethane	U		0.00104	0.00344	1	05/07/2021 00:12	WG1665926
Tetrachloroethene	U		0.00123	0.00344	1	05/07/2021 00:12	WG1665926
Toluene	U		0.00179	0.00687	1	05/07/2021 00:12	WG1665926
1,2,3-Trichlorobenzene	U		0.0101	0.0172	1	05/07/2021 00:12	WG1665926
1,2,4-Trichlorobenzene	U		0.00605	0.0172	1	05/07/2021 00:12	WG1665926
1,1,1-Trichloroethane	U		0.00127	0.00344	1	05/07/2021 00:12	WG1665926
1,1,2-Trichloroethane	U		0.000820	0.00344	1	05/07/2021 00:12	WG1665926
Trichloroethene	U		0.000803	0.00137	1	05/07/2021 00:12	WG1665926
Trichlorofluoromethane	U		0.00114	0.00344	1	05/07/2021 00:12	WG1665926
1,2,3-Trichloropropane	U		0.00223	0.0172	1	05/07/2021 00:12	WG1665926
1,2,4-Trimethylbenzene	U		0.00217	0.00687	1	05/07/2021 00:12	WG1665926
1,2,3-Trimethylbenzene	U		0.00217	0.00687	1	05/07/2021 00:12	WG1665926
1,3,5-Trimethylbenzene	U		0.00275	0.00687	1	05/07/2021 00:12	WG1665926
Vinyl chloride	U		0.00159	0.00344	1	05/07/2021 00:12	WG1665926
Xylenes, Total	0.00142	J	0.00121	0.00893	1	05/07/2021 00:12	WG1665926
(S) Toluene-d8	*102*			*75.0-131*		*05/07/2021 00:12*	WG1665926
(S) 4-Bromofluorobenzene	*103*			*67.0-138*		*05/07/2021 00:12*	WG1665926
(S) 1,2-Dichloroethane-d4	*94.2*			*70.0-130*		*05/07/2021 00:12*	WG1665926

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	4.21	J	1.57	4.72	1	05/08/2021 17:33	WG1666732
Residual Range Organics (RRO)	20.2		3.93	11.8	1	05/08/2021 17:33	WG1666732
(S) o-Terphenyl	*80.2*			*18.0-148*		*05/08/2021 17:33*	WG1666732

Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00272	0.00709	1	05/10/2021 08:55	WG1667246
Acenaphthene	U		0.00247	0.00709	1	05/10/2021 08:55	WG1667246
Acenaphthylene	U		0.00255	0.00709	1	05/10/2021 08:55	WG1667246
Benzo(a)anthracene	0.00389	J	0.00204	0.00709	1	05/10/2021 08:55	WG1667246
Benzo(a)pyrene	0.00561	J	0.00211	0.00709	1	05/10/2021 08:55	WG1667246
Benzo(b)fluoranthene	0.00669	J	0.00181	0.00709	1	05/10/2021 08:55	WG1667246
Benzo(g,h,i)perylene	0.00782		0.00209	0.00709	1	05/10/2021 08:55	WG1667246
Benzo(k)fluoranthene	U		0.00254	0.00709	1	05/10/2021 08:55	WG1667246
Chrysene	0.00581	J	0.00274	0.00709	1	05/10/2021 08:55	WG1667246
Dibenz(a,h)anthracene	U		0.00203	0.00709	1	05/10/2021 08:55	WG1667246
Fluoranthene	0.00353	J	0.00268	0.00709	1	05/10/2021 08:55	WG1667246
Fluorene	U		0.00242	0.00709	1	05/10/2021 08:55	WG1667246
Indeno(1,2,3-cd)pyrene	0.00485	J	0.00214	0.00709	1	05/10/2021 08:55	WG1667246
Naphthalene	U		0.00482	0.0236	1	05/10/2021 08:55	WG1667246
Phenanthrene	U		0.00273	0.00709	1	05/10/2021 08:55	WG1667246
Pyrene	0.00461	J	0.00236	0.00709	1	05/10/2021 08:55	WG1667246
1-Methylnaphthalene	U		0.00530	0.0236	1	05/10/2021 08:55	WG1667246
2-Methylnaphthalene	U		0.00504	0.0236	1	05/10/2021 08:55	WG1667246
2-Chloronaphthalene	U		0.00550	0.0236	1	05/10/2021 08:55	WG1667246
(S) Nitrobenzene-d5	*80.1*			*14.0-149*		*05/10/2021 08:55*	WG1667246
(S) 2-Fluorobiphenyl	*76.1*			*34.0-125*		*05/10/2021 08:55*	WG1667246
(S) p-Terphenyl-d14	*83.6*			*23.0-120*		*05/10/2021 08:55*	WG1667246

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	93.5		1	05/06/2021 17:58	WG1665890

Mercury by Method 7471B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	0.0466		0.0193	0.0428	1	05/07/2021 14:18	WG1665626

Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	2.12		0.107	1.07	5	05/10/2021 22:28	WG1665517
Barium	46.6		0.163	2.67	5	05/10/2021 22:28	WG1665517
Cadmium	0.161	J	0.0915	1.07	5	05/10/2021 22:28	WG1665517
Chromium	5.16	J	0.317	5.35	5	05/11/2021 01:07	WG1665517
Lead	4.67		0.106	2.14	5	05/10/2021 22:28	WG1665517
Selenium	U		0.193	2.67	5	05/10/2021 22:28	WG1665517
Silver	U		0.0925	0.535	5	05/10/2021 22:28	WG1665517

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Gasoline Range Organics-NWTPH	U		0.972	2.87	25	05/09/2021 08:55	WG1666156
(S) a,a,a-Trifluorotoluene(FID)	*94.9*			*77.0-120*		*05/09/2021 08:55*	WG1666156

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	U		0.0428	0.0586	1.03	05/07/2021 00:31	WG1665926
Acrylonitrile	U		0.00423	0.0147	1.03	05/07/2021 00:31	WG1665926
Benzene	U		0.000547	0.00117	1.03	05/07/2021 00:31	WG1665926
Bromobenzene	U		0.00105	0.0147	1.03	05/07/2021 00:31	WG1665926
Bromodichloromethane	U		0.000850	0.00293	1.03	05/07/2021 00:31	WG1665926
Bromoform	U		0.00138	0.0293	1.03	05/07/2021 00:31	WG1665926
Bromomethane	U		0.00231	0.0147	1.03	05/07/2021 00:31	WG1665926
n-Butylbenzene	U		0.00615	0.0147	1.03	05/07/2021 00:31	WG1665926
sec-Butylbenzene	U		0.00338	0.0147	1.03	05/07/2021 00:31	WG1665926
tert-Butylbenzene	U		0.00229	0.00586	1.03	05/07/2021 00:31	WG1665926
Carbon tetrachloride	U		0.00105	0.00586	1.03	05/07/2021 00:31	WG1665926
Chlorobenzene	U		0.000246	0.00293	1.03	05/07/2021 00:31	WG1665926
Chlorodibromomethane	U		0.000717	0.00293	1.03	05/07/2021 00:31	WG1665926
Chloroethane	U		0.00199	0.00586	1.03	05/07/2021 00:31	WG1665926
Chloroform	U		0.00121	0.00293	1.03	05/07/2021 00:31	WG1665926
Chloromethane	U		0.00510	0.0147	1.03	05/07/2021 00:31	WG1665926
2-Chlorotoluene	U		0.00101	0.00293	1.03	05/07/2021 00:31	WG1665926
4-Chlorotoluene	U		0.000528	0.00586	1.03	05/07/2021 00:31	WG1665926
1,2-Dibromo-3-Chloropropane	U		0.00457	0.0293	1.03	05/07/2021 00:31	WG1665926
1,2-Dibromoethane	U		0.000759	0.00293	1.03	05/07/2021 00:31	WG1665926
Dibromomethane	U		0.000879	0.00586	1.03	05/07/2021 00:31	WG1665926
1,2-Dichlorobenzene	U		0.000498	0.00586	1.03	05/07/2021 00:31	WG1665926
1,3-Dichlorobenzene	U		0.000703	0.00586	1.03	05/07/2021 00:31	WG1665926
1,4-Dichlorobenzene	U		0.000820	0.00586	1.03	05/07/2021 00:31	WG1665926
Dichlorodifluoromethane	U		0.00189	0.00293	1.03	05/07/2021 00:31	WG1665926
1,1-Dichloroethane	U		0.000576	0.00293	1.03	05/07/2021 00:31	WG1665926
1,2-Dichloroethane	U		0.000760	0.00293	1.03	05/07/2021 00:31	WG1665926

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
1,1-Dichloroethene	U		0.000710	0.00293	1.03	05/07/2021 00:31	WG1665926
cis-1,2-Dichloroethene	U		0.000860	0.00293	1.03	05/07/2021 00:31	WG1665926
trans-1,2-Dichloroethene	U		0.00122	0.00586	1.03	05/07/2021 00:31	WG1665926
1,2-Dichloropropane	U		0.00166	0.00586	1.03	05/07/2021 00:31	WG1665926
1,1-Dichloropropene	U		0.000948	0.00293	1.03	05/07/2021 00:31	WG1665926
1,3-Dichloropropane	U		0.000587	0.00586	1.03	05/07/2021 00:31	WG1665926
cis-1,3-Dichloropropene	U		0.000887	0.00293	1.03	05/07/2021 00:31	WG1665926
trans-1,3-Dichloropropene	U		0.00133	0.00586	1.03	05/07/2021 00:31	WG1665926
2,2-Dichloropropane	U		0.00162	0.00293	1.03	05/07/2021 00:31	WG1665926
Di-isopropyl ether	U		0.000480	0.00117	1.03	05/07/2021 00:31	WG1665926
Ethylbenzene	U		0.000863	0.00293	1.03	05/07/2021 00:31	WG1665926
Hexachloro-1,3-butadiene	U		0.00703	0.0293	1.03	05/07/2021 00:31	WG1665926
Isopropylbenzene	U		0.000498	0.00293	1.03	05/07/2021 00:31	WG1665926
p-Isopropyltoluene	U		0.00299	0.00586	1.03	05/07/2021 00:31	WG1665926
2-Butanone (MEK)	U		0.0744	0.117	1.03	05/07/2021 00:31	WG1665926
Methylene Chloride	U		0.00778	0.0293	1.03	05/07/2021 00:31	WG1665926
4-Methyl-2-pentanone (MIBK)	U		0.00267	0.0293	1.03	05/07/2021 00:31	WG1665926
Methyl tert-butyl ether	U		0.000411	0.00117	1.03	05/07/2021 00:31	WG1665926
Naphthalene	U		0.00572	0.0147	1.03	05/07/2021 00:31	WG1665926
n-Propylbenzene	U		0.00111	0.00586	1.03	05/07/2021 00:31	WG1665926
Styrene	U		0.000268	0.0147	1.03	05/07/2021 00:31	WG1665926
1,1,1,2-Tetrachloroethane	U		0.00111	0.00293	1.03	05/07/2021 00:31	WG1665926
1,1,2,2-Tetrachloroethane	U		0.000814	0.00293	1.03	05/07/2021 00:31	WG1665926
1,1,2-Trichlorotrifluoroethane	U		0.000884	0.00293	1.03	05/07/2021 00:31	WG1665926
Tetrachloroethene	U		0.00105	0.00293	1.03	05/07/2021 00:31	WG1665926
Toluene	U		0.00152	0.00586	1.03	05/07/2021 00:31	WG1665926
1,2,3-Trichlorobenzene	U		0.00859	0.0147	1.03	05/07/2021 00:31	WG1665926
1,2,4-Trichlorobenzene	U		0.00515	0.0147	1.03	05/07/2021 00:31	WG1665926
1,1,1-Trichloroethane	U		0.00108	0.00293	1.03	05/07/2021 00:31	WG1665926
1,1,2-Trichloroethane	U		0.000700	0.00293	1.03	05/07/2021 00:31	WG1665926
Trichloroethene	U		0.000685	0.00117	1.03	05/07/2021 00:31	WG1665926
Trichlorofluoromethane	U		0.000969	0.00293	1.03	05/07/2021 00:31	WG1665926
1,2,3-Trichloropropane	U		0.00190	0.0147	1.03	05/07/2021 00:31	WG1665926
1,2,4-Trimethylbenzene	U		0.00185	0.00586	1.03	05/07/2021 00:31	WG1665926
1,2,3-Trimethylbenzene	U		0.00185	0.00586	1.03	05/07/2021 00:31	WG1665926
1,3,5-Trimethylbenzene	U		0.00234	0.00586	1.03	05/07/2021 00:31	WG1665926
Vinyl chloride	U		0.00135	0.00293	1.03	05/07/2021 00:31	WG1665926
Xylenes, Total	0.00134	J	0.00103	0.00762	1.03	05/07/2021 00:31	WG1665926
(S) Toluene-d8	*101*			*75.0-131*		*05/07/2021 00:31*	WG1665926
(S) 4-Bromofluorobenzene	*101*			*67.0-138*		*05/07/2021 00:31*	WG1665926
(S) 1,2-Dichloroethane-d4	*96.6*			*70.0-130*		*05/07/2021 00:31*	WG1665926

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	1.96	J	1.42	4.28	1	05/08/2021 17:45	WG1666732
Residual Range Organics (RRO)	9.22	J	3.56	10.7	1	05/08/2021 17:45	WG1666732
(S) o-Terphenyl	*71.8*			*18.0-148*		*05/08/2021 17:45*	WG1666732

Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00246	0.00642	1	05/10/2021 10:22	WG1667246
Acenaphthene	U		0.00224	0.00642	1	05/10/2021 10:22	WG1667246
Acenaphthylene	U		0.00231	0.00642	1	05/10/2021 10:22	WG1667246
Benzo(a)anthracene	0.0114		0.00185	0.00642	1	05/10/2021 10:22	WG1667246
Benzo(a)pyrene	0.0107		0.00192	0.00642	1	05/10/2021 10:22	WG1667246
Benzo(b)fluoranthene	0.0110		0.00164	0.00642	1	05/10/2021 10:22	WG1667246
Benzo(g,h,i)perylene	0.0278		0.00189	0.00642	1	05/10/2021 10:22	WG1667246
Benzo(k)fluoranthene	0.00397	J	0.00230	0.00642	1	05/10/2021 10:22	WG1667246
Chrysene	0.0204		0.00248	0.00642	1	05/10/2021 10:22	WG1667246
Dibenz(a,h)anthracene	0.00640	J	0.00184	0.00642	1	05/10/2021 10:22	WG1667246
Fluoranthene	0.00491	J	0.00243	0.00642	1	05/10/2021 10:22	WG1667246
Fluorene	U		0.00219	0.00642	1	05/10/2021 10:22	WG1667246
Indeno(1,2,3-cd)pyrene	0.00769		0.00194	0.00642	1	05/10/2021 10:22	WG1667246
Naphthalene	U		0.00437	0.0214	1	05/10/2021 10:22	WG1667246
Phenanthrene	0.00536	J	0.00247	0.00642	1	05/10/2021 10:22	WG1667246
Pyrene	0.0170		0.00214	0.00642	1	05/10/2021 10:22	WG1667246
1-Methylnaphthalene	U		0.00480	0.0214	1	05/10/2021 10:22	WG1667246
2-Methylnaphthalene	U		0.00457	0.0214	1	05/10/2021 10:22	WG1667246
2-Chloronaphthalene	U		0.00499	0.0214	1	05/10/2021 10:22	WG1667246
(S) Nitrobenzene-d5	*79.9*			*14.0-149*		*05/10/2021 10:22*	WG1667246
(S) 2-Fluorobiphenyl	*77.4*			*34.0-125*		*05/10/2021 10:22*	WG1667246
(S) p-Terphenyl-d14	*84.9*			*23.0-120*		*05/10/2021 10:22*	WG1667246

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	89.3		1	05/06/2021 17:31	WG1665909

Mercury by Method 7471B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	0.0214	J	0.0202	0.0448	1	05/07/2021 14:21	WG1665626

Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	2.67		0.112	1.12	5	05/09/2021 18:49	WG1666839
Barium	58.3		0.170	2.80	5	05/09/2021 18:49	WG1666839
Cadmium	0.163	J	0.0958	1.12	5	05/09/2021 18:49	WG1666839
Chromium	9.48		0.332	5.60	5	05/09/2021 18:49	WG1666839
Lead	4.06		0.111	2.24	5	05/09/2021 18:49	WG1666839
Selenium	U		0.202	2.80	5	05/09/2021 18:49	WG1666839
Silver	U		0.0969	0.560	5	05/09/2021 18:49	WG1666839

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Gasoline Range Organics-NWTPH	U		1.06	3.12	25	05/09/2021 09:17	WG1666156
(S) a,a,a-Trifluorotoluene(FID)	*95.7*			*77.0-120*		*05/09/2021 09:17*	WG1666156

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	U		0.0530	0.0726	1.19	05/07/2021 00:50	WG1665926
Acrylonitrile	U		0.00525	0.0182	1.19	05/07/2021 00:50	WG1665926
Benzene	U		0.000679	0.00145	1.19	05/07/2021 00:50	WG1665926
Bromobenzene	U		0.00131	0.0182	1.19	05/07/2021 00:50	WG1665926
Bromodichloromethane	U		0.00105	0.00363	1.19	05/07/2021 00:50	WG1665926
Bromoform	U		0.00170	0.0363	1.19	05/07/2021 00:50	WG1665926
Bromomethane	U		0.00286	0.0182	1.19	05/07/2021 00:50	WG1665926
n-Butylbenzene	U		0.00763	0.0182	1.19	05/07/2021 00:50	WG1665926
sec-Butylbenzene	U		0.00419	0.0182	1.19	05/07/2021 00:50	WG1665926
tert-Butylbenzene	U		0.00283	0.00726	1.19	05/07/2021 00:50	WG1665926
Carbon tetrachloride	U		0.00131	0.00726	1.19	05/07/2021 00:50	WG1665926
Chlorobenzene	U		0.000305	0.00363	1.19	05/07/2021 00:50	WG1665926
Chlorodibromomethane	U		0.000889	0.00363	1.19	05/07/2021 00:50	WG1665926
Chloroethane	U		0.00247	0.00726	1.19	05/07/2021 00:50	WG1665926
Chloroform	U		0.00150	0.00363	1.19	05/07/2021 00:50	WG1665926
Chloromethane	U		0.00632	0.0182	1.19	05/07/2021 00:50	WG1665926
2-Chlorotoluene	U		0.00126	0.00363	1.19	05/07/2021 00:50	WG1665926
4-Chlorotoluene	U		0.000653	0.00726	1.19	05/07/2021 00:50	WG1665926
1,2-Dibromo-3-Chloropropane	U		0.00566	0.0363	1.19	05/07/2021 00:50	WG1665926
1,2-Dibromoethane	U		0.000941	0.00363	1.19	05/07/2021 00:50	WG1665926
Dibromomethane	U		0.00109	0.00726	1.19	05/07/2021 00:50	WG1665926
1,2-Dichlorobenzene	U		0.000618	0.00726	1.19	05/07/2021 00:50	WG1665926
1,3-Dichlorobenzene	U		0.000872	0.00726	1.19	05/07/2021 00:50	WG1665926
1,4-Dichlorobenzene	U		0.00102	0.00726	1.19	05/07/2021 00:50	WG1665926
Dichlorodifluoromethane	U		0.00234	0.00363	1.19	05/07/2021 00:50	WG1665926
1,1-Dichloroethane	U		0.000713	0.00363	1.19	05/07/2021 00:50	WG1665926
1,2-Dichloroethane	U		0.000942	0.00363	1.19	05/07/2021 00:50	WG1665926

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
1,1-Dichloroethene	U		0.000880	0.00363	1.19	05/07/2021 00:50	WG1665926
cis-1,2-Dichloroethene	U		0.00107	0.00363	1.19	05/07/2021 00:50	WG1665926
trans-1,2-Dichloroethene	U		0.00151	0.00726	1.19	05/07/2021 00:50	WG1665926
1,2-Dichloropropane	U		0.00206	0.00726	1.19	05/07/2021 00:50	WG1665926
1,1-Dichloropropene	U		0.00118	0.00363	1.19	05/07/2021 00:50	WG1665926
1,3-Dichloropropane	U		0.000728	0.00726	1.19	05/07/2021 00:50	WG1665926
cis-1,3-Dichloropropene	U		0.00110	0.00363	1.19	05/07/2021 00:50	WG1665926
trans-1,3-Dichloropropene	U		0.00166	0.00726	1.19	05/07/2021 00:50	WG1665926
2,2-Dichloropropane	U		0.00200	0.00363	1.19	05/07/2021 00:50	WG1665926
Di-isopropyl ether	U		0.000596	0.00145	1.19	05/07/2021 00:50	WG1665926
Ethylbenzene	U		0.00107	0.00363	1.19	05/07/2021 00:50	WG1665926
Hexachloro-1,3-butadiene	U		0.00872	0.0363	1.19	05/07/2021 00:50	WG1665926
Isopropylbenzene	U		0.000618	0.00363	1.19	05/07/2021 00:50	WG1665926
p-Isopropyltoluene	U		0.00370	0.00726	1.19	05/07/2021 00:50	WG1665926
2-Butanone (MEK)	0.140	B J	0.0923	0.145	1.19	05/07/2021 00:50	WG1665926
Methylene Chloride	U		0.00964	0.0363	1.19	05/07/2021 00:50	WG1665926
4-Methyl-2-pentanone (MIBK)	U		0.00331	0.0363	1.19	05/07/2021 00:50	WG1665926
Methyl tert-butyl ether	U		0.000509	0.00145	1.19	05/07/2021 00:50	WG1665926
Naphthalene	U		0.00709	0.0182	1.19	05/07/2021 00:50	WG1665926
n-Propylbenzene	U		0.00138	0.00726	1.19	05/07/2021 00:50	WG1665926
Styrene	U		0.000333	0.0182	1.19	05/07/2021 00:50	WG1665926
1,1,1,2-Tetrachloroethane	U		0.00138	0.00363	1.19	05/07/2021 00:50	WG1665926
1,1,2,2-Tetrachloroethane	U		0.00101	0.00363	1.19	05/07/2021 00:50	WG1665926
1,1,2-Trichlorotrifluoroethane	U		0.00110	0.00363	1.19	05/07/2021 00:50	WG1665926
Tetrachloroethene	U		0.00131	0.00363	1.19	05/07/2021 00:50	WG1665926
Toluene	U		0.00189	0.00726	1.19	05/07/2021 00:50	WG1665926
1,2,3-Trichlorobenzene	U		0.0106	0.0182	1.19	05/07/2021 00:50	WG1665926
1,2,4-Trichlorobenzene	U		0.00640	0.0182	1.19	05/07/2021 00:50	WG1665926
1,1,1-Trichloroethane	U		0.00134	0.00363	1.19	05/07/2021 00:50	WG1665926
1,1,2-Trichloroethane	U		0.000867	0.00363	1.19	05/07/2021 00:50	WG1665926
Trichloroethene	U		0.000848	0.00145	1.19	05/07/2021 00:50	WG1665926
Trichlorofluoromethane	U		0.00120	0.00363	1.19	05/07/2021 00:50	WG1665926
1,2,3-Trichloropropane	U		0.00236	0.0182	1.19	05/07/2021 00:50	WG1665926
1,2,4-Trimethylbenzene	U		0.00230	0.00726	1.19	05/07/2021 00:50	WG1665926
1,2,3-Trimethylbenzene	U		0.00230	0.00726	1.19	05/07/2021 00:50	WG1665926
1,3,5-Trimethylbenzene	U		0.00291	0.00726	1.19	05/07/2021 00:50	WG1665926
Vinyl chloride	U		0.00168	0.00363	1.19	05/07/2021 00:50	WG1665926
Xylenes, Total	0.00164	J	0.00128	0.00945	1.19	05/07/2021 00:50	WG1665926
(S) Toluene-d8	*101*			*75.0-131*		*05/07/2021 00:50*	WG1665926
(S) 4-Bromofluorobenzene	*99.6*			*67.0-138*		*05/07/2021 00:50*	WG1665926
(S) 1,2-Dichloroethane-d4	*99.8*			*70.0-130*		*05/07/2021 00:50*	WG1665926

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	U		1.49	4.48	1	05/08/2021 16:04	WG1666732
Residual Range Organics (RRO)	U		3.73	11.2	1	05/08/2021 16:04	WG1666732
(S) o-Terphenyl	*81.2*			*18.0-148*		*05/08/2021 16:04*	WG1666732

Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00258	0.00672	1	05/10/2021 09:12	WG1667246
Acenaphthene	U		0.00234	0.00672	1	05/10/2021 09:12	WG1667246
Acenaphthylene	U		0.00242	0.00672	1	05/10/2021 09:12	WG1667246
Benzo(a)anthracene	U		0.00194	0.00672	1	05/10/2021 09:12	WG1667246
Benzo(a)pyrene	U		0.00200	0.00672	1	05/10/2021 09:12	WG1667246
Benzo(b)fluoranthene	U		0.00171	0.00672	1	05/10/2021 09:12	WG1667246
Benzo(g,h,i)perylene	U		0.00198	0.00672	1	05/10/2021 09:12	WG1667246
Benzo(k)fluoranthene	U		0.00241	0.00672	1	05/10/2021 09:12	WG1667246
Chrysene	U		0.00260	0.00672	1	05/10/2021 09:12	WG1667246
Dibenz(a,h)anthracene	U		0.00193	0.00672	1	05/10/2021 09:12	WG1667246
Fluoranthene	U		0.00254	0.00672	1	05/10/2021 09:12	WG1667246
Fluorene	U		0.00230	0.00672	1	05/10/2021 09:12	WG1667246
Indeno(1,2,3-cd)pyrene	U		0.00203	0.00672	1	05/10/2021 09:12	WG1667246
Naphthalene	U		0.00457	0.0224	1	05/10/2021 09:12	WG1667246
Phenanthrene	U		0.00259	0.00672	1	05/10/2021 09:12	WG1667246
Pyrene	U		0.00224	0.00672	1	05/10/2021 09:12	WG1667246
1-Methylnaphthalene	U		0.00503	0.0224	1	05/10/2021 09:12	WG1667246
2-Methylnaphthalene	U		0.00478	0.0224	1	05/10/2021 09:12	WG1667246
2-Chloronaphthalene	U		0.00522	0.0224	1	05/10/2021 09:12	WG1667246
(S) Nitrobenzene-d5	*79.8*			*14.0-149*		*05/10/2021 09:12*	WG1667246
(S) 2-Fluorobiphenyl	*79.4*			*34.0-125*		*05/10/2021 09:12*	WG1667246
(S) p-Terphenyl-d14	*88.6*			*23.0-120*		*05/10/2021 09:12*	WG1667246

Method Blank (MB)

(MB) R3651654-1 05/06/21 17:58

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.00200			

L1347619-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1347619-03 05/06/21 17:58 • (DUP) R3651654-3 05/06/21 17:58

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	82.3	79.0	1	4.17		10

Laboratory Control Sample (LCS)

(LCS) R3651654-2 05/06/21 17:58

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	100	85.0-115	

Method Blank (MB)

(MB) R3651652-1 05/06/21 17:31

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.00100			

L1347640-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1347640-06 05/06/21 17:31 • (DUP) R3651652-3 05/06/21 17:31

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	87.3	88.9	1	1.85		10

Laboratory Control Sample (LCS)

(LCS) R3651652-2 05/06/21 17:31

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	100	85.0-115	

QUALITY CONTROL SUMMARY

L1347619-01,02,03,04,05,06,07,08

Method Blank (MB)

(MB) R3651783-1 05/07/21 13:20

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Mercury	U		0.0180	0.0400

Laboratory Control Sample (LCS)

(LCS) R3651783-2 05/07/21 13:22

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Mercury	0.500	0.526	105	80.0-120	

L1346871-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1346871-03 05/07/21 13:45 • (MS) R3651783-3 05/07/21 13:48 • (MSD) R3651783-4 05/07/21 13:50

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	0.500	0.0218	0.512	0.537	98.1	103	1	75.0-125			4.71	20

Method Blank (MB)

(MB) R3652689-1 05/10/21 20:49

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.100	1.00
Barium	U		0.152	2.50
Cadmium	U		0.0855	1.00
Lead	U		0.0990	2.00
Selenium	U		0.180	2.50
Silver	U		0.0865	0.500

Method Blank (MB)

(MB) R3652713-1 05/11/21 00:03

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Chromium	U		0.297	5.00

Laboratory Control Sample (LCS)

(LCS) R3652689-2 05/10/21 20:52

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	89.4	89.4	80.0-120	
Barium	100	87.1	87.1	80.0-120	
Cadmium	100	96.6	96.6	80.0-120	
Lead	100	96.3	96.3	80.0-120	
Selenium	100	94.9	94.9	80.0-120	
Silver	20.0	19.9	99.4	80.0-120	

Laboratory Control Sample (LCS)

(LCS) R3652713-2 05/11/21 00:07

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chromium	100	98.3	98.3	80.0-120	

L1347619-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1347619-02 05/10/21 20:56 • (MS) R3652689-5 05/10/21 21:06 • (MSD) R3652689-6 05/10/21 21:09

Analyte	Spike Amount (dry)	Original Result (dry)	MS Result (dry)	MSD Result (dry)	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Arsenic	106	2.04	108	99.3	99.6	91.6	5	75.0-125			8.18	20
Barium	106	56.6	169	141	106	79.5	5	75.0-125			18.2	20
Cadmium	106	0.196	117	106	110	99.3	5	75.0-125			10.0	20
Lead	106	3.82	120	109	109	99.3	5	75.0-125			9.12	20
Selenium	106	0.222	114	103	107	97.2	5	75.0-125			9.79	20
Silver	21.2	U	24.6	22.4	116	105	5	75.0-125			9.39	20

L1347619-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1347619-02 05/11/21 00:10 • (MS) R3652713-5 05/11/21 00:21 • (MSD) R3652713-6 05/11/21 00:24

Analyte	Spike Amount (dry)	Original Result (dry)	MS Result (dry)	MSD Result (dry)	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Chromium	106	7.02	112	105	98.8	91.8	5	75.0-125			6.80	20

Method Blank (MB)

(MB) R3652184-1 05/09/21 18:25

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.100	1.00
Barium	U		0.152	2.50
Cadmium	U		0.0855	1.00
Chromium	U		0.297	5.00
Lead	U		0.0990	2.00
Selenium	U		0.180	2.50
Silver	U		0.0865	0.500

Laboratory Control Sample (LCS)

(LCS) R3652184-2 05/09/21 18:28

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	86.1	86.1	80.0-120	
Barium	100	85.7	85.7	80.0-120	
Cadmium	100	90.1	90.1	80.0-120	
Chromium	100	87.3	87.3	80.0-120	
Lead	100	87.3	87.3	80.0-120	
Selenium	100	87.6	87.6	80.0-120	
Silver	20.0	17.6	87.8	80.0-120	

L1348343-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1348343-01 05/09/21 18:32 • (MS) R3652184-5 05/09/21 18:42 • (MSD) R3652184-6 05/09/21 18:45

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	100	3.46	85.8	92.4	82.3	89.0	5	75.0-125			7.42	20
Barium	100	109	195	218	86.1	109	5	75.0-125			11.0	20
Cadmium	100	0.130	90.7	101	90.6	101	5	75.0-125			10.9	20
Chromium	100	12.8	97.3	104	84.4	91.1	5	75.0-125			6.63	20
Lead	100	6.42	93.2	99.9	86.8	93.5	5	75.0-125			6.91	20
Selenium	100	0.254	88.6	98.8	88.3	98.6	5	75.0-125			10.9	20
Silver	20.0	U	17.9	19.7	89.6	98.5	5	75.0-125			9.46	20

Method Blank (MB)

(MB) R3652102-2 05/09/21 04:10

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Gasoline Range Organics-NWTPH	U		0.0339	0.100
(S) a,a,a-Trifluorotoluene(FID)	*95.8*			*77.0-120*

Laboratory Control Sample (LCS)

(LCS) R3652102-1 05/09/21 03:26

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Gasoline Range Organics-NWTPH	5.50	5.93	108	71.0-124	
(S) a,a,a-Trifluorotoluene(FID)			*114*	*77.0-120*	

L1346816-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1346816-01 05/09/21 04:54 • (MS) R3652102-3 05/09/21 12:13 • (MSD) R3652102-4 05/09/21 12:35

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Gasoline Range Organics-NWTPH	351	U	373	388	106	110	38.8	10.0-149			3.90	27
(S) a,a,a-Trifluorotoluene(FID)					*114*	*115*		*77.0-120*				

Method Blank (MB)

(MB) R3651209-3 05/06/21 09:36

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acetone	U		0.0365	0.0500
Acrylonitrile	U		0.00361	0.0125
Benzene	U		0.000467	0.00100
Bromobenzene	U		0.000900	0.0125
Bromodichloromethane	U		0.000725	0.00250
Bromoform	U		0.00117	0.0250
Bromomethane	U		0.00197	0.0125
n-Butylbenzene	U		0.00525	0.0125
sec-Butylbenzene	U		0.00288	0.0125
tert-Butylbenzene	U		0.00195	0.00500
Carbon tetrachloride	U		0.000898	0.00500
Chlorobenzene	U		0.000210	0.00250
Chlorodibromomethane	U		0.000612	0.00250
Chloroethane	U		0.00170	0.00500
Chloroform	U		0.00103	0.00250
Chloromethane	U		0.00435	0.0125
2-Chlorotoluene	U		0.000865	0.00250
4-Chlorotoluene	U		0.000450	0.00500
1,2-Dibromo-3-Chloropropane	U		0.00390	0.0250
1,2-Dibromoethane	U		0.000648	0.00250
Dibromomethane	U		0.000750	0.00500
1,2-Dichlorobenzene	U		0.000425	0.00500
1,3-Dichlorobenzene	U		0.000600	0.00500
1,4-Dichlorobenzene	U		0.000700	0.00500
Dichlorodifluoromethane	U		0.00161	0.00250
1,1-Dichloroethane	U		0.000491	0.00250
1,2-Dichloroethane	U		0.000649	0.00250
1,1-Dichloroethene	U		0.000606	0.00250
cis-1,2-Dichloroethene	U		0.000734	0.00250
trans-1,2-Dichloroethene	U		0.00104	0.00500
1,2-Dichloropropane	U		0.00142	0.00500
1,1-Dichloropropene	U		0.000809	0.00250
1,3-Dichloropropane	U		0.000501	0.00500
cis-1,3-Dichloropropene	U		0.000757	0.00250
trans-1,3-Dichloropropene	U		0.00114	0.00500
2,2-Dichloropropane	U		0.00138	0.00250
Di-isopropyl ether	U		0.000410	0.00100
Ethylbenzene	U		0.000737	0.00250
Hexachloro-1,3-butadiene	U		0.00600	0.0250
Isopropylbenzene	U		0.000425	0.00250

Method Blank (MB)

(MB) R3651209-3 05/06/21 09:36

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
p-Isopropyltoluene	U		0.00255	0.00500
2-Butanone (MEK)	U		0.0635	0.100
Methylene Chloride	U		0.00664	0.0250
4-Methyl-2-pentanone (MIBK)	U		0.00228	0.0250
Methyl tert-butyl ether	U		0.000350	0.00100
Naphthalene	U		0.00488	0.0125
n-Propylbenzene	U		0.000950	0.00500
Styrene	U		0.000229	0.0125
1,1,1,2-Tetrachloroethane	U		0.000948	0.00250
1,1,2,2-Tetrachloroethane	U		0.000695	0.00250
Tetrachloroethene	U		0.000896	0.00250
Toluene	U		0.00130	0.00500
1,1,2-Trichlorotrifluoroethane	U		0.000754	0.00250
1,2,3-Trichlorobenzene	U		0.00733	0.0125
1,2,4-Trichlorobenzene	U		0.00440	0.0125
1,1,1-Trichloroethane	U		0.000923	0.00250
1,1,2-Trichloroethane	U		0.000597	0.00250
Trichloroethene	U		0.000584	0.00100
Trichlorofluoromethane	U		0.000827	0.00250
1,2,3-Trichloropropane	U		0.00162	0.0125
1,2,3-Trimethylbenzene	U		0.00158	0.00500
1,2,4-Trimethylbenzene	U		0.00158	0.00500
1,3,5-Trimethylbenzene	U		0.00200	0.00500
Vinyl chloride	U		0.00116	0.00250
Xylenes, Total	U		0.000880	0.00650
(S) Toluene-d8	*107*			*75.0-131*
(S) 4-Bromofluorobenzene	*94.6*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*85.5*			*70.0-130*

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

(LCS) R3651209-1 05/06/21 08:20 • (LCSD) R3651209-2 05/06/21 08:39

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	0.625	0.872	0.866	140	139	10.0-160			0.690	31
Acrylonitrile	0.625	0.790	0.698	126	112	45.0-153			12.4	22
Benzene	0.125	0.114	0.113	91.2	90.4	70.0-123			0.881	20
Bromobenzene	0.125	0.118	0.116	94.4	92.8	73.0-121			1.71	20
Bromodichloromethane	0.125	0.117	0.116	93.6	92.8	73.0-121			0.858	20

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

(LCS) R3651209-1 05/06/21 08:20 • (LCSD) R3651209-2 05/06/21 08:39

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Bromoform	0.125	0.121	0.119	96.8	95.2	64.0-132			1.67	20
Bromomethane	0.125	0.116	0.106	92.8	84.8	56.0-147			9.01	20
n-Butylbenzene	0.125	0.119	0.124	95.2	99.2	68.0-135			4.12	20
sec-Butylbenzene	0.125	0.124	0.124	99.2	99.2	74.0-130			0.000	20
tert-Butylbenzene	0.125	0.120	0.119	96.0	95.2	75.0-127			0.837	20
Carbon tetrachloride	0.125	0.104	0.105	83.2	84.0	66.0-128			0.957	20
Chlorobenzene	0.125	0.117	0.118	93.6	94.4	76.0-128			0.851	20
Chlorodibromomethane	0.125	0.126	0.120	101	96.0	74.0-127			4.88	20
Chloroethane	0.125	0.111	0.105	88.8	84.0	61.0-134			5.56	20
Chloroform	0.125	0.111	0.110	88.8	88.0	72.0-123			0.905	20
Chloromethane	0.125	0.117	0.109	93.6	87.2	51.0-138			7.08	20
2-Chlorotoluene	0.125	0.121	0.122	96.8	97.6	75.0-124			0.823	20
4-Chlorotoluene	0.125	0.124	0.128	99.2	102	75.0-124			3.17	20
1,2-Dibromo-3-Chloropropane	0.125	0.127	0.126	102	101	59.0-130			0.791	20
1,2-Dibromoethane	0.125	0.121	0.116	96.8	92.8	74.0-128			4.22	20
Dibromomethane	0.125	0.125	0.114	100	91.2	75.0-122			9.21	20
1,2-Dichlorobenzene	0.125	0.119	0.117	95.2	93.6	76.0-124			1.69	20
1,3-Dichlorobenzene	0.125	0.118	0.121	94.4	96.8	76.0-125			2.51	20
1,4-Dichlorobenzene	0.125	0.122	0.120	97.6	96.0	77.0-121			1.65	20
Dichlorodifluoromethane	0.125	0.142	0.125	114	100	43.0-156			12.7	20
1,1-Dichloroethane	0.125	0.119	0.118	95.2	94.4	70.0-127			0.844	20
1,2-Dichloroethane	0.125	0.119	0.116	95.2	92.8	65.0-131			2.55	20
1,1-Dichloroethene	0.125	0.111	0.105	88.8	84.0	65.0-131			5.56	20
cis-1,2-Dichloroethene	0.125	0.115	0.111	92.0	88.8	73.0-125			3.54	20
trans-1,2-Dichloroethene	0.125	0.105	0.103	84.0	82.4	71.0-125			1.92	20
1,2-Dichloropropane	0.125	0.118	0.117	94.4	93.6	74.0-125			0.851	20
1,1-Dichloropropene	0.125	0.110	0.110	88.0	88.0	73.0-125			0.000	20
1,3-Dichloropropane	0.125	0.121	0.119	96.8	95.2	80.0-125			1.67	20
cis-1,3-Dichloropropene	0.125	0.108	0.107	86.4	85.6	76.0-127			0.930	20
trans-1,3-Dichloropropene	0.125	0.116	0.120	92.8	96.0	73.0-127			3.39	20
2,2-Dichloropropane	0.125	0.113	0.135	90.4	108	59.0-135			17.7	20
Di-isopropyl ether	0.125	0.125	0.123	100	98.4	60.0-136			1.61	20
Ethylbenzene	0.125	0.115	0.116	92.0	92.8	74.0-126			0.866	20
Hexachloro-1,3-butadiene	0.125	0.105	0.117	84.0	93.6	57.0-150			10.8	20
Isopropylbenzene	0.125	0.113	0.115	90.4	92.0	72.0-127			1.75	20
p-Isopropyltoluene	0.125	0.118	0.118	94.4	94.4	72.0-133			0.000	20
2-Butanone (MEK)	0.625	0.710	0.772	114	124	30.0-160			8.37	24
Methylene Chloride	0.125	0.122	0.122	97.6	97.6	68.0-123			0.000	20
4-Methyl-2-pentanone (MIBK)	0.625	0.694	0.683	111	109	56.0-143			1.60	20
Methyl tert-butyl ether	0.125	0.124	0.126	99.2	101	66.0-132			1.60	20

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

(LCS) R3651209-1 05/06/21 08:20 • (LCSD) R3651209-2 05/06/21 08:39

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Naphthalene	0.125	0.115	0.114	92.0	91.2	59.0-130			0.873	20
n-Propylbenzene	0.125	0.128	0.134	102	107	74.0-126			4.58	20
Styrene	0.125	0.122	0.120	97.6	96.0	72.0-127			1.65	20
1,1,1,2-Tetrachloroethane	0.125	0.110	0.110	88.0	88.0	74.0-129			0.000	20
1,1,2,2-Tetrachloroethane	0.125	0.133	0.144	106	115	68.0-128			7.94	20
Tetrachloroethene	0.125	0.120	0.114	96.0	91.2	70.0-136			5.13	20
Toluene	0.125	0.117	0.117	93.6	93.6	75.0-121			0.000	20
1,1,2-Trichlorotrifluoroethane	0.125	0.124	0.114	99.2	91.2	61.0-139			8.40	20
1,2,3-Trichlorobenzene	0.125	0.101	0.106	80.8	84.8	59.0-139			4.83	20
1,2,4-Trichlorobenzene	0.125	0.107	0.107	85.6	85.6	62.0-137			0.000	20
1,1,1-Trichloroethane	0.125	0.109	0.108	87.2	86.4	69.0-126			0.922	20
1,1,2-Trichloroethane	0.125	0.120	0.117	96.0	93.6	78.0-123			2.53	20
Trichloroethene	0.125	0.118	0.107	94.4	85.6	76.0-126			9.78	20
Trichlorofluoromethane	0.125	0.113	0.103	90.4	82.4	61.0-142			9.26	20
1,2,3-Trichloropropane	0.125	0.124	0.117	99.2	93.6	67.0-129			5.81	20
1,2,3-Trimethylbenzene	0.125	0.122	0.116	97.6	92.8	74.0-124			5.04	20
1,2,4-Trimethylbenzene	0.125	0.120	0.121	96.0	96.8	70.0-126			0.830	20
1,3,5-Trimethylbenzene	0.125	0.114	0.116	91.2	92.8	73.0-127			1.74	20
Vinyl chloride	0.125	0.112	0.107	89.6	85.6	63.0-134			4.57	20
Xylenes, Total	0.375	0.354	0.365	94.4	97.3	72.0-127			3.06	20
(S) Toluene-d8				*102*	*101*	*75.0-131*				
(S) 4-Bromofluorobenzene				*95.6*	*96.8*	*67.0-138*				
(S) 1,2-Dichloroethane-d4				*101*	*100*	*70.0-130*				

L1347610-14 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1347610-14 05/06/21 17:53 • (MS) R3651209-4 05/06/21 19:09 • (MSD) R3651209-5 05/06/21 19:28

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acetone	1.25	U	1.41	0.593	113	47.6	1	10.0-160		J3	81.6	40
Acrylonitrile	1.25	U	1.30	1.17	104	93.9	1	10.0-160			10.1	40
Benzene	0.250	U	0.273	0.271	109	108	1	10.0-149			0.778	37
Bromobenzene	0.250	U	0.288	0.282	115	113	1	10.0-156			2.23	38
Bromodichloromethane	0.250	U	0.263	0.256	105	103	1	10.0-143			2.45	37
Bromoform	0.250	U	0.250	0.252	100	101	1	10.0-146			0.844	36
Bromomethane	0.250	U	0.172	0.169	68.7	67.7	1	10.0-149			1.49	38
n-Butylbenzene	0.250	0.0261	0.284	0.282	103	102	1	10.0-160			0.749	40
sec-Butylbenzene	0.250	0.0369	0.320	0.312	113	110	1	10.0-159			2.68	39
tert-Butylbenzene	0.250	U	0.297	0.290	119	116	1	10.0-156			2.17	39

L1347610-14 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1347610-14 05/06/21 17:53 • (MS) R3651209-4 05/06/21 19:09 • (MSD) R3651209-5 05/06/21 19:28

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Carbon tetrachloride	0.250	U	0.259	0.259	103	103	1	10.0-145			0.000	37
Chlorobenzene	0.250	U	0.286	0.276	114	110	1	10.0-152			3.77	39
Chlorodibromomethane	0.250	U	0.280	0.273	112	109	1	10.0-146			2.30	37
Chloroethane	0.250	U	0.146	0.146	58.5	58.2	1	10.0-146			0.436	40
Chloroform	0.250	U	0.259	0.248	103	99.2	1	10.0-146			4.18	37
Chloromethane	0.250	U	0.280	0.265	112	106	1	10.0-159			5.45	37
2-Chlorotoluene	0.250	U	0.299	0.288	119	115	1	10.0-159			3.61	38
4-Chlorotoluene	0.250	U	0.316	0.303	126	121	1	10.0-155			4.11	39
1,2-Dibromo-3-Chloropropane	0.250	U	0.244	0.237	97.5	94.9	1	10.0-151			2.64	39
1,2-Dibromoethane	0.250	U	0.284	0.282	114	113	1	10.0-148			0.749	34
Dibromomethane	0.250	U	0.214	0.244	85.6	97.5	1	10.0-147			13.0	35
1,2-Dichlorobenzene	0.250	U	0.271	0.259	108	103	1	10.0-155			4.80	37
1,3-Dichlorobenzene	0.250	U	0.282	0.265	113	106	1	10.0-153			6.20	38
1,4-Dichlorobenzene	0.250	U	0.295	0.273	118	109	1	10.0-151			7.46	38
Dichlorodifluoromethane	0.250	U	0.348	0.326	139	131	1	10.0-160			6.29	35
1,1-Dichloroethane	0.250	U	0.278	0.271	111	108	1	10.0-147			2.32	37
1,2-Dichloroethane	0.250	U	0.242	0.252	96.6	101	1	10.0-148			4.29	35
1,1-Dichloroethene	0.250	U	0.282	0.269	113	108	1	10.0-155			4.62	37
cis-1,2-Dichloroethene	0.250	U	0.256	0.254	103	102	1	10.0-149			0.830	37
trans-1,2-Dichloroethene	0.250	U	0.265	0.250	106	100	1	10.0-150			5.76	37
1,2-Dichloropropane	0.250	U	0.276	0.280	110	112	1	10.0-148			1.53	37
1,1-Dichloropropene	0.250	U	0.271	0.265	108	106	1	10.0-153			2.37	35
1,3-Dichloropropane	0.250	U	0.297	0.290	119	116	1	10.0-154			2.17	35
cis-1,3-Dichloropropene	0.250	U	0.250	0.250	100	100	1	10.0-151			0.000	37
trans-1,3-Dichloropropene	0.250	U	0.284	0.280	114	112	1	10.0-148			1.50	37
2,2-Dichloropropane	0.250	U	0.172	0.185	68.6	74.1	1	10.0-138			7.60	36
Di-isopropyl ether	0.250	U	0.265	0.273	106	109	1	10.0-147			3.15	36
Ethylbenzene	0.250	0.00413	0.282	0.280	111	110	1	10.0-160			0.755	38
Hexachloro-1,3-butadiene	0.250	U	0.199	0.204	79.7	81.4	1	10.0-160			2.21	40
Isopropylbenzene	0.250	0.0324	0.288	0.286	102	101	1	10.0-155			0.738	38
p-Isopropyltoluene	0.250	U	0.273	0.271	109	108	1	10.0-160			0.778	40
2-Butanone (MEK)	1.25	U	0.901	1.10	72.3	88.4	1	10.0-160			20.1	40
Methylene Chloride	0.250	U	0.282	0.284	113	114	1	10.0-141			0.749	37
4-Methyl-2-pentanone (MIBK)	1.25	U	1.40	1.39	113	112	1	10.0-160			0.910	35
Methyl tert-butyl ether	0.250	U	0.250	0.000846	100	0.338	1	11.0-147		J3 J6	199	35
Naphthalene	0.250	U	0.195	0.192	78.1	76.9	1	10.0-160			1.42	36
n-Propylbenzene	0.250	0.204	0.488	0.479	113	110	1	10.0-158			1.75	38
Styrene	0.250	U	0.276	0.259	110	103	1	10.0-160			6.35	40
1,1,1,2-Tetrachloroethane	0.250	U	0.229	0.233	91.5	93.2	1	10.0-149			1.83	39

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

L1347610-14 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1347610-14 05/06/21 17:53 • (MS) R3651209-4 05/06/21 19:09 • (MSD) R3651209-5 05/06/21 19:28

Analyte	Spike Amount (dry)	Original Result (dry)	MS Result (dry)	MSD Result (dry)	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
1,1,2,2-Tetrachloroethane	0.250	U	0.305	0.307	122	123	1	10.0-160			0.692	35
Tetrachloroethene	0.250	U	0.316	0.303	126	121	1	10.0-156			4.11	39
Toluene	0.250	0.00443	0.303	0.293	119	115	1	10.0-156			3.56	38
1,1,2-Trichlorotrifluoroethane	0.250	U	0.305	0.309	122	124	1	10.0-160			1.38	36
1,2,3-Trichlorobenzene	0.250	U	0.177	0.175	70.8	70.1	1	10.0-160			0.963	40
1,2,4-Trichlorobenzene	0.250	U	0.185	0.181	74.1	72.3	1	10.0-160			2.43	40
1,1,1-Trichloroethane	0.250	U	0.265	0.252	106	101	1	10.0-144			4.92	35
1,1,2-Trichloroethane	0.250	U	0.312	0.305	125	122	1	10.0-160			2.06	35
Trichloroethene	0.250	U	0.261	0.261	104	104	1	10.0-156			0.000	38
Trichlorofluoromethane	0.250	U	0.129	0.131	51.5	52.5	1	10.0-160			1.79	40
1,2,3-Trichloropropane	0.250	U	0.261	0.280	104	112	1	10.0-156			7.06	35
1,2,3-Trimethylbenzene	0.250	U	0.269	0.261	108	104	1	10.0-160			3.20	36
1,2,4-Trimethylbenzene	0.250	0.00443	0.278	0.280	109	110	1	10.0-160			0.760	36
1,3,5-Trimethylbenzene	0.250	U	0.263	0.259	105	103	1	10.0-160			1.63	38
Vinyl chloride	0.250	U	0.305	0.282	122	113	1	10.0-160			7.94	37
Xylenes, Total	0.748	0.0146	0.858	0.831	113	109	1	10.0-160			3.26	38
(S) Toluene-d8					*105*	*106*		*75.0-131*				
(S) 4-Bromofluorobenzene					*92.6*	*92.6*		*67.0-138*				
(S) 1,2-Dichloroethane-d4					*89.9*	*90.9*		*70.0-130*				

Method Blank (MB)

(MB) R3651473-3 05/06/21 21:23

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acetone	U		0.0365	0.0500
Acrylonitrile	U		0.00361	0.0125
Benzene	U		0.000467	0.00100
Bromobenzene	U		0.000900	0.0125
Bromodichloromethane	U		0.000725	0.00250
Bromoform	U		0.00117	0.0250
Bromomethane	U		0.00197	0.0125
n-Butylbenzene	U		0.00525	0.0125
sec-Butylbenzene	U		0.00288	0.0125
tert-Butylbenzene	U		0.00195	0.00500
Carbon tetrachloride	U		0.000898	0.00500
Chlorobenzene	U		0.000210	0.00250
Chlorodibromomethane	U		0.000612	0.00250
Chloroethane	U		0.00170	0.00500
Chloroform	U		0.00103	0.00250
Chloromethane	U		0.00435	0.0125
2-Chlorotoluene	U		0.000865	0.00250
4-Chlorotoluene	U		0.000450	0.00500
1,2-Dibromo-3-Chloropropane	U		0.00390	0.0250
1,2-Dibromoethane	U		0.000648	0.00250
Dibromomethane	U		0.000750	0.00500
1,2-Dichlorobenzene	U		0.000425	0.00500
1,3-Dichlorobenzene	U		0.000600	0.00500
1,4-Dichlorobenzene	U		0.000700	0.00500
Dichlorodifluoromethane	U		0.00161	0.00250
1,1-Dichloroethane	U		0.000491	0.00250
1,2-Dichloroethane	U		0.000649	0.00250
1,1-Dichloroethene	U		0.000606	0.00250
cis-1,2-Dichloroethene	U		0.000734	0.00250
trans-1,2-Dichloroethene	U		0.00104	0.00500
1,2-Dichloropropane	U		0.00142	0.00500
1,1-Dichloropropene	U		0.000809	0.00250
1,3-Dichloropropane	U		0.000501	0.00500
cis-1,3-Dichloropropene	U		0.000757	0.00250
trans-1,3-Dichloropropene	U		0.00114	0.00500
2,2-Dichloropropane	U		0.00138	0.00250
Di-isopropyl ether	U		0.000410	0.00100
Ethylbenzene	U		0.000737	0.00250
Hexachloro-1,3-butadiene	U		0.00600	0.0250
Isopropylbenzene	U		0.000425	0.00250

Method Blank (MB)

(MB) R3651473-3 05/06/21 21:23

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
p-Isopropyltoluene	U		0.00255	0.00500
2-Butanone (MEK)	0.0897	J	0.0635	0.100
Methylene Chloride	U		0.00664	0.0250
4-Methyl-2-pentanone (MIBK)	U		0.00228	0.0250
Methyl tert-butyl ether	U		0.000350	0.00100
Naphthalene	U		0.00488	0.0125
n-Propylbenzene	U		0.000950	0.00500
Styrene	U		0.000229	0.0125
1,1,1,2-Tetrachloroethane	U		0.000948	0.00250
1,1,2,2-Tetrachloroethane	U		0.000695	0.00250
Tetrachloroethene	U		0.000896	0.00250
Toluene	U		0.00130	0.00500
1,1,2-Trichlorotrifluoroethane	U		0.000754	0.00250
1,2,3-Trichlorobenzene	U		0.00733	0.0125
1,2,4-Trichlorobenzene	U		0.00440	0.0125
1,1,1-Trichloroethane	U		0.000923	0.00250
1,1,2-Trichloroethane	U		0.000597	0.00250
Trichloroethene	U		0.000584	0.00100
Trichlorofluoromethane	U		0.000827	0.00250
1,2,3-Trichloropropane	U		0.00162	0.0125
1,2,3-Trimethylbenzene	U		0.00158	0.00500
1,2,4-Trimethylbenzene	U		0.00158	0.00500
1,3,5-Trimethylbenzene	U		0.00200	0.00500
Vinyl chloride	U		0.00116	0.00250
Xylenes, Total	U		0.000880	0.00650
(S) Toluene-d8	*103*			*75.0-131*
(S) 4-Bromofluorobenzene	*101*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*96.8*			*70.0-130*

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

(LCS) R3651473-1 05/06/21 19:49 • (LCSD) R3651473-2 05/06/21 20:08

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	0.625	0.681	0.615	109	98.4	10.0-160			10.2	31
Acrylonitrile	0.625	0.602	0.619	96.3	99.0	45.0-153			2.78	22
Benzene	0.125	0.127	0.126	102	101	70.0-123			0.791	20
Bromobenzene	0.125	0.124	0.125	99.2	100	73.0-121			0.803	20
Bromodichloromethane	0.125	0.120	0.121	96.0	96.8	73.0-121			0.830	20

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

(LCS) R3651473-1 05/06/21 19:49 • (LCSD) R3651473-2 05/06/21 20:08

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Bromoform	0.125	0.123	0.123	98.4	98.4	64.0-132			0.000	20
Bromomethane	0.125	0.121	0.118	96.8	94.4	56.0-147			2.51	20
n-Butylbenzene	0.125	0.119	0.120	95.2	96.0	68.0-135			0.837	20
sec-Butylbenzene	0.125	0.123	0.124	98.4	99.2	74.0-130			0.810	20
tert-Butylbenzene	0.125	0.122	0.122	97.6	97.6	75.0-127			0.000	20
Carbon tetrachloride	0.125	0.122	0.125	97.6	100	66.0-128			2.43	20
Chlorobenzene	0.125	0.118	0.119	94.4	95.2	76.0-128			0.844	20
Chlorodibromomethane	0.125	0.130	0.127	104	102	74.0-127			2.33	20
Chloroethane	0.125	0.110	0.109	88.0	87.2	61.0-134			0.913	20
Chloroform	0.125	0.121	0.118	96.8	94.4	72.0-123			2.51	20
Chloromethane	0.125	0.116	0.121	92.8	96.8	51.0-138			4.22	20
2-Chlorotoluene	0.125	0.124	0.130	99.2	104	75.0-124			4.72	20
4-Chlorotoluene	0.125	0.120	0.121	96.0	96.8	75.0-124			0.830	20
1,2-Dibromo-3-Chloropropane	0.125	0.109	0.107	87.2	85.6	59.0-130			1.85	20
1,2-Dibromoethane	0.125	0.122	0.120	97.6	96.0	74.0-128			1.65	20
Dibromomethane	0.125	0.134	0.128	107	102	75.0-122			4.58	20
1,2-Dichlorobenzene	0.125	0.126	0.126	101	101	76.0-124			0.000	20
1,3-Dichlorobenzene	0.125	0.123	0.122	98.4	97.6	76.0-125			0.816	20
1,4-Dichlorobenzene	0.125	0.122	0.121	97.6	96.8	77.0-121			0.823	20
Dichlorodifluoromethane	0.125	0.119	0.118	95.2	94.4	43.0-156			0.844	20
1,1-Dichloroethane	0.125	0.125	0.121	100	96.8	70.0-127			3.25	20
1,2-Dichloroethane	0.125	0.124	0.124	99.2	99.2	65.0-131			0.000	20
1,1-Dichloroethene	0.125	0.121	0.120	96.8	96.0	65.0-131			0.830	20
cis-1,2-Dichloroethene	0.125	0.126	0.120	101	96.0	73.0-125			4.88	20
trans-1,2-Dichloroethene	0.125	0.120	0.114	96.0	91.2	71.0-125			5.13	20
1,2-Dichloropropane	0.125	0.129	0.123	103	98.4	74.0-125			4.76	20
1,1-Dichloropropene	0.125	0.117	0.116	93.6	92.8	73.0-125			0.858	20
1,3-Dichloropropane	0.125	0.127	0.127	102	102	80.0-125			0.000	20
cis-1,3-Dichloropropene	0.125	0.122	0.121	97.6	96.8	76.0-127			0.823	20
trans-1,3-Dichloropropene	0.125	0.122	0.121	97.6	96.8	73.0-127			0.823	20
2,2-Dichloropropane	0.125	0.133	0.129	106	103	59.0-135			3.05	20
Di-isopropyl ether	0.125	0.125	0.124	100	99.2	60.0-136			0.803	20
Ethylbenzene	0.125	0.123	0.121	98.4	96.8	74.0-126			1.64	20
Hexachloro-1,3-butadiene	0.125	0.133	0.128	106	102	57.0-150			3.83	20
Isopropylbenzene	0.125	0.117	0.119	93.6	95.2	72.0-127			1.69	20
p-Isopropyltoluene	0.125	0.122	0.119	97.6	95.2	72.0-133			2.49	20
2-Butanone (MEK)	0.625	0.635	0.643	102	103	30.0-160			1.25	24
Methylene Chloride	0.125	0.131	0.124	105	99.2	68.0-123			5.49	20
4-Methyl-2-pentanone (MIBK)	0.625	0.644	0.638	103	102	56.0-143			0.936	20
Methyl tert-butyl ether	0.125	0.120	0.125	96.0	100	66.0-132			4.08	20

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

(LCS) R3651473-1 05/06/21 19:49 • (LCSD) R3651473-2 05/06/21 20:08

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Naphthalene	0.125	0.114	0.116	91.2	92.8	59.0-130			1.74	20
n-Propylbenzene	0.125	0.118	0.117	94.4	93.6	74.0-126			0.851	20
Styrene	0.125	0.120	0.118	96.0	94.4	72.0-127			1.68	20
1,1,1,2-Tetrachloroethane	0.125	0.132	0.128	106	102	74.0-129			3.08	20
1,1,2,2-Tetrachloroethane	0.125	0.119	0.119	95.2	95.2	68.0-128			0.000	20
Tetrachloroethene	0.125	0.120	0.118	96.0	94.4	70.0-136			1.68	20
Toluene	0.125	0.123	0.121	98.4	96.8	75.0-121			1.64	20
1,1,2-Trichlorotrifluoroethane	0.125	0.133	0.129	106	103	61.0-139			3.05	20
1,2,3-Trichlorobenzene	0.125	0.114	0.115	91.2	92.0	59.0-139			0.873	20
1,2,4-Trichlorobenzene	0.125	0.123	0.124	98.4	99.2	62.0-137			0.810	20
1,1,1-Trichloroethane	0.125	0.117	0.116	93.6	92.8	69.0-126			0.858	20
1,1,2-Trichloroethane	0.125	0.125	0.127	100	102	78.0-123			1.59	20
Trichloroethene	0.125	0.122	0.118	97.6	94.4	76.0-126			3.33	20
Trichlorofluoromethane	0.125	0.123	0.121	98.4	96.8	61.0-142			1.64	20
1,2,3-Trichloropropane	0.125	0.129	0.125	103	100	67.0-129			3.15	20
1,2,3-Trimethylbenzene	0.125	0.117	0.117	93.6	93.6	74.0-124			0.000	20
1,2,4-Trimethylbenzene	0.125	0.119	0.120	95.2	96.0	70.0-126			0.837	20
1,3,5-Trimethylbenzene	0.125	0.120	0.125	96.0	100	73.0-127			4.08	20
Vinyl chloride	0.125	0.117	0.113	93.6	90.4	63.0-134			3.48	20
Xylenes, Total	0.375	0.356	0.355	94.9	94.7	72.0-127			0.281	20
(S) Toluene-d8				*102*	*99.7*	*75.0-131*				
(S) 4-Bromofluorobenzene				*98.8*	*99.7*	*67.0-138*				
(S) 1,2-Dichloroethane-d4				*109*	*106*	*70.0-130*				

L1347647-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1347647-02 05/07/21 03:20 • (MS) R3651473-4 05/07/21 03:57 • (MSD) R3651473-5 05/07/21 04:16

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acetone	4.55	U	4.91	4.06	108	89.2	8	10.0-160			19.0	40
Acrylonitrile	4.55	U	4.86	3.51	107	77.1	8	10.0-160			32.3	40
Benzene	0.910	U	0.529	0.607	58.1	66.7	8	10.0-149			13.7	37
Bromobenzene	0.910	U	0.651	0.685	71.5	75.3	8	10.0-156			5.09	38
Bromodichloromethane	0.910	U	0.610	0.642	67.0	70.5	8	10.0-143			5.11	37
Bromoform	0.910	U	0.821	0.758	90.2	83.3	8	10.0-146			7.98	36
Bromomethane	0.910	U	0.394	0.485	43.3	53.3	8	10.0-149			20.7	38
n-Butylbenzene	0.910	U	0.609	0.697	66.9	76.6	8	10.0-160			13.5	40
sec-Butylbenzene	0.910	0.0908	0.636	0.736	59.9	70.9	8	10.0-159			14.6	39
tert-Butylbenzene	0.910	U	0.536	0.633	58.9	69.6	8	10.0-156			16.6	39

L1347647-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1347647-02 05/07/21 03:20 • (MS) R3651473-4 05/07/21 03:57 • (MSD) R3651473-5 05/07/21 04:16

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Carbon tetrachloride	0.910	U	0.480	0.612	52.7	67.3	8	10.0-145			24.2	37
Chlorobenzene	0.910	U	0.563	0.627	61.9	68.9	8	10.0-152			10.8	39
Chlorodibromomethane	0.910	U	0.774	0.754	85.1	82.9	8	10.0-146			2.62	37
Chloroethane	0.910	U	0.336	0.436	36.9	47.9	8	10.0-146			25.9	40
Chloroform	0.910	U	0.549	0.602	60.3	66.2	8	10.0-146			9.21	37
Chloromethane	0.910	U	0.421	0.500	46.3	54.9	8	10.0-159			17.2	37
2-Chlorotoluene	0.910	U	0.549	0.645	60.3	70.9	8	10.0-159			16.1	38
4-Chlorotoluene	0.910	U	0.528	0.510	58.0	56.0	8	10.0-155			3.47	39
1,2-Dibromo-3-Chloropropane	0.910	U	0.945	0.818	104	89.9	8	10.0-151			14.4	39
1,2-Dibromoethane	0.910	U	0.799	0.772	87.8	84.8	8	10.0-148			3.44	34
Dibromomethane	0.910	U	0.763	0.738	83.8	81.1	8	10.0-147			3.33	35
1,2-Dichlorobenzene	0.910	U	0.668	0.676	73.4	74.3	8	10.0-155			1.19	37
1,3-Dichlorobenzene	0.910	U	0.615	0.637	67.6	70.0	8	10.0-153			3.51	38
1,4-Dichlorobenzene	0.910	U	0.614	0.629	67.5	69.1	8	10.0-151			2.41	38
Dichlorodifluoromethane	0.910	U	0.529	0.624	58.1	68.6	8	10.0-160			16.5	35
1,1-Dichloroethane	0.910	U	0.518	0.600	56.9	65.9	8	10.0-147			14.7	37
1,2-Dichloroethane	0.910	U	0.676	0.660	74.3	72.5	8	10.0-148			2.40	35
1,1-Dichloroethene	0.910	U	0.430	0.542	47.3	59.6	8	10.0-155			23.0	37
cis-1,2-Dichloroethene	0.910	U	0.548	0.602	60.2	66.2	8	10.0-149			9.39	37
trans-1,2-Dichloroethene	0.910	U	0.460	0.536	50.5	58.9	8	10.0-150			15.3	37
1,2-Dichloropropane	0.910	U	0.647	0.658	71.1	72.3	8	10.0-148			1.69	37
1,1-Dichloropropene	0.910	U	0.444	0.576	48.8	63.3	8	10.0-153			25.9	35
1,3-Dichloropropane	0.910	U	0.760	0.736	83.5	80.9	8	10.0-154			3.21	35
cis-1,3-Dichloropropene	0.910	U	0.664	0.674	73.0	74.1	8	10.0-151			1.49	37
trans-1,3-Dichloropropene	0.910	U	0.718	0.716	78.9	78.7	8	10.0-148			0.279	37
2,2-Dichloropropane	0.910	U	0.427	0.525	46.9	57.7	8	10.0-138			20.6	36
Di-isopropyl ether	0.910	U	0.590	0.608	64.8	66.8	8	10.0-147			3.01	36
Ethylbenzene	0.910	U	0.519	0.615	57.0	67.6	8	10.0-160			16.9	38
Hexachloro-1,3-butadiene	0.910	U	0.932	1.14	102	125	8	10.0-160			20.1	40
Isopropylbenzene	0.910	U	0.521	0.607	57.3	66.7	8	10.0-155			15.2	38
p-Isopropyltoluene	0.910	0.0237	0.580	0.686	61.1	72.8	8	10.0-160			16.7	40
2-Butanone (MEK)	4.55	U	5.52	4.26	121	93.6	8	10.0-160			25.8	40
Methylene Chloride	0.910	U	0.552	0.611	60.7	67.1	8	10.0-141			10.1	37
4-Methyl-2-pentanone (MIBK)	4.55	U	4.78	4.18	105	91.9	8	10.0-160			13.4	35
Methyl tert-butyl ether	0.910	U	0.750	0.717	82.4	78.8	8	11.0-147			4.50	35
Naphthalene	0.910	U	0.932	0.867	102	95.3	8	10.0-160			7.23	36
n-Propylbenzene	0.910	U	0.501	0.599	55.1	65.8	8	10.0-158			17.8	38
Styrene	0.910	U	0.596	0.632	65.5	69.5	8	10.0-160			5.86	40
1,1,1,2-Tetrachloroethane	0.910	U	0.606	0.702	66.6	77.1	8	10.0-149			14.7	39
1,1,2,2-Tetrachloroethane	0.910	U	1.93	1.79	212	197	8	10.0-160	J5	J5	7.53	35

L1347647-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1347647-02 05/07/21 03:20 • (MS) R3651473-4 05/07/21 03:57 • (MSD) R3651473-5 05/07/21 04:16

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Tetrachloroethene	0.910	U	0.476	0.589	52.3	64.7	8	10.0-156			21.2	39
Toluene	0.910	0.0111	0.520	0.600	55.9	64.7	8	10.0-156			14.3	38
1,1,2-Trichlorotrifluoroethane	0.910	U	0.530	0.682	58.2	74.9	8	10.0-160			25.1	36
1,2,3-Trichlorobenzene	0.910	U	0.700	0.588	76.9	64.6	8	10.0-160			17.4	40
1,2,4-Trichlorobenzene	0.910	U	0.724	0.749	79.6	82.3	8	10.0-160			3.39	40
1,1,1-Trichloroethane	0.910	U	0.447	0.565	49.1	62.1	8	10.0-144			23.3	35
1,1,2-Trichloroethane	0.910	U	0.849	0.785	93.3	86.3	8	10.0-160			7.83	35
Trichloroethene	0.910	U	0.513	0.585	56.4	64.3	8	10.0-156			13.1	38
Trichlorofluoromethane	0.910	U	0.424	0.515	46.6	56.6	8	10.0-160			19.4	40
1,2,3-Trichloropropane	0.910	U	0.429	0.427	47.1	46.9	8	10.0-156			0.467	35
1,2,3-Trimethylbenzene	0.910	U	0.577	0.629	63.4	69.1	8	10.0-160			8.62	36
1,2,4-Trimethylbenzene	0.910	U	0.553	0.619	60.8	68.0	8	10.0-160			11.3	36
1,3,5-Trimethylbenzene	0.910	U	0.537	0.630	59.0	69.2	8	10.0-160			15.9	38
Vinyl chloride	0.910	U	0.414	0.548	45.5	60.2	8	10.0-160			27.9	37
Xylenes, Total	2.73	0.0118	1.59	1.79	57.8	65.1	8	10.0-160			11.8	38
(S) Toluene-d8					*101*	*98.6*		*75.0-131*				
(S) 4-Bromofluorobenzene					*106*	*106*		*67.0-138*				
(S) 1,2-Dichloroethane-d4					*102*	*99.5*		*70.0-130*				

Sample Narrative:

OS: Non-target compounds too high to run at a lower dilution.

Method Blank (MB)

(MB) R3652133-1 05/08/21 20:43

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Diesel Range Organics (DRO)	U		1.33	4.00
Residual Range Organics (RRO)	U		3.33	10.0
(S) o-Terphenyl	*81.7*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R3652133-2 05/08/21 20:56

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Diesel Range Organics (DRO)	50.0	51.3	103	50.0-150	
(S) o-Terphenyl			*66.2*	*18.0-148*	

L1346866-12 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1346866-12 05/09/21 00:51 • (MS) R3652133-3 05/09/21 01:04 • (MSD) R3652133-4 05/09/21 01:17

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Diesel Range Organics (DRO)	48.9	1040	1390	1080	716	82.3	5	50.0-150	V	J3	25.1	20
(S) o-Terphenyl					*146*	*121*		*18.0-148*				

Method Blank (MB)

(MB) R3652071-1 05/08/21 15:01

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Diesel Range Organics (DRO)	U		1.33	4.00
Residual Range Organics (RRO)	U		3.33	10.0
(S) o-Terphenyl	*78.2*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R3652071-2 05/08/21 15:14

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Diesel Range Organics (DRO)	50.0	49.1	98.2	50.0-150	
(S) o-Terphenyl			*86.5*	*18.0-148*	

L1347619-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1347619-05 05/08/21 16:55 • (MS) R3652071-3 05/08/21 17:08 • (MSD) R3652071-4 05/08/21 17:20

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Diesel Range Organics (DRO)	53.5	3.39	50.6	71.7	88.2	123	1	50.0-150		J3	34.5	20
(S) o-Terphenyl					*66.9*	*67.1*		*18.0-148*				

Method Blank (MB)

(MB) R3652858-2 05/10/21 18:21

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Anthracene	U		0.00230	0.00600
Acenaphthene	U		0.00209	0.00600
Acenaphthylene	U		0.00216	0.00600
Benzo(a)anthracene	U		0.00173	0.00600
Benzo(a)pyrene	U		0.00179	0.00600
Benzo(b)fluoranthene	U		0.00153	0.00600
Benzo(g,h,i)perylene	U		0.00177	0.00600
Benzo(k)fluoranthene	U		0.00215	0.00600
Chrysene	U		0.00232	0.00600
Dibenz(a,h)anthracene	U		0.00172	0.00600
Fluoranthene	U		0.00227	0.00600
Fluorene	U		0.00205	0.00600
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600
Naphthalene	U		0.00408	0.0200
Phenanthrene	U		0.00231	0.00600
Pyrene	U		0.00200	0.00600
1-Methylnaphthalene	U		0.00449	0.0200
2-Methylnaphthalene	U		0.00427	0.0200
2-Chloronaphthalene	U		0.00466	0.0200
(S) Nitrobenzene-d5	*61.9*			*14.0-149*
(S) 2-Fluorobiphenyl	*69.2*			*34.0-125*
(S) p-Terphenyl-d14	*70.7*			*23.0-120*

Laboratory Control Sample (LCS)

(LCS) R3652858-1 05/10/21 18:01

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Anthracene	0.0800	0.0647	80.9	50.0-126	
Acenaphthene	0.0800	0.0627	78.4	50.0-120	
Acenaphthylene	0.0800	0.0668	83.5	50.0-120	
Benzo(a)anthracene	0.0800	0.0617	77.1	45.0-120	
Benzo(a)pyrene	0.0800	0.0473	59.1	42.0-120	
Benzo(b)fluoranthene	0.0800	0.0526	65.8	42.0-121	
Benzo(g,h,i)perylene	0.0800	0.0486	60.8	45.0-125	
Benzo(k)fluoranthene	0.0800	0.0527	65.9	49.0-125	
Chrysene	0.0800	0.0615	76.9	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0500	62.5	47.0-125	
Fluoranthene	0.0800	0.0686	85.8	49.0-129	

Laboratory Control Sample (LCS)

(LCS) R3652858-1 05/10/21 18:01

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Fluorene	0.0800	0.0665	83.1	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0508	63.5	46.0-125	
Naphthalene	0.0800	0.0585	73.1	50.0-120	
Phenanthrene	0.0800	0.0649	81.1	47.0-120	
Pyrene	0.0800	0.0609	76.1	43.0-123	
1-Methylnaphthalene	0.0800	0.0585	73.1	51.0-121	
2-Methylnaphthalene	0.0800	0.0564	70.5	50.0-120	
2-Chloronaphthalene	0.0800	0.0668	83.5	50.0-120	
(S) Nitrobenzene-d5			*69.8*	*14.0-149*	
(S) 2-Fluorobiphenyl			*74.9*	*34.0-125*	
(S) p-Terphenyl-d14			*72.1*	*23.0-120*	

L1347619-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1347619-01 05/10/21 23:57 • (MS) R3652858-3 05/11/21 00:16 • (MSD) R3652858-4 05/11/21 00:36

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Anthracene	0.0979	U	0.0653	0.0737	66.7	75.6	1	10.0-145			12.1	30
Acenaphthene	0.0979	U	0.0638	0.0750	65.1	77.1	1	14.0-127			16.3	27
Acenaphthylene	0.0979	U	0.0643	0.0769	65.6	79.0	1	21.0-124			18.0	25
Benzo(a)anthracene	0.0979	U	0.0621	0.0699	63.5	71.8	1	10.0-139			11.8	30
Benzo(a)pyrene	0.0979	U	0.0577	0.0643	59.0	66.0	1	10.0-141			10.7	31
Benzo(b)fluoranthene	0.0979	U	0.0605	0.0679	61.8	69.7	1	10.0-140			11.5	36
Benzo(g,h,i)perylene	0.0979	U	0.0558	0.0606	57.1	62.2	1	10.0-140			8.19	33
Benzo(k)fluoranthene	0.0979	U	0.0567	0.0636	57.9	65.3	1	10.0-137			11.5	31
Chrysene	0.0979	U	0.0675	0.0754	69.0	77.4	1	10.0-145			11.1	30
Dibenz(a,h)anthracene	0.0979	U	0.0548	0.0604	56.0	62.0	1	10.0-132			9.59	31
Fluoranthene	0.0979	U	0.0743	0.0837	75.9	86.0	1	10.0-153			11.9	33
Fluorene	0.0979	U	0.0688	0.0797	70.3	81.8	1	11.0-130			14.7	29
Indeno(1,2,3-cd)pyrene	0.0979	U	0.0550	0.0595	56.2	61.1	1	10.0-137			7.89	32
Naphthalene	0.0979	U	0.0612	0.0750	62.6	77.1	1	10.0-135			20.3	27
Phenanthrene	0.0979	U	0.0719	0.0811	73.5	83.2	1	10.0-144			12.0	31
Pyrene	0.0979	0.00280	0.0671	0.0764	65.7	75.6	1	10.0-148			12.9	35
1-Methylnaphthalene	0.0979	U	0.0596	0.0734	60.9	75.4	1	10.0-142			20.8	28
2-Methylnaphthalene	0.0979	U	0.0581	0.0697	59.4	71.5	1	10.0-137			18.1	28
2-Chloronaphthalene	0.0979	U	0.0675	0.0807	69.0	82.9	1	29.0-120			17.8	24
(S) Nitrobenzene-d5					*58.1*	*71.2*		*14.0-149*				
(S) 2-Fluorobiphenyl					*64.9*	*74.4*		*34.0-125*				
(S) p-Terphenyl-d14					*62.5*	*71.6*		*23.0-120*				

Method Blank (MB)

(MB) R3652554-2 05/10/21 07:11

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Anthracene	U		0.00230	0.00600
Acenaphthene	U		0.00209	0.00600
Acenaphthylene	U		0.00216	0.00600
Benzo(a)anthracene	U		0.00173	0.00600
Benzo(a)pyrene	U		0.00179	0.00600
Benzo(b)fluoranthene	U		0.00153	0.00600
Benzo(g,h,i)perylene	U		0.00177	0.00600
Benzo(k)fluoranthene	U		0.00215	0.00600
Chrysene	U		0.00232	0.00600
Dibenz(a,h)anthracene	U		0.00172	0.00600
Fluoranthene	U		0.00227	0.00600
Fluorene	U		0.00205	0.00600
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600
Naphthalene	U		0.00408	0.0200
Phenanthrene	U		0.00231	0.00600
Pyrene	U		0.00200	0.00600
1-Methylnaphthalene	U		0.00449	0.0200
2-Methylnaphthalene	U		0.00427	0.0200
2-Chloronaphthalene	U		0.00466	0.0200
(S) Nitrobenzene-d5	*95.2*			*14.0-149*
(S) 2-Fluorobiphenyl	*92.1*			*34.0-125*
(S) p-Terphenyl-d14	*103*			*23.0-120*

Laboratory Control Sample (LCS)

(LCS) R3652554-1 05/10/21 06:53

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Anthracene	0.0800	0.0661	82.6	50.0-126	
Acenaphthene	0.0800	0.0683	85.4	50.0-120	
Acenaphthylene	0.0800	0.0709	88.6	50.0-120	
Benzo(a)anthracene	0.0800	0.0650	81.3	45.0-120	
Benzo(a)pyrene	0.0800	0.0595	74.4	42.0-120	
Benzo(b)fluoranthene	0.0800	0.0692	86.5	42.0-121	
Benzo(g,h,i)perylene	0.0800	0.0680	85.0	45.0-125	
Benzo(k)fluoranthene	0.0800	0.0665	83.1	49.0-125	
Chrysene	0.0800	0.0662	82.8	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0685	85.6	47.0-125	
Fluoranthene	0.0800	0.0688	86.0	49.0-129	

Laboratory Control Sample (LCS)

(LCS) R3652554-1 05/10/21 06:53

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Fluorene	0.0800	0.0683	85.4	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0675	84.4	46.0-125	
Naphthalene	0.0800	0.0668	83.5	50.0-120	
Phenanthrene	0.0800	0.0683	85.4	47.0-120	
Pyrene	0.0800	0.0648	81.0	43.0-123	
1-Methylnaphthalene	0.0800	0.0685	85.6	51.0-121	
2-Methylnaphthalene	0.0800	0.0662	82.8	50.0-120	
2-Chloronaphthalene	0.0800	0.0678	84.8	50.0-120	
(S) Nitrobenzene-d5			*92.0*	*14.0-149*	
(S) 2-Fluorobiphenyl			*84.8*	*34.0-125*	
(S) p-Terphenyl-d14			*90.6*	*23.0-120*	

L1349536-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1349536-02 05/10/21 10:39 • (MS) R3652554-3 05/10/21 10:59 • (MSD) R3652554-4 05/10/21 11:16

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Anthracene	0.0760	0.0459	0.117	0.109	93.6	83.5	1	10.0-145			7.08	30
Acenaphthene	0.0760	0.227	0.476	0.508	328	372	1	14.0-127	V	V	6.50	27
Acenaphthylene	0.0760	U	0.237	0.254	312	336	1	21.0-124	J5	J5	6.92	25
Benzo(a)anthracene	0.0760	0.0325	0.0948	0.0954	82.0	83.2	1	10.0-139			0.631	30
Benzo(a)pyrene	0.0760	0.0135	0.0679	0.0679	71.6	72.0	1	10.0-141			0.000	31
Benzo(b)fluoranthene	0.0760	0.0259	0.0841	0.0823	76.6	74.6	1	10.0-140			2.16	36
Benzo(g,h,i)perylene	0.0760	0.143	0.226	0.214	109	93.9	1	10.0-140			5.45	33
Benzo(k)fluoranthene	0.0760	0.00676	0.0615	0.0631	72.0	74.5	1	10.0-137			2.57	31
Chrysene	0.0760	0.0298	0.0907	0.0905	80.1	80.3	1	10.0-145			0.221	30
Dibenz(a,h)anthracene	0.0760	0.00349	0.0582	0.0616	72.0	76.9	1	10.0-132			5.68	31
Fluoranthene	0.0760	0.0807	0.152	0.150	93.8	91.7	1	10.0-153			1.32	33
Fluorene	0.0760	0.151	0.332	0.362	238	279	1	11.0-130	J5	J5	8.65	29
Indeno(1,2,3-cd)pyrene	0.0760	0.0433	0.103	0.104	78.6	80.3	1	10.0-137			0.966	32
Naphthalene	0.0760	43.0	47.0	46.3	5260	4370	1	10.0-135	E V	E V	1.50	27
Phenanthrene	0.0760	0.407	0.529	0.506	161	131	1	10.0-144	V		4.44	31
Pyrene	0.0760	0.128	0.203	0.200	98.7	95.2	1	10.0-148			1.49	35
1-Methylnaphthalene	0.0760	33.7	35.4	35.5	2240	2380	1	10.0-142	E V	E V	0.282	28
2-Methylnaphthalene	0.0760	40.1	44.3	43.9	5530	5030	1	10.0-137	E V	E V	0.907	28
2-Chloronaphthalene	0.0760	U	0.0782	0.0828	103	110	1	29.0-120			5.71	24
(S) Nitrobenzene-d5					*0.000*	*0.000*		*14.0-149*	J2	J2		
(S) 2-Fluorobiphenyl					*97.5*	*98.9*		*34.0-125*				
(S) p-Terphenyl-d14					*84.2*	*81.5*		*23.0-120*				

L1349536-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1349536-02 05/10/21 10:39 • (MS) R3652554-3 05/10/21 10:59 • (MSD) R3652554-4 05/10/21 11:16

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %

Sample Narrative:

OS: Surrogate failure due to matrix interference

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

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
MDL (dry)	Method Detection Limit.
RDL	Reported Detection Limit.
RDL (dry)	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(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 Reporting Limit (or MDL where applicable).
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
B	The same analyte is found in the associated blank.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
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.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
O1	The analyte failed the method required serial dilution test and/or subsequent post-spike criteria. These failures indicate matrix interference.

GLOSSARY OF TERMS

Qualifier	Description
V	The sample concentration is too high to evaluate accurate spike recoveries.

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.

GeoDesign Inc. - Wilsonville, OR
9450 SW Commerce Circle
Ste. 300
Wilsonville, OR 97070

Billing Information:
Accounts Payable
9450 SW Commerce Circle
Ste. 300
Wilsonville, OR 97070

Pres Chk

Report to: Kyle Haggart

Email To: kyle.haggart@NVS.com

Project Description: St. Helens Riverwalk

City/State Collected: St. Helens, OR

Phone: 503 968 8787
Fax:

Client Project # Sthelens-4-02

Lab Project #

Collected by (print): Tim Hainley

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

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

Quote #

Date Results Needed

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	NWTPH-GX	NWTPH-DX	VOCs	PAHs	RCRA 8 Metals						Remarks	Sample # (lab only)
Comp-1(0-5)	comp	SS		5/3/21	900	6	X	X	X	X	X							-01
Comp-1(5-10)		SS			915	6	X	X	X	X	X							-02
Comp-2(0-5)		SS			930	6	X	X	X	X	X							-03
Comp-2(5-10)		SS			940	6	X	X	X	X	X							-04
Comp-3(0-5)		SS			1000	8	X	X	X	X	X							-05
Comp-3(5-10)		SS			1015	8	X	X	X	X	X							-06
Comp-4(0-5)		SS			1045	8	X	X	X	X	X							-07
Comp-4(5-10)		SS			1100	8	X	X	X	X	X							-08
DP-5A(1.5-2.5)	grab	SS			1050	2						HOLD						

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

Pace Analytical®
National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# L1347619

B211

Acctnum: GEODESPOR
Template:
Prelogin:
TSR:
PB:
Shipped Via:

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

Remarks: * Composite all VOA's prior to VOC/GX analysis * discard 1 vial each composite sample (4 vials for comp-1, comp-2 & 6 vials for comp-3, comp-4)

pH ____ Temp ____
Flow ____ Other ____

Samples returned via:
__ UPS __ FedEx __ Courier __ _____

Tracking # 9883 0087 3991

Sample Receipt Checklist
COC Seal Present/Intact: __NP __Y __N
COC Signed/Accurate: __Y __N
Bottles arrive intact: __Y __N
Correct bottles used: __Y __N
Sufficient volume sent: __Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	5/3/21	1500	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Trip Blank Received: Yes / (No) HCl / MeoH TBR

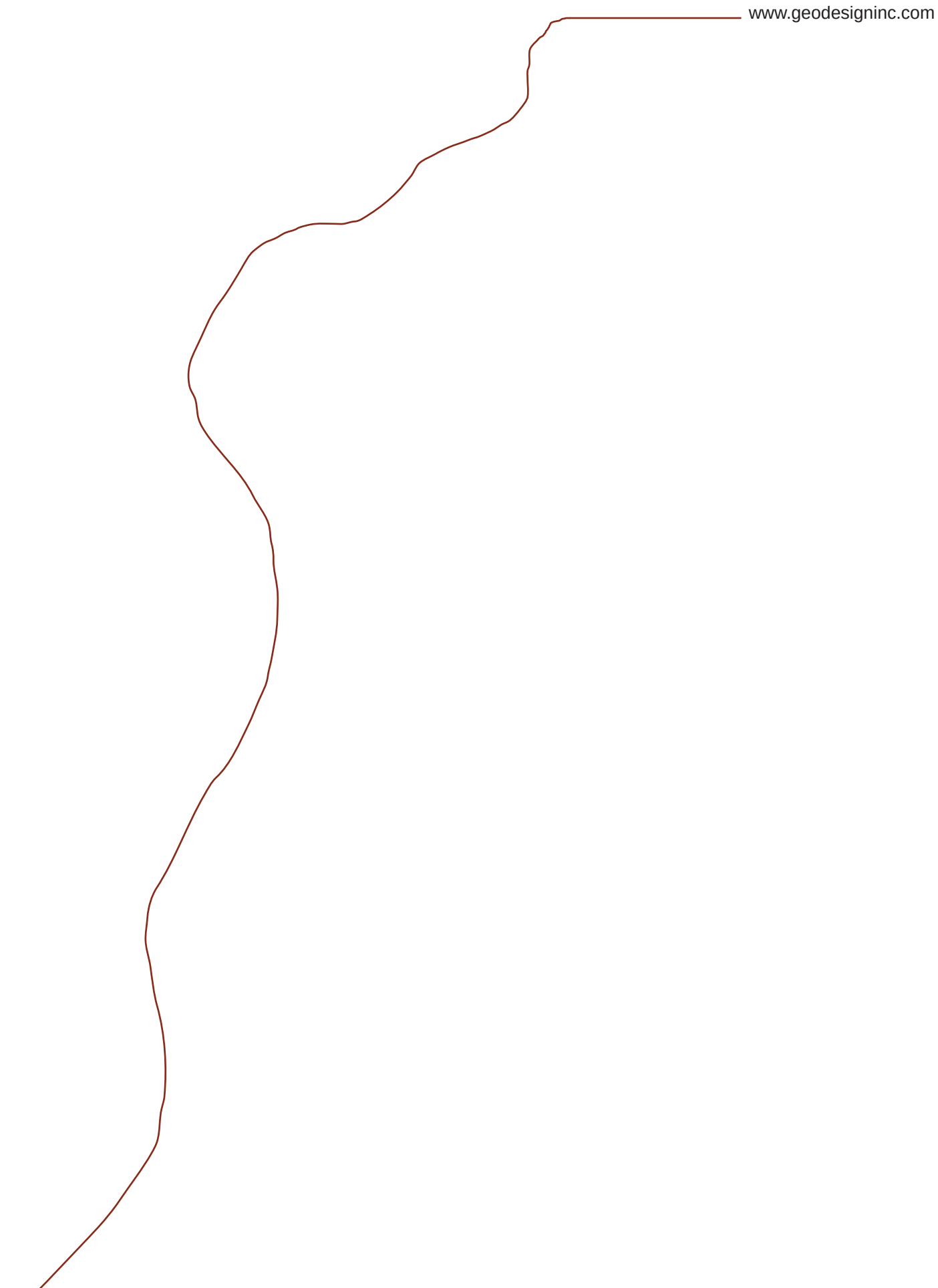
Temp: 2.5, 1=2.4 °C Bottles Received: 58

Date: 05/04/21 Time: 09:30

If preservation required by Login: Date/Time

05-028

Condition: NCF / (OK)


www.geodesigninc.com