



October 25, 2024

Ms. Rachel Puechner
Decommissioning Advisor
Chevron Environmental Management Company
1500 Louisiana St.
Houston, TX 77002

Via Email

**RE: Facility Closure Assessment
Wilson Creek Unit 2
CECMC Remediation Project Number 29726
Rio Blanco County, Colorado**

Ms. Puechner,

Entrada Consulting Group, Inc. (Entrada) has prepared this Closure Summary for Chevron USA Inc. (Chevron) related to the facility closure activities conducted at the Wilson Creek Unit 2 production pad (Site) located on privately owned surface in Rio Blanco County, Colorado. The Site is in the southeast quarter of the southwest quarter in Section 27, Township 3 north, Range 94 west, of the 6th Principal Meridian. The coordinates in decimal degrees of the approximate center point of the Site are 40.196671° latitude and -107.928269° longitude. The Colorado Energy & Carbon Management Commission (CECMC) Location ID for the Site is 314282.

Entrada was contracted to conduct field screening and collect soil samples during facility closure activities at the Site in accordance with the sampling plan submitted in the approved Form 27 Initial (Document Number 403350611). In a previous supplemental Form 27 (Document Number 403947363), a request for a reduced analyte suite of pH only was submitted on October 5, 2024. All investigation activities, field screening, and sampling activities discussed herein were conducted in accordance with CECMC 900 Series Rules and associated CECMC operator guidance documents.

SITE DESCRIPTION AND PATHWAY TO GROUNDWATER EVALUATION

The Site is located on a southeast facing hillside composed of Owen Creek-Jerry-Burnette loams and is situated at an elevation of approximately 7,952 feet above mean sea level (ft-amsl). The nearest surface water feature Wilson Creek is located approximately 0.55 miles northeast of the Site at an elevation of approximately 7,677 ft-amsl (275 feet below the Site). There are numerous groundwater wells within 1.00 mile of the Site actively permitted with the Colorado Division of Water Resources (DWR). The majority of those monitoring wells are located in the valley base in and around the Wilson Creek Central Production Area and area associated with CECMC Remediation Project Number 70.

A selection of representative monitoring wells that list construction data and static depths to water at the time of well construction are summarized in the table below.

DWR Permit Number	Date Installed	Approximate Surface Elevation (ft-amsl)	Static Depth to Ground water (ft-bgs)	Approximate Groundwater Elevation (ft-amsl)	Elevation Difference Between Unit 2 Ground Surface* and Reported Static Groundwater (feet)
260314	11/17/2004	6750.00	60.00	6690.00	1262.00
40187 MW26	11/01/2001	7706.08	6.68	7699.40	252.60
40187 MW29	10/30/2001	7698.31	18.49	7679.82	272.18

* Elevation information recorded using Google Earth

The information presented above indicates that a pathway to groundwater is not expected at the Site and that CECMC Table 915-1 Residential Soil Screening Levels (RSSLs) should be used.

FIELD SCREENING AND SOIL SAMPLING ACTIVITIES

Hydrocarbon impacts, in the form of stained soil and moderate to strong odors, were observed by Chevron personnel during well cut and cap operations and prior to initial soil screening of the wellhead bell hole. Excavation of stained soil commenced without initial screening conducted as impacts were evident. On September 11, 2024, and October 17, 2024, an Entrada representative was onsite to field screen and collect soil samples from the main wellhead excavation, additional local backgrounds and collect resamples from west wall of the main wellhead excavation respectively. In total, soil was field screened at eleven (11) locations from different depths throughout the investigation: nine points from the wellhead excavation sidewalls and two points from the wellhead excavation base. Groundwater was not observed at any point during field activities. Soil from each of these locations was visually examined for evidence of potential environmental impacts (e.g., petroleum staining and odor) and screened for volatile organic compounds. Screening was conducted by placing the soil into a re-sealable bag, allowing the soil to warm and volatilize any organic compounds, and monitoring the headspace in the bag with a photoionization detector (PID) equipped with a 10.6 eV lamp. The maximum PID reading observed during the investigation was 3.2 parts per million (ppm) at Unit 2 WH NBASE (21') field screening location at the base of the wellhead excavation.

Wellhead Excavation and Sampling

During the September 11, 2024, excavation sampling event, analytical results from the excavation west wall Unit 2 WH WW (15') was below the CECMC Table 915-1 standard for pH and not within local background concentrations.

A minimal volume of additional impacted soil was excavated from the west wall of the excavation, and on October 17, 2024, a confirmation sample, Unit 2 WH WW03 (15'), was collected at a depth of 15 ft-bgs. Analytical results indicated that the low pH soil had been adequately removed.

In total, seven (7) soil samples were collected from the wellhead excavation at depths ranging from 9 to 21 ft-bgs and submitted for laboratory analysis. Two (2) soil samples, Unit 2 WH NBASE (21') and Unit 2 WH SBASE (20') were collected from the excavation base. Five (5) soil samples, Unit 2 WH EW (15'), Unit 2 WH NW (14'), Unit 2 WH WW (15'), resample Unit 2 WH WW03 (15') and Unit 2 WH SW (14') were collected from the excavation sidewalls. All impacts were fully delineated and removed from the excavation. A summary of the analytical results is included as **Table 1** and a sample location figure is included as **Figure 1**.

A regional background sample, WC BG-SP12 was collected from similar soil type (Owen-Creek-Jerry-Burnette-Loams) as the Site at depths ranging from 0 to 2 ft-bgs. These samples were collected from undisturbed native material away from potential impacts related to Site activities to characterize background conditions as part of the broader Wilson Creek Background soil survey. On September 11, 2024, an additional four (4) local background samples were collected and analyzed for Table 915-1 metals and soil suitability for reclamation standards from one (1) location adjacent to the Site (Unit 2 BG1) at depths ranging from 5 to 13 ft-bgs. A summary of the local background analytical results is included in **Table 2**. A summary of the broader background data including analytical results, and a sample location figure is included as an **Attachment**.

A photographic log and wellhead and flowline checklists documenting Site conditions during the field assessment are provided as **Attachments**.

SOIL ANALYSIS

All soil samples were collected in sample containers appropriate for the specified laboratory analyses, sealed, labeled, and placed into an ice filled cooler for preservation. Six (6) total soil samples collected were submitted to Pace Analytical in Mt. Juliet, Tennessee following chain-of-custody procedures and were analyzed for the following:

- Total petroleum hydrocarbons as diesel range organics (TPH-DRO) and TPH as oil range organics (ORO) by U.S. Environmental Protection Agency (EPA) Method 8015M;
- TPH as gasoline range organics (GRO) by EPA Method 8015D;
- Benzene, toluene, ethylbenzene and xylenes (BTEX) by EPA Method 8260B;
- Polycyclic aromatic hydrocarbons (CECMC Table 915-1 list) by EPA Method 8270C;
- pH by EPA Method 9045D;
- Metals:
 - Arsenic by EPA Method 6020;
 - Barium, cadmium, copper, lead, nickel, selenium, silver, and zinc by EPA Method 6010B;
 - Hexavalent chromium by EPA Method 7199; and
 - Hot water-soluble boron by 6010B-NE493 Ch 2;
- Electrical conductivity (EC) by EPA Method 9050A Modified; and
- Sodium adsorption ratio (SAR) by calculation.

One (1) soil sample was submitted to Pace Analytical in Mt. Juliet, Tennessee following chain-of-custody procedures and were analyzed for the following:

- pH by EPA Method 9045D

Four (4) local background soil samples were submitted to Pace Analytical in Mt. Juliet, Tennessee following chain-of-custody procedures and were analyzed for the following:

- pH by EPA Method 9045D;
- Metals:
 - Arsenic by EPA Method 6020;
 - Barium, cadmium, copper, lead, nickel, selenium, silver, and zinc by EPA Method 6010B;
 - Hexavalent chromium by EPA Method 7199; and
 - Hot water-soluble boron by 6010B-NE493 Ch 2;
- Electrical conductivity (EC) by EPA Method 9050A Modified; and
- Sodium adsorption ratio (SAR) by calculation

The background samples collected as part of the broader Wilson Creek Background soil survey were analyzed for the metals listed above, EC, pH, hot water-soluble boron and SAR by the previously listed analytical methods.

SOIL ANALYTICAL RESULTS

Based on the pathway to groundwater evaluation discussed above, the CECMC Table 915-1 Residential Soil Screening Levels (RSSLs) were used to determine soil compliance. The following laboratory analytical results were reported above the applicable CECMC Table 915-1 RSSLs in the final excavation.

- Arsenic was reported above the Table 915-1 RSSL of 0.68 milligrams per kilogram (mg/kg) in final excavation samples at levels ranging from 1.67 mg/kg in Unit 2 WH NW (14') to 5.35 mg/kg in Unit 2 WH SBASE (20'). All soil sample results for arsenic were within 1.25X maximum background concentration for the Owen-Creek-Jerry-Burnette-Loams of 4.61 mg/kg in sample WC BG-SP12 (12-24"). Consideration of Table 915-1 footnote 11 is requested for all arsenic samples.
- Hexavalent chromium sample results were below the laboratory practical quantitation limit (PQL) of 1.0 mg/kg in all samples. Consideration of Table 915-1 footnote 9 is requested for hexavalent chromium samples.

All remaining confirmation sample results were compliant with the applicable Table 915-1 RSSLs and Soil Suitability for Reclamation Standards. The soil analytical results are summarized in **Table 1**. The laboratory analytical reports are included as an **Attachment**.

DISCUSSION AND CONCLUSIONS

A database search revealed that the depth to groundwater in this area is likely in excess of 100 ft-bgs. Based on this, Entrada asserts that there is no clear path to groundwater on this Site and that Residential Soil Screening Levels should be used.

Based upon field screening and soil sampling activities completed at the Site, and laboratory analytical data presented herein, Entrada recommends that Chevron:

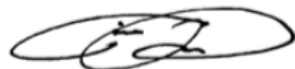
- Field screen and collect a soil sample from the end of the former on-location flowline where it exited the location in order to address the sample data gap.
- Request approval to begin backfilling the excavation from the CECMC.

The soil stockpiles designated for beneficial reuse associated with the Upper CRA Project (REM# 70) will be utilized for excavation backfill and reclamation activities. Specifically, it is Chevron's intent to use soil from stockpiles C-11 and C-18. If additional soil is required, Chevron will then move to piles C-22, C-23, C-25 and C-27 until the excavation is completely backfilled. Approval to use the soil for beneficial reuse within the Wilson Creek Field was approved by the CECMC under document numbers 403790796 and 403860638. Approximately 2,500 cubic yards of impacted soil were removed during Site remediation. It is anticipated that approximately 2,500 cubic yards of beneficial reuse soil from the stockpiles noted above will be utilized for backfill and reclamation activities. An analytical summary including laboratory reports is included as an **Attachment**.

We appreciate the opportunity to assist Chevron USA Inc. Please contact me at (970) 270-2986 if you have any questions.

Sincerely,

ENTRADA CONSULTING GROUP, INC



Tim Dobransky
Principal Scientist

Attachments:

Figure 1 – Facility Closure Diagram
Table 1 – Wellhead Analytical Results Summary
Table 2 – Local Background Analytical Results Summary
Wilson Creek Background Soil Results
Photographic Log
Laboratory Analytical Reports
Beneficial Reuse Soil Analytical Summary
Wellhead Closure Checklists


FIGURES



LEGEND

- Background Sample
- Field Screening Location
- Soil Sample Location
- Wellhead
- Flowline
- Excavation as for 9/11/24
- Excavation as of 10/17/24

0 20 40 Feet
1 inch = 40 Feet

Project No: 023-040	Facility Closure Diagram Wilson Creek Unit 2 Chevron USA, Inc. SESW, Section 27, T3N R94W, 6th PM Rio Blanco County, Colorado	 <div>330 Grand Avenue, Unit C Grand Junction, CO 81501 970-549-1015</div>	Figure
Map By: NDB			1
Date: 10/25/2024			

TABLES

Table 1
Wilson Creek Unit 2
Wellhead Analytical Summary
Chevron Environmental Management Company
Rio Blanco County, Colorado

LABORATORY DATA SUMMARY										
Sample ID	UNIT 2 WH SBASE	UNIT 2 WH NBASE	UNIT 2 WH EW	UNIT 2 WH NW	UNIT 2 WH WW	UNIT 2 WH WW03	UNIT 2 WH SW	CECMC TABLE 915-1 CLEANUP CONCENTRATIONS		
Depth	20'	21'	15'	14'	15'	15'	14'			
Sample Type	Excavation Base	Excavation Base	Excavation Sidewall	Excavation Sidewall	Excavation Sidewall	Excavation Sidewall	Excavation Sidewall			
Sample Date	9/11/2024	9/11/2024	9/11/2024	9/11/2024	9/11/2024	10/17/2024	9/11/2024			
Analytical Parameters								Residential Soil Screening Level	Protection of Groundwater Screening Level	UNITS
TPH										
C6-C10 Gasoline Range	<0.100	<0.100	<0.100	<0.100	<0.100	NT	<0.100	500		mg/kg
C10-C28 Diesel Range	51.8	44.2	<4.0	118	6.25	NT	7.6			
C28-C36 Motor Oil Range	108	107	<4.0	181	5.17	NT	13.8			
Total TPH Combined	159.8	151.2	0	299.0	11.42	NT	21.4			
Volatile Organic Compounds										
1,2,4-Trimethylbenzene	<0.00500	<0.00505	<0.00500	<0.00500	<0.00500	NT	<0.00500	30	0.0081	mg/kg
1,3,5-Trimethylbenzene	<0.00500	<0.00505	<0.00500	<0.00500	<0.00500	NT	<0.00500	27	0.0087	mg/kg
Benzene	<0.00100	<0.00101	<0.00100	<0.00100	<0.00100	NT	<0.00100	1.2	0.0026	mg/kg
Toluene	<0.00500	<0.00505	<0.00500	<0.00500	<0.00500	NT	<0.00500	490	0.69	mg/kg
Ethylbenzene	<0.00250	<0.00253	<0.00250	<0.00250	<0.00250	NT	<0.00250	5.8	0.78	mg/kg
Total Xylene	<0.00650	<0.00656	<0.00650	<0.00650	<0.00650	NT	<0.00650	58	9.9	mg/kg
Metals										
Arsenic	5.35	3.86	3.65	1.67	2.62	NT	2.95	0.68	0.29	mg/kg
Barium	89.2	89.0	79.6	40	73.0	NT	72.2	15,000	82	mg/kg
Cadmium	<1.00	<1.00	<1.00	<1.00	<1.00	NT	<1.00	71	0.38	mg/kg
Chromium, Hexavalent	<1.00	<1.00	<1.00	<1.00	<1.00	NT	<1.00	0.3	0.00067	mg/kg
Copper	17.7	14.2	9.49	6.55	10.7	NT	10.1	3,100	46	mg/kg
Lead	23.7	19.1	11.6	6.75	9.81	NT	10.4	400	14	mg/kg
Nickel	12.8	11.3	10.4	9.74	10.8	NT	10.8	1,500	26	mg/kg
Selenium	<2.50	<2.50	<2.50	<0.250	<2.50	NT	<2.50	390	0.26	mg/kg
Silver	<0.500	<0.500	<0.500	<0.500	<0.500	NT	<0.500	390	0.8	mg/kg
Zinc	72.6	63.5	51	46.9	33.2	NT	47.3	23,000	370	mg/kg
Soil Suitability for Reclamation										
Sodium Adsorption Ratio (SAR)	2.71	3.20	0.582	0.530	0.281	NT	0.140	<6	<6	ratio
Electrical Conductivity (EC)	1.59	1.35	0.245	0.518	0.288	NT	0.166	<4	<4	mmhos/cm
pH	8.13	8.29	7.05	7.60	5.62	7.95	6.69	6 - 8.3	6 - 8.3	su
Boron, Hot Water Soluble	0.260	0.256	<1.00	0.297	0.340	NT	0.272	2	2	mg/kg
Polynuclear Aromatic Hyrdrocarbons										
1-Methylnaphthalene	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	NT	<0.0200	18	0.006	mg/kg
2-Methylnaphthalene	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	NT	<0.0200	24	0.019	mg/kg
Acenaphthene	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	NT	<0.00600	360	0.55	mg/kg
Anthracene	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	NT	<0.00600	1,800	5.8	mg/kg
Benzo(a)anthracene	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	NT	<0.00600	1.1	0.011	mg/kg
Benzo(a)pyrene	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	NT	<0.00600	0.11	0.24	mg/kg
Benzo(b)fluoranthene	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	NT	<0.00600	1.1	0.3	mg/kg
Benzo(k)fluoranthene	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	NT	<0.00600	11	2.9	mg/kg
Chrysene	<0.00600	<0.00600	<0.00600	<0.00600	0.00689	NT	<0.00600	110	9	mg/kg
Dibenzo(a,h)anthracene	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	NT	<0.00600	0.11	0.096	mg/kg
Fluoranthene	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	NT	<0.00600	240	8.9	mg/kg
Fluorene	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	NT	<0.00600	240	0.54	mg/kg
Indeno(1,2,3-cd)pyrene	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	NT	<0.00600	1.1	0.98	mg/kg
Naphthalene	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	NT	<0.0200	2	0.0038	mg/kg
Pyrene	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	NT	<0.00600	180	1.3	mg/kg

Notes:
mg/kg - milligrams per kilogram
mmhos/cm - millimhos per centimeter
su - standard units
NT - parameter was not tested

Over CECMC Table 915-1 concentration levels but under BACKGROUND level.
Over CECMC Table 915-1 concentration levels and not within BACKGROUND level.
Over CECMC Table 915-1 concentration levels

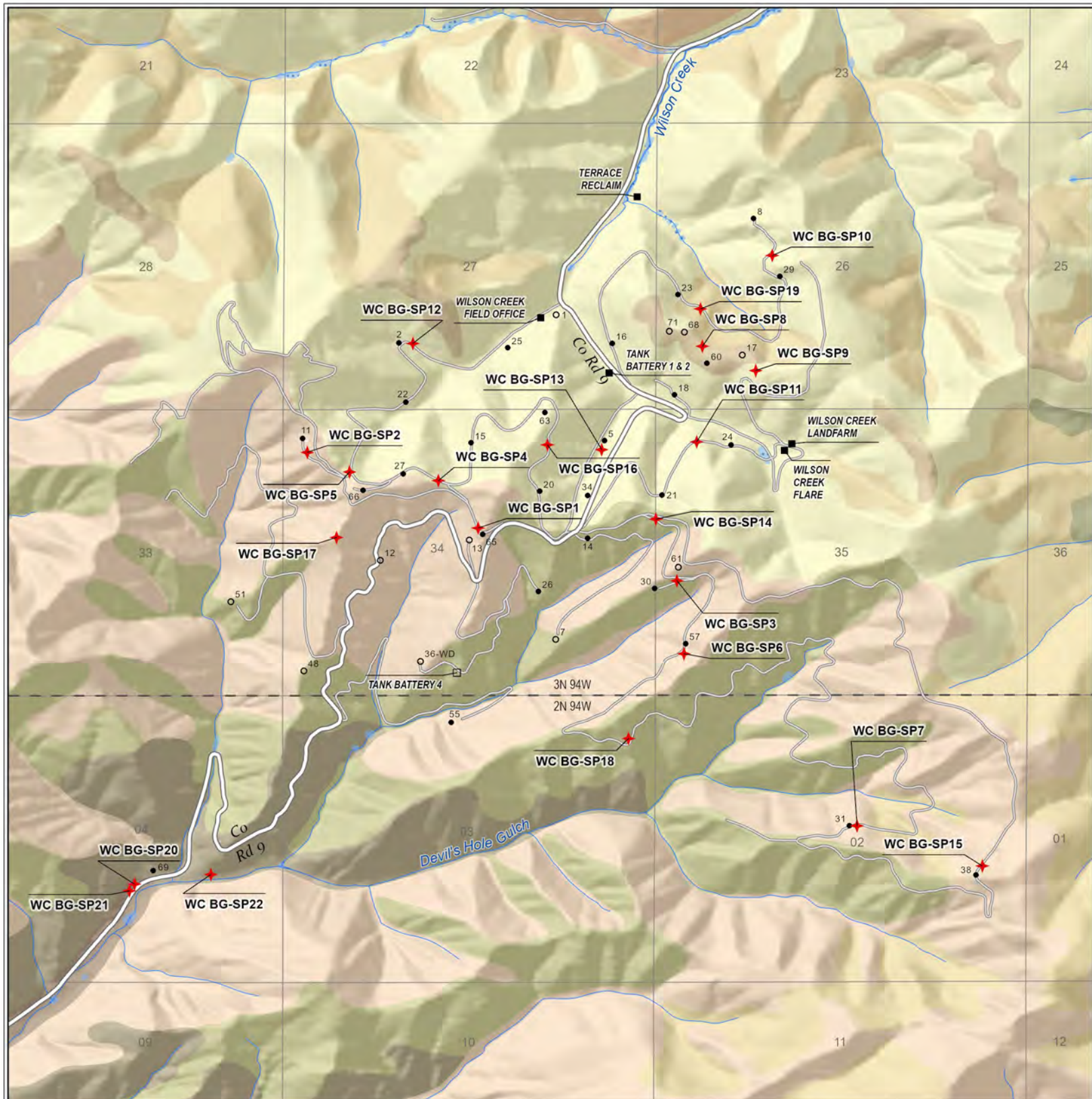
Table 2
Wilson Creek Unit 2
Local Background Analytical Summary
Chevron Environmental Management Company
Rio Blanco County, Colorado

LABORATORY DATA SUMMARY							
Sample ID	UNIT 2 BG1	UNIT 2 BG1	UNIT 2 BG1	UNIT 2 BG1	CECMC TABLE 915-1 CLEANUP CONCENTRATIONS		
Depth	5'	8'	11'	13'			
Sample Type	Site Background	Site Background	Site Background	Site Background			
Sample Date	9/11/2024	9/11/2024	9/11/2024	9/11/2024			
Analytical Parameters					Residential Soil Screening Level	Protection of Groundwater Screening Level	UNITS
TPH							
C6-C10 Gasoline Range	NT	NT	NT	NT	500		mg/kg
C10-C28 Diesel Range	NT	NT	NT	NT			
C28-C36 Motor Oil Range	NT	NT	NT	NT			
Total TPH Combined	NT	NT	NT	NT			
Volatile Organic Compounds							
1,2,4-Trimethylbenzene	NT	NT	NT	NT	30	0.0081	mg/kg
1,3,5-Trimethylbenzene	NT	NT	NT	NT	27	0.0087	mg/kg
Benzene	NT	NT	NT	NT	1.2	0.0026	mg/kg
Toluene	NT	NT	NT	NT	490	0.69	mg/kg
Ethylbenzene	NT	NT	NT	NT	5.8	0.78	mg/kg
Total Xylene	NT	NT	NT	NT	58	9.9	mg/kg
Metals							
Arsenic	3.79	2.71	3.01	3.01	0.68	0.29	mg/kg
Barium	74.7	75.6	62.2	47.8	15,000	82	mg/kg
Cadmium	<1.00	<1.00	<1.00	<1.00	71	0.38	mg/kg
Chromium, Hexavalent	<1.00	<1.00	<1.00	<1.00	0.3	0.00067	mg/kg
Copper	13.1	12	11.5	13	3,100	46	mg/kg
Lead	13.6	13.2	12.1	15.5	400	14	mg/kg
Nickel	11.60	10.7	9.7	11.5	1,500	26	mg/kg
Selenium	<2.50	<2.50	<2.50	<2.50	390	0.26	mg/kg
Silver	<0.500	<0.500	<0.500	<0.500	390	0.8	mg/kg
Zinc	48.8	45.9	42.8	52.6	23,000	370	mg/kg
Soil Suitability for Reclamation							
Sodium Adsorption Ratio (SAR)	0.335	0.368	0.317	0.514	<6	<6	ratio
Electrical Conductivity (EC)	0.234	0.263	0.265	0.393	<4	<4	mmhos/cm
pH	8.12	8.18	8.07	8.28	6 - 8.3	6 - 8.3	su
Boron, Hot Water Soluble	<0.200	0.216	0.211	<0.200	2	2	mg/kg
Polynuclear Aromatic Hydrocarbons							
1-Methylnaphthalene	NT	NT	NT	NT	18	0.006	mg/kg
2-Methylnaphthalene	NT	NT	NT	NT	24	0.019	mg/kg
Acenaphthene	NT	NT	NT	NT	360	0.55	mg/kg
Anthracene	NT	NT	NT	NT	1,800	5.8	mg/kg
Benzo(a)anthracene	NT	NT	NT	NT	1.1	0.011	mg/kg
Benzo(a)pyrene	NT	NT	NT	NT	0.11	0.24	mg/kg
Benzo(b)fluoranthene	NT	NT	NT	NT	1.1	0.3	mg/kg
Benzo(k)fluoranthene	NT	NT	NT	NT	11	2.9	mg/kg
Chrysene	NT	NT	NT	NT	110	9	mg/kg
Dibenzo(a,h)anthracene	NT	NT	NT	NT	0.11	0.096	mg/kg
Fluoranthene	NT	NT	NT	NT	240	8.9	mg/kg
Fluorene	NT	NT	NT	NT	240	0.54	mg/kg
Indeno(1,2,3-cd)pyrene	NT	NT	NT	NT	1.1	0.98	mg/kg
Naphthalene	NT	NT	NT	NT	2	0.0038	mg/kg
Pyrene	NT	NT	NT	NT	180	1.3	mg/kg

Notes:
mg/kg - milligrams per kilogram
mmhos/cm - millimhos per centimeter
su - standard units
NT - parameter was not tested

Over CECMC Table 915-1 concentration levels but under BACKGROUND level.
Over CECMC Table 915-1 concentration levels and not within BACKGROUND level.
Over CECMC Table 915-1 concentration levels

WILSON CREEK BACKGROUND SOIL RESULTS

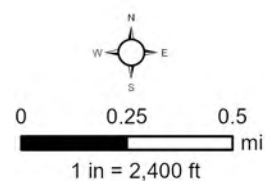


LEGEND

Blazon, moist-Rentsac complex, 8 to 25 percent slopes
 Jerry-Thornburgh-Rhone complex, 8 to 65 percent slopes
 Mergel-Redthayne-Dollard complex, 8 to 25 percent slopes
 Owen Creek-Jerry-Burnette loams, 5 to 35 percent slopes

Rhone-Northwater-Lamphier loams, 3 to 50 percent slopes
 Shawna loam, 3 to 8 percent slopes
 Silas loam, 0 to 8 percent slopes
 Torriorthents-Rock outcrop complex, 15 to 90 percent slopes
 Waybe-Vandamore variant-Rock outcrop complex, 5 to 30 percent slopes

Background Sample
 Facility Location
 Existing Facility
 Reclaimed Facility
 Well Location
 Reclaimed Site
 Well Site



Project No: 022-042

Map By: NDB

Date: 10/4/2022

Background Soil Sampling Diagram
NRCS Soils Map
 Wilson Creek Field
 Chevron USA, INC.
 Rio Blanco County, Colorado

ENTRADA
 CONSULTING GROUP
 330 Grand Avenue, Unit C
 Grand Junction, CO 81501
 970-549-1015

Figure

Table 1
Background Soil Profile Analytical Summary
Wilson Creek
Rio Blanco County, Colorado

LABORATORY DATA SUMMARY														
Sample ID	WC BG-SP1	WC BG-SP1	WC BG-SP1	WC BG-SP2	WC BG-SP2	WC BG-SP2	WC BG-SP3	WC BG-SP3	WC BG-SP3	COGCC TABLE 915-1 CLEANUP CONCENTRATIONS				
Sample Depth	0-6"	6-12"	10"-24"	0-6"	6-12"	12"-24"	0-6"	6-12"	12"-24"					
Sample Type	Background Soil	Background Soil	Background Soil	Background Soil	Background Soil	Background Soil	Background Soil	Background Soil	Background Soil					
Sample Date	8/4/2022	8/4/2022	6/21/2022	8/4/2022	8/4/2022	6/21/2022	8/4/2022	8/10/2022	7/25/2022					
Soil Type	Jerry-Thornburgh-Rhone Complex			Jerry-Thornburgh-Rhone Complex			Mergel-Redthayne-Dollard Complex			Residential Soil Screening Level			Protection of Groundwater Screening Level	UNITS
Analytical Parameters														
Metals														
Arsenic	2.7	4.1	5.55	3.4	1.4	2.16	3.1	3.6	<1.1	0.68	0.29	mg/kg		
Barium	66.6	70.6	94.1	63.3	63.2	107	52.1	69.2	34.3	15,000	82	mg/kg		
Cadmium	0.30	0.33	<0.500	0.46	0.44	0.753	0.30	<0.31	<0.16	71	0.38	mg/kg		
Chromium, Hexavalent	0.58 J	0.5 J	<1.00	0.34 J	0.43 J	<1.00	<1.00	0.74 J	0.36 J	0.3	0.00067	mg/kg		
Copper	10.4	12.0	12.1	16.1	15.2	14.9	13.6	14.5	8.3	3,100	46	mg/kg		
Lead	14.2	19.7	18.9	19.5	15.7	17.5	17.3	18.5	16.4	400	14	mg/kg		
Nickel	12.3	14.0	15.5	16.4	13.7	21.7	10.1	14.3	4.1	1,500	26	mg/kg		
Selenium	<1.1	<2.2	<2.00	<1.5	<1.0	<2.00	<2.0	<2.0	<1.1	390	0.26	mg/kg		
Silver	<0.54	<1.1	<1.00	<0.75	<0.51	<1.00	<1.0	<1.0	<0.54	390	0.8	mg/kg		
Zinc	47.0	66.0	77.4	74.1	56.0	60.7	56.3	69.9	29.6	23,000	370	mg/kg		
Soil Suitability for Reclamation														
Sodium Adsorption Ratio (SAR)	0.2	0.2	1.44	0.10	0.20	1.33	0.20	0.30	0.30	<6	<6	ratio		
Electrical Conductivity (EC)	0.4	0.3	0.0705	0.5000	0.3000	0.320	0.200	0.200	<0.1	<4	<4	mmhos/cm		
pH	6.9	6.8	7.38	7.60	7.90	7.68	6.90	6.80	6.70	6 - 8.3	6 - 8.3	su		
Boron, Hot Water Soluble	0.3	0.2	0.333	0.300	0.200	0.311	0.200	0.200	<0.1	2	2	mg/kg		
Agronomic Properties														
Physical Characteristics														
Sand	32	36	38	16	26	18	30	36	28	NA	NA	%		
Silt	42	32	22	54	48	49	46	32	42	NA	NA	%		
Clay	26	32	40	30	26	33	24	32	30	NA	NA	%		
Texture	L	CL	C	SiCL	L	SiCL	L	CL	CL	NA	NA	NA		
Nutrients														
Phosphorus, Olsen	< 1.0	< 1.0	< 1	2.0	< 1.0	3	1.0	< 1.0	<1.0	NA	NA	mg/kg-dry		
Ammonia as N, KCL Extract	1.7	3.4	2.2	1.2	0.9	2.0	1.0	1.2	1.1	NA	NA	mg/kg-dry		
Nitrate as N, KCL Extract	1.0	< 1.0	<1.0	< 1.0	< 1.0	1.4	< 1.0	< 1.0	<1.0	NA	NA	mg/kg-dry		
Chemical Characteristics														
Cation Exchange Capacity, CEC	18.5 D	20.7 D	19.7	19.4 D	19.6 D	19.6	12.7 D	17.5 D	14.5 D	NA	NA	meq/100g		
Exchangeable Sodium Capacity, ESP	0.4	0.3	0.3	0.4	0.3	0.3	0.5	0.4	0.3	NA	NA	%		
Potassium, Available	350 D	296 D	275 D	346 D	128 D	198 D	246 D	398 D	199 D	NA	NA	mg/kg		
pH, satuarated paste	6.9	6.8	6.4	7.6	7.9	7.5	6.9	6.8	6.7	NA	NA	su		
Organic Matter, OM	3.3	1.7	1.5	2.9	3.7	3.4	1.6	1.2	0.8	NA	NA	%		
Lime as CaCO3	0.87	0.82	0.86	4.29	9.9	10.7	0.69	0.75	0.62	NA	NA	%		
Chloride, 1:2	3.0	3.0	3	5	3	4	3	4	2	NA	NA	mg/kg		
Extractable Metals, ABDTPA														
Copper	1.8	1.2	1.0	1.7	1.4	1.5	1.6	1.2	1.3	NA	NA	mg/kg		
Iron	18.0	13.0	16	12	13	13	12	15	11	NA	NA	mg/kg		
Manganese	2.3	1.4	1.2	6.1	4.1	7.6	3	1.3	0.8	NA	NA	mg/kg		
Zinc	2.0	0.5	0.3	1.2	1.1	1.1	0.6	0.3	0.5	NA	NA	mg/kg		

Notes:
mg/kg - milligrams per kilogram
meq/100g - milliequivalents per 100 grams
su - standard units
NT - parameter was not tested
B - analyte detected in the associated Method Blank above the Reporting Limit
J - the identification of the analyte is acceptable; the reported value is an estimate.
D - Reporting Limit (RL) increased due to sample matrix

Over COGCC Table 915-1 concentration levels but under BACKGROUND level.
Over COGCC Table 915-1 concentration levels and not within BACKGROUND level.
Over COGCC Table 915-1 concentration levels

Table 1
Background Soil Profile Analytical Summary
Wilson Creek
Rio Blanco County, Colorado

LABORATORY DATA SUMMARY												
Sample ID	WC BG-SP4	WC BG-SP4	WC BG-SP4	WC BG-SP5	WC BG-SP5	WC BG-SP5	WC BG-SP6	WC BG-SP6	WC BG-SP6	COGCC TABLE 915-1 CLEANUP CONCENTRATIONS		
Sample Depth	0-6"	6-12"	10"-24"	0-6"	6-12"	12"-24"	0-6"	6-12"	12"-24"			
Sample Type	Background Soil	Background Soil	Background Soil	Background Soil	Background Soil	Background Soil	Background Soil	Background Soil	Background Soil			
Sample Date	8/4/2022	8/4/2022	7/25/2022	8/4/2022	8/4/2022	7/25/2022	8/4/2022	8/4/2022	7/25/2022			
Soil Type	Owen-Creek-Jerry-Bumette Loams			Owen-Creek-Jerry-Bumette Loams			Jerry-Thornburgh-Rhone Complex					
Analytical Parameters										Residential Soil Screening Level	Protection of Groundwater Screening Level	UNITS
Metals												
Arsenic	2.1	1.9	1.7	1.8	2.1	1.8	3.2	2.3	2.8	0.68	0.29	mg/kg
Barium	76.2	26.6	31.0	39.6	42.8	31.7	79.7	35.5	51.1	15,000	82	mg/kg
Cadmium	0.31	0.17	0.290	0.15	0.20	0.200	0.44	<0.17	0.300	71	0.38	mg/kg
Chromium, Hexavalent	0.32 J	0.48 J	0.39 J	0.39 J	0.37 J	<1.00	<1.00	0.35 J	0.41 J	0.3	0.00067	mg/kg
Copper	9.1	5.2	9.1	3.8	4.1	13.6	2.7	11.6	9.2	3,100	46	mg/kg
Lead	9.6	9.7	12.2	7.5	7.9	7.3	16.0	12.7	14.5	400	14	mg/kg
Nickel	7.6	6.2	9.7	5.8	6.1	5.2	13.0	9.4	9.7	1,500	26	mg/kg
Selenium	<1.1	<0.98	<1.0	<0.97	<0.94	<1.0	<1.3	<1.2	<1.1	390	0.26	mg/kg
Silver	<0.53	<0.49	<0.51	<0.49	<0.51	<0.50	<0.64	<0.58	<0.54	390	0.8	mg/kg
Zinc	44.4	35.0	36.9	30.4	32.4	30.5	62.2	49.9	46.4	23,000	370	mg/kg
Soil Suitability for Reclamation												
Sodium Adsorption Ratio (SAR)	< 0.1	0.20	0.40	0.10	0.20	0.20	0.10	0.10	0.30	<6	<6	ratio
Electrical Conductivity (EC)	0.400	0.200	<0.1	0.300	0.300	<0.1	0.400	0.200	0.10	<4	<4	mmhos/cm
pH	6.50	6.30	5.70	7.00	6.90	6.30	7.10	7.00	6.40	6 - 8.3	6 - 8.3	su
Boron, Hot Water Soluble	0.200	< 0.1	<0.1	0.200	0.100	<0.1	0.400	0.300	<0.1	2	2	mg/kg
Agronomic Properties												
Physical Characteristics												
Sand	48	44	32	78	78	72	22	20	36	NA	NA	%
Silt	38	46	50	14	14	18	50	52	34	NA	NA	%
Clay	14	10	18	8	8	10	28	28	30	NA	NA	%
Texture	L	L	SiL	SL	SL	SL	CL	SiCL	CL	NA	NA	NA
Nutrients												
Phosphorus, Olsen	9.0	3.0	1.0	18.0	20.0	9.0	2.0	< 1.0	<1.0	NA	NA	mg/kg-dry
Ammonia as N, KCL Extract	1.2	0.5	0.9	0.8	0.8	0.6	1.3	1.4	1.3	NA	NA	mg/kg-dry
Nitrate as N, KCL Extract	1.5	< 1.0	<1.0	< 1.0	< 1.0	<1.0	1.3	< 1.0	<1.0	NA	NA	mg/kg-dry
Chemical Characteristics												
Cation Exchange Capacity, CEC	20.9 D	7.6 D	11.2 D	10.2 D	10 D	5.1 D	27.5 D	29.2 D	24.5 D	NA	NA	meq/100g
Exchangeable Sodium Capacity, ESP	0.2	0.5	0.4	0.5	0.5	0.8	0.2	0.2	0.3	NA	NA	%
Potassium, Available	272 D	88 D	52	186 D	159 D	55 D	338 D	278 D	87 D	NA	NA	mg/kg
pH, satuarated paste	6.5	6.3	5.7	7	6.9	6.3	7.1	7	6.4	NA	NA	su
Organic Matter, OM	4.9	1.3	1.2	2.2	1.6	0.5	4.9	5	3.6	NA	NA	%
Lime as CaCO3	1	0.39	0.47	0.54	0.5	0.26	1.58	1.4	1.05	NA	NA	%
Chloride, 1:2	3	1	1	3	2	1	2	2	1	NA	NA	mg/kg
Extractable Metals, ABDTPA												
Copper	0.6	0.4	1.2	0.4	0.4	0.2	1.9	1.9	1.9	NA	NA	mg/kg
Iron	46	28	29	19	32	36	33	52	56	NA	NA	mg/kg
Manganese	3	0.7	1	2.4	1.2	0.5	3.3	3	0.5	NA	NA	mg/kg
Zinc	5.7	1	0.4	2.4	1.8	0.7	4.8	4.5	2.8	NA	NA	mg/kg

Notes:
mg/kg - milligrams per kilogram
meq/100g - milliequivalents per 100 grams
su - standard units
NT - parameter was not tested
B - analyte detected in the associated Method Blank above the Reporting Limit
J - the identification of the analyte is acceptable; the reported value is an estimate.
D - Reporting Limit (RL) increased due to sample matrix

Over COGCC Table 915-1 concentration levels but under BACKGROUND level.
Over COGCC Table 915-1 concentration levels and not within BACKGROUND level.
Over COGCC Table 915-1 concentration levels

Table 1
Background Soil Profile Analytical Summary
Wilson Creek
Rio Blanco County, Colorado

LABORATORY DATA SUMMARY												
Sample ID	WC BG-SP7	WC BG-SP7	WC BG-SP7	WC BG-SP8	WC BG-SP8	WC BG-SP8	WC BG-SP9	WC BG-SP9	WC BG-SP9	COGCC TABLE 915-1 CLEANUP CONCENTRATIONS		
Sample Depth	0-6"	6-12"	8-24"	0-6"	6-12"	12-24"	0-6"	6-12"	12-24"			
Sample Type	Background Soil	Background Soil	Background Soil	Background Soil	Background Soil	Background Soil	Background Soil	Background Soil	Background Soil			
Sample Date	8/4/2022	8/4/2022	7/25/2022	8/17/2022	8/17/2022	8/17/2022	8/17/2022	8/17/2022	8/17/2022			
Soil Type	Jerry-Thornburgh-Rhone Complex			Waybe-Vandamore Variant-Rock Outcrop Complex			Owen-Creek-Jerry-Burnette Loams					
Analytical Parameters										Residential Soil Screening Level	Protection of Groundwater Screening Level	UNITS
Metals												
Arsenic	2.3	2.6	2.7	4.52	6.25	4.37	3.71	2.82	2.90	0.68	0.29	mg/kg
Barium	36.7	29.1	31.4	74.2	73.0	86.7	82.9	651	252	15,000	82	mg/kg
Cadmium	0.17	<0.19	<0.16	<1.00	<0.500	<0.500	<0.500	<0.500	<0.500	71	0.38	mg/kg
Chromium, Hexavalent	<1.0	0.51 J	0.45 J	<1.00	<1.00	<1.00	<1.00	1.08	<1.00	0.3	0.00067	mg/kg
Copper	8.5	7.8	11.9	8.5	12.3	11.9	9.45	12.2	12.2	3,100	46	mg/kg
Lead	11.5	12.8	12.5	15.4	15.4	14.9	10.4	13.6	15.0	400	14	mg/kg
Nickel	10.2	9.20	10.1	12.8	18.3	16.2	8.24	3.48	7.45	1,500	26	mg/kg
Selenium	<1.0	<1.3	<1.0	<4.00	<2.00	<2.00	<2.00	<2.00	<2.00	390	0.26	mg/kg
Silver	<0.52	<0.63	<0.52	<2.00	<1.00	<1.00	<1.00	<1.00	<1.00	390	0.8	mg/kg
Zinc	34.0	34.6	37.3	64.9	82.6	62.2	38.8	26.8	42.1	23,000	370	mg/kg
Soil Suitability for Reclamation												
Sodium Adsorption Ratio (SAR)	0.30	0.20	0.30	<0.1	0.1	0.1	0.4	0.4	0.4	<6	<6	ratio
Electrical Conductivity (EC)	0.30	0.20	0.10	0.4	0.3	0.2	0.2	0.1	<0.1	<4	<4	mmhos/cm
pH	7.00	6.70	6.30	6.8	6.7	7.0	5.9	4.9	4.7	6 - 8.3	6 - 8.3	su
Boron, Hot Water Soluble	0.300	0.200	0.10	0.624	0.507	0.519	0.218	<0.200	<0.200	2	2	mg/kg
Agronomic Properties												
Physical Characteristics												
Sand	56	50	46	42	44	32	46	24	18	NA	NA	%
Silt	28	30	32	39	35	31	31	47	55	NA	NA	%
Clay	16	20	22	19	21	37	23	29	27	NA	NA	%
Texture	SL	L	L	L	L	CL	L	CL	SiCL	NA	NA	NA
Nutrients												
Phosphorus, Olsen	1.0	< 1.0	<1.0	7	3	2	1	1	3	NA	NA	mg/kg-dry
Ammonia as N, KCL Extract	0.8	1.1	0.8	1.8	2.0	1.9	3.0	4.6	2.4	NA	NA	mg/kg-dry
Nitrate as N, KCL Extract	< 1.0	< 1.0	<1.0	1.8	<1.0	<1.0	1.0	<1.0	<1.0	NA	NA	mg/kg-dry
Chemical Characteristics												
Cation Exchange Capacity, CEC	12.3 D	11.9 D	12.3 D	18.6 D	15.6 D	22.9 D	17.4 D	16.1 D	13.9 D	NA	NA	meq/100g
Exchangeable Sodium Capacity, ESP	0.5	0.4	0.4	0.3	0.3	0.2	0.3	0.5	0.5	NA	NA	%
Potassium, Available	250 D	252 D	177 D	424 D	343 D	307 D	126 D	97 D	91 D	NA	NA	mg/kg
pH, satuarated paste	7	6.7	6.3	6.8	6.7	7.0	5.9	4.9	4.7	NA	NA	su
Organic Matter, OM	2.3	2.1	1.9	5.2	2.9	1.5	3.5	1.7	1.0	NA	NA	%
Lime as CaCO3	0.65	0.61	0.52	0.95	0.73	1.07	0.67	0.45	0.47	NA	NA	%
Chloride, 1:2	3	2	2	3	2	2	2	2	1	NA	NA	mg/kg
Extractable Metals, ABDTPA												
Copper	1.1	1.5	1.2	1.5	1.1	0.6	1.1	2.3	3.7	NA	NA	mg/kg
Iron	25	23	27	34	24	25	72	145	161	NA	NA	mg/kg
Manganese	1.8	1.4	1.1	6.1	2.4	2.5	1.3	0.7	1.8	NA	NA	mg/kg
Zinc	0.9	0.5	0.5	3	1	<1	3	2	2	NA	NA	mg/kg

Notes:
mg/kg - milligrams per kilogram
meq/100g - milliequivalents per 100 grams
su - standard units
NT - parameter was not tested
B - analyte detected in the associated Method Blank above the Reporting Limit
J - the identification of the analyte is acceptable; the reported value is an estimate.
D - Reporting Limit (RL) increased due to sample matrix

Over COGCC Table 915-1 concentration levels but under BACKGROUND level.
Over COGCC Table 915-1 concentration levels and not within BACKGROUND level.
Over COGCC Table 915-1 concentration levels

Table 1
Background Soil Profile Analytical Summary
Wilson Creek
Rio Blanco County, Colorado

LABORATORY DATA SUMMARY												
Sample ID	WC BG-SP10	WC BG-SP10	WC BG-SP10	WC BG-SP11	WC BG-SP11	WC BG-SP11	WC BG-SP12	WC BG-SP12	WC BG-SP12	COGCC TABLE 915-1 CLEANUP CONCENTRATIONS		
Sample Depth	0-6"	6-12"	12-24"	0-6"	6-12"	12-24"	0-6"	6-12"	12-24"			
Sample Type	Background Sample	Background Sample	Background Sample	Background Sample	Background Sample	Background Sample	Background Sample	Background Sample	Background Sample			
Sample Date	8/17/2022	8/17/2022	8/17/2022	8/17/2022	8/17/2022	8/17/2022	8/17/2022	8/17/2022	8/17/2022			
Soil Type	Owen-Creek-Jerry-Bumette Loams			Owen-Creek-Jerry-Bumette Loams			Owen-Creek-Jerry-Bumette Loams					
Analytical Parameters										Residential Soil Screening Level	Protection of Groundwater Screening Level	UNITS
Metals												
Arsenic	4.95	6.82	4.86	3.12	2.79	2.09	4.04	2.91	4.61	0.68	0.29	mg/kg
Barium	164	194	182	57.5	59.6	71.0	92.5	63.2	82.5	15,000	82	mg/kg
Cadmium	<0.500	0.531	0.507	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	71	0.38	mg/kg
Chromium, Hexavalent	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	0.3	0.00067	mg/kg
Copper	16.1	18.5	17.6	12.7	15.5	17.7	15.5	10.6	15.9	3,100	46	mg/kg
Lead	15.5	19.9	19.1	13.9	15.9	12.6	15.4	11.1	15.9	400	14	mg/kg
Nickel	13.5	17.3	16.8	12.5	10.1	7.43	11.7	8.52	13.0	1,500	26	mg/kg
Selenium	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	390	0.26	mg/kg
Silver	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	390	0.8	mg/kg
Zinc	60.7	86.9	72.9	45.0	44.7	42.9	56.9	41.3	58.8	23,000	370	mg/kg
Soil Suitability for Reclamation												
Sodium Adsorption Ratio (SAR)	<0.1	<0.1	0.2	0.1	0.2	0.3	<0.1	0.1	0.1	<6	<6	ratio
Electrical Conductivity (EC)	0.4	0.4	0.3	0.2	<0.1	0.7	0.3	0.2	0.2	<4	<4	mmhos/cm
pH	7.0	7.3	7.6	6.9	6.6	6.2	6.8	6.8	6.6	6 - 8.3	6 - 8.3	su
Boron, Hot Water Soluble	0.730	0.894	0.427	<0.200	<0.200	<0.200	0.706	0.534	0.457	2	2	mg/kg
Agronomic Properties												
Physical Characteristics												
Sand	18	20	16	52	48	44	36	36	30	NA	NA	%
Silt	51	49	51	29	33	33	45	43	45	NA	NA	%
Clay	31	31	33	19	19	23	19	21	25	NA	NA	%
Texture	SiCL	SiCL	SiCL	L	L	L	L	L	L	NA	NA	NA
Nutrients												
Phosphorus, Olsen	10	2	1	8	3	3	17	6	2	NA	NA	mg/kg-dry
Ammonia as N, KCL Extract	2.4	2.3	2.2	2.8	0.9	1.1	1.6	3.9	3.3	NA	NA	mg/kg-dry
Nitrate as N, KCL Extract	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.4	<1.0	<1.0	NA	NA	mg/kg-dry
Chemical Characteristics												
Cation Exchange Capacity, CEC	40.7 D	41.4 D	28 D	11.7 D	10.8 D	11.2 D	21.9 D	18.1 D	18.6 D	NA	NA	meq/100g
Exchangeable Sodium Capacity, ESP	0.1	0.1	0.3	0.3	0.4	0.4	0.2	0.2	0.3	NA	NA	%
Potassium, Available	385 D	269 D	138 D	151 D	119 D	87 D	480 D	402 D	289 D	NA	NA	mg/kg
pH, satuarated paste	7.0	7.3	7.6	6.9	6.6	6.2	6.8	6.8	6.6	NA	NA	su
Organic Matter, OM	10.7	10.5	4.2	1.2	0.5	0.5	5.2	3.3	2.1	NA	NA	%
Lime as CaCO3	2.16	2.18	3.5	0.70	0.60	0.69	1.05	0.87	0.83	NA	NA	%
Chloride, 1:2	3	2	2	2	1	<1	2	<1	2	NA	NA	mg/kg
Extractable Metals, ABDTPA												
Copper	2.6	2.0	2.5	0.7	0.8	1.0	2.4	2.4	2.2	NA	NA	mg/kg
Iron	41	40	30	18	14	17	44	38	24	NA	NA	mg/kg
Manganese	6.0	6.0	2.8	3.3	1.4	1.4	6.4	4.3	1.9	NA	NA	mg/kg
Zinc	9	8	4	<1	<1	<1	4	3	1	NA	NA	mg/kg

Notes:
mg/kg - milligrams per kilogram
meq/100g - milliequivalents per 100 grams
su - standard units
NT - parameter was not tested
B - analyte detected in the associated Method Blank above the Reporting Limit
J - the identification of the analyte is acceptable; the reported value is an estimate.
D - Reporting Limit (RL) increased due to sample matrix

Over COGCC Table 915-1 concentration levels but under BACKGROUND level.
Over COGCC Table 915-1 concentration levels and not within BACKGROUND level.
Over COGCC Table 915-1 concentration levels

Table 1
Background Soil Profile Analytical Summary
Wilson Creek
Rio Blanco County, Colorado

LABORATORY DATA SUMMARY												
Sample ID	WC BG-SP13	WC BG-SP13	WC BG-SP13	WC BG-SP14	WC BG-SP14	WC BG-SP14	WC BG-SP15	WC BG-SP15	WC BG-SP15	COGCC TABLE 915-1 CLEANUP CONCENTRATIONS		
Sample Depth	0-6"	6-12"	12-24"	0-6"	6-12"	12-24"	0-6"	6-12"	12-24"			
Sample Type	Background Sample	Background Sample	Background Sample	Background Sample	Background Sample	Background Sample	Background Sample	Background Sample	Background Sample			
Sample Date	8/17/2022	8/17/2022	8/17/2022	8/17/2022	8/17/2022	8/17/2022	8/17/2022	8/17/2022	8/17/2022			
Soil Type	Owen-Creek-Jerry-Burnette Loams			Mergel-Redthayne-Dollard Complex			Jerry-Thornburgh-Rhone Complex					
Analytical Parameters										Residential Soil Screening Level	Protection of Groundwater Screening Level	UNITS
Metals												
Arsenic	3.83	3.21	5.71	6.04	4.97	4.25	4.67	4.61	3.76	0.68	0.29	mg/kg
Barium	126	112	105	141	140	115	95.6	90.0	118	15,000	82	mg/kg
Cadmium	<0.500	<0.500	<0.500	0.550	<0.500	0.566	<0.500	<0.500	<0.500	71	0.38	mg/kg
Chromium, Hexavalent	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	0.3	0.00067	mg/kg
Copper	9.82	8.48	11.7	13.5	14.9	15.5	9.01	8.63	7.57	3,100	46	mg/kg
Lead	12.6	11.3	16.7	20.1	19.8	18.2	9.28	9.75	10.1	400	14	mg/kg
Nickel	10.6	9.54	15.1	17.6	15.2	17.4	10.9	11.9	12.0	1,500	26	mg/kg
Selenium	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	390	0.26	mg/kg
Silver	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	390	0.8	mg/kg
Zinc	54.1	43.4	63.8	68.9	67.3	73.9	35.0	38.0	48.7	23,000	370	mg/kg
Soil Suitability for Reclamation												
Sodium Adsorption Ratio (SAR)	<0.1	<0.1	0.1	<0.1	0.2	0.3	<0.1	0.1	0.2	<6	<6	ratio
Electrical Conductivity (EC)	0.3	0.2	0.1	0.6	0.2	0.1	0.9	0.4	0.2	<4	<4	mmhos/cm
pH	6.8	6.6	6.6	7.0	6.9	7.0	6.6	6.2	6.0	6 - 8.3	6 - 8.3	su
Boron, Hot Water Soluble	0.573	0.446	0.276	0.479	0.476	0.353	0.922	0.423	0.302	2	2	mg/kg
Agronomic Properties												
Physical Characteristics												
Sand	38	40	44	42	14	10	36	38	58	NA	NA	%
Silt	37	43	39	27	41	49	43	39	19	NA	NA	%
Clay	25	17	17	31	45	41	21	23	23	NA	NA	%
Texture	L	L	L	CL	SIC	SIC	L	L	SCL	NA	NA	NA
Nutrients												
Phosphorus, Olsen	10	4	2	3	1	<1	26	7	2	NA	NA	mg/kg-dry
Ammonia as N, KCL Extract	2.1	1.8	1.5	3.5	3.7	1.9	2.5	1.3	1.1	NA	NA	mg/kg-dry
Nitrate as N, KCL Extract	1.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA	mg/kg-dry
Chemical Characteristics												
Cation Exchange Capacity, CEC	21.9 D	17.6 D	12.1 D	25.1 D	22.6 D	22.0 D	35.2 D	26.2 D	14.8 D	NA	NA	meq/100g
Exchangeable Sodium Capacity, ESP	0.2	0.2	0.3	0.2	0.2	0.3	0.1	0.1	0.3	NA	NA	%
Potassium, Available	403 D	349 D	217 D	320 D	260 D	137 D	492 D	223 D	96 D	NA	NA	mg/kg
pH, satuarated paste	6.8	6.6	6.6	7.0	6.9	7.0	6.6	6.2	6.0	NA	NA	su
Organic Matter, OM	5.1	3.7	1.6	4.7	2.2	1.4	11.5	5.1	1.2	NA	NA	%
Lime as CaCO3	1.12	0.88	0.67	1.39	1.17	1.11	1.69	1.22	0.69	NA	NA	%
Chloride, 1:2	2	2	1	4	2	1	8	4	2	NA	NA	mg/kg
Extractable Metals, ABDTPA												
Copper	0.8	0.7	0.7	2.2	1.7	2.7	0.9	0.8	0.7	NA	NA	mg/kg
Iron	45	46	27	16	18	23	28	33	15	NA	NA	mg/kg
Manganese	6.5	3.8	2.0	7.2	5.6	0.9	9.8	4.8	2.6	NA	NA	mg/kg
Zinc	3	2	<1	3	<1	2	2	<1	<1	NA	NA	mg/kg

Notes:
mg/kg - milligrams per kilogram
meq/100g - milliequivalents per 100 grams
su - standard units
NT - parameter was not tested
B - analyte detected in the associated Method Blank above the Reporting Limit
J - the identification of the analyte is acceptable; the reported value is an estimate.
D - Reporting Limit (RL) increased due to sample matrix

Over COGCC Table 915-1 concentration levels but under BACKGROUND level.
Over COGCC Table 915-1 concentration levels and not within BACKGROUND level.
Over COGCC Table 915-1 concentration levels

Table 1
Background Soil Profile Analytical Summary
Wilson Creek
Rio Blanco County, Colorado

LABORATORY DATA SUMMARY												
Sample ID	WC BG-SP16	WC BG-SP16	WC BG-SP16	WC BG-SP17	WC BG-SP17	WC BG-SP17	WC BG-SP18	WC BG-SP18	WC BG-SP18	COGCC TABLE 915-1 CLEANUP CONCENTRATIONS		
Sample Depth	0-6"	6-12"	12-24"	0-6"	6-12"	12-24"	0-6"	6-12"	12-24"			
Sample Type	Background Sample	Background Sample	Background Sample	Background Sample	Background Sample	Background Sample	Background Sample	Background Sample	Background Sample			
Sample Date	8/17/2022	8/17/2022	8/17/2022	8/17/2022	8/17/2022	8/17/2022	9/20/2022	9/20/2022	9/20/2022			
Soil Type	Owen-Creek-Jerry-Burnette Loams			Jerry-Thornburgh-Rhone Complex			Mergel-Redthayne-Dollard Complex					
Analytical Parameters										Residential Soil Screening Level	Protection of Groundwater Screening Level	UNITS
Metals												
Arsenic	4.40	4.38	13.8	1.32	2.53	2.27	2.6	3.6	3.2	0.68	0.29	mg/kg
Barium	113	105	188	41.8	41.2	60.4	49.9	63.0	54.6	15,000	82	mg/kg
Cadmium	<0.500	0.888	1.26	<0.500	<0.500	<0.500	0.250	<0.35	<0.32	71	0.38	mg/kg
Chromium, Hexavalent	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	0.96 J	<1.0	0.45 J	0.3	0.00067	mg/kg
Copper	13.0	26.8	14.0	6.53	7.59	10.1	16.1	17	16.1	3,100	46	mg/kg
Lead	15.4	37.6	36.2	8.47	9.88	11.6	13.1	17.8	16.8	400	14	mg/kg
Nickel	13.2	25.7	25.0	4.18	8.90	8.55	9.8	15.5	12.6	1,500	26	mg/kg
Selenium	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<1.2	<2.3	<2.1	390	0.26	mg/kg
Silver	<1.00	<1.0	<1.00	<1.00	<1.00	<1.00	<0.60	<1.2	<1.1	390	0.8	mg/kg
Zinc	58.5	100	136	32.2	41.1	49.7	41	70.1	67.2	23,000	370	mg/kg
Soil Suitability for Reclamation												
Sodium Adsorption Ratio (SAR)	0.1	0.2	0.4	<0.1	<0.1	<0.1	0.1	<0.1	0.2	<6	<6	ratio
Electrical Conductivity (EC)	0.4	0.3	0.3	0.7	0.6	0.6	0.4	0.4	0.3	<4	<4	mmhos/cm
pH	6.9	7.5	8.0	6.8	7.2	7.2	7.3	7.2	7.1	6 - 8.3	6 - 8.3	su
Boron, Hot Water Soluble	0.708	0.410	0.288	0.498	0.285	0.538	0.500	0.200	0.300	2	2	mg/kg
Agronomic Properties												
Physical Characteristics												
Sand	30	12	18	46	36	38	50	46	28	NA	NA	%
Silt	47	53	39	35	45	43	36	34	40	NA	NA	%
Clay	23	35	43	19	19	19	14	20	32	NA	NA	%
Texture	L	SiCL	C	L	L	L	L	L	CL	NA	NA	NA
Nutrients												
Phosphorus, Olsen	12.0	2	<1	8	4	5	2	<1.0	<1	NA	NA	mg/kg-dry
Ammonia as N, KCL Extract	2.7	1.9	4.0	6.0	5.0	2.8	0.7	<0.5	<0.5	NA	NA	mg/kg-dry
Nitrate as N, KCL Extract	1.3	<1.0	<1.0	3.0	2.0	3.0	2.9	<1.0	<1.0	NA	NA	mg/kg-dry
Chemical Characteristics												
Cation Exchange Capacity, CEC	26.0 D	18.1 D	21.6 D	14.0 D	22.1 D	18.3 D	16.8	13.9	20.7	NA	NA	meq/100g
Exchangeable Sodium Capacity, ESP	0.1	0.6	0.9	0.3	0.1	0.3	0.4	0.4	0.3	NA	NA	%
Potassium, Available	391 D	213 D	167 D	367 D	278 D	416 D	297 D	239 D	302 D	NA	NA	mg/kg
pH, satuarated paste	6.9	7.5	8.0	6.8	7.2	7.2	7.3	7.2	7.1	NA	NA	su
Organic Matter, OM	5.2	1.4	3.7	4.7	5.2	4.4	4.5	1.3	1.1	NA	NA	%
Lime as CaCO3	1.40	1.16	2.45	1.47	1.47	1.34	0.9	1.94	0.79	NA	NA	%
Chloride, 1:2	3	1	1	3	2	2	7	3	2	NA	NA	mg/kg
Extractable Metals, ABDTPA												
Copper	1.4	2.1	2.8	1.3	1.7	1.5	1.2	1.3	1.5	NA	NA	mg/kg
Iron	26	19	18	16	27	25	13	12	16	NA	NA	mg/kg
Manganese	5.4	1.5	0.5	5.9	5.1	3.9	7.6	3.4	2.2	NA	NA	mg/kg
Zinc	5	2	6	6	10	8	1.3	0.5	0.4	NA	NA	mg/kg

Notes:
mg/kg - milligrams per kilogram
meq/100g - milliequivalents per 100 grams
su - standard units
NT - parameter was not tested
B - analyte detected in the associated Method Blank above the Reporting Limit
J - the identification of the analyte is acceptable; the reported value is an estimate.
D - Reporting Limit (RL) increased due to sample matrix

Over COGCC Table 915-1 concentration levels but under BACKGROUND level.
Over COGCC Table 915-1 concentration levels and not within BACKGROUND level.
Over COGCC Table 915-1 concentration levels

Table 1
Background Soil Profile Analytical Summary
Wilson Creek
Rio Blanco County, Colorado

LABORATORY DATA SUMMARY												
Sample ID	WC BG-SP19	WC BG-SP19	WC BG-SP19	WC BG-SP20	WC BG-SP20	WC BG-SP20	WC BG-SP21	WC BG-SP21	WC BG-SP21	COGCC TABLE 915-1 CLEANUP CONCENTRATIONS		
Sample Depth	0-6"	6-12"	12-24"	0-6"	6-12"	12-24"	0-6"	6-12"	12-24"			
Sample Type	Background Sample	Background Sample	Background Sample	Background Sample	Background Sample	Background Sample	Background Sample	Background Sample	Background Sample			
Sample Date	9/20/2022	9/20/2022	9/20/2022	9/28/2022	9/28/2022	9/28/2022	9/28/2022	9/28/2022	9/28/2022			
Soil Type	Rhone-Northwater-Lamphier Loams			Blazon, Moist-Rentsac Complex			Blazon, Moist-Rentsac Complex					
Analytical Parameters										Residential Soil Screening Level	Protection of Groundwater Screening Level	UNITS
Metals												
Arsenic	2.3	2.9	2.8	3.0	2.9	2.6	3.4	3.3	3.1	0.68	0.29	mg/kg
Barium	35.6	31.8	32.0	55.6	56.7	54.7	78.1	74.5	88.7	15,000	82	mg/kg
Cadmium	0.170	<0.31	<0.31	0.33	0.36	0.28	0.32	0.32	0.34	71	0.38	mg/kg
Chromium, Hexavalent	0.62 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.3	0.00067	mg/kg
Copper	9.5	13	9.7	9.1	9.8	8.3	10.9	10.8	11.4	3,100	46	mg/kg
Lead	10.8	14.4	12.6	11.5	11.3	11.1	12.9	12.7	13.2	400	14	mg/kg
Nickel	9.4	12.3	10.2	10.2	10.2	10.0	11.7	11.7	12.4	1,500	26	mg/kg
Selenium	<1.1	<2.1	<2.0	<1.1	<0.99	<0.95	<1.0	<1.1	<1.0	390	0.26	mg/kg
Silver	<0.55	<1.0	<1.0	<0.54	<0.49	<0.48	<0.52	<0.55	<0.50	390	0.8	mg/kg
Zinc	45.8	58.9	50.2	56.7	50.2	48.7	47.7	49	57.2	23,000	370	mg/kg
Soil Suitability for Reclamation												
Sodium Adsorption Ratio (SAR)	<0.1	<0.1	0.10	<0.10	<0.10	<0.10	0.10	<0.1	<0.1	<6	<6	ratio
Electrical Conductivity (EC)	0.50	0.40	0.10	0.40	0.30	0.30	0.30	0.30	0.20	<4	<4	mmhos/cm
pH	6.80	6.60	6.90	7.40	7.40	7.60	7.70	7.70	7.80	6 - 8.3	6 - 8.3	su
Boron, Hot Water Soluble	0.40	0.10	0.10	0.30	0.20	0.10	0.30	0.20	0.10	2	2	mg/kg
Agronomic Properties												
Physical Characteristics												
Sand	38	48	56	50	48	56	46	46	44	NA	NA	%
Silt	46	36	28	33	34	28	38	36	37	NA	NA	%
Clay	16	16	16	17	18	16	16	18	19	NA	NA	%
Texture	L	L	SL	L	L	SL	L	L	L	NA	NA	NA
Nutrients												
Phosphorus, Olsen	3.0	<1	<1.0	3.0	1.0	1.0	7.0	3.0	2.0	NA	NA	mg/kg-dry
Ammonia as N, KCL Extract	<0.5	<0.5	0.6	1.2	0.6	0.6	0.6	0.7	0.7	NA	NA	mg/kg-dry
Nitrate as N, KCL Extract	<1.0	<1.0	<1.0	3.3	<1.0	<1.0	2.4	1.8	<1.0	NA	NA	mg/kg-dry
Chemical Characteristics												
Cation Exchange Capacity, CEC	15.1	8.94	8.93	15.6 D	14.5 D	11.2 D	12 D	13.5 D	11.1 D	NA	NA	meq/100g
Exchangeable Sodium Capacity, ESP	0.3	0.7	0.8	0.3	0.4	0.5	0.4	0.4	0.6	NA	NA	%
Potassium, Available	183 D	124 D	121 D	296 D	199 D	165 D	299 D	298 D	206 D	NA	NA	mg/kg
pH, satuarated paste	6.8	6.6	6.9	7.4	7.4	7.6	7.7	7.7	7.8	NA	NA	su
Organic Matter, OM	2.9	0.4	0.6	3.8	2.6	1.8	2.8	2.3	1.5	NA	NA	%
Lime as CaCO3	0.58	0.4	0.47	1.08	0.9	0.79	1.48	0.98	0.9	NA	NA	%
Chloride, 1:2	30	34	3	5	2	1	1	2	2	NA	NA	mg/kg
Extractable Metals, ABDTPA												
Copper	0.5	0.3	0.3	1.6	2.1	1.3	2.0	2.1	2.0	NA	NA	mg/kg
Iron	17	10	11	15	11	9	16	14	10	NA	NA	mg/kg
Manganese	8.9	2.1	2.5	3.1	1.8	0.8	4.7	2.7	0.8	NA	NA	mg/kg
Zinc	1.3	0.3	0.3	2.5	3	1.4	1.6	1.6	1.4	NA	NA	mg/kg

Notes:
mg/kg - milligrams per kilogram
meq/100g - milliequivalents per 100 grams
su - standard units
NT - parameter was not tested
B - analyte detected in the associated Method Blank above the Reporting Limit
J - the identification of the analyte is acceptable; the reported value is an estimate.
D - Reporting Limit (RL) increased due to sample matrix

Over COGCC Table 915-1 concentration levels but under BACKGROUND level.
Over COGCC Table 915-1 concentration levels and not within BACKGROUND level.
Over COGCC Table 915-1 concentration levels

Table 1
Background Soil Profile Analytical Summary
Wilson Creek
Rio Blanco County, Colorado

LABORATORY DATA SUMMARY						
Sample ID	WC BG-SP22	WC BG-SP22	WC BG-SP22	COGCC TABLE 915-1 CLEANUP CONCENTRATIONS		
Sample Depth	0-6"	6-12"	12-24"			
Sample Type	Background Sample	Background Sample	Background Sample			
Sample Date	9/28/2022	9/28/2022	9/28/2022			
Soil Type	Blazon, Moist-Rentsac Complex					
Analytical Parameters				Residential Soil Screening Level	Protection of Groundwater Screening Level	UNITS
Metals						
Arsenic	7.5	4.1	3.5	0.68	0.29	mg/kg
Barium	101.0	96.2	125.0	15,000	82	mg/kg
Cadmium	0.43	0.29	0.27	71	0.38	mg/kg
Chromium, Hexavalent	<1.0	0.51 J	<1.0	0.3	0.00067	mg/kg
Copper	17.5	15.6	14.5	3,100	46	mg/kg
Lead	19.3	17.9	19.5	400	14	mg/kg
Nickel	14.5	11.7	9.8	1,500	26	mg/kg
Selenium	<1.1	<0.98	<1.0	390	0.26	mg/kg
Silver	<0.53	<0.49	<0.52	390	0.8	mg/kg
Zinc	67.8	52.4	46.4	23,000	370	mg/kg
Soil Suitability for Reclamation						
Sodium Adsorption Ratio (SAR)	0.10	0.10	0.20	<6	<6	ratio
Electrical Conductivity (EC)	0.60	0.40	0.50	<4	<4	mmhos/cm
pH	7.80	7.80	8.00	6 - 8.3	6 - 8.3	su
Boron, Hot Water Soluble	0.70	0.50	0.40	2	2	mg/kg
Agronomic Properties						
Physical Characteristics						
Sand	0.1	0.1	0.2	NA	NA	%
Silt	0.6	0.4	0.5	NA	NA	%
Clay	7.8	7.8	8	NA	NA	%
Texture	0.7	0.5	0.4	NA	NA	NA
Nutrients						
Phosphorus, Olsen	3.0	1.0	<1	NA	NA	mg/kg-dry
Ammonia as N, KCL Extract	1.0	0.8	<0.5	NA	NA	mg/kg-dry
Nitrate as N, KCL Extract	5.7	<1.0	<1.0	NA	NA	mg/kg-dry
Chemical Characteristics						
Cation Exchange Capacity, CEC	19.8 D	12 D	11.7 D	NA	NA	meq/100g
Exchangeable Sodium Capacity, ESP	0.4	0.5	0.9	NA	NA	%
Potassium, Available	676 D	397 D	124 D	NA	NA	mg/kg
pH, satuarated paste	7.8	7.8	8	NA	NA	su
Organic Matter, OM	4.8	1.9	1.2	NA	NA	%
Lime as CaCO3	7.11	9.7	15.4	NA	NA	%
Chloride, 1:2	8	5	31	NA	NA	mg/kg
Extractable Metals, ABDTPA						
Copper	3.4	3.1	2.6	NA	NA	mg/kg
Iron	11	8	4	NA	NA	mg/kg
Manganese	7.3	1.6	0.5	NA	NA	mg/kg
Zinc	2.4	0.6	0.1	NA	NA	mg/kg

Notes:
mg/kg - milligrams per kilogram
meq/100g - milliequivalents per 100 grams
su - standard units
NT - parameter was not tested
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J - the identification of the analyte is acceptable; the reported value is an estimate.
D - Reporting Limit (RL) increased due to sample matrix

Over COGCC Table 915-1 concentration levels but under BACKGROUND level.
Over COGCC Table 915-1 concentration levels and not within BACKGROUND level.
Over COGCC Table 915-1 concentration levels

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		1.00	1	09/08/2022 18:13	WG1920931

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	82.5		0.500	1	08/25/2022 13:08	WG1913978
Cadmium	ND		0.500	1	08/25/2022 13:08	WG1913978
Copper	15.9		2.00	1	08/25/2022 13:08	WG1913978
Lead	15.9		0.500	1	08/25/2022 13:08	WG1913978
Nickel	13.0		2.00	1	08/25/2022 13:08	WG1913978
Selenium	ND		2.00	1	08/25/2022 13:08	WG1913978
Silver	ND		1.00	1	08/25/2022 13:08	WG1913978
Zinc	58.8		5.00	1	08/25/2022 13:08	WG1913978

Metals (ICP) by Method 6010B-NE493 Ch 2

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.457		0.200	1	08/26/2022 13:46	WG1914112

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	4.61		1.00	5	08/24/2022 00:38	WG1913977

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc



LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Entrada Consulting Group
Project: Chevron Wilson Creek Background Soil
Lab ID: H22080640-013
Client Sample ID: WC BG-SP12 [0-6]

Report Date: 08/26/22
Collection Date: 08/17/22 13:30
Date Received: 08/19/22
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	36	%		1		ASA15-5	08/23/22 08:46 / jjp
Silt	45	%		1		ASA15-5	08/23/22 08:46 / jjp
Clay	19	%		1		ASA15-5	08/23/22 08:46 / jjp
Texture	L			1		ASA15-5	08/23/22 08:46 / jjp
SATURATED PASTE							
Saturation	47.6	%		0.1		USDA27a	08/23/22 07:49 / swj
SATURATED PASTE							
pH, sat. paste	6.8	s.u.		0.1		ASA10-3	08/23/22 08:59 / sah
WATER EXTRACTABLE							
Chloride, 1:2	2	mg/kg		1		E300.0	08/23/22 23:56 / SRW
SATURATED PASTE EXTRACT							
Conductivity, sat. paste	0.3	mmhos/cm		0.1		ASA10-3	08/23/22 13:21 / sah
Sodium, sat. paste	0.10	meq/L		0.04		SW6010B	08/24/22 16:04 / sld
Sodium Adsorption Ratio (SAR)	ND	unitless		0.1		USDA20b	08/25/22 08:49 / stp
CHEMICAL CHARACTERISTICS							
Sodium	11	mg/kg	D	2		SW6010B	08/25/22 17:50 / sld
Potassium, Available	480	mg/kg	D	6		SW6010B	08/25/22 17:50 / sld
Sodium, Extractable	0.048	meq/100g	D	0.009		SW6010B	08/25/22 17:50 / sld
Cation Exchange Capacity	21.9	meq/100g	D	0.6		SW6010B	08/24/22 04:03 / sld
Organic Matter	5.2	%		0.2		ASA29-3	08/25/22 08:39 / sah
Exchangeable Sodium Percentage	0.2	%		0.1		USDA20a	08/25/22 08:49 / stp
Lime as CaCO ₃	1.05	%		0.01		USDA23c	08/23/22 14:02 / jjp
NUTRIENTS							
Phosphorus, Olsen	17	mg/kg-dry		1		ASA24-5	08/25/22 19:04 / SRW
Ammonia as N, KCL Extract	1.6	mg/kg-dry		0.5		ASA33-7	08/24/22 12:22 / SRW
Nitrate as N, KCL Extract	2.4	mg/kg-dry		1.0		ASA33-8	08/24/22 16:11 / SRW
CACL2 EXTRACTABLE METALS							
Boron	0.7	mg/kg		0.1		SW6010B	08/23/22 10:42 / sld
ABDTPA EXTRACTABLE METALS							
Copper	2.4	mg/kg		0.1		SW6020	08/23/22 12:42 / dck
Iron	44	mg/kg		1		SW6020	08/23/22 12:42 / dck
Manganese	6.4	mg/kg		0.1		SW6020	08/23/22 12:42 / dck
Zinc	4	mg/kg		1		SW6020	08/23/22 12:42 / dck

Report RL - Analyte Reporting Limit
Definitions: QCL - Quality Control Limit
B - Analyte detected in the method blank

MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
D - Reporting Limit (RL) increased due to sample matrix

PHOTOGRAPHIC LOG

Project Name: WC Unit 2	Site Location: Wilson Creek Unit 2 - Facility Closure	Project Number: 023-040
Facility: WC Unit 2 Description: Wellhead excavation and wellhead View looking north. Date: 9/11/2024		
Facility: WC Unit 2 Description: Wellhead excavation and wellhead View looking north-northeast. Date: 9/11/2024		

Project Name: WC Unit 2	Site Location: Wilson Creek Unit 2 - Facility Closure	Project Number: 023-040
Facility: WC Unit 2 Description: Wellhead excavation and wellhead View looking southwest. Date: 9/11/2024		
Facility: WC Unit 2 Description: West wall resample. View looking west. Date: 10/17/2024		

LABORATORY ANALYTICAL REPORTS

Entrada Consulting Group

Sample Delivery Group: L1777377
Samples Received: 09/13/2024
Project Number:
Description: Wilson Creek Unit 2

Report To: Tim Dobransky
330 Grand Avenue
Suite C
Grand Junction, CO 81501

Entire Report Reviewed By:



Chris Ward
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

Pace Analytical National

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

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

SAMPLE SUMMARY

UNIT 2 WH SBASE (20') L1777377-01 Solid

Collected by
T. Dobransky

Collected date/time
09/11/24 10:45

Received date/time
09/13/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2365123	1	09/19/24 01:50	09/19/24 01:50	MAP	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2363335	1	09/16/24 13:24	09/17/24 00:26	VSS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2365506	1	09/19/24 07:40	09/20/24 11:54	KA	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2365519	1	09/19/24 08:07	09/21/24 14:57	KA	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2365132	1	09/18/24 17:24	09/19/24 00:32	MAP	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2362675	5	09/15/24 10:49	09/15/24 17:28	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2363051	1	09/14/24 19:04	09/16/24 00:54	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2363062	1	09/14/24 19:04	09/16/24 01:54	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2364514	1	09/18/24 06:33	09/18/24 15:53	KKS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2363766	1	09/18/24 06:45	09/18/24 17:02	ALM	Mt. Juliet, TN

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

UNIT 2 WH NBASE (21') L1777377-02 Solid

Collected by
T. Dobransky

Collected date/time
09/11/24 10:55

Received date/time
09/13/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2365123	1	09/19/24 01:52	09/19/24 01:52	MAP	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2363335	1	09/16/24 13:24	09/17/24 00:32	VSS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2365506	1	09/19/24 07:40	09/20/24 11:54	KA	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2365519	1	09/19/24 08:07	09/21/24 14:57	KA	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2365132	1	09/18/24 17:24	09/19/24 00:34	MAP	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2362675	5	09/15/24 10:49	09/15/24 17:31	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2363051	1	09/14/24 19:04	09/16/24 01:13	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2363062	1	09/14/24 19:04	09/16/24 02:13	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2364514	1	09/18/24 06:33	09/18/24 16:06	KKS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2363766	1	09/18/24 06:45	09/18/24 17:54	ALM	Mt. Juliet, TN

⁷Gl

⁸Al

⁹Sc

UNIT 2 WH EW (15') L1777377-03 Solid

Collected by
T. Dobransky

Collected date/time
09/11/24 11:05

Received date/time
09/13/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2365123	1	09/19/24 01:54	09/19/24 01:54	MAP	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2363335	1	09/16/24 13:24	09/17/24 00:38	VSS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2365506	1	09/19/24 07:40	09/20/24 11:54	KA	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2365519	1	09/19/24 08:07	09/21/24 14:57	KA	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2365132	5	09/18/24 17:24	09/19/24 00:36	MAP	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2362675	5	09/15/24 10:49	09/15/24 17:35	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2363051	1	09/14/24 19:04	09/16/24 01:37	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2363062	1	09/14/24 19:04	09/16/24 02:31	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2364514	1	09/18/24 06:33	09/18/24 19:49	KKS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2363766	1	09/18/24 06:45	09/18/24 18:11	ALM	Mt. Juliet, TN

Collected by
T. Dobransky

Collected date/time
09/11/24 11:10

Received date/time
09/13/24 09:00

UNIT 2 WH NW (14') L1777377-04 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2365123	1	09/19/24 01:55	09/19/24 01:55	MAP	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2363335	1	09/16/24 13:24	09/17/24 00:44	VSS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2365506	1	09/19/24 07:40	09/20/24 11:54	KA	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2365519	1	09/19/24 08:07	09/21/24 14:57	KA	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2365132	1	09/18/24 17:24	09/19/24 00:38	MAP	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2362675	5	09/15/24 10:49	09/15/24 17:46	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2363051	1	09/14/24 19:04	09/16/24 01:56	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2363062	1	09/14/24 19:04	09/16/24 02:50	DWR	Mt. Juliet, TN

SAMPLE SUMMARY

UNIT 2 WH NW (14') L1777377-04 Solid

Collected by
T. Dobransky

Collected date/time
09/11/24 11:10

Received date/time
09/13/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2364514	1	09/18/24 06:33	09/18/24 16:19	KKS	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2364514	5	09/18/24 06:33	09/18/24 20:41	KKS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2363766	1	09/18/24 06:45	09/18/24 18:28	ALM	Mt. Juliet, TN



UNIT 2 WH WW (15') L1777377-05 Solid

Collected by
T. Dobransky

Collected date/time
09/11/24 11:20

Received date/time
09/13/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2365123	1	09/19/24 01:57	09/19/24 01:57	MAP	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2364630	1	09/19/24 07:27	09/20/24 10:21	ANW	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2365506	1	09/19/24 07:40	09/20/24 11:54	KA	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2365519	1	09/19/24 08:07	09/21/24 14:57	KA	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2365132	1	09/18/24 17:24	09/19/24 00:40	MAP	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2362675	5	09/15/24 10:49	09/15/24 17:49	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2363051	1	09/14/24 19:04	09/16/24 02:15	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2363062	1	09/14/24 19:04	09/16/24 03:08	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2364514	1	09/18/24 06:33	09/18/24 14:21	KKS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2363766	1	09/18/24 06:45	09/18/24 18:46	ALM	Mt. Juliet, TN

UNIT 2 WH SW (14') L1777377-06 Solid

Collected by
T. Dobransky

Collected date/time
09/11/24 11:25

Received date/time
09/13/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2365123	1	09/19/24 01:59	09/19/24 01:59	MAP	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2364630	1	09/19/24 07:27	09/20/24 10:39	ANW	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2365506	1	09/19/24 07:40	09/20/24 11:54	KA	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2365519	1	09/19/24 08:07	09/21/24 14:57	KA	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2365132	1	09/18/24 17:24	09/19/24 00:46	MAP	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2362675	5	09/15/24 10:49	09/15/24 17:52	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2363051	1	09/14/24 19:04	09/16/24 02:35	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2363062	1	09/14/24 19:04	09/16/24 03:27	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2364514	1	09/18/24 06:33	09/18/24 15:14	KKS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2363766	1	09/18/24 06:45	09/18/24 19:03	ALM	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.



Chris Ward
Project Manager



Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	2.71		1	09/19/2024 01:50	WG2365123

1
Cp

2
Tc

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		1.00	1	09/17/2024 00:26	WG2363335

3
Ss

4
Cn

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.13	T8	1	09/20/2024 11:54	WG2365506

5
Sr

6
Qc

Sample Narrative:

L1777377-01 WG2365506: 8.13 at 22.1C

7
Gl

Wet Chemistry by Method 9050AMod

Analyte	Result	Units	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	1590	umhos/cm		10.0	1	09/21/2024 14:57	WG2365519

8
Al

9
Sc

Sample Narrative:

L1777377-01 WG2365519: at 25C

Metals (ICP) by Method 6010B-NE493 Ch 2

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.260		0.200	1	09/19/2024 00:32	WG2365132

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	5.35		1.00	5	09/15/2024 17:28	WG2362675
Barium	89.2		2.50	5	09/15/2024 17:28	WG2362675
Cadmium	ND		1.00	5	09/15/2024 17:28	WG2362675
Copper	17.7		5.00	5	09/15/2024 17:28	WG2362675
Lead	23.7		2.00	5	09/15/2024 17:28	WG2362675
Nickel	12.8		2.50	5	09/15/2024 17:28	WG2362675
Selenium	ND		2.50	5	09/15/2024 17:28	WG2362675
Silver	ND		0.500	5	09/15/2024 17:28	WG2362675
Zinc	72.6		25.0	5	09/15/2024 17:28	WG2362675

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	09/16/2024 00:54	WG2363051
(S) a,a,a-Trifluorotoluene(FID)	92.9		77.0-120		09/16/2024 00:54	WG2363051

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	09/16/2024 01:54	WG2363062
Toluene	ND		0.00500	1	09/16/2024 01:54	WG2363062
Ethylbenzene	ND		0.00250	1	09/16/2024 01:54	WG2363062
Xylenes, Total	ND		0.00650	1	09/16/2024 01:54	WG2363062
1,2,4-Trimethylbenzene	ND		0.00500	1	09/16/2024 01:54	WG2363062
1,3,5-Trimethylbenzene	ND		0.00500	1	09/16/2024 01:54	WG2363062
(S) Toluene-d8	103		75.0-131		09/16/2024 01:54	WG2363062
(S) 4-Bromofluorobenzene	97.9		67.0-138		09/16/2024 01:54	WG2363062
(S) 1,2-Dichloroethane-d4	104		70.0-130		09/16/2024 01:54	WG2363062

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	51.8		4.00	1	09/18/2024 15:53	WG2364514
C28-C36 Motor Oil Range	108		4.00	1	09/18/2024 15:53	WG2364514
(S) o-Terphenyl	36.2		18.0-148		09/18/2024 15:53	WG2364514

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00600	1	09/18/2024 17:02	WG2363766
Anthracene	ND		0.00600	1	09/18/2024 17:02	WG2363766
Benzo(a)anthracene	ND		0.00600	1	09/18/2024 17:02	WG2363766
Benzo(b)fluoranthene	ND		0.00600	1	09/18/2024 17:02	WG2363766
Benzo(k)fluoranthene	ND		0.00600	1	09/18/2024 17:02	WG2363766
Benzo(a)pyrene	ND		0.00600	1	09/18/2024 17:02	WG2363766
Chrysene	ND		0.00600	1	09/18/2024 17:02	WG2363766
Dibenz(a,h)anthracene	ND		0.00600	1	09/18/2024 17:02	WG2363766
Fluoranthene	ND		0.00600	1	09/18/2024 17:02	WG2363766
Fluorene	ND		0.00600	1	09/18/2024 17:02	WG2363766
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	09/18/2024 17:02	WG2363766
1-Methylnaphthalene	ND		0.0200	1	09/18/2024 17:02	WG2363766
2-Methylnaphthalene	ND		0.0200	1	09/18/2024 17:02	WG2363766
Naphthalene	ND		0.0200	1	09/18/2024 17:02	WG2363766
Pyrene	ND		0.00600	1	09/18/2024 17:02	WG2363766
(S) p-Terphenyl-d14	41.4		23.0-120		09/18/2024 17:02	WG2363766
(S) Nitrobenzene-d5	42.4		14.0-149		09/18/2024 17:02	WG2363766
(S) 2-Fluorobiphenyl	39.4		34.0-125		09/18/2024 17:02	WG2363766

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	3.20		1	09/19/2024 01:52	WG2365123

1
Cp

2
Tc

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		1.00	1	09/17/2024 00:32	WG2363335

3
Ss

4
Cn

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.29	T8	1	09/20/2024 11:54	WG2365506

5
Sr

6
Qc

Sample Narrative:

L1777377-02 WG2365506: 8.29 at 21.3C

7
Gl

8
Al

Wet Chemistry by Method 9050AMod

Analyte	Result	Units	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	1350	umhos/cm		10.0	1	09/21/2024 14:57	WG2365519

9
Sc

Sample Narrative:

L1777377-02 WG2365519: at 25C

Metals (ICP) by Method 6010B-NE493 Ch 2

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.256		0.200	1	09/19/2024 00:34	WG2365132

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.86		1.00	5	09/15/2024 17:31	WG2362675
Barium	89.0		2.50	5	09/15/2024 17:31	WG2362675
Cadmium	ND		1.00	5	09/15/2024 17:31	WG2362675
Copper	14.2		5.00	5	09/15/2024 17:31	WG2362675
Lead	19.1		2.00	5	09/15/2024 17:31	WG2362675
Nickel	11.3		2.50	5	09/15/2024 17:31	WG2362675
Selenium	ND		2.50	5	09/15/2024 17:31	WG2362675
Silver	ND		0.500	5	09/15/2024 17:31	WG2362675
Zinc	63.5		25.0	5	09/15/2024 17:31	WG2362675

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	09/16/2024 01:13	WG2363051
(S) a,a,a-Trifluorotoluene(FID)	91.3		77.0-120		09/16/2024 01:13	WG2363051

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	09/16/2024 02:13	WG2363062
Toluene	ND		0.00500	1	09/16/2024 02:13	WG2363062
Ethylbenzene	ND		0.00250	1	09/16/2024 02:13	WG2363062
Xylenes, Total	ND		0.00650	1	09/16/2024 02:13	WG2363062
1,2,4-Trimethylbenzene	ND		0.00500	1	09/16/2024 02:13	WG2363062
1,3,5-Trimethylbenzene	ND		0.00500	1	09/16/2024 02:13	WG2363062
(S) Toluene-d8	101		75.0-131		09/16/2024 02:13	WG2363062
(S) 4-Bromofluorobenzene	98.4		67.0-138		09/16/2024 02:13	WG2363062
(S) 1,2-Dichloroethane-d4	93.9		70.0-130		09/16/2024 02:13	WG2363062

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	44.2		4.00	1	09/18/2024 16:06	WG2364514
C28-C36 Motor Oil Range	107		4.00	1	09/18/2024 16:06	WG2364514
(S) o-Terphenyl	38.4		18.0-148		09/18/2024 16:06	WG2364514

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00600	1	09/18/2024 17:54	WG2363766
Anthracene	ND		0.00600	1	09/18/2024 17:54	WG2363766
Benzo(a)anthracene	ND		0.00600	1	09/18/2024 17:54	WG2363766
Benzo(b)fluoranthene	ND		0.00600	1	09/18/2024 17:54	WG2363766
Benzo(k)fluoranthene	ND		0.00600	1	09/18/2024 17:54	WG2363766
Benzo(a)pyrene	ND		0.00600	1	09/18/2024 17:54	WG2363766
Chrysene	ND		0.00600	1	09/18/2024 17:54	WG2363766
Dibenz(a,h)anthracene	ND		0.00600	1	09/18/2024 17:54	WG2363766
Fluoranthene	ND		0.00600	1	09/18/2024 17:54	WG2363766
Fluorene	ND		0.00600	1	09/18/2024 17:54	WG2363766
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	09/18/2024 17:54	WG2363766
1-Methylnaphthalene	ND		0.0200	1	09/18/2024 17:54	WG2363766
2-Methylnaphthalene	ND		0.0200	1	09/18/2024 17:54	WG2363766
Naphthalene	ND		0.0200	1	09/18/2024 17:54	WG2363766
Pyrene	ND		0.00600	1	09/18/2024 17:54	WG2363766
(S) p-Terphenyl-d14	58.1		23.0-120		09/18/2024 17:54	WG2363766
(S) Nitrobenzene-d5	47.5		14.0-149		09/18/2024 17:54	WG2363766
(S) 2-Fluorobiphenyl	49.6		34.0-125		09/18/2024 17:54	WG2363766

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.582		1	09/19/2024 01:54	WG2365123

1
Cp

2
Tc

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		1.00	1	09/17/2024 00:38	WG2363335

3
Ss

4
Cn

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.05	T8	1	09/20/2024 11:54	WG2365506

5
Sr

6
Qc

Sample Narrative:

L1777377-03 WG2365506: 7.05 at 21.6C

7
Gl

8
Al

Wet Chemistry by Method 9050AMod

Analyte	Result	Units	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	245	umhos/cm		10.0	1	09/21/2024 14:57	WG2365519

9
Sc

Sample Narrative:

L1777377-03 WG2365519: at 25C

Metals (ICP) by Method 6010B-NE493 Ch 2

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	ND		1.00	5	09/19/2024 00:36	WG2365132

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.65		1.00	5	09/15/2024 17:35	WG2362675
Barium	79.6		2.50	5	09/15/2024 17:35	WG2362675
Cadmium	ND		1.00	5	09/15/2024 17:35	WG2362675
Copper	9.49		5.00	5	09/15/2024 17:35	WG2362675
Lead	11.6		2.00	5	09/15/2024 17:35	WG2362675
Nickel	10.4		2.50	5	09/15/2024 17:35	WG2362675
Selenium	ND		2.50	5	09/15/2024 17:35	WG2362675
Silver	ND		0.500	5	09/15/2024 17:35	WG2362675
Zinc	51.0		25.0	5	09/15/2024 17:35	WG2362675

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	09/16/2024 01:37	WG2363051
(S) a,a,a-Trifluorotoluene(FID)	91.0		77.0-120		09/16/2024 01:37	WG2363051

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	09/16/2024 02:31	WG2363062
Toluene	ND		0.00500	1	09/16/2024 02:31	WG2363062
Ethylbenzene	ND		0.00250	1	09/16/2024 02:31	WG2363062
Xylenes, Total	ND		0.00650	1	09/16/2024 02:31	WG2363062
1,2,4-Trimethylbenzene	ND		0.00500	1	09/16/2024 02:31	WG2363062
1,3,5-Trimethylbenzene	ND		0.00500	1	09/16/2024 02:31	WG2363062
(S) Toluene-d8	103		75.0-131		09/16/2024 02:31	WG2363062
(S) 4-Bromofluorobenzene	98.6		67.0-138		09/16/2024 02:31	WG2363062
(S) 1,2-Dichloroethane-d4	109		70.0-130		09/16/2024 02:31	WG2363062

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	ND		4.00	1	09/18/2024 19:49	WG2364514
C28-C36 Motor Oil Range	ND		4.00	1	09/18/2024 19:49	WG2364514
(S) o-Terphenyl	41.3		18.0-148		09/18/2024 19:49	WG2364514

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00600	1	09/18/2024 18:11	WG2363766
Anthracene	ND		0.00600	1	09/18/2024 18:11	WG2363766
Benzo(a)anthracene	ND		0.00600	1	09/18/2024 18:11	WG2363766
Benzo(b)fluoranthene	ND		0.00600	1	09/18/2024 18:11	WG2363766
Benzo(k)fluoranthene	ND		0.00600	1	09/18/2024 18:11	WG2363766
Benzo(a)pyrene	ND		0.00600	1	09/18/2024 18:11	WG2363766
Chrysene	ND		0.00600	1	09/18/2024 18:11	WG2363766
Dibenz(a,h)anthracene	ND		0.00600	1	09/18/2024 18:11	WG2363766
Fluoranthene	ND		0.00600	1	09/18/2024 18:11	WG2363766
Fluorene	ND		0.00600	1	09/18/2024 18:11	WG2363766
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	09/18/2024 18:11	WG2363766
1-Methylnaphthalene	ND		0.0200	1	09/18/2024 18:11	WG2363766
2-Methylnaphthalene	ND		0.0200	1	09/18/2024 18:11	WG2363766
Naphthalene	ND		0.0200	1	09/18/2024 18:11	WG2363766
Pyrene	ND		0.00600	1	09/18/2024 18:11	WG2363766
(S) p-Terphenyl-d14	53.6		23.0-120		09/18/2024 18:11	WG2363766
(S) Nitrobenzene-d5	51.0		14.0-149		09/18/2024 18:11	WG2363766
(S) 2-Fluorobiphenyl	43.7		34.0-125		09/18/2024 18:11	WG2363766

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.530		1	09/19/2024 01:55	WG2365123

1
Cp

2
Tc

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		1.00	1	09/17/2024 00:44	WG2363335

3
Ss

4
Cn

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.60	T8	1	09/20/2024 11:54	WG2365506

5
Sr

6
Qc

Sample Narrative:

L1777377-04 WG2365506: 7.6 at 21.8C

7
Gl

Wet Chemistry by Method 9050AMod

Analyte	Result	Units	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	518	umhos/cm		10.0	1	09/21/2024 14:57	WG2365519

8
Al

9
Sc

Sample Narrative:

L1777377-04 WG2365519: at 25C

Metals (ICP) by Method 6010B-NE493 Ch 2

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.297		0.200	1	09/19/2024 00:38	WG2365132

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	1.67		1.00	5	09/15/2024 17:46	WG2362675
Barium	40.3		2.50	5	09/15/2024 17:46	WG2362675
Cadmium	ND		1.00	5	09/15/2024 17:46	WG2362675
Copper	6.55		5.00	5	09/15/2024 17:46	WG2362675
Lead	6.75		2.00	5	09/15/2024 17:46	WG2362675
Nickel	9.74		2.50	5	09/15/2024 17:46	WG2362675
Selenium	ND		2.50	5	09/15/2024 17:46	WG2362675
Silver	ND		0.500	5	09/15/2024 17:46	WG2362675
Zinc	46.9		25.0	5	09/15/2024 17:46	WG2362675

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	09/16/2024 01:56	WG2363051
(S) a,a,a-Trifluorotoluene(FID)	93.4		77.0-120		09/16/2024 01:56	WG2363051

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	09/16/2024 02:50	WG2363062
Toluene	ND		0.00500	1	09/16/2024 02:50	WG2363062
Ethylbenzene	ND		0.00250	1	09/16/2024 02:50	WG2363062
Xylenes, Total	ND		0.00650	1	09/16/2024 02:50	WG2363062
1,2,4-Trimethylbenzene	ND		0.00500	1	09/16/2024 02:50	WG2363062
1,3,5-Trimethylbenzene	ND		0.00500	1	09/16/2024 02:50	WG2363062
(S) Toluene-d8	102		75.0-131		09/16/2024 02:50	WG2363062
(S) 4-Bromofluorobenzene	99.6		67.0-138		09/16/2024 02:50	WG2363062
(S) 1,2-Dichloroethane-d4	93.0		70.0-130		09/16/2024 02:50	WG2363062

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	118		4.00	1	09/18/2024 16:19	WG2364514
C28-C36 Motor Oil Range	181		20.0	5	09/18/2024 20:41	WG2364514
(S) o-Terphenyl	39.5		18.0-148		09/18/2024 20:41	WG2364514
(S) o-Terphenyl	39.9		18.0-148		09/18/2024 16:19	WG2364514

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00600	1	09/18/2024 18:28	WG2363766
Anthracene	ND		0.00600	1	09/18/2024 18:28	WG2363766
Benzo(a)anthracene	ND		0.00600	1	09/18/2024 18:28	WG2363766
Benzo(b)fluoranthene	ND		0.00600	1	09/18/2024 18:28	WG2363766
Benzo(k)fluoranthene	ND		0.00600	1	09/18/2024 18:28	WG2363766
Benzo(a)pyrene	ND		0.00600	1	09/18/2024 18:28	WG2363766
Chrysene	ND		0.00600	1	09/18/2024 18:28	WG2363766
Dibenz(a,h)anthracene	ND		0.00600	1	09/18/2024 18:28	WG2363766
Fluoranthene	ND		0.00600	1	09/18/2024 18:28	WG2363766
Fluorene	ND		0.00600	1	09/18/2024 18:28	WG2363766
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	09/18/2024 18:28	WG2363766
1-Methylnaphthalene	ND		0.0200	1	09/18/2024 18:28	WG2363766
2-Methylnaphthalene	ND		0.0200	1	09/18/2024 18:28	WG2363766
Naphthalene	ND		0.0200	1	09/18/2024 18:28	WG2363766
Pyrene	ND		0.00600	1	09/18/2024 18:28	WG2363766
(S) p-Terphenyl-d14	65.5		23.0-120		09/18/2024 18:28	WG2363766
(S) Nitrobenzene-d5	59.2		14.0-149		09/18/2024 18:28	WG2363766
(S) 2-Fluorobiphenyl	58.6		34.0-125		09/18/2024 18:28	WG2363766

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.281		1	09/19/2024 01:57	WG2365123

1
Cp

2
Tc

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		1.00	1	09/20/2024 10:21	WG2364630

3
Ss

4
Cn

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	5.62	T8	1	09/20/2024 11:54	WG2365506

5
Sr

6
Qc

Sample Narrative:

L1777377-05 WG2365506: 5.62 at 22.1C

7
Gl

Wet Chemistry by Method 9050AMod

Analyte	Result	Units	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	288	umhos/cm		10.0	1	09/21/2024 14:57	WG2365519

8
Al

9
Sc

Sample Narrative:

L1777377-05 WG2365519: at 25C

Metals (ICP) by Method 6010B-NE493 Ch 2

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.340		0.200	1	09/19/2024 00:40	WG2365132

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	2.62		1.00	5	09/15/2024 17:49	WG2362675
Barium	73.0		2.50	5	09/15/2024 17:49	WG2362675
Cadmium	ND		1.00	5	09/15/2024 17:49	WG2362675
Copper	10.7		5.00	5	09/15/2024 17:49	WG2362675
Lead	9.81		2.00	5	09/15/2024 17:49	WG2362675
Nickel	10.8		2.50	5	09/15/2024 17:49	WG2362675
Selenium	ND		2.50	5	09/15/2024 17:49	WG2362675
Silver	ND		0.500	5	09/15/2024 17:49	WG2362675
Zinc	33.2		25.0	5	09/15/2024 17:49	WG2362675

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	09/16/2024 02:15	WG2363051
(S) a,a,a-Trifluorotoluene(FID)	92.9		77.0-120		09/16/2024 02:15	WG2363051

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	09/16/2024 03:08	WG2363062
Toluene	ND		0.00500	1	09/16/2024 03:08	WG2363062
Ethylbenzene	ND		0.00250	1	09/16/2024 03:08	WG2363062
Xylenes, Total	ND		0.00650	1	09/16/2024 03:08	WG2363062
1,2,4-Trimethylbenzene	ND		0.00500	1	09/16/2024 03:08	WG2363062
1,3,5-Trimethylbenzene	ND		0.00500	1	09/16/2024 03:08	WG2363062
(S) Toluene-d8	101		75.0-131		09/16/2024 03:08	WG2363062
(S) 4-Bromofluorobenzene	101		67.0-138		09/16/2024 03:08	WG2363062
(S) 1,2-Dichloroethane-d4	107		70.0-130		09/16/2024 03:08	WG2363062

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	6.25		4.00	1	09/18/2024 14:21	WG2364514
C28-C36 Motor Oil Range	5.17		4.00	1	09/18/2024 14:21	WG2364514
(S) o-Terphenyl	42.6		18.0-148		09/18/2024 14:21	WG2364514

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00600	1	09/18/2024 18:46	WG2363766
Anthracene	ND		0.00600	1	09/18/2024 18:46	WG2363766
Benzo(a)anthracene	ND		0.00600	1	09/18/2024 18:46	WG2363766
Benzo(b)fluoranthene	ND		0.00600	1	09/18/2024 18:46	WG2363766
Benzo(k)fluoranthene	ND		0.00600	1	09/18/2024 18:46	WG2363766
Benzo(a)pyrene	ND		0.00600	1	09/18/2024 18:46	WG2363766
Chrysene	ND		0.00600	1	09/18/2024 18:46	WG2363766
Dibenz(a,h)anthracene	ND		0.00600	1	09/18/2024 18:46	WG2363766
Fluoranthene	ND		0.00600	1	09/18/2024 18:46	WG2363766
Fluorene	ND		0.00600	1	09/18/2024 18:46	WG2363766
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	09/18/2024 18:46	WG2363766
1-Methylnaphthalene	ND		0.0200	1	09/18/2024 18:46	WG2363766
2-Methylnaphthalene	ND		0.0200	1	09/18/2024 18:46	WG2363766
Naphthalene	ND		0.0200	1	09/18/2024 18:46	WG2363766
Pyrene	ND		0.00600	1	09/18/2024 18:46	WG2363766
(S) p-Terphenyl-d14	98.0		23.0-120		09/18/2024 18:46	WG2363766
(S) Nitrobenzene-d5	117		14.0-149		09/18/2024 18:46	WG2363766
(S) 2-Fluorobiphenyl	93.4		34.0-125		09/18/2024 18:46	WG2363766

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.140		1	09/19/2024 01:59	WG2365123

1
Cp

2
Tc

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		1.00	1	09/20/2024 10:39	WG2364630

3
Ss

4
Cn

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	6.69	T8	1	09/20/2024 11:54	WG2365506

5
Sr

6
Qc

Sample Narrative:

L1777377-06 WG2365506: 6.69 at 21.8C

7
Gl

8
Al

Wet Chemistry by Method 9050AMod

Analyte	Result	Units	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	166	umhos/cm		10.0	1	09/21/2024 14:57	WG2365519

9
Sc

Sample Narrative:

L1777377-06 WG2365519: at 25C

Metals (ICP) by Method 6010B-NE493 Ch 2

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.272		0.200	1	09/19/2024 00:46	WG2365132

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	2.95		1.00	5	09/15/2024 17:52	WG2362675
Barium	72.2		2.50	5	09/15/2024 17:52	WG2362675
Cadmium	ND		1.00	5	09/15/2024 17:52	WG2362675
Copper	10.1		5.00	5	09/15/2024 17:52	WG2362675
Lead	10.4		2.00	5	09/15/2024 17:52	WG2362675
Nickel	10.8		2.50	5	09/15/2024 17:52	WG2362675
Selenium	ND		2.50	5	09/15/2024 17:52	WG2362675
Silver	ND		0.500	5	09/15/2024 17:52	WG2362675
Zinc	47.3		25.0	5	09/15/2024 17:52	WG2362675

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	09/16/2024 02:35	WG2363051
(S) a,a,a-Trifluorotoluene(FID)	92.4		77.0-120		09/16/2024 02:35	WG2363051

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	09/16/2024 03:27	WG2363062
Toluene	ND		0.00500	1	09/16/2024 03:27	WG2363062
Ethylbenzene	ND		0.00250	1	09/16/2024 03:27	WG2363062
Xylenes, Total	ND		0.00650	1	09/16/2024 03:27	WG2363062
1,2,4-Trimethylbenzene	ND		0.00500	1	09/16/2024 03:27	WG2363062
1,3,5-Trimethylbenzene	ND		0.00500	1	09/16/2024 03:27	WG2363062
(S) Toluene-d8	101		75.0-131		09/16/2024 03:27	WG2363062
(S) 4-Bromofluorobenzene	97.8		67.0-138		09/16/2024 03:27	WG2363062
(S) 1,2-Dichloroethane-d4	105		70.0-130		09/16/2024 03:27	WG2363062

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	7.60		4.00	1	09/18/2024 15:14	WG2364514
C28-C36 Motor Oil Range	13.8		4.00	1	09/18/2024 15:14	WG2364514
(S) o-Terphenyl	49.4		18.0-148		09/18/2024 15:14	WG2364514

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00600	1	09/18/2024 19:03	WG2363766
Anthracene	ND		0.00600	1	09/18/2024 19:03	WG2363766
Benzo(a)anthracene	ND		0.00600	1	09/18/2024 19:03	WG2363766
Benzo(b)fluoranthene	ND		0.00600	1	09/18/2024 19:03	WG2363766
Benzo(k)fluoranthene	ND		0.00600	1	09/18/2024 19:03	WG2363766
Benzo(a)pyrene	ND		0.00600	1	09/18/2024 19:03	WG2363766
Chrysene	ND		0.00600	1	09/18/2024 19:03	WG2363766
Dibenz(a,h)anthracene	ND		0.00600	1	09/18/2024 19:03	WG2363766
Fluoranthene	ND		0.00600	1	09/18/2024 19:03	WG2363766
Fluorene	ND		0.00600	1	09/18/2024 19:03	WG2363766
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	09/18/2024 19:03	WG2363766
1-Methylnaphthalene	ND		0.0200	1	09/18/2024 19:03	WG2363766
2-Methylnaphthalene	ND		0.0200	1	09/18/2024 19:03	WG2363766
Naphthalene	ND		0.0200	1	09/18/2024 19:03	WG2363766
Pyrene	ND		0.00600	1	09/18/2024 19:03	WG2363766
(S) p-Terphenyl-d14	41.7		23.0-120		09/18/2024 19:03	WG2363766
(S) Nitrobenzene-d5	61.2		14.0-149		09/18/2024 19:03	WG2363766
(S) 2-Fluorobiphenyl	35.6		34.0-125		09/18/2024 19:03	WG2363766

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R4120510-1 09/16/24 22:39

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Hexavalent Chromium	U		0.255	1.00

L1776998-21 Original Sample (OS) • Duplicate (DUP)

(OS) L1776998-21 09/16/24 23:05 • (DUP) R4120510-2 09/16/24 23:12

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Hexavalent Chromium	ND	ND	1	0.000		20

L1777439-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1777439-07 09/17/24 01:52 • (DUP) R4120510-8 09/17/24 01:59

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Hexavalent Chromium	ND	ND	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R4120510-7 09/17/24 00:51

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Hexavalent Chromium	10.0	10.6	106	80.0-120	

L1777232-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1777232-02 09/16/24 23:55 • (MS) R4120510-3 09/17/24 00:01 • (MSD) R4120510-4 09/17/24 00:07

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 %
Hexavalent Chromium	20.0	ND	20.9	21.2	104	106	1	75.0-125			1.66	20

L1777232-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1777232-02 09/16/24 23:55 • (MS) R4120510-5 09/17/24 00:13

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Hexavalent Chromium	654	ND	664	101	50	75.0-125	

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R4122446-1 09/20/24 10:03

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Hexavalent Chromium	U		0.255	1.00

L1777377-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1777377-05 09/20/24 10:21 • (DUP) R4122446-3 09/20/24 10:30

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
Hexavalent Chromium	ND	ND	1	0.000		20

L1777377-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1777377-06 09/20/24 10:39 • (DUP) R4122446-4 09/20/24 10:48

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
Hexavalent Chromium	ND	ND	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R4122446-2 09/20/24 10:12

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/kg	mg/kg	%	%	
Hexavalent Chromium	10.0	9.92	99.2	80.0-120	

L1778874-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1778874-01 09/20/24 13:38 • (MS) R4122446-5 09/20/24 13:47 • (MSD) R4122446-6 09/20/24 13:56

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Hexavalent Chromium	20.0	ND	17.1	17.7	85.4	88.7	1	75.0-125			3.80	20

L1778874-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1778874-01 09/20/24 13:38 • (MS) R4122446-7 09/20/24 14:04

	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Analyte	mg/kg	mg/kg	mg/kg	%		%	
Hexavalent Chromium	636	ND	502	78.9	50	75.0-125	

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1776517-11 Original Sample (OS) • Duplicate (DUP)

(OS) L1776517-11 09/20/24 11:54 • (DUP) R4122407-2 09/20/24 11:54

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	su	su		%		%
pH	7.77	7.80	1	0.385		1

Sample Narrative:

OS: 7.77 at 22.9C

DUP: 7.8 at 22.9C



L1777384-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1777384-04 09/20/24 11:54 • (DUP) R4122407-3 09/20/24 11:54

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	su	su		%		%
pH	8.28	8.23	1	0.606		1

Sample Narrative:

OS: 8.28 at 21.4C

DUP: 8.23 at 21.3C

Laboratory Control Sample (LCS)

(LCS) R4122407-1 09/20/24 11:54

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	su	su	%	%	
pH	10.0	9.98	99.8	99.0-101	

Sample Narrative:

LCS: 9.98 at 21.9C

Method Blank (MB)

(MB) R4122760-1 09/21/24 14:57

Analyte	MB Result umhos/cm	MB Qualifier	MB MDL umhos/cm	MB RDL umhos/cm
Specific Conductance	U		10.0	10.0

Sample Narrative:
BLANK: at 25C

L1775477-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1775477-01 09/21/24 14:57 • (DUP) R4122760-3 09/21/24 14:57

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	449	442	1	1.57		20

Sample Narrative:
OS: at 25C
DUP: at 25C

L1777384-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1777384-03 09/21/24 14:57 • (DUP) R4122760-4 09/21/24 14:57

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	265	261	1	1.33		20

Sample Narrative:
OS: at 25C
DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R4122760-2 09/21/24 14:57

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	733	725	98.9	85.0-115	

Sample Narrative:
LCS: at 25C

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4121518-1 09/19/24 00:22

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Hot Water Sol. Boron	U		0.0167	0.200

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

(LCS) R4121518-2 09/19/24 00:24 • (LCSD) R4121518-3 09/19/24 00:26

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Hot Water Sol. Boron	1.00	1.03	1.03	103	103	80.0-120			0.623	20

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R4120032-1 09/15/24 17:05

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
Copper	0.156	U	0.133	5.00
Lead	U		0.0990	2.00
Nickel	U		0.197	2.50
Selenium	U		0.180	2.50
Silver	U		0.0865	0.500
Zinc	U		0.740	25.0

Laboratory Control Sample (LCS)

(LCS) R4120032-2 09/15/24 17:08

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	101	101	80.0-120	
Barium	100	100	100	80.0-120	
Cadmium	100	103	103	80.0-120	
Copper	100	101	101	80.0-120	
Lead	100	100	100	80.0-120	
Nickel	100	105	105	80.0-120	
Selenium	100	98.6	98.6	80.0-120	
Silver	20.0	20.6	103	80.0-120	
Zinc	100	101	101	80.0-120	

L1777422-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1777422-01 09/15/24 17:12 • (MS) R4120032-5 09/15/24 17:22 • (MSD) R4120032-6 09/15/24 17:25

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	2.97	95.1	95.6	92.1	92.6	5	75.0-125			0.547	20
Barium	100	61.8	176	172	114	110	5	75.0-125			2.49	20
Cadmium	100	ND	92.8	92.7	92.5	92.5	5	75.0-125			0.0586	20
Copper	100	5.44	95.4	93.0	90.0	87.6	5	75.0-125			2.58	20
Lead	100	6.30	98.5	98.9	92.2	92.6	5	75.0-125			0.457	20
Nickel	100	5.26	97.6	98.3	92.4	93.0	5	75.0-125			0.667	20
Selenium	100	ND	88.1	90.0	87.5	89.5	5	75.0-125			2.21	20
Silver	20.0	ND	19.0	19.1	95.0	95.6	5	75.0-125			0.623	20
Zinc	100	ND	116	115	92.5	91.2	5	75.0-125			1.09	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4120517-2 09/15/24 23:25

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	95.1			77.0-120

Laboratory Control Sample (LCS)

(LCS) R4120517-1 09/15/24 22:45

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.00	5.17	103	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			101	77.0-120	

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R4120662-3 09/15/24 21:18

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000467	0.00100
Toluene	U		0.00130	0.00500
Ethylbenzene	U		0.000737	0.00250
Xylenes, Total	U		0.000880	0.00650
1,2,4-Trimethylbenzene	U		0.00158	0.00500
1,3,5-Trimethylbenzene	U		0.00200	0.00500
(S) Toluene-d8	102			75.0-131
(S) 4-Bromofluorobenzene	98.2			67.0-138
(S) 1,2-Dichloroethane-d4	83.9			70.0-130

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

(LCS) R4120662-1 09/15/24 19:45 • (LCSD) R4120662-2 09/15/24 20:03

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 %
Benzene	0.125	0.113	0.114	90.4	91.2	70.0-123			0.881	20
Toluene	0.125	0.112	0.117	89.6	93.6	75.0-121			4.37	20
Ethylbenzene	0.125	0.110	0.113	88.0	90.4	74.0-126			2.69	20
Xylenes, Total	0.375	0.323	0.335	86.1	89.3	72.0-127			3.65	20
1,2,4-Trimethylbenzene	0.125	0.102	0.104	81.6	83.2	70.0-126			1.94	20
1,3,5-Trimethylbenzene	0.125	0.104	0.109	83.2	87.2	73.0-127			4.69	20
(S) Toluene-d8				103	105	75.0-131				
(S) 4-Bromofluorobenzene				103	99.9	67.0-138				
(S) 1,2-Dichloroethane-d4				111	103	70.0-130				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4121716-1 09/18/24 13:03

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C36 Motor Oil Range	U		0.274	4.00
(S) o-Terphenyl	64.7			18.0-148

Laboratory Control Sample (LCS)

(LCS) R4121716-2 09/18/24 13:16

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	38.2	76.4	50.0-150	
(S) o-Terphenyl			67.6	18.0-148	

L1777412-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1777412-02 09/18/24 17:38 • (MS) R4121716-3 09/18/24 17:51 • (MSD) R4121716-4 09/18/24 18:04

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 %
C10-C28 Diesel Range	48.9	1200	974	1250	0.000	101	10	50.0-150	V	J3	24.8	20
(S) o-Terphenyl					73.8	77.9		18.0-148				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4121823-2 09/18/24 14:55

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acenaphthene	U		0.00209	0.00600
Anthracene	U		0.00230	0.00600
Benzo(a)anthracene	U		0.00173	0.00600
Benzo(b)fluoranthene	U		0.00153	0.00600
Benzo(k)fluoranthene	U		0.00215	0.00600
Benzo(a)pyrene	U		0.00179	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
1-Methylnaphthalene	U		0.00449	0.0200
2-Methylnaphthalene	U		0.00427	0.0200
Naphthalene	U		0.00408	0.0200
Pyrene	U		0.00200	0.00600
(S) p-Terphenyl-d14	78.2			23.0-120
(S) Nitrobenzene-d5	51.3			14.0-149
(S) 2-Fluorobiphenyl	62.4			34.0-125

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS)

(LCS) R4121823-1 09/18/24 14:37

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acenaphthene	0.0800	0.0480	60.0	50.0-120	
Anthracene	0.0800	0.0461	57.6	50.0-126	
Benzo(a)anthracene	0.0800	0.0459	57.4	45.0-120	
Benzo(b)fluoranthene	0.0800	0.0485	60.6	42.0-121	
Benzo(k)fluoranthene	0.0800	0.0486	60.8	49.0-125	
Benzo(a)pyrene	0.0800	0.0448	56.0	42.0-120	
Chrysene	0.0800	0.0504	63.0	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0484	60.5	47.0-125	
Fluoranthene	0.0800	0.0486	60.8	49.0-129	
Fluorene	0.0800	0.0496	62.0	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0477	59.6	46.0-125	
1-Methylnaphthalene	0.0800	0.0520	65.0	51.0-121	
2-Methylnaphthalene	0.0800	0.0500	62.5	50.0-120	
Naphthalene	0.0800	0.0508	63.5	50.0-120	
Pyrene	0.0800	0.0539	67.4	43.0-123	

Laboratory Control Sample (LCS)

(LCS) R4121823-1 09/18/24 14:37

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
(S) p-Terphenyl-d14			81.7	23.0-120	
(S) Nitrobenzene-d5			57.9	14.0-149	
(S) 2-Fluorobiphenyl			59.0	34.0-125	

L1777377-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1777377-01 09/18/24 17:02 • (MS) R4121823-3 09/18/24 17:19 • (MSD) R4121823-4 09/18/24 17:37

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 %
Acenaphthene	0.0776	ND	0.0301	0.0303	38.8	38.8	1	14.0-127			0.662	27
Anthracene	0.0776	ND	0.0276	0.0279	35.6	35.8	1	10.0-145			1.08	30
Benzo(a)anthracene	0.0776	ND	0.0266	0.0265	34.3	34.0	1	10.0-139			0.377	30
Benzo(b)fluoranthene	0.0776	ND	0.0288	0.0286	37.1	36.7	1	10.0-140			0.697	36
Benzo(k)fluoranthene	0.0776	ND	0.0273	0.0269	35.2	34.5	1	10.0-137			1.48	31
Benzo(a)pyrene	0.0776	ND	0.0265	0.0267	34.1	34.2	1	10.0-141			0.752	31
Chrysene	0.0776	ND	0.0304	0.0296	39.2	37.9	1	10.0-145			2.67	30
Dibenz(a,h)anthracene	0.0776	ND	0.0269	0.0257	34.7	32.9	1	10.0-132			4.56	31
Fluoranthene	0.0776	ND	0.0282	0.0291	36.3	37.3	1	10.0-153			3.14	33
Fluorene	0.0776	ND	0.0308	0.0306	39.7	39.2	1	11.0-130			0.651	29
Indeno(1,2,3-cd)pyrene	0.0776	ND	0.0263	0.0258	33.9	33.1	1	10.0-137			1.92	32
1-Methylnaphthalene	0.0776	ND	0.0352	0.0365	45.4	46.8	1	10.0-142			3.63	28
2-Methylnaphthalene	0.0776	ND	0.0336	0.0340	43.3	43.6	1	10.0-137			1.18	28
Naphthalene	0.0776	ND	0.0363	0.0361	46.8	46.3	1	10.0-135			0.552	27
Pyrene	0.0776	ND	0.0310	0.0319	39.9	40.9	1	10.0-148			2.86	35
(S) p-Terphenyl-d14					43.4	44.6		23.0-120				
(S) Nitrobenzene-d5					59.6	46.2		14.0-149				
(S) 2-Fluorobiphenyl					46.0	45.5		34.0-125				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

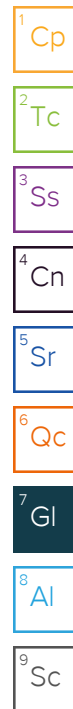
The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

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

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	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
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.
T8	Sample(s) received past/too close to holding time expiration.
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.



Entrada Consulting Group 330 Grand Avenue, Unit C Grand Junction, CO 81503				Billing Information:				Analysis / Container / Preservative										Chain of Custody Page ____ of ____	
				Same as left														 12065 Lebanon Rd Mount Juliet, TN 37122 Phone: 615-758-5858 Phone: 800-767-5859 Fax: 615-758-5859	
Report to: Tim Dobransky				Email To: tdobransky@entradainc.com				<div style="display: flex; justify-content: space-between;"> <div> Table 915 VOCs Table 915 PAHs Table 915 Metals Hot Water Soluble Boron Soil TPH Table 915 (GRO/DRO/ORO) SAR/EC/pH Table 915 BTEX, TMBs </div> <div>  L # 477737 K236 </div> </div> <div> Acctnum: Template: Prelogin: TSR: PB: Shipped Via: </div>											
Project Description: Wilson Creek Unit 2				City/State Collected: CO															
Phone: 1-970-270-2986		Client Project #		Lab Project #															
Fax:																			
Collected by (print): T. Dobransky		Site/Facility ID #		P.O. #															
Collected by (signature): T. Dobransky		Rush? (Lab MUST Be Notified) <input type="checkbox"/> Same Day <input type="checkbox"/> Five Day <input type="checkbox"/> Next Day <input type="checkbox"/> 5 Day (Rad Only) <input type="checkbox"/> Two Day <input type="checkbox"/> 10 Day (Rad Only) <input checked="" type="checkbox"/> Three Day		Quote #															
Immediately Packed on Ice N <input type="checkbox"/> Y <input checked="" type="checkbox"/>				Date Results Needed															
				No. of Cntrs															
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time														
Unit 2 WH SBASE (20')	Grab	SS	20'	9/11/24	1045														
Unit 2 WH NBASE (21')	Grab	SS	21'	9/11/24	1055														
Unit 2 WH EW (15')	Grab	SS	15'	9/11/24	1105														
Unit 2 WH NW (14')	Grab	SS	14'	9/11/24	1110														
Unit 2 WH WW (15')	Grab	SS	15'	9/11/24	1120														
Unit 2 WH SW (14')	Grab	SS	14'	9/11/24	1125														
<div style="border: 1px solid black; padding: 5px; display: inline-block;"> MS 9/13/24 </div>																			
<div style="display: flex; justify-content: space-between;"> <div> <p>* Matrix:</p> <p>SS - Soil AIR - Air F - Filter</p> <p>GW - Groundwater B - Bioassay</p> <p>WW - WasteWater</p> <p>DW - Drinking Water</p> <p>OT - Other _____</p> </div> <div> <p>Remarks: Rush Please</p> <p>Samples returned via: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Courier _____ </p> </div> <div> <p>Tracking # _____</p> </div> </div>																			
Relinquished by : (Signature)		Date: 9/12/24		Time: 1045															
Relinquished by : (Signature)		Date: 9/12/24		Time: 1115															
Relinquished by : (Signature)		Date:		Time:															
Received by: (Signature)		Received by: (Signature)		Received for lab by: (Signature)															
Trip Blank Received: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		HCL / MeOH TBR		Temp: °C Bottles Received: 23															
COC Seal Present/Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		COC Signed/Accurate: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		Bottles arrive intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N															
Correct bottles used: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		Sufficient volume sent: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		If Applicable															
VOA Zero Headspace: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		Preservation Correct/Checked: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		If preservation required by Login: Date/Time															
Hold:		Condition: NGF / OK																	

9/13/24 - NCF L1777377 ENTCONGJCO

R2/R3/R4/RX/EX

Time estimate: oh

Time spent: oh

Members

 Matthew Shacklock (responsible)

- ☐ Parameter(s) past holding time
- ☐ Temperature not in range
- ☐ Improper container type
- ☐ pH not in range
- ☐ Insufficient sample volume
- ☐ Sample is biphasic
- ☐ Vials received with headspace
- ☒ Broken container
- ☒ Sufficient sample remains
- ☐ If broken container: Insufficient packing material around container
- ☐ If broken container: Insufficient packing material inside cooler
- ☐ If broken container: Improper handling by carrier: _____
- ☐ If broken container: Sample was frozen
- ☐ If broken container: Container lid not intact
- ☐ Client informed by Call
- ☐ Client informed by Email
- ☐ Client informed by Voicemail
- ☐ Date/Time: _____
- ☐ PM initials: _____
- ☐ Client Contact: _____

Comments

Matthew Shacklock
13 September 2024 1:53 PM
1 of 4 8oz containers received broken

Entrada Consulting Group

Sample Delivery Group: L1790972
Samples Received: 10/19/2024
Project Number:
Description: Wilson Creek Unit 2

Report To: Tim Dobransky
330 Grand Avenue
Suite C
Grand Junction, CO 81501

Entire Report Reviewed By:



Chris Ward
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

Pace Analytical National12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

TABLE OF CONTENTS

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Sr: Sample Results	5	³ Ss
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Wet Chemistry by Method 9045D	6	⁵ Sr
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Al: Accreditations & Locations	8	⁶ Qc
Sc: Sample Chain of Custody	9	⁷ Gl
		⁸ Al
		⁹ Sc

SAMPLE SUMMARY

UNIT 2 WH WW03 (15') L1790972-01 Solid

Collected by
T. Dobransky

Collected date/time
10/17/24 12:00

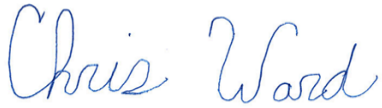
Received date/time
10/19/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9045D	WG2388705	1	10/24/24 12:51	10/24/24 13:40	BRT	Mt. Juliet, TN

¹Cp ${}^2\text{Tc}$ 3S_s ${}^4\text{Cn}$ ^5Sr ${}^6\text{Qc}$ ${}^7\text{Gf}$ ${}^8\text{Al}$ ${}^9\text{Sc}$

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.



Chris Ward
Project Manager



Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	7.95	T8	1	10/24/2024 13:40	WG2388705

Sample Narrative:

L1790972-01 WG2388705: 7.95 at 21.4C

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

L1790972-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1790972-01 10/24/24 13:40 • (DUP) R4137043-2 10/24/24 13:40

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	su	su		%		%
pH	7.95	7.91	1	0.504		1

Sample Narrative:

OS: 7.95 at 21.4C

DUP: 7.91 at 21.4C

Laboratory Control Sample (LCS)

(LCS) R4137043-1 10/24/24 13:40

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	su	su	%	%	
pH	10.0	9.98	99.8	99.0-101	

Sample Narrative:

LCS: 9.98 at 19.1C

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

GLOSSARY OF TERMS

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Abbreviations and Definitions

Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
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Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
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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

T8	Sample(s) received past/too close to holding time expiration.
----	---

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

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.



Entrada Consulting Group 330 Grand Avenue, Unit C Grand Junction, CO 81503				Billing Information: Same as left				Pres Chk		Analysis / Container / Preservative										Chain of Custody Page ____ of ____					
Report to: Tim Dobransky				Email To: tdobransky@entradainc.com																 12065 Lebanon Rd Mount Juliet, TN 37122 Phone: 615-758-5858 Phone: 800-767-5859 Fax: 615-758-5859					
Project Description: Wilson Creek Unit 2				City/State Collected: CO																					
Phone: 1-970-270-2986 Fax:				Client Project #				Lab Project #												L # 1790972 A008					
Collected by (print): T. Dobransky				Site/Facility ID #				P.O. #												Acctnum:					
Collected by (signature): T. Dobransky				Rush? (Lab MUST Be Notified) ____ Same Day ____ Five Day ____ Next Day ____ 5 Day (Rad Only) ____ Two Day ____ 10 Day (Rad Only) <input checked="" type="checkbox"/> Three Day				Quote #												Template:					
Immediately Packed on Ice N ____ Y <input checked="" type="checkbox"/>								Date Results Needed		No. of Cnts												Prelogin:			
Sample ID				Comp/Grab		Matrix *		Depth		Date		Time												TSR:	
Unit 2 WH WW03 (15')				Grab		SS		15'		10/17/24		1200		1		X								PB:	
																								Shipped Via:	
																								Remarks	
																								Sample # (lab only)	

BENEFICIAL REUSE SOIL ANALYTICAL SUMMARY



SP2L & SP3L COMBINED STOCKPILE

WP-16 STOCKPILES (B)



- NOT FOR CONSTRUCTION



DRAWN BY	L.TIEFEL	APPROVED BY	S.CHERVINCKY	DRAWING NO.	G-###
DATE	08-28-24	DATE	08-28-24	PROJECT NO.	X0411

REV	DATE	BY	CHK'D	APR'VD	DESCRIPTION

Table 1
Soil Analytical and Field Results
Chevron Environmental Management Company
Upper Condensate Release Area - Beneficial Reuse
Wilson Creek Unit

Sample ID			Composite-11	Composite-16	Composite-17	Composite-18	Composite-19	Composite-20	Composite-21	Composite-22	Composite-23	Composite-24	Composite-25	Composite-26	Composite-27
PID (ppm)			1.01	5	10	22	8.12	17.07	6.55	42.23	5.22	4.1	7.82	6.01	44.85
Date			7/29/2024	8/16/2024	8/16/2024	8/16/2024	8/22/2024	8/23/2024	8/23/2024	8/23/2024	8/23/2024	8/23/2024	9/7/2024	9/7/2024	9/7/2024
Cubic Yards Available			1,098	955	788	933	929	904	954	999	840	1,040	843	849	837
Contaminant of Concern	ECMC Table 915-1 Cleanup Concentrations		Results (mg/kg, unless otherwise specified)												
	RSSLC (mg/kg, unless otherwise specified)	PGSSLC (mg/kg, unless otherwise specified)													
Total Petroleum Hydrocarbons by USEPA Method 8015D															
TPH - GRO	NA		<0.200	6.250	2.520	2.910	4.650	7.040	2.690	1.810	1.840	0.633	0.332	0.253	4.05
TPH - DRO	NA		<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0
TPH - ORO	NA		<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
TPH - Total	500,000		<125,200	6,250	2,520	2,910	4,650	7,040	2,690	1,810	1,840	0,633	0,332	0,253	4,05
Soil Suitability for Reclamation															
EC (mmhos/cm)	4		0.399	0.274	0.184	0.176	0.357	0.281	0.337	0.178	0.277	0.351	0.439	0.461	1.17
SAR	6		0.220	0.576	0.848	0.454	0.971	0.498	0.600	0.428	0.557	0.502	0.460	0.951	1.01
pH	6-8.3		8.13	7.87	7.97	7.82	8.40	8.26	8.10	7.99	8.21	8.38	8.01	7.83	7.97
boron (mg/L)	2		<0.999	<0.101	<0.101	<0.0993	<0.100	<0.101	<0.981	<0.984	<1.01	<1.00	<0.101	<0.102	<1.01
Organic Compounds in Soils															
benzene	1.2	0.0026	<0.00200	<0.00200	0.0313	<0.00200	<0.00200	<0.00200	0.00212	0.00998	<0.00200	<0.00200	<0.00200	0.00254	0.290
toluene	490	0.69	<0.00200	<0.00200	0.0349	<0.00200	<0.00200	<0.00200	<0.00200	0.00998	<0.00200	<0.00200	<0.00200	<0.00200	0.0168
ethylbenzene	5.8	0.78	<0.00200	0.00280	0.0413	<0.00200	<0.00200	<0.00200	<0.00200	0.00644	<0.00200	0.00240	<0.00200	<0.00200	0.0162
total xylenes	58	9.9	<0.00200	0.0187	0.233	<0.00200	0.00404	0.00484	<0.00200	0.0332	<0.00200	0.00718	<0.00200	0.00428	0.0998
1,2,4-trimethylbenzene	30	0.0081	<0.00200	0.0239	0.0445	<0.00200	0.00204	0.00526	<0.00200	0.00260	<0.00200	0.00278	<0.00200	<0.00200	0.0363
1,3,5-trimethylbenzene	27	0.0087	<0.00200	0.0274	0.0261	<0.00200	0.00546	0.0180	0.00570	0.0152	0.00896	0.00598	<0.00200	0.00492	0.0293
naphthalene	2	0.0038	<0.002	0.022	0.049	0.180	0.013	0.050	0.012	0.016	0.014	0.011	0.013	0.066	0.166
benz(a)anthracene	1.1	0.011	<0.005	<0.005	<0.005	0.013	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.006	<0.005
1-methylnaphthalene	18	0.006	0.013	0.035	0.054	0.140	0.029	0.049	0.025	0.013	0.015	0.006	0.025	0.079	0.308
2-methylnaphthalene	24	0.019	0.021	0.086	0.149	0.410	0.055	0.131	0.055	0.037	0.042	0.019	0.056	0.162	0.595

Notes:
ECMC Energy & Carbon Management Commission
mg/kg milligrams per kilogram
RSSLC Residential Soil Screening Level Concentrations
PGSSLC Protection of Groundwater Soil Screening Level Concentrations
PID photoionization detector
bgs below ground surface
ppm parts per million
TPH total petroleum hydrocarbons
GRO gasoline range organics
DRO diesel range organics
ORO oil range organics
EC electrical conductivity
SAR sodium adsorption ratio
mmhos/cm millimhos per centimeter
mg/L milligrams per liter
< indicates the result is less than laboratory reporting limit
NA not applicable / not analyzed
Bold result exceeds the applicable standard



August 21, 2024

Stantec Consulting Services

Chris Roy

2000 S. Colorado Blvd. Suite 2-300

Denver

CO 80222

Project Name - UCRA Remedial Excavation

Project Number - [none]

Attached are your analytical results for UCRA Remedial Excavation received by Origins Laboratory, Inc. July 29, 2024. This project is associated with Origins project number Y407752-01.

The analytical results in the following report were analyzed under the guidelines of EPA Methods. These methods are identified as follows; "SW" are defined in SW-846, "EPA" are defined in 40CFR part 136 and "SM" are defined in the most current revision of Standard Methods For the Examination of Water and Wastewater.

The analytical results apply specifically to the samples and analyses specified per the attached Chain of Custody. As such, this report shall not be reproduced except in full, without the written approval of Origin's laboratory.

Unless otherwise noted, the analytical results for all soil samples are reported on a wet weight basis. All analytical analyses were performed under NELAP guidelines unless noted by a data qualifier.

Any holding time exceedances, deviations from the method specifications or deviations from Origins Laboratory's Standard Operating Procedures are outlined in the case narrative.

Thank you for selecting Origins for your analytical needs. Please contact us with any questions concerning this report, or if we can help with anything at all.

Origins Laboratory, Inc.
303.433.1322
o-squad@oelabinc.com



1725 Elk Place, Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

Stantec Consulting Services

2000 S. Colorado Blvd. Suite 2-300

Denver CO 80222

Chris Roy

Project Number: [none]

Project: UCRA Remedial Excavation

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Composite-10	Y407752-01	Soil	July 29, 2024 10:20	07/29/2024 15:53
Composite-11	Y407752-02	Soil	July 29, 2024 10:40	07/29/2024 15:53
Trip Blank	Y407752-03	Water	July 29, 2024 11:30	07/29/2024 15:53

Chain of Custody Modification Request

On 8/9/2024, Chris Roy from Stantec contacted Jennifer Pellegrini via email regarding Y407752 requesting that pH, EC, SAR, and Boron be added to all soil samples.

Requested modifications to the chain of custody were made by Jennifer Pellegrini on 8/12/2024.

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Stantec Consulting Services

2000 S. Colorado Blvd. Suite 2-300

Denver CO 80222

Chris Roy

Project Number: [none]

Project: UCRA Remedial Excavation

Origins Laboratory

F-012207-01-R1
Effective Date: 01/09/12

Sample Receipt Checklist

Origins Work Order: 4407752

Client: Stantec

Client Project ID: UCRA

Checklist Completed by: JUN/24/10

Shipped Via: TWO

(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Date/time completed: 7/29/12

Airbill #: N/A

Matrix(s) Received: (Check all that apply): ☒ Soil/Solid ☒ Water ☐ Other: _____

Cooler Number/Temperature: 1 M-3 °C _____ °C _____ °C (Describe) _____ °C

Thermometer ID: 7005

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) ² (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO ₃ , HCL, H ₂ SO ₄) / (pH >10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NC
Additional Comments (if any):				

⁽¹⁾If NO, then contact the client before proceeding with analysis and note date/time and person contacted as well as the corrective action to be in the additional comments (above) and the case narrative.

Reviewed by (Project Manager) JUN/24/10

Date/Time Reviewed 7/29/12

Origins Laboratory, Inc.

J. Bynon

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Composite-10
7/29/2024 10:20:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y407752-01 (Soil)

Boron (DTPA Sorbitol)

Boron	ND	0.100	mg/L	1	B4H1307	KRM	08/13/2024	08/14/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4G2925	ADM	07/29/2024	07/29/2024	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	ADM	"	"	U

Surrogate: o-Terphenyl	82.3 %	50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4G2926	HKS	07/29/2024	07/29/2024	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	HKS	"	"	U
Benzene	ND	0.00200	"	"	"	HKS	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	HKS	"	"	U
Toluene	ND	0.00200	"	"	"	HKS	"	"	U
Xylenes, total	ND	0.00200	"	"	"	HKS	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	HKS	"	"	U

Surrogate: 1,2-Dichloroethane-d4	104 %	70-130			"	"	"	
Surrogate: Toluene-d8	94.9 %	70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	102 %	70-130			"	"	"	

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Composite-10

7/29/2024 10:20:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y407752-01 (Soil)

Metals by Saturated Paste by EPA 6010

Calcium	2.21	0.499	meq/L	10	[CALC]	KRM	08/13/2024	08/14/2024	
Magnesium	1.02	0.823	"	"	"	KRM	"	"	
Sodium	1.53	0.435	"	"	"	KRM	"	"	

PAH by EPA 8270E

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4G2923	Windo	07/29/2024	07/29/2024	U
2-Methylnaphthalene	ND	0.002	"	"	"	Windo	"	"	U
Benzo (a) anthracene	ND	0.005	"	"	"	Windo	"	"	U
Naphthalene	ND	0.002	"	"	"	Windo	"	"	U

Surrogate: Fluorene-d10	99.0 %	60-130			"	"	"	
Surrogate: Anthracene-d10	97.9 %	60-130			"	"	"	
Surrogate: Pyrene-d10	102 %	60-130			"	"	"	
Surrogate: Benzo (a) pyrene-d12	99.8 %	60-130			"	"	"	

pH in Soil by 9045D

pH	8.23		pH Units	1	B4H1317	ACC	08/13/2024	08/14/2024	
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SAR by 20B Saturated Paste

SAR	1.20	0.0100	SAR	1	B4H1312	KRM	08/13/2024	08/14/2024	
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Specific Conductance Mod. 9050A

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Stantec Consulting Services

2000 S. Colorado Blvd. Suite 2-300

Denver CO 80222

Chris Roy

Project Number: [none]

Project: UCRA Remedial Excavation

Composite-10

7/29/2024 10:20:00AM

Analyte	Result	Reporting	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

Y407752-01 (Soil)

Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.498	0.00500	mmhos/cm	1	B4H1317	ACC	08/13/2024	08/14/2024
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Origins Laboratory, Inc.



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Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Composite-11

7/29/2024 10:40:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y407752-02 (Soil)

Boron (DTPA Sorbitol)

Boron	ND	0.999	mg/L	10	B4H1307	KRM	08/13/2024	08/14/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4G2925	ADM	07/29/2024	07/29/2024	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	ADM	"	"	U

Surrogate: o-Terphenyl	77.1 %	50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4G2926	HKS	07/29/2024	07/29/2024	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	HKS	"	"	U
Benzene	ND	0.00200	"	"	"	HKS	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	HKS	"	"	U
Toluene	ND	0.00200	"	"	"	HKS	"	"	U
Xylenes, total	ND	0.00200	"	"	"	HKS	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	HKS	"	"	U

Surrogate: 1,2-Dichloroethane-d4	104 %	70-130			"	"	"
Surrogate: Toluene-d8	96.7 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	102 %	70-130			"	"	"

Origins Laboratory, Inc.



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Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Composite-11

7/29/2024 10:40:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y407752-02 (Soil)

Metals by Saturated Paste by EPA 6010

Calcium	2.84	0.499	meq/L	10	[CALC]	KRM	08/13/2024	08/14/2024	
Magnesium	ND	0.823	"	"	"	KRM	"	"	
Sodium	ND	0.435	"	"	"	KRM	"	"	

PAH by EPA 8270E

1-Methylnaphthalene	0.013	0.002	mg/kg	1	B4G2923	Windo	07/29/2024	07/29/2024	
2-Methylnaphthalene	0.021	0.002	"	"	"	Windo	"	"	
Benzo (a) anthracene	ND	0.005	"	"	"	Windo	"	"	U
Naphthalene	ND	0.002	"	"	"	Windo	"	"	U

Surrogate: Fluorene-d10	98.8 %	60-130			"	"	"	
Surrogate: Anthracene-d10	98.2 %	60-130			"	"	"	
Surrogate: Pyrene-d10	104 %	60-130			"	"	"	
Surrogate: Benzo (a) pyrene-d12	98.0 %	60-130			"	"	"	

pH in Soil by 9045D

pH	8.13		pH Units	1	B4H1317	ACC	08/13/2024	08/14/2024	
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SAR by 20B Saturated Paste

SAR	0.220	0.0100	SAR	1	B4H1312	KRM	08/13/2024	08/14/2024	
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Specific Conductance Mod. 9050A

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Stantec Consulting Services

2000 S. Colorado Blvd. Suite 2-300

Denver CO 80222

Chris Roy

Project Number: [none]

Project: UCRA Remedial Excavation

Composite-11

7/29/2024 10:40:00AM

Analyte	Result	Reporting	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

Y407752-02 (Soil)

Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.399	0.00500	mmhos/cm	1	B4H1317	ACC	08/13/2024	08/14/2024
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Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Trip Blank

7/29/2024 11:30:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y407752-03 (Water)

BTEX by EPA 8260D

Benzene	ND	1.00	ug/L	1	B4G2922	JSM	07/29/2024	07/29/2024	U
Toluene	ND	1.00	"	"	"	JSM	"	"	U
Ethylbenzene	ND	1.00	"	"	"	JSM	"	"	U
Xylenes, total	ND	1.00	"	"	"	JSM	"	"	U

Surrogate: 1,2-Dichloroethane-d4	111 %	70-130			"	"	"
Surrogate: Toluene-d8	99.7 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	89.1 %	70-130			"	"	"

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch B4G2922 - EPA 5030B (Water)

Blank (B4G2922-BLK1)

Prepared: 07/29/2024 Analyzed: 07/29/2024

Benzene	ND	1.00	ug/L							U
Toluene	ND	1.00	"							U
Ethylbenzene	ND	1.00	"							U
Xylenes, total	ND	1.00	"							U
Surrogate: 1,2-Dichloroethane-d4	71		"	62.5	114		70-130			
Surrogate: Toluene-d8	63		"	62.5	100		70-130			
Surrogate: 4-Bromofluorobenzene	54		"	62.5	86.3		70-130			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4G2922 - EPA 5030B (Water)										
LCS (B4G2922-BS1)					Prepared: 07/29/2024 Analyzed: 07/29/2024					
Benzene	50.4	1.00	ug/L	50.0		101	70-130			
Toluene	48.9	1.00	"	50.0		97.7	70-130			
Ethylbenzene	50.6	1.00	"	50.0		101	70-130			
m,p-Xylene	90.7	2.00	"	100		90.7	70-130			
o-Xylene	46.0	1.00	"	50.0		92.1	70-130			
Surrogate: 1,2-Dichloroethane-d4	73		"	62.5		117	70-130			
Surrogate: Toluene-d8	62		"	62.5		99.4	70-130			
Surrogate: 4-Bromofluorobenzene	57		"	62.5		91.9	70-130			

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Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4G2922 - EPA 5030B (Water)

Matrix Spike (B4G2922-MS1)		Source: Y407715-06			Prepared: 07/29/2024 Analyzed: 07/29/2024					
Benzene	56.7	1.00	ug/L	50.0	ND	113	70-130			
Toluene	56.0	1.00	"	50.0	ND	112	70-130			
Ethylbenzene	56.6	1.00	"	50.0	ND	113	70-130			
m,p-Xylene	103	2.00	"	100	ND	103	70-130			
o-Xylene	50.9	1.00	"	50.0	ND	102	70-130			
Surrogate: 1,2-Dichloroethane-d4	67		"	62.5		108	70-130			
Surrogate: Toluene-d8	62		"	62.5		99.5	70-130			
Surrogate: 4-Bromofluorobenzene	58		"	62.5		92.0	70-130			

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Chris Roy
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Project: UCRA Remedial Excavation

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4G2922 - EPA 5030B (Water)

Matrix Spike Dup (B4G2922-MSD1)		Source: Y407715-06			Prepared: 07/29/2024 Analyzed: 07/29/2024					
Benzene	52.5	1.00	ug/L	50.0	ND	105	70-130	7.69	20	
Toluene	53.5	1.00	"	50.0	ND	107	70-130	4.48	20	
Ethylbenzene	55.2	1.00	"	50.0	ND	110	70-130	2.47	20	
m,p-Xylene	99.3	2.00	"	100	ND	99.3	70-130	3.64	20	
o-Xylene	49.7	1.00	"	50.0	ND	99.3	70-130	2.49	20	
Surrogate: 1,2-Dichloroethane-d4	66		"	62.5		106	70-130			
Surrogate: Toluene-d8	62		"	62.5		99.1	70-130			
Surrogate: 4-Bromofluorobenzene	58		"	62.5		93.0	70-130			

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Project: UCRA Remedial Excavation

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4G2925 - EPA 3550B										
Blank (B4G2925-BLK1)					Prepared: 07/29/2024 Analyzed: 07/29/2024					
Diesel (C10-C28)	ND	25.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	100	"							U
Surrogate: o-Terphenyl	24		"	24.9		95.6	50-150			

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Project: UCRA Remedial Excavation

Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4G2925 - EPA 3550B

LCS (B4G2925-BS1)

Prepared: 07/29/2024 Analyzed: 07/29/2024

Diesel (C10-C28)	1030	50.0	mg/kg	1000		103	70-130			
Residual Range Organics (C28-C40)	1140	200	"	1000		114	70-130			
Surrogate: o-Terphenyl	61		"	49.8		122	50-150			

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Chris Roy
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Project: UCRA Remedial Excavation

Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4G2925 - EPA 3550B

Matrix Spike (B4G2925-MS1)		Source: Y407756-01			Prepared: 07/29/2024 Analyzed: 07/29/2024					
Diesel (C10-C28)	1020	50.0	mg/kg	1000	ND	102	70-130			
Residual Range Organics (C28-C40)	1140	200	"	1000	ND	114	70-130			
Surrogate: o-Terphenyl	55		"	49.8		111	50-150			

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Project: UCRA Remedial Excavation

Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4G2925 - EPA 3550B										
Matrix Spike Dup (B4G2925-MSD1)	Source: Y407756-01				Prepared: 07/29/2024 Analyzed: 07/29/2024					
Diesel (C10-C28)	989	50.0	mg/kg	1000	ND	98.9	70-130	2.77	35	
Residual Range Organics (C28-C40)	1130	200	"	1000	ND	113	70-130	0.705	35	
Surrogate: o-Terphenyl	57		"	49.8		114	50-150			

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Project: UCRA Remedial Excavation

Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4G2926 - EPA 5030 (soil)										
Blank (B4G2926-BLK1)					Prepared: 07/29/2024 Analyzed: 07/29/2024					
1,2,4-Trimethylbenzene	ND	0.00200	mg/kg							U
1,3,5-Trimethylbenzene	ND	0.00200	"							U
Benzene	ND	0.00200	"							U
Ethylbenzene	ND	0.00200	"							U
Naphthalene	ND	0.00380	"							U
Toluene	ND	0.00200	"							U
Xylenes, total	ND	0.00200	"							U
Gasoline Range Hydrocarbons	ND	0.200	"							U
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		108	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		95.2	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		104	70-130			

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Chris Roy
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Project: UCRA Remedial Excavation

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4G2926 - EPA 5030 (soil)										
LCS (B4G2926-BS1)					Prepared: 07/29/2024 Analyzed: 07/29/2024					
1,2,4-Trimethylbenzene	0.0962	0.00200	mg/kg	0.100		96.2	70-130			
1,3,5-Trimethylbenzene	0.100	0.00200	"	0.100		100	70-130			
Benzene	0.0905	0.00200	"	0.100		90.5	70-130			
Ethylbenzene	0.0947	0.00200	"	0.100		94.7	70-130			
Naphthalene	0.106	0.00380	"	0.100		106	70-130			
Toluene	0.0966	0.00200	"	0.100		96.6	70-130			
o-Xylene	0.0954	0.00200	"	0.100		95.4	70-130			
m,p-Xylene	0.186	0.00400	"	0.200		93.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		103	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		102	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		95.2	70-130			

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Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4G2926 - EPA 5030 (soil)										
Matrix Spike (B4G2926-MS1)		Source: Y407756-01			Prepared: 07/29/2024 Analyzed: 07/30/2024					
1,2,4-Trimethylbenzene	0.114	0.00200	mg/kg	0.100	ND	114	70-130			
1,3,5-Trimethylbenzene	0.115	0.00200	"	0.100	ND	115	70-130			
Benzene	0.126	0.00200	"	0.100	ND	126	70-130			
Ethylbenzene	0.120	0.00200	"	0.100	ND	120	70-130			
Naphthalene	0.107	0.00380	"	0.100	ND	107	70-130			
Toluene	0.120	0.00200	"	0.100	ND	120	70-130			
o-Xylene	0.115	0.00200	"	0.100	ND	115	70-130			
m,p-Xylene	0.241	0.00400	"	0.200	ND	121	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		115	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		95.6	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		106	70-130			

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Project: UCRA Remedial Excavation

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4G2926 - EPA 5030 (soil)										
Matrix Spike Dup (B4G2926-MSD1)					Source: Y407756-01					Prepared: 07/29/2024 Analyzed: 07/29/2024
1,2,4-Trimethylbenzene	0.0962	0.00200	mg/kg	0.100	ND	96.2	70-130	17.1	20	
1,3,5-Trimethylbenzene	0.0977	0.00200	"	0.100	ND	97.7	70-130	16.1	20	
Benzene	0.0984	0.00200	"	0.100	ND	98.4	70-130	24.7	20	QR-02
Ethylbenzene	0.0966	0.00200	"	0.100	ND	96.6	70-130	21.7	20	QR-02
Naphthalene	0.118	0.00380	"	0.100	ND	118	70-130	9.70	20	
Toluene	0.0984	0.00200	"	0.100	ND	98.4	70-130	20.1	20	QR-02
o-Xylene	0.0980	0.00200	"	0.100	ND	98.0	70-130	16.2	20	
m,p-Xylene	0.193	0.00400	"	0.200	ND	96.7	70-130	22.0	20	QR-02
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		109	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		99.3	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		93.2	70-130			

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Project: UCRA Remedial Excavation

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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EPA 8270E (SW846) - Semivolatile Organic Compounds - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4G2923 - EPA 3580

Blank (B4G2923-BLK1)

Prepared: 07/29/2024 Analyzed: 07/29/2024

1-Methylnaphthalene	ND	0.002	mg/kg							U
2-Methylnaphthalene	ND	0.002	"							U
Acenaphthene	ND	0.020	"							U
Anthracene	ND	0.020	"							U
Benzo (a) anthracene	ND	0.005	"							U
Benzo (a) pyrene	ND	0.020	"							U
Benzo (b) fluoranthene	ND	0.020	"							U
Benzo (g,h,i) perylene	ND	0.020	"							U
Benzo (k) fluoranthene	ND	0.020	"							U
Chrysene	ND	0.020	"							U
Dibenz (a,h) anthracene	ND	0.020	"							U
Fluoranthene	ND	0.020	"							U
Fluorene	ND	0.020	"							U
Indeno (1,2,3-cd) pyrene	ND	0.020	"							U
Naphthalene	ND	0.002	"							U
Phenanthrene	ND	0.020	"							U
Pyrene	ND	0.020	"							U
Surrogate: Fluorene-d10	200		ug/kg	200		98.5	60-130			
Surrogate: Anthracene-d10	190		"	200		96.6	60-130			
Surrogate: Pyrene-d10	200		"	200		102	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		99.6	60-130			

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Project: UCRA Remedial Excavation

EPA 8270E (SW846) - Semivolatile Organic Compounds - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4G2923 - EPA 3580

LCS (B4G2923-BS1)

Prepared: 07/29/2024 Analyzed: 07/29/2024

1-Methylnaphthalene	0.182	0.002	mg/kg	0.200		91.2	70-130
2-Methylnaphthalene	0.183	0.002	"	0.200		91.7	70-130
Acenaphthene	0.186	0.020	"	0.200		92.9	70-130
Anthracene	0.181	0.020	"	0.200		90.5	70-130
Benzo (a) anthracene	0.175	0.005	"	0.200		87.3	70-130
Benzo (a) pyrene	0.201	0.020	"	0.200		101	70-130
Benzo (b) fluoranthene	0.194	0.020	"	0.200		97.2	70-130
Benzo (g,h,i) perylene	0.192	0.020	"	0.200		96.2	70-130
Benzo (k) fluoranthene	0.195	0.020	"	0.200		97.3	70-130
Chrysene	0.187	0.020	"	0.200		93.3	70-130
Dibenz (a,h) anthracene	0.183	0.020	"	0.200		91.6	70-130
Fluoranthene	0.186	0.020	"	0.200		93.0	70-130
Fluorene	0.185	0.020	"	0.200		92.6	70-130
Indeno (1,2,3-cd) pyrene	0.170	0.020	"	0.200		84.8	70-130
Naphthalene	0.184	0.002	"	0.200		92.1	70-130
Phenanthrene	0.184	0.020	"	0.200		91.8	70-130
Pyrene	0.196	0.020	"	0.200		98.0	70-130

Surrogate: Fluorene-d10	200		ug/kg	200		99.9	60-130
Surrogate: Anthracene-d10	190		"	200		96.9	60-130
Surrogate: Pyrene-d10	210		"	200		104	60-130
Surrogate: Benzo (a) pyrene-d12	200		"	200		101	60-130

Matrix Spike (B4G2923-MS1)

Source: Y407756-01

Prepared: 07/29/2024 Analyzed: 07/29/2024

1-Methylnaphthalene	0.195	0.002	mg/kg	0.200	0.0009	96.9	70-130
2-Methylnaphthalene	0.196	0.002	"	0.200	0.002	97.1	70-130
Acenaphthene	0.196	0.020	"	0.200	ND	98.0	70-130
Anthracene	0.186	0.020	"	0.200	ND	92.9	70-130

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Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

EPA 8270E (SW846) - Semivolatile Organic Compounds - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4G2923 - EPA 3580

Matrix Spike (B4G2923-MS1)		Source: Y407756-01			Prepared: 07/29/2024 Analyzed: 07/29/2024					
Benzo (a) anthracene	0.192	0.005	mg/kg	0.200	0.001	95.3	70-130			
Benzo (a) pyrene	0.194	0.020	"	0.200	ND	96.9	70-130			
Benzo (b) fluoranthene	0.211	0.020	"	0.200	0.002	104	70-130			
Benzo (g,h,i) perylene	0.200	0.020	"	0.200	0.003	98.6	70-130			
Benzo (k) fluoranthene	0.193	0.020	"	0.200	0.0009	96.1	70-130			
Chrysene	0.211	0.020	"	0.200	0.002	105	70-130			
Dibenz (a,h) anthracene	0.198	0.020	"	0.200	ND	98.8	70-130			
Fluoranthene	0.197	0.020	"	0.200	0.002	97.8	70-130			
Fluorene	0.197	0.020	"	0.200	ND	98.6	70-130			
Indeno (1,2,3-cd) pyrene	0.185	0.020	"	0.200	0.001	91.7	70-130			
Naphthalene	0.195	0.002	"	0.200	ND	97.4	70-130			
Phenanthrene	0.195	0.020	"	0.200	0.001	96.7	70-130			
Pyrene	0.204	0.020	"	0.200	0.002	101	70-130			
Surrogate: Fluorene-d10	200		ug/kg	200		99.9	60-130			
Surrogate: Anthracene-d10	190		"	200		97.0	60-130			
Surrogate: Pyrene-d10	210		"	200		103	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		99.6	60-130			

Matrix Spike Dup (B4G2923-MSD1)		Source: Y407756-01			Prepared: 07/29/2024 Analyzed: 07/29/2024					
1-Methylnaphthalene	0.198	0.002	mg/kg	0.200	0.0009	98.6	70-130	1.79	20	
2-Methylnaphthalene	0.199	0.002	"	0.200	0.002	98.7	70-130	1.61	20	
Acenaphthene	0.202	0.020	"	0.200	ND	101	70-130	2.84	20	
Anthracene	0.193	0.020	"	0.200	ND	96.5	70-130	3.80	20	
Benzo (a) anthracene	0.200	0.005	"	0.200	0.001	99.4	70-130	4.21	20	
Benzo (a) pyrene	0.218	0.020	"	0.200	ND	109	70-130	11.7	20	
Benzo (b) fluoranthene	0.222	0.020	"	0.200	0.002	110	70-130	5.26	20	
Benzo (g,h,i) perylene	0.202	0.020	"	0.200	0.003	100	70-130	1.35	20	

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Chris Roy
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Project: UCRA Remedial Excavation

EPA 8270E (SW846) - Semivolatile Organic Compounds - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4G2923 - EPA 3580										
Matrix Spike Dup (B4G2923-MSD1)		Source: Y407756-01			Prepared: 07/29/2024 Analyzed: 07/29/2024					
Benzo (k) fluoranthene	0.225	0.020	mg/kg	0.200	0.0009	112	70-130	15.4	20	
Chrysene	0.199	0.020	"	0.200	0.002	98.4	70-130	6.05	20	
Dibenz (a,h) anthracene	0.205	0.020	"	0.200	ND	103	70-130	3.77	20	
Fluoranthene	0.198	0.020	"	0.200	0.002	98.2	70-130	0.446	20	
Fluorene	0.199	0.020	"	0.200	ND	99.5	70-130	0.868	20	
Indeno (1,2,3-cd) pyrene	0.206	0.020	"	0.200	0.001	102	70-130	11.0	20	
Naphthalene	0.199	0.002	"	0.200	ND	99.5	70-130	2.22	20	
Phenanthrene	0.198	0.020	"	0.200	0.001	98.4	70-130	1.71	20	
Pyrene	0.206	0.020	"	0.200	0.002	102	70-130	0.673	20	
Surrogate: Fluorene-d10	200		ug/kg	200		99.3	60-130			
Surrogate: Anthracene-d10	190		"	200		95.9	60-130			
Surrogate: Pyrene-d10	200		"	200		102	60-130			
Surrogate: Benzo (a) pyrene-d12	210		"	200		103	60-130			

Origins Laboratory, Inc.



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Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Classical Chemistry Parameters - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4H1307 - DTPA Sorbitol Preparation										
Blank (B4H1307-BLK1)					Prepared: 08/13/2024 Analyzed: 08/14/2024					
Boron	ND	0.100	mg/L							
Duplicate (B4H1307-DUP1)					Source: Y407060-01 Prepared: 08/13/2024 Analyzed: 08/14/2024					
Boron	0.149	0.100	mg/L		0.133			11.5	50	
Batch B4H1312 - Saturated Paste Metals										
Blank (B4H1312-BLK1)					Prepared: 08/13/2024 Analyzed: 08/14/2024					
SAR	ND	0.0100	SAR							
Calcium PPM	ND	10.0	mg/L							
Magnesium PPM	ND	10.0	"							
Sodium PPM	ND	10.0	"							
Duplicate (B4H1312-DUP1)					Source: Y407060-01 Prepared: 08/13/2024 Analyzed: 08/14/2024					
Calcium PPM	41.2	10.0	mg/L		49.0			17.2	50	
SAR	ND	0.0100	SAR		0.157				200	
Magnesium PPM	10.5	10.0	mg/L		11.7			10.9	50	
Sodium PPM	4.44	10.0	"		4.72			6.11	50	

Origins Laboratory, Inc.



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Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Saturated Paste - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4H1317 - Saturated Paste pH/EC										
Blank (B4H1317-BLK1)					Prepared: 08/13/2024 Analyzed: 08/14/2024					
Specific Conductance (EC)	ND	0.00500	mmhos/cm							
Duplicate (B4H1317-DUP1)					Source: Y407060-01 Prepared: 08/13/2024 Analyzed: 08/14/2024					
Specific Conductance (EC)	0.345	0.00500	mmhos/cm		0.336			2.61	25	
pH	7.72		pH Units		7.62			1.30	25	

Origins Laboratory, Inc.



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Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Notes and Definitions

U Sample is Non-Detect.

QR-02 The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



August 23, 2024

Stantec Consulting Services

Chris Roy

2000 S. Colorado Blvd. Suite 2-300

Denver

CO 80222

Project Name - UCRA Remedial Excavation

Project Number - [none]

Attached are your analytical results for UCRA Remedial Excavation received by Origins Laboratory, Inc. August 16, 2024. This project is associated with Origins project number Y408445-01.

The analytical results in the following report were analyzed under the guidelines of EPA Methods. These methods are identified as follows; "SW" are defined in SW-846, "EPA" are defined in 40CFR part 136 and "SM" are defined in the most current revision of Standard Methods For the Examination of Water and Wastewater.

The analytical results apply specifically to the samples and analyses specified per the attached Chain of Custody. As such, this report shall not be reproduced except in full, without the written approval of Origin's laboratory.

Unless otherwise noted, the analytical results for all soil samples are reported on a wet weight basis. All analytical analyses were performed under NELAP guidelines unless noted by a data qualifier.

Any holding time exceedances, deviations from the method specifications or deviations from Origins Laboratory's Standard Operating Procedures are outlined in the case narrative.

Thank you for selecting Origins for your analytical needs. Please contact us with any questions concerning this report, or if we can help with anything at all.

Origins Laboratory, Inc.
303.433.1322
o-squad@oelabinc.com



1725 Elk Place, Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

Stantec Consulting Services

2000 S. Colorado Blvd. Suite 2-300

Denver CO 80222

Chris Roy

Project Number: [none]

Project: UCRA Remedial Excavation

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Composite 15	Y408445-01	Soil	August 16, 2024 11:05	08/16/2024 17:30
Composite 16	Y408445-02	Soil	August 16, 2024 11:15	08/16/2024 17:30
Composite 17	Y408445-03	Soil	August 16, 2024 11:25	08/16/2024 17:30
Composite 18	Y408445-04	Soil	August 16, 2024 11:40	08/16/2024 17:30
Trip Blank	Y408445-05	Water	August 15, 2024 11:40	08/16/2024 17:30

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Page 3 of 36

Stantec Consulting Services

2000 S. Colorado Blvd. Suite 2-300

Denver CO 80222

Chris Roy

Project Number: [none]

Project: UCRA Remedial Excavation

Origins Laboratory

F-012207-01-R1
Effective Date: 01/09/12

Sample Receipt Checklist

Origins Work Order: 4408445

Client: Stantec

Client Project ID: UCRA Remedial

Checklist Completed by: TJW

Shipped Via: TIV
(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Date/time completed: 8/19/24

Airbill #: N/A

Matrix(s) Received: (Check all that apply) ☒ Soil/Solid ☒ Water ☐ Other: _____

Cooler Number/Temperature: 1, 4 °C / _____ °C / _____ °C (Describe)

Thermometer ID: 7005

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?	/			
Is there ice present (document if blue ice is used)	/			
Are custody seals present on cooler? (If so, document in comments if they are signed and dated, broken or intact)			/	
Are custody seals present on each sample container? (If so, document in comments if they are signed and dated, broken or intact)			/	
Were all samples received intact ⁽¹⁾ ?	/			
Was adequate sample volume provided ⁽¹⁾ ?	/			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?		/		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	/			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	/			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	/			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	/			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.		/		
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH < 2 for samples preserved with HNO ₃ ; HCL, H ₂ SO ₄) / (pH > 10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)	/			not checked
Additional Comments (if any):				

⁽¹⁾If NO, then contact the client before proceeding with analysis and note date/time and person contacted as well as the corrective action to in the additional comments (above) and the case narrative.

Reviewed by (Project Manager) [Signature] Date/Time Reviewed 8/19/24

Origins Laboratory, Inc.

J. Bynon

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Composite 15

8/16/2024 11:05:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y408445-01 (Soil)

Boron (DTPA Sorbitol)

Boron	ND	0.0984	mg/L	1	B4H2011	KRM	08/20/2024	08/21/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4H1901	ZZZ	08/19/2024	08/19/2024	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	ZZZ	"	"	U

Surrogate: o-Terphenyl	78.9 %	50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4H1904	HKS	08/19/2024	08/19/2024	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	HKS	"	"	U
Benzene	ND	0.00200	"	"	"	HKS	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	HKS	"	"	U
Toluene	ND	0.00200	"	"	"	HKS	"	"	U
Xylenes, total	ND	0.00200	"	"	"	HKS	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	HKS	"	"	U

Surrogate: 1,2-Dichloroethane-d4	102 %	70-130			"	"	"	
Surrogate: Toluene-d8	93.3 %	70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	97.8 %	70-130			"	"	"	

Origins Laboratory, Inc.



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Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Composite 15

8/16/2024 11:05:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y408445-01 (Soil)

Metals by Saturated Paste by EPA 6010

Calcium	1.55	0.499	meq/L	10	[CALC]	KRM	08/20/2024	08/21/2024	
Magnesium	ND	0.823	"	"	"	KRM	"	"	
Sodium	ND	0.435	"	"	"	KRM	"	"	

PAH by EPA 8270E

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4H1905	agile	08/19/2024	08/19/2024	U
2-Methylnaphthalene	ND	0.002	"	"	"	agile	"	"	U
Benzo (a) anthracene	ND	0.005	"	"	"	agile	"	"	U
Naphthalene	ND	0.002	"	"	"	agile	"	"	U

Surrogate: Fluorene-d10	94.5 %	60-130			"	"	"	
Surrogate: Anthracene-d10	101 %	60-130			"	"	"	
Surrogate: Pyrene-d10	104 %	60-130			"	"	"	
Surrogate: Benzo (a) pyrene-d12	98.9 %	60-130			"	"	"	

pH in Soil by 9045D

pH	7.99		pH Units	1	B4H2018	ACC	08/20/2024	08/21/2024	
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SAR by 20B Saturated Paste

SAR	0.313	0.0100	SAR	1	B4H2004	KRM	08/20/2024	08/21/2024	
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Origins Laboratory, Inc.



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Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Composite 15

8/16/2024 11:05:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y408445-01 (Soil)

Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.288	0.00500	mmhos/cm	1	B4H2018	ACC	08/20/2024	08/21/2024
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Origins Laboratory, Inc.



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Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Composite 16
8/16/2024 11:15:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y408445-02 (Soil)

Boron (DTPA Sorbitol)

Boron	ND	0.101	mg/L	1	B4H2011	KRM	08/20/2024	08/21/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4H1901	ZZZ	08/19/2024	08/19/2024	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	ZZZ	"	"	U

Surrogate: o-Terphenyl	79.3 %	50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	0.0239	0.00200	mg/kg	1	B4H1904	HKS	08/19/2024	08/19/2024	
1,3,5-Trimethylbenzene	0.0274	0.00200	"	"	"	HKS	"	"	
Benzene	ND	0.00200	"	"	"	HKS	"	"	U
Ethylbenzene	0.00280	0.00200	"	"	"	HKS	"	"	
Toluene	ND	0.00200	"	"	"	HKS	"	"	U
Xylenes, total	0.0187	0.00200	"	"	"	HKS	"	"	
Gasoline Range Hydrocarbons	6.25	0.200	"	"	"	HKS	"	"	

Surrogate: 1,2-Dichloroethane-d4	102 %	70-130			"	"	"	
Surrogate: Toluene-d8	100 %	70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	98.3 %	70-130			"	"	"	

Metals by Saturated Paste by EPA 6010

Origins Laboratory, Inc.



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Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Composite 16

8/16/2024 11:15:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y408445-02 (Soil)

Metals by Saturated Paste by EPA 6010

Calcium	1.16	0.499	meq/L	10	[CALC]	KRM	08/20/2024	08/21/2024
Magnesium	ND	0.823	"	"	"	KRM	"	"
Sodium	0.555	0.435	"	"	"	KRM	"	"

PAH by EPA 8270E

1-Methylnaphthalene	0.035	0.002	mg/kg	1	B4H1905	agile	08/19/2024	08/19/2024
2-Methylnaphthalene	0.086	0.002	"	"	"	agile	"	"
Benzo (a) anthracene	ND	0.005	"	"	"	agile	"	" U
Naphthalene	0.022	0.002	"	"	"	agile	"	"

Surrogate: Fluorene-d10	96.3 %	60-130	"	"	"
Surrogate: Anthracene-d10	97.6 %	60-130	"	"	"
Surrogate: Pyrene-d10	102 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	103 %	60-130	"	"	"

pH in Soil by 9045D

pH	7.87	pH Units	1	B4H2018	ACC	08/20/2024	08/21/2024
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SAR by 20B Saturated Paste

SAR	0.576	0.0100	SAR	1	B4H2004	KRM	08/20/2024	08/21/2024
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Specific Conductance Mod. 9050A

Origins Laboratory, Inc.



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Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Composite 16

8/16/2024 11:15:00AM

Analyte	Result	Reporting	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.
Y408445-02 (Soil)

Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.274	0.00500	mmhos/cm	1	B4H2018	ACC	08/20/2024	08/21/2024
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Origins Laboratory, Inc.



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Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Composite 17

8/16/2024 11:25:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y408445-03 (Soil)

Boron (DTPA Sorbitol)

Boron	ND	0.101	mg/L	1	B4H2011	KRM	08/20/2024	08/21/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4H1901	ZZZ	08/19/2024	08/19/2024	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	ZZZ	"	"	U

Surrogate: o-Terphenyl	81.1 %	50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	0.0445	0.00200	mg/kg	1	B4H1904	HKS	08/19/2024	08/19/2024
1,3,5-Trimethylbenzene	0.0261	0.00200	"	"	"	HKS	"	"
Benzene	0.0313	0.00200	"	"	"	HKS	"	"
Ethylbenzene	0.0413	0.00200	"	"	"	HKS	"	"
Toluene	0.0369	0.00200	"	"	"	HKS	"	"
Xylenes, total	0.233	0.00200	"	"	"	HKS	"	"
Gasoline Range Hydrocarbons	2.52	0.200	"	"	"	HKS	"	"

Surrogate: 1,2-Dichloroethane-d4	103 %	70-130			"	"	"
Surrogate: Toluene-d8	103 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	97.9 %	70-130			"	"	"

Metals by Saturated Paste by EPA 6010

Calcium	0.572	0.499	meq/L	10	[CALC]	KRM	08/20/2024	08/21/2024
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Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Composite 17

8/16/2024 11:25:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y408445-03 (Soil)

Metals by Saturated Paste by EPA 6010

Magnesium	ND	0.823	meq/L	10	[CALC]	KRM	08/20/2024	08/21/2024
Sodium	0.578	0.435	"	"	"	KRM	"	"

PAH by EPA 8270E

1-Methylnaphthalene	0.054	0.002	mg/kg	1	B4H1905	agile	08/19/2024	08/19/2024
2-Methylnaphthalene	0.149	0.002	"	"	"	agile	"	"
Benzo (a) anthracene	ND	0.005	"	"	"	agile	"	" U
Naphthalene	0.049	0.002	"	"	"	agile	"	"

Surrogate: Fluorene-d10	94.6 %	60-130			"	"	"
Surrogate: Anthracene-d10	94.5 %	60-130			"	"	"
Surrogate: Pyrene-d10	101 %	60-130			"	"	"
Surrogate: Benzo (a) pyrene-d12	102 %	60-130			"	"	"

pH in Soil by 9045D

pH	7.97	pH Units	1	B4H2018	ACC	08/20/2024	08/21/2024
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SAR by 20B Saturated Paste

SAR	0.848	0.0100	SAR	1	B4H2004	KRM	08/20/2024	08/21/2024
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.184	0.00500	mmhos/cm	1	B4H2018	ACC	08/20/2024	08/21/2024
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Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Composite 18

8/16/2024 11:40:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y408445-04 (Soil)

Boron (DTPA Sorbitol)

Boron	ND	0.0993	mg/L	1	B4H2011	KRM	08/20/2024	08/21/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4H1901	ZZZ	08/19/2024	08/19/2024	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	ZZZ	"	"	U

Surrogate: o-Terphenyl	75.2 %	50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4H1904	HKS	08/19/2024	08/19/2024	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	HKS	"	"	U
Benzene	ND	0.00200	"	"	"	HKS	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	HKS	"	"	U
Toluene	ND	0.00200	"	"	"	HKS	"	"	U
Xylenes, total	ND	0.00200	"	"	"	HKS	"	"	U
Gasoline Range Hydrocarbons	2.91	0.200	"	"	"	HKS	"	"	

Surrogate: 1,2-Dichloroethane-d4	106 %	70-130			"	"	"
Surrogate: Toluene-d8	102 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	97.6 %	70-130			"	"	"

Metals by Saturated Paste by EPA 6010

Origins Laboratory, Inc.



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Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Composite 18

8/16/2024 11:40:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y408445-04 (Soil)

Metals by Saturated Paste by EPA 6010

Calcium	0.690	0.499	meq/L	10	[CALC]	KRM	08/20/2024	08/21/2024
Magnesium	ND	0.823	"	"	"	KRM	"	"
Sodium	ND	0.435	"	"	"	KRM	"	"

PAH by EPA 8270E

1-Methylnaphthalene	0.140	0.002	mg/kg	1	B4H1905	agile	08/19/2024	08/19/2024
2-Methylnaphthalene	0.410	0.002	"	"	"	agile	"	"
Benzo (a) anthracene	0.013	0.005	"	"	"	agile	"	"
Naphthalene	0.180	0.002	"	"	"	agile	"	"

Surrogate: Fluorene-d10	96.2 %	60-130	"	"	"
Surrogate: Anthracene-d10	97.9 %	60-130	"	"	"
Surrogate: Pyrene-d10	101 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	99.4 %	60-130	"	"	"

pH in Soil by 9045D

pH	7.82	pH Units	1	B4H2019	ACC	08/20/2024	08/21/2024
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SAR by 20B Saturated Paste

SAR	0.454	0.0100	SAR	1	B4H2005	KRM	08/20/2024	08/21/2024
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Specific Conductance Mod. 9050A

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Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Composite 18

8/16/2024 11:40:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y408445-04 (Soil)

Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.176	0.00500	mmhos/cm	1	B4H2019	ACC	08/20/2024	08/21/2024
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Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Trip Blank

8/15/2024 11:40:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y408445-05 (Water)

BTEX by EPA 8260D

Benzene	ND	1.00	ug/L	1	B4H1642	JSM	08/16/2024	08/19/2024	U
Toluene	ND	1.00	"	"	"	JSM	"	"	U
Ethylbenzene	ND	1.00	"	"	"	JSM	"	"	U
Xylenes, total	ND	1.00	"	"	"	JSM	"	"	U

Surrogate: 1,2-Dichloroethane-d4	105 %	70-130			"	"	"
Surrogate: Toluene-d8	98.0 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	101 %	70-130			"	"	"

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Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4H1642 - EPA 5030B (Water)

Blank (B4H1642-BLK1)

Prepared: 08/16/2024 Analyzed: 08/19/2024

Benzene	ND	1.00	ug/L							U
Toluene	ND	1.00	"							U
Ethylbenzene	ND	1.00	"							U
Xylenes, total	ND	1.00	"							U
Surrogate: 1,2-Dichloroethane-d4	65		"	62.5	104		70-130			
Surrogate: Toluene-d8	62		"	62.5	98.6		70-130			
Surrogate: 4-Bromofluorobenzene	64		"	62.5	103		70-130			

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Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4H1642 - EPA 5030B (Water)										
LCS (B4H1642-BS1)					Prepared: 08/16/2024 Analyzed: 08/19/2024					
Benzene	51.0	1.00	ug/L	50.0		102	70-130			
Toluene	48.1	1.00	"	50.0		96.2	70-130			
Ethylbenzene	49.7	1.00	"	50.0		99.4	70-130			
m,p-Xylene	98.3	2.00	"	100		98.3	70-130			
o-Xylene	48.4	1.00	"	50.0		96.9	70-130			
Surrogate: 1,2-Dichloroethane-d4	63		"	62.5		101	70-130			
Surrogate: Toluene-d8	62		"	62.5		98.7	70-130			
Surrogate: 4-Bromofluorobenzene	65		"	62.5		104	70-130			

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Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4H1642 - EPA 5030B (Water)

Matrix Spike (B4H1642-MS1)		Source: Y408383-21			Prepared: 08/16/2024 Analyzed: 08/19/2024					
Benzene	46.1	1.00	ug/L	50.0	0.860	90.4	70-130			
Toluene	43.7	1.00	"	50.0	ND	87.4	70-130			
Ethylbenzene	47.0	1.00	"	50.0	ND	94.0	70-130			
m,p-Xylene	93.6	2.00	"	100	ND	93.6	70-130			
o-Xylene	45.2	1.00	"	50.0	0.120	90.1	70-130			
Surrogate: 1,2-Dichloroethane-d4	58		"	62.5		92.8	70-130			
Surrogate: Toluene-d8	63		"	62.5		100	70-130			
Surrogate: 4-Bromofluorobenzene	67		"	62.5		107	70-130			

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Project Number: [none]
Project: UCRA Remedial Excavation

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4H1642 - EPA 5030B (Water)										
Matrix Spike Dup (B4H1642-MSD1)			Source: Y408383-21		Prepared: 08/16/2024 Analyzed: 08/19/2024					
Benzene	55.1	1.00	ug/L	50.0	0.860	109	70-130	17.9	20	
Toluene	50.8	1.00	"	50.0	ND	102	70-130	15.0	20	
Ethylbenzene	53.0	1.00	"	50.0	ND	106	70-130	12.0	20	
m,p-Xylene	105	2.00	"	100	ND	105	70-130	11.5	20	
o-Xylene	51.7	1.00	"	50.0	0.120	103	70-130	13.4	20	
Surrogate: 1,2-Dichloroethane-d4	63		"	62.5		101	70-130			
Surrogate: Toluene-d8	61		"	62.5		97.8	70-130			
Surrogate: 4-Bromofluorobenzene	66		"	62.5		106	70-130			

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Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4H1901 - EPA 3550B										
Blank (B4H1901-BLK1)					Prepared: 08/19/2024 Analyzed: 08/19/2024					
Diesel (C10-C28)	ND	25.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	100	"							U
Surrogate: o-Terphenyl	20		"	24.9		82.1	50-150			

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Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4H1901 - EPA 3550B										
LCS (B4H1901-BS1)					Prepared: 08/19/2024 Analyzed: 08/19/2024					
Diesel (C10-C28)	1010	50.0	mg/kg	1000		101	70-130			
Residual Range Organics (C28-C40)	1030	200	"	1000		103	70-130			
Surrogate: o-Terphenyl	54		"	49.8		109	50-150			

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Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4H1901 - EPA 3550B										
Matrix Spike (B4H1901-MS1)		Source: Y408445-01			Prepared: 08/19/2024 Analyzed: 08/19/2024					
Diesel (C10-C28)	973	50.0	mg/kg	1000	ND	97.3	70-130			
Residual Range Organics (C28-C40)	993	200	"	1000	ND	99.3	70-130			
Surrogate: o-Terphenyl	45		"	49.8		91.0	50-150			

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Project: UCRA Remedial Excavation

Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4H1901 - EPA 3550B										
Matrix Spike Dup (B4H1901-MSD1)										
					Source: Y408445-01					
					Prepared: 08/19/2024		Analyzed: 08/19/2024			
Diesel (C10-C28)	972	50.0	mg/kg	1000	ND	97.2	70-130	0.133	35	
Residual Range Organics (C28-C40)	992	200	"	1000	ND	99.2	70-130	0.0865	35	
Surrogate: o-Terphenyl	47		"	49.8		94.2	50-150			

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Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4H1904 - EPA 5030 (soil)										
Blank (B4H1904-BLK1)					Prepared: 08/19/2024 Analyzed: 08/19/2024					
1,2,4-Trimethylbenzene	ND	0.00200	mg/kg							U
1,3,5-Trimethylbenzene	ND	0.00200	"							U
Benzene	ND	0.00200	"							U
Ethylbenzene	ND	0.00200	"							U
Naphthalene	ND	0.00380	"							U
Toluene	ND	0.00200	"							U
Xylenes, total	ND	0.00200	"							U
Gasoline Range Hydrocarbons	ND	0.200	"							U
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		96.8	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		97.3	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		102	70-130			

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Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4H1904 - EPA 5030 (soil)										
LCS (B4H1904-BS1)					Prepared: 08/19/2024 Analyzed: 08/19/2024					
1,2,4-Trimethylbenzene	0.105	0.00200	mg/kg	0.100		105	70-130			
1,3,5-Trimethylbenzene	0.103	0.00200	"	0.100		103	70-130			
Benzene	0.101	0.00200	"	0.100		101	70-130			
Ethylbenzene	0.101	0.00200	"	0.100		101	70-130			
Naphthalene	0.108	0.00380	"	0.100		108	70-130			
Toluene	0.0979	0.00200	"	0.100		97.9	70-130			
o-Xylene	0.103	0.00200	"	0.100		103	70-130			
m,p-Xylene	0.203	0.00400	"	0.200		101	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		94.4	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		99.2	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		100	70-130			

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Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4H1904 - EPA 5030 (soil)										
Matrix Spike (B4H1904-MS1)		Source: Y408445-01			Prepared: 08/19/2024 Analyzed: 08/19/2024					
1,2,4-Trimethylbenzene	0.0821	0.00200	mg/kg	0.100	0.000800	81.3	70-130			
1,3,5-Trimethylbenzene	0.0812	0.00200	"	0.100	0.000620	80.5	70-130			
Benzene	0.0929	0.00200	"	0.100	ND	92.9	70-130			
Ethylbenzene	0.0853	0.00200	"	0.100	ND	85.3	70-130			
Naphthalene	0.0768	0.00380	"	0.100	0.00326	73.5	70-130			
Toluene	0.0892	0.00200	"	0.100	ND	89.2	70-130			
o-Xylene	0.0822	0.00200	"	0.100	ND	82.2	70-130			
m,p-Xylene	0.171	0.00400	"	0.200	ND	85.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		98.9	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		98.6	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		97.9	70-130			

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Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4H1904 - EPA 5030 (soil)										
Matrix Spike Dup (B4H1904-MSD1)		Source: Y408445-01			Prepared: 08/19/2024 Analyzed: 08/19/2024					
1,2,4-Trimethylbenzene	0.0950	0.00200	mg/kg	0.100	0.000800	94.2	70-130	14.6	20	
1,3,5-Trimethylbenzene	0.0930	0.00200	"	0.100	0.000620	92.4	70-130	13.6	20	
Benzene	0.107	0.00200	"	0.100	ND	107	70-130	14.0	20	
Ethylbenzene	0.0955	0.00200	"	0.100	ND	95.5	70-130	11.3	20	
Naphthalene	0.0992	0.00380	"	0.100	0.00326	95.9	70-130	25.5	20	QR-02
Toluene	0.101	0.00200	"	0.100	ND	101	70-130	12.4	20	
o-Xylene	0.0921	0.00200	"	0.100	ND	92.1	70-130	11.3	20	
m,p-Xylene	0.193	0.00400	"	0.200	ND	96.6	70-130	12.1	20	
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		101	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		96.8	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		96.4	70-130			

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Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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EPA 8270E (SW846) - Semivolatile Organic Compounds - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4H1905 - EPA 3580

Blank (B4H1905-BLK1)

Prepared: 08/19/2024 Analyzed: 08/19/2024

1-Methylnaphthalene	ND	0.002	mg/kg							U
2-Methylnaphthalene	ND	0.002	"							U
Acenaphthene	ND	0.020	"							U
Anthracene	ND	0.020	"							U
Benzo (a) anthracene	ND	0.005	"							U
Benzo (a) pyrene	ND	0.020	"							U
Benzo (b) fluoranthene	ND	0.020	"							U
Benzo (g,h,i) perylene	ND	0.020	"							U
Benzo (k) fluoranthene	ND	0.020	"							U
Chrysene	ND	0.020	"							U
Dibenz (a,h) anthracene	ND	0.020	"							U
Fluoranthene	ND	0.020	"							U
Fluorene	ND	0.020	"							U
Indeno (1,2,3-cd) pyrene	ND	0.020	"							U
Naphthalene	ND	0.002	"							U
Phenanthrene	ND	0.020	"							U
Pyrene	ND	0.020	"							U
Surrogate: Fluorene-d10	200		ug/kg	200		98.0	60-130			
Surrogate: Anthracene-d10	200		"	200		98.1	60-130			
Surrogate: Pyrene-d10	200		"	200		102	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		102	60-130			

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Project: UCRA Remedial Excavation

EPA 8270E (SW846) - Semivolatile Organic Compounds - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4H1905 - EPA 3580

LCS (B4H1905-BS1)

Prepared: 08/19/2024 Analyzed: 08/19/2024

1-Methylnaphthalene	0.176	0.002	mg/kg	0.200		88.1	70-130
2-Methylnaphthalene	0.174	0.002	"	0.200		87.0	70-130
Acenaphthene	0.179	0.020	"	0.200		89.4	70-130
Anthracene	0.166	0.020	"	0.200		82.8	70-130
Benzo (a) anthracene	0.180	0.005	"	0.200		89.9	70-130
Benzo (a) pyrene	0.172	0.020	"	0.200		86.1	70-130
Benzo (b) fluoranthene	0.174	0.020	"	0.200		87.0	70-130
Benzo (g,h,i) perylene	0.177	0.020	"	0.200		88.3	70-130
Benzo (k) fluoranthene	0.176	0.020	"	0.200		88.0	70-130
Chrysene	0.176	0.020	"	0.200		88.0	70-130
Dibenz (a,h) anthracene	0.171	0.020	"	0.200		85.5	70-130
Fluoranthene	0.184	0.020	"	0.200		92.0	70-130
Fluorene	0.176	0.020	"	0.200		88.2	70-130
Indeno (1,2,3-cd) pyrene	0.215	0.020	"	0.200		108	70-130
Naphthalene	0.178	0.002	"	0.200		88.8	70-130
Phenanthrene	0.174	0.020	"	0.200		86.9	70-130
Pyrene	0.179	0.020	"	0.200		89.3	70-130

Surrogate: Fluorene-d10	200		ug/kg	200		97.5	60-130
Surrogate: Anthracene-d10	200		"	200		99.4	60-130
Surrogate: Pyrene-d10	210		"	200		103	60-130
Surrogate: Benzo (a) pyrene-d12	200		"	200		99.7	60-130

Matrix Spike (B4H1905-MS1)

Source: Y408445-01

Prepared: 08/19/2024 Analyzed: 08/19/2024

1-Methylnaphthalene	0.166	0.002	mg/kg	0.200	0.0007	82.5	70-130
2-Methylnaphthalene	0.167	0.002	"	0.200	0.001	82.7	70-130
Acenaphthene	0.171	0.020	"	0.200	0.0007	85.3	70-130
Anthracene	0.159	0.020	"	0.200	ND	79.3	70-130

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

EPA 8270E (SW846) - Semivolatile Organic Compounds - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4H1905 - EPA 3580

Matrix Spike (B4H1905-MS1)		Source: Y408445-01			Prepared: 08/19/2024 Analyzed: 08/19/2024					
Benzo (a) anthracene	0.169	0.005	mg/kg	0.200	0.0004	84.1	70-130			
Benzo (a) pyrene	0.179	0.020	"	0.200	0.002	88.7	70-130			
Benzo (b) fluoranthene	0.183	0.020	"	0.200	0.0004	91.2	70-130			
Benzo (g,h,i) perylene	0.172	0.020	"	0.200	0.001	85.4	70-130			
Benzo (k) fluoranthene	0.187	0.020	"	0.200	ND	93.3	70-130			
Chrysene	0.168	0.020	"	0.200	0.0007	83.7	70-130			
Dibenz (a,h) anthracene	0.176	0.020	"	0.200	ND	87.8	70-130			
Fluoranthene	0.167	0.020	"	0.200	ND	83.4	70-130			
Fluorene	0.170	0.020	"	0.200	ND	85.2	70-130			
Indeno (1,2,3-cd) pyrene	0.213	0.020	"	0.200	ND	106	70-130			
Naphthalene	0.170	0.002	"	0.200	ND	84.9	70-130			
Phenanthrene	0.166	0.020	"	0.200	ND	83.2	70-130			
Pyrene	0.168	0.020	"	0.200	ND	84.1	70-130			
Surrogate: Fluorene-d10	190		ug/kg	200		97.1	60-130			
Surrogate: Anthracene-d10	200		"	200		98.6	60-130			
Surrogate: Pyrene-d10	200		"	200		99.6	60-130			
Surrogate: Benzo (a) pyrene-d12	210		"	200		104	60-130			

Matrix Spike Dup (B4H1905-MSD1)		Source: Y408445-01			Prepared: 08/19/2024 Analyzed: 08/19/2024					
1-Methylnaphthalene	0.179	0.002	mg/kg	0.200	0.0007	89.4	70-130	7.91	20	
2-Methylnaphthalene	0.179	0.002	"	0.200	0.001	88.9	70-130	7.21	20	
Acenaphthene	0.177	0.020	"	0.200	0.0007	88.3	70-130	3.44	20	
Anthracene	0.189	0.020	"	0.200	ND	94.5	70-130	17.4	20	
Benzo (a) anthracene	0.181	0.005	"	0.200	0.0004	90.3	70-130	7.03	20	
Benzo (a) pyrene	0.175	0.020	"	0.200	0.002	86.8	70-130	2.17	20	
Benzo (b) fluoranthene	0.189	0.020	"	0.200	0.0004	94.1	70-130	3.19	20	
Benzo (g,h,i) perylene	0.176	0.020	"	0.200	0.001	87.7	70-130	2.61	20	

Origins Laboratory, Inc.



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Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

EPA 8270E (SW846) - Semivolatile Organic Compounds - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4H1905 - EPA 3580										
Matrix Spike Dup (B4H1905-MSD1)		Source: Y408445-01			Prepared: 08/19/2024 Analyzed: 08/19/2024					
Benzo (k) fluoranthene	0.180	0.020	mg/kg	0.200	ND	90.2	70-130	3.34	20	
Chrysene	0.181	0.020	"	0.200	0.0007	90.2	70-130	7.45	20	
Dibenz (a,h) anthracene	0.182	0.020	"	0.200	ND	91.2	70-130	3.82	20	
Fluoranthene	0.182	0.020	"	0.200	ND	91.0	70-130	8.76	20	
Fluorene	0.178	0.020	"	0.200	ND	89.0	70-130	4.36	20	
Indeno (1,2,3-cd) pyrene	0.223	0.020	"	0.200	ND	111	70-130	4.63	20	
Naphthalene	0.184	0.002	"	0.200	ND	92.0	70-130	8.01	20	
Phenanthrene	0.180	0.020	"	0.200	ND	90.0	70-130	7.92	20	
Pyrene	0.175	0.020	"	0.200	ND	87.6	70-130	4.18	20	
Surrogate: Fluorene-d10	190		ug/kg	200		96.2	60-130			
Surrogate: Anthracene-d10	200		"	200		97.8	60-130			
Surrogate: Pyrene-d10	200		"	200		99.3	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		101	60-130			

Origins Laboratory, Inc.



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Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Classical Chemistry Parameters - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4H2004 - Saturated Paste Metals

Blank (B4H2004-BLK1)

Prepared: 08/20/2024 Analyzed: 08/21/2024

SAR	ND	0.0100	SAR
Calcium PPM	ND	10.0	mg/L
Magnesium PPM	ND	10.0	"
Sodium PPM	ND	10.0	"

Duplicate (B4H2004-DUP1)

Source: Y407533-01

Prepared: 08/20/2024 Analyzed: 08/21/2024

Calcium PPM	99.2	10.0	mg/L	87.6	12.4	50
SAR	ND	0.0100	SAR	2.58		200
Magnesium PPM	20.5	10.0	mg/L	18.4	10.6	50
Sodium PPM	109	10.0	"	102	7.27	50

Batch B4H2005 - Saturated Paste Metals

Blank (B4H2005-BLK1)

Prepared: 08/20/2024 Analyzed: 08/21/2024

Calcium PPM	ND	10.0	mg/L
SAR	ND	0.0100	SAR
Magnesium PPM	ND	10.0	mg/L
Sodium PPM	ND	10.0	"

Duplicate (B4H2005-DUP1)

Source: Y408445-04

Prepared: 08/20/2024 Analyzed: 08/21/2024

Calcium PPM	10.3	10.0	mg/L	13.8	29.5	50
SAR	ND	0.0100	SAR	0.454		200
Magnesium PPM	4.54	10.0	mg/L	5.64	21.6	50
Sodium PPM	7.77	10.0	"	7.92	1.91	50

Batch B4H2011 - DTPA Sorbitol Preparation

Blank (B4H2011-BLK1)

Prepared: 08/20/2024 Analyzed: 08/21/2024

Origins Laboratory, Inc.



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Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Classical Chemistry Parameters - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4H2011 - DTPA Sorbitol Preparation										
Blank (B4H2011-BLK1)					Prepared: 08/20/2024 Analyzed: 08/21/2024					
Boron	ND	0.100	mg/L							
Duplicate (B4H2011-DUP1)					Source: Y407533-01 Prepared: 08/20/2024 Analyzed: 08/21/2024					
Boron	0.220	0.101	mg/L		0.275			22.3	50	

Origins Laboratory, Inc.



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Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Saturated Paste - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4H2018 - Saturated Paste pH/EC

Blank (B4H2018-BLK1)

Prepared: 08/20/2024 Analyzed: 08/21/2024

Specific Conductance (EC) ND 0.00500 mmhos/cm

Duplicate (B4H2018-DUP1)

Source: Y407533-01

Prepared: 08/20/2024 Analyzed: 08/21/2024

Specific Conductance (EC)	1.20	0.00500	mmhos/cm	1.11	7.99	25
pH	7.98		pH Units	8.13	1.86	25

Batch B4H2019 - Saturated Paste pH/EC

Blank (B4H2019-BLK1)

Prepared: 08/20/2024 Analyzed: 08/21/2024

Specific Conductance (EC) ND 0.00500 mmhos/cm

Duplicate (B4H2019-DUP1)

Source: Y408445-04

Prepared: 08/20/2024 Analyzed: 08/21/2024

Specific Conductance (EC)	0.163	0.00500	mmhos/cm	0.176	7.83	25
pH	7.71		pH Units	7.82	1.42	25

Origins Laboratory, Inc.



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Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Notes and Definitions

U Sample is Non-Detect.

QR-02 The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Stantec Consulting Services

Chris Roy

2000 S. Colorado Blvd. Suite 2-300

Denver

CO 80222

Project Name - UCRA Remedial Excavation

Project Number - [none]

Attached are your analytical results for UCRA Remedial Excavation received by Origins Laboratory, Inc. August 23, 2024. This project is associated with Origins project number Y408677-01.

The analytical results in the following report were analyzed under the guidelines of EPA Methods. These methods are identified as follows; "SW" are defined in SW-846, "EPA" are defined in 40CFR part 136 and "SM" are defined in the most current revision of Standard Methods For the Examination of Water and Wastewater.

The analytical results apply specifically to the samples and analyses specified per the attached Chain of Custody. As such, this report shall not be reproduced except in full, without the written approval of Origin's laboratory.

Unless otherwise noted, the analytical results for all soil samples are reported on a wet weight basis. All analytical analyses were performed under NELAP guidelines unless noted by a data qualifier.

Any holding time exceedances, deviations from the method specifications or deviations from Origins Laboratory's Standard Operating Procedures are outlined in the case narrative.

Thank you for selecting Origins for your analytical needs. Please contact us with any questions concerning this report, or if we can help with anything at all.

Origins Laboratory
303.433.1322
projectmanager@originslab.com



1725 Elk Place, Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

Stantec Consulting Services

2000 S. Colorado Blvd. Suite 2-300

Denver CO 80222

Chris Roy

Project Number: [none]

Project: UCRA Remedial Excavation

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Composite-19	Y408677-01	Soil	August 22, 2024 15:55	08/23/2024 16:49
Composite-20	Y408677-02	Soil	August 23, 2024 9:25	08/23/2024 16:49
Composite-21	Y408677-03	Soil	August 23, 2024 9:40	08/23/2024 16:49
Composite-22	Y408677-04	Soil	August 23, 2024 10:45	08/23/2024 16:49
Composite-23	Y408677-05	Soil	August 23, 2024 11:00	08/23/2024 16:49
Composite-24	Y408677-06	Soil	August 23, 2024 11:15	08/23/2024 16:49
Trip Blank	Y408677-07	Water	August 23, 2024 9:40	08/23/2024 16:49

Origins Laboratory



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jen Pellegrini, Project Manager

Stantec Consulting Services

2000 S. Colorado Blvd. Suite 2-300

Denver CO 80222

Chris Roy

Project Number: [none]

Project: UCRA Remedial Excavation

1735 Elk Place | Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.365.9445

ORIGINS

LABORATORY, INC.

4406697

www.originslaboratory.com

page 1 of 1

Client: Stantec
Address: 4107th Street, Suite 1400
Telephone Number: 303-829-5763
Email Address: chris.roy@stantec.com

Project Manager: Chris Roy
Project Name: UCRA Remedial Excavation
Project Number: 203723577 Task 300.007
Samples Collected By: chris.roy@stantec.com

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix	Analyze	Sample Instructions
				Unpreserved	HCl	HNO ₃	Other			
Capcut-19	8/22/11	15:55	1 X							
-20	8-23-24	9:25								
-21		9:40								
-22		10:45								
-23		11:00								
-24		11:15								
Trans 19	8/23/24	9:10								
Trans 20	8/23/24	9:10								
Trans 21	8/23/24	9:10								
Trans 22	8/23/24	9:10								
Trans 23	8/23/24	9:10								
Trans 24	8/23/24	9:10								

Received By: [Signature] Date: 8/23/24 Time: 11:49

Received By: [Signature] Date: 8/23/24 Time: 11:58

Turnaround Time: 24 Hr

Standard: 48 Hr 72 Hr

Origins Laboratory

Jen Pellegrini

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jen Pellegrini, Project Manager

Stantec Consulting Services

2000 S. Colorado Blvd. Suite 2-300

Denver CO 80222

Chris Roy

Project Number: [none]

Project: UCRA Remedial Excavation

Origins Laboratory

Sample Receipt Checklist

F-012207-01-R1
Effective Date: 01/09/12

Origins Work Order: 440867A

Client: Stantec

Client Project ID: UCRA

Checklist Completed by: SAO

Shipped Via: HD

Date/time completed: 8/23/24

(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Airbill #: N/A

Matr(x)s Received: (Check all that apply) ☒ Soil/Solid ☒ Water ☐ Other: _____

Cooler Number/Temperature: 1 5.7 °C 1 °C 1 °C (Describe) 1 °C

Thermometer ID: 7005

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ^{1/2} ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact ^{1/2} ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ^{1/2} ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present ^{1/2} ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) present and filled out completely ^{1/2} ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ^{1/2} ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ^{1/2} ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client with date and time recorded ^{1/2} ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace (> ½ inch bubble) present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation and was it checked ^{1/2} ? (note ID of confirmation instrument used in comments) * (preservation is not confirmed for subcontracted analyses in order to insure sample integrity) (pH < 2 for samples preserved with HNO ₃ , HCL, H ₂ SO ₄) / (pH > 10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NC
Additional Comments (if any):				

^{1/2} If NO, then contact the client before proceeding with analysis and note date/time and person contacted as well as the corrective action to be taken in the additional comments (above) and the case narrative.

Reviewed by (Project Manager) SAO

Date/Time Reviewed 8/23/24

Origins Laboratory

Jen Pellegrini

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jen Pellegrini, Project Manager

Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Composite-19

8/22/2024 3:55:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y408677-01 (Soil) Origins Laboratory

Boron (DTPA Sorbitol)

Boron	ND	0.100	mg/L	1	B4H2618	KRM	08/26/2024	08/27/2024	U
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4H2357	ZZZ	08/23/2024	08/24/2024	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	ZZZ	"	"	U

Surrogate: o-Terphenyl	73.6 %	50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	0.00204	0.00200	mg/kg	1	B4H2355	JSM	08/23/2024	08/25/2024	
1,3,5-Trimethylbenzene	0.00546	0.00200	"	"	"	JSM	"	"	
Benzene	ND	0.00200	"	"	"	JSM	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	JSM	"	"	U
Toluene	ND	0.00200	"	"	"	JSM	"	"	U
Xylenes, total	0.00404	0.00200	"	"	"	JSM	"	"	
Gasoline Range Hydrocarbons	4.65	0.200	"	"	"	JSM	"	"	

Surrogate: 1,2-Dichloroethane-d4	108 %	70-130			"	"	"	
Surrogate: Toluene-d8	110 %	70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	107 %	70-130			"	"	"	

Metals by Saturated Paste by EPA 6010

Origins Laboratory



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Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Composite-19

8/22/2024 3:55:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y408677-01 (Soil) Origins Laboratory

Metals by Saturated Paste by EPA 6010

Calcium	1.29	0.499	meq/L	10	[CALC]	KRM	08/26/2024	08/27/2024	
Magnesium	ND	0.823	"	"	"	KRM	"	"	
Sodium	0.995	0.435	"	"	"	KRM	"	"	

PAH by EPA 8270E

1-Methylnaphthalene	0.029	0.002	mg/kg	1	B4H2360	N/windows	08/23/2024	08/24/2024	
2-Methylnaphthalene	0.055	0.002	"	"	"	N/windows	"	"	
Benzo (a) anthracene	ND	0.005	"	"	"	N/windows	"	"	U
Naphthalene	0.013	0.002	"	"	"	N/windows	"	"	

Surrogate: Fluorene-d10	102 %	60-130			"	"	"	"	
Surrogate: Anthracene-d10	93.4 %	60-130			"	"	"	"	
Surrogate: Pyrene-d10	98.9 %	60-130			"	"	"	"	
Surrogate: Benzo (a) pyrene-d12	99.3 %	60-130			"	"	"	"	

pH in Soil by 9045D

pH	8.40		pH Units	1	B4H2625	ACC	08/26/2024	08/27/2024	
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SAR by 20B Saturated Paste

SAR	0.971	0.0100	SAR	1	B4H2613	KRM	08/26/2024	08/27/2024	
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Specific Conductance Mod. 9050A

Origins Laboratory



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Stantec Consulting Services

2000 S. Colorado Blvd. Suite 2-300

Denver CO 80222

Chris Roy

Project Number: [none]

Project: UCRA Remedial Excavation

Composite-19

8/22/2024 3:55:00PM

Analyte	Result	Reporting	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
		Limit							

Y408677-01 (Soil)

Origins Laboratory

Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.357	0.00500	mmhos/cm	1	B4H2625	ACC	08/26/2024	08/29/2024
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Origins Laboratory



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jen Pellegrini, Project Manager

Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Composite-20
8/23/2024 9:25:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y408677-02 (Soil)
Origins Laboratory

Boron (DTPA Sorbitol)

Boron	ND	0.101	mg/L	1	B4H2618	KRM	08/26/2024	08/27/2024	U
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4H2357	ZZZ	08/23/2024	08/24/2024	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	ZZZ	"	"	U

Surrogate: o-Terphenyl	86.2 %	50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	0.00526	0.00200	mg/kg	1	B4H2355	JSM	08/23/2024	08/25/2024	
1,3,5-Trimethylbenzene	0.0180	0.00200	"	"	"	JSM	"	"	
Benzene	ND	0.00200	"	"	"	JSM	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	JSM	"	"	U
Toluene	ND	0.00200	"	"	"	JSM	"	"	U
Xylenes, total	0.00484	0.00200	"	"	"	JSM	"	"	
Gasoline Range Hydrocarbons	7.04	0.200	"	"	"	JSM	"	"	

Surrogate: 1,2-Dichloroethane-d4	110 %	70-130			"	"	"	
Surrogate: Toluene-d8	110 %	70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	106 %	70-130			"	"	"	

Metals by Saturated Paste by EPA 6010

Origins Laboratory



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Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Composite-20

8/23/2024 9:25:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y408677-02 (Soil) Origins Laboratory

Metals by Saturated Paste by EPA 6010

Calcium	1.16	0.499	meq/L	10	[CALC]	KRM	08/26/2024	08/27/2024	
Magnesium	ND	0.823	"	"	"	KRM	"	"	
Sodium	0.478	0.435	"	"	"	KRM	"	"	

PAH by EPA 8270E

1-Methylnaphthalene	0.049	0.002	mg/kg	1	B4H2360	N/windows	08/23/2024	08/24/2024	
2-Methylnaphthalene	0.131	0.002	"	"	"	N/windows	"	"	
Benzo (a) anthracene	ND	0.005	"	"	"	N/windows	"	"	U
Naphthalene	0.050	0.002	"	"	"	N/windows	"	"	

Surrogate: Fluorene-d10	102 %	60-130			"	"	"	"	
Surrogate: Anthracene-d10	94.4 %	60-130			"	"	"	"	
Surrogate: Pyrene-d10	98.4 %	60-130			"	"	"	"	
Surrogate: Benzo (a) pyrene-d12	98.7 %	60-130			"	"	"	"	

pH in Soil by 9045D

pH	8.26		pH Units	1	B4H2625	ACC	08/26/2024	08/27/2024	
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SAR by 20B Saturated Paste

SAR	0.498	0.0100	SAR	1	B4H2613	KRM	08/26/2024	08/27/2024	
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Specific Conductance Mod. 9050A

Origins Laboratory



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Stantec Consulting Services

2000 S. Colorado Blvd. Suite 2-300

Denver CO 80222

Chris Roy

Project Number: [none]

Project: UCRA Remedial Excavation

Composite-20

8/23/2024 9:25:00AM

Analyte	Result	Reporting	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
		Limit							

Y408677-02 (Soil)

Origins Laboratory

Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.281	0.00500	mmhos/cm	1	B4H2625	ACC	08/26/2024	08/29/2024
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Origins Laboratory



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Jen Pellegrini, Project Manager

Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Composite-21

8/23/2024 9:40:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y408677-03 (Soil) Origins Laboratory

Boron (DTPA Sorbitol)

Boron	ND	0.981	mg/L	10	B4H2618	KRM	08/26/2024	08/27/2024	U
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4H2357	ZZZ	08/23/2024	08/24/2024	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	ZZZ	"	"	U

Surrogate: o-Terphenyl	86.7 %	50-150			"	"	"	
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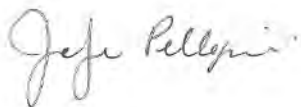
GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4H2355	JSM	08/23/2024	08/25/2024	U
1,3,5-Trimethylbenzene	0.00570	0.00200	"	"	"	JSM	"	"	
Benzene	0.00212	0.00200	"	"	"	JSM	"	"	
Ethylbenzene	ND	0.00200	"	"	"	JSM	"	"	U
Toluene	ND	0.00200	"	"	"	JSM	"	"	U
Xylenes, total	ND	0.00200	"	"	"	JSM	"	"	U
Gasoline Range Hydrocarbons	2.69	0.200	"	"	"	JSM	"	"	

Surrogate: 1,2-Dichloroethane-d4	105 %	70-130			"	"	"	
Surrogate: Toluene-d8	110 %	70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	103 %	70-130			"	"	"	

Metals by Saturated Paste by EPA 6010

Origins Laboratory



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Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Composite-21

8/23/2024 9:40:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y408677-03 (Soil) Origins Laboratory

Metals by Saturated Paste by EPA 6010

Calcium	1.41	0.499	meq/L	10	[CALC]	KRM	08/26/2024	08/27/2024
Magnesium	0.887	0.823	"	"	"	KRM	"	"
Sodium	0.643	0.435	"	"	"	KRM	"	"

PAH by EPA 8270E

1-Methylnaphthalene	0.025	0.002	mg/kg	1	B4H2360	N/A	08/23/2024	08/24/2024
2-Methylnaphthalene	0.055	0.002	"	"	"	N/A	"	"
Benzo (a) anthracene	ND	0.005	"	"	"	N/A	"	"
Naphthalene	0.012	0.002	"	"	"	N/A	"	"

Surrogate: Fluorene-d10	102 %	60-130			"	"	"
Surrogate: Anthracene-d10	94.6 %	60-130			"	"	"
Surrogate: Pyrene-d10	98.3 %	60-130			"	"	"
Surrogate: Benzo (a) pyrene-d12	100 %	60-130			"	"	"

pH in Soil by 9045D

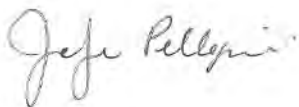
pH	8.10		pH Units	1	B4H2625	ACC	08/26/2024	08/27/2024
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SAR by 20B Saturated Paste

SAR	0.600	0.0100	SAR	1	B4H2613	KRM	08/26/2024	08/27/2024
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Specific Conductance Mod. 9050A

Origins Laboratory



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Stantec Consulting Services

2000 S. Colorado Blvd. Suite 2-300

Denver CO 80222

Chris Roy

Project Number: [none]

Project: UCRA Remedial Excavation

Composite-21

8/23/2024 9:40:00AM

Analyte	Result	Reporting	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
		Limit							

Y408677-03 (Soil)

Origins Laboratory

Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.337	0.00500	mmhos/cm	1	B4H2625	ACC	08/26/2024	08/29/2024
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Origins Laboratory



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Jen Pellegrini, Project Manager

Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Composite-22

8/23/2024 10:45:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y408677-04 (Soil) Origins Laboratory

Boron (DTPA Sorbitol)

Boron	ND	0.984	mg/L	10	B4H2619	KRM	08/26/2024	08/27/2024	U
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4H2357	ZZZ	08/23/2024	08/24/2024	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	ZZZ	"	"	U

Surrogate: o-Terphenyl	72.6 %	50-150	"	"	"	"	"	"
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GBTEX+TMBs by 8260D

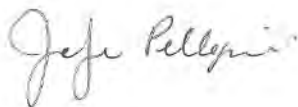
1,2,4-Trimethylbenzene	0.00260	0.00200	mg/kg	1	B4H2355	JSM	08/23/2024	08/25/2024
1,3,5-Trimethylbenzene	0.0152	0.00200	"	"	"	JSM	"	"
Benzene	0.00998	0.00200	"	"	"	JSM	"	"
Ethylbenzene	0.00644	0.00200	"	"	"	JSM	"	"
Toluene	0.00998	0.00200	"	"	"	JSM	"	"
Xylenes, total	0.0332	0.00200	"	"	"	JSM	"	"
Gasoline Range Hydrocarbons	1.81	0.200	"	"	"	JSM	"	"

Surrogate: 1,2-Dichloroethane-d4	107 %	70-130	"	"	"	"	"
Surrogate: Toluene-d8	109 %	70-130	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene	105 %	70-130	"	"	"	"	"

Metals by Saturated Paste by EPA 6010

Calcium	0.871	0.499	meq/L	10	[CALC]	KRM	08/26/2024	08/27/2024
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Origins Laboratory



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Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Composite-22
8/23/2024 10:45:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y408677-04 (Soil)
Origins Laboratory

Metals by Saturated Paste by EPA 6010

Magnesium	ND	0.823	meq/L	10	[CALC]	KRM	08/26/2024	08/27/2024	
Sodium	ND	0.435	"	"	"	KRM	"	"	

PAH by EPA 8270E

1-Methylnaphthalene	0.013	0.002	mg/kg	1	B4H2360	N/windows	08/23/2024	08/24/2024	
2-Methylnaphthalene	0.037	0.002	"	"	"	N/windows	"	"	
Benzo (a) anthracene	ND	0.005	"	"	"	N/windows	"	"	U
Naphthalene	0.016	0.002	"	"	"	N/windows	"	"	

Surrogate: Fluorene-d10	102 %	60-130			"	"	"	"	
Surrogate: Anthracene-d10	93.5 %	60-130			"	"	"	"	
Surrogate: Pyrene-d10	97.3 %	60-130			"	"	"	"	
Surrogate: Benzo (a) pyrene-d12	101 %	60-130			"	"	"	"	

pH in Soil by 9045D

pH	7.99		pH Units	1	B4H2625	ACC	08/26/2024	08/27/2024	
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SAR by 20B Saturated Paste

SAR	0.428	0.0100	SAR	1	B4H2613	KRM	08/26/2024	08/27/2024	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.178	0.00500	mmhos/cm	1	B4H2625	ACC	08/26/2024	08/29/2024	
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Origins Laboratory



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Stantec Consulting Services

2000 S. Colorado Blvd. Suite 2-300

Denver CO 80222

Chris Roy

Project Number: [none]

Project: UCRA Remedial Excavation

Composite-22

8/23/2024 10:45:00AM

Analyte	Result	Reporting	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
		Limit							

Y408677-04 (Soil)

Origins Laboratory



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Jen Pellegrini, Project Manager

Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Composite-23

8/23/2024 11:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y408677-05 (Soil) Origins Laboratory

Boron (DTPA Sorbitol)

Boron	ND	1.01	mg/L	10	B4H2619	KRM	08/26/2024	08/27/2024	U
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4H2357	ZZZ	08/23/2024	08/24/2024	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	ZZZ	"	"	U

Surrogate: o-Terphenyl	62.3 %	50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4H2355	JSM	08/23/2024	08/25/2024	U
1,3,5-Trimethylbenzene	0.00896	0.00200	"	"	"	JSM	"	"	
Benzene	ND	0.00200	"	"	"	JSM	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	JSM	"	"	U
Toluene	ND	0.00200	"	"	"	JSM	"	"	U
Xylenes, total	ND	0.00200	"	"	"	JSM	"	"	U
Gasoline Range Hydrocarbons	1.84	0.200	"	"	"	JSM	"	"	

Surrogate: 1,2-Dichloroethane-d4	107 %	70-130			"	"	"	
Surrogate: Toluene-d8	109 %	70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	105 %	70-130			"	"	"	

Metals by Saturated Paste by EPA 6010

Origins Laboratory



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Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Composite-23

8/23/2024 11:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y408677-05 (Soil) Origins Laboratory

Metals by Saturated Paste by EPA 6010

Calcium	1.12	0.499	meq/L	10	[CALC]	KRM	08/26/2024	08/27/2024	
Magnesium	ND	0.823	"	"	"	KRM	"	"	
Sodium	0.539	0.435	"	"	"	KRM	"	"	

PAH by EPA 8270E

1-Methylnaphthalene	0.015	0.002	mg/kg	1	B4H2360	N/A	08/23/2024	08/24/2024	
2-Methylnaphthalene	0.042	0.002	"	"	"	N/A	"	"	
Benzo (a) anthracene	ND	0.005	"	"	"	N/A	"	"	U
Naphthalene	0.014	0.002	"	"	"	N/A	"	"	

Surrogate: Fluorene-d10	101 %	60-130			"	"	"	"	
Surrogate: Anthracene-d10	95.3 %	60-130			"	"	"	"	
Surrogate: Pyrene-d10	97.5 %	60-130			"	"	"	"	
Surrogate: Benzo (a) pyrene-d12	100 %	60-130			"	"	"	"	

pH in Soil by 9045D

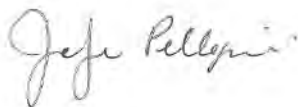
pH	8.21		pH Units	1	B4H2625	ACC	08/26/2024	08/27/2024	
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SAR by 20B Saturated Paste

SAR	0.557	0.0100	SAR	1	B4H2613	KRM	08/26/2024	08/27/2024	
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Specific Conductance Mod. 9050A

Origins Laboratory



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Stantec Consulting Services

2000 S. Colorado Blvd. Suite 2-300

Denver CO 80222

Chris Roy

Project Number: [none]

Project: UCRA Remedial Excavation

Composite-23

8/23/2024 11:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y408677-05 (Soil)

Origins Laboratory

Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.277	0.00500	mmhos/cm	1	B4H2625	ACC	08/26/2024	08/29/2024
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Origins Laboratory



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Jen Pellegrini, Project Manager

Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Composite-24

8/23/2024 11:15:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y408677-06 (Soil) Origins Laboratory

Boron (DTPA Sorbitol)

Boron	ND	1.00	mg/L	10	B4H2619	KRM	08/26/2024	08/27/2024	U
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4H2357	ZZZ	08/23/2024	08/24/2024	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	ZZZ	"	"	U

Surrogate: o-Terphenyl	65.9 %	50-150			"	"	"
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	0.00278	0.00200	mg/kg	1	B4H2355	JSM	08/23/2024	08/25/2024	
1,3,5-Trimethylbenzene	0.00598	0.00200	"	"	"	JSM	"	"	
Benzene	ND	0.00200	"	"	"	JSM	"	"	U
Ethylbenzene	0.00240	0.00200	"	"	"	JSM	"	"	
Toluene	ND	0.00200	"	"	"	JSM	"	"	U
Xylenes, total	0.00718	0.00200	"	"	"	JSM	"	"	
Gasoline Range Hydrocarbons	0.633	0.200	"	"	"	JSM	"	"	

Surrogate: 1,2-Dichloroethane-d4	108 %	70-130			"	"	"
Surrogate: Toluene-d8	109 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	106 %	70-130			"	"	"

Metals by Saturated Paste by EPA 6010

Origins Laboratory



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Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Composite-24

8/23/2024 11:15:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y408677-06 (Soil)

Origins Laboratory

Metals by Saturated Paste by EPA 6010

Calcium	1.65	0.499	meq/L	10	[CALC]	KRM	08/26/2024	08/27/2024
Magnesium	1.04	0.823	"	"	"	KRM	"	"
Sodium	0.581	0.435	"	"	"	KRM	"	"

PAH by EPA 8270E

1-Methylnaphthalene	0.006	0.002	mg/kg	1	B4H2360	N/A	08/23/2024	08/24/2024
2-Methylnaphthalene	0.019	0.002	"	"	"	N/A	"	"
Benzo (a) anthracene	ND	0.005	"	"	"	N/A	"	"
Naphthalene	0.011	0.002	"	"	"	N/A	"	"

Surrogate: Fluorene-d10	103 %	60-130			"	"	"
Surrogate: Anthracene-d10	93.5 %	60-130			"	"	"
Surrogate: Pyrene-d10	96.3 %	60-130			"	"	"
Surrogate: Benzo (a) pyrene-d12	100 %	60-130			"	"	"

pH in Soil by 9045D

pH	8.38		pH Units	1	B4H2625	ACC	08/26/2024	08/27/2024
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SAR by 20B Saturated Paste

SAR	0.502	0.0100	SAR	1	B4H2613	KRM	08/26/2024	08/27/2024
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Specific Conductance Mod. 9050A

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2000 S. Colorado Blvd. Suite 2-300

Denver CO 80222

Chris Roy

Project Number: [none]

Project: UCRA Remedial Excavation

Composite-24

8/23/2024 11:15:00AM

Analyte	Result	Reporting	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
		Limit							


Y408677-06 (Soil)

Origins Laboratory

Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.351	0.00500	mmhos/cm	1	B4H2625	ACC	08/26/2024	08/29/2024
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2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Trip Blank

8/23/2024 9:40:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y408677-07 (Water) Origins Laboratory

BTEX by EPA 8260D

Benzene	ND	1.00	ug/L	1	B4H2137	JSM	08/23/2024	08/23/2024	U
Toluene	ND	1.00	"	"	"	JSM	"	"	U
Ethylbenzene	ND	1.00	"	"	"	JSM	"	"	U
Xylenes, total	ND	1.00	"	"	"	JSM	"	"	U

Surrogate: 1,2-Dichloroethane-d4	91.8 %	70-130	"	"	"
Surrogate: Toluene-d8	98.6 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	92.1 %	70-130	"	"	"

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Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control

Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4H2355 - EPA 5030 (soil)										
Blank (B4H2355-BLK1)					Prepared: 08/23/2024 Analyzed: 08/24/2024					
1,2,4-Trimethylbenzene	ND	0.00200	mg/kg							U
1,3,5-Trimethylbenzene	ND	0.00200	"							U
Benzene	ND	0.00200	"							U
Ethylbenzene	ND	0.00200	"							U
Naphthalene	ND	0.00380	"							U
Toluene	ND	0.00200	"							U
Xylenes, total	ND	0.00200	"							U
Gasoline Range Hydrocarbons	ND	0.200	"							U
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125	106		70-130			
Surrogate: Toluene-d8	0.14		"	0.125	109		70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125	103		70-130			

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Project Number: [none]
Project: UCRA Remedial Excavation

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control

Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4H2355 - EPA 5030 (soil)										
LCS (B4H2355-BS1)					Prepared: 08/23/2024 Analyzed: 08/24/2024					
1,2,4-Trimethylbenzene	0.102	0.00200	mg/kg	0.100		102	70-130			
1,3,5-Trimethylbenzene	0.103	0.00200	"	0.100		103	70-130			
Benzene	0.0833	0.00200	"	0.100		83.3	70-130			
Ethylbenzene	0.0996	0.00200	"	0.100		99.6	70-130			
Naphthalene	0.102	0.00380	"	0.100		102	70-130			
Toluene	0.0898	0.00200	"	0.100		89.8	70-130			
o-Xylene	0.0974	0.00200	"	0.100		97.4	70-130			
m,p-Xylene	0.197	0.00400	"	0.200		98.7	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		103	70-130			
Surrogate: Toluene-d8	0.14		"	0.125		109	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		107	70-130			

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Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control

Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4H2355 - EPA 5030 (soil)										
Matrix Spike (B4H2355-MS1)		Source: Y408674-01			Prepared: 08/23/2024 Analyzed: 08/24/2024					
1,2,4-Trimethylbenzene	0.0856	0.00200	mg/kg	0.100	ND	85.6	70-130			
1,3,5-Trimethylbenzene	0.0858	0.00200	"	0.100	ND	85.8	70-130			
Benzene	0.0760	0.00200	"	0.100	ND	76.0	70-130			
Ethylbenzene	0.0898	0.00200	"	0.100	ND	89.8	70-130			
Naphthalene	0.0900	0.00380	"	0.100	0.00264	87.4	70-130			
Toluene	0.0825	0.00200	"	0.100	ND	82.5	70-130			
o-Xylene	0.0869	0.00200	"	0.100	ND	86.9	70-130			
m,p-Xylene	0.175	0.00400	"	0.200	ND	87.5	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		105	70-130			
Surrogate: Toluene-d8	0.14		"	0.125		110	70-130			
Surrogate: 4-Bromofluorobenzene	0.25		"	0.125		201	70-130			S-GC

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Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control

Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4H2355 - EPA 5030 (soil)										
Matrix Spike Dup (B4H2355-MSD1)		Source: Y408674-01			Prepared: 08/23/2024 Analyzed: 08/24/2024					
1,2,4-Trimethylbenzene	0.0743	0.00200	mg/kg	0.100	ND	74.3	70-130	14.2	20	
1,3,5-Trimethylbenzene	0.0752	0.00200	"	0.100	ND	75.2	70-130	13.2	20	
Benzene	0.0745	0.00200	"	0.100	ND	74.5	70-130	2.10	20	
Ethylbenzene	0.0827	0.00200	"	0.100	ND	82.7	70-130	8.26	20	
Naphthalene	0.0748	0.00380	"	0.100	0.00264	72.1	70-130	18.5	20	
Toluene	0.0783	0.00200	"	0.100	ND	78.3	70-130	5.20	20	
o-Xylene	0.0811	0.00200	"	0.100	ND	81.1	70-130	6.90	20	
m,p-Xylene	0.162	0.00400	"	0.200	ND	81.1	70-130	7.65	20	
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		106	70-130			
Surrogate: Toluene-d8	0.14		"	0.125		110	70-130			
Surrogate: 4-Bromofluorobenzene	0.20		"	0.125		164	70-130			S-GC

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Project: UCRA Remedial Excavation

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control

Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4H2357 - EPA 3550B										
Blank (B4H2357-BLK1)					Prepared: 08/23/2024 Analyzed: 08/24/2024					
Diesel (C10-C28)	ND	25.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	100	"							U
Surrogate: o-Terphenyl	22		"	24.9		87.5	50-150			

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Chris Roy

Project Number: [none]

Project: UCRA Remedial Excavation

Extractable Petroleum Hydrocarbons by 8015D - Quality Control

Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4H2357 - EPA 3550B										
LCS (B4H2357-BS1)					Prepared: 08/23/2024 Analyzed: 08/24/2024					
Diesel (C10-C28)	862	50.0	mg/kg	1000		86.2	70-130			
Residual Range Organics (C28-C40)	880	200	"	1000		88.0	70-130			
Surrogate: o-Terphenyl	50		"	49.8		100	50-150			

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Chris Roy

Project Number: [none]

Project: UCRA Remedial Excavation

Extractable Petroleum Hydrocarbons by 8015D - Quality Control

Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4H2357 - EPA 3550B

Matrix Spike (B4H2357-MS1)		Source: Y408674-01			Prepared: 08/23/2024 Analyzed: 08/24/2024					
Diesel (C10-C28)	1020	50.0	mg/kg	1000	ND	102	70-130			
Residual Range Organics (C28-C40)	1020	200	"	1000	ND	102	70-130			
Surrogate: o-Terphenyl	51		"	49.8		102	50-150			

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Extractable Petroleum Hydrocarbons by 8015D - Quality Control

Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4H2357 - EPA 3550B

Matrix Spike Dup (B4H2357-MSD1)		Source: Y408674-01			Prepared: 08/23/2024 Analyzed: 08/24/2024					
Diesel (C10-C28)	1010	50.0	mg/kg	1000	ND	101	70-130	0.877	35	
Residual Range Organics (C28-C40)	1000	200	"	1000	ND	100	70-130	2.07	35	
Surrogate: o-Terphenyl	48		"	49.8		96.6	50-150			

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Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Extractable Petroleum Hydrocarbons by 8015D - Quality Control

Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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EPA 8270E (SW846) - Semivolatile Organic Compounds - Quality Control

Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4H2360 - EPA 3580

Blank (B4H2360-BLK1)

Prepared: 08/23/2024 Analyzed: 08/24/2024

1-Methylnaphthalene	ND	0.002	mg/kg							U
2-Methylnaphthalene	ND	0.002	"							U
Acenaphthene	ND	0.020	"							U
Anthracene	ND	0.020	"							U
Benzo (a) anthracene	ND	0.005	"							U
Benzo (a) pyrene	ND	0.020	"							U
Benzo (b) fluoranthene	ND	0.020	"							U
Benzo (g,h,i) perylene	ND	0.020	"							U
Benzo (k) fluoranthene	ND	0.020	"							U
Chrysene	ND	0.020	"							U
Dibenz (a,h) anthracene	ND	0.020	"							U
Fluoranthene	ND	0.020	"							U
Fluorene	ND	0.020	"							U
Indeno (1,2,3-cd) pyrene	ND	0.020	"							U
Naphthalene	ND	0.002	"							U
Phenanthrene	ND	0.020	"							U
Pyrene	ND	0.020	"							U
Surrogate: Fluorene-d10	200		ug/kg	200		102	60-130			
Surrogate: Anthracene-d10	190		"	200		95.4	60-130			
Surrogate: Pyrene-d10	200		"	200		98.1	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		97.7	60-130			

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Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

EPA 8270E (SW846) - Semivolatile Organic Compounds - Quality Control
Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4H2360 - EPA 3580

LCS (B4H2360-BS1)

Prepared: 08/23/2024 Analyzed: 08/24/2024

1-Methylnaphthalene	0.191	0.002	mg/kg	0.200		95.4	70-130
2-Methylnaphthalene	0.191	0.002	"	0.200		95.5	70-130
Acenaphthene	0.207	0.020	"	0.200		103	70-130
Anthracene	0.194	0.020	"	0.200		96.9	70-130
Benzo (a) anthracene	0.187	0.005	"	0.200		93.7	70-130
Benzo (a) pyrene	0.202	0.020	"	0.200		101	70-130
Benzo (b) fluoranthene	0.188	0.020	"	0.200		93.9	70-130
Benzo (g,h,i) perylene	0.167	0.020	"	0.200		83.5	70-130
Benzo (k) fluoranthene	0.170	0.020	"	0.200		85.2	70-130
Chrysene	0.189	0.020	"	0.200		94.5	70-130
Dibenz (a,h) anthracene	0.148	0.020	"	0.200		74.1	70-130
Fluoranthene	0.185	0.020	"	0.200		92.3	70-130
Fluorene	0.213	0.020	"	0.200		106	70-130
Indeno (1,2,3-cd) pyrene	0.185	0.020	"	0.200		92.5	70-130
Naphthalene	0.206	0.002	"	0.200		103	70-130
Phenanthrene	0.189	0.020	"	0.200		94.5	70-130
Pyrene	0.205	0.020	"	0.200		102	70-130

Surrogate: Fluorene-d10	210		ug/kg	200		103	60-130
Surrogate: Anthracene-d10	190		"	200		95.0	60-130
Surrogate: Pyrene-d10	210		"	200		107	60-130
Surrogate: Benzo (a) pyrene-d12	220		"	200		109	60-130

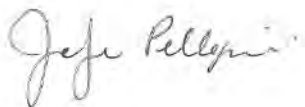
Matrix Spike (B4H2360-MS1)

Source: Y408674-01

Prepared: 08/23/2024 Analyzed: 08/24/2024

1-Methylnaphthalene	0.257	0.002	mg/kg	0.200	0.062	97.5	70-130
2-Methylnaphthalene	0.276	0.002	"	0.200	0.081	97.4	70-130
Acenaphthene	0.219	0.020	"	0.200	ND	109	70-130
Anthracene	0.190	0.020	"	0.200	0.003	93.2	70-130

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Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

EPA 8270E (SW846) - Semivolatile Organic Compounds - Quality Control
Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4H2360 - EPA 3580

Matrix Spike (B4H2360-MS1)		Source: Y408674-01			Prepared: 08/23/2024 Analyzed: 08/24/2024					
Benzo (a) anthracene	0.201	0.005	mg/kg	0.200	0.0008	100	70-130			
Benzo (a) pyrene	0.181	0.020	"	0.200	ND	90.5	70-130			
Benzo (b) fluoranthene	0.187	0.020	"	0.200	0.002	92.5	70-130			
Benzo (g,h,i) perylene	0.174	0.020	"	0.200	0.001	86.5	70-130			
Benzo (k) fluoranthene	0.161	0.020	"	0.200	0.0007	80.2	70-130			
Chrysene	0.180	0.020	"	0.200	0.003	88.4	70-130			
Dibenz (a,h) anthracene	0.169	0.020	"	0.200	0.004	82.5	70-130			
Fluoranthene	0.191	0.020	"	0.200	0.006	92.2	70-130			
Fluorene	0.227	0.020	"	0.200	0.015	106	70-130			
Indeno (1,2,3-cd) pyrene	0.189	0.020	"	0.200	0.001	93.8	70-130			
Naphthalene	0.230	0.002	"	0.200	0.030	99.7	70-130			
Phenanthrene	0.207	0.020	"	0.200	0.015	95.8	70-130			
Pyrene	0.200	0.020	"	0.200	0.007	96.6	70-130			
Surrogate: Fluorene-d10	200		ug/kg	200		101	60-130			
Surrogate: Anthracene-d10	190		"	200		96.0	60-130			
Surrogate: Pyrene-d10	200		"	200		101	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		97.7	60-130			

Matrix Spike Dup (B4H2360-MSD1)		Source: Y408674-01			Prepared: 08/23/2024 Analyzed: 08/24/2024					
1-Methylnaphthalene	0.319	0.002	mg/kg	0.200	0.062	128	70-130	21.3	20	QR-02
2-Methylnaphthalene	0.325	0.002	"	0.200	0.081	122	70-130	16.2	20	
Acenaphthene	0.222	0.020	"	0.200	ND	111	70-130	1.35	20	
Anthracene	0.200	0.020	"	0.200	0.003	98.3	70-130	5.30	20	
Benzo (a) anthracene	0.193	0.005	"	0.200	0.0008	96.1	70-130	4.03	20	
Benzo (a) pyrene	0.171	0.020	"	0.200	ND	85.6	70-130	5.57	20	
Benzo (b) fluoranthene	0.183	0.020	"	0.200	0.002	90.7	70-130	1.91	20	
Benzo (g,h,i) perylene	0.173	0.020	"	0.200	0.001	85.9	70-130	0.698	20	

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Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

EPA 8270E (SW846) - Semivolatile Organic Compounds - Quality Control
Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4H2360 - EPA 3580										
Matrix Spike Dup (B4H2360-MSD1)		Source: Y408674-01			Prepared: 08/23/2024 Analyzed: 08/24/2024					
Benzo (k) fluoranthene	0.160	0.020	mg/kg	0.200	0.0007	79.7	70-130	0.521	20	
Chrysene	0.174	0.020	"	0.200	0.003	85.8	70-130	2.97	20	
Dibenz (a,h) anthracene	0.173	0.020	"	0.200	0.004	84.7	70-130	2.61	20	
Fluoranthene	0.190	0.020	"	0.200	0.006	91.7	70-130	0.544	20	
Fluorene	0.226	0.020	"	0.200	0.015	105	70-130	0.365	20	
Indeno (1,2,3-cd) pyrene	0.187	0.020	"	0.200	0.001	92.7	70-130	1.19	20	
Naphthalene	0.250	0.002	"	0.200	0.030	110	70-130	8.23	20	
Phenanthrene	0.211	0.020	"	0.200	0.015	98.1	70-130	2.19	20	
Pyrene	0.189	0.020	"	0.200	0.007	91.2	70-130	5.61	20	
Surrogate: Fluorene-d10	200		ug/kg	200		101	60-130			
Surrogate: Anthracene-d10	190		"	200		95.1	60-130			
Surrogate: Pyrene-d10	200		"	200		98.0	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		99.2	60-130			

Origins Laboratory



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jen Pellegrini, Project Manager

Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Classical Chemistry Parameters - Quality Control

Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4H2613 - Saturated Paste Metals

Blank (B4H2613-BLK1)

Prepared: 08/26/2024 Analyzed: 08/27/2024

SAR	ND	0.0100	SAR							U
Calcium PPM	ND	10.0	mg/L							U
Magnesium PPM	ND	10.0	"							U
Sodium PPM	ND	10.0	"							U

Duplicate (B4H2613-DUP1)

Source: Y408603-01

Prepared: 08/26/2024 Analyzed: 08/27/2024

SAR	ND	0.0100	SAR		1.42				200	U
Calcium PPM	9.42	10.0	mg/L		10.8			13.3	50	U
Magnesium PPM	3.47	10.0	"		3.68			5.87	50	U
Sodium PPM	21.6	10.0	"		21.1			2.20	50	

Batch B4H2618 - DTPA Sorbitol Preparation

Blank (B4H2618-BLK1)

Prepared: 08/26/2024 Analyzed: 08/27/2024

Boron	ND	0.100	mg/L							U
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Duplicate (B4H2618-DUP1)

Source: Y408672-02

Prepared: 08/26/2024 Analyzed: 08/27/2024

Boron	ND	0.0998	mg/L		0.0244				50	U
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Batch B4H2619 - DTPA Sorbitol Preparation

Blank (B4H2619-BLK1)

Prepared: 08/26/2024 Analyzed: 08/27/2024

Boron	ND	0.100	mg/L							U
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Duplicate (B4H2619-DUP1)

Source: Y408598-01

Prepared: 08/26/2024 Analyzed: 08/27/2024

Boron	1.54	0.101	mg/L		1.45			6.24	50	
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Origins Laboratory



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Jen Pellegrini, Project Manager

Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Saturated Paste - Quality Control

Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4H2625 - Saturated Paste pH/EC										
Blank (B4H2625-BLK1)					Prepared: 08/26/2024 Analyzed: 08/29/2024					
Specific Conductance (EC)	ND	0.00500	mmhos/cm							U
Duplicate (B4H2625-DUP1)					Source: Y408603-01 Prepared: 08/26/2024 Analyzed: 08/29/2024					
Specific Conductance (EC)	0.243	0.00500	mmhos/cm		0.241			0.661	25	
pH	8.54		pH Units		8.52			0.234	25	

Origins Laboratory



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jen Pellegrini, Project Manager

Stantec Consulting Services

2000 S. Colorado Blvd. Suite 2-300

Denver CO 80222

Chris Roy

Project Number: [none]

Project: UCRA Remedial Excavation

Notes and Definitions

U Sample is Non-Detect.

S-GC Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.

QR-02 The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

Origins Laboratory



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Jen Pellegrini, Project Manager



Stantec Consulting Services

Chris Roy

2000 S. Colorado Blvd. Suite 2-300

Denver

CO

80222

September 18, 2024

Project Name - UCRA Remedial Excavation

Project Number - [none]

Attached are your analytical results for UCRA Remedial Excavation received by Origins Laboratory September 09, 2024. This project is associated with Origins project number E409204-01.

The analytical results in the following report were analyzed under the guidelines of EPA Methods. These methods are identified as follows; "SW" are defined in SW-846, "EPA" are defined in 40CFR part 136 and "SM" are defined in the most current revision of Standard Methods For the Examination of Water and Wastewater.

The analytical results apply specifically to the samples and analyses specified per the attached Chain of Custody. As such, this report shall not be reproduced except in full, without the written approval of Origin's laboratory.

Unless otherwise noted, the analytical results for all soil samples are reported on a wet weight basis. All analytical analyses were performed under NELAP guidelines unless noted by a data qualifier.

Any holding time exceedances, deviations from the method specifications or deviations from Origins Laboratory's Standard Operating Procedures are outlined in the case narrative.

Thank you for selecting Origins for your analytical needs. Please contact us with any questions concerning this report, or if we can help with anything at all.

Origins Laboratory

303.433.1322

projectmanager@originslab.com



1725 Elk Place, Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

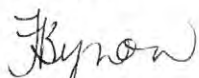
Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Composite-25	E409204-01	Soil	September 7, 2024 8:50	09/09/2024 16:59
Composite-26	E409204-02	Soil	September 7, 2024 9:00	09/09/2024 16:59
Composite-27	E409204-03	Soil	September 7, 2024 9:10	09/09/2024 16:59
Composite-28	E409204-04	Soil	September 7, 2024 9:20	09/09/2024 16:59
DUP	E409204-05	Soil	September 7, 2024 0:00	09/09/2024 16:59
Trip Blank	E409204-06	Water	September 9, 2024 9:00	09/09/2024 16:59

Origins Laboratory



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

ORIGINS LABORATORY

Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

ORIGINS LABORATORY, INC

www.originslaboratory.com

6409204

page 1 of 1

Fax: 303.265.9645

Phone: 303.433.1322

Denver, CO 80211

1725 Elk Place

Client: Stantec
Address: 41017th Street, Suite 1400
Telephone Number: 303-829-5763
Email Address: chris.roy@stantec.com

Project Manager: Chris Roy
Project Name: UCRA Remedial Excavation
Project Number: 203723577 Task 300.007
Samples Collected By: chris.roy@stantec.com

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis	Sample Instructions
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summa Canister #		
Composite-25	9-7-24	0850	1	X					X		X	1
Composite-26	9-7-24	0900	3	X					X		X	MS/MSD 2
Composite-27	9-7-24	0910	1	X					X		X	3
Composite-28	9-7-24	0920	1	X					X		X	4
DUP	9-7-24		1	X					X		X	5
Trip Blank	9-9-24	0900	1		X						X X BTEX	6
												7
												8
												9
												10
Relinquished By:	Date:	Time:		Received By:	Date:	Time:		Turnaround Time:				
	9-9-24	1200			9-9-24	1200		Same Day <input checked="" type="checkbox"/> 24 Hr <input checked="" type="checkbox"/>				
Relinquished By:	Date:	Time:		Received By:	Date:	Time:		48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/>				
	9/9/24	1659			9/9/24	1659		Standard <input type="checkbox"/>				

2.2

Date Results Needed

Origins Laboratory

Byron

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jordan A. Byron For Jen Pellegrini, Project Manager



Stantec Consulting Services

2000 S. Colorado Blvd. Suite 2-300

Denver CO 80222

Chris Roy

Project Number: [none]

Project: UCRA Remedial Excavation

Origins Laboratory

Sample Receipt Checklist

F-012207-01-R1
Effective Date: 01/09/12

Origins Work Order: E409204

Client: Stantec

Client Project ID: UCRA

Checklist Completed by: EHK

Shipped Via: HD
(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Date/time completed: 9/19/24

Airbill #: N/A

Matrix(s) Received: (Check all that apply): ☒ Soil/Solid

☐ Water

☐ Other:

Cooler Number/Temperature: 1, 2.2 °C

Thermometer ID: 1005

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?	/			
Is there ice present (document if blue ice is used)	/			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		/		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		/		
Were all samples received intact ⁽¹⁾ ?	/			
Was adequate sample volume provided ⁽¹⁾ ?	/			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?		/		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	/			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	/			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	/			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	/			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.			/	
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity) (pH < 2 for samples preserved with HNO ₃ , HCL, H ₂ SO ₄) / (pH > 10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)			/	
Additional Comments (if any):				

⁽¹⁾ If NO, then contact the client before proceeding with analysis and note date/time and person contacted as well as the corrective action to in the additional comments (above) and the case narrative.

Reviewed by (Project Manager) EHK

9/19/24
Date/Time Reviewed

Origins Laboratory

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jordan A. Bynon For Jen Pellegrini, Project Manager



Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Composite-25

9/7/2024 8:50:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E409204-01 (Soil)

Boron (DTPA Sorbitol)

Boron	ND	0.101	mg/L	1	B4I1010	09/10/2024	09/11/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4I0937	09/09/2024	09/10/2024	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl	108 %	50-150	"	"	"	"	"	"
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4I0940	09/09/2024	09/09/2024	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	U
Benzene	ND	0.00200	"	"	"	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	"	"	U
Toluene	ND	0.00200	"	"	"	"	"	U
Xylenes, total	ND	0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	0.332	0.200	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	107 %	70-130	"	"	"	"	"	"
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Origins Laboratory

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Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Composite-25

9/7/2024 8:50:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory E409204-01 (Soil)

GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	104 %		70-130			B410940	09/09/2024	09/09/2024	
Surrogate: 4-Bromofluorobenzene	107 %		70-130			"	"	"	

Metals by Saturated Paste by EPA 6010

Calcium	2.05		0.499	meq/L	10	[CALC]	09/10/2024	09/11/2024	
Magnesium	1.26		0.823	"	"	"	"	"	
Sodium	0.592		0.435	"	"	"	"	"	

PAH by EPA 8270E extracted via 3580A

1-Methylnaphthalene	0.025		0.002	mg/kg	1	B410935	09/09/2024	09/09/2024	
2-Methylnaphthalene	0.056		0.002	"	"	"	"	"	
Benzo (a) anthracene	ND		0.005	"	"	"	"	"	U
Naphthalene	0.013		0.002	"	"	"	"	"	

Surrogate: Fluorene-d10	104 %		60-130			"	"	"	
Surrogate: Anthracene-d10	89.7 %		60-130			"	"	"	
Surrogate: Pyrene-d10	96.6 %		60-130			"	"	"	
Surrogate: Benzo (a) pyrene-d12	99.8 %		60-130			"	"	"	

pH in Soil by 9045D

pH	8.01			pH Units	1	B411017	09/10/2024	09/11/2024	
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Origins Laboratory

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Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Composite-25

9/7/2024 8:50:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E409204-01 (Soil)

SAR by 20B Saturated Paste

SAR	0.460	0.0100	SAR	1	B411003	09/10/2024	09/11/2024
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.439	0.00500	mmhos/cm	1	B411017	09/10/2024	09/11/2024
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Origins Laboratory

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Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Composite-26

9/7/2024 9:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E409204-02 (Soil)

Boron (DTPA Sorbitol)

Boron	ND	0.102	mg/L	1	B4I1010	09/10/2024	09/11/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4I0937	09/09/2024	09/10/2024	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl	103 %	50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4I0940	09/09/2024	09/09/2024	U
1,3,5-Trimethylbenzene	0.00492	0.00200	"	"	"	"	"	
Benzene	0.00254	0.00200	"	"	"	"	"	
Ethylbenzene	ND	0.00200	"	"	"	"	"	U
Toluene	ND	0.00200	"	"	"	"	"	U
Xylenes, total	0.00428	0.00200	"	"	"	"	"	
Gasoline Range Hydrocarbons	0.253	0.200	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	106 %	70-130			"	"	"	
Surrogate: Toluene-d8	104 %	70-130			"	"	"	

Origins Laboratory

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Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Composite-26

9/7/2024 9:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory E409204-02 (Soil)

GBTEX+TMBs by 8260D

Surrogate: 4-Bromofluorobenzene	107 %	70-130		B4I094 0	09/09/2024	09/09/2024
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Metals by Saturated Paste by EPA 6010

Calcium	1.79	0.499	meq/L	10	[CALC]	09/10/2024	09/11/2024
Magnesium	1.09	0.823	"	"	"	"	"
Sodium	1.14	0.435	"	"	"	"	"

PAH by EPA 8270E extracted via 3580A

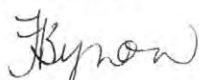
1-Methylnaphthalene	0.079	0.002	mg/kg	1	B4I0935	09/09/2024	09/09/2024
2-Methylnaphthalene	0.162	0.002	"	"	"	"	"
Benzo (a) anthracene	0.006	0.005	"	"	"	"	"
Naphthalene	0.066	0.002	"	"	"	"	"

Surrogate: Fluorene-d10	101 %	60-130	"	"	"
Surrogate: Anthracene-d10	89.3 %	60-130	"	"	"
Surrogate: Pyrene-d10	97.4 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	101 %	60-130	"	"	"

pH in Soil by 9045D

pH	7.83	pH Units	1	B4I1017	09/10/2024	09/11/2024
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Origins Laboratory



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Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Composite-26

9/7/2024 9:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E409204-02 (Soil)

SAR by 20B Saturated Paste

SAR	0.951		0.0100	SAR	1	B411003	09/10/2024	09/11/2024	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.461		0.00500	mmhos/cm	1	B411017	09/10/2024	09/11/2024	
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Origins Laboratory

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jordan A. Bynon For Jen Pellegrini, Project Manager

Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Composite-27

9/7/2024 9:10:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory E409204-03 (Soil)

Boron (DTPA Sorbitol)

Boron	ND	1.01	mg/L	10	B4I1010	09/10/2024	09/11/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4I0937	09/09/2024	09/10/2024	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

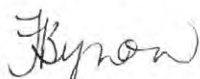
Surrogate: o-Terphenyl	98.8 %	50-150	"	"	"	"	"
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	0.0363	0.00200	mg/kg	1	B4I0940	09/09/2024	09/09/2024
1,3,5-Trimethylbenzene	0.0293	0.00200	"	"	"	"	"
Benzene	0.290	0.00200	"	"	"	"	"
Ethylbenzene	0.0162	0.00200	"	"	"	"	"
Toluene	0.0168	0.00200	"	"	"	"	"
Xylenes, total	0.0998	0.00200	"	"	"	"	"
Gasoline Range Hydrocarbons	4.05	0.200	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	106 %	70-130	"	"	"
Surrogate: Toluene-d8	107 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	106 %	70-130	"	"	"

Origins Laboratory



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Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Composite-27

9/7/2024 9:10:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory E409204-03 (Soil)

Metals by Saturated Paste by EPA 6010

Calcium	5.90	0.499	meq/L	10	[CALC]	09/10/2024	09/11/2024
Magnesium	3.59	0.823	"	"	"	"	"
Sodium	2.20	0.435	"	"	"	"	"

PAH by EPA 8270E extracted via 3580A

1-Methylnaphthalene	0.308	0.002	mg/kg	1	B4I0935	09/09/2024	09/09/2024
2-Methylnaphthalene	0.595	0.002	"	"	"	"	"
Benzo (a) anthracene	ND	0.005	"	"	"	"	"
Naphthalene	0.166	0.002	"	"	"	"	"

Surrogate: Fluorene-d10	99.6 %	60-130	"	"	"
Surrogate: Anthracene-d10	90.5 %	60-130	"	"	"
Surrogate: Pyrene-d10	96.8 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	97.8 %	60-130	"	"	"

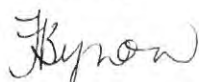
pH in Soil by 9045D

pH	7.97	pH Units	1	B4I1017	09/10/2024	09/11/2024
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SAR by 20B Saturated Paste

SAR	1.01	0.0100	SAR	1	B4I1003	09/10/2024	09/11/2024
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Origins Laboratory



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2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Composite-27

9/7/2024 9:10:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E409204-03 (Soil)

Specific Conductance Mod. 9050A

Specific Conductance (EC)	1.17	0.00500	mmhos/cm	1	B411017	09/10/2024	09/11/2024
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Origins Laboratory

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Jordan A. Bynon For Jen Pellegrini, Project Manager



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2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Composite-28

9/7/2024 9:20:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory
E409204-04 (Soil)**

Boron (DTPA Sorbitol)

Boron	ND	0.992	mg/L	10	B4I1010	09/10/2024	09/11/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4I0937	09/09/2024	09/10/2024	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl	113 %	50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4I0940	09/09/2024	09/09/2024	U
1,3,5-Trimethylbenzene	0.00214	0.00200	"	"	"	"	"	
Benzene	ND	0.00200	"	"	"	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	"	"	U
Toluene	ND	0.00200	"	"	"	"	"	U
Xylenes, total	ND	0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	0.589	0.200	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	108 %	70-130			"	"	"	
Surrogate: Toluene-d8	103 %	70-130			"	"	"	

Origins Laboratory

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Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Composite-28

9/7/2024 9:20:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E409204-04 (Soil)

GBTEX+TMBs by 8260D

Surrogate: 4-Bromofluorobenzene	106 %	70-130	B4I094 0	09/09/2024	09/09/2024
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Metals by Saturated Paste by EPA 6010

Calcium	1.13	0.499	meq/L	10	[CALC]	09/10/2024	09/11/2024
Magnesium	ND	0.823	"	"	"	"	"
Sodium	ND	0.435	"	"	"	"	"

PAH by EPA 8270E extracted via 3580A

1-Methylnaphthalene	0.025	0.002	mg/kg	1	B4I0935	09/09/2024	09/10/2024	
2-Methylnaphthalene	0.047	0.002	"	"	"	"	"	
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	U
Naphthalene	0.008	0.002	"	"	"	"	"	

Surrogate: Fluorene-d10	102 %	60-130	"	"	"
Surrogate: Anthracene-d10	82.4 %	60-130	"	"	"
Surrogate: Pyrene-d10	93.7 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	99.7 %	60-130	"	"	"

pH in Soil by 9045D

pH	7.67	pH Units	1	B4I1017	09/10/2024	09/11/2024
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2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Composite-28

9/7/2024 9:20:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E409204-04 (Soil)

SAR by 20B Saturated Paste

SAR	0.423	0.0100	SAR	1	B4I1003	09/10/2024	09/11/2024
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.321	0.00500	mmhos/cm	1	B4I1017	09/10/2024	09/11/2024
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Origins Laboratory

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Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

DUP

9/7/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E409204-05 (Soil)

Boron (DTPA Sorbitol)

Boron	ND	0.100	mg/L	1	B4I1010	09/10/2024	09/11/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4I0937	09/09/2024	09/10/2024	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

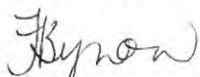
Surrogate: o-Terphenyl	99.3 %	50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4I0940	09/09/2024	09/09/2024	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	U
Benzene	ND	0.00200	"	"	"	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	"	"	U
Toluene	ND	0.00200	"	"	"	"	"	U
Xylenes, total	ND	0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	0.263	0.200	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	106 %	70-130			"	"	"	
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Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

DUP

9/7/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E409204-05 (Soil)

GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	104 %		70-130			B41094 0	09/09/2024	09/09/2024	
Surrogate: 4-Bromofluorobenzene	107 %		70-130			"	"	"	

Metals by Saturated Paste by EPA 6010

Calcium	1.90		0.499	meq/L	10	[CALC]	09/10/2024	09/11/2024	
Magnesium	1.25		0.823	"	"	"	"	"	
Sodium	0.644		0.435	"	"	"	"	"	

PAH by EPA 8270E extracted via 3580A

1-Methylnaphthalene	0.027		0.002	mg/kg	1	B410935	09/09/2024	09/10/2024	
2-Methylnaphthalene	0.065		0.002	"	"	"	"	"	
Benzo (a) anthracene	ND		0.005	"	"	"	"	"	U
Naphthalene	0.016		0.002	"	"	"	"	"	

Surrogate: Fluorene-d10	97.9 %		60-130			"	"	"	
Surrogate: Anthracene-d10	91.4 %		60-130			"	"	"	
Surrogate: Pyrene-d10	93.6 %		60-130			"	"	"	
Surrogate: Benzo (a) pyrene-d12	101 %		60-130			"	"	"	

pH in Soil by 9045D

pH	7.93			pH Units	1	B411017	09/10/2024	09/11/2024	
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Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

DUP

9/7/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E409204-05 (Soil)

SAR by 20B Saturated Paste

SAR	0.513	0.0100	SAR	1	B4I1003	09/10/2024	09/11/2024
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.432	0.00500	mmhos/cm	1	B4I1017	09/10/2024	09/11/2024
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Origins Laboratory

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Jordan A. Bynon For Jen Pellegrini, Project Manager



Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Trip Blank
9/9/2024 9:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E409204-06 (Water)

BTEX by EPA 8260D

Benzene	ND	1.00	ug/L	1	B410939	09/09/2024	09/09/2024	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	96.8 %	70-130	"	"	"
Surrogate: Toluene-d8	98.6 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	92.9 %	70-130	"	"	"

Origins Laboratory

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Jordan A. Bynon For Jen Pellegrini, Project Manager



Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4I0937 - EPA 3550B										
Blank (B4I0937-BLK1)					Prepared: 09/09/2024 Analyzed: 09/09/2024					
Diesel (C10-C28)	ND	25.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	100	"							U
Surrogate: o-Terphenyl	26		"	24.9		106	50-150			

Origins Laboratory

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Jordan A. Bynon For Jen Pellegrini, Project Manager



Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4I0937 - EPA 3550B

LCS (B4I0937-BS1)

Prepared: 09/09/2024 Analyzed: 09/09/2024

Diesel (C10-C28)	927	50.0	mg/kg	1000		92.7	70-130			
Residual Range Organics (C28-C40)	1030	200	"	1000		103	70-130			
Surrogate: o-Terphenyl	58		"	49.8		116	50-150			

Origins Laboratory

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Jordan A. Bynon For Jen Pellegrini, Project Manager



Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4I0937 - EPA 3550B

Matrix Spike (B4I0937-MS1)		Source: E409204-02			Prepared: 09/09/2024 Analyzed: 09/09/2024					
Diesel (C10-C28)	864	50.0	mg/kg	1000	ND	86.4	70-130			
Residual Range Organics (C28-C40)	945	200	"	1000	ND	94.5	70-130			
Surrogate: o-Terphenyl	49		"	49.8		98.7	50-150			

Origins Laboratory

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Jordan A. Bynon For Jen Pellegrini, Project Manager



Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4I0937 - EPA 3550B

Matrix Spike Dup (B4I0937-MSD1)		Source: E409204-02			Prepared: 09/09/2024 Analyzed: 09/09/2024					
Diesel (C10-C28)	873	50.0	mg/kg	1000	ND	87.3	70-130	1.03	35	
Residual Range Organics (C28-C40)	981	200	"	1000	ND	98.1	70-130	3.75	35	
Surrogate: o-Terphenyl	49		"	49.8		99.2	50-150			

Origins Laboratory

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Jordan A. Bynon For Jen Pellegrini, Project Manager



Stantec Consulting Services
2000 S. Colorado Blvd. Suite 2-300
Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4I0939 - EPA 5030B (Water)

Blank (B4I0939-BLK1)

Prepared: 09/09/2024 Analyzed: 09/09/2024

Benzene	ND	1.00	ug/L							U
Toluene	ND	1.00	"							U
Ethylbenzene	ND	1.00	"							U
Xylenes, total	ND	1.00	"							U
Surrogate: 1,2-Dichloroethane-d4	61		"	62.5		97.9	70-130			
Surrogate: Toluene-d8	61		"	62.5		97.6	70-130			
Surrogate: 4-Bromofluorobenzene	60		"	62.5		96.4	70-130			

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Jordan A. Bynon For Jen Pellegrini, Project Manager



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Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4I0939 - EPA 5030B (Water)

LCS (B4I0939-BS1)

Prepared: 09/09/2024 Analyzed: 09/09/2024

Benzene	47.3	1.00	ug/L	50.0		94.5	70-130			
Toluene	45.3	1.00	"	50.0		90.5	70-130			
Ethylbenzene	45.4	1.00	"	50.0		90.8	70-130			
m,p-Xylene	91.9	2.00	"	100		91.9	70-130			
o-Xylene	43.3	1.00	"	50.0		86.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	60		"	62.5		95.4	70-130			
Surrogate: Toluene-d8	62		"	62.5		98.8	70-130			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		97.1	70-130			

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Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4I0939 - EPA 5030B (Water)

Matrix Spike (B4I0939-MS1)		Source: E409181-01			Prepared: 09/09/2024 Analyzed: 09/09/2024					
Benzene	47.5	1.00	ug/L	50.0	ND	95.0	70-130			
Toluene	45.1	1.00	"	50.0	0.140	89.9	70-130			
Ethylbenzene	45.5	1.00	"	50.0	ND	90.9	70-130			
m,p-Xylene	91.8	2.00	"	100	ND	91.8	70-130			
o-Xylene	43.4	1.00	"	50.0	ND	86.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	63		"	62.5		101	70-130			
Surrogate: Toluene-d8	63		"	62.5		100	70-130			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.3	70-130			

Origins Laboratory

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Jordan A. Bynon For Jen Pellegrini, Project Manager



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Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4I0939 - EPA 5030B (Water)

Matrix Spike Dup (B4I0939-MSD1)		Source: E409181-01			Prepared: 09/09/2024 Analyzed: 09/09/2024					
Benzene	44.2	1.00	ug/L	50.0	ND	88.5	70-130	7.11	20	
Toluene	43.5	1.00	"	50.0	0.140	86.6	70-130	3.68	20	
Ethylbenzene	44.7	1.00	"	50.0	ND	89.4	70-130	1.69	20	
m,p-Xylene	91.3	2.00	"	100	ND	91.3	70-130	0.557	20	
o-Xylene	43.0	1.00	"	50.0	ND	86.0	70-130	0.880	20	
Surrogate: 1,2-Dichloroethane-d4	59		"	62.5		94.9	70-130			
Surrogate: Toluene-d8	63		"	62.5		101	70-130			
Surrogate: 4-Bromofluorobenzene	64		"	62.5		102	70-130			

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Jordan A. Bynon For Jen Pellegrini, Project Manager



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Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4I0940 - EPA 5030 (soil)

Blank (B4I0940-BLK1)

Prepared: 09/09/2024 Analyzed: 09/09/2024

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg							U
1,3,5-Trimethylbenzene	ND	0.00200	"							U
Benzene	ND	0.00200	"							U
Ethylbenzene	ND	0.00200	"							U
Naphthalene	ND	0.00380	"							U
Toluene	ND	0.00200	"							U
Xylenes, total	ND	0.00200	"							U
Gasoline Range Hydrocarbons	ND	0.200	"							U
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		104	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		105	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		104	70-130			

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Jordan A. Bynon For Jen Pellegrini, Project Manager



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Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4I0940 - EPA 5030 (soil)										
LCS (B4I0940-BS1)					Prepared: 09/09/2024 Analyzed: 09/09/2024					
1,2,4-Trimethylbenzene	0.0915	0.00200	mg/kg	0.100		91.5	70-130			
1,3,5-Trimethylbenzene	0.0933	0.00200	"	0.100		93.3	70-130			
Benzene	0.0849	0.00200	"	0.100		84.9	70-130			
Ethylbenzene	0.0910	0.00200	"	0.100		91.0	70-130			
Naphthalene	0.0938	0.00380	"	0.100		93.8	70-130			
Toluene	0.0842	0.00200	"	0.100		84.2	70-130			
o-Xylene	0.0877	0.00200	"	0.100		87.7	70-130			
m,p-Xylene	0.183	0.00400	"	0.200		91.5	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		101	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		106	70-130			
Surrogate: 4-Bromofluorobenzene	0.14		"	0.125		109	70-130			

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Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4I0940 - EPA 5030 (soil)

Matrix Spike (B4I0940-MS1)		Source: E409204-02			Prepared: 09/09/2024 Analyzed: 09/09/2024					
1,2,4-Trimethylbenzene	0.0856	0.00200	mg/kg	0.100	0.000980	84.6	70-130			
1,3,5-Trimethylbenzene	0.0900	0.00200	"	0.100	0.00492	85.1	70-130			
Benzene	0.0804	0.00200	"	0.100	0.00254	77.8	70-130			
Ethylbenzene	0.0859	0.00200	"	0.100	0.00118	84.7	70-130			
Naphthalene	0.0842	0.00380	"	0.100	ND	84.2	70-130			
Toluene	0.0782	0.00200	"	0.100	0.00166	76.5	70-130			
o-Xylene	0.0853	0.00200	"	0.100	0.00428	81.0	70-130			
m,p-Xylene	0.173	0.00400	"	0.200	0.00330	84.9	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		104	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		104	70-130			
Surrogate: 4-Bromofluorobenzene	0.14		"	0.125		111	70-130			

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Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4I0940 - EPA 5030 (soil)

Matrix Spike Dup (B4I0940-MSD1)		Source: E409204-02			Prepared: 09/09/2024 Analyzed: 09/09/2024					
1,2,4-Trimethylbenzene	0.0782	0.00200	mg/kg	0.100	0.000980	77.2	70-130	8.99	20	
1,3,5-Trimethylbenzene	0.0841	0.00200	"	0.100	0.00492	79.2	70-130	6.80	20	
Benzene	0.0767	0.00200	"	0.100	0.00254	74.2	70-130	4.63	20	
Ethylbenzene	0.0804	0.00200	"	0.100	0.00118	79.3	70-130	6.54	20	
Naphthalene	0.0781	0.00380	"	0.100	ND	78.1	70-130	7.52	20	
Toluene	0.0757	0.00200	"	0.100	0.00166	74.0	70-130	3.22	20	
o-Xylene	0.0806	0.00200	"	0.100	0.00428	76.3	70-130	5.67	20	
m,p-Xylene	0.163	0.00400	"	0.200	0.00330	79.7	70-130	6.26	20	
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		104	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		104	70-130			
Surrogate: 4-Bromofluorobenzene	0.14		"	0.125		111	70-130			

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Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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EPA 8270E (SW846) - Semivolatile Organic Compounds - Quality Control
Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4I0935 - EPA 3580

Blank (B4I0935-BLK1)

Prepared: 09/09/2024 Analyzed: 09/09/2024

1-Methylnaphthalene	ND	0.002	mg/kg							U
2-Methylnaphthalene	ND	0.002	"							U
Acenaphthene	ND	0.020	"							U
Anthracene	ND	0.020	"							U
Benzo (a) anthracene	ND	0.005	"							U
Benzo (a) pyrene	ND	0.020	"							U
Benzo (b) fluoranthene	ND	0.020	"							U
Benzo (g,h,i) perylene	ND	0.020	"							U
Benzo (k) fluoranthene	ND	0.020	"							U
Chrysene	ND	0.020	"							U
Dibenz (a,h) anthracene	ND	0.020	"							U
Fluoranthene	ND	0.020	"							U
Fluorene	ND	0.020	"							U
Indeno (1,2,3-cd) pyrene	ND	0.020	"							U
Naphthalene	ND	0.002	"							U
Phenanthrene	ND	0.020	"							U
Pyrene	ND	0.020	"							U
Surrogate: Fluorene-d10	210		ug/kg	200		104	60-130			
Surrogate: Anthracene-d10	180		"	200		90.2	60-130			
Surrogate: Pyrene-d10	190		"	200		96.6	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		98.3	60-130			

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Chris Roy
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Project: UCRA Remedial Excavation

EPA 8270E (SW846) - Semivolatile Organic Compounds - Quality Control
Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4I0935 - EPA 3580

LCS (B4I0935-BS1)

Prepared: 09/09/2024 Analyzed: 09/09/2024

1-Methylnaphthalene	0.186	0.002	mg/kg	0.200		92.8	70-130			
2-Methylnaphthalene	0.186	0.002	"	0.200		93.1	70-130			
Acenaphthene	0.195	0.020	"	0.200		97.5	70-130			
Anthracene	0.167	0.020	"	0.200		83.3	70-130			
Benzo (a) anthracene	0.167	0.005	"	0.200		83.5	70-130			
Benzo (a) pyrene	0.177	0.020	"	0.200		88.7	70-130			
Benzo (b) fluoranthene	0.219	0.020	"	0.200		109	70-130			
Benzo (g,h,i) perylene	0.195	0.020	"	0.200		97.6	70-130			
Benzo (k) fluoranthene	0.184	0.020	"	0.200		92.2	70-130			
Chrysene	0.177	0.020	"	0.200		88.7	70-130			
Dibenz (a,h) anthracene	0.215	0.020	"	0.200		107	70-130			
Fluoranthene	0.188	0.020	"	0.200		94.0	70-130			
Fluorene	0.189	0.020	"	0.200		94.5	70-130			
Indeno (1,2,3-cd) pyrene	0.197	0.020	"	0.200		98.6	70-130			
Naphthalene	0.192	0.002	"	0.200		96.2	70-130			
Phenanthrene	0.178	0.020	"	0.200		89.1	70-130			
Pyrene	0.177	0.020	"	0.200		88.4	70-130			

Surrogate: Fluorene-d10	210		ug/kg	200		103	60-130			
Surrogate: Anthracene-d10	180		"	200		89.0	60-130			
Surrogate: Pyrene-d10	190		"	200		95.6	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		101	60-130			

Matrix Spike (B4I0935-MS1)

Source: E409204-02

Prepared: 09/09/2024 Analyzed: 09/09/2024

1-Methylnaphthalene	0.348	0.002	mg/kg	0.200	0.079	134	70-130			QM-07
2-Methylnaphthalene	0.533	0.002	"	0.200	0.162	185	70-130			QM-07
Acenaphthene	0.246	0.020	"	0.200	0.013	117	70-130			
Anthracene	0.211	0.020	"	0.200	ND	105	70-130			

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Chris Roy
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Project: UCRA Remedial Excavation

EPA 8270E (SW846) - Semivolatile Organic Compounds - Quality Control
Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4I0935 - EPA 3580

Matrix Spike (B4I0935-MS1)		Source: E409204-02			Prepared: 09/09/2024 Analyzed: 09/09/2024					
Benzo (a) anthracene	0.198	0.005	mg/kg	0.200	0.006	96.0	70-130			
Benzo (a) pyrene	0.206	0.020	"	0.200	0.007	99.3	70-130			
Benzo (b) fluoranthene	0.274	0.020	"	0.200	0.008	133	70-130			QM-07
Benzo (g,h,i) perylene	0.218	0.020	"	0.200	0.004	107	70-130			
Benzo (k) fluoranthene	0.203	0.020	"	0.200	ND	101	70-130			
Chrysene	0.227	0.020	"	0.200	0.027	100	70-130			
Dibenz (a,h) anthracene	0.245	0.020	"	0.200	ND	123	70-130			
Fluoranthene	0.253	0.020	"	0.200	0.023	115	70-130			
Fluorene	0.247	0.020	"	0.200	0.011	118	70-130			
Indeno (1,2,3-cd) pyrene	0.220	0.020	"	0.200	ND	110	70-130			
Naphthalene	0.334	0.002	"	0.200	0.066	134	70-130			QM-07
Phenanthrene	0.246	0.020	"	0.200	0.052	97.1	70-130			
Pyrene	0.224	0.020	"	0.200	0.018	103	70-130			
Surrogate: Fluorene-d10	210		ug/kg	200		105	60-130			
Surrogate: Anthracene-d10	170		"	200		86.5	60-130			
Surrogate: Pyrene-d10	190		"	200		96.3	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		101	60-130			

Matrix Spike Dup (B4I0935-MSD1)		Source: E409204-02			Prepared: 09/09/2024 Analyzed: 09/09/2024					
1-Methylnaphthalene	0.267	0.002	mg/kg	0.200	0.079	93.6	70-130	26.6	20	QR-02
2-Methylnaphthalene	0.373	0.002	"	0.200	0.162	106	70-130	35.2	20	QR-02
Acenaphthene	0.211	0.020	"	0.200	0.013	99.0	70-130	15.5	20	
Anthracene	0.177	0.020	"	0.200	ND	88.7	70-130	17.2	20	
Benzo (a) anthracene	0.166	0.005	"	0.200	0.006	80.2	70-130	17.3	20	
Benzo (a) pyrene	0.172	0.020	"	0.200	0.007	82.6	70-130	17.6	20	
Benzo (b) fluoranthene	0.231	0.020	"	0.200	0.008	111	70-130	17.0	20	
Benzo (g,h,i) perylene	0.191	0.020	"	0.200	0.004	93.4	70-130	13.3	20	

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EPA 8270E (SW846) - Semivolatile Organic Compounds - Quality Control
Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4I0935 - EPA 3580

Matrix Spike Dup (B4I0935-MSD1)		Source: E409204-02			Prepared: 09/09/2024 Analyzed: 09/09/2024					
Benzo (k) fluoranthene	0.197	0.020	mg/kg	0.200	ND	98.6	70-130	2.91	20	
Chrysene	0.189	0.020	"	0.200	0.027	81.2	70-130	18.1	20	
Dibenz (a,h) anthracene	0.203	0.020	"	0.200	ND	102	70-130	18.8	20	
Fluoranthene	0.207	0.020	"	0.200	0.023	91.8	70-130	20.2	20	QR-02
Fluorene	0.208	0.020	"	0.200	0.011	98.9	70-130	16.9	20	
Indeno (1,2,3-cd) pyrene	0.191	0.020	"	0.200	ND	95.3	70-130	14.3	20	
Naphthalene	0.245	0.002	"	0.200	0.066	89.4	70-130	30.7	20	QR-02
Phenanthrene	0.207	0.020	"	0.200	0.052	77.4	70-130	17.5	20	
Pyrene	0.182	0.020	"	0.200	0.018	81.9	70-130	20.9	20	QR-02
Surrogate: Fluorene-d10	210		ug/kg	200		104	60-130			
Surrogate: Anthracene-d10	190		"	200		92.8	60-130			
Surrogate: Pyrene-d10	190		"	200		94.1	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		101	60-130			

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Jordan A. Bynon For Jen Pellegrini, Project Manager



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Chris Roy
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Project: UCRA Remedial Excavation

Classical Chemistry Parameters - Quality Control
Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4I1003 - Saturated Paste Metals

Blank (B4I1003-BLK1)

Prepared: 09/10/2024 Analyzed: 09/11/2024

SAR	ND	0.0100	SAR
Calcium PPM	ND	10.0	mg/L
Magnesium PPM	ND	10.0	"
Sodium PPM	ND	10.0	"

Duplicate (B4I1003-DUP1)

Source: E409204-02

Prepared: 09/10/2024 Analyzed: 09/11/2024

SAR	ND	0.0100	SAR	0.951		200
Calcium PPM	50.5	10.0	mg/L	36.0	33.7	50
Magnesium PPM	18.0	10.0	"	13.2	31.0	50
Sodium PPM	43.3	10.0	"	26.2	49.1	50

Batch B4I1010 - DTPA Sorbitol Preparation

Blank (B4I1010-BLK1)

Prepared: 09/10/2024 Analyzed: 09/11/2024

Boron	ND	0.100	mg/L
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Duplicate (B4I1010-DUP1)

Source: E409204-02

Prepared: 09/10/2024 Analyzed: 09/11/2024

Boron	0.0526	0.102	mg/L	0.0537	2.01	50
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Chris Roy
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Project: UCRA Remedial Excavation

Saturated Paste - Quality Control
Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4I1017 - Saturated Paste pH/EC

Blank (B4I1017-BLK1)

Prepared: 09/10/2024 Analyzed: 09/12/2024

Specific Conductance (EC) ND 0.00500 mmhos/cm

Duplicate (B4I1017-DUP1)

Source: E409204-02

Prepared: 09/10/2024 Analyzed: 09/11/2024

Specific Conductance (EC) 0.493 0.00500 mmhos/cm
pH 7.89 pH Units

0.461 6.60 25
7.83 0.763 25

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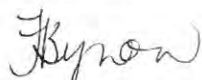
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Denver CO 80222

Chris Roy
Project Number: [none]
Project: UCRA Remedial Excavation

Notes and Definitions

- U Sample is Non-Detect.
- S-GC Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.
- QR-02 The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- All soil results are reported on a wet weight basis.

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WELLHEAD AND FLOWLINE CLOSURE CHECKLISTS

Wilson Creek UNIT 2 REM # 29726

Wellhead Closure Checklist **COGCC Rule 911.a.(4) Environmental Site Closure Assessment Field Form**

Additional attachments (optional):	Pit Closure	Tank Battery Closure	Flowline Closure	Partially Buried Vault Closure
Site Name & COGCC Facility Number: UNIT 2 232399		Date: 9/11/21 + 10/17/21		Remediation Project #: 29726
Associated Wells: Wilson Creek Unit (MR-SN) #2		Age of Site: ± 60 yrs		Number of Photos Attached: 4
Location: (GPS coordinates of wellhead or southeastern most wellhead for multiple) 40.196671, -107.928269				Estimated Facility Size (acres): -

General Condition of Site: (General observations regarding housekeeping, corrosion, waste management, etc.)

Surface Conditions noted as OK. Chevron noted impacts at time of P+A.

USCS Soil Type: Owen-Creek-Jerry-Burnette-Loomis

Estimated Depth to Groundwater: ± 50'

Hydrocarbon Impacted Soils / Spills: (Note estimated size and if impact appears to be surficial or extends to an unknown depth)

Initial Observations in wellhead excavation bellhole showed hydrocarbon impacts around pad. No initial sample collected as excavation began immediately.

Salt Crusted Soils or Impacted Vegetation: (Note estimated size and if impact appears to be surficial or extends to an unknown depth)

No Salt deposition noted.

Wellhead(s)

Well API	05-103-01125				
Age	± 60 yrs				
Condition of surface around wellhead	Gravel - Concrete. No surface stain				
PID Readings	-				
Condition of subsurface (staining present)	HC odor + staining				
PID Readings	Max of 3.2 ppm on NBASE				
Sample taken? Location/Sample ID#	Yes - See Rpt.				
Photo Number(s)	Pgs 1+2				

Other observations regarding wellheads:

N/A

Summary

Was impacted soil identified?	
No	Yes - less than 10 cubic yards
Yes - more than 10 cubic yards	
Total number of samples field screened: 11	Total number of samples collected: 7
Highest PID Reading: 3.2 ppm - N. BASE	Total number of samples submitted to lab for analysis: 7
If more than 10 cubic yards of impacted soil were observed:	
Vertical extent: 21'	Estimated spill volume: Unknown - Historical
Lateral extent: 100' x 120' Approx	Volume of soil removed: 2500 cubic Yards
Is additional investigation required? No	
Was groundwater encountered during the investigation?	
No	Yes - not impacted or in contact with impacted soils
Yes - groundwater impacted and/or in contact with impacted soils	
Measured depth to groundwater:	Was remedial groundwater removal conducted? Yes No
Date Groundwater was encountered:	Commencement date of removal:
Sheen on groundwater? Yes No	Volume of groundwater removed prior to sampling:
Free product observed? Yes No	Volume of groundwater removed post sampling:
Total number of samples collected:	Total Volume of groundwater removed:
Total number of samples submitted to lab for analysis:	