

**TABLE 1**  
**SOIL SAMPLE FIELD DATA SUMMARY TABLE**  
**BERIG UPRR 42-35 1 WELLHEAD**  
**WELD COUNTY, COLORADO**  
**KERR-MCGEE OIL GAS ONSHORE, LP**

Soil Sample Location	Date	Depth (ft. bgs)	PID Reading (ppm)	Visual Observation	Olfactory Observation	Latitude	Longitude	Submitted for Lab Analysis? (Y/N)
<b>WELLHEAD EXCAVATION SAMPLES</b>								
N Wall	5/19/2022	NA	2.8	Stain	NO	40.270273	-104.737568	N
E Wall	5/19/2022	NA	0.6	Stain	NO	40.270257	-104.737548	N
S Wall	5/19/2022	NA	0.0	NS	NO	40.270243	-104.737566	N
W Wall	5/19/2022	NA	0.0	NS	NO	40.270257	-104.737586	N
B01@6'-WP	5/19/2022	6	0.5	Stain	Slight Odor	40.270263	-104.737564	Y
N01@4'	7/11/2022	4	39.2	Stain	NO	40.270273	-104.737568	Y
E01@4'	7/11/2022	4	186.7	Stain	NO	40.270257	-104.737548	Y
S01@4'	7/11/2022	4	1355	NS	NO	40.270243	-104.737566	Y
W01@4'	7/11/2022	4	361.5	NS	NO	40.270257	-104.737586	Y
B02@7'	7/11/2022	7	3.2	Stain	Slight Odor	40.270256	-104.737573	Y
S02@4'	7/13/2022	4	8.1	NS	NO	40.270223	-104.737568	Y
W02@4'	7/25/2022	4	1.4	NS	NO	40.270263	-104.737598	Y
W03@4'	7/25/2022	4	0.0	NS	NO	40.27023	-104.737598	Y
E02@4'	7/25/2022	4	2.0	NS	NO	40.27023	-104.737542	Y
<b>FLOWLINE POTHOLE SAMPLES</b>								
PH01/FL01@5'	5/20/2022	5	1.0	Stain	Slight Odor	40.269805	-104.737778	Y
PH02/FL02@5'	5/20/2022	5	1.0	Stain	Slight Odor	40.270141	-104.737621	Y
FL01-N01@4'	7/11/2022	4	59.5	NS	NO	40.269941	-104.73772	Y
FL01-E01@4'	7/11/2022	4	80.2	NS	NO	40.269916	-104.73771	Y
FL01-S01@4'	7/11/2022	4	65.1	NS	NO	40.269902	-104.737741	Y
FL01-W01@4'	7/11/2022	4	71.4	NS	NO	40.269927	-104.737745	Y
FL01-B01@6'	7/11/2022	6	86.5	NS	NO	40.269923	-104.737727	Y
<b>BACKGROUND SOIL SAMPLES</b>								
Native-BG01@3'	5/19/2022	3	0.0	NS	NO	40.270252	-104.737482	Y
Native-BG01@6'	5/19/2022	6	0.0	NS	NO	40.270252	-104.737482	Y
Native-BG02@3'	5/19/2022	3	0.0	NS	NO	40.270321	-104.73757	Y
Native-BG02@6'	5/19/2022	6	0.0	NS	NO	40.270321	-104.73757	Y
Native-BG03@3'	5/19/2022	3	0.0	NS	NO	40.270199	-104.737565	Y
Native-BG03@6'	5/19/2022	6	0.0	NS	NO	40.270199	-104.737565	Y

**Notes:**

ft. - feet

bgs - below ground surface

PID - Photoionization detector

ppm - parts per million

NS - No Staining

NO - No Odor

NA - Not Analyzed/Not Applicable

TABLE 2-1  
SOIL SAMPLE ANALYTICAL RESULTS  
VOLATILE ORGANIC COMPOUNDS AND TOTAL PETROLEUM HYDROCARBONS  
BERIG UPRR 42-35 1 WELLHEAD  
WELD COUNTY, COLORADO  
KERR-MCGEE OIL GAS ONSHORE, LP

Soil Sample ID	Date	Depth (ft. bgs)	TPH-GRO <sup>+</sup> (mg/kg)	TPH-DRO <sup>+</sup> (mg/kg)	TPH-RRO <sup>+</sup> (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	1,2,4- Trimethyl benzene (mg/kg)	1,3,5- Trimethyl benzene (mg/kg)	Naphthalene (mg/kg)
Groundwater Protection Values (GPV)			500	500	500	0.0026	0.69	0.78	9.9	0.0081	0.0087	0.0038
<b>WELLHEAD EXCAVATION SAMPLES</b>												
<b>B01@6'-WP</b>	5/19/2022	6	23.0	129	<100	<b>0.0679</b>	0.300	0.110	2.00	<b>0.589</b>	<b>0.457</b>	<b>0.0642</b>
<b>N01@4'</b>	7/11/2022	4	NA	NA	NA	<0.00200	NA	NA	NA	<0.00200	<0.00200	<0.00067
<b>E01@4'</b>	7/11/2022	4	NA	NA	NA	<0.00200	NA	NA	NA	<0.00200	<0.00200	<0.00067
<b>S01@4'</b>	7/11/2022	4	NA	NA	NA	<0.00200	NA	NA	NA	<b>2.62</b>	<b>0.180</b>	<b>0.0913</b>
<b>W01@4'</b>	7/11/2022	4	NA	NA	NA	<0.00200	NA	NA	NA	<0.00200	0.00216	0.000942
<b>B02@7'</b>	7/11/2022	7	NA	NA	NA	<0.00200	NA	NA	NA	0.00346	0.00218	<0.00067
<b>S02@4'</b>	7/13/2022	4	NA	NA	NA	<0.00200	NA	NA	NA	<0.00200	<0.00200	<0.00067
<b>W02@4'</b>	7/25/2022	4	NA	NA	NA	<0.00200	NA	NA	NA	<0.00200	<0.00200	<0.00067
<b>W03@4'</b>	7/25/2022	4	NA	NA	NA	<0.00200	NA	NA	NA	<0.00200	<0.00200	<0.00067
<b>E02@4'</b>	7/25/2022	4	NA	NA	NA	<0.00200	NA	NA	NA	<0.00200	<0.00200	<0.00067
<b>FLOWLINE SAMPLES</b>												
<b>PH01/FL01@5'</b>	5/20/2022	5	<0.200	<25.0	<100	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	0.00353
<b>PH02/FL02@5'</b>	5/20/2022	5	<0.200	<25.0	<100	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00067
<b>FL01-N01@4'</b>	7/11/2022	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>FL01-E01@4'</b>	7/11/2022	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>FL01-S01@4'</b>	7/11/2022	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>FL01-W01@4'</b>	7/11/2022	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>FL01-B01@6'</b>	7/11/2022	6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE 2-2**  
**SOIL SAMPLE ANALYTICAL RESULTS**  
**POLYCYCLIC AROMATIC HYDROCARBONS**  
**BERIG UPRR 42-35 1 WELLHEAD**  
**WELD COUNTY, COLORADO**  
**KERR-MCGEE OIL GAS ONSHORE, LP**

Soil Sample ID	Date	Depth (ft. bgs)	Acenaphthene (mg/Kg)	Anthracene (mg/Kg)	Benzo (a) anthracene (mg/Kg)	Benzo (b) fluoranthene (mg/Kg)	Benzo (k) fluoranthene (mg/Kg)	Benzo (a) pyrene (mg/Kg)	Chrysene (mg/Kg)	Dibenz (a,h) anthracene (mg/Kg)	Fluoranthene (mg/Kg)	Fluorene (mg/Kg)	Indeno (1,2,3-cd) pyrene (mg/Kg)	1-Methyl naphthalene (mg/Kg)	2-Methyl naphthalene (mg/Kg)	Pyrene (mg/Kg)
Groundwater Protection Values (GPV)			0.55	5.8	0.011	0.3	2.9	0.24	9	0.096	8.9	0.54	0.98	0.006	0.019	1.3
<b>WELLHEAD EXCAVATION SAMPLES</b>																
<b>B01@6'-WP</b>	5/19/2022	6	0.00765	0.00079	<0.00067	0.00107	<0.00067	0.000956	0.00107	<0.00067	0.000744	0.0141	0.000929	<b>0.049</b>	<b>0.0869</b>	<0.00067
<b>N01@4'</b>	7/11/2022	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.00067	<0.00067	NA
<b>E01@4'</b>	7/11/2022	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.00067	<0.00067	NA
<b>S01@4'</b>	7/11/2022	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<b>0.304</b>	<b>0.405</b>	NA
<b>W01@4'</b>	7/11/2022	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<b>0.0181</b>	0.00603	NA
<b>B02@7'</b>	7/11/2022	7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.000745	0.00111	NA
<b>S02@4'</b>	7/13/2022	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.00067	<0.00067	NA
<b>W02@4'</b>	7/25/2022	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.00067	<0.00067	NA
<b>W03@4'</b>	7/25/2022	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.00067	<0.00067	NA
<b>E02@4'</b>	7/25/2022	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.00067	<0.00067	NA
<b>FLOWLINE SAMPLES</b>																
<b>PH01/FL01@5'</b>	5/20/2022	5	0.0778	<0.00067	<b>0.0829</b>	0.0308	0.0142	0.0233	0.0606	0.00328	0.39	0.125	0.0104	0.00477	<0.00067	0.403
<b>PH02/FL02@5'</b>	5/20/2022	5	0.0205	0.00585	0.00711	0.00633	0.00343	0.00698	0.00817	0.00169	0.0111	0.00354	0.00381	<0.00067	<0.00067	0.014
<b>FL01-N01@4'</b>	7/11/2022	4	NA	NA	0.00111	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>FL01-E01@4'</b>	7/11/2022	4	NA	NA	<0.00067	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>FL01-S01@4'</b>	7/11/2022	4	NA	NA	<0.00067	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>FL01-W01@4'</b>	7/11/2022	4	NA	NA	<0.00067	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>FL01-B01@6'</b>	7/11/2022	6	NA	NA	<0.00067	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 2-3  
SOIL SAMPLE ANALYTICAL RESULTS  
SOIL SUITABILITY FOR RECLAMATION  
BERIG UPRR 42-35 1 WELLHEAD  
WELD COUNTY, COLORADO  
KERR-MCGEE OIL GAS ONSHORE, LP

Soil Sample ID	Date	Depth (ft. bgs)	EC (mmhos/cm)	SAR	pH	Boron (mg/L)
Groundwater Protection Values (GPV)			4	6	6-8.3	2
<b>WELLHEAD EXCAVATION SAMPLES</b>						
B01@6'-WP	5/19/2022	6	2.19	6.80	12.10	0.360
N01@4'	7/11/2022	4	NA	3.63	8.36*	NA
E01@4'	7/11/2022	4	NA	5.25	8.47*	NA
S01@4'	7/11/2022	4	NA	9.53	8.18	NA
W01@4'	7/11/2022	4	NA	6.32	8.53*	NA
B02@7'	7/11/2022	7	NA	2.14	8.45*	NA
S02@4'	7/13/2022	4	NA	4.73	8.54*	NA
W02@4'	7/25/2022	4	NA	3.04	7.91	NA
W03@4'	7/25/2022	4	NA	2.18	8.04	NA
E02@4'	7/25/2022	4	NA	2.22	8.16	NA
<b>FLOWLINE SAMPLES</b>						
PH01/FL01@5'	5/20/2022	5	0.451	2.15	8.42*	0.182
PH02/FL02@5'	5/20/2022	5	0.355	2.05	8.43*	0.463
FL01-N01@4'	7/11/2022	4	NA	NA	NA	NA
FL01-E01@4'	7/11/2022	4	NA	NA	NA	NA
FL01-S01@4'	7/11/2022	4	NA	NA	NA	NA
FL01-W01@4'	7/11/2022	4	NA	NA	NA	NA
FL01-B01@6'	7/11/2022	6	NA	NA	NA	NA
<b>BACKGROUND SAMPLES</b>						
Native-BG01@3'	5/10/2022	3	0.759	5.47	8.52	0.159
Native-BG01@6'	5/10/2022	6	0.624	2.70	8.48	0.160
Native-BG02@3'	5/10/2022	3	0.440	2.52	8.27	0.120
Native-BG02@6'	5/10/2022	6	0.760	3.02	8.51	<1.00
Native-BG03@3'	5/10/2022	3	0.428	2.05	8.52	0.141
Native-BG03@6'	5/10/2022	6	0.469	1.99	8.50	0.137

**TABLE 2-4**  
**SOIL SAMPLE ANALYTICAL RESULTS**  
**METALS**  
**BERIG UPRR 42-35 1 WELLHEAD**  
**WELD COUNTY, COLORADO**  
**KERR-MCGEE OIL GAS ONSHORE, LP**

Soil Sample ID	Date	Depth	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (VI) (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Zinc (mg/kg)
Groundwater Protection Value (GPV)			0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
<b>WELLHEAD EXCAVATION SAMPLES</b>												
<b>B01@6'-WP</b>	5/19/2022	6	1.44*	54	0.12	<0.5	6.79	10.7	5.16	0.338	0.0334	26.7
<b>N01@4'</b>	7/11/2022	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>E01@4'</b>	7/11/2022	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>S01@4'</b>	7/11/2022	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>W01@4'</b>	7/11/2022	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>B02@7'</b>	7/11/2022	7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>S02@4'</b>	7/13/2022	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>W02@4'</b>	7/25/2022	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>W03@4'</b>	7/25/2022	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>E02@4'</b>	7/25/2022	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>FLOWLINE SAMPLES</b>												
<b>PH01/FL01@5'</b>	5/20/2022	5	1.48*	67.8	0.119	<0.5	7.4	7.6	6.75	0.363*	0.0339	32.3
<b>PH02/FL02@5'</b>	5/20/2022	5	1.64*	49.9	0.179	<0.5	6.89	10.5	4.98	0.304*	0.0696	31.3
<b>FL01-N01@4'</b>	7/11/2022	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>FL01-E01@4'</b>	7/11/2022	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>FL01-S01@4'</b>	7/11/2022	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>FL01-W01@4'</b>	7/11/2022	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>FL01-B01@6'</b>	7/11/2022	6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>BACKGROUND SAMPLES</b>												
<b>Native-BG01@3'</b>	5/10/2022	3	2.19	64.1	0.0487	<0.503	5.02	5.85	6.69	0.39	0.0362	25.5
<b>Native-BG01@6'</b>	5/10/2022	6	1.99	84.2	0.0677	<0.511	5.94	6.57	7.11	0.366	0.0226	28.7
<b>Native-BG02@3'</b>	5/10/2022	3	0.771	28	0.0606	<0.514	4.66	4.13	2.92	0.336	0.0166	14.5
<b>Native-BG02@6'</b>	5/10/2022	6	1.21	56.7	0.0671	<0.515	4.76	5	5.39	0.364	0.0228	23.6
<b>Native-BG03@3'</b>	5/10/2022	3	1.82	53.5	0.0558	<0.507	5.5	5.74	5.68	0.265	0.0163	26.4
<b>Native-BG03@6'</b>	5/10/2022	6	1.24	40.6	0.036	<0.504	3.66	4.14	4.43	0.218	0.0099	17.5

TABLE 2-5  
SOIL SAMPLE ANALYTICAL RESULTS  
NOTES  
BERIG UPRR 42-35 1 WELLHEAD  
WELD COUNTY, COLORADO  
KERR-MCGEE OIL GAS ONSHORE, LP

**Notes:**

GPV - Groundwater Protection Values (mg/kg)

TPH - Total Petroleum Hydrocarbons

GRO - Gasoline Range Organics

DRO - Diesel Range Organics

RRO - Residual Range Organics

\*Allowable level for TPH is 500 mg/kg for combined GRO, DRO, ORO

\* Exceeds Table 915-1 allowable level but below analytical variability of background

EC - Electrical Conductivity

SAR - Sodium Adsorption Ratio

mmhos/cm - millimhos per centimeter

<0.00200 - less than laboratory reporting limit

NA - Not Analyzed/Not Applicable

**Bold** - exceeds Table 915-1 allowable level and background

TABLE 3  
GROUNDWATER ANALYTICAL RESULTS  
BERIG UPRR 42-35 1 WELLHEAD  
WELD COUNTY, COLORADO  
KERR-MCGEE OIL & GAS ONSHORE, LP

Well Name	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Naphthalene (µg/L)	1,2,4- trimethylbenzene (µg/L)	1,3,5- trimethylbenzene (µg/L)	Total Dissolved Solids (ug/L)	Chloride Ion (ug/L)	Sulfate Ion (ug/L)	Depth to Water/ (Product Thickness) (ft bgs)
<b>COGCC Allowable Levels</b>		<b>5</b>	<b>560</b>	<b>700</b>	<b>1400</b>	<b>140</b>	<b>67</b>	<b>67</b>	<b>920,000</b>	<b>250,000</b>	<b>175,000</b>	
GW01	5/18/2022	<b>47.9</b>	153	19.0	347	5.89	<b>89.6</b>	58.8	783,000	188,000	<b>177,000</b>	5.0
GW02	5/25/2022	<1.00	<1.00	<1.00	<1.00	<2.00	<2.00	<2.00	919,000	195,000	<b>308,000</b>	3.0
BGGW01	5/19/2022	NA	NA	NA	NA	NA	NA	NA	716,000	125,000	140,000	5.0
BGGW02	5/19/2022	NA	NA	NA	NA	NA	NA	NA	812,000	145,000	166,000	5.0
BGGW03	5/19/2022	NA	NA	NA	NA	NA	NA	NA	736,000	129,000	138,000	5.0

Notes: COGCC - Colorado Oil and Gas Conservation Commission

µg/L - micrograms per liter

ft bgs - feet below ground surface

< - less than laboratory reporting limit

NA - not analyzed/not available

Excavation groundwater depth is approximate

Total dissolved solids parameter based on background sample (BGGW03) concentration x 1.25; Sulfate Ion parameter based on background sample (BGGW01) x 1.25.

**BOLD** = Analytical result is in exceedance of COGCC Table 915-1 groundwater standards.



June 16, 2022

WSP USA

Rob Rebel

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CO

80003

**Project Name - KMG - Berig UPRR 42-35-1**

**Project Number - 31403177.022.07**

Attached are your analytical results for KMG - Berig UPRR 42-35-1 received by Origins Laboratory, Inc. May 19, 2022. This project is associated with Origins project number Y205518-01.

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.

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Rob Rebel

Project Number: 31403177.022.07

Project: KMG - Berig UPRR 42-35-1

## CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B01@6'-WP	Y205518-01	Soil	May 19, 2022 15:10	05/19/2022 17:02
Native - BG01@3'	Y205518-02	Soil	May 19, 2022 15:15	05/19/2022 17:02
Native - BG01@6'	Y205518-03	Soil	May 19, 2022 15:17	05/19/2022 17:02
Native - BG02@3'	Y205518-04	Soil	May 19, 2022 15:20	05/19/2022 17:02
Native - BG02@6'	Y205518-05	Soil	May 19, 2022 15:22	05/19/2022 17:02
Native - BG03@3'	Y205518-06	Soil	May 19, 2022 15:25	05/19/2022 17:02
Native - BG03@6'	Y205518-07	Soil	May 19, 2022 15:27	05/19/2022 17:02
GW01	Y205518-08	Water	May 18, 2022 15:21	05/19/2022 17:02
BGGW01	Y205518-09	Water	May 19, 2022 15:24	05/19/2022 17:02
BGGW02	Y205518-10	Water	May 19, 2022 15:26	05/19/2022 17:02
BGGW03	Y205518-11	Water	May 19, 2022 15:28	05/19/2022 17:02

Origins Laboratory, Inc.



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Jordan A. Bynon, Project Manager

WSP USA

4600 W. 60th Ave.

Arvada

CO

80003

Rob Rebel

Project Number: 31403177.022.07

Project: KMG - Berig UPRR 42-35-1

**ORIGINS**  
LABORATORY, INC

www.originslaboratory.com

1205512

page 1 of 1

Client: WSP USA

Address: 4600 W 60th Ave  
Arvada, CO 80003

Project Manager: Rob Rebel

Project Name: Berig UPRR 42-35-1

Project Number: 31403177.022.07

Telephone Number:

Samples Collected By: AT, RJ

Email Address: KMG\_group

Fax: 303.265.9645

Phone: 303.433.1322

Denver, CO 80211

1725 Elk Place

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix		Analysis				Sample Instructions
				Unpreserved	HCl	HNO <sub>3</sub>	Other	Groundwater	Soil	Air Summa	Other	TPH	TPH (P)	
B01a.6-VF	5-11-22	1516	2											6-Lv Protection 1
Mt.ve-B01a.6.2		1515	2											Full QIS added
Mt.ve-B01a.6.1		1517	2											to B01a.6-VF
Mt.ve-B02a.3		1520	2											1-600 per
Mt.ve-B02a.6		1522	2											the email
Mt.ve-B03a.3		1525	2											from Daniel
Mt.ve-B03a.6		1527	2											on 5/12/22
Gw01		1521	3											
B02a.01		1524	1											
B02a.02		1526	1											
B02a.03		1528	1											
Relinquished By: Amy J. Coy	Date: 5/11/22	Time: 1702		Received By: [Signature]	Date: 5/19/22	Time: 1702		Turnaround Time: Same Day <input checked="" type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> Standard <input type="checkbox"/>						

Temp Received: 1.7 Date Results Needed

Origins Laboratory, Inc.

*J. Bynon*

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WSP USA

4600 W. 60th Ave.

Arvada

CO

80003

Rob Rebel

Project Number: 31403177.022.07

Project: KMG - Berig UPRR 42-35-1

Origins Laboratory

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

**Sample Receipt Checklist**

Origins Work Order: 42055116 Client: WSP  
Client Project ID: Berig UPRR 42-35-1

Checklist Completed by: JKH Shipped Via: TD  
(UPS, FedEx, Hand Delivered, Pick-up, etc.)  
Date/time completed: 5/19/12 Airbill #: N/A

Matrix(s) Received: (Check all that apply): 1 Soil/Solid 1 Water Other:

Cooler Number/Temperature: 1 / 1.7 °C 1 °C 1 °C (Describe) °C

Thermometer ID: TDX1

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C <sup>(1)</sup> ?	<u>—</u>			
Is there ice present (document if blue ice is used)	<u>—</u>			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		<u>—</u>		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		<u>—</u>		
Were all samples received intact <sup>(1)</sup> ?	<u>—</u>			
Was adequate sample volume provided <sup>(1)</sup> ?	<u>—</u>			
Are short holding time analytes or samples with HTs due within 48 hours present <sup>(1)</sup> ?		<u>—</u>		
Is a chain-of-custody (COC) present and filled out completely <sup>(1)</sup> ?	<u>—</u>			
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<u>—</u>			
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<u>—</u>			
Is the COC properly relinquished by the client with date and time recorded <sup>(1)</sup> ?	<u>—</u>			
For volatiles in water — is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.		<u>—</u>		
Are samples preserved that require preservation and was it checked <sup>(1)</sup> ? (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 <sub>3</sub> , HCL, H <sub>2</sub> SO <sub>4</sub> ) / (pH > 10 for samples preserved with NaAsO <sub>2</sub> +NaOH, ZnAc+NaOH)		<u>—</u>		<u>unpreserved</u>
Additional Comments (if any):				

<sup>(1)</sup>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) JKH Date/Time Reviewed 5/19/12

Origins Laboratory, Inc.

*JKH*

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WSP USA  
4600 W. 60th Ave.  
Arvada CO 80003

Rob Rebel  
Project Number: 31403177.022.07  
Project: KMG - Berig UPRR 42-35-1

**B01@6'-WP**  
**5/19/2022 3:10:00PM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y205518-01 (Soil)**

## Boron (DTPA Sorbitol)

Boron	0.360	0.100	mg/L	1	B2F0308	06/03/2022	06/06/2022
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## DRO/ORO by EPA 8015D

Diesel (C10-C28)	129	25.0	mg/kg	1	B2E1914	05/19/2022	05/20/2022
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	" U

Surrogate: o-Terphenyl	84.4 %	50-150	"	"	"
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## GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	0.589	0.0500	mg/kg	25	B2E1915	05/19/2022	05/20/2022
1,3,5-Trimethylbenzene	0.457	0.0500	"	"	"	"	"
Benzene	0.0679	0.00200	"	1	"	"	05/20/2022
Ethylbenzene	0.110	0.0500	"	25	"	"	05/20/2022
Naphthalene	0.0642	0.0100	"	1	"	"	05/20/2022
Toluene	0.300	0.0500	"	25	"	"	05/20/2022
Xylenes, total	2.00	0.0500	"	"	"	"	"
Gasoline Range Hydrocarbons	23.0	5.00	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	105 %	70-130	"	"	"
Surrogate: Toluene-d8	100 %	70-130	"	"	"

Origins Laboratory, Inc.



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WSP USA  
4600 W. 60th Ave.  
Arvada CO 80003

Rob Rebel  
Project Number: 31403177.022.07  
Project: KMG - Berig UPRR 42-35-1

B01@6'-WP  
5/19/2022 3:10:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y205518-01 (Soil)

## GBTEX+TMBs by 8260D

Surrogate: 4-Bromofluorobenzene	99.9 %	70-130	B2E19 15	05/19/2022	05/20/2022
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## Metals by Saturated Paste by EPA 6010

Calcium	2.77	0.499	meq/L	10	[CALC]	05/20/2022	05/23/2022
Magnesium	ND	0.823	"	"	"	"	"
Sodium	8.00	0.435	"	"	"	"	"

## PAH by 8270D SIM

1-Methylnaphthalene	0.049	0.000364	0.00067	mg/Kg	1	L618305	05/26/2022	05/26/2022
2-Methylnaphthalene	0.0869	0.000645	0.00067	"	"	"	"	"
Acenaphthene	0.00765	0.000304	0.00067	"	"	"	"	"
Anthracene	0.00079	0.000334	0.00067	"	"	"	"	"
Benzo(a)anthracene	ND	0.000493	0.00067	"	"	"	"	"
Benzo(a)pyrene	0.000956	0.000468	0.00067	"	"	"	"	"
Benzo(b)fluoranthene	0.00107	0.000585	0.00067	"	"	"	"	"
Benzo(k)fluoranthene	ND	0.000437	0.00067	"	"	"	"	"
Chrysene	0.00107	0.000624	0.00067	"	"	"	"	"
Dibenz(a,h)anthracene	ND	0.000614	0.00067	"	"	"	"	"
Fluoranthene	0.000744	0.000394	0.00067	"	"	"	"	"
Fluorene	0.0141	0.000286	0.00067	"	"	"	"	"
Indeno(1,2,3-cd)pyrene	0.000929	0.000627	0.00067	"	"	"	"	"

Origins Laboratory, Inc.



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WSP USA  
4600 W. 60th Ave.  
Arvada CO 80003

Rob Rebel  
Project Number: 31403177.022.07  
Project: KMG - Berig UPRR 42-35-1

**B01@6'-WP**  
**5/19/2022 3:10:00PM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Waypoint Analytical, Inc.**  
**Y205518-01 (Soil)**

## PAH by 8270D SIM

Pyrene	ND	0.000643	0.00067	mg/Kg	1	L618305	05/26/2022	05/26/2022
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Surrogate: 2-Fluorobiphenyl	52.1 %		33-115			"	"	"
Surrogate: 4-Terphenyl-d14	73.8 %		33-122			"	"	"
Surrogate: Nitrobenzene-d5	44.9 %		29-110			"	"	"

## pH in Soil by 9045D

pH	12.1			pH Units	1	B2E2009	05/20/2022	05/21/2022
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## SAR by 20B Saturated Paste

SAR	6.80			SAR	1	B2E2006	05/20/2022	05/23/2022
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## Specific Conductance Mod. 9050A

Specific Conductance (EC)	2.19		0.00500	mmhos/cm	1	B2E2009	05/20/2022	05/21/2022
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## Total Metals by 6020B

Arsenic	1.44	0.0855	0.25	mg/Kg	5	L618115	05/25/2022	05/26/2022
Barium	54	0.042	0.25	"	"	"	"	"
Cadmium	0.12	0.0259	0.25	"	"	"	"	"
Copper	6.79	0.0806	0.25	"	"	"	"	"

Origins Laboratory, Inc.



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WSP USA  
4600 W. 60th Ave.  
Arvada CO 80003

Rob Rebel  
Project Number: 31403177.022.07  
Project: KMG - Berig UPRR 42-35-1

B01@6'-WP

5/19/2022 3:10:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Waypoint Analytical, Inc.**  
Y205518-01 (Soil)

**Total Metals by 6020B**

Lead	10.7	0.031	0.25	mg/Kg	5	L618115	05/25/2022	05/26/2022	
Nickel	5.16	0.0633	0.25	"	"	"	"	"	
Selenium	0.338	0.103	0.25	"	"	"	"	"	
Silver	0.0334	0.0067	0.25	"	"	"	"	"	J
Zinc	26.7	0.534	2.5	"	"	"	"	"	

**Total Metals by 7196A**

Chromium, Hexavalent	ND	0.244	0.5	mg/Kg	1	L618815	05/19/2022	05/31/2022	
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Origins Laboratory, Inc.



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WSP USA  
4600 W. 60th Ave.  
Arvada CO 80003

Rob Rebel  
Project Number: 31403177.022.07  
Project: KMG - Berig UPRR 42-35-1

**Native - BG01@3'**  
**5/19/2022 3:15:00PM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y205518-02 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	0.159	0.100	mg/L	1	B2E2003	05/20/2022	05/23/2022
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**Metals by Saturated Paste by EPA 6010**

Calcium	1.27	0.499	meq/L	10	[CALC]	05/20/2022	05/23/2022
Magnesium	ND	0.823	"	"	"	"	"
Sodium	5.51	0.435	"	"	"	"	"

**pH in Soil by 9045D**

pH	8.52	pH Units	1	B2E2009	05/20/2022	05/21/2022
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**SAR by 20B Saturated Paste**

SAR	5.47	SAR	1	B2E2006	05/20/2022	05/23/2022
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	0.759	0.00500	mmhos/cm	1	B2E2009	05/20/2022	05/21/2022
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**Total Metals by 6020B**

Arsenic	2.19	0.0855	0.25	mg/Kg	5	L618115	05/25/2022	05/26/2022
Barium	64.1	0.042	0.25	"	"	"	"	"
Cadmium	0.0487	0.0259	0.25	"	"	"	"	"
Copper	5.02	0.0806	0.25	"	"	"	"	"

Origins Laboratory, Inc.



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WSP USA  
4600 W. 60th Ave.  
Arvada CO 80003

Rob Rebel  
Project Number: 31403177.022.07  
Project: KMG - Berig UPRR 42-35-1

**Native - BG01@3'**

**5/19/2022 3:15:00PM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Waypoint Analytical, Inc.**

**Y205518-02 (Soil)**

**Total Metals by 6020B**

Lead	5.85	0.031	0.25	mg/Kg	5	L618115	05/25/2022	05/26/2022	
Nickel	6.69	0.0633	0.25	"	"	"	"	"	
Selenium	0.39	0.103	0.25	"	"	"	"	"	
Silver	0.0362	0.0067	0.25	"	"	"	"	"	J
Zinc	25.5	0.534	2.5	"	"	"	"	"	

**Total Metals by 7196A**

Chromium, Hexavalent	ND	0.245	0.503	mg/Kg	1	L618815	05/19/2022	05/31/2022	
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Origins Laboratory, Inc.



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WSP USA  
4600 W. 60th Ave.  
Arvada CO 80003

Rob Rebel  
Project Number: 31403177.022.07  
Project: KMG - Berig UPRR 42-35-1

## Native - BG01@6'

5/19/2022 3:17:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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## Origins Laboratory, Inc. Y205518-03 (Soil)

### Boron (DTPA Sorbitol)

Boron	0.160	0.100	mg/L	1	B2E2003	05/20/2022	05/23/2022
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### Metals by Saturated Paste by EPA 6010

Calcium	1.88	0.499	meq/L	10	[CALC]	05/20/2022	05/23/2022
Magnesium	0.979	0.823	"	"	"	"	"
Sodium	3.22	0.435	"	"	"	"	"

### pH in Soil by 9045D

pH	8.48		pH Units	1	B2E2009	05/20/2022	05/21/2022
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### SAR by 20B Saturated Paste

SAR	2.70		SAR	1	B2E2006	05/20/2022	05/23/2022
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### Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.624	0.00500	mmhos/cm	1	B2E2009	05/20/2022	05/21/2022
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### Total Metals by 6020B

Arsenic	1.99	0.0855	0.25	mg/Kg	5	L618115	05/25/2022	05/26/2022
Barium	84.2	0.042	0.25	"	"	"	"	"
Cadmium	0.0677	0.0259	0.25	"	"	"	"	"
Copper	5.94	0.0806	0.25	"	"	"	"	"

Origins Laboratory, Inc.



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WSP USA  
4600 W. 60th Ave.  
Arvada CO 80003

Rob Rebel  
Project Number: 31403177.022.07  
Project: KMG - Berig UPRR 42-35-1

**Native - BG01@6'**

**5/19/2022 3:17:00PM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Waypoint Analytical, Inc.**

**Y205518-03 (Soil)**

**Total Metals by 6020B**

Lead	6.57	0.031	0.25	mg/Kg	5	L618115	05/25/2022	05/26/2022	
Nickel	7.11	0.0633	0.25	"	"	"	"	"	
Selenium	0.366	0.103	0.25	"	"	"	"	"	
Silver	0.0226	0.0067	0.25	"	"	"	"	"	J
Zinc	28.7	0.534	2.5	"	"	"	"	"	

**Total Metals by 7196A**

Chromium, Hexavalent	ND	0.249	0.511	mg/Kg	1	L618815	05/19/2022	05/31/2022	
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Origins Laboratory, Inc.



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WSP USA  
4600 W. 60th Ave.  
Arvada CO 80003

Rob Rebel  
Project Number: 31403177.022.07  
Project: KMG - Berig UPRR 42-35-1

## Native - BG02@3'

5/19/2022 3:20:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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## Origins Laboratory, Inc. Y205518-04 (Soil)

### Boron (DTPA Sorbitol)

Boron	0.120	0.100	mg/L	1	B2E2003	05/20/2022	05/23/2022
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### Metals by Saturated Paste by EPA 6010

Calcium	1.21	0.499	meq/L	10	[CALC]	05/20/2022	05/23/2022
Magnesium	ND	0.823	"	"	"	"	"
Sodium	2.38	0.435	"	"	"	"	"

### pH in Soil by 9045D

pH	8.27	pH Units	1	B2E2009	05/20/2022	05/21/2022
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### SAR by 20B Saturated Paste

SAR	2.52	SAR	1	B2E2006	05/20/2022	05/23/2022
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### Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.440	0.00500	mmhos/cm	1	B2E2009	05/20/2022	05/21/2022
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### Total Metals by 6020B

Arsenic	0.771	0.0855	0.25	mg/Kg	5	L618115	05/25/2022	05/26/2022
Barium	28	0.042	0.25	"	"	"	"	"
Cadmium	0.0606	0.0259	0.25	"	"	"	"	"
Copper	4.66	0.0806	0.25	"	"	"	"	"

Origins Laboratory, Inc.



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WSP USA  
4600 W. 60th Ave.  
Arvada CO 80003

Rob Rebel  
Project Number: 31403177.022.07  
Project: KMG - Berig UPRR 42-35-1

## Native - BG02@3'

5/19/2022 3:20:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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## Waypoint Analytical, Inc.

Y205518-04 (Soil)

### Total Metals by 6020B

Lead	4.13	0.031	0.25	mg/Kg	5	L618115	05/25/2022	05/26/2022	
Nickel	2.92	0.0633	0.25	"	"	"	"	"	
Selenium	0.336	0.103	0.25	"	"	"	"	"	
Silver	0.0166	0.0067	0.25	"	"	"	"	"	J
Zinc	14.5	0.534	2.5	"	"	"	"	"	

### Total Metals by 7196A

Chromium, Hexavalent	ND	0.25	0.514	mg/Kg	1	L618815	05/19/2022	05/31/2022	
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Origins Laboratory, Inc.



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WSP USA  
4600 W. 60th Ave.  
Arvada CO 80003

Rob Rebel  
Project Number: 31403177.022.07  
Project: KMG - Berig UPRR 42-35-1

## Native - BG02@6'

5/19/2022 3:22:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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## Origins Laboratory, Inc. Y205518-05 (Soil)

### Boron (DTPA Sorbitol)

Boron	ND	1.00	mg/L	10	B2E2003	05/20/2022	05/23/2022
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### Metals by Saturated Paste by EPA 6010

Calcium	2.34	0.499	meq/L	"	[CALC]	05/20/2022	05/23/2022
Magnesium	1.10	0.823	"	"	"	"	"
Sodium	3.97	0.435	"	"	"	"	"

### pH in Soil by 9045D

pH	8.51		pH Units	1	B2E2009	05/20/2022	05/21/2022
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### SAR by 20B Saturated Paste

SAR	3.02		SAR	1	B2E2006	05/20/2022	05/23/2022
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### Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.760	0.00500	mmhos/cm	1	B2E2009	05/20/2022	05/21/2022
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### Total Metals by 6020B

Arsenic	1.21	0.0855	0.25	mg/Kg	5	L618116	05/25/2022	05/26/2022
Barium	56.7	0.042	0.25	"	"	"	"	"
Cadmium	0.0671	0.0259	0.25	"	"	"	"	"
Copper	4.76	0.0806	0.25	"	"	"	"	"

Origins Laboratory, Inc.



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WSP USA  
4600 W. 60th Ave.  
Arvada CO 80003

Rob Rebel  
Project Number: 31403177.022.07  
Project: KMG - Berig UPRR 42-35-1

**Native - BG02@6'**

**5/19/2022 3:22:00PM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Waypoint Analytical, Inc.**

**Y205518-05 (Soil)**

**Total Metals by 6020B**

Lead	5	0.031	0.25	mg/Kg	5	L618116	05/25/2022	05/26/2022	
Nickel	5.39	0.0633	0.25	"	"	"	"	"	
Selenium	0.364	0.103	0.25	"	"	"	"	"	
Silver	0.0228	0.0067	0.25	"	"	"	"	"	J
Zinc	23.6	0.534	2.5	"	"	"	"	"	

**Total Metals by 7196A**

Chromium, Hexavalent	ND	0.251	0.515	mg/Kg	1	L618815	05/19/2022	05/31/2022	
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Origins Laboratory, Inc.



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WSP USA  
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Arvada CO 80003

Rob Rebel  
Project Number: 31403177.022.07  
Project: KMG - Berig UPRR 42-35-1

## Native - BG03@3'

5/19/2022 3:25:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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## Origins Laboratory, Inc. Y205518-06 (Soil)

### Boron (DTPA Sorbitol)

Boron	0.141	0.100	mg/L	1	B2E2003	05/20/2022	05/23/2022
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### Metals by Saturated Paste by EPA 6010

Calcium	1.44	0.499	meq/L	10	[CALC]	05/20/2022	05/23/2022
Magnesium	0.848	0.823	"	"	"	"	"
Sodium	2.19	0.435	"	"	"	"	"

### pH in Soil by 9045D

pH	8.52	pH Units	1	B2E2009	05/20/2022	05/21/2022
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### SAR by 20B Saturated Paste

SAR	2.05	SAR	1	B2E2006	05/20/2022	05/23/2022
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### Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.428	0.00500	mmhos/cm	1	B2E2009	05/20/2022	05/21/2022
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### Total Metals by 6020B

Arsenic	1.82	0.0855	0.25	mg/Kg	5	L618116	05/25/2022	05/26/2022
Barium	53.5	0.042	0.25	"	"	"	"	"
Cadmium	0.0558	0.0259	0.25	"	"	"	"	"
Copper	5.5	0.0806	0.25	"	"	"	"	"

Origins Laboratory, Inc.



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Arvada CO 80003

Rob Rebel  
Project Number: 31403177.022.07  
Project: KMG - Berig UPRR 42-35-1

**Native - BG03@3'**

**5/19/2022 3:25:00PM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Waypoint Analytical, Inc.**

**Y205518-06 (Soil)**

**Total Metals by 6020B**

Lead	5.74	0.031	0.25	mg/Kg	5	L618116	05/25/2022	05/26/2022	
Nickel	5.68	0.0633	0.25	"	"	"	"	"	
Selenium	0.265	0.103	0.25	"	"	"	"	"	
Silver	0.0163	0.0067	0.25	"	"	"	"	"	J
Zinc	26.4	0.534	2.5	"	"	"	"	"	

**Total Metals by 7196A**

Chromium, Hexavalent	ND	0.247	0.507	mg/Kg	1	L618815	05/19/2022	05/31/2022	
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Rob Rebel  
Project Number: 31403177.022.07  
Project: KMG - Berig UPRR 42-35-1

## Native - BG03@6'

5/19/2022 3:27:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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## Origins Laboratory, Inc. Y205518-07 (Soil)

### Boron (DTPA Sorbitol)

Boron	0.137	0.100	mg/L	1	B2E2003	05/20/2022	05/23/2022
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### Metals by Saturated Paste by EPA 6010

Calcium	1.67	0.499	meq/L	10	[CALC]	05/20/2022	05/23/2022
Magnesium	ND	0.823	"	"	"	"	"
Sodium	2.20	0.435	"	"	"	"	"

### pH in Soil by 9045D

pH	8.50	pH Units	1	B2E2009	05/20/2022	05/21/2022
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### SAR by 20B Saturated Paste

SAR	1.99	SAR	1	B2E2006	05/20/2022	05/23/2022
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### Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.469	0.00500	mmhos/cm	1	B2E2009	05/20/2022	05/21/2022
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### Total Metals by 6020B

Arsenic	1.24	0.0855	0.25	mg/Kg	5	L618116	05/25/2022	05/26/2022
Barium	40.6	0.042	0.25	"	"	"	"	"
Cadmium	0.036	0.0259	0.25	"	"	"	"	"
Copper	3.66	0.0806	0.25	"	"	"	"	"

Origins Laboratory, Inc.



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WSP USA  
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Arvada CO 80003

Rob Rebel  
Project Number: 31403177.022.07  
Project: KMG - Berig UPRR 42-35-1

**Native - BG03@6'**

**5/19/2022 3:27:00PM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Waypoint Analytical, Inc.**

**Y205518-07 (Soil)**

**Total Metals by 6020B**

Lead	4.14	0.031	0.25	mg/Kg	5	L618116	05/25/2022	05/26/2022	
Nickel	4.43	0.0633	0.25	"	"	"	"	"	
Selenium	0.218	0.103	0.25	"	"	"	"	"	J
Silver	0.0099	0.0067	0.25	"	"	"	"	"	J
Zinc	17.5	0.534	2.5	"	"	"	"	"	

**Total Metals by 7196A**

Chromium, Hexavalent	ND	0.245	0.504	mg/Kg	1	L618815	05/19/2022	05/31/2022	
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Rob Rebel  
Project Number: 31403177.022.07  
Project: KMG - Berig UPRR 42-35-1

## GW01

5/18/2022 3:21:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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## Origins Laboratory, Inc. Y205518-08 (Water)

### BTEX+N+TMBs by 8260D

1,2,4-Trimethylbenzene	89.6	2.00	ug/L	1	B2E1916	05/19/2022	05/19/2022
1,3,5-Trimethylbenzene	58.8	2.00	"	"	"	"	"
Benzene	47.9	1.00	"	"	"	"	"
Ethylbenzene	19.0	1.00	"	"	"	"	"
Naphthalene	5.89	2.00	"	"	"	"	"
Toluene	153	1.00	"	"	"	"	"
Xylenes, total	347	1.00	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	98.8 %	70-130	"	"	"
Surrogate: Toluene-d8	99.9 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	101 %	70-130	"	"	"

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Arvada CO 80003

Rob Rebel

Project Number: 31403177.022.07

Project: KMG - Berig UPRR 42-35-1

BGGW01

5/19/2022 3:24:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.

Y205518-09 (Water)

## Anions by EPA-300.0

Chloride	125		4	mg/L	10	L618007	05/24/2022	05/24/2022	
Sulfate	140		10	"	"	"	"	"	

## Total Dissolved Solids by 2540C

Total Dissolved Solids	716		5.00	mg/L	1	B2E1921	05/19/2022	05/19/2022	
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Rob Rebel

Project Number: 31403177.022.07

Project: KMG - Berig UPRR 42-35-1

## BGGW02

5/19/2022 3:26:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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## Waypoint Analytical, Inc.

Y205518-10 (Water)

### Anions by EPA-300.0

Chloride	145		4	mg/L	10	L618007	05/24/2022	05/24/2022	
Sulfate	166		10	"	"	"	"	"	

### Total Dissolved Solids by 2540C

Total Dissolved Solids	812		5.00	mg/L	1	B2E1921	05/19/2022	05/19/2022	
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Rob Rebel

Project Number: 31403177.022.07

Project: KMG - Berig UPRR 42-35-1

**BGGW03**

**5/19/2022 3:28:00PM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Waypoint Analytical, Inc.**

**Y205518-11 (Water)**

**Anions by EPA-300.0**

Chloride	129		4	mg/L	10	L618007	05/24/2022	05/24/2022	
Sulfate	138		10	"	"	"	"	"	

**Total Dissolved Solids by 2540C**

Total Dissolved Solids	736		5.00	mg/L	1	B2E1921	05/19/2022	05/19/2022	
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Origins Laboratory, Inc.



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Arvada CO 80003

Rob Rebel  
Project Number: 31403177.022.07  
Project: KMG - Berig UPRR 42-35-1

## 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 B2E1914 - EPA 3580										
Blank (B2E1914-BLK1)					Prepared: 05/19/2022 Analyzed: 05/19/2022					
Diesel (C10-C28)	ND	25.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	100	"							U
Surrogate: o-Terphenyl	25		"	24.9		99.7	50-150			

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Arvada CO 80003

Rob Rebel  
Project Number: 31403177.022.07  
Project: KMG - Berig UPRR 42-35-1

## 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 B2E1914 - EPA 3580

#### LCS (B2E1914-BS1)

Prepared: 05/19/2022 Analyzed: 05/19/2022

Diesel (C10-C28)	1110	50.0	mg/kg	1000		111	70-130			
Residual Range Organics (C28-C40)	1090	200	"	1000		109	70-130			
Surrogate: o-Terphenyl	49		"	49.8		97.7	50-150			

Origins Laboratory, Inc.



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Jordan A. Bynon, Project Manager

WSP USA  
4600 W. 60th Ave.  
Arvada CO 80003

Rob Rebel  
Project Number: 31403177.022.07  
Project: KMG - Berig UPRR 42-35-1

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 B2E1914 - EPA 3580

Matrix Spike (B2E1914-MS1)		Source: Y205504-01			Prepared: 05/19/2022 Analyzed: 05/19/2022					
Diesel (C10-C28)	1050	50.0	mg/kg	1000	ND	105	70-130			
Residual Range Organics (C28-C40)	1040	200	"	1000	ND	104	70-130			
Surrogate: o-Terphenyl	55		"	49.8		110	50-150			

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Arvada CO 80003

Rob Rebel

Project Number: 31403177.022.07

Project: KMG - Berig UPRR 42-35-1

## 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 B2E1914 - EPA 3580

Matrix Spike Dup (B2E1914-MSD1)		Source: Y205504-01			Prepared: 05/19/2022 Analyzed: 05/19/2022					
Diesel (C10-C28)	912	50.0	mg/kg	1000	ND	91.2	70-130	14.5	35	
Residual Range Organics (C28-C40)	944	200	"	1000	ND	94.4	70-130	9.31	35	
Surrogate: o-Terphenyl	51		"	49.8		103	50-150			

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Jordan A. Bynon, Project Manager

WSP USA  
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Arvada CO 80003

Rob Rebel  
Project Number: 31403177.022.07  
Project: KMG - Berig UPRR 42-35-1

## 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 B2E1915 - EPA 5030 (soil)										
Blank (B2E1915-BLK1)					Prepared: 05/19/2022 Analyzed: 05/19/2022					
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	0.0100	"							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		105	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		101	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		95.1	70-130			

Origins Laboratory, Inc.



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Arvada CO 80003

Rob Rebel  
Project Number: 31403177.022.07  
Project: KMG - Berig UPRR 42-35-1

**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
<b>Batch B2E1915 - EPA 5030 (soil)</b>										
<b>LCS (B2E1915-BS1)</b>					Prepared: 05/19/2022 Analyzed: 05/19/2022					
1,2,4-Trimethylbenzene	0.111	0.00200	mg/kg	0.100		111	70-130			
1,3,5-Trimethylbenzene	0.110	0.00200	"	0.100		110	70-130			
Benzene	0.110	0.00200	"	0.100		110	70-130			
Ethylbenzene	0.115	0.00200	"	0.100		115	70-130			
Naphthalene	0.114	0.0100	"	0.100		114	70-130			
Toluene	0.114	0.00200	"	0.100		114	70-130			
o-Xylene	0.113	0.00200	"	0.100		113	70-130			
m,p-Xylene	0.234	0.00400	"	0.200		117	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		94.7	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		97.6	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		103	70-130			

Origins Laboratory, Inc.



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4600 W. 60th Ave.  
Arvada CO 80003

Rob Rebel  
Project Number: 31403177.022.07  
Project: KMG - Berig UPRR 42-35-1

**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
<b>Batch B2E1915 - EPA 5030 (soil)</b>										
<b>Matrix Spike (B2E1915-MS1)</b>		<b>Source: Y205504-01</b>			Prepared: 05/19/2022 Analyzed: 05/19/2022					
1,2,4-Trimethylbenzene	0.0928	0.00200	mg/kg	0.100	ND	92.8	70-130			
1,3,5-Trimethylbenzene	0.0819	0.00200	"	0.100	ND	81.9	70-130			
Benzene	0.0965	0.00200	"	0.100	ND	96.5	70-130			
Ethylbenzene	0.0983	0.00200	"	0.100	ND	98.3	70-130			
Naphthalene	0.0956	0.0100	"	0.100	ND	95.6	70-130			
Toluene	0.0949	0.00200	"	0.100	ND	94.9	70-130			
o-Xylene	0.0842	0.00200	"	0.100	ND	84.2	70-130			
m,p-Xylene	0.202	0.00400	"	0.200	ND	101	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		99.2	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		94.0	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		104	70-130			

Origins Laboratory, Inc.



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WSP USA  
4600 W. 60th Ave.  
Arvada CO 80003

Rob Rebel  
Project Number: 31403177.022.07  
Project: KMG - Berig UPRR 42-35-1

**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
<b>Batch B2E1915 - EPA 5030 (soil)</b>										
<b>Matrix Spike Dup (B2E1915-MSD1)</b>		<b>Source: Y205504-01</b>			Prepared: 05/19/2022 Analyzed: 05/19/2022					
1,2,4-Trimethylbenzene	0.0921	0.00200	mg/kg	0.100	ND	92.1	70-130	0.735	20	
1,3,5-Trimethylbenzene	0.0923	0.00200	"	0.100	ND	92.3	70-130	11.9	20	
Benzene	0.0922	0.00200	"	0.100	ND	92.2	70-130	4.56	20	
Ethylbenzene	0.0969	0.00200	"	0.100	ND	96.9	70-130	1.43	20	
Naphthalene	0.0991	0.0100	"	0.100	ND	99.1	70-130	3.60	20	
Toluene	0.0933	0.00200	"	0.100	ND	93.3	70-130	1.62	20	
o-Xylene	0.0956	0.00200	"	0.100	ND	95.6	70-130	12.7	20	
m,p-Xylene	0.191	0.00400	"	0.200	ND	95.3	70-130	5.69	20	
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		98.9	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		96.4	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		106	70-130			

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4600 W. 60th Ave.  
Arvada CO 80003

Rob Rebel  
Project Number: 31403177.022.07  
Project: KMG - Berig UPRR 42-35-1

**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
<b>Batch B2E1916 - EPA 5030B (Water)</b>										
<b>Blank (B2E1916-BLK1)</b>					Prepared: 05/19/2022 Analyzed: 05/19/2022					
1,2,4-Trimethylbenzene	ND	2.00	ug/L							U
1,3,5-Trimethylbenzene	ND	2.00	"							U
Benzene	ND	1.00	"							U
Ethylbenzene	ND	1.00	"							U
Naphthalene	ND	2.00	"							U
Toluene	ND	1.00	"							U
Xylenes, total	ND	1.00	"							U
Surrogate: 1,2-Dichloroethane-d4	58		"	62.5		92.6	70-130			
Surrogate: Toluene-d8	64		"	62.5		103	70-130			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.2	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
<b>Batch B2E1916 - EPA 5030B (Water)</b>										
<b>LCS (B2E1916-BS1)</b>					Prepared: 05/19/2022 Analyzed: 05/19/2022					
1,2,4-Trimethylbenzene	52.2	2.00	ug/L	50.0		104	70-130			
1,3,5-Trimethylbenzene	52.4	2.00	"	50.0		105	70-130			
Benzene	53.3	1.00	"	50.0		107	70-130			
Ethylbenzene	53.6	1.00	"	50.0		107	70-130			
m,p-Xylene	106	2.00	"	100		106	70-130			
Naphthalene	44.4	2.00	"	50.0		88.9	70-130			
o-Xylene	50.6	1.00	"	50.0		101	70-130			
Toluene	51.6	1.00	"	50.0		103	70-130			
Surrogate: 1,2-Dichloroethane-d4	58		"	62.5		93.1	70-130			
Surrogate: Toluene-d8	63		"	62.5		100	70-130			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	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
<b>Batch B2E1916 - EPA 5030B (Water)</b>										
<b>Matrix Spike (B2E1916-MS1)</b>		<b>Source: Y205457-01</b>			Prepared: 05/19/2022 Analyzed: 05/22/2022					
1,2,4-Trimethylbenzene	49.5	2.00	ug/L	50.0	1.00	96.9	70-130			
1,3,5-Trimethylbenzene	47.9	2.00	"	50.0	ND	95.8	70-130			QM-07
Benzene	58.2	1.00	"	50.0	9.68	97.0	70-130			QM-07
Ethylbenzene	55.4	1.00	"	50.0	6.88	97.1	70-130			QM-07
m,p-Xylene	93.8	2.00	"	100	ND	93.8	70-130			QM-07
Naphthalene	52.9	2.00	"	50.0	1.90	102	70-130			
o-Xylene	47.5	1.00	"	50.0	ND	94.9	70-130			
Toluene	46.6	1.00	"	50.0	0.260	92.6	70-130			QM-07
Surrogate: 1,2-Dichloroethane-d4	64		"	62.5		103	70-130			
Surrogate: Toluene-d8	59		"	62.5		93.7	70-130			
Surrogate: 4-Bromofluorobenzene	66		"	62.5		105	70-130			

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Jordan A. Bynon, Project Manager

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Rob Rebel  
Project Number: 31403177.022.07  
Project: KMG - Berig UPRR 42-35-1

**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
<b>Batch B2E1916 - EPA 5030B (Water)</b>										
<b>Matrix Spike Dup (B2E1916-MSD1)</b>			<b>Source: Y205457-01</b>		Prepared: 05/19/2022 Analyzed: 05/19/2022					
1,2,4-Trimethylbenzene	53.1	2.00	ug/L	50.0	1.00	104	70-130	7.08	20	QR-DUP
1,3,5-Trimethylbenzene	51.0	2.00	"	50.0	ND	102	70-130	6.31	20	QR-DUP
Benzene	60.7	1.00	"	50.0	9.68	102	70-130	4.22	20	QR-DUP
Ethylbenzene	58.2	1.00	"	50.0	6.88	103	70-130	4.86	20	QR-DUP
m,p-Xylene	99.0	2.00	"	100	ND	99.0	70-130	5.48	20	QR-DUP
Naphthalene	56.6	2.00	"	50.0	1.90	109	70-130	6.63	20	
o-Xylene	48.0	1.00	"	50.0	ND	96.0	70-130	1.09	20	QR-DUP
Toluene	48.0	1.00	"	50.0	0.260	95.4	70-130	2.98	20	QR-DUP
Surrogate: 1,2-Dichloroethane-d4	60		"	62.5		95.7	70-130			
Surrogate: Toluene-d8	63		"	62.5		101	70-130			
Surrogate: 4-Bromofluorobenzene	65		"	62.5		104	70-130			

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Project Number: 31403177.022.07  
Project: KMG - Berig UPRR 42-35-1

## 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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## 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 B2E1921 - NO PREP

#### Blank (B2E1921-BLK1)

Prepared: 05/19/2022 Analyzed: 05/19/2022

Total Dissolved Solids ND 5.00 mg/L

#### LCS (B2E1921-BS1)

Prepared: 05/19/2022 Analyzed: 05/19/2022

Total Dissolved Solids 996 5.00 mg/L 997 99.9 90-110

#### Duplicate (B2E1921-DUP1)

Source: Y205515-06

Prepared: 05/19/2022 Analyzed: 05/19/2022

Total Dissolved Solids 3880 5.00 mg/L 3950 1.74 10

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Project: KMG - Berig UPRR 42-35-1

## Saturated Paste - Quality Control Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B2E2009 - NO PREP</b>										
<b>Blank (B2E2009-BLK1)</b>					Prepared: 05/20/2022 Analyzed: 05/21/2022					
pH	0.00		pH Units							
Specific Conductance (EC)	0.00180	0.00500	mmhos/cm							
<b>Duplicate (B2E2009-DUP1)</b>					Source: Y205514-05 Prepared: 05/20/2022 Analyzed: 05/21/2022					
pH	8.30		pH Units		8.34			0.481	25	
Specific Conductance (EC)	0.674	0.00500	mmhos/cm		0.728			7.82	25	

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Project: KMG - Berig UPRR 42-35-1

## Anions by EPA-300.0 - Quality Control Waypoint Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch L618007 - EPA-300.0 (PREP)</b>										
<b>LCSD (LCSD-L618007)</b>					Prepared: 05/24/2022 Analyzed: 05/24/2022					
Chloride	52.8	0.202	mg/L	50		106	90-110	1.7	20	
Sulfate	62.7	0.19	"	62.5		100	90-110	2.5	20	
<b>LCS (LCS-L618007)</b>					Prepared: 05/24/2022 Analyzed: 05/24/2022					
Chloride	51.9	0.202	mg/L	50		104	90-110			
Sulfate	61.1	0.19	"	62.5		98	90-110			
<b>LRB (LRB-L618007)</b>					Prepared: 05/24/2022 Analyzed: 05/24/2022					
Sulfate	ND	1	mg/L				-			
Chloride	ND	0.4	"				-			

Origins Laboratory, Inc.



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Project Number: 31403177.022.07  
Project: KMG - Berig UPRR 42-35-1

**PAH by 8270D SIM - Quality Control**  
**Waypoint Analytical, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch L618305 - 3550B**

MSD (L 96358-MSD-L618305)		Source: 96358			Prepared: 05/26/2022 Analyzed: 05/26/2022					
Pyrene	0.118	0.000643	mg/Kg	0.167	96358	70.6	30-130	1.6	30	
Chrysene	0.0968	0.000624	"	0.167	96358	57.9	30-130	1.8	30	
Dibenz(a,h)anthracene	0.15	0.000614	"	0.167	96358	89.8	30-130	12.7	30	
Fluoranthene	0.121	0.000394	"	0.167	96358	72.4	30-130	1.6	30	
Fluorene	0.1	0.000286	"	0.167	96358	59.8	30-130	1.1	30	
Benzo(k)fluoranthene	0.0974	0.000437	"	0.167	96358	58.3	30-130	1.1	30	
Anthracene	0.112	0.000334	"	0.167	96358	67	30-130	1.8	30	
Indeno(1,2,3-cd)pyrene	0.167	0.000627	"	0.167	96358	100	30-130	16.8	30	
Benzo(b)fluoranthene	0.111	0.000585	"	0.167	96358	66.4	30-130	4.6	30	
Benzo(a)anthracene	0.105	0.000493	"	0.167	96358	62.8	30-130	2.8	30	
Acenaphthene	0.104	0.000304	"	0.167	96358	62.2	30-130	1.9	30	
2-Methylnaphthalene	0.0863	0.000645	"	0.167	96358	51.6	30-130	0.6	30	
1-Methylnaphthalene	0.0867	0.000364	"	0.167	96358	51.9	30-130	1.5	30	
Benzo(a)pyrene	0.105	0.000468	"	0.167	96358	62.8	30-130	0.9	30	
Surrogate: Nitrobenzene-d5	49.2		"	0.333	167	49.2	29-110			
Surrogate: 4-Terphenyl-d14	78.6		"	0.333	250	78.6	33-122			
Surrogate: 2-Fluorobiphenyl	51.9		"	0.333	183	51.9	33-115			

MS (L 96358-MS-L618305)		Source: 96358			Prepared: 05/26/2022 Analyzed: 05/26/2022					
Benzo(k)fluoranthene	0.0985	0.000437	mg/Kg	0.164	96358	60	30-130			
2-Methylnaphthalene	0.0857	0.000645	"	0.164	96358	52.2	30-130			
1-Methylnaphthalene	0.0854	0.000364	"	0.164	96358	52	30-130			
Fluorene	0.0989	0.000286	"	0.164	96358	60.3	30-130			
Benzo(a)pyrene	0.104	0.000468	"	0.164	96358	63.4	30-130			
Pyrene	0.12	0.000643	"	0.164	96358	73.1	30-130			
Indeno(1,2,3-cd)pyrene	0.141	0.000627	"	0.164	96358	85.9	30-130			
Fluoranthene	0.123	0.000394	"	0.164	96358	75	30-130			

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Project: KMG - Berig UPRR 42-35-1

**PAH by 8270D SIM - Quality Control**  
**Waypoint Analytical, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch L618305 - 3550B</b>										
<b>MS (L 96358-MS-L618305)</b>		<b>Source: 96358</b>			Prepared: 05/26/2022 Analyzed: 05/26/2022					
Dibenz(a,h)anthracene	0.132	0.000614	mg/Kg	0.164	96358	80.4	30-130			
Chrysene	0.0986	0.000624	"	0.164	96358	60.1	30-130			
Benzo(b)fluoranthene	0.106	0.000585	"	0.164	96358	64.6	30-130			
Benzo(a)anthracene	0.108	0.000493	"	0.164	96358	65.8	30-130			
Anthracene	0.11	0.000334	"	0.164	96358	67	30-130			
Acenaphthene	0.102	0.000304	"	0.164	96358	62.1	30-130			
Surrogate: 2-Fluorobiphenyl	52.5		"	0.329	183	52.5	33-115			
Surrogate: 4-Terphenyl-d14	80.2		"	0.329	250	80.2	33-122			
Surrogate: Nitrobenzene-d5	49.2		"	0.329	167	49.2	29-110			
<b>LCS (LCS-L618305)</b>		Prepared: 05/26/2022 Analyzed: 05/26/2022								
Pyrene	0.11	0.000643	mg/Kg	0.167		65.8	30-130			
Benzo(k)fluoranthene	0.0858	0.000437	"	0.167		51.3	30-130			
Indeno(1,2,3-cd)pyrene	0.127	0.000627	"	0.167		76	30-130			
Fluorene	0.0974	0.000286	"	0.167		58.3	30-130			
1-Methylnaphthalene	0.0847	0.000364	"	0.167		50.7	30-130			
Fluoranthene	0.115	0.000394	"	0.167		68.8	30-130			
2-Methylnaphthalene	0.0855	0.000645	"	0.167		51.1	30-130			
Acenaphthene	0.101	0.000304	"	0.167		60.4	30-130			
Anthracene	0.108	0.000334	"	0.167		64.6	30-130			
Benzo(a)anthracene	0.1	0.000493	"	0.167		59.8	30-130			
Benzo(b)fluoranthene	0.102	0.000585	"	0.167		61	30-130			
Chrysene	0.0904	0.000624	"	0.167		54.1	30-130			
Dibenz(a,h)anthracene	0.116	0.000614	"	0.167		69.4	30-130			
Benzo(a)pyrene	0.0974	0.000468	"	0.167		58.3	30-130			
Surrogate: 2-Fluorobiphenyl	60.6		"	0.333		60.6	33-115			
Surrogate: 4-Terphenyl-d14	79.2		"	0.333		79.2	33-122			

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Project: KMG - Berig UPRR 42-35-1

**PAH by 8270D SIM - Quality Control**  
**Waypoint Analytical, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch L618305 - 3550B</b>										
<b>LCS (LCS-L618305)</b>					Prepared: 05/26/2022 Analyzed: 05/26/2022					
Surrogate: Nitrobenzene-d5	52.5		mg/Kg	0.333		52.5	29-110			
<b>LRB (LRB-L618305)</b>					Prepared: 05/26/2022 Analyzed: 05/26/2022					
Anthracene	ND	0.00067	mg/Kg				-			
Benzo(b)fluoranthene	ND	0.00067	"				-			
Pyrene	ND	0.00067	"				-			
Indeno(1,2,3-cd)pyrene	ND	0.00067	"				-			
Fluorene	ND	0.00067	"				-			
Fluoranthene	ND	0.00067	"				-			
Dibenz(a,h)anthracene	ND	0.00067	"				-			
Benzo(k)fluoranthene	ND	0.00067	"				-			
1-Methylnaphthalene	ND	0.00067	"				-			
Benzo(a)pyrene	ND	0.00067	"				-			
Benzo(a)anthracene	ND	0.00067	"				-			
Acenaphthene	ND	0.00067	"				-			
2-Methylnaphthalene	ND	0.00067	"				-			
Chrysene	ND	0.00067	"				-			
Surrogate: Nitrobenzene-d5	48.6		"	0.333		48.6	29-110			
Surrogate: 4-Terphenyl-d14	77.1		"	0.333		77.1	33-122			
Surrogate: 2-Fluorobiphenyl	56.4		"	0.333		56.4	33-115			

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Rob Rebel  
Project Number: 31403177.022.07  
Project: KMG - Berig UPRR 42-35-1

**Total Metals by 6020B - Quality Control**  
**Waypoint Analytical, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch L618116 - 3050B</b>										
<b>MSD (L 97105-MSD-L618116)</b>			<b>Source: 97105</b>		Prepared: 05/25/2022 Analyzed: 05/26/2022					
Arsenic	17.9	0.0855	mg/Kg	2.39	3.27	613	75-125	109	80	*
Zinc	77	0.534	"	23.9	58	80	75-125	1.8	80	
Barium	162	0.042	"	4.78	184	NR	75-125	3.1	80	I*
Copper	22.6	0.0806	"	2.39	22.5	4	75-125	4	80	*
Lead	15	0.031	"	2.39	10.7	180	75-125	25.5	80	*
Nickel	18.4	0.0633	"	2.39	18.8	NR	75-125	1	80	*
Cadmium	0.722	0.0259	"	0.478	0.285	92	75-125	0.9	80	
Silver	0.506	0.0067	"	0.478	0.0485	96	75-125	1.5	80	
Selenium	5.28	0.103	"	4.78	0.776	94	75-125	10.1	80	
<b>MS (L 97105-MS-L618116)</b>			<b>Source: 97105</b>		Prepared: 05/25/2022 Analyzed: 05/26/2022					
Barium	157	0.042	mg/Kg	4.85	184	NR	75-125			I*
Arsenic	5.26	0.0855	"	2.42	3.27	82	75-125			
Selenium	4.77	0.103	"	4.85	0.776	82	75-125			
Cadmium	0.729	0.0259	"	0.485	0.285	92	75-125			
Copper	21.7	0.0806	"	2.42	22.5	NR	75-125			*
Lead	11.6	0.031	"	2.42	10.7	37	75-125			*
Nickel	18.6	0.0633	"	2.42	18.8	NR	75-125			*
Zinc	75.6	0.534	"	24.2	58	73	75-125			*
Silver	0.514	0.0067	"	0.485	0.0485	96	75-125			
<b>LCS (LCS-L618116)</b>			Prepared: 05/25/2022 Analyzed: 05/26/2022							
Silver	0.505	0.0067	mg/Kg	0.5		101	80-120			
Arsenic	2.41	0.0855	"	2.5		96	80-120			
Zinc	23.5	0.534	"	25		94	80-120			
Nickel	2.41	0.0633	"	2.5		96	80-120			
Lead	2.36	0.031	"	2.5		94	80-120			

Origins Laboratory, Inc.



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Arvada CO 80003

Rob Rebel  
Project Number: 31403177.022.07  
Project: KMG - Berig UPRR 42-35-1

**Total Metals by 6020B - Quality Control**  
**Waypoint Analytical, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch L618116 - 3050B**

**LCS (LCS-L618116)**

Prepared: 05/25/2022 Analyzed: 05/26/2022

Copper	2.35	0.0806	mg/Kg	2.5		94	80-120			
Cadmium	0.477	0.0259	"	0.5		95	80-120			
Barium	4.84	0.042	"	5		97	80-120			
Selenium	4.47	0.103	"	5		89	80-120			

**LRB (LRB-L618116)**

Prepared: 05/25/2022 Analyzed: 05/26/2022

Nickel	ND	0.25	mg/Kg				-			
Arsenic	ND	0.25	"				-			
Barium	ND	0.25	"				-			
Cadmium	ND	0.25	"				-			
Lead	ND	0.25	"				-			
Selenium	ND	0.25	"				-			
Silver	ND	0.25	"				-			
Zinc	ND	2.5	"				-			
Copper	ND	0.25	"				-			

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.*

Jordan A. Bynon, Project Manager

WSP USA  
4600 W. 60th Ave.  
Arvada CO 80003

Rob Rebel  
Project Number: 31403177.022.07  
Project: KMG - Berig UPRR 42-35-1

## Total Metals by 6020B - Quality Control Waypoint Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch L618115 - 3050B</b>										
<b>MSD (L 96463-MSD-L618115)</b>			<b>Source: Y205518-04</b>		Prepared: 05/25/2022 Analyzed: 05/26/2022					
Copper	5.46	0.0806	mg/Kg	2.4	4.66	33	75-125	1	80	*
Cadmium	0.501	0.0259	"	0.48	0.0606	92	75-125	3.6	80	
Zinc	36.9	0.534	"	24	14.5	93	75-125	0.5	80	
Silver	0.48	0.0067	"	0.48	0.0166	96	75-125	0.2	80	
Selenium	4.43	0.103	"	4.8	0.336	85	75-125	0.4	80	
Nickel	5.31	0.0633	"	2.4	2.92	100	75-125	1.7	80	
Barium	32.3	0.042	"	4.8	28	90	75-125	2.8	80	
Arsenic	3	0.0855	"	2.4	0.771	93	75-125	0.3	80	
Lead	6.28	0.031	"	2.4	4.13	90	75-125	5.7	80	
<b>MS (L 96463-MS-L618115)</b>			<b>Source: Y205518-04</b>		Prepared: 05/25/2022 Analyzed: 05/26/2022					
Arsenic	2.99	0.0855	mg/Kg	2.34	0.771	95	75-125			
Nickel	5.22	0.0633	"	2.34	2.92	98	75-125			
Selenium	4.41	0.103	"	4.69	0.336	87	75-125			
Silver	0.479	0.0067	"	0.469	0.0166	99	75-125			
Zinc	37.1	0.534	"	23.4	14.5	96	75-125			
Barium	31.4	0.042	"	4.69	28	73	75-125			*
Cadmium	0.483	0.0259	"	0.469	0.0606	90	75-125			
Copper	5.52	0.0806	"	2.34	4.66	37	75-125			*
Lead	5.93	0.031	"	2.34	4.13	77	75-125			
<b>LCS (LCS-L618115)</b>			Prepared: 05/25/2022 Analyzed: 05/26/2022							
Barium	4.98	0.042	mg/Kg	5		100	80-120			
Silver	0.497	0.0067	"	0.5		99	80-120			
Selenium	4.72	0.103	"	5		94	80-120			
Nickel	2.5	0.0633	"	2.5		100	80-120			
Lead	2.46	0.031	"	2.5		98	80-120			

Origins Laboratory, Inc.



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WSP USA  
4600 W. 60th Ave.  
Arvada CO 80003

Rob Rebel  
Project Number: 31403177.022.07  
Project: KMG - Berig UPRR 42-35-1

## Total Metals by 6020B - Quality Control Waypoint Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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### Batch L618115 - 3050B

#### LCS (LCS-L618115)

Prepared: 05/25/2022 Analyzed: 05/26/2022

Cadmium	0.49	0.0259	mg/Kg	0.5		98	80-120			
Arsenic	2.58	0.0855	"	2.5		103	80-120			
Zinc	24.2	0.534	"	25		97	80-120			
Copper	2.4	0.0806	"	2.5		96	80-120			

#### LRB (LRB-L618115)

Prepared: 05/25/2022 Analyzed: 05/26/2022

Selenium	ND	0.25	mg/Kg				-			
Silver	ND	0.25	"				-			
Nickel	ND	0.25	"				-			
Lead	ND	0.25	"				-			
Copper	ND	0.25	"				-			
Cadmium	ND	0.25	"				-			
Barium	0.12	0.25	"				-			J
Arsenic	ND	0.25	"				-			
Zinc	ND	2.5	"				-			

Origins Laboratory, Inc.



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WSP USA  
4600 W. 60th Ave.  
Arvada CO 80003

Rob Rebel  
Project Number: 31403177.022.07  
Project: KMG - Berig UPRR 42-35-1

## Total Metals by 7196A - Quality Control Waypoint Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch L618815 -</b>										
<b>DUP (L 96361-DUP)</b>		<b>Source: 96361</b>			Prepared: Analyzed: 05/31/2022					
Chromium, Hexavalent	ND	0.488	mg/Kg		96361	-		0	20	
<b>MS (L 96361-MS)</b>		<b>Source: 96361</b>			Prepared: Analyzed: 05/31/2022					
Chromium, Hexavalent	5.99	0.488	mg/Kg	7.81	96361	77	75-125			
<b>LCS (LCS)</b>					Prepared: Analyzed: 05/31/2022					
Chromium, Hexavalent	7.27	0.244	mg/Kg	8		91	75-125			
<b>LRB (LRB)</b>					Prepared: Analyzed: 05/31/2022					
Chromium, Hexavalent	ND	0.5	mg/Kg							

Origins Laboratory, Inc.



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WSP USA

4600 W. 60th Ave.

Arvada CO 80003

Rob Rebel

Project Number: 31403177.022.07

Project: KMG - Berig UPRR 42-35-1

### Notes and Definitions

U Sample is Non-Detect.

QR-DUP RPD exceeds QC acceptance criteria, this indicates source sample is not homogenous.

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

J Estimated Value. Analyte below reported quantitation limit.

I\* [Undefined]

\* QC Failure

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported on 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.*

Jordan A. Bynon, Project Manager



June 03, 2022

WSP USA

Rob Rebel

4600 W. 60th Ave.

Arvada

CO

80003

Project Name - KMG - Berig UPRR 42-35-1

Project Number - 31403177.022.07

Attached are your analytical results for KMG - Berig UPRR 42-35-1 received by Origins Laboratory, Inc. May 20, 2022. This project is associated with Origins project number Y205543-01.

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



WSP USA

4600 W. 60th Ave.

Arvada CO 80003

Rob Rebel

Project Number: 31403177.022.07

Project: KMG - Berig UPRR 42-35-1

## CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW01	Y205543-01	Water	May 20, 2022 10:00	05/20/2022 15:20
FL01@5'	Y205543-02	Soil	May 20, 2022 12:30	05/20/2022 15:20
FL02@5'	Y205543-03	Soil	May 20, 2022 12:40	05/20/2022 15:20

Origins Laboratory, Inc.



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WSP USA

4600 W. 60th Ave.

Arvada

CO

80003

Rob Rebel

Project Number: 31403177.022.07

Project: KMG - Berig UPRR 42-35-1

Origins Laboratory

## Sample Receipt Checklist

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

Origins Work Order: 42055813

Client: WSP

Client Project ID: Berig UPRR 42-35-1

Checklist Completed by: SKH

Shipped Via: 11D  
(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Date/time completed: 5/20/12

Airbill #: NA

Matrix(s) Received: (Check all that apply): 1 Soil/Solid 1 Water Other:

Cooler Number/Temperature: 1 3.4 °C 1 °C 1 °C (Describe) °C

Thermometer ID: TCC4

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C <sup>(1)</sup> ?	<u>—</u>			
Is there ice present (document if blue ice is used)	<u>—</u>			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		<u>—</u>		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		<u>—</u>		
Were all samples received intact <sup>(1)</sup> ?	<u>—</u>			
Was adequate sample volume provided <sup>(1)</sup> ?	<u>—</u>			
Are short holding time analytes or samples with HTs due within 48 hours present <sup>(1)</sup> ?		<u>—</u>		
Is a chain-of-custody (COC) present and filled out completely <sup>(1)</sup> ?	<u>—</u>			
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<u>—</u>			
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<u>—</u>			
Is the COC properly relinquished by the client with date and time recorded <sup>(1)</sup> ?	<u>—</u>			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.		<u>—</u>		
Are samples preserved that require preservation and was it checked <sup>(1)</sup> ? (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 <sub>3</sub> , HCL, H <sub>2</sub> SO <sub>4</sub> ) / (pH > 10 for samples preserved with Na <sub>2</sub> SO <sub>2</sub> +NaOH, ZnAc+NaOH)		<u>—</u>		<u>unpreserved</u>
Additional comments (if any):				

<sup>(1)</sup> 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.

SKH  
Reviewed by (Project Manager)

5/20/12  
Date/Time Reviewed

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.

WSP USA

4600 W. 60th Ave.

Arvada CO 80003

Rob Rebel

Project Number: 31403177.022.07

Project: KMG - Berig UPRR 42-35-1

## GW01

5/20/2022 10:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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## Waypoint Analytical, Inc.

Y205543-01 (Water)

### Anions by EPA-300.0

Chloride	188		4	mg/L	10	L618328	05/25/2022	05/25/2022	
Sulfate	177		10	"	"	"	"	"	

### Total Dissolved Solids by 2540C

Total Dissolved Solids	783		5.00	mg/L	1	B2E1913	05/20/2022	05/20/2022	
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Origins Laboratory, Inc.



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WSP USA  
4600 W. 60th Ave.  
Arvada CO 80003

Rob Rebel  
Project Number: 31403177.022.07  
Project: KMG - Berig UPRR 42-35-1

FL01@5'

5/20/2022 12:30:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y205543-02 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	0.182	0.101	mg/L	1	B2E2306	05/23/2022	05/24/2022	
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**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B2E2014	05/20/2022	05/21/2022	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl	82.5 %	50-150	"	"	"	"	"	
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**GBTEX+TMBs by 8260D**

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B2E2016	05/20/2022	05/21/2022	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	ND	0.200	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	102 %	70-130	"	"	"	"	"	
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Origins Laboratory, Inc.



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WSP USA

4600 W. 60th Ave.

Arvada CO 80003

Rob Rebel

Project Number: 31403177.022.07

Project: KMG - Berig UPRR 42-35-1

FL01@5'

5/20/2022 12:30:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.

Y205543-02 (Soil)

## GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	95.1 %	70-130				B2E20 16	05/20/2022	05/21/2022	
Surrogate: 4-Bromofluorobenzene	99.3 %	70-130				"	"	"	

## Metals by Saturated Paste by EPA 6010

Calcium	1.36	0.499	meq/L	10	[CALC]	05/23/2022	05/24/2022	
Magnesium	ND	0.823	"	"	"	"	"	
Sodium	2.11	0.435	"	"	"	"	"	

## PAH by 8270D SIM

1-Methylnaphthalene	0.00477	0.000364	0.00067	mg/Kg	1	L618305	05/26/2022	05/26/2022	
2-Methylnaphthalene	ND	0.000645	0.00067	"	"	"	"	"	
Acenaphthene	0.0778	0.000304	0.00067	"	"	"	"	"	
Anthracene	ND	0.000334	0.00067	"	"	"	"	"	
Benzo(a)anthracene	0.0829	0.000493	0.00067	"	"	"	"	"	
Benzo(a)pyrene	0.0233	0.000468	0.00067	"	"	"	"	"	
Benzo(b)fluoranthene	0.0308	0.000585	0.00067	"	"	"	"	"	
Benzo(k)fluoranthene	0.0142	0.000437	0.00067	"	"	"	"	"	
Chrysene	0.0606	0.000624	0.00067	"	"	"	"	"	
Dibenz(a,h)anthracene	0.00328	0.000614	0.00067	"	"	"	"	"	
Fluoranthene	0.39	0.000394	0.00067	"	"	"	"	"	
Fluorene	0.125	0.000286	0.00067	"	"	"	"	"	

Origins Laboratory, Inc.



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WSP USA  
4600 W. 60th Ave.  
Arvada CO 80003

Rob Rebel  
Project Number: 31403177.022.07  
Project: KMG - Berig UPRR 42-35-1

FL01@5'

5/20/2022 12:30:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.  
Y205543-02 (Soil)

## PAH by 8270D SIM

Indeno(1,2,3-cd)pyrene	0.0104	0.000627	0.00067	mg/Kg	1	L618305	05/26/2022	05/26/2022
Naphthalene	0.00353	0.000484	0.00067	"	"	"	"	"
Pyrene	0.403	0.0129	0.0134	"	20	"	"	"

Surrogate: 2-Fluorobiphenyl	55.1 %	33-115	"	"	"
Surrogate: 4-Terphenyl-d14	81.9 %	33-122	"	"	"
Surrogate: Nitrobenzene-d5	51.2 %	29-110	"	"	"

## pH in Soil by 9045D

pH	8.42	pH Units	1	B2E2313	05/23/2022	05/24/2022
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## SAR by 20B Saturated Paste

SAR	2.15	SAR	1	B2E2309	05/23/2022	05/24/2022
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## Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.451	0.00500	mmhos/cm	1	B2E2313	05/23/2022	05/24/2022
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## Total Metals by 6020B

Arsenic	1.48	0.0855	0.25	mg/Kg	5	L618116	05/25/2022	05/26/2022
Barium	67.8	0.042	0.25	"	"	"	"	"

Origins Laboratory, Inc.



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WSP USA  
4600 W. 60th Ave.  
Arvada CO 80003

Rob Rebel  
Project Number: 31403177.022.07  
Project: KMG - Berig UPRR 42-35-1

FL01@5'

5/20/2022 12:30:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Waypoint Analytical, Inc.**  
Y205543-02 (Soil)

**Total Metals by 6020B**

Cadmium	0.119	0.0259	0.25	mg/Kg	5	L618116	05/25/2022	05/26/2022	J
Copper	7.4	0.0806	0.25	"	"	"	"	"	
Lead	7.6	0.031	0.25	"	"	"	"	"	
Nickel	6.75	0.0633	0.25	"	"	"	"	"	
Selenium	0.363	0.103	0.25	"	"	"	"	"	
Silver	0.0339	0.0067	0.25	"	"	"	"	"	J
Zinc	32.3	0.534	2.5	"	"	"	"	"	

**Total Metals by 7196A**

Chromium, Hexavalent	ND	0.244	0.5	mg/Kg	1	L618816	05/20/2022	05/31/2022	
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Origins Laboratory, Inc.



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WSP USA  
4600 W. 60th Ave.  
Arvada CO 80003

Rob Rebel  
Project Number: 31403177.022.07  
Project: KMG - Berig UPRR 42-35-1

FL02@5'

5/20/2022 12:40:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y205543-03 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	0.463	0.101	mg/L	1	B2E2306	05/23/2022	05/24/2022	
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**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B2E2014	05/20/2022	05/21/2022	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl	85.8 %	50-150	"	"	"
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**GBTEX+TMBs by 8260D**

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B2E2016	05/20/2022	05/21/2022	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	ND	0.200	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	102 %	70-130	"	"	"
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Origins Laboratory, Inc.



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WSP USA  
4600 W. 60th Ave.  
Arvada CO 80003

Rob Rebel  
Project Number: 31403177.022.07  
Project: KMG - Berig UPRR 42-35-1

FL02@5'

5/20/2022 12:40:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y205543-03 (Soil)

## GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	93.5 %	70-130	B2E20 16	05/20/2022	05/21/2022
Surrogate: 4-Bromofluorobenzene	98.8 %	70-130	"	"	"

## Metals by Saturated Paste by EPA 6010

Calcium	0.908	0.499	meq/L	10	[CALC]	05/23/2022	05/24/2022
Magnesium	ND	0.823	"	"	"	"	"
Sodium	1.75	0.435	"	"	"	"	"

## PAH by 8270D SIM

1-Methylnaphthalene	ND	0.000364	0.00067	mg/Kg	1	L618305	05/26/2022	05/26/2022
2-Methylnaphthalene	ND	0.000645	0.00067	"	"	"	"	"
Acenaphthene	0.0205	0.000304	0.00067	"	"	"	"	"
Anthracene	0.00585	0.000334	0.00067	"	"	"	"	"
Benzo(a)anthracene	0.00711	0.000493	0.00067	"	"	"	"	"
Benzo(a)pyrene	0.00698	0.000468	0.00067	"	"	"	"	"
Benzo(b)fluoranthene	0.00633	0.000585	0.00067	"	"	"	"	"
Benzo(k)fluoranthene	0.00343	0.000437	0.00067	"	"	"	"	"
Chrysene	0.00817	0.000624	0.00067	"	"	"	"	"
Dibenz(a,h)anthracene	0.00169	0.000614	0.00067	"	"	"	"	"
Fluoranthene	0.0111	0.000394	0.00067	"	"	"	"	"
Fluorene	0.00354	0.000286	0.00067	"	"	"	"	"

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WSP USA  
4600 W. 60th Ave.  
Arvada CO 80003

Rob Rebel  
Project Number: 31403177.022.07  
Project: KMG - Berig UPRR 42-35-1

## FL02@5'

5/20/2022 12:40:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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## Waypoint Analytical, Inc. Y205543-03 (Soil)

### PAH by 8270D SIM

Indeno(1,2,3-cd)pyrene	0.00381	0.000627	0.00067	mg/Kg	1	L618305	05/26/2022	05/26/2022
Naphthalene	ND	0.000484	0.00067	"	"	"	"	"
Pyrene	0.014	0.000643	0.00067	"	"	"	"	"

Surrogate: 2-Fluorobiphenyl	54.4 %	33-115	"	"	"
Surrogate: 4-Terphenyl-d14	79 %	33-122	"	"	"
Surrogate: Nitrobenzene-d5	50.5 %	29-110	"	"	"

### pH in Soil by 9045D

pH	8.43	pH Units	1	B2E2313	05/23/2022	05/24/2022
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### SAR by 20B Saturated Paste

SAR	2.05	SAR	1	B2E2309	05/23/2022	05/24/2022
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### Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.355	0.00500	mmhos/cm	1	B2E2313	05/23/2022	05/24/2022
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### Total Metals by 6020B

Arsenic	1.64	0.0855	0.25	mg/Kg	5	L618116	05/25/2022	05/26/2022
Barium	49.9	0.042	0.25	"	"	"	"	"

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WSP USA

4600 W. 60th Ave.

Arvada CO 80003

Rob Rebel

Project Number: 31403177.022.07

Project: KMG - Berig UPRR 42-35-1

FL02@5'

5/20/2022 12:40:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.

Y205543-03 (Soil)

## Total Metals by 6020B

Cadmium	0.179	0.0259	0.25	mg/Kg	5	L618116	05/25/2022	05/26/2022	J
Copper	6.89	0.0806	0.25	"	"	"	"	"	
Lead	10.5	0.031	0.25	"	"	"	"	"	
Nickel	4.98	0.0633	0.25	"	"	"	"	"	
Selenium	0.304	0.103	0.25	"	"	"	"	"	
Silver	0.0696	0.0067	0.25	"	"	"	"	"	J
Zinc	31.3	0.534	2.5	"	"	"	"	"	

## Total Metals by 7196A

Chromium, Hexavalent	ND	0.244	0.5	mg/Kg	1	L618816	05/20/2022	05/31/2022	
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Rob Rebel  
Project Number: 31403177.022.07  
Project: KMG - Berig UPRR 42-35-1

## 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 B2E2014 - EPA 3550B										
Blank (B2E2014-BLK1)					Prepared: 05/20/2022 Analyzed: 05/20/2022					
Diesel (C10-C28)	ND	25.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	100	"							U
Surrogate: o-Terphenyl	20		"	24.9		82.4	50-150			

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Rob Rebel  
Project Number: 31403177.022.07  
Project: KMG - Berig UPRR 42-35-1

**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 B2E2014 - EPA 3550B

**LCS (B2E2014-BS1)**

Prepared: 05/20/2022 Analyzed: 05/20/2022

Diesel (C10-C28)	878	50.0	mg/kg	1000		87.8	70-130			
Residual Range Organics (C28-C40)	878	200	"	1000		87.8	70-130			
Surrogate: o-Terphenyl	48		"	49.8		97.4	50-150			

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Jordan A. Bynon, Project Manager

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Arvada CO 80003

Rob Rebel  
Project Number: 31403177.022.07  
Project: KMG - Berig UPRR 42-35-1

## 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 B2E2014 - EPA 3550B

Matrix Spike (B2E2014-MS1)		Source: Y205541-01			Prepared: 05/20/2022 Analyzed: 05/20/2022					
Diesel (C10-C28)	877	50.0	mg/kg	1000	ND	87.7	70-130			
Residual Range Organics (C28-C40)	856	200	"	1000	55.0	80.1	70-130			
Surrogate: o-Terphenyl	48		"	49.8		97.5	50-150			

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Project Number: 31403177.022.07  
Project: KMG - Berig UPRR 42-35-1

**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 B2E2014 - EPA 3550B**

Matrix Spike Dup (B2E2014-MSD1)		Source: Y205541-01			Prepared: 05/20/2022 Analyzed: 05/20/2022					
Diesel (C10-C28)	847	50.0	mg/kg	1000	ND	84.7	70-130	3.40	35	
Residual Range Organics (C28-C40)	845	200	"	1000	55.0	79.0	70-130	1.29	35	
Surrogate: o-Terphenyl	40		"	49.8		80.8	50-150			

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Jordan A. Bynon, Project Manager



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Project: KMG - Berig UPRR 42-35-1

## 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 B2E2016 - EPA 5030 (soil)										
Blank (B2E2016-BLK1)					Prepared: 05/20/2022 Analyzed: 05/20/2022					
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	0.0100	"							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		95.7	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		94.2	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		97.8	70-130			

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Rob Rebel  
Project Number: 31403177.022.07  
Project: KMG - Berig UPRR 42-35-1

**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
<b>Batch B2E2016 - EPA 5030 (soil)</b>										
<b>LCS (B2E2016-BS1)</b>					Prepared: 05/20/2022 Analyzed: 05/20/2022					
1,2,4-Trimethylbenzene	0.103	0.00200	mg/kg	0.100		103	70-130			
1,3,5-Trimethylbenzene	0.101	0.00200	"	0.100		101	70-130			
Benzene	0.110	0.00200	"	0.100		110	70-130			
Ethylbenzene	0.0982	0.00200	"	0.100		98.2	70-130			
Naphthalene	0.117	0.0100	"	0.100		117	70-130			
Toluene	0.100	0.00200	"	0.100		100	70-130			
o-Xylene	0.0978	0.00200	"	0.100		97.8	70-130			
m,p-Xylene	0.205	0.00400	"	0.200		103	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		95.3	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		95.1	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		97.0	70-130			

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Rob Rebel  
Project Number: 31403177.022.07  
Project: KMG - Berig UPRR 42-35-1

**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
<b>Batch B2E2016 - EPA 5030 (soil)</b>										
<b>Matrix Spike (B2E2016-MS1)</b>		<b>Source: Y205541-01</b>			Prepared: 05/20/2022 Analyzed: 05/20/2022					
1,2,4-Trimethylbenzene	0.0977	0.00200	mg/kg	0.100	ND	97.7	70-130			
1,3,5-Trimethylbenzene	0.0957	0.00200	"	0.100	ND	95.7	70-130			
Benzene	0.108	0.00200	"	0.100	ND	108	70-130			
Ethylbenzene	0.0956	0.00200	"	0.100	ND	95.6	70-130			
Naphthalene	0.103	0.0100	"	0.100	0.00102	102	70-130			
Toluene	0.0978	0.00200	"	0.100	ND	97.8	70-130			
o-Xylene	0.0955	0.00200	"	0.100	ND	95.5	70-130			
m,p-Xylene	0.198	0.00400	"	0.200	ND	99.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		99.1	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		94.9	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		98.7	70-130			

Origins Laboratory, Inc.



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Rob Rebel  
Project Number: 31403177.022.07  
Project: KMG - Berig UPRR 42-35-1

**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
<b>Batch B2E2016 - EPA 5030 (soil)</b>										
<b>Matrix Spike Dup (B2E2016-MSD1)</b>		<b>Source: Y205541-01</b>			Prepared: 05/20/2022 Analyzed: 05/20/2022					
1,2,4-Trimethylbenzene	0.0948	0.00200	mg/kg	0.100	ND	94.8	70-130	2.99	20	
1,3,5-Trimethylbenzene	0.0944	0.00200	"	0.100	ND	94.4	70-130	1.35	20	
Benzene	0.105	0.00200	"	0.100	ND	105	70-130	2.72	20	
Ethylbenzene	0.0932	0.00200	"	0.100	ND	93.2	70-130	2.50	20	
Naphthalene	0.100	0.0100	"	0.100	0.00102	99.4	70-130	2.36	20	
Toluene	0.0950	0.00200	"	0.100	ND	95.0	70-130	2.95	20	
o-Xylene	0.0937	0.00200	"	0.100	ND	93.7	70-130	1.88	20	
m,p-Xylene	0.195	0.00400	"	0.200	ND	97.4	70-130	1.80	20	
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		98.1	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		93.8	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		99.1	70-130			

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Rob Rebel  
Project Number: 31403177.022.07  
Project: KMG - Berig UPRR 42-35-1

## 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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## 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 B2E1913 - NO PREP

#### Blank (B2E1913-BLK1)

Prepared: 05/19/2022 Analyzed: 05/20/2022

Total Dissolved Solids ND 5.00 mg/L

#### LCS (B2E1913-BS1)

Prepared: 05/19/2022 Analyzed: 05/20/2022

Total Dissolved Solids 979 5.00 mg/L 997 98.2 90-110

#### Duplicate (B2E1913-DUP1)

Source: Y205450-22

Prepared: 05/19/2022 Analyzed: 05/20/2022

Total Dissolved Solids 333 5.00 mg/L 326 2.12 10

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Rob Rebel  
Project Number: 31403177.022.07  
Project: KMG - Berig UPRR 42-35-1

## Saturated Paste - Quality Control

### Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B2E2313 - NO PREP</b>										
<b>Blank (B2E2313-BLK1)</b>					Prepared: 05/23/2022 Analyzed: 05/24/2022					
Specific Conductance (EC)	0.00100	0.0300	mmhos/cm							
pH	0.00		pH Units							
<b>Duplicate (B2E2313-DUP1)</b>					<b>Source: Y205538-01</b>		Prepared: 05/23/2022 Analyzed: 05/24/2022			
pH	8.29		pH Units		8.31			0.241	25	
Specific Conductance (EC)	1.91	0.0300	mmhos/cm		1.66			13.7	25	

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Rob Rebel  
Project Number: 31403177.022.07  
Project: KMG - Berig UPRR 42-35-1

## Anions by EPA-300.0 - Quality Control Waypoint Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch L618328 - EPA-300.0 (PREP)</b>										
<b>LCSD (LCSD-L618328)</b>					Prepared: 05/25/2022 Analyzed: 05/25/2022					
Sulfate	63.6	0.19	mg/L	62.5		102	90-110	0.1	20	
Chloride	51.9	0.202	"	50		104	90-110	0.1	20	
<b>LCS (LCS-L618328)</b>					Prepared: 05/25/2022 Analyzed: 05/25/2022					
Sulfate	63.5	0.19	mg/L	62.5		102	90-110			
Chloride	52	0.202	"	50		104	90-110			
<b>LRB (LRB-L618328)</b>					Prepared: 05/25/2022 Analyzed: 05/25/2022					
Chloride	ND	0.4	mg/L					-		
Sulfate	ND	1	"					-		

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Rob Rebel  
Project Number: 31403177.022.07  
Project: KMG - Berig UPRR 42-35-1

**PAH by 8270D SIM - Quality Control**  
**Waypoint Analytical, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch L618305 - 3550B**

MSD (L 96358-MSD-L618305)		Source: 96358			Prepared: 05/26/2022 Analyzed: 05/26/2022					
Fluoranthene	0.121	0.000394	mg/Kg	0.167	96358	72.4	30-130	1.6	30	
Pyrene	0.118	0.000643	"	0.167	96358	70.6	30-130	1.6	30	
Acenaphthene	0.104	0.000304	"	0.167	96358	62.2	30-130	1.9	30	
Naphthalene	0.0849	0.000484	"	0.167	96358	50.8	30-130	0.5	30	
Indeno(1,2,3-cd)pyrene	0.167	0.000627	"	0.167	96358	100	30-130	16.8	30	
Fluorene	0.1	0.000286	"	0.167	96358	59.8	30-130	1.1	30	
1-Methylnaphthalene	0.0867	0.000364	"	0.167	96358	51.9	30-130	1.5	30	
Chrysene	0.0968	0.000624	"	0.167	96358	57.9	30-130	1.8	30	
Benzo(k)fluoranthene	0.0974	0.000437	"	0.167	96358	58.3	30-130	1.1	30	
Benzo(b)fluoranthene	0.111	0.000585	"	0.167	96358	66.4	30-130	4.6	30	
Benzo(a)pyrene	0.105	0.000468	"	0.167	96358	62.8	30-130	0.9	30	
Anthracene	0.112	0.000334	"	0.167	96358	67	30-130	1.8	30	
2-Methylnaphthalene	0.0863	0.000645	"	0.167	96358	51.6	30-130	0.6	30	
Dibenz(a,h)anthracene	0.15	0.000614	"	0.167	96358	89.8	30-130	12.7	30	
Benzo(a)anthracene	0.105	0.000493	"	0.167	96358	62.8	30-130	2.8	30	
Surrogate: Nitrobenzene-d5	49.2		"	0.333	167	49.2	29-110			
Surrogate: 4-Terphenyl-d14	78.6		"	0.333	250	78.6	33-122			
Surrogate: 2-Fluorobiphenyl	51.9		"	0.333	183	51.9	33-115			

MS (L 96358-MS-L618305)		Source: 96358			Prepared: 05/26/2022 Analyzed: 05/26/2022					
Benzo(a)anthracene	0.108	0.000493	mg/Kg	0.164	96358	65.8	30-130			
Anthracene	0.11	0.000334	"	0.164	96358	67	30-130			
Acenaphthene	0.102	0.000304	"	0.164	96358	62.1	30-130			
Indeno(1,2,3-cd)pyrene	0.141	0.000627	"	0.164	96358	85.9	30-130			
Benzo(a)pyrene	0.104	0.000468	"	0.164	96358	63.4	30-130			
2-Methylnaphthalene	0.0857	0.000645	"	0.164	96358	52.2	30-130			
1-Methylnaphthalene	0.0854	0.000364	"	0.164	96358	52	30-130			

Origins Laboratory, Inc.



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Rob Rebel  
Project Number: 31403177.022.07  
Project: KMG - Berig UPRR 42-35-1

**PAH by 8270D SIM - Quality Control**  
**Waypoint Analytical, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch L618305 - 3550B**

MS (L 96358-MS-L618305)		Source: 96358			Prepared: 05/26/2022 Analyzed: 05/26/2022					
Pyrene	0.12	0.000643	mg/Kg	0.164	96358	73.1	30-130			
Benzo(k)fluoranthene	0.0985	0.000437	"	0.164	96358	60	30-130			
Chrysene	0.0986	0.000624	"	0.164	96358	60.1	30-130			
Dibenz(a,h)anthracene	0.132	0.000614	"	0.164	96358	80.4	30-130			
Fluorene	0.0989	0.000286	"	0.164	96358	60.3	30-130			
Naphthalene	0.0844	0.000484	"	0.164	96358	51.4	30-130			
Fluoranthene	0.123	0.000394	"	0.164	96358	75	30-130			
Benzo(b)fluoranthene	0.106	0.000585	"	0.164	96358	64.6	30-130			
Surrogate: 4-Terphenyl-d14	80.2		"	0.329	250	80.2	33-122			
Surrogate: 2-Fluorobiphenyl	52.5		"	0.329	183	52.5	33-115			
Surrogate: Nitrobenzene-d5	49.2		"	0.329	167	49.2	29-110			

LCS (LCS-L618305)		Prepared: 05/26/2022 Analyzed: 05/26/2022								
Benzo(a)pyrene	0.0974	0.000468	mg/Kg	0.167		58.3	30-130			
Benzo(a)anthracene	0.1	0.000493	"	0.167		59.8	30-130			
Acenaphthene	0.101	0.000304	"	0.167		60.4	30-130			
Benzo(b)fluoranthene	0.102	0.000585	"	0.167		61	30-130			
Fluorene	0.0974	0.000286	"	0.167		58.3	30-130			
2-Methylnaphthalene	0.0855	0.000645	"	0.167		51.1	30-130			
Benzo(k)fluoranthene	0.0858	0.000437	"	0.167		51.3	30-130			
Chrysene	0.0904	0.000624	"	0.167		54.1	30-130			
1-Methylnaphthalene	0.0847	0.000364	"	0.167		50.7	30-130			
Fluoranthene	0.115	0.000394	"	0.167		68.8	30-130			
Indeno(1,2,3-cd)pyrene	0.127	0.000627	"	0.167		76	30-130			
Naphthalene	0.083	0.000484	"	0.167		49.7	30-130			
Pyrene	0.11	0.000643	"	0.167		65.8	30-130			
Dibenz(a,h)anthracene	0.116	0.000614	"	0.167		69.4	30-130			

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.

WSP USA  
4600 W. 60th Ave.  
Arvada CO 80003

Rob Rebel  
Project Number: 31403177.022.07  
Project: KMG - Berig UPRR 42-35-1

**PAH by 8270D SIM - Quality Control**  
**Waypoint Analytical, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch L618305 - 3550B**

**LCS (LCS-L618305)**

Prepared: 05/26/2022 Analyzed: 05/26/2022

Anthracene	0.108	0.000334	mg/Kg	0.167		64.6	30-130			
Surrogate: 2-Fluorobiphenyl	60.6		"	0.333		60.6	33-115			
Surrogate: 4-Terphenyl-d14	79.2		"	0.333		79.2	33-122			
Surrogate: Nitrobenzene-d5	52.5		"	0.333		52.5	29-110			

**LRB (LRB-L618305)**

Prepared: 05/26/2022 Analyzed: 05/26/2022

Benzo(a)anthracene	ND	0.00067	mg/Kg				-			
Naphthalene	ND	0.00067	"				-			
1-Methylnaphthalene	ND	0.00067	"				-			
2-Methylnaphthalene	ND	0.00067	"				-			
Anthracene	ND	0.00067	"				-			
Benzo(a)pyrene	ND	0.00067	"				-			
Benzo(b)fluoranthene	ND	0.00067	"				-			
Benzo(k)fluoranthene	ND	0.00067	"				-			
Chrysene	ND	0.00067	"				-			
Dibenz(a,h)anthracene	ND	0.00067	"				-			
Fluoranthene	ND	0.00067	"				-			
Fluorene	ND	0.00067	"				-			
Pyrene	ND	0.00067	"				-			
Indeno(1,2,3-cd)pyrene	ND	0.00067	"				-			
Acenaphthene	ND	0.00067	"				-			
Surrogate: 2-Fluorobiphenyl	56.4		"	0.333		56.4	33-115			
Surrogate: 4-Terphenyl-d14	77.1		"	0.333		77.1	33-122			
Surrogate: Nitrobenzene-d5	48.6		"	0.333		48.6	29-110			

Origins Laboratory, Inc.



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WSP USA  
4600 W. 60th Ave.  
Arvada CO 80003

Rob Rebel  
Project Number: 31403177.022.07  
Project: KMG - Berig UPRR 42-35-1

## Total Metals by 6020B - Quality Control

### Waypoint Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch L618116 - 3050B</b>										
<b>MSD (L 97105-MSD-L618116)</b>			<b>Source: 97105</b>		Prepared: 05/25/2022 Analyzed: 05/26/2022					
Copper	22.6	0.0806	mg/Kg	2.39	22.5	4	75-125	4	80	*
Arsenic	17.9	0.0855	"	2.39	3.27	613	75-125	109	80	*
Barium	162	0.042	"	4.78	184	NR	75-125	3.1	80	I*
Cadmium	0.722	0.0259	"	0.478	0.285	92	75-125	0.9	80	
Nickel	18.4	0.0633	"	2.39	18.8	NR	75-125	1	80	*
Selenium	5.28	0.103	"	4.78	0.776	94	75-125	10.1	80	
Silver	0.506	0.0067	"	0.478	0.0485	96	75-125	1.5	80	
Zinc	77	0.534	"	23.9	58	80	75-125	1.8	80	
Lead	15	0.031	"	2.39	10.7	180	75-125	25.5	80	*
<b>MS (L 97105-MS-L618116)</b>			<b>Source: 97105</b>		Prepared: 05/25/2022 Analyzed: 05/26/2022					
Barium	157	0.042	mg/Kg	4.85	184	NR	75-125			I*
Silver	0.514	0.0067	"	0.485	0.0485	96	75-125			
Copper	21.7	0.0806	"	2.42	22.5	NR	75-125			*
Lead	11.6	0.031	"	2.42	10.7	37	75-125			*
Cadmium	0.729	0.0259	"	0.485	0.285	92	75-125			
Selenium	4.77	0.103	"	4.85	0.776	82	75-125			
Arsenic	5.26	0.0855	"	2.42	3.27	82	75-125			
Zinc	75.6	0.534	"	24.2	58	73	75-125			*
Nickel	18.6	0.0633	"	2.42	18.8	NR	75-125			*
<b>LCS (LCS-L618116)</b>			Prepared: 05/25/2022 Analyzed: 05/26/2022							
Cadmium	0.477	0.0259	mg/Kg	0.5		95	80-120			
Silver	0.505	0.0067	"	0.5		101	80-120			
Selenium	4.47	0.103	"	5		89	80-120			
Nickel	2.41	0.0633	"	2.5		96	80-120			
Zinc	23.5	0.534	"	25		94	80-120			

Origins Laboratory, Inc.



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WSP USA  
4600 W. 60th Ave.  
Arvada CO 80003

Rob Rebel  
Project Number: 31403177.022.07  
Project: KMG - Berig UPRR 42-35-1

## Total Metals by 6020B - Quality Control Waypoint Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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### Batch L618116 - 3050B

#### LCS (LCS-L618116)

Prepared: 05/25/2022 Analyzed: 05/26/2022

Copper	2.35	0.0806	mg/Kg	2.5		94	80-120			
Barium	4.84	0.042	"	5		97	80-120			
Arsenic	2.41	0.0855	"	2.5		96	80-120			
Lead	2.36	0.031	"	2.5		94	80-120			

#### LRB (LRB-L618116)

Prepared: 05/25/2022 Analyzed: 05/26/2022

Silver	ND	0.25	mg/Kg				-			
Selenium	ND	0.25	"				-			
Nickel	ND	0.25	"				-			
Lead	ND	0.25	"				-			
Copper	ND	0.25	"				-			
Cadmium	ND	0.25	"				-			
Barium	ND	0.25	"				-			
Arsenic	ND	0.25	"				-			
Zinc	ND	2.5	"				-			

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WSP USA  
4600 W. 60th Ave.  
Arvada CO 80003

Rob Rebel  
Project Number: 31403177.022.07  
Project: KMG - Berig UPRR 42-35-1

**Total Metals by 7196A - Quality Control**  
**Waypoint Analytical, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch L618816 -</b>										
<b>DUP (L 97049-DUP)</b>		<b>Source: Y205543-02</b>			Prepared: Analyzed: 05/31/2022					
Chromium, Hexavalent	ND	0.248	mg/Kg		97049	-		0	20	
<b>MS (L 97049-MS)</b>		<b>Source: Y205543-02</b>			Prepared: Analyzed: 05/31/2022					
Chromium, Hexavalent	7.07	0.244	mg/Kg	8	97049	88	75-125			
<b>LCS (LCS)</b>					Prepared: Analyzed: 05/31/2022					
Chromium, Hexavalent	7.2	0.244	mg/Kg	8		90	75-125			
<b>LRB (LRB)</b>					Prepared: Analyzed: 05/31/2022					
Chromium, Hexavalent	0.268	0.5	mg/Kg							J

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*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, Project Manager

WSP USA

4600 W. 60th Ave.

Arvada CO 80003

Rob Rebel

Project Number: 31403177.022.07

Project: KMG - Berig UPRR 42-35-1

## Notes and Definitions

U Sample is Non-Detect.

J Estimated Value. Analyte below reported quantitation limit.

I\* [Undefined]

\* QC Failure

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported on 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.*

Jordan A. Bynon, Project Manager



May 31, 2022

WSP USA

Rob Rebel

4600 W. 60th Ave.

Arvada

CO 80003

**Project Name - KMG - Berig UPRR 42-35-1**

**Project Number - 31403177.022.07**

Attached are your analytical results for KMG - Berig UPRR 42-35-1 received by Origins Laboratory, Inc. May 25, 2022. This project is associated with Origins project number Y205656-01.

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

WSP USA

4600 W. 60th Ave.

Arvada CO 80003

Rob Rebel

Project Number: 31403177.022.07

Project: KMG - Berig UPRR 42-35-1

### CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW02	Y205656-01	Water	May 25, 2022 10:26	05/25/2022 17:58

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.*



WSP USA

4600 W. 60th Ave.

Arvada

CO

80003

Rob Rebel

Project Number: 31403177.022.07

Project: KMG - Berig UPRR 42-35-1

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4203050

page 1 of 1

**ORIGINS**  
LABORATORY, INC

Client:	WSP USA	Project Manager:	Rob Rebel
Address:	4600 W. 60th Ave. Arvada 80003	Project Name:	Berig UPRR 42-35-1 WH
Telephone Number:		Project Number:	31403177.022.07
Email Address:	KM @ WSP	Samples Collected By:	DM

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis	Sample Instructions
				Unpreserved	HCl	HNO <sub>3</sub>	Other	Groundwater	Soil	Air Summa Canister #		
6-WH2	5-25-12	1026	4	X							X	1
												2
												3
												4
												5
												6
												7
												8
												9
												10
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	Received By:	Date:	Time:	Turnaround Time:			
KM Miller	5/25/12	1758	DM	5/22/12	1758	DM	5/22/12	1758	Same Day			
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	Received By:	Date:	Time:	Turnaround Time:			
									48 Hr			
									Standard			

Date Results Mailed

Fax: 303.265.9645

Phone: 303.433.1322

Denver, CO 80211

1725 Elk Place

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.

WSP USA

4600 W. 60th Ave.

Arvada

CO

80003

Rob Rebel

Project Number: 31403177.022.07

Project: KMG - Berig UPRR 42-35-1

Origins Laboratory

## Sample Receipt Checklist

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

Origins Work Order: Y205656

Client: WSP

Client Project ID: KMG - Berig UPRR 42-35-

Checklist Completed by: MS

Shipped Via: HD

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

Date/time completed: 5/25/12

Airbill #: NA

Matrix(s) Received: (Check all that apply):

Soil/Solid

☒ Water

Other:

(Describe)

Cooler Number/Temperature: 1 13.1 °C 1 °C 1 °C 1 °C

Thermometer ID: T004

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C <sup>(1)</sup> ?	<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 <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present <sup>(1)</sup> ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client with date and time recorded <sup>(1)</sup> ?	<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 checked="" type="checkbox"/>	<input type="checkbox"/>	
Are samples preserved that require preservation and was it checked <sup>(1)</sup> ? (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 <sub>3</sub> , HCL, H <sub>2</sub> SO <sub>4</sub> ) / (pH >10 for samples preserved with NaAsO <sub>2</sub> +NaOH, ZnAc+NaOH)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>NO</u>
Additional Comments (if any):				

<sup>(1)</sup> 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 5/25/12

Origins Laboratory, Inc.

[Signature]

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WSP USA

4600 W. 60th Ave.

Arvada CO 80003

Rob Rebel

Project Number: 31403177.022.07

Project: KMG - Berig UPRR 42-35-1

## GW02

5/25/2022 10:26:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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## Y205656-01 (Water) Origins Laboratory, Inc.

### BTEX+N+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	2.00	ug/L	1	B2E2525	ZZZ	05/25/2022	05/25/2022	U
1,3,5-Trimethylbenzene	ND	2.00	"	"	"	ZZZ	"	"	U
Benzene	ND	1.00	"	"	"	ZZZ	"	"	U
Ethylbenzene	ND	1.00	"	"	"	ZZZ	"	"	U
Naphthalene	ND	2.00	"	"	"	ZZZ	"	"	U
Toluene	ND	1.00	"	"	"	ZZZ	"	"	U
Xylenes, total	ND	1.00	"	"	"	ZZZ	"	"	U

Surrogate: 1,2-Dichloroethane-d4

104 %

70-130

"

"

"

Surrogate: Toluene-d8

93.8 %

70-130

"

"

"

Surrogate: 4-Bromofluorobenzene

93.3 %

70-130

"

"

"

### Total Dissolved Solids by 2540C

Total Dissolved Solids	919	5.00	mg/L	1	B2E2612	TSH	05/26/2022	05/26/2022	
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## Waypoint Analytical, LLC.

### Anions by EPA-300.0

Chloride	195	4	mg/L	10	L618710		05/27/2022	05/27/2022	
Sulfate	308	10	"	"	"		"	"	

Origins Laboratory, Inc.



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WSP USA

4600 W. 60th Ave.

Arvada CO 80003

Rob Rebel

Project Number: 31403177.022.07

Project: KMG - Berig UPRR 42-35-1

## 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 B2E2525 - EPA 5030B (Water)

#### Blank (B2E2525-BLK1)

Prepared: 05/25/2022 Analyzed: 05/25/2022

1,2,4-Trimethylbenzene	ND	2.00	ug/L							U
1,3,5-Trimethylbenzene	ND	2.00	"							U
Benzene	ND	1.00	"							U
Ethylbenzene	ND	1.00	"							U
Naphthalene	ND	2.00	"							U
Toluene	ND	1.00	"							U
Xylenes, total	ND	1.00	"							U
Surrogate: 1,2-Dichloroethane-d4	63		"	62.5		101	70-130			
Surrogate: Toluene-d8	56		"	62.5		89.8	70-130			
Surrogate: 4-Bromofluorobenzene	60		"	62.5		96.7	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.

Jordan A. Bynon, Project Manager

WSP USA

4600 W. 60th Ave.

Arvada CO 80003

Rob Rebel

Project Number: 31403177.022.07

Project: KMG - Berig UPRR 42-35-1

## 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 B2E2525 - EPA 5030B (Water)

#### LCS (B2E2525-BS1)

Prepared: 05/25/2022 Analyzed: 05/25/2022

1,2,4-Trimethylbenzene	46.5	2.00	ug/L	50.0		93.0	70-130			
1,3,5-Trimethylbenzene	45.4	2.00	"	50.0		90.7	70-130			
Benzene	40.1	1.00	"	50.0		80.2	70-130			
Ethylbenzene	40.6	1.00	"	50.0		81.2	70-130			
m,p-Xylene	82.9	2.00	"	100		82.9	70-130			
Naphthalene	45.5	2.00	"	50.0		91.0	70-130			
o-Xylene	45.5	1.00	"	50.0		91.0	70-130			
Toluene	42.0	1.00	"	50.0		84.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	60		"	62.5		95.6	70-130			
Surrogate: Toluene-d8	63		"	62.5		101	70-130			
Surrogate: 4-Bromofluorobenzene	60		"	62.5		96.1	70-130			

Origins Laboratory, Inc.



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WSP USA

4600 W. 60th Ave.

Arvada CO 80003

Rob Rebel

Project Number: 31403177.022.07

Project: KMG - Berig UPRR 42-35-1

## 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 B2E2525 - EPA 5030B (Water)

Matrix Spike (B2E2525-MS1)		Source: Y205650-01			Prepared: 05/25/2022 Analyzed: 05/25/2022					
1,2,4-Trimethylbenzene	49.5	2.00	ug/L	50.0	ND	98.9	70-130			
1,3,5-Trimethylbenzene	48.4	2.00	"	50.0	ND	96.7	70-130			
Benzene	41.0	1.00	"	50.0	ND	81.9	70-130			
Ethylbenzene	44.8	1.00	"	50.0	ND	89.6	70-130			
m,p-Xylene	90.8	2.00	"	100	ND	90.8	70-130			
Naphthalene	44.0	2.00	"	50.0	ND	87.9	70-130			
o-Xylene	47.7	1.00	"	50.0	ND	95.4	70-130			
Toluene	45.1	1.00	"	50.0	ND	90.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	60		"	62.5		96.2	70-130			
Surrogate: Toluene-d8	65		"	62.5		104	70-130			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.2	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.

WSP USA

4600 W. 60th Ave.

Arvada CO 80003

Rob Rebel

Project Number: 31403177.022.07

Project: KMG - Berig UPRR 42-35-1

## 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 B2E2525 - EPA 5030B (Water)

Matrix Spike Dup (B2E2525-MSD1)		Source: Y205650-01			Prepared: 05/25/2022 Analyzed: 05/25/2022					
1,2,4-Trimethylbenzene	48.2	2.00	ug/L	50.0	ND	96.4	70-130	2.58	20	
1,3,5-Trimethylbenzene	46.5	2.00	"	50.0	ND	93.0	70-130	3.86	20	
Benzene	41.6	1.00	"	50.0	ND	83.2	70-130	1.62	20	
Ethylbenzene	42.7	1.00	"	50.0	ND	85.4	70-130	4.84	20	
m,p-Xylene	88.8	2.00	"	100	ND	88.8	70-130	2.26	20	
Naphthalene	46.9	2.00	"	50.0	ND	93.9	70-130	6.56	20	
o-Xylene	47.4	1.00	"	50.0	ND	94.8	70-130	0.694	20	
Toluene	44.1	1.00	"	50.0	ND	88.2	70-130	2.20	20	
Surrogate: 1,2-Dichloroethane-d4	61		"	62.5		98.2	70-130			
Surrogate: Toluene-d8	64		"	62.5		102	70-130			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.2	70-130			

Origins Laboratory, Inc.



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WSP USA

4600 W. 60th Ave.

Arvada CO 80003

Rob Rebel

Project Number: 31403177.022.07

Project: KMG - Berig UPRR 42-35-1

## 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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## 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 B2E2612 - NO PREP

#### Blank (B2E2612-BLK1)

Prepared: 05/26/2022 Analyzed: 05/26/2022

Total Dissolved Solids	ND	5.00	mg/L
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#### LCS (B2E2612-BS1)

Prepared: 05/26/2022 Analyzed: 05/26/2022

Total Dissolved Solids	951	5.00	mg/L	997	95.4	90-110
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#### Duplicate (B2E2612-DUP1)

Source: Y205616-01

Prepared: 05/26/2022 Analyzed: 05/26/2022

Total Dissolved Solids	1360	5.00	mg/L	1380	1.53	10
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Origins Laboratory, Inc.



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WSP USA

4600 W. 60th Ave.

Arvada CO 80003

Rob Rebel

Project Number: 31403177.022.07

Project: KMG - Berig UPRR 42-35-1

## Anions by EPA-300.0 - Quality Control

### Waypoint Analytical, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch L618710 - EPA-300.0 (PREP)</b>										
<b>LCSD (LCSD-L618710)</b>					Prepared: 05/27/2022 Analyzed: 05/27/2022					
Chloride	52.9	0.202	mg/L	50		106	90-110	0.5	20	
Sulfate	67.2	0.19	"	62.5		108	90-110	4.2	20	
<b>LCS (LCS-L618710)</b>					Prepared: 05/27/2022 Analyzed: 05/27/2022					
Chloride	52.6	0.202	mg/L	50		105	90-110			
Sulfate	64.4	0.19	"	62.5		103	90-110			
<b>LRB (LRB-L618710)</b>					Prepared: 05/27/2022 Analyzed: 05/27/2022					
Sulfate	ND	1	mg/L				-			
Chloride	ND	0.4	"				-			

Origins Laboratory, Inc.



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WSP USA

4600 W. 60th Ave.

Arvada CO 80003

Rob Rebel

Project Number: 31403177.022.07

Project: KMG - Berig UPRR 42-35-1

### Notes and Definitions

U Sample is Non-Detect.

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.*

July 19, 2022

Ensolum

Jeremy Espinoza

11049 W 44th Avenue, Suite 103

Wheat Ridge CO 80033

**Project Name - KMG - Bering UPRR 42-35 1  
Wellhead**

**Project Number - [none]**

Attached are your analytical results for KMG - Bering UPRR 42-35 1 Wellhead received by Origins Laboratory, Inc. July 11, 2022. This project is associated with Origins project number Y207182-01.

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



Ensolum  
11049 W 44th Avenue, Suite 103  
Wheat Ridge CO 80033

Jeremy Espinoza  
Project Number: [none]  
Project: KMG - Bering UPRR 42-35 1 Wellhead

### CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
N01@4	Y207182-01	Soil	July 11, 2022 15:00	07/11/2022 17:52
E01@4	Y207182-02	Soil	July 11, 2022 15:05	07/11/2022 17:52
S01@4	Y207182-03	Soil	July 11, 2022 15:10	07/11/2022 17:52
W01@4	Y207182-04	Soil	July 11, 2022 15:15	07/11/2022 17:52
B02@7	Y207182-05	Soil	July 11, 2022 15:20	07/11/2022 17:52
FL01-N01@4	Y207182-06	Soil	July 11, 2022 15:45	07/11/2022 17:52
FL01-E01@4	Y207182-07	Soil	July 11, 2022 15:50	07/11/2022 17:52
FL01-S01@4	Y207182-08	Soil	July 11, 2022 16:00	07/11/2022 17:52
FL01-W01@4	Y207182-09	Soil	July 11, 2022 16:05	07/11/2022 17:52
FL01-B01@6	Y207182-10	Soil	July 11, 2022 16:10	07/11/2022 17:52

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.*

Ensolum

11049 W 44th Avenue, Suite 103

Wheat Ridge CO 80033

Jeremy Espinoza

Project Number: [none]

Project: KMG - Bering UPRR 42-35 1 Wellhead

**ORIGINS**  
LABORATORY, INC

www.originslaboratory.com

Y207182

page 1 of 1

Client: Ensolum

Address: 11049 W 44th Ave

Wheat Ridge, CO 80033

Telephone Number: 303 889 9143

Email Address: Ensolum.Kmg.Grap

Project Manager: Jeremy Espinoza

Project Name: Bering UPRR 42-35 1 Wellhead

Project Number: 09A1417138

Samples Collected By: KMG

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative	Matrix	Analysis	Sample Instructions
Nal@4	7/11/22	1500	2	Unpreserved	Soil	2-Methylphenol	Ground Water Protection
Fl@4		1505		HNO <sub>3</sub>	Groundwater	1-Methylphenol	
So@4		1510		HCl	Other	2-Methylphenol	
U@4		1515		Unpreserved	Soil	1-Methylphenol	
Bal@7		1520		Unpreserved	Soil	2-Methylphenol	
Fl@1-Nal@4		1545		Unpreserved	Soil	1-Methylphenol	
Fl@1-Fl@4		1550		Unpreserved	Soil	2-Methylphenol	
Fl@1-So@4		1600		Unpreserved	Soil	1-Methylphenol	
Fl@1-U@4		1605		Unpreserved	Soil	2-Methylphenol	
Fl@1-Bal@6		1610		Unpreserved	Soil	1-Methylphenol	
Relinquished By: [Signature]	Date: 7/11/22	Time: 1752		Received By: [Signature]	Date: 7/11/22	Time: 1752	Turnaround Time: 24 hr
Relinquished By: [Signature]	Date: 7/11/22	Time: 1752		Received By: [Signature]	Date: 7/11/22	Time: 1752	Turnaround Time: 48 hr
							Standard

Temp Received: 5.8° Date Results Needed

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.

Ensolum

11049 W 44th Avenue, Suite 103

Wheat Ridge CO 80033

Jeremy Espinoza

Project Number: [none]

Project: KMG - Bering UPRR 42-35 1 Wellhead

Origins Laboratory

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

Origins Work Order: 1207182

Client: Ensolum

Client Project ID: Bering UPRR 42-3516

Checklist Completed by: JS

Date/time completed: 7/11/12

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

Airbill #: NA

Matrix(s) Received: (Check all that apply): X Soil/Solid    Water    Other:   

Cooler Number/Temperature: 115.8 °C

Thermometer ID: T904

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C <sup>(1)</sup> ?	<u>X</u>			
Is there ice present (document if blue ice is used)	<u>X</u>			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		<u>1</u>		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		<u>1</u>		
Were all samples received intact <sup>(1)</sup> ?	<u>1</u>			
Was adequate sample volume provided <sup>(1)</sup> ?	<u>1</u>			
Are short holding time analytes or samples with HTs due within 48 hours present <sup>(1)</sup> ?		<u>1</u>		
Is a chain-of-custody (COC) present and filled out completely <sup>(1)</sup> ?	<u>X</u>	<u>1</u>		
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<u>1</u>			
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<u>1</u>			
Is the COC properly relinquished by the client with date and time recorded <sup>(1)</sup> ?	<u>X</u>			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.			<u>X</u>	
Are samples preserved that require preservation and was it checked <sup>(1)</sup> ? (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 <sub>3</sub> , HCL, H <sub>2</sub> SO <sub>4</sub> ) / (pH > 10 for samples preserved with NaAsO <sub>2</sub> +NaOH, ZnAc+NaOH)			<u>1</u>	
Additional Comments (if any):				

<sup>(1)</sup>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: 7/11/12

Origins Laboratory, Inc.

*[Signature]*

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.

Ensolum  
11049 W 44th Avenue, Suite 103  
Wheat Ridge CO 80033

Jeremy Espinoza  
Project Number: [none]  
Project: KMG - Bering UPRR 42-35 1 Wellhead

N01@4  
7/11/2022 3:00:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y207182-01 (Soil)**

**GBTEX+TMBs by 8260D**

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B2G1120	07/11/2022	07/12/2022	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	U
Benzene	ND	0.00200	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	84.2 %	70-130	"	"	"
Surrogate: Toluene-d8	102 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	95.0 %	70-130	"	"	"

**Metals by Saturated Paste by EPA 6010**

Calcium	1.39	0.499	meq/L	10	[CALC]	07/12/2022	07/13/2022
Magnesium	ND	0.823	"	"	"	"	"
Sodium	3.71	0.435	"	"	"	"	"

**PAH by 8270D SIM**

1-Methylnaphthalene	ND	0.000364	0.00067	mg/Kg	1	L626901	07/15/2022	07/15/2022
2-Methylnaphthalene	ND	0.000645	0.00067	"	"	"	"	"
Naphthalene	ND	0.000484	0.00067	"	"	"	"	"

Surrogate: 2-Fluorobiphenyl	47.6 %	33-115	"	"	"
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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.



Ensolum  
11049 W 44th Avenue, Suite 103  
Wheat Ridge CO 80033

Jeremy Espinoza  
Project Number: [none]  
Project: KMG - Bering UPRR 42-35 1 Wellhead

N01@4

7/11/2022 3:00:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Waypoint Analytical, Inc.**  
**Y207182-01 (Soil)**

**PAH by 8270D SIM**

Surrogate: 4-Terphenyl-d14	69.6 %		33-122			L6269 01	07/15/2022	07/15/2022	
Surrogate: Nitrobenzene-d5	65.7 %		29-110			"	"	"	

**pH in Soil by 9045D**

pH	8.36			pH Units	1	B2G1214	07/12/2022	07/13/2022	
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**SAR by 20B Saturated Paste**

SAR	3.63			SAR	1	B2G1212	07/12/2022	07/13/2022	
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Origins Laboratory, Inc.



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Ensolum  
11049 W 44th Avenue, Suite 103  
Wheat Ridge CO 80033

Jeremy Espinoza  
Project Number: [none]  
Project: KMG - Bering UPRR 42-35 1 Wellhead

E01@4  
7/11/2022 3:05:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y207182-02 (Soil)**

**GBTEX+TMBs by 8260D**

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B2G1120	07/11/2022	07/12/2022	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	U
Benzene	ND	0.00200	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	85.0 %	70-130	"	"	"
Surrogate: Toluene-d8	105 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	91.9 %	70-130	"	"	"

**Metals by Saturated Paste by EPA 6010**

Calcium	1.97	0.499	meq/L	10	[CALC]	07/12/2022	07/13/2022
Magnesium	1.08	0.823	"	"	"	"	"
Sodium	6.49	0.435	"	"	"	"	"

**PAH by 8270D SIM**

1-Methylnaphthalene	ND	0.000364	0.00067	mg/Kg	1	L626901	07/15/2022	07/15/2022
2-Methylnaphthalene	ND	0.000645	0.00067	"	"	"	"	"
Naphthalene	ND	0.000484	0.00067	"	"	"	"	"

Surrogate: 2-Fluorobiphenyl	42.4 %	33-115	"	"	"
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Origins Laboratory, Inc.



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Ensolum  
11049 W 44th Avenue, Suite 103  
Wheat Ridge CO 80033

Jeremy Espinoza  
Project Number: [none]  
Project: KMG - Bering UPRR 42-35 1 Wellhead

E01@4

7/11/2022 3:05:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Waypoint Analytical, Inc.**  
**Y207182-02 (Soil)**

**PAH by 8270D SIM**

Surrogate: 4-Terphenyl-d14	69.7 %		33-122			L6269 01	07/15/2022	07/15/2022	
Surrogate: Nitrobenzene-d5	55.8 %		29-110			"	"	"	

**pH in Soil by 9045D**

pH	8.47			pH Units	1	B2G1214	07/12/2022	07/13/2022	
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**SAR by 20B Saturated Paste**

SAR	5.25			SAR	1	B2G1212	07/12/2022	07/13/2022	
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Origins Laboratory, Inc.



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Ensolum  
11049 W 44th Avenue, Suite 103  
Wheat Ridge CO 80033

Jeremy Espinoza  
Project Number: [none]  
Project: KMG - Bering UPRR 42-35 1 Wellhead

S01@4  
7/11/2022 3:10:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y207182-03 (Soil)**

**GBTEX+TMBs by 8260D**

1,2,4-Trimethylbenzene	2.62		0.0500	mg/kg	25	B2G1120	07/11/2022	07/12/2022	
1,3,5-Trimethylbenzene	0.180		0.00200	"	1	"	"	07/12/2022	
Benzene	ND		0.00200	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	87.6 %		70-130			"	"	"	
Surrogate: Toluene-d8	99.6 %		70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	109 %		70-130			"	"	"	

**Metals by Saturated Paste by EPA 6010**

Calcium	1.13		0.499	meq/L	10	[CALC]	07/12/2022	07/13/2022	
Magnesium	1.18		0.823	"	"	"	"	"	
Sodium	10.3		0.435	"	"	"	"	"	

**PAH by 8270D SIM**

1-Methylnaphthalene	0.304	0.00182	0.00335	mg/Kg	5	L626901	07/15/2022	07/15/2022	
2-Methylnaphthalene	0.405	0.00323	0.00335	"	"	"	"	"	
Naphthalene	0.0913	0.00242	0.00335	"	"	"	"	"	

Surrogate: 2-Fluorobiphenyl	40.5 %		33-115			"	"	"	
Surrogate: 4-Terphenyl-d14	68.8 %		33-122			"	"	"	

Origins Laboratory, Inc.



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Ensolum  
11049 W 44th Avenue, Suite 103  
Wheat Ridge CO 80033

Jeremy Espinoza  
Project Number: [none]  
Project: KMG - Bering UPRR 42-35 1 Wellhead

S01@4

7/11/2022 3:10:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Waypoint Analytical, Inc.**  
Y207182-03 (Soil)

**PAH by 8270D SIM**

Surrogate: Nitrobenzene-d5	46.2 %	29-110	L6269 01	07/15/2022	07/15/2022
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**pH in Soil by 9045D**

pH	8.18	pH Units	1	B2G1214	07/12/2022	07/13/2022
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**SAR by 20B Saturated Paste**

SAR	9.53	SAR	1	B2G1212	07/12/2022	07/13/2022
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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.

Ensolum  
11049 W 44th Avenue, Suite 103  
Wheat Ridge CO 80033

Jeremy Espinoza  
Project Number: [none]  
Project: KMG - Bering UPRR 42-35 1 Wellhead

W01@4

7/11/2022 3:15:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y207182-04 (Soil)**

**GBTEX+TMBs by 8260D**

1,2,4-Trimethylbenzene	0.00216		0.00200	mg/kg	1	B2G1120	07/11/2022	07/12/2022	
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	U
Benzene	ND		0.00200	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	84.0 %		70-130			"	"	"	
Surrogate: Toluene-d8	100 %		70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	98.2 %		70-130			"	"	"	

**Metals by Saturated Paste by EPA 6010**

Calcium	2.44		0.499	meq/L	10	[CALC]	07/12/2022	07/13/2022	
Magnesium	1.42		0.823	"	"	"	"	"	
Sodium	8.78		0.435	"	"	"	"	"	

**PAH by 8270D SIM**

1-Methylnaphthalene	0.0181	0.000364	0.00067	mg/Kg	1	L626901	07/15/2022	07/15/2022	
2-Methylnaphthalene	0.00603	0.000645	0.00067	"	"	"	"	"	
Naphthalene	0.000942	0.000484	0.00067	"	"	"	"	"	

Surrogate: 2-Fluorobiphenyl	47.1 %		33-115			"	"	"	
Surrogate: 4-Terphenyl-d14	72.3 %		33-122			"	"	"	

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Ensolum  
11049 W 44th Avenue, Suite 103  
Wheat Ridge CO 80033

Jeremy Espinoza  
Project Number: [none]  
Project: KMG - Bering UPRR 42-35 1 Wellhead

W01@4

7/11/2022 3:15:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Waypoint Analytical, Inc.**  
**Y207182-04 (Soil)**

**PAH by 8270D SIM**

Surrogate: Nitrobenzene-d5	61.1 %	29-110	L6269 01	07/15/2022	07/15/2022
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**pH in Soil by 9045D**

pH	8.53	pH Units	1	B2G1214	07/12/2022	07/13/2022
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**SAR by 20B Saturated Paste**

SAR	6.32	SAR	1	B2G1212	07/12/2022	07/13/2022
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Ensolum  
11049 W 44th Avenue, Suite 103  
Wheat Ridge CO 80033

Jeremy Espinoza  
Project Number: [none]  
Project: KMG - Bering UPRR 42-35 1 Wellhead

B02@7

7/11/2022 3:20:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
Y207182-05 (Soil)

**GBTEX+TMBs by 8260D**

1,2,4-Trimethylbenzene	0.00346		0.00200	mg/kg	1	B2G1120	07/11/2022	07/12/2022	
1,3,5-Trimethylbenzene	0.00218		0.00200	"	"	"	"	"	
Benzene	ND		0.00200	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	80.3 %		70-130			"	"	"	
Surrogate: Toluene-d8	98.8 %		70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	98.3 %		70-130			"	"	"	

**Metals by Saturated Paste by EPA 6010**

Calcium	1.80		0.499	meq/L	10	[CALC]	07/12/2022	07/13/2022	
Magnesium	0.875		0.823	"	"	"	"	"	
Sodium	2.47		0.435	"	"	"	"	"	

**PAH by 8270D SIM**

1-Methylnaphthalene	0.000745	0.000364	0.00067	mg/Kg	1	L626901	07/15/2022	07/15/2022	
2-Methylnaphthalene	0.00111	0.000645	0.00067	"	"	"	"	"	
Naphthalene	ND	0.000484	0.00067	"	"	"	"	"	

Surrogate: 2-Fluorobiphenyl	35.2 %		33-115			"	"	"	
Surrogate: 4-Terphenyl-d14	63.3 %		33-122			"	"	"	

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Ensolum

11049 W 44th Avenue, Suite 103

Wheat Ridge CO 80033

Jeremy Espinoza

Project Number: [none]

Project: KMG - Bering UPRR 42-35 1 Wellhead

B02@7

7/11/2022 3:20:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.

Y207182-05 (Soil)

## PAH by 8270D SIM

Surrogate: Nitrobenzene-d5	50 %	29-110	L6269 01	07/15/2022	07/15/2022
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## pH in Soil by 9045D

pH	8.45	pH Units	1	B2G1214	07/12/2022	07/13/2022
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## SAR by 20B Saturated Paste

SAR	2.14	SAR	1	B2G1212	07/12/2022	07/13/2022
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11049 W 44th Avenue, Suite 103  
Wheat Ridge CO 80033

Jeremy Espinoza  
Project Number: [none]  
Project: KMG - Bering UPRR 42-35 1 Wellhead

FL01-N01@4

7/11/2022 3:45:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.  
Y207182-06 (Soil)

## PAH by 8270D SIM

Benzo(a)anthracene	0.00111	0.000493	0.00067	mg/Kg	1	L626901	07/15/2022	07/15/2022
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Surrogate: 2-Fluorobiphenyl	41.8 %		33-115			"	"	"
Surrogate: 4-Terphenyl-d14	65.5 %		33-122			"	"	"
Surrogate: Nitrobenzene-d5	58.8 %		29-110			"	"	"

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Wheat Ridge CO 80033

Jeremy Espinoza  
Project Number: [none]  
Project: KMG - Bering UPRR 42-35 1 Wellhead

FL01-E01@4

7/11/2022 3:50:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.  
Y207182-07 (Soil)

## PAH by 8270D SIM

Benzo(a)anthracene	ND	0.000493	0.00067	mg/Kg	1	L626901	07/15/2022	07/15/2022
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Surrogate: 2-Fluorobiphenyl	43.8 %		33-115			"	"	"
Surrogate: 4-Terphenyl-d14	61.6 %		33-122			"	"	"
Surrogate: Nitrobenzene-d5	55 %		29-110			"	"	"

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Wheat Ridge CO 80033

Jeremy Espinoza  
Project Number: [none]  
Project: KMG - Bering UPRR 42-35 1 Wellhead

FL01-S01@4

7/11/2022 4:00:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.  
Y207182-08 (Soil)

## PAH by 8270D SIM

Benzo(a)anthracene	ND	0.000493	0.00067	mg/Kg	1	L626901	07/15/2022	07/15/2022
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Surrogate: 2-Fluorobiphenyl	56.5 %		33-115			"	"	"
Surrogate: 4-Terphenyl-d14	68.2 %		33-122			"	"	"
Surrogate: Nitrobenzene-d5	73.3 %		29-110			"	"	"

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Ensolum  
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Wheat Ridge CO 80033

Jeremy Espinoza  
Project Number: [none]  
Project: KMG - Bering UPRR 42-35 1 Wellhead

FL01-W01@4

7/11/2022 4:05:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.  
Y207182-09 (Soil)

## PAH by 8270D SIM

Benzo(a)anthracene	ND	0.000493	0.00067	mg/Kg	1	L626901	07/15/2022	07/15/2022
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Surrogate: 2-Fluorobiphenyl	46.2 %		33-115			"	"	"
Surrogate: 4-Terphenyl-d14	68.7 %		33-122			"	"	"
Surrogate: Nitrobenzene-d5	65.7 %		29-110			"	"	"

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Wheat Ridge CO 80033

Jeremy Espinoza  
Project Number: [none]  
Project: KMG - Bering UPRR 42-35 1 Wellhead

FL01-B01@6

7/11/2022 4:10:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Waypoint Analytical, Inc.**  
**Y207182-10 (Soil)**

**PAH by 8270D SIM**

Benzo(a)anthracene	ND	0.000493	0.00067	mg/Kg	1	L626901	07/15/2022	07/15/2022
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Surrogate: 2-Fluorobiphenyl	45.3 %		33-115			"	"	"
Surrogate: 4-Terphenyl-d14	66.7 %		33-122			"	"	"
Surrogate: Nitrobenzene-d5	68.8 %		29-110			"	"	"

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Wheat Ridge CO 80033

Jeremy Espinoza  
Project Number: [none]  
Project: KMG - Bering UPRR 42-35 1 Wellhead

**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
<b>Batch B2G1120 - EPA 5030 (soil)</b>										
<b>Blank (B2G1120-BLK1)</b>					Prepared: 07/11/2022 Analyzed: 07/12/2022					
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	0.0100	"							U
Toluene	ND	0.00200	"							U
Xylenes, total	ND	0.00200	"							U
Gasoline Range Hydrocarbons	ND	0.200	"							U
Surrogate: 1,2-Dichloroethane-d4	0.10		"	0.125		82.4	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		100	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		98.4	70-130			

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11049 W 44th Avenue, Suite 103  
Wheat Ridge CO 80033

Jeremy Espinoza  
Project Number: [none]  
Project: KMG - Bering UPRR 42-35 1 Wellhead

**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
<b>Batch B2G1120 - EPA 5030 (soil)</b>										
<b>LCS (B2G1120-BS1)</b>					Prepared: 07/11/2022 Analyzed: 07/12/2022					
1,2,4-Trimethylbenzene	0.100	0.00200	mg/kg	0.100		100	70-130			
1,3,5-Trimethylbenzene	0.102	0.00200	"	0.100		102	70-130			
Benzene	0.0846	0.00200	"	0.100		84.6	70-130			
Ethylbenzene	0.0965	0.00200	"	0.100		96.5	70-130			
Naphthalene	0.106	0.0100	"	0.100		106	70-130			
Toluene	0.0868	0.00200	"	0.100		86.8	70-130			
o-Xylene	0.0969	0.00200	"	0.100		96.9	70-130			
m,p-Xylene	0.190	0.00400	"	0.200		95.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.098		"	0.125		78.0	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		94.7	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		96.1	70-130			

Origins Laboratory, Inc.



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Ensolum  
11049 W 44th Avenue, Suite 103  
Wheat Ridge CO 80033

Jeremy Espinoza  
Project Number: [none]  
Project: KMG - Bering UPRR 42-35 1 Wellhead

**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 B2G1120 - EPA 5030 (soil)**

Matrix Spike (B2G1120-MS1)		Source: Y207180-10			Prepared: 07/11/2022 Analyzed: 07/12/2022					
1,2,4-Trimethylbenzene	0.0858	0.00200	mg/kg	0.100	ND	85.8	70-130			
1,3,5-Trimethylbenzene	0.0885	0.00200	"	0.100	ND	88.5	70-130			
Benzene	0.0775	0.00200	"	0.100	ND	77.5	70-130			
Ethylbenzene	0.0857	0.00200	"	0.100	ND	85.7	70-130			
Naphthalene	0.0888	0.0100	"	0.100	ND	88.8	70-130			
Toluene	0.0776	0.00200	"	0.100	ND	77.6	70-130			
o-Xylene	0.0847	0.00200	"	0.100	ND	84.7	70-130			
m,p-Xylene	0.168	0.00400	"	0.200	ND	83.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.10		"	0.125		83.1	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		92.5	70-130			
Surrogate: 4-Bromofluorobenzene	0.14		"	0.125		110	70-130			

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11049 W 44th Avenue, Suite 103  
Wheat Ridge CO 80033

Jeremy Espinoza  
Project Number: [none]  
Project: KMG - Bering UPRR 42-35 1 Wellhead

**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
<b>Batch B2G1120 - EPA 5030 (soil)</b>										
<b>Matrix Spike Dup (B2G1120-MSD1)</b>		<b>Source: Y207180-10</b>			Prepared: 07/11/2022 Analyzed: 07/12/2022					
1,2,4-Trimethylbenzene	0.0732	0.00200	mg/kg	0.100	ND	73.2	70-130	15.9	20	
1,3,5-Trimethylbenzene	0.0747	0.00200	"	0.100	ND	74.7	70-130	16.9	20	
Benzene	0.0652	0.00200	"	0.100	ND	65.2	70-130	17.3	20	QM-07
Ethylbenzene	0.0740	0.00200	"	0.100	ND	74.0	70-130	14.6	20	
Naphthalene	0.0789	0.0100	"	0.100	ND	78.9	70-130	11.7	20	
Toluene	0.0649	0.00200	"	0.100	ND	64.9	70-130	17.8	20	QM-07
o-Xylene	0.0735	0.00200	"	0.100	ND	73.5	70-130	14.2	20	
m,p-Xylene	0.145	0.00400	"	0.200	ND	72.5	70-130	14.5	20	
Surrogate: 1,2-Dichloroethane-d4	0.10		"	0.125		83.4	70-130			
Surrogate: Toluene-d8	0.11		"	0.125		91.8	70-130			
Surrogate: 4-Bromofluorobenzene	0.14		"	0.125		113	70-130			

Origins Laboratory, Inc.



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Ensolum  
11049 W 44th Avenue, Suite 103  
Wheat Ridge CO 80033

Jeremy Espinoza  
Project Number: [none]  
Project: KMG - Bering UPRR 42-35 1 Wellhead

## 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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## 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 B2G1212 - Default Prep Metals

##### Blank (B2G1212-BLK1)

Prepared: 07/12/2022 Analyzed: 07/13/2022

Calcium PPM	4.17	10.0	mg/L
SAR	0.00		SAR
Magnesium PPM	ND	10.0	mg/L
Sodium PPM	0.300	10.0	"

##### Duplicate (B2G1212-DUP1)

Source: Y207180-08

Prepared: 07/12/2022 Analyzed: 07/13/2022

SAR	0.00		SAR	1.44		200	200
Calcium PPM	97.3	10.0	mg/L	111		13.6	50
Magnesium PPM	24.8	10.0	"	27.3		9.81	50
Sodium PPM	68.9	10.0	"	65.4		5.29	50

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Wheat Ridge CO 80033

Jeremy Espinoza  
Project Number: [none]  
Project: KMG - Bering UPRR 42-35 1 Wellhead

**Saturated Paste - Quality Control**  
**Origins Laboratory, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B2G1214 - NO PREP</b>										
<b>Blank (B2G1214-BLK1)</b>					Prepared: 07/12/2022 Analyzed: 07/13/2022					
pH	0.00		pH Units							
<b>Duplicate (B2G1214-DUP1)</b>					<b>Source: Y207180-08</b> Prepared: 07/12/2022 Analyzed: 07/13/2022					
pH	8.33		pH Units		8.31			0.240	25	

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Ensolum  
11049 W 44th Avenue, Suite 103  
Wheat Ridge CO 80033

Jeremy Espinoza  
Project Number: [none]  
Project: KMG - Bering UPRR 42-35 1 Wellhead

**PAH by 8270D SIM - Quality Control**  
**Waypoint Analytical, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch L626901 - 3550B</b>										
<b>MSD (L 99197-MSD-L626901)</b>			<b>Source: Y207182-10</b>		Prepared: 07/15/2022 Analyzed: 07/15/2022					
1-Methylnaphthalene	0.0713	0.000364	mg/Kg	0.167	<0.000364	42.6	30-130	12.1	30	
2-Methylnaphthalene	0.0709	0.000645	"	0.167	<0.000645	42.4	30-130	12.3	30	
Benzo(a)anthracene	0.106	0.000493	"	0.167	<0.000493	63.4	30-130	5.5	30	
Naphthalene	0.068	0.000484	"	0.167	<0.000484	40.7	30-130	9.9	30	
Surrogate: 2-Fluorobiphenyl	44.4		"	0.333	151	44.4	33-115			
Surrogate: 4-Terphenyl-d14	71.1		"	0.333	222	71.1	33-122			
Surrogate: Nitrobenzene-d5	61.2		"	0.333	229	61.2	29-110			
<b>MS (L 99197-MS-L626901)</b>			<b>Source: Y207182-10</b>		Prepared: 07/15/2022 Analyzed: 07/15/2022					
Benzo(a)anthracene	0.112	0.000493	mg/Kg	0.165	<0.000493	67.8	30-130			
Naphthalene	0.0751	0.000484	"	0.165	<0.000484	45.5	30-130			
2-Methylnaphthalene	0.0802	0.000645	"	0.165	<0.000645	48.6	30-130			
1-Methylnaphthalene	0.0805	0.000364	"	0.165	<0.000364	48.7	30-130			
Surrogate: Nitrobenzene-d5	62.7		"	0.33	229	62.7	29-110			
Surrogate: 2-Fluorobiphenyl	44.8		"	0.33	151	44.8	33-115			
Surrogate: 4-Terphenyl-d14	71.5		"	0.33	222	71.5	33-122			
<b>LCS (LCS-L626901)</b>			Prepared: 07/15/2022 Analyzed: 07/15/2022							
Benzo(a)anthracene	0.106	0.000493	mg/Kg	0.167		63.4	30-130			
Naphthalene	0.082	0.000484	"	0.167		49.1	30-130			
2-Methylnaphthalene	0.086	0.000645	"	0.167		51.4	30-130			
1-Methylnaphthalene	0.0858	0.000364	"	0.167		51.3	30-130			
Surrogate: 4-Terphenyl-d14	75.3		"	0.333		75.3	33-122			
Surrogate: 2-Fluorobiphenyl	62.1		"	0.333		62.1	33-115			
Surrogate: Nitrobenzene-d5	75.6		"	0.333		75.6	29-110			
<b>LRB (LRB-L626901)</b>			Prepared: 07/15/2022 Analyzed: 07/15/2022							
1-Methylnaphthalene	ND	0.00067	mg/Kg				-			

Origins Laboratory, Inc.



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Ensolum  
11049 W 44th Avenue, Suite 103  
Wheat Ridge CO 80033

Jeremy Espinoza  
Project Number: [none]  
Project: KMG - Bering UPRR 42-35 1 Wellhead

**PAH by 8270D SIM - Quality Control**  
**Waypoint Analytical, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch L626901 - 3550B**

**LRB (LRB-L626901)**

Prepared: 07/15/2022 Analyzed: 07/15/2022

2-Methylnaphthalene	ND	0.00067	mg/Kg				-			
Benzo(a)anthracene	ND	0.00067	"				-			
Naphthalene	ND	0.00067	"				-			
Surrogate: Nitrobenzene-d5	65.4		"	0.333	65.4		29-110			
Surrogate: 2-Fluorobiphenyl	51.3		"	0.333	51.3		33-115			
Surrogate: 4-Terphenyl-d14	69.9		"	0.333	69.9		33-122			

Origins Laboratory, Inc.



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Ensolum

11049 W 44th Avenue, Suite 103

Wheat Ridge CO 80033

Jeremy Espinoza

Project Number: [none]

Project: KMG - Bering UPRR 42-35 1 Wellhead

### Notes and Definitions

U Sample is Non-Detect.

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.

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.*

July 21, 2022

Ensolum

Jeremy Espinoza

11049 W 44th Avenue, Suite 103

Wheat Ridge CO 80033

**Project Name - KMG - Bering UPRR 42-35 1  
Wellhead****Project Number - [none]**

Attached are your analytical results for KMG - Bering UPRR 42-35 1 Wellhead received by Origins Laboratory, Inc. July 13, 2022. This project is associated with Origins project number Y207259-01.

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



Ensolum

11049 W 44th Avenue, Suite 103

Wheat Ridge CO 80033

Jeremy Espinoza

Project Number: [none]

Project: KMG - Bering UPRR 42-35 1 Wellhead

### CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S02@4'	Y207259-01	Soil	July 13, 2022 10:30	07/13/2022 17:39

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.*





Ensolum

11049 W 44th Avenue, Suite 103

Wheat Ridge CO 80033

Jeremy Espinoza

Project Number: [none]

Project: KMG - Bering UPRR 42-35 1 Wellhead

Origins Laboratory

Sample Receipt Checklist

Origins Work Order: 4202259

Client: Ensolum

Client Project ID: Bering UPRR 42-35

Shipped Via: 440

Airbill #: NA

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

Cooler Number/Temperature: 1 / 29.3 °C

Thermometer ID: 1003

Requirement Description

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C <sup>(1)</sup> ?		X		same day
Is there ice present (document if blue ice is used)	Y			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		Y		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		Y		
Were all samples received intact <sup>(1)</sup> ?	Y			
Was adequate sample volume provided <sup>(1)</sup> ?	Y			
Are short holding time analytes or samples with HTs due within 48 hours present <sup>(1)</sup> ?		Y		
Is a chain-of-custody (COC) present and filled out completely <sup>(1)</sup> ?		X		See below
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	X			
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	X			
Is the COC properly relinquished by the client with date and time recorded <sup>(1)</sup> ?	X			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.			Y	
Are samples preserved that require preservation and was it checked <sup>(1)</sup> ? (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 <sub>3</sub> , HCL, H <sub>2</sub> SO <sub>4</sub> ) / (pH > 10 for samples preserved with NaAsO <sub>2</sub> +NaOH, ZnAc+NaOH)			Y	

Additional Comments (if any):

Sample containers received on 7/13/22, COC received 7/14/22

<sup>(1)</sup> 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): [Signature]

Date Time Reviewed: 7/14/22

Origins Laboratory, Inc.

*[Signature]*

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.

Ensolum  
11049 W 44th Avenue, Suite 103  
Wheat Ridge CO 80033

Jeremy Espinoza  
Project Number: [none]  
Project: KMG - Bering UPRR 42-35 1 Wellhead

S02@4'

7/13/2022 10:30:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y207259-01 (Soil)**

**GBTEX+TMBs by 8260D**

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B2G1333	07/13/2022	07/14/2022	U
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	U
Benzene	ND		0.00200	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	81.8 %		70-130			"	"	"	
Surrogate: Toluene-d8	98.2 %		70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	103 %		70-130			"	"	"	

**Metals by Saturated Paste by EPA 6010**

Calcium	0.533		0.499	meq/L	10	[CALC]	07/14/2022	07/15/2022	
Magnesium	ND		0.823	"	"	"	"	"	
Sodium	3.20		0.435	"	"	"	"	"	

**PAH by 8270D SIM**

1-Methylnaphthalene	ND	0.000364	0.00067	mg/Kg	1	L627122	07/18/2022	07/18/2022	
2-Methylnaphthalene	ND	0.000645	0.00067	"	"	"	"	"	
Naphthalene	ND	0.000484	0.00067	"	"	"	"	"	

Surrogate: 2-Fluorobiphenyl	59.1 %		33-115			"	"	"	
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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.

Ensolum  
11049 W 44th Avenue, Suite 103  
Wheat Ridge CO 80033

Jeremy Espinoza  
Project Number: [none]  
Project: KMG - Bering UPRR 42-35 1 Wellhead

**S02@4'**

**7/13/2022 10:30:00AM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Waypoint Analytical, Inc.**  
**Y207259-01 (Soil)**

**PAH by 8270D SIM**

Surrogate: 4-Terphenyl-d14	78.2 %	33-122	L6271 22	07/18/2022	07/18/2022
Surrogate: Nitrobenzene-d5	77.5 %	29-110	"	"	"

**pH in Soil by 9045D**

pH	8.54	pH Units	1	B2G1406	07/14/2022	07/15/2022
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**SAR by 20B Saturated Paste**

SAR	4.73	SAR	1	B2G1404	07/14/2022	07/15/2022
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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.*

Ensolum  
11049 W 44th Avenue, Suite 103  
Wheat Ridge CO 80033

Jeremy Espinoza  
Project Number: [none]  
Project: KMG - Bering UPRR 42-35 1 Wellhead

**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
<b>Batch B2G1333 - EPA 5030 (soil)</b>										
<b>Blank (B2G1333-BLK1)</b>					Prepared: 07/13/2022 Analyzed: 07/13/2022					
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	0.0100	"							U
Toluene	ND	0.00200	"							U
Xylenes, total	ND	0.00200	"							U
Gasoline Range Hydrocarbons	ND	0.200	"							U
Surrogate: 1,2-Dichloroethane-d4	0.10		"	0.125		83.6	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		95.8	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		100	70-130			

Origins Laboratory, Inc.



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Ensolum  
11049 W 44th Avenue, Suite 103  
Wheat Ridge CO 80033

Jeremy Espinoza  
Project Number: [none]  
Project: KMG - Bering UPRR 42-35 1 Wellhead

**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
<b>Batch B2G1333 - EPA 5030 (soil)</b>										
<b>LCS (B2G1333-BS1)</b>					Prepared: 07/13/2022 Analyzed: 07/13/2022					
1,2,4-Trimethylbenzene	0.110	0.00200	mg/kg	0.100		110	70-130			
1,3,5-Trimethylbenzene	0.115	0.00200	"	0.100		115	70-130			
Benzene	0.0947	0.00200	"	0.100		94.7	70-130			
Ethylbenzene	0.112	0.00200	"	0.100		112	70-130			
Naphthalene	0.100	0.0100	"	0.100		100	70-130			
Toluene	0.0968	0.00200	"	0.100		96.8	70-130			
o-Xylene	0.110	0.00200	"	0.100		110	70-130			
m,p-Xylene	0.220	0.00400	"	0.200		110	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.095		"	0.125		75.9	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		97.4	70-130			
Surrogate: 4-Bromofluorobenzene	0.14		"	0.125		112	70-130			

Origins Laboratory, Inc.



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Ensolum  
11049 W 44th Avenue, Suite 103  
Wheat Ridge CO 80033

Jeremy Espinoza  
Project Number: [none]  
Project: KMG - Bering UPRR 42-35 1 Wellhead

**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 B2G1333 - EPA 5030 (soil)**

Matrix Spike (B2G1333-MS1)		Source: Y207254-01			Prepared: 07/13/2022 Analyzed: 07/13/2022					
1,2,4-Trimethylbenzene	0.0791	0.00200	mg/kg	0.100	ND	79.1	70-130			
1,3,5-Trimethylbenzene	0.0798	0.00200	"	0.100	ND	79.8	70-130			
Benzene	0.0835	0.00200	"	0.100	ND	83.5	70-130			
Ethylbenzene	0.0824	0.00200	"	0.100	ND	82.4	70-130			
Naphthalene	0.0796	0.0100	"	0.100	ND	79.6	70-130			
Toluene	0.0808	0.00200	"	0.100	ND	80.8	70-130			
o-Xylene	0.0817	0.00200	"	0.100	ND	81.7	70-130			
m,p-Xylene	0.164	0.00400	"	0.200	ND	81.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.10		"	0.125		82.3	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		93.2	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		107	70-130			

Origins Laboratory, Inc.



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Ensolum  
11049 W 44th Avenue, Suite 103  
Wheat Ridge CO 80033

Jeremy Espinoza  
Project Number: [none]  
Project: KMG - Bering UPRR 42-35 1 Wellhead

**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
<b>Batch B2G1333 - EPA 5030 (soil)</b>										
<b>Matrix Spike Dup (B2G1333-MSD1)</b>		<b>Source: Y207254-01</b>			Prepared: 07/13/2022 Analyzed: 07/13/2022					
1,2,4-Trimethylbenzene	0.0963	0.00200	mg/kg	0.100	ND	96.3	70-130	19.6	20	
1,3,5-Trimethylbenzene	0.0979	0.00200	"	0.100	ND	97.9	70-130	20.3	20	QM-07
Benzene	0.0916	0.00200	"	0.100	ND	91.6	70-130	9.27	20	
Ethylbenzene	0.0975	0.00200	"	0.100	ND	97.5	70-130	16.8	20	
Naphthalene	0.101	0.0100	"	0.100	ND	101	70-130	23.6	20	QM-07
Toluene	0.0896	0.00200	"	0.100	ND	89.6	70-130	10.4	20	
o-Xylene	0.0963	0.00200	"	0.100	ND	96.3	70-130	16.3	20	
m,p-Xylene	0.193	0.00400	"	0.200	ND	96.7	70-130	16.7	20	
Surrogate: 1,2-Dichloroethane-d4	0.10		"	0.125		81.4	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		92.7	70-130			
Surrogate: 4-Bromofluorobenzene	0.14		"	0.125		111	70-130			

Origins Laboratory, Inc.



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Ensolum  
11049 W 44th Avenue, Suite 103  
Wheat Ridge CO 80033

Jeremy Espinoza  
Project Number: [none]  
Project: KMG - Bering UPRR 42-35 1 Wellhead

**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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**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 B2G1406 - NO PREP**

**Blank (B2G1406-BLK1)**

Prepared: 07/14/2022 Analyzed: 07/15/2022

pH 0.00 pH Units

**Duplicate (B2G1406-DUP1)**

**Source: Y207248-01**

Prepared: 07/14/2022 Analyzed: 07/15/2022

pH 7.52 pH Units 7.86 4.42 25

Origins Laboratory, Inc.



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Ensolum  
11049 W 44th Avenue, Suite 103  
Wheat Ridge CO 80033

Jeremy Espinoza  
Project Number: [none]  
Project: KMG - Bering UPRR 42-35 1 Wellhead

**PAH by 8270D SIM - Quality Control**  
**Waypoint Analytical, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch L627122 - 3550B**

MSD (L 81138-MSD-L627122)		Source: 81138			Prepared: 07/18/2022 Analyzed: 07/18/2022					
1-Methylnaphthalene	0.0997	0.000364	mg/Kg	0.166	<0.000364	60	30-130	6.3	30	
Naphthalene	0.0979	0.000484	"	0.166	<0.000484	58.9	30-130	3.5	30	
2-Methylnaphthalene	0.1	0.000645	"	0.166	<0.000645	60.2	30-130	6.7	30	
Surrogate: Nitrobenzene-d5	80.4		"	0.332	221	80.4	29-110			
Surrogate: 4-Terphenyl-d14	79.2		"	0.332	221	79.2	33-122			
Surrogate: 2-Fluorobiphenyl	63.2		"	0.332	170	63.2	33-115			

MS (L 81138-MS-L627122)		Source: 81138			Prepared: 07/18/2022 Analyzed: 07/18/2022					
Naphthalene	0.0945	0.000484	mg/Kg	0.167	<0.000484	56.5	30-130			
2-Methylnaphthalene	0.0935	0.000645	"	0.167	<0.000645	55.9	30-130			
1-Methylnaphthalene	0.0936	0.000364	"	0.167	<0.000364	56	30-130			
Surrogate: 4-Terphenyl-d14	74.7		"	0.333	221	74.7	33-122			
Surrogate: Nitrobenzene-d5	73.8		"	0.333	221	73.8	29-110			
Surrogate: 2-Fluorobiphenyl	55.2		"	0.333	170	55.2	33-115			

LCS (LCS-L627122)		Prepared: 07/18/2022 Analyzed: 07/18/2022								
1-Methylnaphthalene	0.102	0.000364	mg/Kg	0.167		61	30-130			
2-Methylnaphthalene	0.102	0.000645	"	0.167		61	30-130			
Naphthalene	0.103	0.000484	"	0.167		61.6	30-130			
Surrogate: 2-Fluorobiphenyl	68.4		"	0.333		68.4	33-115			
Surrogate: 4-Terphenyl-d14	86.1		"	0.333		86.1	33-122			
Surrogate: Nitrobenzene-d5	87		"	0.333		87	29-110			

LRB (LRB-L627122)		Prepared: 07/18/2022 Analyzed: 07/18/2022								
1-Methylnaphthalene	ND	0.00067	mg/Kg			-				
2-Methylnaphthalene	ND	0.00067	"			-				
Naphthalene	ND	0.00067	"			-				
Surrogate: Nitrobenzene-d5	84.3		"	0.333		84.3	29-110			

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.

Ensolum  
11049 W 44th Avenue, Suite 103  
Wheat Ridge CO 80033

Jeremy Espinoza  
Project Number: [none]  
Project: KMG - Bering UPRR 42-35 1 Wellhead

PAH by 8270D SIM - Quality Control  
Waypoint Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L627122 - 3550B

LRB (LRB-L627122)

Prepared: 07/18/2022 Analyzed: 07/18/2022

Surrogate: 2-Fluorobiphenyl	69.9		mg/Kg	0.333		69.9	33-115			
Surrogate: 4-Terphenyl-d14	83.1		"	0.333		83.1	33-122			

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.

Ensolum  
11049 W 44th Avenue, Suite 103  
Wheat Ridge CO 80033

Jeremy Espinoza  
Project Number: [none]  
Project: KMG - Bering UPRR 42-35 1 Wellhead

### Notes and Definitions

U Sample is Non-Detect.

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.

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 02, 2022

Ensolum

Jeremy Espinoza

11049 W 44th Avenue, Suite 103

Wheat Ridge CO 80033

**Project Name - KMG - Bering UPRR 42-35 1  
Wellhead**

**Project Number - [none]**

Attached are your analytical results for KMG - Bering UPRR 42-35 1 Wellhead received by Origins Laboratory, Inc. July 25, 2022. This project is associated with Origins project number Y207515-01.

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



Ensolum

11049 W 44th Avenue, Suite 103

Wheat Ridge CO 80033

Jeremy Espinoza

Project Number: [none]

Project: KMG - Bering UPRR 42-35 1 Wellhead

## CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
W02@4'	Y207515-01	Soil	July 25, 2022 11:45	07/25/2022 14:05
W03@4'	Y207515-02	Soil	July 25, 2022 11:53	07/25/2022 14:05
E02@4'	Y207515-03	Soil	July 25, 2022 12:15	07/25/2022 14:05

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.*





Ensolum

11049 W 44th Avenue, Suite 103

Wheat Ridge CO 80033

Jeremy Espinoza

Project Number: [none]

Project: KMG - Bering UPRR 42-35 1 Wellhead

Origins Laboratory

Sample Receipt Checklist

Origins Work Order: Y207515

Client: Ensolum

Client Project ID: Bering UPRR 42-35 1 Wellhead

Checklist Completed by: ME

Date/Time completed: 7/25/12

Shipped Via: Hb

Matrix(s) Received: (Check all that apply): Soil/Solid Water Other: (Describe)

Cooler Number/Temperature: 1 / 5.9 °C

Airbill #: 123

Thermometer ID: 1004

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C <sup>(1)</sup> ?		<u>1</u>		
Is there ice present (document if blue ice is used)	<u>X</u>			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		<u>1</u>		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		<u>1</u>		
Were all samples received intact <sup>(1)</sup> ?	<u>1</u>			
Was adequate sample volume provided <sup>(1)</sup> ?	<u>1</u>			
Are short holding time analytes or samples with HTs due within 48 hours present <sup>(1)</sup> ?		<u>1</u>		
Is a chain-of-custody (COC) present and filled out completely <sup>(1)</sup> ?	<u>X</u>			
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<u>1</u>			
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<u>1</u>			
Is the COC properly relinquished by the client with date and time recorded <sup>(1)</sup> ?	<u>1</u>			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.			<u>1</u>	
Are samples preserved that require preservation and was it checked <sup>(1)</sup> ? (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 <sub>3</sub> , HCL, H <sub>2</sub> SO <sub>4</sub> ) / (pH > 10 for samples preserved with NaAsO <sub>2</sub> +NaOH, ZnAc+NaOH)			<u>1</u>	
Additional Comments (if any):				

<sup>(1)</sup> 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: 7/25/12

Origins Laboratory, Inc.

[Signature]

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Ensolum  
11049 W 44th Avenue, Suite 103  
Wheat Ridge CO 80033

Jeremy Espinoza  
Project Number: [none]  
Project: KMG - Bering UPRR 42-35 1 Wellhead

W02@4'

7/25/2022 11:45:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y207515-01 (Soil)**

**BTEX+N+TMBs by 8260D**

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B2G2515	07/25/2022	07/25/2022	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	U
Benzene	ND	0.00200	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	104 %	70-130	"	"	"
Surrogate: Toluene-d8	92.5 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	99.0 %	70-130	"	"	"

**Metals by Saturated Paste by EPA 6010**

Calcium	2.16	0.499	meq/L	10	[CALC]	07/25/2022	07/26/2022
Magnesium	1.13	0.823	"	"	"	"	"
Sodium	3.90	0.435	"	"	"	"	"

**PAH by 8270D SIM**

1-Methylnaphthalene	ND	0.000364	0.00067	mg/Kg	1	L629046	07/28/2022	07/29/2022
2-Methylnaphthalene	ND	0.000645	0.00067	"	"	"	"	"
Naphthalene	ND	0.000484	0.00067	"	"	"	"	"

Surrogate: 2-Fluorobiphenyl	54.3 %	33-115	"	"	"
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Origins Laboratory, Inc.



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Ensolum  
11049 W 44th Avenue, Suite 103  
Wheat Ridge CO 80033

Jeremy Espinoza  
Project Number: [none]  
Project: KMG - Bering UPRR 42-35 1 Wellhead

W02@4'

7/25/2022 11:45:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Waypoint Analytical, Inc.**  
Y207515-01 (Soil)

**PAH by 8270D SIM**

Surrogate: 4-Terphenyl-d14	68.6 %	33-122	L6290 46	07/28/2022	07/29/2022
Surrogate: Nitrobenzene-d5	53.4 %	29-110	"	"	"

**pH in Soil by 9045D**

pH	7.91	pH Units	1	B2G2516	07/25/2022	07/26/2022
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**SAR by 20B Saturated Paste**

SAR	3.04	SAR	1	B2G2513	07/25/2022	07/26/2022
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Origins Laboratory, Inc.



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Ensolum  
11049 W 44th Avenue, Suite 103  
Wheat Ridge CO 80033

Jeremy Espinoza  
Project Number: [none]  
Project: KMG - Bering UPRR 42-35 1 Wellhead

W03@4'

7/25/2022 11:53:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y207515-02 (Soil)**

**BTEX+N+TMBs by 8260D**

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B2G2515	07/25/2022	07/25/2022	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	U
Benzene	ND	0.00200	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	106 %	70-130	"	"	"
Surrogate: Toluene-d8	89.2 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	99.5 %	70-130	"	"	"

**Metals by Saturated Paste by EPA 6010**

Calcium	1.72	0.499	meq/L	10	[CALC]	07/25/2022	07/26/2022
Magnesium	0.938	0.823	"	"	"	"	"
Sodium	2.52	0.435	"	"	"	"	"

**PAH by 8270D SIM**

1-Methylnaphthalene	ND	0.000364	0.00067	mg/Kg	1	L629046	07/28/2022	07/29/2022
2-Methylnaphthalene	ND	0.000645	0.00067	"	"	"	"	"
Naphthalene	ND	0.000484	0.00067	"	"	"	"	"

Surrogate: 2-Fluorobiphenyl	58.7 %	33-115	"	"	"
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Origins Laboratory, Inc.



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Ensolum  
11049 W 44th Avenue, Suite 103  
Wheat Ridge CO 80033

Jeremy Espinoza  
Project Number: [none]  
Project: KMG - Bering UPRR 42-35 1 Wellhead

W03@4'

7/25/2022 11:53:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Waypoint Analytical, Inc.**  
Y207515-02 (Soil)

**PAH by 8270D SIM**

Surrogate: 4-Terphenyl-d14	73.8 %	33-122	L6290 46	07/28/2022	07/29/2022
Surrogate: Nitrobenzene-d5	60.2 %	29-110	"	"	"

**pH in Soil by 9045D**

pH	8.04	pH Units	1	B2G2516	07/25/2022	07/26/2022
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**SAR by 20B Saturated Paste**

SAR	2.18	SAR	1	B2G2513	07/25/2022	07/26/2022
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Origins Laboratory, Inc.



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Ensolum  
11049 W 44th Avenue, Suite 103  
Wheat Ridge CO 80033

Jeremy Espinoza  
Project Number: [none]  
Project: KMG - Bering UPRR 42-35 1 Wellhead

E02@4'

7/25/2022 12:15:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y207515-03 (Soil)**

**BTEX+N+TMBs by 8260D**

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B2G2515	07/25/2022	07/25/2022	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	U
Benzene	ND	0.00200	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	107 %	70-130	"	"	"
Surrogate: Toluene-d8	94.7 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	93.5 %	70-130	"	"	"

**Metals by Saturated Paste by EPA 6010**

Calcium	1.02	0.499	meq/L	10	[CALC]	07/25/2022	07/26/2022
Magnesium	ND	0.823	"	"	"	"	"
Sodium	1.98	0.435	"	"	"	"	"

**PAH by 8270D SIM**

1-Methylnaphthalene	ND	0.000364	0.00067	mg/Kg	1	L629046	07/28/2022	07/29/2022
2-Methylnaphthalene	ND	0.000645	0.00067	"	"	"	"	"
Naphthalene	ND	0.000484	0.00067	"	"	"	"	"

Surrogate: 2-Fluorobiphenyl	64 %	33-115	"	"	"
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Origins Laboratory, Inc.



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Ensolum  
11049 W 44th Avenue, Suite 103  
Wheat Ridge CO 80033

Jeremy Espinoza  
Project Number: [none]  
Project: KMG - Bering UPRR 42-35 1 Wellhead

E02@4'

7/25/2022 12:15:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.  
Y207515-03 (Soil)

## PAH by 8270D SIM

Surrogate: 4-Terphenyl-d14	77.5 %	33-122	L6290 46	07/28/2022	07/29/2022
Surrogate: Nitrobenzene-d5	63.1 %	29-110	"	"	"

## pH in Soil by 9045D

pH	8.16	pH Units	1	B2G2516	07/25/2022	07/26/2022
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## SAR by 20B Saturated Paste

SAR	2.22	SAR	1	B2G2513	07/25/2022	07/26/2022
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Origins Laboratory, Inc.



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Ensolum  
11049 W 44th Avenue, Suite 103  
Wheat Ridge CO 80033

Jeremy Espinoza  
Project Number: [none]  
Project: KMG - Bering UPRR 42-35 1 Wellhead

**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
<b>Batch B2G2515 - EPA 5030 (soil)</b>										
<b>Blank (B2G2515-BLK1)</b>					Prepared: 07/25/2022 Analyzed: 07/25/2022					
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	0.0100	"							U
Toluene	ND	0.00200	"							U
Xylenes, total	ND	0.00200	"							U
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		103	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		93.9	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		96.9	70-130			

Origins Laboratory, Inc.



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Ensolum  
11049 W 44th Avenue, Suite 103  
Wheat Ridge CO 80033

Jeremy Espinoza  
Project Number: [none]  
Project: KMG - Bering UPRR 42-35 1 Wellhead

**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
<b>Batch B2G2515 - EPA 5030 (soil)</b>										
<b>LCS (B2G2515-BS1)</b>					Prepared: 07/25/2022 Analyzed: 07/25/2022					
1,2,4-Trimethylbenzene	0.109	0.00200	mg/kg	0.100		109	70-130			
1,3,5-Trimethylbenzene	0.111	0.00200	"	0.100		111	70-130			
Benzene	0.108	0.00200	"	0.100		108	70-130			
Ethylbenzene	0.108	0.00200	"	0.100		108	70-130			
m,p-Xylene	0.216	0.00400	"	0.200		108	70-130			
Naphthalene	0.105	0.0100	"	0.100		105	70-130			
o-Xylene	0.106	0.00200	"	0.100		106	70-130			
Toluene	0.0954	0.00200	"	0.100		95.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		98.5	70-130			
Surrogate: Toluene-d8	0.11		"	0.125		89.1	70-130			
Surrogate: 4-Bromofluorobenzene	0.14		"	0.125		111	70-130			

Origins Laboratory, Inc.



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Ensolum  
11049 W 44th Avenue, Suite 103  
Wheat Ridge CO 80033

Jeremy Espinoza  
Project Number: [none]  
Project: KMG - Bering UPRR 42-35 1 Wellhead

**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 B2G2515 - EPA 5030 (soil)**

Matrix Spike (B2G2515-MS1)		Source: Y207515-01			Prepared: 07/25/2022 Analyzed: 07/25/2022					
1,2,4-Trimethylbenzene	0.106	0.00200	mg/kg	0.100	ND	106	70-130			
1,3,5-Trimethylbenzene	0.108	0.00200	"	0.100	ND	108	70-130			
Benzene	0.109	0.00200	"	0.100	ND	109	70-130			
Ethylbenzene	0.106	0.00200	"	0.100	ND	106	70-130			
m,p-Xylene	0.212	0.00400	"	0.200	ND	106	70-130			
Naphthalene	0.102	0.0100	"	0.100	ND	102	70-130			
o-Xylene	0.106	0.00200	"	0.100	ND	106	70-130			
Toluene	0.0935	0.00200	"	0.100	ND	93.5	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		99.5	70-130			
Surrogate: Toluene-d8	0.11		"	0.125		86.9	70-130			
Surrogate: 4-Bromofluorobenzene	0.14		"	0.125		111	70-130			

Origins Laboratory, Inc.



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Ensolum  
11049 W 44th Avenue, Suite 103  
Wheat Ridge CO 80033

Jeremy Espinoza  
Project Number: [none]  
Project: KMG - Bering UPRR 42-35 1 Wellhead

**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 B2G2515 - EPA 5030 (soil)**

Matrix Spike Dup (B2G2515-MSD1)		Source: Y207515-01			Prepared: 07/25/2022 Analyzed: 07/25/2022					
1,2,4-Trimethylbenzene	0.0997	0.00200	mg/kg	0.100	ND	99.7	70-130	6.37	20	
1,3,5-Trimethylbenzene	0.102	0.00200	"	0.100	ND	102	70-130	6.12	20	
Benzene	0.0994	0.00200	"	0.100	ND	99.4	70-130	8.98	20	
Ethylbenzene	0.0978	0.00200	"	0.100	ND	97.8	70-130	7.97	20	
m,p-Xylene	0.196	0.00400	"	0.200	ND	98.1	70-130	7.70	20	
Naphthalene	0.0994	0.0100	"	0.100	ND	99.4	70-130	2.35	20	
o-Xylene	0.0992	0.00200	"	0.100	ND	99.2	70-130	6.27	20	
Toluene	0.0878	0.00200	"	0.100	ND	87.8	70-130	6.27	20	
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		99.9	70-130			
Surrogate: Toluene-d8	0.11		"	0.125		89.7	70-130			
Surrogate: 4-Bromofluorobenzene	0.14		"	0.125		110	70-130			

Origins Laboratory, Inc.



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Ensolum  
11049 W 44th Avenue, Suite 103  
Wheat Ridge CO 80033

Jeremy Espinoza  
Project Number: [none]  
Project: KMG - Bering UPRR 42-35 1 Wellhead

**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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**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 B2G2516 - NO PREP**

**Blank (B2G2516-BLK1)**

Prepared: 07/25/2022 Analyzed: 07/26/2022

pH 0.00 pH Units

**Duplicate (B2G2516-DUP1)**

Source: Y207493-01

Prepared: 07/25/2022 Analyzed: 07/26/2022

pH 8.11 pH Units 8.17 0.737 25

Origins Laboratory, Inc.



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Ensolum  
11049 W 44th Avenue, Suite 103  
Wheat Ridge CO 80033

Jeremy Espinoza  
Project Number: [none]  
Project: KMG - Bering UPRR 42-35 1 Wellhead

**PAH by 8270D SIM - Quality Control**  
**Waypoint Analytical, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch L629046 - 3550B**

MSD (L 91246-MSD-L629046)		Source: 91246			Prepared: 07/28/2022 Analyzed: 07/29/2022					
1-Methylnaphthalene	0.0835	0.00182	mg/Kg	0.162	0.0144	42.6	30-130	5.9	30	
2-Methylnaphthalene	0.0709	0.00323	"	0.162	<0.00323	43.7	30-130	10.4	30	
Naphthalene	0.0689	0.00242	"	0.162	<0.00242	42.5	30-130	11.1	30	
Surrogate: Nitrobenzene-d5	42.4		"	0.325	139	42.4	29-110			
Surrogate: 2-Fluorobiphenyl	41.2		"	0.325	145	41.2	33-115			
Surrogate: 4-Terphenyl-d14	57.2		"	0.325	200	57.2	33-122			

MS (L 91246-MS-L629046)		Source: 91246			Prepared: 07/28/2022 Analyzed: 07/29/2022					
1-Methylnaphthalene	0.0886	0.00182	mg/Kg	0.167	0.0144	44.4	30-130			
2-Methylnaphthalene	0.0787	0.00323	"	0.167	<0.00323	47.1	30-130			
Naphthalene	0.077	0.00242	"	0.167	<0.00242	46.1	30-130			
Surrogate: Nitrobenzene-d5	48.3		"	0.333	139	48.3	29-110			
Surrogate: 2-Fluorobiphenyl	48.3		"	0.333	145	48.3	33-115			
Surrogate: 4-Terphenyl-d14	68.7		"	0.333	200	68.7	33-122			

LCS (LCS-L629046)		Prepared: 07/28/2022 Analyzed: 07/29/2022								
1-Methylnaphthalene	0.0978	0.000364	mg/Kg	0.167		58.5	30-130			
2-Methylnaphthalene	0.0972	0.000645	"	0.167		58.2	30-130			
Naphthalene	0.0952	0.000484	"	0.167		57	30-130			
Surrogate: 2-Fluorobiphenyl	70.2		"	0.333		70.2	33-115			
Surrogate: 4-Terphenyl-d14	80.1		"	0.333		80.1	33-122			
Surrogate: Nitrobenzene-d5	67.5		"	0.333		67.5	29-110			

LRB (LRB-L629046)		Prepared: 07/28/2022 Analyzed: 07/29/2022								
1-Methylnaphthalene	ND	0.00067	mg/Kg			-				
2-Methylnaphthalene	ND	0.00067	"			-				
Naphthalene	ND	0.00067	"			-				
Surrogate: 2-Fluorobiphenyl	65.4		"	0.333		65.4	33-115			

Origins Laboratory, Inc.



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Ensolum  
11049 W 44th Avenue, Suite 103  
Wheat Ridge CO 80033

Jeremy Espinoza  
Project Number: [none]  
Project: KMG - Bering UPRR 42-35 1 Wellhead

PAH by 8270D SIM - Quality Control  
Waypoint Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L629046 - 3550B

LRB (LRB-L629046)

Prepared: 07/28/2022 Analyzed: 07/29/2022

Surrogate: 4-Terphenyl-d14	72.3		mg/Kg	0.333		72.3	33-122			
Surrogate: Nitrobenzene-d5	65.4		"	0.333		65.4	29-110			

Origins Laboratory, Inc.



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Ensolum

11049 W 44th Avenue, Suite 103

Wheat Ridge CO 80033

Jeremy Espinoza

Project Number: [none]

Project: KMG - Bering UPRR 42-35 1 Wellhead

### Notes and Definitions

U Sample is Non-Detect.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported on 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.*