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30 July 2021

Jake Harter
Cottonwood Consulting
PO Box 1653
Durango, CO 81302
RE: COGCC Table 915-1

Enclosed are the results of analyses for samples received by the laboratory on 07/20/21 14:15. The data to follow was performed, in whole or in part, by a subcontract laboratory with an additional report attached.

If you need any further assistance, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads 'Debbie Zufelt'. The script is cursive and fluid, with the first name 'Debbie' and last name 'Zufelt' clearly legible.

Debbie Zufelt
Reports Manager

All accredited analytes contained in this report are denoted by an asterisk (*). For a complete list of accredited analytes please do not hesitate to contact us via any of the contact information contained in this report. All of our certifications can be viewed at <http://greenanalytical.com/certifications/>

Green Analytical Laboratories is NELAP accredited through the Texas Commission on Environmental Quality. Accreditation applies to drinking water and non-potable water matrices for trace metals and a variety of inorganic parameters. Green Analytical Laboratories is also accredited through the Colorado Department of Public Health and Environment and EPA region 8 for trace metals, Cyanide, Fluoride, Nitrate, and Nitrite in drinking water.

Our affiliate laboratory, Cardinal Laboratories, is also NELAP accredited through the Texas Commission on Environmental Quality for a variety of organic constituents in drinking water, non-potable water and solid matrices. Cardinal is also accredited for regulated VOCs, TTHM, and HAA-5 in drinking water through the Colorado Department of Public Health and Environment and EPA region 8.



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Cottonwood Consulting
PO Box 1653
Durango CO, 81302

Project: COGCC Table 915-1
Project Name / Number: Haun-Delaney (OWP) #1
Project Manager: Jake Harter

Reported:
07/30/21 16:11

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Notes
SS01	2107210-01	Solid	07/20/21 10:15	07/20/21 14:15	
SS02	2107210-02	Solid	07/20/21 10:35	07/20/21 14:15	
SS03	2107210-03	Solid	07/20/21 10:50	07/20/21 14:15	
SS04	2107210-04	Solid	07/20/21 11:10	07/20/21 14:15	

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Debbie Zufelt, Reports Manager

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Cottonwood Consulting
PO Box 1653
Durango CO, 81302

Project: COGCC Table 915-1
Project Name / Number: Haun-Delaney (OWP) #1
Project Manager: Jake Harter

Reported:
07/30/21 16:11

SS01**2107210-01 (Soil)**

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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Saturated Paste Extraction

Calcium	143	0.500	0.289	mg/L	5	07/29/21 16:39	EPA200.7		AES
Conductivity	2490			umho/cm @ 25.0°C	1	07/29/21 16:34	ASA#9 10-3.3		JDA
Magnesium	16.6	0.500	0.327	mg/L	5	07/29/21 16:39	EPA200.7		AES
pH	9.83			pH Units	1	07/29/21 16:36	ASA#9 10-3.2		JDA
SAR	6.44			No Unit	1	07/29/21 16:39	Calculation		AES
Sodium	305	5.00	0.396	mg/L	5	07/29/21 16:39	EPA200.7		AES

Total Metals by ICP

Barium	319	5.00	0.390	mg/kg dry	100	07/29/21 14:39	6010B		AES
Cadmium	<5.00	5.00	1.10	mg/kg dry	100	07/29/21 14:39	6010B		AES
Chromium	12.5	5.00	0.400	mg/kg dry	100	07/29/21 14:39	6010B		AES
Copper	16.1	5.00	2.39	mg/kg dry	100	07/29/21 14:39	6010B		AES
Lead	<10.0	10.0	0.906	mg/kg dry	100	07/29/21 14:39	6010B		AES
Nickel	8.45	5.00	0.874	mg/kg dry	100	07/29/21 14:39	6010B		AES
Selenium	<20.0	20.0	4.70	mg/kg dry	100	07/29/21 14:38	6010B		AES
Silver	<1.00	1.00	0.688	mg/kg dry	100	07/29/21 14:38	6010B		AES
Zinc	27.7	10.0	1.71	mg/kg dry	100	07/29/21 14:39	6010B		AES

Total Metals by ICPMS

Arsenic	5.65	1.00	0.0950	mg/kg dry	1000	07/29/21 13:10	6020A		AES
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Hot Water Extractable

Boron	<1.20	1.20	0.568	mg/L	4	07/29/21 17:00	EPA200.7		AES
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Subcontracted -- Cardinal Laboratories**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0	10.0	6.25	mg/kg	1	07/25/21 11:20	8015B		MS
DRO >C10-C28*	18.3	10.0	4.26	mg/kg	1	07/25/21 11:20	8015B		MS
EXT DRO >C28-C36	<10.0	10.0	4.26	mg/kg	1	07/25/21 11:20	8015B		MS

Surrogate: 1-Chlorooctane	102 %	44.3-133	07/25/21 11:20	8015B	MS
Surrogate: 1-Chlorooctadecane	94.9 %	38.9-142	07/25/21 11:20	8015B	MS

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Project: COGCC Table 915-1
Project Name / Number: Haun-Delaney (OWP) #1
Project Manager: Jake Harter

Reported:
07/30/21 16:11

SS01

2107210-01 (Soil)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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Subcontracted -- Cardinal Laboratories

VOLATILES BY GC/MS

Benzene*	<0.0250	0.0250	0.00885	mg/kg	50	07/21/21 13:56	8260B		MS
Toluene*	<0.0250	0.0250	0.00670	mg/kg	50	07/21/21 13:56	8260B		MS
Ethylbenzene*	<0.0250	0.0250	0.00405	mg/kg	50	07/21/21 13:56	8260B		MS
m+p - Xylene*	<0.0500	0.0500	0.0186	mg/kg	50	07/21/21 13:56	8260B		MS
o-Xylene*	<0.0250	0.0250	0.00700	mg/kg	50	07/21/21 13:56	8260B		MS
Total Xylenes*	<0.0750	0.0750	0.0250	mg/kg	50	07/21/21 13:56	8260B		MS
1,3,5-Trimethylbenzene	<0.0250	0.0250	0.00450	mg/kg	50	07/21/21 13:56	8260B		MS
1,2,4-Trimethylbenzene	<0.0250	0.0250	0.00650	mg/kg	50	07/21/21 13:56	8260B		MS
Naphthalene*	<0.0250	0.0250	0.00500	mg/kg	50	07/21/21 13:56	8260B		MS

Surrogate: Dibromofluoromethane 101 % 84.6-114 07/21/21 13:56 8260B MS

Surrogate: Toluene-d8 98.6 % 90.4-109 07/21/21 13:56 8260B MS

Surrogate: 4-Bromofluorobenzene 94.6 % 82.5-117 07/21/21 13:56 8260B MS

Polynuclear Aromatic Compounds by GC/MS

Naphthalene*	<0.015	0.040	0.015	mg/kg	40	07/23/21 17:03	8270C		MS
2-Methylnaphthalene*	<0.023	0.040	0.023	mg/kg	40	07/23/21 17:03	8270C		MS
1-Methylnaphthalene	<0.016	0.040	0.016	mg/kg	40	07/23/21 17:03	8270C		MS
Acenaphthylene*	<0.020	0.040	0.020	mg/kg	40	07/23/21 17:03	8270C		MS
Acenaphthene*	<0.024	0.040	0.024	mg/kg	40	07/23/21 17:03	8270C		MS
Fluorene*	<0.014	0.040	0.014	mg/kg	40	07/23/21 17:03	8270C		MS
Phenanthrene*	<0.021	0.040	0.021	mg/kg	40	07/23/21 17:03	8270C		MS
Anthracene*	<0.017	0.040	0.017	mg/kg	40	07/23/21 17:03	8270C		MS
Carbazole*	<0.019	0.040	0.019	mg/kg	40	07/23/21 17:03	8270C		MS
Fluoranthene*	<0.019	0.040	0.019	mg/kg	40	07/23/21 17:03	8270C		MS
Pyrene*	<0.013	0.040	0.013	mg/kg	40	07/23/21 17:03	8270C		MS
Benzo[a]anthracene*	<0.023	0.040	0.023	mg/kg	40	07/23/21 17:03	8270C		MS
Chrysene*	<0.017	0.040	0.017	mg/kg	40	07/23/21 17:03	8270C		MS
Benzo[b]fluoranthene*	<0.019	0.040	0.019	mg/kg	40	07/23/21 17:03	8270C		MS
Benzo[k]fluoranthene*	<0.016	0.040	0.016	mg/kg	40	07/23/21 17:03	8270C		MS
Benzo[a]pyrene*	<0.018	0.040	0.018	mg/kg	40	07/23/21 17:03	8270C		MS

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Debbie Zufelt

Debbie Zufelt, Reports Manager

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Durango CO, 81302

Project: COGCC Table 915-1
Project Name / Number: Haun-Delaney (OWP) #1
Project Manager: Jake Harter

Reported:
07/30/21 16:11

SS01

2107210-01 (Soil)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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Subcontracted -- Cardinal Laboratories

Polynuclear Aromatic Compounds by GC/MS

Indeno[1,2,3-cd]pyrene*	<0.017	0.040	0.017	mg/kg	40	07/23/21 17:03	8270C		MS
Dibenz[a,h]anthracene*	<0.019	0.040	0.019	mg/kg	40	07/23/21 17:03	8270C		MS
Benzo[g,h,i]perylene*	<0.019	0.040	0.019	mg/kg	40	07/23/21 17:03	8270C		MS
Surrogate: Nitrobenzene-d5			79.8 %	39.6-121		07/23/21 17:03	8270C		MS
Surrogate: 2-Fluorobiphenyl			80.5 %	39.8-134		07/23/21 17:03	8270C		MS
Surrogate: Terphenyl-d14			83.4 %	33.3-136		07/23/21 17:03	8270C		MS

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Durango CO, 81302

Project: COGCC Table 915-1
Project Name / Number: Haun-Delaney (OWP) #1
Project Manager: Jake Harter

Reported:
07/30/21 16:11

SS02**2107210-02 (Soil)**

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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Saturated Paste Extraction

Calcium	89.0	0.100	0.058	mg/L	1	07/29/21 16:41	EPA200.7		AES
Conductivity	930			umho/cm @ 25.0°C	1	07/29/21 16:34	ASA#9 10-3.3		JDA
Magnesium	35.7	0.100	0.065	mg/L	1	07/29/21 16:41	EPA200.7		AES
pH	7.90			pH Units	1	07/29/21 16:36	ASA#9 10-3.2		JDA
SAR	0.67			No Unit	1	07/29/21 16:41	Calculation		AES
Sodium	29.6	1.00	0.079	mg/L	1	07/29/21 16:41	EPA200.7		AES

Total Metals by ICP

Barium	209	5.00	0.390	mg/kg dry	100	07/29/21 14:46	6010B		AES
Cadmium	<5.00	5.00	1.10	mg/kg dry	100	07/29/21 14:46	6010B		AES
Chromium	11.9	5.00	0.400	mg/kg dry	100	07/29/21 14:46	6010B		AES
Copper	15.0	5.00	2.39	mg/kg dry	100	07/29/21 14:46	6010B		AES
Lead	<10.0	10.0	0.906	mg/kg dry	100	07/29/21 14:46	6010B		AES
Nickel	8.94	5.00	0.874	mg/kg dry	100	07/29/21 14:46	6010B		AES
Selenium	<20.0	20.0	4.70	mg/kg dry	100	07/29/21 14:46	6010B		AES
Silver	<1.00	1.00	0.688	mg/kg dry	100	07/29/21 14:46	6010B		AES
Zinc	29.7	10.0	1.71	mg/kg dry	100	07/29/21 14:46	6010B		AES

Total Metals by ICPMS

Arsenic	4.40	1.00	0.0950	mg/kg dry	1000	07/29/21 13:13	6020A		AES
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Hot Water Extractable

Boron	<1.20	1.20	0.568	mg/L	4	07/29/21 17:02	EPA200.7		AES
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Subcontracted -- Cardinal Laboratories**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0	10.0	6.25	mg/kg	1	07/25/21 11:35	8015B		MS
DRO >C10-C28*	<10.0	10.0	4.26	mg/kg	1	07/25/21 11:35	8015B		MS
EXT DRO >C28-C36	<10.0	10.0	4.26	mg/kg	1	07/25/21 11:35	8015B		MS

Surrogate: 1-Chlorooctane	88.9 %	44.3-133	07/25/21 11:35	8015B	MS
Surrogate: 1-Chlorooctadecane	81.1 %	38.9-142	07/25/21 11:35	8015B	MS

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Debbie Zufelt, Reports Manager

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Durango CO, 81302

Project: COGCC Table 915-1
Project Name / Number: Haun-Delaney (OWP) #1
Project Manager: Jake Harter

Reported:
07/30/21 16:11

SS02

2107210-02 (Soil)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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Subcontracted -- Cardinal Laboratories

VOLATILES BY GC/MS

Benzene*	<0.0250	0.0250	0.00885	mg/kg	50	07/21/21 14:19	8260B		MS
Toluene*	<0.0250	0.0250	0.00670	mg/kg	50	07/21/21 14:19	8260B		MS
Ethylbenzene*	<0.0250	0.0250	0.00405	mg/kg	50	07/21/21 14:19	8260B		MS
m+p - Xylene*	<0.0500	0.0500	0.0186	mg/kg	50	07/21/21 14:19	8260B		MS
o-Xylene*	<0.0250	0.0250	0.00700	mg/kg	50	07/21/21 14:19	8260B		MS
Total Xylenes*	<0.0750	0.0750	0.0250	mg/kg	50	07/21/21 14:19	8260B		MS
1,3,5-Trimethylbenzene	<0.0250	0.0250	0.00450	mg/kg	50	07/21/21 14:19	8260B		MS
1,2,4-Trimethylbenzene	<0.0250	0.0250	0.00650	mg/kg	50	07/21/21 14:19	8260B		MS
Naphthalene*	<0.0250	0.0250	0.00500	mg/kg	50	07/21/21 14:19	8260B		MS

Surrogate: Dibromofluoromethane 101 % 84.6-114 07/21/21 14:19 8260B MS

Surrogate: Toluene-d8 97.0 % 90.4-109 07/21/21 14:19 8260B MS

Surrogate: 4-Bromofluorobenzene 95.2 % 82.5-117 07/21/21 14:19 8260B MS

Polynuclear Aromatic Compounds by GC/MS

Naphthalene*	<0.015	0.040	0.015	mg/kg	40	07/23/21 17:32	8270C		MS
2-Methylnaphthalene*	<0.023	0.040	0.023	mg/kg	40	07/23/21 17:32	8270C		MS
1-Methylnaphthalene	<0.016	0.040	0.016	mg/kg	40	07/23/21 17:32	8270C		MS
Acenaphthylene*	<0.020	0.040	0.020	mg/kg	40	07/23/21 17:32	8270C		MS
Acenaphthene*	<0.024	0.040	0.024	mg/kg	40	07/23/21 17:32	8270C		MS
Fluorene*	<0.014	0.040	0.014	mg/kg	40	07/23/21 17:32	8270C		MS
Phenanthrene*	<0.021	0.040	0.021	mg/kg	40	07/23/21 17:32	8270C		MS
Anthracene*	<0.017	0.040	0.017	mg/kg	40	07/23/21 17:32	8270C		MS
Carbazole*	<0.019	0.040	0.019	mg/kg	40	07/23/21 17:32	8270C		MS
Fluoranthene*	<0.019	0.040	0.019	mg/kg	40	07/23/21 17:32	8270C		MS
Pyrene*	<0.013	0.040	0.013	mg/kg	40	07/23/21 17:32	8270C		MS
Benzo[a]anthracene*	<0.023	0.040	0.023	mg/kg	40	07/23/21 17:32	8270C		MS
Chrysene*	<0.017	0.040	0.017	mg/kg	40	07/23/21 17:32	8270C		MS
Benzo[b]fluoranthene*	<0.019	0.040	0.019	mg/kg	40	07/23/21 17:32	8270C		MS
Benzo[k]fluoranthene*	<0.016	0.040	0.016	mg/kg	40	07/23/21 17:32	8270C		MS
Benzo[a]pyrene*	<0.018	0.040	0.018	mg/kg	40	07/23/21 17:32	8270C		MS

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Debbie Zufelt, Reports Manager

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Project: COGCC Table 915-1
Project Name / Number: Haun-Delaney (OWP) #1
Project Manager: Jake Harter

Reported:
07/30/21 16:11

SS02

2107210-02 (Soil)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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Subcontracted -- Cardinal Laboratories

Polynuclear Aromatic Compounds by GC/MS

Indeno[1,2,3-cd]pyrene*	<0.017	0.040	0.017	mg/kg	40	07/23/21 17:32	8270C		MS
Dibenz[a,h]anthracene*	<0.019	0.040	0.019	mg/kg	40	07/23/21 17:32	8270C		MS
Benzo[g,h,i]perylene*	<0.019	0.040	0.019	mg/kg	40	07/23/21 17:32	8270C		MS
Surrogate: Nitrobenzene-d5			74.4 %	39.6-121		07/23/21 17:32	8270C		MS
Surrogate: 2-Fluorobiphenyl			77.0 %	39.8-134		07/23/21 17:32	8270C		MS
Surrogate: Terphenyl-d14			77.3 %	33.3-136		07/23/21 17:32	8270C		MS

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Project: COGCC Table 915-1
Project Name / Number: Haun-Delaney (OWP) #1
Project Manager: Jake Harter

Reported:
07/30/21 16:11

SS03

2107210-03 (Soil)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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Saturated Paste Extraction

Calcium	112	0.100	0.058	mg/L	1	07/29/21 16:43	EPA200.7		AES
Conductivity	840			umho/cm @ 25.0°C	1	07/29/21 16:34	ASA#9 10-3.3		JDA
Magnesium	23.7	0.100	0.065	mg/L	1	07/29/21 16:43	EPA200.7		AES
pH	7.60			pH Units	1	07/29/21 16:36	ASA#9 10-3.2		JDA
SAR	0.28			No Unit	1	07/29/21 16:43	Calculation		AES
Sodium	12.7	1.00	0.079	mg/L	1	07/29/21 16:43	EPA200.7		AES

Total Metals by ICP

Barium	229	5.00	0.390	mg/kg dry	100	07/29/21 14:50	6010B		AES
Cadmium	<5.00	5.00	1.10	mg/kg dry	100	07/29/21 14:50	6010B		AES
Chromium	14.0	5.00	0.400	mg/kg dry	100	07/29/21 14:50	6010B		AES
Copper	17.6	5.00	2.39	mg/kg dry	100	07/29/21 14:50	6010B		AES
Lead	<10.0	10.0	0.906	mg/kg dry	100	07/29/21 14:50	6010B		AES
Nickel	11.9	5.00	0.874	mg/kg dry	100	07/29/21 14:50	6010B		AES
Selenium	<20.0	20.0	4.70	mg/kg dry	100	07/29/21 14:50	6010B		AES
Silver	<1.00	1.00	0.688	mg/kg dry	100	07/29/21 14:50	6010B		AES
Zinc	34.4	10.0	1.71	mg/kg dry	100	07/29/21 14:50	6010B		AES

Total Metals by ICPMS

Arsenic	5.47	1.00	0.0950	mg/kg dry	1000	07/29/21 13:17	6020A		AES
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Hot Water Extractable

Boron	<1.20	1.20	0.568	mg/L	4	07/29/21 17:03	EPA200.7		AES
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Subcontracted -- Cardinal Laboratories

Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0	10.0	6.25	mg/kg	1	07/25/21 11:50	8015B		MS
DRO >C10-C28*	10.8	10.0	4.26	mg/kg	1	07/25/21 11:50	8015B		MS
EXT DRO >C28-C36	<10.0	10.0	4.26	mg/kg	1	07/25/21 11:50	8015B		MS

Surrogate: 1-Chlorooctane	99.4 %	44.3-133	07/25/21 11:50	8015B	MS
Surrogate: 1-Chlorooctadecane	91.9 %	38.9-142	07/25/21 11:50	8015B	MS

Green Analytical Laboratories

Debbie Zufelt

Debbie Zufelt, Reports Manager

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Cottonwood Consulting
PO Box 1653
Durango CO, 81302

Project: COGCC Table 915-1
Project Name / Number: Haun-Delaney (OWP) #1
Project Manager: Jake Harter

Reported:
07/30/21 16:11

SS03

2107210-03 (Soil)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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Subcontracted -- Cardinal Laboratories

VOLATILES BY GC/MS

Benzene*	<0.0250	0.0250	0.00885	mg/kg	50	07/21/21 14:42	8260B		MS
Toluene*	<0.0250	0.0250	0.00670	mg/kg	50	07/21/21 14:42	8260B		MS
Ethylbenzene*	<0.0250	0.0250	0.00405	mg/kg	50	07/21/21 14:42	8260B		MS
m+p - Xylene*	<0.0500	0.0500	0.0186	mg/kg	50	07/21/21 14:42	8260B		MS
o-Xylene*	<0.0250	0.0250	0.00700	mg/kg	50	07/21/21 14:42	8260B		MS
Total Xylenes*	<0.0750	0.0750	0.0250	mg/kg	50	07/21/21 14:42	8260B		MS
1,3,5-Trimethylbenzene	<0.0250	0.0250	0.00450	mg/kg	50	07/21/21 14:42	8260B		MS
1,2,4-Trimethylbenzene	<0.0250	0.0250	0.00650	mg/kg	50	07/21/21 14:42	8260B		MS
Naphthalene*	<0.0250	0.0250	0.00500	mg/kg	50	07/21/21 14:42	8260B		MS

Surrogate: Dibromofluoromethane 103 % 84.6-114 07/21/21 14:42 8260B MS

Surrogate: Toluene-d8 98.2 % 90.4-109 07/21/21 14:42 8260B MS

Surrogate: 4-Bromofluorobenzene 94.3 % 82.5-117 07/21/21 14:42 8260B MS

Polynuclear Aromatic Compounds by GC/MS

Naphthalene*	<0.015	0.040	0.015	mg/kg	40	07/23/21 18:01	8270C		MS
2-Methylnaphthalene*	<0.023	0.040	0.023	mg/kg	40	07/23/21 18:01	8270C		MS
1-Methylnaphthalene	<0.016	0.040	0.016	mg/kg	40	07/23/21 18:01	8270C		MS
Acenaphthylene*	<0.020	0.040	0.020	mg/kg	40	07/23/21 18:01	8270C		MS
Acenaphthene*	<0.024	0.040	0.024	mg/kg	40	07/23/21 18:01	8270C		MS
Fluorene*	<0.014	0.040	0.014	mg/kg	40	07/23/21 18:01	8270C		MS
Phenanthrene*	<0.021	0.040	0.021	mg/kg	40	07/23/21 18:01	8270C		MS
Anthracene*	<0.017	0.040	0.017	mg/kg	40	07/23/21 18:01	8270C		MS
Carbazole*	<0.019	0.040	0.019	mg/kg	40	07/23/21 18:01	8270C		MS
Fluoranthene*	<0.019	0.040	0.019	mg/kg	40	07/23/21 18:01	8270C		MS
Pyrene*	<0.013	0.040	0.013	mg/kg	40	07/23/21 18:01	8270C		MS
Benzo[a]anthracene*	<0.023	0.040	0.023	mg/kg	40	07/23/21 18:01	8270C		MS
Chrysene*	<0.017	0.040	0.017	mg/kg	40	07/23/21 18:01	8270C		MS
Benzo[b]fluoranthene*	<0.019	0.040	0.019	mg/kg	40	07/23/21 18:01	8270C		MS
Benzo[k]fluoranthene*	<0.016	0.040	0.016	mg/kg	40	07/23/21 18:01	8270C		MS
Benzo[a]pyrene*	<0.018	0.040	0.018	mg/kg	40	07/23/21 18:01	8270C		MS

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Debbie Zufelt, Reports Manager

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Cottonwood Consulting
PO Box 1653
Durango CO, 81302

Project: COGCC Table 915-1
Project Name / Number: Haun-Delaney (OWP) #1
Project Manager: Jake Harter

Reported:
07/30/21 16:11

SS03

2107210-03 (Soil)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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Subcontracted -- Cardinal Laboratories

Polynuclear Aromatic Compounds by GC/MS

Indeno[1,2,3-cd]pyrene*	<0.017	0.040	0.017	mg/kg	40	07/23/21 18:01	8270C		MS
Dibenz[a,h]anthracene*	<0.019	0.040	0.019	mg/kg	40	07/23/21 18:01	8270C		MS
Benzo[g,h,i]perylene*	<0.019	0.040	0.019	mg/kg	40	07/23/21 18:01	8270C		MS
Surrogate: Nitrobenzene-d5			78.6 %	39.6-121		07/23/21 18:01	8270C		MS
Surrogate: 2-Fluorobiphenyl			80.4 %	39.8-134		07/23/21 18:01	8270C		MS
Surrogate: Terphenyl-d14			85.0 %	33.3-136		07/23/21 18:01	8270C		MS

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Cottonwood Consulting
PO Box 1653
Durango CO, 81302

Project: COGCC Table 915-1
Project Name / Number: Haun-Delaney (OWP) #1
Project Manager: Jake Harter

Reported:
07/30/21 16:11

SS04**2107210-04 (Soil)**

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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Saturated Paste Extraction

Calcium	109	0.200	0.116	mg/L	2	07/29/21 16:45	EPA200.7		AES
Conductivity	1760			umho/cm @ 25.0°C	1	07/29/21 16:34	ASA#9 10-3.3		JDA
Magnesium	24.1	0.200	0.131	mg/L	2	07/29/21 16:45	EPA200.7		AES
pH	7.06			pH Units	1	07/29/21 16:36	ASA#9 10-3.2		JDA
SAR	0.41			No Unit	1	07/29/21 16:45	Calculation		AES
Sodium	18.0	2.00	0.159	mg/L	2	07/29/21 16:45	EPA200.7		AES

Total Metals by ICP

Barium	186	5.00	0.390	mg/kg dry	100	07/29/21 14:54	6010B		AES
Cadmium	<5.00	5.00	1.10	mg/kg dry	100	07/29/21 14:54	6010B		AES
Chromium	12.0	5.00	0.400	mg/kg dry	100	07/29/21 14:54	6010B		AES
Copper	22.4	5.00	2.39	mg/kg dry	100	07/29/21 14:54	6010B		AES
Lead	11.6	10.0	0.906	mg/kg dry	100	07/29/21 14:54	6010B		AES
Nickel	10.0	5.00	0.874	mg/kg dry	100	07/29/21 14:54	6010B		AES
Selenium	<20.0	20.0	4.70	mg/kg dry	100	07/29/21 14:53	6010B		AES
Silver	<1.00	1.00	0.688	mg/kg dry	100	07/29/21 14:53	6010B		AES
Zinc	44.7	10.0	1.71	mg/kg dry	100	07/29/21 14:54	6010B		AES

Total Metals by ICPMS

Arsenic	4.82	1.00	0.0950	mg/kg dry	1000	07/29/21 13:27	6020A		AES
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Hot Water Extractable

Boron	1.59	1.20	0.568	mg/L	4	07/29/21 17:05	EPA200.7		AES
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Subcontracted -- Cardinal Laboratories**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0	10.0	6.25	mg/kg	1	07/25/21 12:05	8015B		MS
DRO >C10-C28*	<10.0	10.0	4.26	mg/kg	1	07/25/21 12:05	8015B		MS
EXT DRO >C28-C36	<10.0	10.0	4.26	mg/kg	1	07/25/21 12:05	8015B		MS

Surrogate: 1-Chlorooctane	95.3 %	44.3-133	07/25/21 12:05	8015B	MS
Surrogate: 1-Chlorooctadecane	87.8 %	38.9-142	07/25/21 12:05	8015B	MS

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Debbie Zufelt, Reports Manager

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Cottonwood Consulting
PO Box 1653
Durango CO, 81302

Project: COGCC Table 915-1
Project Name / Number: Haun-Delaney (OWP) #1
Project Manager: Jake Harter

Reported:
07/30/21 16:11

SS04

2107210-04 (Soil)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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Subcontracted -- Cardinal Laboratories

VOLATILES BY GC/MS

Benzene*	<0.0250	0.0250	0.00885	mg/kg	50	07/21/21 15:05	8260B		MS
Toluene*	<0.0250	0.0250	0.00670	mg/kg	50	07/21/21 15:05	8260B		MS
Ethylbenzene*	<0.0250	0.0250	0.00405	mg/kg	50	07/21/21 15:05	8260B		MS
m+p - Xylene*	<0.0500	0.0500	0.0186	mg/kg	50	07/21/21 15:05	8260B		MS
o-Xylene*	<0.0250	0.0250	0.00700	mg/kg	50	07/21/21 15:05	8260B		MS
Total Xylenes*	<0.0750	0.0750	0.0250	mg/kg	50	07/21/21 15:05	8260B		MS
1,3,5-Trimethylbenzene	<0.0250	0.0250	0.00450	mg/kg	50	07/21/21 15:05	8260B		MS
1,2,4-Trimethylbenzene	<0.0250	0.0250	0.00650	mg/kg	50	07/21/21 15:05	8260B		MS
Naphthalene*	<0.0250	0.0250	0.00500	mg/kg	50	07/21/21 15:05	8260B		MS

Surrogate: Dibromofluoromethane 105 % 84.6-114 07/21/21 15:05 8260B MS

Surrogate: Toluene-d8 97.4 % 90.4-109 07/21/21 15:05 8260B MS

Surrogate: 4-Bromofluorobenzene 94.9 % 82.5-117 07/21/21 15:05 8260B MS

Polynuclear Aromatic Compounds by GC/MS

Naphthalene*	<0.015	0.040	0.015	mg/kg	40	07/23/21 18:31	8270C		MS
2-Methylnaphthalene*	<0.023	0.040	0.023	mg/kg	40	07/23/21 18:31	8270C		MS
1-Methylnaphthalene	<0.016	0.040	0.016	mg/kg	40	07/23/21 18:31	8270C		MS
Acenaphthylene*	<0.020	0.040	0.020	mg/kg	40	07/23/21 18:31	8270C		MS
Acenaphthene*	<0.024	0.040	0.024	mg/kg	40	07/23/21 18:31	8270C		MS
Fluorene*	<0.014	0.040	0.014	mg/kg	40	07/23/21 18:31	8270C		MS
Phenanthrene*	<0.021	0.040	0.021	mg/kg	40	07/23/21 18:31	8270C		MS
Anthracene*	<0.017	0.040	0.017	mg/kg	40	07/23/21 18:31	8270C		MS
Carbazole*	<0.019	0.040	0.019	mg/kg	40	07/23/21 18:31	8270C		MS
Fluoranthene*	<0.019	0.040	0.019	mg/kg	40	07/23/21 18:31	8270C		MS
Pyrene*	<0.013	0.040	0.013	mg/kg	40	07/23/21 18:31	8270C		MS
Benzo[a]anthracene*	<0.023	0.040	0.023	mg/kg	40	07/23/21 18:31	8270C		MS
Chrysene*	<0.017	0.040	0.017	mg/kg	40	07/23/21 18:31	8270C		MS
Benzo[b]fluoranthene*	<0.019	0.040	0.019	mg/kg	40	07/23/21 18:31	8270C		MS
Benzo[k]fluoranthene*	<0.016	0.040	0.016	mg/kg	40	07/23/21 18:31	8270C		MS
Benzo[a]pyrene*	<0.018	0.040	0.018	mg/kg	40	07/23/21 18:31	8270C		MS

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Debbie Zufelt, Reports Manager

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Cottonwood Consulting
PO Box 1653
Durango CO, 81302

Project: COGCC Table 915-1
Project Name / Number: Haun-Delaney (OWP) #1
Project Manager: Jake Harter

Reported:
07/30/21 16:11

SS04

2107210-04 (Soil)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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Subcontracted -- Cardinal Laboratories

Polynuclear Aromatic Compounds by GC/MS

Indeno[1,2,3-cd]pyrene*	<0.017	0.040	0.017	mg/kg	40	07/23/21 18:31	8270C		MS
Dibenz[a,h]anthracene*	<0.019	0.040	0.019	mg/kg	40	07/23/21 18:31	8270C		MS
Benzo[g,h,i]perylene*	<0.019	0.040	0.019	mg/kg	40	07/23/21 18:31	8270C		MS
Surrogate: Nitrobenzene-d5			77.5 %	39.6-121		07/23/21 18:31	8270C		MS
Surrogate: 2-Fluorobiphenyl			75.3 %	39.8-134		07/23/21 18:31	8270C		MS
Surrogate: Terphenyl-d14			81.7 %	33.3-136		07/23/21 18:31	8270C		MS

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Debbie Zufelt

Debbie Zufelt, Reports Manager

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Cottonwood Consulting
PO Box 1653
Durango CO, 81302

Project: COGCC Table 915-1
Project Name / Number: Haun-Delaney (OWP) #1
Project Manager: Jake Harter

Reported:
07/30/21 16:11

Saturated Paste Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B211717 - Paste Extract										
Blank (B211717-BLK1)										
Prepared & Analyzed: 07/29/21										
Calcium	ND	0.100	mg/L							
Magnesium	ND	0.100	mg/L							
Sodium	ND	1.00	mg/L							
Duplicate (B211717-DUP1)										
Source: 2107209-01 Prepared & Analyzed: 07/29/21										
Calcium	71.0	0.100	mg/L		68.1			4.08	20	
Magnesium	11.1	0.100	mg/L		10.8			2.16	20	
SAR	0.52		No Unit		0.52			0.00	20	
Sodium	17.8	1.00	mg/L		17.5			2.16	20	
Reference (B211717-SRM1)										
Prepared & Analyzed: 07/29/21										
SAR	7.32		No Unit	7.50		97.6	90-110			
Batch B211718 - Paste Extract										
Duplicate (B211718-DUP1)										
Source: 2107209-01 Prepared & Analyzed: 07/29/21										
Conductivity	525		umho/cm @ 25.0°C		505			3.88	20	
Reference (B211718-SRM1)										
Prepared & Analyzed: 07/29/21										
Conductivity	7090		umho/cm @ 25.0°C	6720		105	90-110			
Batch B211719 - Paste Extract										
Duplicate (B211719-DUP1)										
Source: 2107209-01 Prepared & Analyzed: 07/29/21										
pH	7.30		pH Units		7.36			0.819	20	
Reference (B211719-SRM1)										
Prepared & Analyzed: 07/29/21										
pH	8.71		pH Units	9.14		95.3	95-105			

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Cottonwood Consulting
PO Box 1653
Durango CO, 81302

Project: COGCC Table 915-1
Project Name / Number: Haun-Delaney (OWP) #1
Project Manager: Jake Harter

Reported:
07/30/21 16:11

Total Metals by ICP - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B211672 - EPA 3050

Blank (B211672-BLK1)

Prepared: 07/26/21 Analyzed: 07/29/21

Barium	ND	5.00	mg/kg dry
Cadmium	ND	5.00	mg/kg dry
Chromium	ND	5.00	mg/kg dry
Copper	ND	5.00	mg/kg dry
Lead	ND	10.0	mg/kg dry
Nickel	ND	5.00	mg/kg dry
Selenium	ND	20.0	mg/kg dry
Silver	ND	1.00	mg/kg dry
Zinc	ND	10.0	mg/kg dry

LCS (B211672-BS1)

Prepared: 07/26/21 Analyzed: 07/29/21

Barium	189	5.00	mg/kg dry	200	94.5	80-120
Cadmium	175	5.00	mg/kg dry	200	87.5	80-120
Chromium	189	5.00	mg/kg dry	200	94.4	80-120
Copper	396	5.00	mg/kg dry	400	98.9	80-120
Lead	186	10.0	mg/kg dry	200	92.8	80-120
Nickel	185	5.00	mg/kg dry	200	92.4	80-120
Selenium	789	20.0	mg/kg dry	800	98.6	80-120
Silver	9.71	1.00	mg/kg dry	10.0	97.1	80-120
Zinc	174	10.0	mg/kg dry	200	87.1	80-120

LCS Dup (B211672-BSD1)

Prepared: 07/26/21 Analyzed: 07/29/21

Barium	190	5.00	mg/kg dry	200	95.2	80-120	0.750	20
Cadmium	178	5.00	mg/kg dry	200	89.1	80-120	1.80	20
Chromium	190	5.00	mg/kg dry	200	95.2	80-120	0.852	20
Copper	400	5.00	mg/kg dry	400	100	80-120	1.16	20
Lead	184	10.0	mg/kg dry	200	92.0	80-120	0.854	20
Nickel	184	5.00	mg/kg dry	200	91.8	80-120	0.571	20
Selenium	764	20.0	mg/kg dry	800	95.5	80-120	3.13	20
Silver	9.80	1.00	mg/kg dry	10.0	98.0	80-120	0.925	20
Zinc	172	10.0	mg/kg dry	200	86.2	80-120	1.02	20

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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Cottonwood Consulting
PO Box 1653
Durango CO, 81302

Project: COGCC Table 915-1
Project Name / Number: Haun-Delaney (OWP) #1
Project Manager: Jake Harter

Reported:
07/30/21 16:11

Total Metals by ICPMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B211673 - EPA 3050M

Blank (B211673-BLK1)

Prepared: 07/26/21 Analyzed: 07/29/21

Arsenic	ND	0.100	mg/kg dry							
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LCS (B211673-BS1)

Prepared: 07/26/21 Analyzed: 07/29/21

Arsenic	4.86	0.100	mg/kg dry	5.00		97.3	80-120			
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LCS Dup (B211673-BSD1)

Prepared: 07/26/21 Analyzed: 07/29/21

Arsenic	5.63	0.100	mg/kg dry	5.00		113	80-120	14.5	20	
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Hot Water Extractable - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B211720 - Hot Water Soluble Metals Extract

Blank (B211720-BLK1)

Prepared & Analyzed: 07/29/21

Boron	ND	1.20	mg/L							
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Duplicate (B211720-DUP1)

Source: 2107209-01 Prepared & Analyzed: 07/29/21

Boron	0.603	1.20	mg/L		0.626			3.74	200	
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Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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Cottonwood Consulting
PO Box 1653
Durango CO, 81302

Project: COGCC Table 915-1
Project Name / Number: Haun-Delaney (OWP) #1
Project Manager: Jake Harter

Reported:
07/30/21 16:11

Petroleum Hydrocarbons by GC FID - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1072301 - General Prep - Organics

Blank (1072301-BLK1)

Prepared: 07/23/21 Analyzed: 07/25/21

Surrogate: 1-Chlorooctadecane	36.6		mg/kg	50.0		73.1	38.9-142			
Surrogate: 1-Chlorooctane	38.9		mg/kg	50.0		77.8	44.3-133			
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C36	ND	10.0	mg/kg							
GRO C6-C10	ND	10.0	mg/kg							

LCS (1072301-BS1)

Prepared: 07/23/21 Analyzed: 07/25/21

Surrogate: 1-Chlorooctadecane	37.9		mg/kg	50.0		75.8	38.9-142			
Surrogate: 1-Chlorooctane	40.4		mg/kg	50.0		80.8	44.3-133			
DRO >C10-C28	192	10.0	mg/kg	200		96.1	79.3-136			
GRO C6-C10	196	10.0	mg/kg	200		97.8	83.4-129			
Total TPH C6-C28	388	10.0	mg/kg	400		97.0	85.3-130			

LCS Dup (1072301-BSD1)

Prepared: 07/23/21 Analyzed: 07/25/21

Surrogate: 1-Chlorooctadecane	37.4		mg/kg	50.0		74.8	38.9-142			
Surrogate: 1-Chlorooctane	39.9		mg/kg	50.0		79.7	44.3-133			
DRO >C10-C28	198	10.0	mg/kg	200		99.1	79.3-136	3.07	12.1	
GRO C6-C10	206	10.0	mg/kg	200		103	83.4-129	5.04	12.6	
Total TPH C6-C28	404	10.0	mg/kg	400		101	85.3-130	4.07	11.6	

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Cottonwood Consulting
PO Box 1653
Durango CO, 81302

Project: COGCC Table 915-1
Project Name / Number: Haun-Delaney (OWP) #1
Project Manager: Jake Harter

Reported:
07/30/21 16:11

VOLATILES BY GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1072006 - Volatiles

Blank (1072006-BLK1)

Prepared & Analyzed: 07/20/21

1,2,4-Trimethylbenzene	ND	0.0250	mg/kg							
1,3,5-Trimethylbenzene	ND	0.0250	mg/kg							
Surrogate: 4-Bromofluorobenzene	1.15		mg/kg	1.25		92.3	82.5-117			
Benzene	ND	0.0250	mg/kg							
Surrogate: Dibromofluoromethane	1.30		mg/kg	1.25		104	84.6-114			
Ethylbenzene	ND	0.0250	mg/kg							
m+p - Xylene	ND	0.0500	mg/kg							
Naphthalene	ND	0.0250	mg/kg							
o-Xylene	ND	0.0250	mg/kg							
Toluene	ND	0.0250	mg/kg							
Surrogate: Toluene-d8	1.21		mg/kg	1.25		96.5	90.4-109			
Total Xylenes	ND	0.0250	mg/kg							

LCS (1072006-BS1)

Prepared & Analyzed: 07/20/21

1,2,4-Trimethylbenzene	0.458	0.0250	mg/kg	0.500		91.6	62.4-140			
1,3,5-Trimethylbenzene	0.457	0.0250	mg/kg	0.500		91.4	64.4-138			
Surrogate: 4-Bromofluorobenzene	1.21		mg/kg	1.25		97.0	82.5-117			
Benzene	0.490	0.0250	mg/kg	0.500		97.9	73-130			
Surrogate: Dibromofluoromethane	1.29		mg/kg	1.25		103	84.6-114			
Ethylbenzene	0.491	0.0250	mg/kg	0.500		98.2	75.4-127			
m+p - Xylene	0.966	0.0500	mg/kg	1.00		96.6	71.8-133			
Naphthalene	0.426	0.0250	mg/kg	0.500		85.1	28.7-158			
o-Xylene	0.468	0.0250	mg/kg	0.500		93.6	78.6-125			
Toluene	0.464	0.0250	mg/kg	0.500		92.9	79-122			
Surrogate: Toluene-d8	1.22		mg/kg	1.25		97.6	90.4-109			
Total Xylenes	1.43	0.0250	mg/kg	1.50		95.6	74.6-130			

LCS Dup (1072006-BSD1)

Prepared & Analyzed: 07/20/21

1,2,4-Trimethylbenzene	0.496	0.0250	mg/kg	0.500		99.2	62.4-140	8.00	38.2	
1,3,5-Trimethylbenzene	0.488	0.0250	mg/kg	0.500		97.6	64.4-138	6.60	39.1	
Surrogate: 4-Bromofluorobenzene	1.20		mg/kg	1.25		95.8	82.5-117			
Benzene	0.502	0.0250	mg/kg	0.500		100	73-130	2.53	17.1	
Surrogate: Dibromofluoromethane	1.29		mg/kg	1.25		103	84.6-114			
Ethylbenzene	0.508	0.0250	mg/kg	0.500		102	75.4-127	3.50	16.5	
m+p - Xylene	1.02	0.0500	mg/kg	1.00		102	71.8-133	5.62	19.1	
Naphthalene	0.458	0.0250	mg/kg	0.500		91.5	28.7-158	7.25	64	
o-Xylene	0.481	0.0250	mg/kg	0.500		96.2	78.6-125	2.74	13.2	
Toluene	0.491	0.0250	mg/kg	0.500		98.2	79-122	5.56	18.3	

Green Analytical Laboratories

Debbie Zufelt

Debbie Zufelt, Reports Manager

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Cottonwood Consulting
PO Box 1653
Durango CO, 81302

Project: COGCC Table 915-1
Project Name / Number: Haun-Delaney (OWP) #1
Project Manager: Jake Harter

Reported:
07/30/21 16:11

VOLATILES BY GC/MS - Quality Control
(Continued)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1072006 - Volatiles (Continued)

LCS Dup (1072006-BSD1) (Continued)

Prepared & Analyzed: 07/20/21

Surrogate: Toluene-d8	1.22		mg/kg	1.25		97.3	90.4-109			
Total Xylenes	1.50	0.0250	mg/kg	1.50		100	74.6-130	4.69	16.5	

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Cottonwood Consulting
PO Box 1653
Durango CO, 81302

Project: COGCC Table 915-1
Project Name / Number: Haun-Delaney (OWP) #1
Project Manager: Jake Harter

Reported:
07/30/21 16:11

Polynuclear Aromatic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1072106 - SW846-3510

Blank (1072106-BLK1)

Prepared: 07/21/21 Analyzed: 07/23/21

1-Methylnaphthalene	ND	0.040	mg/kg							
Surrogate: 2-Fluorobiphenyl	1.38		mg/kg	2.00		69.0	39.8-134			
2-Methylnaphthalene	ND	0.040	mg/kg							
Acenaphthene	ND	0.040	mg/kg							
Acenaphthylene	ND	0.040	mg/kg							
Anthracene	ND	0.040	mg/kg							
Benzo[a]anthracene	ND	0.040	mg/kg							
Benzo[a]pyrene	ND	0.040	mg/kg							
Benzo[b]fluoranthene	ND	0.040	mg/kg							
Benzo[g,h,i]perylene	ND	0.040	mg/kg							
Benzo[k]fluoranthene	ND	0.040	mg/kg							
Carbazole	ND	0.040	mg/kg							
Chrysene	ND	0.040	mg/kg							
Dibenz[a,h]anthracene	ND	0.040	mg/kg							
Fluoranthene	ND	0.040	mg/kg							
Fluorene	ND	0.040	mg/kg							
Indeno[1,2,3-cd]pyrene	ND	0.040	mg/kg							
Naphthalene	ND	0.040	mg/kg							
Surrogate: Nitrobenzene-d5	1.36		mg/kg	2.00		67.9	39.6-121			
Phenanthrene	ND	0.040	mg/kg							
Pyrene	ND	0.040	mg/kg							
Surrogate: Terphenyl-d14	1.46		mg/kg	2.00		72.9	33.3-136			

LCS (1072106-BS1)

Prepared: 07/21/21 Analyzed: 07/26/21

1-Methylnaphthalene	0.262	0.040	mg/kg	0.400		65.4	57.6-108			
Surrogate: 2-Fluorobiphenyl	1.57		mg/kg	2.00		78.5	39.8-134			
2-Methylnaphthalene	0.252	0.040	mg/kg	0.400		63.1	59-106			
Acenaphthene	0.270	0.040	mg/kg	0.400		67.6	60.9-105			
Acenaphthylene	0.285	0.040	mg/kg	0.400		71.2	57.4-107			
Anthracene	0.279	0.040	mg/kg	0.400		69.8	60.8-105			
Benzo[a]anthracene	0.279	0.040	mg/kg	0.400		69.9	56.1-121			
Benzo[a]pyrene	0.248	0.040	mg/kg	0.400		62.0	56.7-115			
Benzo[b]fluoranthene	0.282	0.040	mg/kg	0.400		70.6	45.4-128			
Benzo[g,h,i]perylene	0.287	0.040	mg/kg	0.400		71.8	56.5-107			
Benzo[k]fluoranthene	0.281	0.040	mg/kg	0.400		70.2	49.6-119			
Carbazole	0.287	0.040	mg/kg	0.400		71.8	59.7-107			
Chrysene	0.284	0.040	mg/kg	0.400		70.9	12.2-190			
Dibenz[a,h]anthracene	0.259	0.040	mg/kg	0.400		64.7	59.1-111			
Fluoranthene	0.276	0.040	mg/kg	0.400		69.1	60.6-111			

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Cottonwood Consulting
PO Box 1653
Durango CO, 81302

Project: COGCC Table 915-1
Project Name / Number: Haun-Delaney (OWP) #1
Project Manager: Jake Harter

Reported:
07/30/21 16:11

Polynuclear Aromatic Compounds by GC/MS - Quality Control
(Continued)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1072106 - SW846-3510 (Continued)

LCS (1072106-BS1) (Continued)

Prepared: 07/21/21 Analyzed: 07/26/21

Fluorene	0.248	0.040	mg/kg	0.400		62.0	59.3-108			
Indeno[1,2,3-cd]pyrene	0.271	0.040	mg/kg	0.400		67.7	53.4-116			
Naphthalene	0.276	0.040	mg/kg	0.400		69.0	56.5-106			
Surrogate: Nitrobenzene-d5	1.57		mg/kg	2.00		78.6	39.6-121			
Phenanthrene	0.277	0.040	mg/kg	0.400		69.2	59.9-107			
Pyrene	0.278	0.040	mg/kg	0.400		69.5	51.5-122			
Surrogate: Terphenyl-d14	1.54		mg/kg	2.00		76.8	33.3-136			

LCS Dup (1072106-BS1)

Prepared: 07/21/21 Analyzed: 07/26/21

1-Methylnaphthalene	0.258	0.040	mg/kg	0.400		64.6	57.6-108	1.19	6.22	
Surrogate: 2-Fluorobiphenyl	1.57		mg/kg	2.00		78.7	39.8-134			
2-Methylnaphthalene	0.274	0.040	mg/kg	0.400		68.5	59-106	8.29	6.23	QR-04
Acenaphthene	0.279	0.040	mg/kg	0.400		69.8	60.9-105	3.24	8.18	
Acenaphthylene	0.282	0.040	mg/kg	0.400		70.5	57.4-107	1.02	5	
Anthracene	0.278	0.040	mg/kg	0.400		69.4	60.8-105	0.585	3.68	
Benzo[a]anthracene	0.290	0.040	mg/kg	0.400		72.4	56.1-121	3.56	9.01	
Benzo[a]pyrene	0.241	0.040	mg/kg	0.400		60.4	56.7-115	2.71	4.92	
Benzo[b]fluoranthene	0.286	0.040	mg/kg	0.400		71.4	45.4-128	1.15	7.63	
Benzo[g,h,i]perylene	0.280	0.040	mg/kg	0.400		70.0	56.5-107	2.54	12.5	
Benzo[k]fluoranthene	0.264	0.040	mg/kg	0.400		66.1	49.6-119	6.05	10.6	
Carbazole	0.286	0.040	mg/kg	0.400		71.5	59.7-107	0.401	8.65	
Chrysene	0.279	0.040	mg/kg	0.400		69.7	12.2-190	1.75	21.8	
Dibenz[a,h]anthracene	0.254	0.040	mg/kg	0.400		63.4	59.1-111	2.09	11.6	
Fluoranthene	0.260	0.040	mg/kg	0.400		65.1	60.6-111	5.97	7.54	
Fluorene	0.268	0.040	mg/kg	0.400		67.0	59.3-108	7.76	5.49	QR-04
Indeno[1,2,3-cd]pyrene	0.268	0.040	mg/kg	0.400		67.1	53.4-116	0.920	22.3	
Naphthalene	0.269	0.040	mg/kg	0.400		67.2	56.5-106	2.71	4.56	
Surrogate: Nitrobenzene-d5	1.61		mg/kg	2.00		80.6	39.6-121			
Phenanthrene	0.264	0.040	mg/kg	0.400		66.1	59.9-107	4.67	5.21	
Pyrene	0.270	0.040	mg/kg	0.400		67.5	51.5-122	2.92	10.6	
Surrogate: Terphenyl-d14	1.57		mg/kg	2.00		78.7	33.3-136			

Green Analytical Laboratories

Debbie Zufelt

Debbie Zufelt, Reports Manager

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Cottonwood Consulting
PO Box 1653
Durango CO, 81302

Project: COGCC Table 915-1
Project Name / Number: Haun-Delaney (OWP) #1
Project Manager: Jake Harter

Reported:
07/30/21 16:11

Notes and Definitions

QR-04 The RPD for the BS/BSD was outside of historical limits.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis
*Results reported on as received basis unless designated as dry.

RPD Relative Percent Difference

LCS Laboratory Control Sample (Blank Spike)

RL Report Limit

MDL Method Detection Limit

Green Analytical Laboratories

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

(970) 247-4220
Fax: (970) 247-4227

Service@greenanalytical.com or dzufelt@greenanalytical.com
75 Suttle St Durango, CO 81303

Company Name: Cottonwood Consulting

Project Manager: Jacob Harter

Address: PO Box 1653

City: Durango

State: CO Zip: 81302

Phone #: (970) 946-3761

Email: jharter@cottonwoodconsulting.com

Additional Report To:

Project Name: Hawn-Delaney (CWP) #1

Project Number:

Sampler Name (Print): Jacob Harter / Mike Denna

FOR LAB USE ONLY

Bill to (if different):

P.O. #:

Company:

Alt:

Address:

City:

State:

Zip:

Phone #:

Fax or Email:

ANALYSIS REQUEST

COGCC Table 915

Lab I.D.

Sample Name or Location

Collected

Matrix (check one)

of containers

GROUNDWATER
SURFACEWATER
WASTEWATER
PRODUCEDWATER
SOIL
OTHER :
No preservation (general)
HNO₃
HCl
H₂SO₄
Other:
Other:
Other:

2107-210-01

SS01

Date

Time

7/20/21 10:15

X

3

-02

SS02

10:35

X

3

-03

SS03

10:50

X

3

-04

SS04

11:10

X

3

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Relinquished By:

Date: 7/24/21

Received By:

Time: 2:15

Received By:

Time:

Relinquished By:

Date:

Received By:

Time:

Delivered By: (Circle One)

Temperature at receipt:

CHECKED BY:

Sampler UPS - FedEx - Kangaroo - Other:

ADDITIONAL REMARKS:

Report to State? (Circle)

Yes

No

* Chain of Custody must be signed in "Relinquished By:" as an acceptance of services and all applicable charges.

20.9°C

D3

#3 laser on ice