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27 September 2021

Kyle Siesser  
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 09/03/21 11:15. 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.

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. TNI Certificate Number: T104704514-21-12

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. TNI Certificate Number: T104704398-21-14



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Cottonwood Consulting  
PO Box 1653  
Durango CO, 81302

Project: COGCC Table 915-1  
Project Name / Number: Spaulding, Margaret (OWP) 8  
Project Manager: Kyle Siesser

Reported:  
09/27/21 13:21

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Notes
WS01	2109055-01	Water	09/01/21 09:10	09/03/21 11:15	
WS02	2109055-02	Water	09/01/21 09:15	09/03/21 11:15	
SS01	2109055-03	Solid	09/01/21 09:50	09/03/21 11:15	
SS02	2109055-04	Solid	09/01/21 09:45	09/03/21 11:15	
SS03	2109055-05	Solid	09/01/21 09:35	09/03/21 11:15	
SS04	2109055-06	Solid	09/01/21 09:25	09/03/21 11:15	
SS05	2109055-07	Solid	09/01/21 13:20	09/03/21 11:15	

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Debbie Zufelt, Reports Manager

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Project: COGCC Table 915-1  
Project Name / Number: Spaulding, Margaret (OWP) 8  
Project Manager: Kyle Siesser

Reported:  
09/27/21 13:21

**WS01****2109055-01 (Water)**

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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**General Chemistry**

Chloride*	142	5.00	0.211	mg/L	5	09/17/21 09:36	EPA300.0		AES
Total Dissolved Solids*	490	10.0		mg/L	1	09/07/21 14:10	EPA160.1		VJW
Sulfate*	49.9	1.00	0.152	mg/L	1	09/16/21 12:14	EPA300.0		AES

Subcontracted -- Cardinal Laboratories 101 East Marland Hobbs, NM 88240

**VOLATILES BY GC/MS**

Benzene*	<0.0005	0.0005	0.00003	mg/L	1	09/14/21 12:04	8260B		MS
Toluene*	0.001	0.0005	0.00004	mg/L	1	09/14/21 12:04	8260B		MS
Ethylbenzene*	0.0008	0.0005	0.00004	mg/L	1	09/14/21 12:04	8260B		MS
m+p - Xylene*	0.001	0.001	0.00002	mg/L	1	09/14/21 12:04	8260B		MS
o-Xylene*	0.001	0.0005	0.00003	mg/L	1	09/14/21 12:04	8260B		MS
Total Xylenes*	0.003	0.0005	0.00005	mg/L	1	09/14/21 12:04	8260B		MS
1,3,5-Trimethylbenzene*	0.001	0.0005	0.00003	mg/L	1	09/14/21 12:04	8260B		MS
1,2,4-Trimethylbenzene*	0.001	0.0005	0.00003	mg/L	1	09/14/21 12:04	8260B		MS
Naphthalene*	0.002	0.0005	0.00004	mg/L	1	09/14/21 12:04	8260B		MS

Surrogate: Dibromofluoromethane	109 %	82.4-141	09/14/21 12:04	8260B	MS
Surrogate: Toluene-d8	95.8 %	87.1-110	09/14/21 12:04	8260B	MS
Surrogate: 4-Bromofluorobenzene	87.8 %	76.4-114	09/14/21 12:04	8260B	MS

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Project: COGCC Table 915-1  
Project Name / Number: Spaulding, Margaret (OWP) 8  
Project Manager: Kyle Siesser

Reported:  
09/27/21 13:21

**WS02****2109055-02 (Water)**

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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**General Chemistry**

Chloride*	50.4	5.00	0.211	mg/L	5	09/17/21 09:56	EPA300.0		AES
Total Dissolved Solids*	680	10.0		mg/L	1	09/07/21 14:10	EPA160.1		VJW
Sulfate*	144	5.00	0.762	mg/L	5	09/17/21 09:56	EPA300.0		AES

Subcontracted -- Cardinal Laboratories 101 East Marland Hobbs, NM 88240

**VOLATILES BY GC/MS**

Benzene*	0.002	0.0005	0.00003	mg/L	1	09/14/21 12:28	8260B		MS
Toluene*	0.001	0.0005	0.00004	mg/L	1	09/14/21 12:28	8260B		MS
Ethylbenzene*	<0.0005	0.0005	0.00004	mg/L	1	09/14/21 12:28	8260B		MS
m+p - Xylene*	<0.001	0.001	0.00002	mg/L	1	09/14/21 12:28	8260B		MS
o-Xylene*	<0.0005	0.0005	0.00003	mg/L	1	09/14/21 12:28	8260B		MS
Total Xylenes*	<0.0005	0.0005	0.00005	mg/L	1	09/14/21 12:28	8260B		MS
1,3,5-Trimethylbenzene*	<0.0005	0.0005	0.00003	mg/L	1	09/14/21 12:28	8260B		MS
1,2,4-Trimethylbenzene*	<0.0005	0.0005	0.00003	mg/L	1	09/14/21 12:28	8260B		MS
Naphthalene*	<0.0005	0.0005	0.00004	mg/L	1	09/14/21 12:28	8260B		MS

Surrogate: Dibromofluoromethane	106 %	82.4-141	09/14/21 12:28	8260B	MS
Surrogate: Toluene-d8	99.4 %	87.1-110	09/14/21 12:28	8260B	MS
Surrogate: 4-Bromofluorobenzene	87.6 %	76.4-114	09/14/21 12:28	8260B	MS

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Project: COGCC Table 915-1  
Project Name / Number: Spaulding, Margaret (OWP) 8  
Project Manager: Kyle Siesser

Reported:  
09/27/21 13:21

## SS01

### 2109055-03 (Soil)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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#### General Chemistry

Hexavalent Chromium	<0.250	0.250	0.0543	mg/kg	25	09/23/21 10:00	3060A/3500-Cr D		JDA
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#### Saturated Paste Extraction

Calcium	198	0.500	0.289	mg/L	5	09/23/21 13:21	EPA200.7		AES
Conductivity	3200			umho/cm @ 25.0°C	1	09/22/21 14:55	ASA#9 10-3.3		VJW
Magnesium	18.5	0.500	0.327	mg/L	5	09/23/21 13:21	EPA200.7		AES
pH	8.10			pH Units	1	09/22/21 13:00	ASA#9 10-3.2		VJW
SAR	2.04			No Unit	1	09/23/21 13:21	Calculation		AES
Sodium	112	5.00	0.396	mg/L	5	09/23/21 13:21	EPA200.7		AES

#### Total Metals by ICP

Barium	239	5.00	0.390	mg/kg dry	100	09/21/21 12:57	6010B		AES
Cadmium	<5.00	5.00	1.10	mg/kg dry	100	09/21/21 12:57	6010B		AES
Chromium	12.8	5.00	0.400	mg/kg dry	100	09/21/21 12:57	6010B		AES
Copper	23.6	5.00	2.39	mg/kg dry	100	09/21/21 12:57	6010B		AES
Lead	16.4	10.0	0.906	mg/kg dry	100	09/21/21 12:57	6010B		AES
Nickel	11.4	5.00	0.874	mg/kg dry	100	09/21/21 12:57	6010B		AES
Selenium	<20.0	20.0	4.70	mg/kg dry	100	09/21/21 12:56	6010B		AES
Silver	<1.00	1.00	0.688	mg/kg dry	100	09/21/21 12:56	6010B		AES
Zinc	53.5	10.0	1.71	mg/kg dry	100	09/21/21 12:57	6010B		AES

#### Total Metals by ICPMS

Arsenic	3.96	1.00	0.0950	mg/kg dry	1000	09/17/21 13:17	6020A		AES
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#### Hot Water Extractable

Boron	<1.20	1.20	0.568	mg/L	4	09/16/21 18:16	EPA200.7		AES
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### Subcontracted -- Cardinal Laboratories 101 East Marland Hobbs, NM 88240

#### Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0	10.0	6.25	mg/kg	1	09/10/21 23:24	8015B		MS
DRO >C10-C28*	138	10.0	4.26	mg/kg	1	09/10/21 23:24	8015B		MS
EXT DRO >C28-C36	67.1	10.0	4.26	mg/kg	1	09/10/21 23:24	8015B		MS

Surrogate: 1-Chlorooctane 96.2 % 44.3-133 09/10/21 23:24 8015B MS

Surrogate: 1-Chlorooctadecane 104 % 38.9-142 09/10/21 23:24 8015B MS

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Debbie Zufelt, Reports Manager

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Project Name / Number: Spaulding, Margaret (OWP) 8  
Project Manager: Kyle Siesser

Reported:  
09/27/21 13:21

### SS01

### 2109055-03 (Soil)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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### Subcontracted -- Cardinal Laboratories 101 East Marland Hobbs, NM 88240

#### VOLATILES BY GC/MS

Benzene*	<0.0250	0.0250	0.00885	mg/kg	50	09/09/21 16:10	8260B		MS
Toluene*	<0.0250	0.0250	0.00670	mg/kg	50	09/09/21 16:10	8260B		MS
Ethylbenzene*	<0.0250	0.0250	0.00405	mg/kg	50	09/09/21 16:10	8260B		MS
m+p - Xylene*	<0.0500	0.0500	0.0186	mg/kg	50	09/09/21 16:10	8260B		MS
o-Xylene*	<0.0250	0.0250	0.00700	mg/kg	50	09/09/21 16:10	8260B		MS
Total Xylenes*	<0.0750	0.0750	0.0250	mg/kg	50	09/09/21 16:10	8260B		MS
1,3,5-Trimethylbenzene	<b>0.0303</b>	0.0250	0.00450	mg/kg	50	09/09/21 16:10	8260B		MS
1,2,4-Trimethylbenzene	<b>0.0432</b>	0.0250	0.00650	mg/kg	50	09/09/21 16:10	8260B		MS
Naphthalene*	<0.0250	0.0250	0.00500	mg/kg	50	09/09/21 16:10	8260B		MS

Surrogate: Dibromofluoromethane 99.0 % 84.6-114 09/09/21 16:10 8260B MS

Surrogate: Toluene-d8 96.8 % 90.4-109 09/09/21 16:10 8260B MS

Surrogate: 4-Bromofluorobenzene 101 % 82.5-117 09/09/21 16:10 8260B MS

#### Polynuclear Aromatic Compounds by GC/MS

Naphthalene*	<b>0.022</b>	0.040	0.015	mg/kg	40	09/13/21 18:20	8270C	J	MS
2-Methylnaphthalene*	<b>0.094</b>	0.040	0.023	mg/kg	40	09/13/21 18:20	8270C		MS
1-Methylnaphthalene	<b>0.108</b>	0.040	0.016	mg/kg	40	09/13/21 18:20	8270C		MS
Acenaphthylene*	<0.020	0.040	0.020	mg/kg	40	09/13/21 18:20	8270C		MS
Acenaphthene*	<0.024	0.040	0.024	mg/kg	40	09/13/21 18:20	8270C		MS
Fluorene*	<b>0.041</b>	0.040	0.014	mg/kg	40	09/13/21 18:20	8270C		MS
Phenanthrene*	<b>0.130</b>	0.040	0.021	mg/kg	40	09/13/21 18:20	8270C		MS
Anthracene*	<0.017	0.040	0.017	mg/kg	40	09/13/21 18:20	8270C		MS
Carbazole*	<0.019	0.040	0.019	mg/kg	40	09/13/21 18:20	8270C		MS
Fluoranthene*	<b>0.060</b>	0.040	0.019	mg/kg	40	09/13/21 18:20	8270C		MS
Pyrene*	<b>0.072</b>	0.040	0.013	mg/kg	40	09/13/21 18:20	8270C		MS
Benzo[a]anthracene*	<0.023	0.040	0.023	mg/kg	40	09/13/21 18:20	8270C		MS
Chrysene*	<b>0.095</b>	0.040	0.017	mg/kg	40	09/13/21 18:20	8270C		MS
Benzo[b]fluoranthene*	<0.019	0.040	0.019	mg/kg	40	09/13/21 18:20	8270C		MS
Benzo[k]fluoranthene*	<0.016	0.040	0.016	mg/kg	40	09/13/21 18:20	8270C		MS
Benzo[a]pyrene*	<0.018	0.040	0.018	mg/kg	40	09/13/21 18:20	8270C		MS
Indeno[1,2,3-cd]pyrene*	<0.017	0.040	0.017	mg/kg	40	09/13/21 18:20	8270C		MS

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Debbie Zufelt

Debbie Zufelt, Reports Manager

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Project: COGCC Table 915-1  
Project Name / Number: Spaulding, Margaret (OWP) 8  
Project Manager: Kyle Siesser

Reported:  
09/27/21 13:21

### SS01

### 2109055-03 (Soil)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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### Subcontracted -- Cardinal Laboratories 101 East Marland Hobbs, NM 88240

#### Polynuclear Aromatic Compounds by GC/MS

Dibenz[a,h]anthracene*	<0.019	0.040	0.019	mg/kg	40	09/13/21 18:20	8270C		MS
Benzo[g,h,i]perylene*	<0.019	0.040	0.019	mg/kg	40	09/13/21 18:20	8270C		MS
Surrogate: Nitrobenzene-d5			93.1 %	39.6-121		09/13/21 18:20	8270C		MS
Surrogate: 2-Fluorobiphenyl			94.7 %	39.8-134		09/13/21 18:20	8270C		MS
Surrogate: Terphenyl-d14			96.8 %	33.3-136		09/13/21 18:20	8270C		MS

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Project: COGCC Table 915-1  
Project Name / Number: Spaulding, Margaret (OWP) 8  
Project Manager: Kyle Siesser

Reported:  
09/27/21 13:21

**SS02****2109055-04 (Soil)**

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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**General Chemistry**

Hexavalent Chromium	<0.250	0.250	0.0543	mg/kg	25	09/23/21 10:00	3060A/3500-Cr D		JDA
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**Saturated Paste Extraction**

Calcium	81.8	0.100	0.058	mg/L	1	09/23/21 13:27	EPA200.7		AES
Conductivity	735			umho/cm @ 25.0°C	1	09/22/21 14:55	ASA#9 10-3.3		VJW
Magnesium	11.0	0.100	0.065	mg/L	1	09/23/21 13:27	EPA200.7		AES
pH	7.91			pH Units	1	09/22/21 13:00	ASA#9 10-3.2		VJW
SAR	1.15			No Unit	1	09/23/21 13:27	Calculation		AES
Sodium	41.7	1.00	0.079	mg/L	1	09/23/21 13:27	EPA200.7		AES

**Total Metals by ICP**

Barium	150	5.00	0.390	mg/kg dry	100	09/21/21 13:01	6010B		AES
Cadmium	<5.00	5.00	1.10	mg/kg dry	100	09/21/21 13:01	6010B		AES
Chromium	13.6	5.00	0.400	mg/kg dry	100	09/21/21 13:01	6010B		AES
Copper	34.4	5.00	2.39	mg/kg dry	100	09/21/21 13:01	6010B		AES
Lead	10.6	10.0	0.906	mg/kg dry	100	09/21/21 13:01	6010B		AES
Nickel	10.0	5.00	0.874	mg/kg dry	100	09/21/21 13:01	6010B		AES
Selenium	<20.0	20.0	4.70	mg/kg dry	100	09/21/21 13:01	6010B		AES
Silver	<1.00	1.00	0.688	mg/kg dry	100	09/21/21 13:01	6010B		AES
Zinc	43.0	10.0	1.71	mg/kg dry	100	09/21/21 13:01	6010B		AES

**Total Metals by ICPMS**

Arsenic	3.41	1.00	0.0950	mg/kg dry	1000	09/17/21 13:20	6020A		AES
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**Hot Water Extractable**

Boron	<1.20	1.20	0.568	mg/L	4	09/16/21 18:18	EPA200.7		AES
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**Subcontracted -- Cardinal Laboratories 101 East Marland Hobbs, NM 88240****Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0	10.0	6.25	mg/kg	1	09/10/21 21:15	8015B		MS
DRO >C10-C28*	17.6	10.0	4.26	mg/kg	1	09/10/21 21:15	8015B		MS
EXT DRO >C28-C36	<10.0	10.0	4.26	mg/kg	1	09/10/21 21:15	8015B		MS

Surrogate: 1-Chlorooctane 97.3 % 44.3-133 09/10/21 21:15 8015B MS

Surrogate: 1-Chlorooctadecane 100 % 38.9-142 09/10/21 21:15 8015B MS

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Project: COGCC Table 915-1  
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Project Manager: Kyle Siesser

Reported:  
09/27/21 13:21

## SS02

### 2109055-04 (Soil)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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Subcontracted -- Cardinal Laboratories 101 East Marland Hobbs, NM 88240

#### VOLATILES BY GC/MS

Benzene*	<0.0250	0.0250	0.00885	mg/kg	50	09/09/21 16:30	8260B		MS
Toluene*	<0.0250	0.0250	0.00670	mg/kg	50	09/09/21 16:30	8260B		MS
Ethylbenzene*	<0.0250	0.0250	0.00405	mg/kg	50	09/09/21 16:30	8260B		MS
m+p - Xylene*	<0.0500	0.0500	0.0186	mg/kg	50	09/09/21 16:30	8260B		MS
o-Xylene*	<0.0250	0.0250	0.00700	mg/kg	50	09/09/21 16:30	8260B		MS
Total Xylenes*	<0.0750	0.0750	0.0250	mg/kg	50	09/09/21 16:30	8260B		MS
1,3,5-Trimethylbenzene	<0.0250	0.0250	0.00450	mg/kg	50	09/09/21 16:30	8260B		MS
1,2,4-Trimethylbenzene	<0.0250	0.0250	0.00650	mg/kg	50	09/09/21 16:30	8260B		MS
Naphthalene*	<0.0250	0.0250	0.00500	mg/kg	50	09/09/21 16:30	8260B		MS

Surrogate: Dibromofluoromethane 101 % 84.6-114 09/09/21 16:30 8260B MS

Surrogate: Toluene-d8 97.2 % 90.4-109 09/09/21 16:30 8260B MS

Surrogate: 4-Bromofluorobenzene 94.6 % 82.5-117 09/09/21 16:30 8260B MS

#### Polynuclear Aromatic Compounds by GC/MS

Naphthalene*	<0.015	0.040	0.015	mg/kg	40	09/13/21 18:49	8270C		MS
2-Methylnaphthalene*	<0.023	0.040	0.023	mg/kg	40	09/13/21 18:49	8270C		MS
1-Methylnaphthalene	<0.016	0.040	0.016	mg/kg	40	09/13/21 18:49	8270C		MS
Acenaphthylene*	<0.020	0.040	0.020	mg/kg	40	09/13/21 18:49	8270C		MS
Acenaphthene*	<0.024	0.040	0.024	mg/kg	40	09/13/21 18:49	8270C		MS
Fluorene*	<0.014	0.040	0.014	mg/kg	40	09/13/21 18:49	8270C		MS
Phenanthrene*	<0.021	0.040	0.021	mg/kg	40	09/13/21 18:49	8270C		MS
Anthracene*	<0.017	0.040	0.017	mg/kg	40	09/13/21 18:49	8270C		MS
Carbazole*	<0.019	0.040	0.019	mg/kg	40	09/13/21 18:49	8270C		MS
Fluoranthene*	<0.019	0.040	0.019	mg/kg	40	09/13/21 18:49	8270C		MS
Pyrene*	0.019	0.040	0.013	mg/kg	40	09/13/21 18:49	8270C	J	MS
Benzo[a]anthracene*	<0.023	0.040	0.023	mg/kg	40	09/13/21 18:49	8270C		MS
Chrysene*	<0.017	0.040	0.017	mg/kg	40	09/13/21 18:49	8270C		MS
Benzo[b]fluoranthene*	<0.019	0.040	0.019	mg/kg	40	09/13/21 18:49	8270C		MS
Benzo[k]fluoranthene*	<0.016	0.040	0.016	mg/kg	40	09/13/21 18:49	8270C		MS
Benzo[a]pyrene*	<0.018	0.040	0.018	mg/kg	40	09/13/21 18:49	8270C		MS
Indeno[1,2,3-cd]pyrene*	<0.017	0.040	0.017	mg/kg	40	09/13/21 18:49	8270C		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: Spaulding, Margaret (OWP) 8  
Project Manager: Kyle Siesser

Reported:  
09/27/21 13:21

SS02

2109055-04 (Soil)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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Subcontracted -- Cardinal Laboratories 101 East Marland Hobbs, NM 88240

Polynuclear Aromatic Compounds by GC/MS

Dibenz[a,h]anthracene*	<0.019	0.040	0.019	mg/kg	40	09/13/21 18:49	8270C		MS
Benzo[g,h,i]perylene*	<0.019	0.040	0.019	mg/kg	40	09/13/21 18:49	8270C		MS
Surrogate: Nitrobenzene-d5			83.5 %	39.6-121		09/13/21 18:49	8270C		MS
Surrogate: 2-Fluorobiphenyl			87.5 %	39.8-134		09/13/21 18:49	8270C		MS
Surrogate: Terphenyl-d14			91.2 %	33.3-136		09/13/21 18:49	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: Spaulding, Margaret (OWP) 8  
Project Manager: Kyle Siesser

Reported:  
09/27/21 13:21

**SS03****2109055-05 (Soil)**

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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**General Chemistry**

Hexavalent Chromium	<0.250	0.250	0.0543	mg/kg	25	09/23/21 10:00	3060A/3500-Cr D		JDA
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**Saturated Paste Extraction**

Calcium	29.4	0.100	0.058	mg/L	1	09/23/21 13:29	EPA200.7		AES
Conductivity	452			umho/cm @ 25.0°C	1	09/22/21 14:55	ASA#9 10-3.3		VJW
Magnesium	3.76	0.100	0.065	mg/L	1	09/23/21 13:29	EPA200.7		AES
pH	8.06			pH Units	1	09/22/21 13:00	ASA#9 10-3.2		VJW
SAR	2.85			No Unit	1	09/23/21 13:29	Calculation		AES
Sodium	61.7	1.00	0.079	mg/L	1	09/23/21 13:29	EPA200.7		AES

**Total Metals by ICP**

Barium	128	5.00	0.390	mg/kg dry	100	09/21/21 13:05	6010B		AES
Cadmium	<5.00	5.00	1.10	mg/kg dry	100	09/21/21 13:05	6010B		AES
Chromium	15.1	5.00	0.400	mg/kg dry	100	09/21/21 13:05	6010B		AES
Copper	20.3	5.00	2.39	mg/kg dry	100	09/21/21 13:05	6010B		AES
Lead	<10.0	10.0	0.906	mg/kg dry	100	09/21/21 13:05	6010B		AES
Nickel	11.2	5.00	0.874	mg/kg dry	100	09/21/21 13:05	6010B		AES
Selenium	<20.0	20.0	4.70	mg/kg dry	100	09/21/21 13:04	6010B		AES
Silver	<1.00	1.00	0.688	mg/kg dry	100	09/21/21 13:04	6010B		AES
Zinc	39.2	10.0	1.71	mg/kg dry	100	09/21/21 13:05	6010B		AES

**Total Metals by ICPMS**

Arsenic	4.92	1.00	0.0950	mg/kg dry	1000	09/17/21 13:24	6020A		AES
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**Hot Water Extractable**

Boron	<1.20	1.20	0.568	mg/L	4	09/16/21 18:20	EPA200.7		AES
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**Subcontracted -- Cardinal Laboratories 101 East Marland Hobbs, NM 88240****Petroleum Hydrocarbons by GC FID****S-06**

GRO C6-C10*	1770	100	62.5	mg/kg	10	09/10/21 23:40	8015B		MS
DRO >C10-C28*	11100	100	42.6	mg/kg	10	09/10/21 23:40	8015B		MS
EXT DRO >C28-C36	2490	100	42.6	mg/kg	10	09/10/21 23:40	8015B		MS

Surrogate: 1-Chlorooctane 246 % 44.3-133 09/10/21 23:40 8015B MS

Surrogate: 1-Chlorooctadecane 353 % 38.9-142 09/10/21 23:40 8015B MS

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: Spaulding, Margaret (OWP) 8  
Project Manager: Kyle Siesser

Reported:  
09/27/21 13:21

## SS03

## 2109055-05 (Soil)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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## Subcontracted -- Cardinal Laboratories 101 East Marland Hobbs, NM 88240

## VOLATILES BY GC/MS

Benzene*	<0.250	0.250	0.0885	mg/kg	500	09/09/21 16:50	8260B		MS
Toluene*	<0.250	0.250	0.0670	mg/kg	500	09/09/21 16:50	8260B		MS
Ethylbenzene*	2.17	0.250	0.0405	mg/kg	500	09/09/21 16:50	8260B		MS
m+p - Xylene*	13.8	0.500	0.186	mg/kg	500	09/09/21 16:50	8260B		MS
o-Xylene*	6.03	0.250	0.0700	mg/kg	500	09/09/21 16:50	8260B		MS
Total Xylenes*	19.8	0.750	0.250	mg/kg	500	09/09/21 16:50	8260B		MS
1,3,5-Trimethylbenzene	7.71	0.250	0.0450	mg/kg	500	09/09/21 16:50	8260B		MS
1,2,4-Trimethylbenzene	30.9	0.250	0.0650	mg/kg	500	09/09/21 16:50	8260B		MS
Naphthalene*	13.5	0.250	0.0500	mg/kg	500	09/09/21 16:50	8260B		MS

Surrogate: Dibromofluoromethane 101 % 84.6-114 09/09/21 16:50 8260B MS

Surrogate: Toluene-d8 98.0 % 90.4-109 09/09/21 16:50 8260B MS

Surrogate: 4-Bromofluorobenzene 157 % 82.5-117 09/09/21 16:50 8260B S-04 MS

## Polynuclear Aromatic Compounds by GC/MS

Naphthalene*	11.2	0.400	0.153	mg/kg	400	09/13/21 19:17	8270C		MS
2-Methylnaphthalene*	32.7	0.400	0.226	mg/kg	400	09/13/21 19:17	8270C		MS
1-Methylnaphthalene	24.3	0.400	0.161	mg/kg	400	09/13/21 19:17	8270C		MS
Acenaphthylene*	<0.196	0.400	0.196	mg/kg	400	09/13/21 19:17	8270C		MS
Acenaphthene*	<0.235	0.400	0.235	mg/kg	400	09/13/21 19:17	8270C		MS
Fluorene*	4.64	0.400	0.142	mg/kg	400	09/13/21 19:17	8270C		MS
Phenanthrene*	11.5	0.400	0.214	mg/kg	400	09/13/21 19:17	8270C		MS
Anthracene*	<0.172	0.400	0.172	mg/kg	400	09/13/21 19:17	8270C		MS
Carbazole*	<0.190	0.400	0.190	mg/kg	400	09/13/21 19:17	8270C		MS
Fluoranthene*	1.31	0.400	0.185	mg/kg	400	09/13/21 19:17	8270C		MS
Pyrene*	1.80	0.400	0.132	mg/kg	400	09/13/21 19:17	8270C		MS
Benzo[a]anthracene*	<0.230	0.400	0.230	mg/kg	400	09/13/21 19:17	8270C		MS
Chrysene*	2.04	0.400	0.172	mg/kg	400	09/13/21 19:17	8270C		MS
Benzo[b]fluoranthene*	0.668	0.400	0.192	mg/kg	400	09/13/21 19:17	8270C		MS
Benzo[k]fluoranthene*	<0.157	0.400	0.157	mg/kg	400	09/13/21 19:17	8270C		MS
Benzo[a]pyrene*	<0.182	0.400	0.182	mg/kg	400	09/13/21 19:17	8270C		MS
Indeno[1,2,3-cd]pyrene*	<0.168	0.400	0.168	mg/kg	400	09/13/21 19:17	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: Spaulding, Margaret (OWP) 8  
Project Manager: Kyle Siesser

Reported:  
09/27/21 13:21

## SS03

## 2109055-05 (Soil)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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## Subcontracted -- Cardinal Laboratories 101 East Marland Hobbs, NM 88240

## Polynuclear Aromatic Compounds by GC/MS

Dibenz[a,h]anthracene*	<0.186	0.400	0.186	mg/kg	400	09/13/21 19:17	8270C		MS
Benzo[g,h,i]perylene*	<0.186	0.400	0.186	mg/kg	400	09/13/21 19:17	8270C		MS
Surrogate: Nitrobenzene-d5			121 %	39.6-121		09/13/21 19:17	8270C		MS
Surrogate: 2-Fluorobiphenyl			104 %	39.8-134		09/13/21 19:17	8270C		MS
Surrogate: Terphenyl-d14			106 %	33.3-136		09/13/21 19:17	8270C		MS

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Cottonwood Consulting  
PO Box 1653  
Durango CO, 81302

Project: COGCC Table 915-1  
Project Name / Number: Spaulding, Margaret (OWP) 8  
Project Manager: Kyle Siesser

Reported:  
09/27/21 13:21

**SS04****2109055-06 (Soil)**

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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**General Chemistry**

Hexavalent Chromium	<0.250	0.250	0.0543	mg/kg	25	09/23/21 10:00	3060A/3500-Cr D		JDA
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**Saturated Paste Extraction**

Calcium	120	0.100	0.058	mg/L	1	09/23/21 13:30	EPA200.7		AES
Conductivity	966			umho/cm @ 25.0°C	1	09/22/21 14:55	ASA#9 10-3.3		VJW
Magnesium	14.3	0.100	0.065	mg/L	1	09/23/21 13:30	EPA200.7		AES
pH	8.02			pH Units	1	09/22/21 13:00	ASA#9 10-3.2		VJW
SAR	1.80			No Unit	1	09/23/21 13:30	Calculation		AES
Sodium	78.5	1.00	0.079	mg/L	1	09/23/21 13:30	EPA200.7		AES

**Total Metals by ICP**

Barium	125	5.00	0.390	mg/kg dry	100	09/21/21 13:09	6010B		AES
Cadmium	<5.00	5.00	1.10	mg/kg dry	100	09/21/21 13:09	6010B		AES
Chromium	22.0	5.00	0.400	mg/kg dry	100	09/21/21 13:09	6010B		AES
Copper	16.9	5.00	2.39	mg/kg dry	100	09/21/21 13:09	6010B		AES
Lead	<10.0	10.0	0.906	mg/kg dry	100	09/21/21 13:09	6010B		AES
Nickel	15.3	5.00	0.874	mg/kg dry	100	09/21/21 13:09	6010B		AES
Selenium	<20.0	20.0	4.70	mg/kg dry	100	09/21/21 13:09	6010B		AES
Silver	<1.00	1.00	0.688	mg/kg dry	100	09/21/21 13:09	6010B		AES
Zinc	34.0	10.0	1.71	mg/kg dry	100	09/21/21 13:09	6010B		AES

**Total Metals by ICPMS**

Arsenic	4.72	1.00	0.0950	mg/kg dry	1000	09/17/21 13:27	6020A		AES
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**Hot Water Extractable**

Boron	<1.20	1.20	0.568	mg/L	4	09/16/21 18:22	EPA200.7		AES
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**Subcontracted -- Cardinal Laboratories 101 East Marland Hobbs, NM 88240****Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0	10.0	6.25	mg/kg	1	09/10/21 21:31	8015B		MS
DRO >C10-C28*	111	10.0	4.26	mg/kg	1	09/10/21 21:31	8015B		MS
EXT DRO >C28-C36	31.4	10.0	4.26	mg/kg	1	09/10/21 21:31	8015B		MS

Surrogate: 1-Chlorooctane 101 % 44.3-133 09/10/21 21:31 8015B MS

Surrogate: 1-Chlorooctadecane 106 % 38.9-142 09/10/21 21:31 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: Spaulding, Margaret (OWP) 8  
Project Manager: Kyle Siesser

Reported:  
09/27/21 13:21

## SS04

### 2109055-06 (Soil)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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Subcontracted -- Cardinal Laboratories 101 East Marland Hobbs, NM 88240

#### VOLATILES BY GC/MS

Benzene*	<0.0250	0.0250	0.00885	mg/kg	50	09/09/21 17:10	8260B		MS
Toluene*	<0.0250	0.0250	0.00670	mg/kg	50	09/09/21 17:10	8260B		MS
Ethylbenzene*	<0.0250	0.0250	0.00405	mg/kg	50	09/09/21 17:10	8260B		MS
m+p - Xylene*	<0.0500	0.0500	0.0186	mg/kg	50	09/09/21 17:10	8260B		MS
o-Xylene*	<0.0250	0.0250	0.00700	mg/kg	50	09/09/21 17:10	8260B		MS
Total Xylenes*	<0.0750	0.0750	0.0250	mg/kg	50	09/09/21 17:10	8260B		MS
1,3,5-Trimethylbenzene	<0.0250	0.0250	0.00450	mg/kg	50	09/09/21 17:10	8260B		MS
1,2,4-Trimethylbenzene	<0.0250	0.0250	0.00650	mg/kg	50	09/09/21 17:10	8260B		MS
Naphthalene*	0.0271	0.0250	0.00500	mg/kg	50	09/09/21 17:10	8260B		MS

Surrogate: Dibromofluoromethane 100 % 84.6-114 09/09/21 17:10 8260B MS

Surrogate: Toluene-d8 97.1 % 90.4-109 09/09/21 17:10 8260B MS

Surrogate: 4-Bromofluorobenzene 97.4 % 82.5-117 09/09/21 17:10 8260B MS

#### Polynuclear Aromatic Compounds by GC/MS

Naphthalene*	<0.015	0.040	0.015	mg/kg	40	09/13/21 19:46	8270C		MS
2-Methylnaphthalene*	<0.023	0.040	0.023	mg/kg	40	09/13/21 19:46	8270C		MS
1-Methylnaphthalene	0.020	0.040	0.016	mg/kg	40	09/13/21 19:46	8270C	J	MS
Acenaphthylene*	<0.020	0.040	0.020	mg/kg	40	09/13/21 19:46	8270C		MS
Acenaphthene*	<0.024	0.040	0.024	mg/kg	40	09/13/21 19:46	8270C		MS
Fluorene*	0.073	0.040	0.014	mg/kg	40	09/13/21 19:46	8270C		MS
Phenanthrene*	0.910	0.040	0.021	mg/kg	40	09/13/21 19:46	8270C		MS
Anthracene*	<0.017	0.040	0.017	mg/kg	40	09/13/21 19:46	8270C		MS
Carbazole*	<0.019	0.040	0.019	mg/kg	40	09/13/21 19:46	8270C		MS
Fluoranthene*	0.384	0.040	0.019	mg/kg	40	09/13/21 19:46	8270C		MS
Pyrene*	0.369	0.040	0.013	mg/kg	40	09/13/21 19:46	8270C		MS
Benzo[a]anthracene*	<0.023	0.040	0.023	mg/kg	40	09/13/21 19:46	8270C		MS
Chrysene*	0.366	0.040	0.017	mg/kg	40	09/13/21 19:46	8270C		MS
Benzo[b]fluoranthene*	0.146	0.040	0.019	mg/kg	40	09/13/21 19:46	8270C		MS
Benzo[k]fluoranthene*	<0.016	0.040	0.016	mg/kg	40	09/13/21 19:46	8270C		MS
Benzo[a]pyrene*	0.083	0.040	0.018	mg/kg	40	09/13/21 19:46	8270C		MS
Indeno[1,2,3-cd]pyrene*	0.036	0.040	0.017	mg/kg	40	09/13/21 19:46	8270C	J	MS

Green Analytical Laboratories

Debbie Zufelt

Debbie Zufelt, Reports Manager

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PO Box 1653  
Durango CO, 81302

Project: COGCC Table 915-1  
Project Name / Number: Spaulding, Margaret (OWP) 8  
Project Manager: Kyle Siesser

Reported:  
09/27/21 13:21

**SS04****2109055-06 (Soil)**

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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**Subcontracted -- Cardinal Laboratories 101 East Marland Hobbs, NM 88240****Polynuclear Aromatic Compounds by GC/MS**

<b>Dibenz[a,h]anthracene*</b>	<0.019	0.040	0.019	mg/kg	40	09/13/21 19:46	8270C		MS
<b>Benzo[g,h,i]perylene*</b>	<b>0.061</b>	0.040	0.019	mg/kg	40	09/13/21 19:46	8270C		MS
<i>Surrogate: Nitrobenzene-d5</i>			82.4 %	39.6-121		09/13/21 19:46	8270C		MS
<i>Surrogate: 2-Fluorobiphenyl</i>			87.4 %	39.8-134		09/13/21 19:46	8270C		MS
<i>Surrogate: Terphenyl-d14</i>			85.0 %	33.3-136		09/13/21 19:46	8270C		MS

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Cottonwood Consulting  
PO Box 1653  
Durango CO, 81302

Project: COGCC Table 915-1  
Project Name / Number: Spaulding, Margaret (OWP) 8  
Project Manager: Kyle Siesser

Reported:  
09/27/21 13:21

**SS05****2109055-07 (Soil)**

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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**General Chemistry**

Hexavalent Chromium	<0.250	0.250	0.0543	mg/kg	25	09/23/21 10:00	3060A/3500-Cr D		JDA
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**Saturated Paste Extraction**

Calcium	146	0.100	0.058	mg/L	1	09/23/21 13:38	EPA200.7		AES
Conductivity	965			umho/cm @ 25.0°C	1	09/22/21 14:55	ASA#9 10-3.3		VJW
Magnesium	11.6	0.100	0.065	mg/L	1	09/23/21 13:38	EPA200.7		AES
pH	7.78			pH Units	1	09/22/21 13:00	ASA#9 10-3.2		VJW
SAR	0.14			No Unit	1	09/23/21 13:38	Calculation		AES
Sodium	6.38	1.00	0.079	mg/L	1	09/23/21 13:38	EPA200.7		AES

**Total Metals by ICP**

Barium	214	5.00	0.390	mg/kg dry	100	09/21/21 13:13	6010B		AES
Cadmium	<5.00	5.00	1.10	mg/kg dry	100	09/21/21 13:13	6010B		AES
Chromium	19.6	5.00	0.400	mg/kg dry	100	09/21/21 13:13	6010B		AES
Copper	30.6	5.00	2.39	mg/kg dry	100	09/21/21 13:13	6010B		AES
Lead	10.4	10.0	0.906	mg/kg dry	100	09/21/21 13:13	6010B		AES
Nickel	15.3	5.00	0.874	mg/kg dry	100	09/21/21 13:13	6010B		AES
Selenium	<20.0	20.0	4.70	mg/kg dry	100	09/21/21 13:13	6010B		AES
Silver	<1.00	1.00	0.688	mg/kg dry	100	09/21/21 13:13	6010B		AES
Zinc	66.3	10.0	1.71	mg/kg dry	100	09/21/21 13:13	6010B		AES

**Total Metals by ICPMS**

Arsenic	6.83	1.00	0.0950	mg/kg dry	1000	09/17/21 13:31	6020A		AES
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**Hot Water Extractable**

Boron	<1.20	1.20	0.568	mg/L	4	09/16/21 18:24	EPA200.7		AES
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**Subcontracted -- Cardinal Laboratories 101 East Marland Hobbs, NM 88240****Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0	10.0	6.25	mg/kg	1	09/10/21 21:47	8015B		MS
DRO >C10-C28*	<10.0	10.0	4.26	mg/kg	1	09/10/21 21:47	8015B		MS
EXT DRO >C28-C36	<10.0	10.0	4.26	mg/kg	1	09/10/21 21:47	8015B		MS

Surrogate: 1-Chlorooctane 94.5 % 44.3-133 09/10/21 21:47 8015B MS

Surrogate: 1-Chlorooctadecane 95.8 % 38.9-142 09/10/21 21:47 8015B MS

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Cottonwood Consulting  
PO Box 1653  
Durango CO, 81302

Project: COGCC Table 915-1  
Project Name / Number: Spaulding, Margaret (OWP) 8  
Project Manager: Kyle Siesser

Reported:  
09/27/21 13:21

## SS05

### 2109055-07 (Soil)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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Subcontracted -- Cardinal Laboratories 101 East Marland Hobbs, NM 88240

#### VOLATILES BY GC/MS

Benzene*	<0.0250	0.0250	0.00885	mg/kg	50	09/09/21 17:30	8260B		MS
Toluene*	<0.0250	0.0250	0.00670	mg/kg	50	09/09/21 17:30	8260B		MS
Ethylbenzene*	<0.0250	0.0250	0.00405	mg/kg	50	09/09/21 17:30	8260B		MS
m+p - Xylene*	<0.0500	0.0500	0.0186	mg/kg	50	09/09/21 17:30	8260B		MS
o-Xylene*	<0.0250	0.0250	0.00700	mg/kg	50	09/09/21 17:30	8260B		MS
Total Xylenes*	<0.0750	0.0750	0.0250	mg/kg	50	09/09/21 17:30	8260B		MS
1,3,5-Trimethylbenzene	<0.0250	0.0250	0.00450	mg/kg	50	09/09/21 17:30	8260B		MS
1,2,4-Trimethylbenzene	<0.0250	0.0250	0.00650	mg/kg	50	09/09/21 17:30	8260B		MS
Naphthalene*	<0.0250	0.0250	0.00500	mg/kg	50	09/09/21 17:30	8260B		MS

Surrogate: Dibromofluoromethane 99.2 % 84.6-114 09/09/21 17:30 8260B MS

Surrogate: Toluene-d8 98.1 % 90.4-109 09/09/21 17:30 8260B MS

Surrogate: 4-Bromofluorobenzene 92.0 % 82.5-117 09/09/21 17:30 8260B MS

#### Polynuclear Aromatic Compounds by GC/MS

Naphthalene*	<0.015	0.040	0.015	mg/kg	40	09/13/21 20:15	8270C		MS
2-Methylnaphthalene*	<0.023	0.040	0.023	mg/kg	40	09/13/21 20:15	8270C		MS
1-Methylnaphthalene	<0.016	0.040	0.016	mg/kg	40	09/13/21 20:15	8270C		MS
Acenaphthylene*	<0.020	0.040	0.020	mg/kg	40	09/13/21 20:15	8270C		MS
Acenaphthene*	<0.024	0.040	0.024	mg/kg	40	09/13/21 20:15	8270C		MS
Fluorene*	<0.014	0.040	0.014	mg/kg	40	09/13/21 20:15	8270C		MS
Phenanthrene*	<0.021	0.040	0.021	mg/kg	40	09/13/21 20:15	8270C		MS
Anthracene*	<0.017	0.040	0.017	mg/kg	40	09/13/21 20:15	8270C		MS
Carbazole*	<0.019	0.040	0.019	mg/kg	40	09/13/21 20:15	8270C		MS
Fluoranthene*	<0.019	0.040	0.019	mg/kg	40	09/13/21 20:15	8270C		MS
Pyrene*	<0.013	0.040	0.013	mg/kg	40	09/13/21 20:15	8270C		MS
Benzo[a]anthracene*	<0.023	0.040	0.023	mg/kg	40	09/13/21 20:15	8270C		MS
Chrysene*	<0.017	0.040	0.017	mg/kg	40	09/13/21 20:15	8270C		MS
Benzo[b]fluoranthene*	<0.019	0.040	0.019	mg/kg	40	09/13/21 20:15	8270C		MS
Benzo[k]fluoranthene*	<0.016	0.040	0.016	mg/kg	40	09/13/21 20:15	8270C		MS
Benzo[a]pyrene*	<0.018	0.040	0.018	mg/kg	40	09/13/21 20:15	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: Spaulding, Margaret (OWP) 8  
Project Manager: Kyle Siesser

Reported:  
09/27/21 13:21

## SS05

## 2109055-07 (Soil)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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## Subcontracted -- Cardinal Laboratories 101 East Marland Hobbs, NM 88240

## Polynuclear Aromatic Compounds by GC/MS

Indeno[1,2,3-cd]pyrene*	<0.017	0.040	0.017	mg/kg	40	09/13/21 20:15	8270C		MS
Dibenz[a,h]anthracene*	<0.019	0.040	0.019	mg/kg	40	09/13/21 20:15	8270C		MS
Benzo[g,h,i]perylene*	<0.019	0.040	0.019	mg/kg	40	09/13/21 20:15	8270C		MS
Surrogate: Nitrobenzene-d5			80.0 %	39.6-121		09/13/21 20:15	8270C		MS
Surrogate: 2-Fluorobiphenyl			86.7 %	39.8-134		09/13/21 20:15	8270C		MS
Surrogate: Terphenyl-d14			80.5 %	33.3-136		09/13/21 20:15	8270C		MS

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Cottonwood Consulting  
PO Box 1653  
Durango CO, 81302

Project: COGCC Table 915-1  
Project Name / Number: Spaulding, Margaret (OWP) 8  
Project Manager: Kyle Siesser

Reported:  
09/27/21 13:21

### General Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B212088 - General Prep - Wet Chem</b>										
<b>Blank (B212088-BLK1)</b> Prepared & Analyzed: 09/07/21										
Total Dissolved Solids	ND	10.0	mg/L							
<b>Duplicate (B212088-DUP1)</b> Source: 2108320-03 Prepared & Analyzed: 09/07/21										
Total Dissolved Solids	320	10.0	mg/L		360			11.8	20	
<b>Reference (B212088-SRM1)</b> Prepared & Analyzed: 09/07/21										
Total Dissolved Solids	380	10.0	mg/L	380		100	85-115			
<b>Batch B212191 - IC- Ion Chromatograph</b>										
<b>Blank (B212191-BLK1)</b> Prepared & Analyzed: 09/16/21										
Chloride	ND	1.00	mg/L							
Sulfate	ND	1.00	mg/L							
<b>LCS (B212191-BS1)</b> Prepared & Analyzed: 09/16/21										
Chloride	24.5	1.00	mg/L	25.0		98.1	90-110			
Sulfate	24.3	1.00	mg/L	25.0		97.1	90-110			
<b>LCS Dup (B212191-BSD1)</b> Prepared & Analyzed: 09/16/21										
Chloride	24.4	1.00	mg/L	25.0		97.8	90-110	0.274	20	
Sulfate	24.3	1.00	mg/L	25.0		97.3	90-110	0.185	20	
<b>Batch B212204 - General Prep - Wet Chem</b>										
<b>Blank (B212204-BLK1)</b> Prepared: 09/17/21 Analyzed: 09/23/21										
Hexavalent Chromium	ND	0.250	mg/kg							
<b>LCS (B212204-BS1)</b> Prepared: 09/17/21 Analyzed: 09/23/21										
Hexavalent Chromium	1.98	0.250	mg/kg	2.00		98.9	85-115			

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Cottonwood Consulting  
PO Box 1653  
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Project: COGCC Table 915-1  
Project Name / Number: Spaulding, Margaret (OWP) 8  
Project Manager: Kyle Siesser

Reported:  
09/27/21 13:21

### Saturated Paste Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch B212187 - Paste Extract

##### Blank (B212187-BLK1)

Prepared: 09/15/21 Analyzed: 09/23/21

Calcium	ND	0.100	mg/L							
Magnesium	ND	0.100	mg/L							
Sodium	ND	1.00	mg/L							

##### Duplicate (B212187-DUP2)

Source: 2109055-06 Prepared: 09/15/21 Analyzed: 09/23/21

Calcium	110	0.100	mg/L		120			8.82	20	
Magnesium	12.1	0.100	mg/L		14.3			16.3	20	
SAR	1.96		No Unit		1.80			8.51	20	
Sodium	81.0	1.00	mg/L		78.5			3.15	20	

##### Reference (B212187-SRM1)

Prepared: 09/15/21 Analyzed: 09/23/21

SAR	7.15		No Unit	7.50		95.3	90-110			
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#### Batch B212188 - Paste Extract

##### Duplicate (B212188-DUP2)

Source: 2109055-06 Prepared: 09/15/21 Analyzed: 09/22/21

Conductivity	958		umho/cm @ 25.0°C		966			0.832	20	
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##### Reference (B212188-SRM1)

Prepared: 09/15/21 Analyzed: 09/22/21

Conductivity	7150		umho/cm @ 25.0°C	6720		106	90-110			
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#### Batch B212189 - Paste Extract

##### Duplicate (B212189-DUP2)

Source: 2109055-06 Prepared: 09/15/21 Analyzed: 09/22/21

pH	8.10		pH Units		8.02			0.993	20	
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##### Reference (B212189-SRM1)

Prepared: 09/15/21 Analyzed: 09/22/21

pH	8.63		pH Units	9.14		94.4	95-105			
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PO Box 1653  
Durango CO, 81302

Project: COGCC Table 915-1  
Project Name / Number: Spaulding, Margaret (OWP) 8  
Project Manager: Kyle Siesser

Reported:  
09/27/21 13:21

### 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 B212137 - EPA 3050

##### Blank (B212137-BLK1)

Prepared: 09/10/21 Analyzed: 09/17/21

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 (B212137-BS1)

Prepared: 09/10/21 Analyzed: 09/17/21

Barium	168	5.00	mg/kg dry	200	84.1	80-120
Cadmium	167	5.00	mg/kg dry	200	83.4	80-120
Chromium	170	5.00	mg/kg dry	200	85.2	80-120
Copper	357	5.00	mg/kg dry	400	89.2	80-120
Lead	163	10.0	mg/kg dry	200	81.6	80-120
Nickel	167	5.00	mg/kg dry	200	83.6	80-120
Selenium	672	20.0	mg/kg dry	800	84.0	80-120
Silver	8.53	1.00	mg/kg dry	10.0	85.3	80-120
Zinc	164	10.0	mg/kg dry	200	81.9	80-120

##### LCS Dup (B212137-BSD1)

Prepared: 09/10/21 Analyzed: 09/17/21

Barium	169	5.00	mg/kg dry	200	84.7	80-120	0.643	20
Cadmium	160	5.00	mg/kg dry	200	80.1	80-120	4.09	20
Chromium	171	5.00	mg/kg dry	200	85.7	80-120	0.598	20
Copper	359	5.00	mg/kg dry	400	89.7	80-120	0.582	20
Lead	161	10.0	mg/kg dry	200	80.6	80-120	1.27	20
Nickel	166	5.00	mg/kg dry	200	83.1	80-120	0.635	20
Selenium	673	20.0	mg/kg dry	800	84.1	80-120	0.115	20
Silver	8.70	1.00	mg/kg dry	10.0	87.0	80-120	2.00	20
Zinc	161	10.0	mg/kg dry	200	80.7	80-120	1.46	20

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Cottonwood Consulting  
PO Box 1653  
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Project: COGCC Table 915-1  
Project Name / Number: Spaulding, Margaret (OWP) 8  
Project Manager: Kyle Siesser

Reported:  
09/27/21 13:21

### 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 B212141 - EPA 3050M

##### Blank (B212141-BLK1)

Prepared: 09/10/21 Analyzed: 09/17/21

Arsenic	ND	0.100	mg/kg dry							
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##### LCS (B212141-BS1)

Prepared: 09/10/21 Analyzed: 09/17/21

Arsenic	4.53	0.100	mg/kg dry	5.00		90.5	80-120			
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##### LCS Dup (B212141-BSD1)

Prepared: 09/10/21 Analyzed: 09/17/21

Arsenic	4.77	0.100	mg/kg dry	5.00		95.4	80-120	5.30	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 B212178 - Hot Water Soluble Metals Extract

##### Blank (B212178-BLK1)

Prepared: 09/15/21 Analyzed: 09/16/21

Boron	ND	1.20	mg/L							
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##### Duplicate (B212178-DUP1)

Source: 2109051-01 Prepared: 09/15/21 Analyzed: 09/16/21

Boron	ND	1.20	mg/L		ND				200	
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Cottonwood Consulting  
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Durango CO, 81302

Project: COGCC Table 915-1  
Project Name / Number: Spaulding, Margaret (OWP) 8  
Project Manager: Kyle Siesser

Reported:  
09/27/21 13:21

### 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 1090903 - General Prep - Organics

##### Blank (1090903-BLK1)

Prepared: 09/09/21 Analyzed: 09/10/21

Surrogate: 1-Chlorooctadecane	45.3		mg/kg	50.0		90.6	38.9-142			
Surrogate: 1-Chlorooctane	46.8		mg/kg	50.0		93.6	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 (1090903-BS1)

Prepared: 09/09/21 Analyzed: 09/10/21

Surrogate: 1-Chlorooctadecane	45.5		mg/kg	50.0		91.0	38.9-142			
Surrogate: 1-Chlorooctane	48.0		mg/kg	50.0		96.0	44.3-133			
DRO >C10-C28	211	10.0	mg/kg	200		105	79.3-136			
GRO C6-C10	207	10.0	mg/kg	200		103	83.4-129			
Total TPH C6-C28	417	10.0	mg/kg	400		104	85.3-130			

##### LCS Dup (1090903-BSD1)

Prepared: 09/09/21 Analyzed: 09/10/21

Surrogate: 1-Chlorooctadecane	49.2		mg/kg	50.0		98.4	38.9-142			
Surrogate: 1-Chlorooctane	52.0		mg/kg	50.0		104	44.3-133			
DRO >C10-C28	208	10.0	mg/kg	200		104	79.3-136	1.24	12.1	
GRO C6-C10	208	10.0	mg/kg	200		104	83.4-129	0.803	12.6	
Total TPH C6-C28	416	10.0	mg/kg	400		104	85.3-130	0.224	11.6	

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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: Spaulding, Margaret (OWP) 8  
Project Manager: Kyle Siesser

Reported:  
09/27/21 13:21

### 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 1090813 - Volatiles

##### Blank (1090813-BLK1)

Prepared: 09/08/21 Analyzed: 09/09/21

1,2,4-Trimethylbenzene	ND	0.0250	mg/kg							
1,3,5-Trimethylbenzene	ND	0.0250	mg/kg							
Surrogate: 4-Bromofluorobenzene	1.11		mg/kg	1.25		89.1	82.5-117			
Benzene	ND	0.0250	mg/kg							
Surrogate: Dibromofluoromethane	1.29		mg/kg	1.25		103	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	1.23		mg/kg	1.25		98.2	90.4-109			
Total Xylenes	ND	0.0750	mg/kg							

##### LCS (1090813-BS1)

Prepared: 09/08/21 Analyzed: 09/09/21

1,2,4-Trimethylbenzene	0.519	0.0250	mg/kg	0.500		104	62.4-140			
1,3,5-Trimethylbenzene	0.571	0.0250	mg/kg	0.500		114	64.4-138			
Surrogate: 4-Bromofluorobenzene	1.20		mg/kg	1.25		96.1	82.5-117			
Benzene	0.528	0.0250	mg/kg	0.500		106	73-130			
Surrogate: Dibromofluoromethane	1.25		mg/kg	1.25		99.7	84.6-114			
Ethylbenzene	0.511	0.0250	mg/kg	0.500		102	75.4-127			
m+p - Xylene	1.03	0.0500	mg/kg	1.00		103	71.8-133			
Naphthalene	0.485	0.0250	mg/kg	0.500		97.0	28.7-158			
o-Xylene	0.496	0.0250	mg/kg	0.500		99.2	78.6-125			
Toluene	0.510	0.0250	mg/kg	0.500		102	79-122			
Surrogate: Toluene-d8	1.25		mg/kg	1.25		99.6	90.4-109			
Total Xylenes	1.52	0.0750	mg/kg	1.50		102	74.6-130			

##### LCS Dup (1090813-BSD1)

Prepared: 09/08/21 Analyzed: 09/09/21

1,2,4-Trimethylbenzene	0.506	0.0250	mg/kg	0.500		101	62.4-140	2.44	38.2	
1,3,5-Trimethylbenzene	0.506	0.0250	mg/kg	0.500		101	64.4-138	12.0	39.1	
Surrogate: 4-Bromofluorobenzene	1.21		mg/kg	1.25		96.7	82.5-117			
Benzene	0.526	0.0250	mg/kg	0.500		105	73-130	0.287	17.1	
Surrogate: Dibromofluoromethane	1.25		mg/kg	1.25		100	84.6-114			
Ethylbenzene	0.496	0.0250	mg/kg	0.500		99.2	75.4-127	2.88	16.5	
m+p - Xylene	1.01	0.0500	mg/kg	1.00		101	71.8-133	1.63	19.1	
Naphthalene	0.463	0.0250	mg/kg	0.500		92.6	28.7-158	4.56	64	
o-Xylene	0.486	0.0250	mg/kg	0.500		97.3	78.6-125	2.02	13.2	
Toluene	0.509	0.0250	mg/kg	0.500		102	79-122	0.177	18.3	

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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: Spaulding, Margaret (OWP) 8  
Project Manager: Kyle Siesser

Reported:  
09/27/21 13:21

**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 1090813 - Volatiles (Continued)**

**LCS Dup (1090813-BSD1) (Continued)**

Prepared: 09/08/21 Analyzed: 09/09/21

Surrogate: Toluene-d8	1.24		mg/kg	1.25		99.4	90.4-109			
Total Xylenes	1.50	0.0750	mg/kg	1.50		99.7	74.6-130	1.75	16.5	

**Batch 1091309 - Volatiles**

**Blank (1091309-BLK1)**

Prepared: 09/13/21 Analyzed: 09/14/21

1,1,1,2-Tetrachloroethane	ND	0.0005	mg/L							
1,1,1-Trichloroethane	ND	0.0005	mg/L							
1,1,2,2-Tetrachloroethane	ND	0.0005	mg/L							
1,1,2-Trichloroethane	ND	0.0005	mg/L							
1,1-Dichloroethane	ND	0.0005	mg/L							
1,1-Dichloroethene	ND	0.0005	mg/L							
1,1-Dichloropropene	ND	0.0005	mg/L							
1,2,3-Trichlorobenzene	ND	0.0005	mg/L							
1,2,4-Trichlorobenzene	ND	0.0005	mg/L							
1,2,4-Trimethylbenzene	ND	0.0005	mg/L							
1,2-Dibromo-3-chloropropane	ND	0.0005	mg/L							
1,2-Dibromoethane	ND	0.0005	mg/L							
1,2-Dichlorobenzene	ND	0.0005	mg/L							
1,2-Dichloroethane	ND	0.0005	mg/L							
1,2-Dichloropropane	ND	0.0005	mg/L							
1,3,5-Trimethylbenzene	ND	0.0005	mg/L							
1,3-Dichlorobenzene	ND	0.0005	mg/L							
1,3-Dichloropropane	ND	0.0005	mg/L							
1,4-Dichlorobenzene	ND	0.0005	mg/L							
1,4-Dioxane	ND	0.100	mg/L							
1,2,3-trichloropropane	ND	0.0005	mg/L							
2,2-Dichloropropane	ND	0.0005	mg/L							
2-Butanone	ND	0.002	mg/L							
2-Chlorotoluene	ND	0.0005	mg/L							
2-Hexanone	ND	0.001	mg/L							
Surrogate: 4-Bromofluorobenzene	0.0222		mg/L	0.0250		88.9	76.4-114			
4-Chlorotoluene	ND	0.0005	mg/L							
4-Methyl-2-pentanone	ND	0.001	mg/L							
Acetone	ND	0.010	mg/L							
Acrolein	ND	0.005	mg/L							
Acrylonitrile	ND	0.002	mg/L							
Benzene	ND	0.0005	mg/L							
Bromobenzene	ND	0.0005	mg/L							
Bromochloromethane	ND	0.0005	mg/L							

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Project: COGCC Table 915-1  
Project Name / Number: Spaulding, Margaret (OWP) 8  
Project Manager: Kyle Siesser

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**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 1091309 - Volatiles (Continued)**

**Blank (1091309-BLK1) (Continued)**

Prepared: 09/13/21 Analyzed: 09/14/21

Bromodichloromethane	ND	0.0005	mg/L
Bromoform	ND	0.0005	mg/L
Bromomethane	ND	0.0005	mg/L
Carbon disulfide	ND	0.001	mg/L
Carbon tetrachloride	ND	0.0005	mg/L
Chlorobenzene	ND	0.0005	mg/L
Chloroethane	ND	0.0005	mg/L
Chloroform	ND	0.0005	mg/L
Chloromethane	ND	0.0005	mg/L
cis-1,2-Dichloroethene	ND	0.0005	mg/L
cis-1,3-Dichloropropene	ND	0.0005	mg/L
Dibromochloromethane	ND	0.0005	mg/L

Surrogate: Dibromofluoromethane 0.0259 mg/L 0.0250 104 82.4-141

Dibromomethane	ND	0.0005	mg/L
Dichlorodifluoromethane	ND	0.0005	mg/L
Ethylbenzene	ND	0.0005	mg/L
Hexachlorobutadiene	ND	0.0005	mg/L
Iodomethane	ND	0.001	mg/L
Isopropylbenzene	ND	0.0005	mg/L
m+p - Xylene	ND	0.001	mg/L
Methyl t-Butyl Ether	ND	0.001	mg/L
Methylene chloride	ND	0.0005	mg/L
Naphthalene	ND	0.0005	mg/L
n-Butylbenzene	ND	0.0005	mg/L
n-Propylbenzene	ND	0.0005	mg/L
o-Xylene	ND	0.0005	mg/L
p-Isopropyltoluene	ND	0.0005	mg/L
sec-Butylbenzene	ND	0.0005	mg/L
Styrene	ND	0.0005	mg/L
tert-Butylbenzene	ND	0.0005	mg/L
Tetrachloroethene	ND	0.0005	mg/L
Toluene	ND	0.0005	mg/L

Surrogate: Toluene-d8 0.0238 mg/L 0.0250 95.2 87.1-110

Total Xylenes	ND	0.0005	mg/L
trans-1,2-Dichloroethene	ND	0.0005	mg/L
trans-1,3-Dichloropropene	ND	0.0005	mg/L
trans-1,4-Dichloro-2-butene	ND	0.010	mg/L
Trichloroethene	ND	0.0005	mg/L
Trichlorofluoromethane	ND	0.0005	mg/L

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Project: COGCC Table 915-1  
Project Name / Number: Spaulding, Margaret (OWP) 8  
Project Manager: Kyle Siesser

Reported:  
09/27/21 13:21

**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 1091309 - Volatiles (Continued)**

**Blank (1091309-BLK1) (Continued)**

Prepared: 09/13/21 Analyzed: 09/14/21

Vinyl acetate	ND	0.0005	mg/L							
Vinyl chloride	ND	0.0005	mg/L							

**LCS (1091309-BS1)**

Prepared: 09/13/21 Analyzed: 09/14/21

1,1,1,2-Tetrachloroethane	0.019	0.0005	mg/L	0.0200		96.0	89.5-111			
1,1,1-Trichloroethane	0.018	0.0005	mg/L	0.0200		88.4	85.1-117			
1,1,2,2-Tetrachloroethane	0.017	0.0005	mg/L	0.0200		85.9	68.8-127			
1,1,2-Trichloroethane	0.018	0.0005	mg/L	0.0200		89.0	77.4-118			
1,1-Dichloroethane	0.016	0.0005	mg/L	0.0200		77.6	78.1-121			BS-3
1,1-Dichloroethene	0.016	0.0005	mg/L	0.0200		80.6	64-124			
1,1-Dichloropropene	0.018	0.0005	mg/L	0.0200		89.6	81-122			
1,2,3-Trichlorobenzene	0.018	0.0005	mg/L	0.0200		90.6	85.7-115			
1,2,4-Trichlorobenzene	0.018	0.0005	mg/L	0.0200		92.4	83.5-117			
1,2,4-Trimethylbenzene	0.018	0.0005	mg/L	0.0200		90.5	78.4-126			
1,2-Dibromo-3-chloropropane	0.019	0.0005	mg/L	0.0200		97.4	77.2-116			
1,2-Dibromoethane	0.019	0.0005	mg/L	0.0200		96.7	88.6-113			
1,2-Dichlorobenzene	0.019	0.0005	mg/L	0.0200		93.3	86.5-111			
1,2-Dichloroethane	0.017	0.0005	mg/L	0.0200		85.4	75.6-120			
1,2-Dichloropropane	0.019	0.0005	mg/L	0.0200		95.5	76.8-121			
1,3,5-Trimethylbenzene	0.018	0.0005	mg/L	0.0200		91.5	79.2-127			
1,3-Dichlorobenzene	0.019	0.0005	mg/L	0.0200		94.1	87.7-112			
1,3-Dichloropropane	0.018	0.0005	mg/L	0.0200		90.4	82.1-119			
1,4 Dichlorobenzene	0.018	0.0005	mg/L	0.0200		90.6	85.2-111			
1,4-Dioxane	1.93	0.100	mg/L	2.00		96.7	-34.9-102			
1,2,3-trichloropropane	0.016	0.0005	mg/L	0.0200		78.1	53.2-135			
2,2-Dichloropropane	0.016	0.0005	mg/L	0.0200		81.6	74.3-136			
2-Butanone	0.037	0.002	mg/L	0.0400		91.8	65.6-132			
2-Chlorotoluene	0.017	0.0005	mg/L	0.0200		87.4	78.3-123			
2-Hexanone	0.035	0.001	mg/L	0.0400		87.4	66.6-126			
Surrogate: 4-Bromofluorobenzene	0.0244		mg/L	0.0250		97.8	76.4-114			
4-Chlorotoluene	0.019	0.0005	mg/L	0.0200		92.6	76.8-129			
4-Methyl-2-pentanone	0.034	0.001	mg/L	0.0400		85.8	67.7-128			
Acetone	0.030	0.010	mg/L	0.0400		74.6	54.3-140			
Acrolein	0.120	0.005	mg/L	0.200		59.9	29.4-149			
Acrylonitrile	0.032	0.002	mg/L	0.0400		80.9	60.8-143			
Benzene	0.018	0.0005	mg/L	0.0200		92.4	82.7-115			
Bromobenzene	0.018	0.0005	mg/L	0.0200		92.1	85.1-112			
Bromochloromethane	0.015	0.0005	mg/L	0.0200		74.2	77.8-118			BS-3
Bromodichloromethane	0.019	0.0005	mg/L	0.0200		94.8	82.7-118			

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Debbie Zufelt, Reports Manager

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Project: COGCC Table 915-1  
Project Name / Number: Spaulding, Margaret (OWP) 8  
Project Manager: Kyle Siesser

Reported:  
09/27/21 13:21

**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 1091309 - Volatiles (Continued)**

**LCS (1091309-BS1) (Continued)**

Prepared: 09/13/21 Analyzed: 09/14/21

Bromoform	0.021	0.0005	mg/L	0.0200		104	76.1-133			
Bromomethane	0.017	0.0005	mg/L	0.0200		82.6	61.1-126			
Carbon disulfide	0.033	0.001	mg/L	0.0400		82.9	67.2-128			
Carbon tetrachloride	0.018	0.0005	mg/L	0.0200		90.6	89.7-117			
Chlorobenzene	0.019	0.0005	mg/L	0.0200		92.8	86.2-112			
Chloroethane	0.015	0.0005	mg/L	0.0200		76.2	62.4-125			
Chloroform	0.016	0.0005	mg/L	0.0200		80.4	86.7-115			BS-3
Chloromethane	0.022	0.0005	mg/L	0.0200		110	47.1-145			
cis-1,2-Dichloroethene	0.016	0.0005	mg/L	0.0200		78.8	76-117			
cis-1,3-Dichloropropene	0.018	0.0005	mg/L	0.0200		88.5	80.9-123			
Dibromochloromethane	0.020	0.0005	mg/L	0.0200		97.6	88.7-121			
<i>Surrogate: Dibromofluoromethane</i>	<i>0.0249</i>		mg/L	<i>0.0250</i>		<i>99.5</i>	<i>82.4-141</i>			
Dibromomethane	0.019	0.0005	mg/L	0.0200		93.1	86.4-114			
Dichlorodifluoromethane	0.020	0.0005	mg/L	0.0200		101	36.1-160			
Ethylbenzene	0.019	0.0005	mg/L	0.0200		93.5	84.3-117			
Hexachlorobutadiene	0.020	0.0005	mg/L	0.0200		100	94.3-116			
Iodomethane	0.034	0.001	mg/L	0.0400		84.8	77.4-124			
Isopropylbenzene	0.020	0.0005	mg/L	0.0200		97.7	88.1-114			
m+p - Xylene	0.038	0.001	mg/L	0.0400		94.8	85.9-122			
Methyl t-Butyl Ether	0.031	0.001	mg/L	0.0400		76.8	78.9-118			BS-3
Methylene chloride	0.018	0.0005	mg/L	0.0200		91.0	64.2-134			
Naphthalene	0.019	0.0005	mg/L	0.0200		95.5	80.6-121			
n-Butylbenzene	0.018	0.0005	mg/L	0.0200		91.4	82.2-123			
n-Propylbenzene	0.018	0.0005	mg/L	0.0200		89.4	78.9-125			
o-Xylene	0.019	0.0005	mg/L	0.0200		93.7	85.6-112			
p-Isopropyltoluene	0.019	0.0005	mg/L	0.0200		94.6	82.5-123			
sec-Butylbenzene	0.019	0.0005	mg/L	0.0200		94.5	82.1-128			
Styrene	0.018	0.0005	mg/L	0.0200		92.1	78.3-117			
tert-Butylbenzene	0.019	0.0005	mg/L	0.0200		96.6	79.5-129			
Tetrachloroethene	0.020	0.0005	mg/L	0.0200		98.0	86.6-110			
Toluene	0.018	0.0005	mg/L	0.0200		91.2	82.8-112			
<i>Surrogate: Toluene-d8</i>	<i>0.0243</i>		mg/L	<i>0.0250</i>		<i>97.1</i>	<i>87.1-110</i>			
Total Xylenes	0.057	0.0005	mg/L	0.0600		94.5	86.5-118			
trans-1,2-Dichloroethene	0.016	0.0005	mg/L	0.0200		78.4	69.2-119			
trans-1,3-Dichloropropene	0.018	0.0005	mg/L	0.0200		90.8	77.4-131			
trans-1,4-Dichloro-2-butene	0.036	0.010	mg/L	0.0400		88.8	41.4-204			
Trichloroethene	0.018	0.0005	mg/L	0.0200		90.2	82.2-114			
Trichlorofluoromethane	0.018	0.0005	mg/L	0.0200		90.2	78.2-126			
Vinyl acetate	0.016	0.0005	mg/L	0.0200		79.7	56.2-148			

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Project: COGCC Table 915-1  
Project Name / Number: Spaulding, Margaret (OWP) 8  
Project Manager: Kyle Siesser

Reported:  
09/27/21 13:21

**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 1091309 - Volatiles (Continued)**

**LCS (1091309-BS1) (Continued)**

Prepared: 09/13/21 Analyzed: 09/14/21

Vinyl chloride	0.021	0.0005	mg/L	0.0200	104	62-135
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**LCS Dup (1091309-BSD1)**

Prepared: 09/13/21 Analyzed: 09/14/21

1,1,1,2-Tetrachloroethane	0.019	0.0005	mg/L	0.0200	96.7	89.5-111	0.727	6.88
1,1,1-Trichloroethane	0.018	0.0005	mg/L	0.0200	92.0	85.1-117	4.05	7.43
1,1,2,2-Tetrachloroethane	0.018	0.0005	mg/L	0.0200	90.3	68.8-127	4.99	8.68
1,1,2-Trichloroethane	0.018	0.0005	mg/L	0.0200	89.1	77.4-118	0.168	6.82
1,1-Dichloroethane	0.016	0.0005	mg/L	0.0200	80.2	78.1-121	3.17	4.3
1,1-Dichloroethene	0.017	0.0005	mg/L	0.0200	83.4	64-124	3.42	16.5
1,1-Dichloropropene	0.019	0.0005	mg/L	0.0200	93.4	81-122	4.04	5.47
1,2,3-Trichlorobenzene	0.018	0.0005	mg/L	0.0200	91.4	85.7-115	0.934	43
1,2,4-Trichlorobenzene	0.019	0.0005	mg/L	0.0200	92.8	83.5-117	0.432	22.3
1,2,4-Trimethylbenzene	0.019	0.0005	mg/L	0.0200	94.6	78.4-126	4.43	8.94
1,2-Dibromo-3-chloropropane	0.019	0.0005	mg/L	0.0200	97.4	77.2-116	0.0513	15.1
1,2-Dibromoethane	0.020	0.0005	mg/L	0.0200	101	88.6-113	3.90	5.83
1,2-Dichlorobenzene	0.019	0.0005	mg/L	0.0200	97.1	86.5-111	4.05	8.72
1,2-Dichloroethane	0.018	0.0005	mg/L	0.0200	88.2	75.6-120	3.28	8.94
1,2-Dichloropropane	0.019	0.0005	mg/L	0.0200	97.2	76.8-121	1.71	5.51
1,3,5-Trimethylbenzene	0.019	0.0005	mg/L	0.0200	95.6	79.2-127	4.33	16.5
1,3-Dichlorobenzene	0.019	0.0005	mg/L	0.0200	95.0	87.7-112	0.952	9
1,3-Dichloropropane	0.018	0.0005	mg/L	0.0200	91.9	82.1-119	1.59	6.06
1,4-Dichlorobenzene	0.019	0.0005	mg/L	0.0200	95.2	85.2-111	5.06	7.71
1,4-Dioxane	1.94	0.100	mg/L	2.00	96.9	-34.9-102	0.174	35.2
1,2,3-trichloropropane	0.024	0.0005	mg/L	0.0200	120	53.2-135	42.5	49.2
2,2-Dichloropropane	0.017	0.0005	mg/L	0.0200	85.9	74.3-136	5.08	9.62
2-Butanone	0.037	0.002	mg/L	0.0400	91.8	65.6-132	0.0272	14.2
2-Chlorotoluene	0.018	0.0005	mg/L	0.0200	91.6	78.3-123	4.75	8.62
2-Hexanone	0.036	0.001	mg/L	0.0400	90.7	66.6-126	3.65	7.28
Surrogate: 4-Bromofluorobenzene	0.0244		mg/L	0.0250	97.4	76.4-114		
4-Chlorotoluene	0.019	0.0005	mg/L	0.0200	95.1	76.8-129	2.66	15.5
4-Methyl-2-pentanone	0.035	0.001	mg/L	0.0400	87.3	67.7-128	1.73	7.57
Acetone	0.029	0.010	mg/L	0.0400	73.1	54.3-140	2.07	30.5
Acrolein	0.121	0.005	mg/L	0.200	60.4	29.4-149	0.923	22.4
Acrylonitrile	0.034	0.002	mg/L	0.0400	84.4	60.8-143	4.20	7.62
Benzene	0.019	0.0005	mg/L	0.0200	97.2	82.7-115	5.01	4.16
Bromobenzene	0.019	0.0005	mg/L	0.0200	97.0	85.1-112	5.23	8.41
Bromochloromethane	0.015	0.0005	mg/L	0.0200	76.4	77.8-118	2.92	5.16
Bromodichloromethane	0.019	0.0005	mg/L	0.0200	96.9	82.7-118	2.24	5.36
Bromoform	0.021	0.0005	mg/L	0.0200	105	76.1-133	0.958	14.1

QR-04

BS-3

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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: Spaulding, Margaret (OWP) 8  
Project Manager: Kyle Siesser

Reported:  
09/27/21 13:21

**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 1091309 - Volatiles (Continued)**

**LCS Dup (1091309-BSD1) (Continued)**

Prepared: 09/13/21 Analyzed: 09/14/21

Bromomethane	0.017	0.0005	mg/L	0.0200		83.7	61.1-126	1.32	21.5	
Carbon disulfide	0.034	0.001	mg/L	0.0400		85.7	67.2-128	3.32	20.3	
Carbon tetrachloride	0.019	0.0005	mg/L	0.0200		92.6	89.7-117	2.24	11.4	
Chlorobenzene	0.019	0.0005	mg/L	0.0200		96.2	86.2-112	3.54	5.18	
Chloroethane	0.016	0.0005	mg/L	0.0200		78.2	62.4-125	2.66	24.1	
Chloroform	0.017	0.0005	mg/L	0.0200		83.2	86.7-115	3.49	5.15	BS-3
Chloromethane	0.023	0.0005	mg/L	0.0200		114	47.1-145	3.76	27	
cis-1,2-Dichloroethene	0.016	0.0005	mg/L	0.0200		82.5	76-117	4.59	5.73	
cis-1,3-Dichloropropene	0.018	0.0005	mg/L	0.0200		90.6	80.9-123	2.29	6.09	
Dibromochloromethane	0.020	0.0005	mg/L	0.0200		99.3	88.7-121	1.68	7.24	
<i>Surrogate: Dibromofluoromethane</i>	<i>0.0248</i>		mg/L	<i>0.0250</i>		<i>99.1</i>	<i>82.4-141</i>			
Dibromomethane	0.019	0.0005	mg/L	0.0200		96.2	86.4-114	3.33	5.75	
Dichlorodifluoromethane	0.021	0.0005	mg/L	0.0200		104	36.1-160	2.68	22.6	
Ethylbenzene	0.019	0.0005	mg/L	0.0200		94.6	84.3-117	1.12	4.83	
Hexachlorobutadiene	0.020	0.0005	mg/L	0.0200		102	94.3-116	1.24	18.4	
Iodomethane	0.036	0.001	mg/L	0.0400		90.2	77.4-124	6.20	24.3	
Isopropylbenzene	0.020	0.0005	mg/L	0.0200		100	88.1-114	2.28	6.25	
m+p - Xylene	0.039	0.001	mg/L	0.0400		97.2	85.9-122	2.47	5.77	
Methyl t-Butyl Ether	0.032	0.001	mg/L	0.0400		80.8	78.9-118	5.08	12.8	
Methylene chloride	0.019	0.0005	mg/L	0.0200		93.7	64.2-134	2.87	19.7	
Naphthalene	0.019	0.0005	mg/L	0.0200		95.4	80.6-121	0.105	33.5	
n-Butylbenzene	0.019	0.0005	mg/L	0.0200		95.4	82.2-123	4.23	10.1	
n-Propylbenzene	0.018	0.0005	mg/L	0.0200		92.4	78.9-125	3.41	9.09	
o-Xylene	0.019	0.0005	mg/L	0.0200		96.6	85.6-112	3.10	6.29	
p-Isopropyltoluene	0.020	0.0005	mg/L	0.0200		99.0	82.5-123	4.49	9.26	
sec-Butylbenzene	0.020	0.0005	mg/L	0.0200		98.3	82.1-128	3.94	9.85	
Styrene	0.019	0.0005	mg/L	0.0200		94.2	78.3-117	2.31	7.55	
tert-Butylbenzene	0.018	0.0005	mg/L	0.0200		90.0	79.5-129	7.08	18.6	
Tetrachloroethene	0.021	0.0005	mg/L	0.0200		103	86.6-110	5.07	6.38	
Toluene	0.019	0.0005	mg/L	0.0200		93.5	82.8-112	2.55	5.67	
<i>Surrogate: Toluene-d8</i>	<i>0.0244</i>		mg/L	<i>0.0250</i>		<i>97.5</i>	<i>87.1-110</i>			
Total Xylenes	0.058	0.0005	mg/L	0.0600		97.0	86.5-118	2.68	5.83	
trans-1,2-Dichloroethene	0.016	0.0005	mg/L	0.0200		81.7	69.2-119	4.12	19.1	
trans-1,3-Dichloropropene	0.019	0.0005	mg/L	0.0200		93.8	77.4-131	3.25	6.26	
trans-1,4-Dichloro-2-butene	0.033	0.010	mg/L	0.0400		83.4	41.4-204	6.22	92.8	
Trichloroethene	0.019	0.0005	mg/L	0.0200		92.9	82.2-114	2.89	4.92	
Trichlorofluoromethane	0.019	0.0005	mg/L	0.0200		93.4	78.2-126	3.38	19.8	
Vinyl acetate	0.016	0.0005	mg/L	0.0200		80.0	56.2-148	0.438	7.84	
Vinyl chloride	0.021	0.0005	mg/L	0.0200		104	62-135	0.0959	23	

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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: Spaulding, Margaret (OWP) 8  
Project Manager: Kyle Siesser

**Reported:**  
09/27/21 13:21

Green Analytical Laboratories

A handwritten signature in black ink that reads 'Debbie Zufelt'.

Debbie Zufelt, Reports Manager

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PO Box 1653  
Durango CO, 81302

Project: COGCC Table 915-1  
Project Name / Number: Spaulding, Margaret (OWP) 8  
Project Manager: Kyle Siesser

Reported:  
09/27/21 13:21

### 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 1090709 - SW846-3510

##### Blank (1090709-BLK1)

Prepared: 09/07/21 Analyzed: 09/13/21

1-Methylnaphthalene	ND	0.040	mg/kg							
Surrogate: 2-Fluorobiphenyl	1.57		mg/kg	2.00		78.5	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	1.61		mg/kg	2.00		80.4	39.6-121			
Phenanthrene	ND	0.040	mg/kg							
Pyrene	ND	0.040	mg/kg							
Surrogate: Terphenyl-d14	1.79		mg/kg	2.00		89.3	33.3-136			

##### LCS (1090709-BS1)

Prepared: 09/07/21 Analyzed: 09/13/21

1-Methylnaphthalene	0.333	0.040	mg/kg	0.400		83.3	57.6-108			
Surrogate: 2-Fluorobiphenyl	1.69		mg/kg	2.00		84.5	39.8-134			
2-Methylnaphthalene	0.347	0.040	mg/kg	0.400		86.7	59-106			
Acenaphthene	0.335	0.040	mg/kg	0.400		83.6	60.9-105			
Acenaphthylene	0.360	0.040	mg/kg	0.400		89.9	57.4-107			
Anthracene	0.330	0.040	mg/kg	0.400		82.5	60.8-105			
Benzo[a]anthracene	0.343	0.040	mg/kg	0.400		85.7	56.1-121			
Benzo[a]pyrene	0.302	0.040	mg/kg	0.400		75.6	56.7-115			
Benzo[b]fluoranthene	0.353	0.040	mg/kg	0.400		88.2	45.4-128			
Benzo[g,h,i]perylene	0.333	0.040	mg/kg	0.400		83.3	56.5-107			
Benzo[k]fluoranthene	0.350	0.040	mg/kg	0.400		87.6	49.6-119			
Carbazole	0.337	0.040	mg/kg	0.400		84.3	59.7-107			
Chrysene	0.341	0.040	mg/kg	0.400		85.4	12.2-190			
Dibenz[a,h]anthracene	0.323	0.040	mg/kg	0.400		80.7	59.1-111			
Fluoranthene	0.312	0.040	mg/kg	0.400		78.0	60.6-111			

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Cottonwood Consulting  
PO Box 1653  
Durango CO, 81302

Project: COGCC Table 915-1  
Project Name / Number: Spaulding, Margaret (OWP) 8  
Project Manager: Kyle Siesser

Reported:  
09/27/21 13:21

**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 1090709 - SW846-3510 (Continued)**

**LCS (1090709-BS1) (Continued)**

Prepared: 09/07/21 Analyzed: 09/13/21

Fluorene	0.339	0.040	mg/kg	0.400		84.8	59.3-108			
Indeno[1,2,3-cd]pyrene	0.329	0.040	mg/kg	0.400		82.3	53.4-116			
Naphthalene	0.350	0.040	mg/kg	0.400		87.6	56.5-106			
Surrogate: Nitrobenzene-d5	1.67		mg/kg	2.00		83.7	39.6-121			
Phenanthrene	0.336	0.040	mg/kg	0.400		83.9	59.9-107			
Pyrene	0.372	0.040	mg/kg	0.400		93.1	51.5-122			
Surrogate: Terphenyl-d14	1.82		mg/kg	2.00		91.2	33.3-136			

**LCS Dup (1090709-BSD1)**

Prepared: 09/07/21 Analyzed: 09/13/21

1-Methylnaphthalene	0.332	0.040	mg/kg	0.400		83.0	57.6-108	0.358	6.22	
Surrogate: 2-Fluorobiphenyl	1.67		mg/kg	2.00		83.6	39.8-134			
2-Methylnaphthalene	0.343	0.040	mg/kg	0.400		85.8	59-106	1.10	6.23	
Acenaphthene	0.345	0.040	mg/kg	0.400		86.3	60.9-105	3.07	8.18	
Acenaphthylene	0.353	0.040	mg/kg	0.400		88.2	57.4-107	1.87	5	
Anthracene	0.334	0.040	mg/kg	0.400		83.5	60.8-105	1.31	3.68	
Benzo[a]anthracene	0.342	0.040	mg/kg	0.400		85.4	56.1-121	0.313	9.01	
Benzo[a]pyrene	0.297	0.040	mg/kg	0.400		74.2	56.7-115	1.90	4.92	
Benzo[b]fluoranthene	0.343	0.040	mg/kg	0.400		85.7	45.4-128	2.88	7.63	
Benzo[g,h,i]perylene	0.334	0.040	mg/kg	0.400		83.5	56.5-107	0.246	12.5	
Benzo[k]fluoranthene	0.347	0.040	mg/kg	0.400		86.7	49.6-119	1.04	10.6	
Carbazole	0.344	0.040	mg/kg	0.400		86.0	59.7-107	2.03	8.65	
Chrysene	0.335	0.040	mg/kg	0.400		83.7	12.2-190	2.02	21.8	
Dibenz[a,h]anthracene	0.313	0.040	mg/kg	0.400		78.2	59.1-111	3.21	11.6	
Fluoranthene	0.319	0.040	mg/kg	0.400		79.6	60.6-111	2.08	7.54	
Fluorene	0.334	0.040	mg/kg	0.400		83.6	59.3-108	1.49	5.49	
Indeno[1,2,3-cd]pyrene	0.331	0.040	mg/kg	0.400		82.8	53.4-116	0.627	22.3	
Naphthalene	0.349	0.040	mg/kg	0.400		87.2	56.5-106	0.386	4.56	
Surrogate: Nitrobenzene-d5	1.70		mg/kg	2.00		84.8	39.6-121			
Phenanthrene	0.335	0.040	mg/kg	0.400		83.7	59.9-107	0.242	5.21	
Pyrene	0.344	0.040	mg/kg	0.400		86.1	51.5-122	7.79	10.6	
Surrogate: Terphenyl-d14	1.67		mg/kg	2.00		83.5	33.3-136			

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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: Spaulding, Margaret (OWP) 8  
Project Manager: Kyle Siesser

**Reported:**  
09/27/21 13:21

### Notes and Definitions

S-06 The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.

S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.

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

J Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).

BS-3 Blank spike recovery outside of lab established statistical limits, but still within method limits. Data is not adversely affected.

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

Debbie Zufelt, Reports Manager

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