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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, 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. 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: Margaret Spaulding (OWP) 4
Project Manager: Kyle Siesser

Reported:
09/27/21 12:30

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Notes
SS01	2109052-01	Solid	09/01/21 07:40	09/03/21 11:15	
SS02	2109052-02	Solid	09/01/21 07:35	09/03/21 11:15	
SS03	2109052-03	Solid	09/01/21 07:30	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: Margaret Spaulding (OWP) 4
Project Manager: Kyle Siesser

Reported:
09/27/21 12:30

SS01

2109052-01 (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	106	0.100	0.058	mg/L	1	09/23/21 13:01	EPA200.7		AES
Conductivity	885			umho/cm @ 25.0°C	1	09/22/21 14:55	ASA#9 10-3.3		VJW
Magnesium	13.4	0.100	0.065	mg/L	1	09/23/21 13:01	EPA200.7		AES
pH	7.75			pH Units	1	09/22/21 13:00	ASA#9 10-3.2		VJW
SAR	1.33			No Unit	1	09/23/21 13:01	Calculation		AES
Sodium	54.7	1.00	0.079	mg/L	1	09/23/21 13:01	EPA200.7		AES

Total Metals by ICP

Barium	214	5.00	0.390	mg/kg dry	100	09/21/21 12:18	6010B		AES
Cadmium	<5.00	5.00	1.10	mg/kg dry	100	09/21/21 12:18	6010B		AES
Chromium	17.1	5.00	0.400	mg/kg dry	100	09/21/21 12:18	6010B		AES
Copper	26.7	5.00	2.39	mg/kg dry	100	09/21/21 12:18	6010B		AES
Lead	16.7	10.0	0.906	mg/kg dry	100	09/21/21 12:18	6010B		AES
Nickel	12.6	5.00	0.874	mg/kg dry	100	09/21/21 12:18	6010B		AES
Selenium	<20.0	20.0	4.70	mg/kg dry	100	09/21/21 12:17	6010B		AES
Silver	<1.00	1.00	0.688	mg/kg dry	100	09/21/21 12:17	6010B		AES
Zinc	82.0	10.0	1.71	mg/kg dry	100	09/21/21 12:18	6010B		AES

Total Metals by ICPMS

Arsenic	5.39	1.00	0.0950	mg/kg dry	1000	09/17/21 12:43	6020A		AES
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Hot Water Extractable

Boron	<1.20	1.20	0.568	mg/L	4	09/16/21 17:57	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	09/13/21 09:11	8015B		MS
DRO >C10-C28*	371	10.0	4.26	mg/kg	1	09/13/21 09:11	8015B		MS
EXT DRO >C28-C36	241	10.0	4.26	mg/kg	1	09/13/21 09:11	8015B		MS

Surrogate: 1-Chlorooctane			99.9 %	44.3-133		09/13/21 09:11	8015B		MS
Surrogate: 1-Chlorooctadecane			117 %	38.9-142		09/13/21 09:11	8015B		MS

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Debbie Zufelt, Reports Manager

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Project: COGCC Table 915-1
Project Name / Number: Margaret Spaulding (OWP) 4
Project Manager: Kyle Siesser

Reported:
09/27/21 12:30

SS01

2109052-01 (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	09/10/21 12:58	8260B		MS
Toluene*	<0.0250	0.0250	0.00670	mg/kg	50	09/10/21 12:58	8260B		MS
Ethylbenzene*	<0.0250	0.0250	0.00405	mg/kg	50	09/10/21 12:58	8260B		MS
m+p - Xylene*	<0.0500	0.0500	0.0186	mg/kg	50	09/10/21 12:58	8260B		MS
o-Xylene*	<0.0250	0.0250	0.00700	mg/kg	50	09/10/21 12:58	8260B		MS
Total Xylenes*	<0.0750	0.0750	0.0250	mg/kg	50	09/10/21 12:58	8260B		MS
1,3,5-Trimethylbenzene	<0.0250	0.0250	0.00450	mg/kg	50	09/10/21 12:58	8260B		MS
1,2,4-Trimethylbenzene	<0.0250	0.0250	0.00650	mg/kg	50	09/10/21 12:58	8260B		MS
Naphthalene*	<0.0250	0.0250	0.00500	mg/kg	50	09/10/21 12:58	8260B		MS

Surrogate: Dibromofluoromethane 104 % 84.6-114 09/10/21 12:58 8260B MS

Surrogate: Toluene-d8 97.8 % 90.4-109 09/10/21 12:58 8260B MS

Surrogate: 4-Bromofluorobenzene 84.7 % 82.5-117 09/10/21 12:58 8260B MS

Polynuclear Aromatic Compounds by GC/MS

Naphthalene*	<0.015	0.040	0.015	mg/kg	40	09/20/21 17:13	8270C		MS
2-Methylnaphthalene*	<0.023	0.040	0.023	mg/kg	40	09/20/21 17:13	8270C		MS
1-Methylnaphthalene	<0.016	0.040	0.016	mg/kg	40	09/20/21 17:13	8270C		MS
Acenaphthylene*	0.051	0.040	0.020	mg/kg	40	09/20/21 17:13	8270C		MS
Acenaphthene*	<0.024	0.040	0.024	mg/kg	40	09/20/21 17:13	8270C		MS
Fluorene*	<0.014	0.040	0.014	mg/kg	40	09/20/21 17:13	8270C		MS
Phenanthrene*	0.038	0.040	0.021	mg/kg	40	09/20/21 17:13	8270C	J	MS
Anthracene*	0.091	0.040	0.017	mg/kg	40	09/20/21 17:13	8270C		MS
Carbazole*	<0.019	0.040	0.019	mg/kg	40	09/20/21 17:13	8270C		MS
Fluoranthene*	0.130	0.040	0.019	mg/kg	40	09/20/21 17:13	8270C		MS
Pyrene*	0.179	0.040	0.013	mg/kg	40	09/20/21 17:13	8270C		MS
Benzo[a]anthracene*	0.076	0.040	0.023	mg/kg	40	09/20/21 17:13	8270C		MS
Chrysene*	0.342	0.040	0.017	mg/kg	40	09/20/21 17:13	8270C		MS
Benzo[b]fluoranthene*	0.236	0.040	0.019	mg/kg	40	09/20/21 17:13	8270C		MS
Benzo[k]fluoranthene*	0.051	0.040	0.016	mg/kg	40	09/20/21 17:13	8270C		MS
Benzo[a]pyrene*	0.070	0.040	0.018	mg/kg	40	09/20/21 17:13	8270C		MS
Indeno[1,2,3-cd]pyrene*	0.062	0.040	0.017	mg/kg	40	09/20/21 17:13	8270C		MS

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Debbie Zufelt

Debbie Zufelt, Reports Manager

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Project: COGCC Table 915-1
Project Name / Number: Margaret Spaulding (OWP) 4
Project Manager: Kyle Siesser

Reported:
09/27/21 12:30

SS01

2109052-01 (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	09/20/21 17:13	8270C		MS
Benzo[g,h,i]perylene*	0.154	0.040	0.019	mg/kg	40	09/20/21 17:13	8270C		MS
Surrogate: Nitrobenzene-d5			67.0 %	39.6-121		09/20/21 17:13	8270C		MS
Surrogate: 2-Fluorobiphenyl			70.6 %	39.8-134		09/20/21 17:13	8270C		MS
Surrogate: Terphenyl-d14			74.3 %	33.3-136		09/20/21 17:13	8270C		MS

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Durango CO, 81302

Project: COGCC Table 915-1
Project Name / Number: Margaret Spaulding (OWP) 4
Project Manager: Kyle Siesser

Reported:
09/27/21 12:30

SS02**2109052-02 (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	71.0	0.100	0.058	mg/L	1	09/23/21 13:03	EPA200.7		AES
Conductivity	340			umho/cm @ 25.0°C	1	09/22/21 14:55	ASA#9 10-3.3		VJW
Magnesium	16.1	0.100	0.065	mg/L	1	09/23/21 13:03	EPA200.7		AES
pH	7.78			pH Units	1	09/22/21 13:00	ASA#9 10-3.2		VJW
SAR	0.53			No Unit	1	09/23/21 13:03	Calculation		AES
Sodium	19.1	1.00	0.079	mg/L	1	09/23/21 13:03	EPA200.7		AES

Total Metals by ICP

Barium	121	5.00	0.390	mg/kg dry	100	09/21/21 12:23	6010B		AES
Cadmium	<5.00	5.00	1.10	mg/kg dry	100	09/21/21 12:23	6010B		AES
Chromium	17.8	5.00	0.400	mg/kg dry	100	09/21/21 12:23	6010B		AES
Copper	23.2	5.00	2.39	mg/kg dry	100	09/21/21 12:23	6010B		AES
Lead	<10.0	10.0	0.906	mg/kg dry	100	09/21/21 12:23	6010B		AES
Nickel	10.1	5.00	0.874	mg/kg dry	100	09/21/21 12:23	6010B		AES
Selenium	<20.0	20.0	4.70	mg/kg dry	100	09/21/21 12:22	6010B		AES
Silver	<1.00	1.00	0.688	mg/kg dry	100	09/21/21 12:22	6010B		AES
Zinc	55.3	10.0	1.71	mg/kg dry	100	09/21/21 12:23	6010B		AES

Total Metals by ICPMS

Arsenic	2.17	1.00	0.0950	mg/kg dry	1000	09/17/21 12:46	6020A		AES
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Hot Water Extractable

Boron	<1.20	1.20	0.568	mg/L	4	09/16/21 17:59	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 14:34	8015B		MS
DRO >C10-C28*	<10.0	10.0	4.26	mg/kg	1	09/10/21 14:02	8015B		MS
EXT DRO >C28-C36	<10.0	10.0	4.26	mg/kg	1	09/10/21 14:02	8015B		MS

Surrogate: 1-Chlorooctane 99.5 % 44.3-133 09/10/21 14:34 8015B MS

Surrogate: 1-Chlorooctadecane 100 % 38.9-142 09/10/21 14:02 8015B MS

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Debbie Zufelt, Reports Manager

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Project: COGCC Table 915-1
Project Name / Number: Margaret Spaulding (OWP) 4
Project Manager: Kyle Siesser

Reported:
09/27/21 12:30

SS02

2109052-02 (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	09/10/21 13:18	8260B		MS
Toluene*	<0.0250	0.0250	0.00670	mg/kg	50	09/10/21 13:18	8260B		MS
Ethylbenzene*	<0.0250	0.0250	0.00405	mg/kg	50	09/10/21 13:18	8260B		MS
m+p - Xylene*	<0.0500	0.0500	0.0186	mg/kg	50	09/10/21 13:18	8260B		MS
o-Xylene*	<0.0250	0.0250	0.00700	mg/kg	50	09/10/21 13:18	8260B		MS
Total Xylenes*	<0.0750	0.0750	0.0250	mg/kg	50	09/10/21 13:18	8260B		MS
1,3,5-Trimethylbenzene	<0.0250	0.0250	0.00450	mg/kg	50	09/10/21 13:18	8260B		MS
1,2,4-Trimethylbenzene	<0.0250	0.0250	0.00650	mg/kg	50	09/10/21 13:18	8260B		MS
Naphthalene*	<0.0250	0.0250	0.00500	mg/kg	50	09/10/21 13:18	8260B		MS
Surrogate: Dibromofluoromethane			106 %	84.6-114		09/10/21 13:18	8260B		MS
Surrogate: Toluene-d8			95.8 %	90.4-109		09/10/21 13:18	8260B		MS
Surrogate: 4-Bromofluorobenzene			87.1 %	82.5-117		09/10/21 13:18	8260B		MS

Polynuclear Aromatic Compounds by GC/MS

Naphthalene*	<0.015	0.040	0.015	mg/kg	40	09/16/21 14:45	8270C		MS
2-Methylnaphthalene*	<0.023	0.040	0.023	mg/kg	40	09/16/21 14:45	8270C		MS
1-Methylnaphthalene	<0.016	0.040	0.016	mg/kg	40	09/16/21 14:45	8270C		MS
Acenaphthylene*	<0.020	0.040	0.020	mg/kg	40	09/16/21 14:45	8270C		MS
Acenaphthene*	<0.024	0.040	0.024	mg/kg	40	09/16/21 14:45	8270C		MS
Fluorene*	<0.014	0.040	0.014	mg/kg	40	09/16/21 14:45	8270C		MS
Phenanthrene*	<0.021	0.040	0.021	mg/kg	40	09/16/21 14:45	8270C		MS
Anthracene*	<0.017	0.040	0.017	mg/kg	40	09/16/21 14:45	8270C		MS
Carbazole*	<0.019	0.040	0.019	mg/kg	40	09/16/21 14:45	8270C		MS
Fluoranthene*	<0.019	0.040	0.019	mg/kg	40	09/16/21 14:45	8270C		MS
Pyrene*	<0.013	0.040	0.013	mg/kg	40	09/16/21 14:45	8270C		MS
Benzo[a]anthracene*	<0.023	0.040	0.023	mg/kg	40	09/16/21 14:45	8270C		MS
Chrysene*	<0.017	0.040	0.017	mg/kg	40	09/16/21 14:45	8270C		MS
Benzo[b]fluoranthene*	<0.019	0.040	0.019	mg/kg	40	09/16/21 14:45	8270C		MS
Benzo[k]fluoranthene*	<0.016	0.040	0.016	mg/kg	40	09/16/21 14:45	8270C		MS
Benzo[a]pyrene*	<0.018	0.040	0.018	mg/kg	40	09/16/21 14:45	8270C		MS

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Debbie Zufelt

Debbie Zufelt, Reports Manager

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Project: COGCC Table 915-1
Project Name / Number: Margaret Spaulding (OWP) 4
Project Manager: Kyle Siesser

Reported:
09/27/21 12:30

SS02

2109052-02 (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	09/16/21 14:45	8270C		MS
Dibenz[a,h]anthracene*	<0.019	0.040	0.019	mg/kg	40	09/16/21 14:45	8270C		MS
Benzo[g,h,i]perylene*	<0.019	0.040	0.019	mg/kg	40	09/16/21 14:45	8270C		MS
Surrogate: Nitrobenzene-d5			68.9 %	39.6-121		09/16/21 14:45	8270C		MS
Surrogate: 2-Fluorobiphenyl			71.9 %	39.8-134		09/16/21 14:45	8270C		MS
Surrogate: Terphenyl-d14			79.9 %	33.3-136		09/16/21 14:45	8270C		MS

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Project: COGCC Table 915-1
Project Name / Number: Margaret Spaulding (OWP) 4
Project Manager: Kyle Siesser

Reported:
09/27/21 12:30

SS03

2109052-03 (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	41.7	0.100	0.058	mg/L	1	09/23/21 13:05	EPA200.7		AES
Conductivity	283			umho/cm @ 25.0°C	1	09/22/21 14:55	ASA#9 10-3.3		VJW
Magnesium	7.94	0.100	0.065	mg/L	1	09/23/21 13:05	EPA200.7		AES
pH	7.85			pH Units	1	09/22/21 13:00	ASA#9 10-3.2		VJW
SAR	0.38			No Unit	1	09/23/21 13:05	Calculation		AES
Sodium	10.1	1.00	0.079	mg/L	1	09/23/21 13:05	EPA200.7		AES

Total Metals by ICP

Barium	191	5.00	0.390	mg/kg dry	100	09/21/21 12:27	6010B		AES
Cadmium	<5.00	5.00	1.10	mg/kg dry	100	09/21/21 12:27	6010B		AES
Chromium	16.2	5.00	0.400	mg/kg dry	100	09/21/21 12:27	6010B		AES
Copper	21.0	5.00	2.39	mg/kg dry	100	09/21/21 12:27	6010B		AES
Lead	<10.0	10.0	0.906	mg/kg dry	100	09/21/21 12:27	6010B		AES
Nickel	12.7	5.00	0.874	mg/kg dry	100	09/21/21 12:27	6010B		AES
Selenium	<20.0	20.0	4.70	mg/kg dry	100	09/21/21 12:27	6010B		AES
Silver	<1.00	1.00	0.688	mg/kg dry	100	09/21/21 12:27	6010B		AES
Zinc	47.8	10.0	1.71	mg/kg dry	100	09/21/21 12:27	6010B		AES

Total Metals by ICPMS

Arsenic	5.41	1.00	0.0950	mg/kg dry	1000	09/17/21 12:50	6020A		AES
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Hot Water Extractable

Boron	<1.20	1.20	0.568	mg/L	4	09/16/21 18:01	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 14:18	8015B		MS
DRO >C10-C28*	<10.0	10.0	4.26	mg/kg	1	09/10/21 14:18	8015B		MS
EXT DRO >C28-C36	<10.0	10.0	4.26	mg/kg	1	09/10/21 14:18	8015B		MS

Surrogate: 1-Chlorooctane 102 % 44.3-133 09/10/21 14:18 8015B MS

Surrogate: 1-Chlorooctadecane 104 % 38.9-142 09/10/21 14:18 8015B MS

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Cottonwood Consulting
PO Box 1653
Durango CO, 81302

Project: COGCC Table 915-1
Project Name / Number: Margaret Spaulding (OWP) 4
Project Manager: Kyle Siesser

Reported:
09/27/21 12:30

SS03

2109052-03 (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	09/10/21 13:38	8260B		MS
Toluene*	<0.0250	0.0250	0.00670	mg/kg	50	09/10/21 13:38	8260B		MS
Ethylbenzene*	<0.0250	0.0250	0.00405	mg/kg	50	09/10/21 13:38	8260B		MS
m+p - Xylene*	<0.0500	0.0500	0.0186	mg/kg	50	09/10/21 13:38	8260B		MS
o-Xylene*	<0.0250	0.0250	0.00700	mg/kg	50	09/10/21 13:38	8260B		MS
Total Xylenes*	<0.0750	0.0750	0.0250	mg/kg	50	09/10/21 13:38	8260B		MS
1,3,5-Trimethylbenzene	<0.0250	0.0250	0.00450	mg/kg	50	09/10/21 13:38	8260B		MS
1,2,4-Trimethylbenzene	<0.0250	0.0250	0.00650	mg/kg	50	09/10/21 13:38	8260B		MS
Naphthalene*	<0.0250	0.0250	0.00500	mg/kg	50	09/10/21 13:38	8260B		MS

Surrogate: Dibromofluoromethane	107 %	84.6-114			09/10/21 13:38	8260B		MS
Surrogate: Toluene-d8	97.3 %	90.4-109			09/10/21 13:38	8260B		MS
Surrogate: 4-Bromofluorobenzene	86.2 %	82.5-117			09/10/21 13:38	8260B		MS

Polynuclear Aromatic Compounds by GC/MS

Naphthalene*	<0.015	0.040	0.015	mg/kg	40	09/16/21 15:15	8270C		MS
2-Methylnaphthalene*	<0.023	0.040	0.023	mg/kg	40	09/16/21 15:15	8270C		MS
1-Methylnaphthalene	<0.016	0.040	0.016	mg/kg	40	09/16/21 15:15	8270C		MS
Acenaphthylene*	<0.020	0.040	0.020	mg/kg	40	09/16/21 15:15	8270C		MS
Acenaphthene*	<0.024	0.040	0.024	mg/kg	40	09/16/21 15:15	8270C		MS
Fluorene*	<0.014	0.040	0.014	mg/kg	40	09/16/21 15:15	8270C		MS
Phenanthrene*	<0.021	0.040	0.021	mg/kg	40	09/16/21 15:15	8270C		MS
Anthracene*	<0.017	0.040	0.017	mg/kg	40	09/16/21 15:15	8270C		MS
Carbazole*	<0.019	0.040	0.019	mg/kg	40	09/16/21 15:15	8270C		MS
Fluoranthene*	<0.019	0.040	0.019	mg/kg	40	09/16/21 15:15	8270C		MS
Pyrene*	<0.013	0.040	0.013	mg/kg	40	09/16/21 15:15	8270C		MS
Benzo[a]anthracene*	<0.023	0.040	0.023	mg/kg	40	09/16/21 15:15	8270C		MS
Chrysene*	<0.017	0.040	0.017	mg/kg	40	09/16/21 15:15	8270C		MS
Benzo[b]fluoranthene*	<0.019	0.040	0.019	mg/kg	40	09/16/21 15:15	8270C		MS
Benzo[k]fluoranthene*	<0.016	0.040	0.016	mg/kg	40	09/16/21 15:15	8270C		MS
Benzo[a]pyrene*	<0.018	0.040	0.018	mg/kg	40	09/16/21 15:15	8270C		MS

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Cottonwood Consulting
PO Box 1653
Durango CO, 81302

Project: COGCC Table 915-1
Project Name / Number: Margaret Spaulding (OWP) 4
Project Manager: Kyle Siesser

Reported:
09/27/21 12:30

SS03

2109052-03 (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

Indeno[1,2,3-cd]pyrene*	<0.017	0.040	0.017	mg/kg	40	09/16/21 15:15	8270C		MS
Dibenz[a,h]anthracene*	<0.019	0.040	0.019	mg/kg	40	09/16/21 15:15	8270C		MS
Benzo[g,h,i]perylene*	<0.019	0.040	0.019	mg/kg	40	09/16/21 15:15	8270C		MS
Surrogate: Nitrobenzene-d5			74.6 %	39.6-121		09/16/21 15:15	8270C		MS
Surrogate: 2-Fluorobiphenyl			75.6 %	39.8-134		09/16/21 15:15	8270C		MS
Surrogate: Terphenyl-d14			79.2 %	33.3-136		09/16/21 15:15	8270C		MS

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Project: COGCC Table 915-1
Project Name / Number: Margaret Spaulding (OWP) 4
Project Manager: Kyle Siesser

Reported:
09/27/21 12:30

General Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B212204 - General Prep - Wet Chem										
Blank (B212204-BLK1)				Prepared: 09/17/21 Analyzed: 09/23/21						
Hexavalent Chromium	ND	0.250	mg/kg							
LCS (B212204-BS1)				Prepared: 09/17/21 Analyzed: 09/23/21						
Hexavalent Chromium	1.98	0.250	mg/kg	2.00		98.9	85-115			

Saturated Paste Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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			
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	
Reference (B212188-SRM1)				Prepared: 09/15/21 Analyzed: 09/22/21						
Conductivity	7150		umho/cm @ 25.0°C	6720		106	90-110			
Batch B212189 - Paste Extract										
Duplicate (B212189-DUP2)				Source: 2109055-06	Prepared: 09/15/21 Analyzed: 09/22/21					

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Project: COGCC Table 915-1
Project Name / Number: Margaret Spaulding (OWP) 4
Project Manager: Kyle Siesser

Reported:
09/27/21 12:30

**Saturated Paste Extraction - Quality Control
(Continued)**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B212189 - Paste Extract (Continued)

Duplicate (B212189-DUP2) (Continued)

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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Project: COGCC Table 915-1
Project Name / Number: Margaret Spaulding (OWP) 4
Project Manager: Kyle Siesser

Reported:
09/27/21 12:30

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
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Durango CO, 81302

Project: COGCC Table 915-1
Project Name / Number: Margaret Spaulding (OWP) 4
Project Manager: Kyle Siesser

Reported:
09/27/21 12:30

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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Durango CO, 81302

Project: COGCC Table 915-1
Project Name / Number: Margaret Spaulding (OWP) 4
Project Manager: Kyle Siesser

Reported:
09/27/21 12:30

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 1091001 - General Prep - Organics

Blank (1091001-BLK1)

Prepared & Analyzed: 09/10/21

Surrogate: 1-Chlorooctadecane	56.5		mg/kg	50.0		113	38.9-142			
Surrogate: 1-Chlorooctane	55.3		mg/kg	50.0		111	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 (1091001-BS1)

Prepared & Analyzed: 09/10/21

Surrogate: 1-Chlorooctadecane	63.6		mg/kg	50.0		127	38.9-142			
Surrogate: 1-Chlorooctane	63.2		mg/kg	50.0		126	44.3-133			
DRO >C10-C28	234	10.0	mg/kg	200		117	79.3-136			
GRO C6-C10	235	10.0	mg/kg	200		118	83.4-129			
Total TPH C6-C28	469	10.0	mg/kg	400		117	85.3-130			

LCS Dup (1091001-BSD1)

Prepared & Analyzed: 09/10/21

Surrogate: 1-Chlorooctadecane	57.5		mg/kg	50.0		115	38.9-142			
Surrogate: 1-Chlorooctane	57.2		mg/kg	50.0		114	44.3-133			
DRO >C10-C28	211	10.0	mg/kg	200		106	79.3-136	10.1	12.1	
GRO C6-C10	219	10.0	mg/kg	200		109	83.4-129	7.35	12.6	
Total TPH C6-C28	430	10.0	mg/kg	400		108	85.3-130	8.72	11.6	

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Cottonwood Consulting
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Durango CO, 81302

Project: COGCC Table 915-1
Project Name / Number: Margaret Spaulding (OWP) 4
Project Manager: Kyle Siesser

Reported:
09/27/21 12:30

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 1090907 - Volatiles

Blank (1090907-BLK1)

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

1,2,4-Trimethylbenzene	ND	0.0250	mg/kg						
1,3,5-Trimethylbenzene	ND	0.0250	mg/kg						
Surrogate: 4-Bromofluorobenzene	1.05		mg/kg	1.25		83.7	82.5-117		
Benzene	ND	0.0250	mg/kg						
Surrogate: Dibromofluoromethane	1.28		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	1.24		mg/kg	1.25		98.9	90.4-109		
Total Xylenes	ND	0.0750	mg/kg						

LCS (1090907-BS1)

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

1,2,4-Trimethylbenzene	0.469	0.0250	mg/kg	0.500		93.9	62.4-140		
1,3,5-Trimethylbenzene	0.473	0.0250	mg/kg	0.500		94.5	64.4-138		
Surrogate: 4-Bromofluorobenzene	1.17		mg/kg	1.25		93.3	82.5-117		
Benzene	0.495	0.0250	mg/kg	0.500		99.0	73-130		
Surrogate: Dibromofluoromethane	1.25		mg/kg	1.25		100	84.6-114		
Ethylbenzene	0.476	0.0250	mg/kg	0.500		95.3	75.4-127		
m+p - Xylene	0.966	0.0500	mg/kg	1.00		96.6	71.8-133		
Naphthalene	0.423	0.0250	mg/kg	0.500		84.7	28.7-158		
o-Xylene	0.465	0.0250	mg/kg	0.500		92.9	78.6-125		
Toluene	0.484	0.0250	mg/kg	0.500		96.9	79-122		
Surrogate: Toluene-d8	1.23		mg/kg	1.25		98.1	90.4-109		
Total Xylenes	1.43	0.0750	mg/kg	1.50		95.4	74.6-130		

LCS Dup (1090907-BSD1)

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

1,2,4-Trimethylbenzene	0.461	0.0250	mg/kg	0.500		92.3	62.4-140	1.74	38.2
1,3,5-Trimethylbenzene	0.462	0.0250	mg/kg	0.500		92.4	64.4-138	2.23	39.1
Surrogate: 4-Bromofluorobenzene	1.20		mg/kg	1.25		96.4	82.5-117		
Benzene	0.508	0.0250	mg/kg	0.500		102	73-130	2.64	17.1
Surrogate: Dibromofluoromethane	1.25		mg/kg	1.25		99.8	84.6-114		
Ethylbenzene	0.482	0.0250	mg/kg	0.500		96.5	75.4-127	1.23	16.5
m+p - Xylene	0.958	0.0500	mg/kg	1.00		95.8	71.8-133	0.859	19.1
Naphthalene	0.406	0.0250	mg/kg	0.500		81.2	28.7-158	4.20	64
o-Xylene	0.460	0.0250	mg/kg	0.500		92.1	78.6-125	0.936	13.2
Toluene	0.497	0.0250	mg/kg	0.500		99.4	79-122	2.64	18.3

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Cottonwood Consulting
PO Box 1653
Durango CO, 81302

Project: COGCC Table 915-1
Project Name / Number: Margaret Spaulding (OWP) 4
Project Manager: Kyle Siesser

Reported:
09/27/21 12:30

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 1090907 - Volatiles (Continued)

LCS Dup (1090907-BSD1) (Continued)

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

Surrogate: Toluene-d8	1.22		mg/kg	1.25		97.4	90.4-109			
Total Xylenes	1.42	0.0750	mg/kg	1.50		94.6	74.6-130	0.884	16.5	

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Project: COGCC Table 915-1
Project Name / Number: Margaret Spaulding (OWP) 4
Project Manager: Kyle Siesser

Reported:
09/27/21 12:30

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 1090904 - SW846-3510**Blank (1090904-BLK1)**

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

1-Methylnaphthalene	ND	0.040	mg/kg							
Surrogate: 2-Fluorobiphenyl	1.53		mg/kg	2.00		76.7	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	1.48		mg/kg	2.00		74.2	39.6-121			
Phenanthrene	ND	0.040	mg/kg							
Pyrene	ND	0.040	mg/kg							
Surrogate: Terphenyl-dl4	1.57		mg/kg	2.00		78.3	33.3-136			

LCS (1090904-BS1)

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

1-Methylnaphthalene	0.301	0.040	mg/kg	0.400		75.2	57.6-108			
Surrogate: 2-Fluorobiphenyl	1.59		mg/kg	2.00		79.6	39.8-134			
2-Methylnaphthalene	0.319	0.040	mg/kg	0.400		79.9	59-106			
Acenaphthene	0.326	0.040	mg/kg	0.400		81.6	60.9-105			
Acenaphthylene	0.328	0.040	mg/kg	0.400		82.1	57.4-107			
Anthracene	0.313	0.040	mg/kg	0.400		78.1	60.8-105			
Benzo[a]anthracene	0.327	0.040	mg/kg	0.400		81.8	56.1-121			
Benzo[a]pyrene	0.283	0.040	mg/kg	0.400		70.8	56.7-115			
Benzo[b]fluoranthene	0.327	0.040	mg/kg	0.400		81.8	45.4-128			
Benzo[g,h,i]perylene	0.313	0.040	mg/kg	0.400		78.3	56.5-107			
Benzo[k]fluoranthene	0.340	0.040	mg/kg	0.400		85.0	49.6-119			
Carbazole	0.332	0.040	mg/kg	0.400		82.9	59.7-107			
Chrysene	0.317	0.040	mg/kg	0.400		79.3	12.2-190			
Dibenz[a,h]anthracene	0.305	0.040	mg/kg	0.400		76.2	59.1-111			
Fluoranthene	0.309	0.040	mg/kg	0.400		77.2	60.6-111			

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Cottonwood Consulting
PO Box 1653
Durango CO, 81302

Project: COGCC Table 915-1
Project Name / Number: Margaret Spaulding (OWP) 4
Project Manager: Kyle Siesser

Reported:
09/27/21 12:30

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 1090904 - SW846-3510 (Continued)

LCS (1090904-BS1) (Continued)

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

Fluorene	0.307	0.040	mg/kg	0.400		76.8	59.3-108			
Indeno[1,2,3-cd]pyrene	0.311	0.040	mg/kg	0.400		77.8	53.4-116			
Naphthalene	0.308	0.040	mg/kg	0.400		76.9	56.5-106			
Surrogate: Nitrobenzene-d5	1.37		mg/kg	2.00		68.5	39.6-121			
Phenanthrene	0.320	0.040	mg/kg	0.400		79.9	59.9-107			
Pyrene	0.305	0.040	mg/kg	0.400		76.3	51.5-122			
Surrogate: Terphenyl-d14	1.56		mg/kg	2.00		78.2	33.3-136			

LCS Dup (1090904-BSD1)

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

1-Methylnaphthalene	0.302	0.040	mg/kg	0.400		75.4	57.6-108	0.236	6.22	
Surrogate: 2-Fluorobiphenyl	1.58		mg/kg	2.00		79.0	39.8-134			
2-Methylnaphthalene	0.325	0.040	mg/kg	0.400		81.2	59-106	1.64	6.23	
Acenaphthene	0.318	0.040	mg/kg	0.400		79.6	60.9-105	2.50	8.18	
Acenaphthylene	0.321	0.040	mg/kg	0.400		80.2	57.4-107	2.29	5	
Anthracene	0.309	0.040	mg/kg	0.400		77.3	60.8-105	1.04	3.68	
Benzo[a]anthracene	0.314	0.040	mg/kg	0.400		78.6	56.1-121	3.90	9.01	
Benzo[a]pyrene	0.282	0.040	mg/kg	0.400		70.4	56.7-115	0.584	4.92	
Benzo[b]fluoranthene	0.347	0.040	mg/kg	0.400		86.8	45.4-128	5.95	7.63	
Benzo[g,h,i]perylene	0.304	0.040	mg/kg	0.400		76.0	56.5-107	2.97	12.5	
Benzo[k]fluoranthene	0.316	0.040	mg/kg	0.400		79.1	49.6-119	7.21	10.6	
Carbazole	0.324	0.040	mg/kg	0.400		81.0	59.7-107	2.36	8.65	
Chrysene	0.311	0.040	mg/kg	0.400		77.9	12.2-190	1.85	21.8	
Dibenz[a,h]anthracene	0.298	0.040	mg/kg	0.400		74.5	59.1-111	2.34	11.6	
Fluoranthene	0.304	0.040	mg/kg	0.400		76.0	60.6-111	1.65	7.54	
Fluorene	0.323	0.040	mg/kg	0.400		80.6	59.3-108	4.89	5.49	
Indeno[1,2,3-cd]pyrene	0.311	0.040	mg/kg	0.400		77.8	53.4-116	0.0353	22.3	
Naphthalene	0.310	0.040	mg/kg	0.400		77.4	56.5-106	0.667	4.56	
Surrogate: Nitrobenzene-d5	1.47		mg/kg	2.00		73.5	39.6-121			
Phenanthrene	0.311	0.040	mg/kg	0.400		77.7	59.9-107	2.83	5.21	
Pyrene	0.318	0.040	mg/kg	0.400		79.4	51.5-122	4.02	10.6	
Surrogate: Terphenyl-d14	1.67		mg/kg	2.00		83.7	33.3-136			

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Debbie Zufelt

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PO Box 1653
Durango CO, 81302

Project: COGCC Table 915-1
Project Name / Number: Margaret Spaulding (OWP) 4
Project Manager: Kyle Siesser

Reported:
09/27/21 12:30

Notes and Definitions

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

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