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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'.

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) 14
Project Manager: Kyle Siesser

Reported:
09/27/21 15:30

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Notes
SS01	2109059-01	Solid	08/31/21 14:45	09/03/21 11:15	
SS02	2109059-02	Solid	08/31/21 14:40	09/03/21 11:15	
SS03	2109059-03	Solid	08/31/21 14:30	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) 14
Project Manager: Kyle Siesser

Reported:
09/27/21 15:30

SS01

2109059-01 (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 13:00	3060A/3500-Cr D		JDA
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Saturated Paste Extraction

Calcium	61.3	0.100	0.058	mg/L	1	09/23/21 14:06	EPA200.7		AES
Conductivity	493			umho/cm @ 25.0°C	1	09/23/21 09:50	ASA#9 10-3.3		VJW
Magnesium	6.30	0.100	0.065	mg/L	1	09/23/21 14:06	EPA200.7		AES
pH	7.36			pH Units	1	09/23/21 07:44	ASA#9 10-3.2		VJW
SAR	1.14			No Unit	1	09/23/21 14:06	Calculation		AES
Sodium	35.2	1.00	0.079	mg/L	1	09/23/21 14:06	EPA200.7		AES

Total Metals by ICP

Barium	716	5.00	0.390	mg/kg dry	100	09/21/21 14:19	6010B		AES
Cadmium	7.84	5.00	1.10	mg/kg dry	100	09/21/21 14:20	6010B		AES
Chromium	53.6	5.00	0.400	mg/kg dry	100	09/21/21 14:20	6010B		AES
Copper	22.8	5.00	2.39	mg/kg dry	100	09/21/21 14:20	6010B		AES
Lead	474	10.0	0.906	mg/kg dry	100	09/21/21 14:20	6010B		AES
Nickel	26.0	5.00	0.874	mg/kg dry	100	09/21/21 14:20	6010B		AES
Selenium	<20.0	20.0	4.70	mg/kg dry	100	09/21/21 14:19	6010B		AES
Silver	<1.00	1.00	0.688	mg/kg dry	100	09/21/21 14:19	6010B		AES
Zinc	67.6	10.0	1.71	mg/kg dry	100	09/21/21 14:20	6010B		AES

Total Metals by ICPMS

Arsenic	5.75	1.00	0.0950	mg/kg dry	1000	09/17/21 14:32	6020A		AES
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Hot Water Extractable

Boron	<1.20	1.20	0.568	mg/L	4	09/22/21 16:01	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	09/13/21 10:00	8015B		MS
DRO >C10-C28*	311	10.0	4.26	mg/kg	1	09/13/21 10:00	8015B		MS
EXT DRO >C28-C36	181	10.0	4.26	mg/kg	1	09/13/21 10:00	8015B		MS

Surrogate: 1-Chlorooctane	107 %	44.3-133	09/13/21 10:00	8015B	MS
Surrogate: 1-Chlorooctadecane	125 %	38.9-142	09/13/21 10:00	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) 14
Project Manager: Kyle Siesser

Reported:
09/27/21 15:30

SS01

2109059-01 (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 03:05	8260B		MS
Toluene*	<0.0250	0.0250	0.00670	mg/kg	50	09/10/21 03:05	8260B		MS
Ethylbenzene*	<0.0250	0.0250	0.00405	mg/kg	50	09/10/21 03:05	8260B		MS
m+p - Xylene*	<0.0500	0.0500	0.0186	mg/kg	50	09/10/21 03:05	8260B		MS
o-Xylene*	<0.0250	0.0250	0.00700	mg/kg	50	09/10/21 03:05	8260B		MS
Total Xylenes*	<0.0750	0.0750	0.0250	mg/kg	50	09/10/21 03:05	8260B		MS
1,3,5-Trimethylbenzene	<0.0250	0.0250	0.00450	mg/kg	50	09/10/21 03:05	8260B		MS
1,2,4-Trimethylbenzene	<0.0250	0.0250	0.00650	mg/kg	50	09/10/21 03:05	8260B		MS
Naphthalene*	<0.0250	0.0250	0.00500	mg/kg	50	09/10/21 03:05	8260B		MS

Surrogate: Dibromofluoromethane 102 % 84.6-114 09/10/21 03:05 8260B MS

Surrogate: Toluene-d8 96.4 % 90.4-109 09/10/21 03:05 8260B MS

Surrogate: 4-Bromofluorobenzene 97.8 % 82.5-117 09/10/21 03:05 8260B MS

Polynuclear Aromatic Compounds by GC/MS

Naphthalene*	<0.015	0.040	0.015	mg/kg	40	09/15/21 13:33	8270C		MS
2-Methylnaphthalene*	0.028	0.040	0.023	mg/kg	40	09/15/21 13:33	8270C	J	MS
1-Methylnaphthalene	0.026	0.040	0.016	mg/kg	40	09/15/21 13:33	8270C	J	MS
Acenaphthylene*	<0.020	0.040	0.020	mg/kg	40	09/15/21 13:33	8270C		MS
Acenaphthene*	<0.024	0.040	0.024	mg/kg	40	09/15/21 13:33	8270C		MS
Fluorene*	0.043	0.040	0.014	mg/kg	40	09/15/21 13:33	8270C		MS
Phenanthrene*	<0.021	0.040	0.021	mg/kg	40	09/15/21 13:33	8270C		MS
Anthracene*	<0.017	0.040	0.017	mg/kg	40	09/15/21 13:33	8270C		MS
Carbazole*	<0.019	0.040	0.019	mg/kg	40	09/15/21 13:33	8270C		MS
Fluoranthene*	<0.019	0.040	0.019	mg/kg	40	09/15/21 13:33	8270C		MS
Pyrene*	0.414	0.040	0.013	mg/kg	40	09/15/21 13:33	8270C		MS
Benzo[a]anthracene*	<0.023	0.040	0.023	mg/kg	40	09/15/21 13:33	8270C		MS
Chrysene*	0.811	0.040	0.017	mg/kg	40	09/15/21 13:33	8270C		MS
Benzo[b]fluoranthene*	<0.019	0.040	0.019	mg/kg	40	09/15/21 13:33	8270C		MS
Benzo[k]fluoranthene*	<0.016	0.040	0.016	mg/kg	40	09/15/21 13:33	8270C		MS
Benzo[a]pyrene*	0.908	0.040	0.018	mg/kg	40	09/15/21 13:33	8270C		MS
Indeno[1,2,3-cd]pyrene*	<0.017	0.040	0.017	mg/kg	40	09/15/21 13:33	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) 14
Project Manager: Kyle Siesser

Reported:
09/27/21 15:30

SS01

2109059-01 (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	09/15/21 13:33	8270C		MS
Benzo[g,h,i]perylene*	<0.019	0.040	0.019	mg/kg	40	09/15/21 13:33	8270C		MS
Surrogate: Nitrobenzene-d5			54.1 %	39.6-121		09/15/21 13:33	8270C		MS
Surrogate: 2-Fluorobiphenyl			60.4 %	39.8-134		09/15/21 13:33	8270C		MS
Surrogate: Terphenyl-d14			75.2 %	33.3-136		09/15/21 13:33	8270C		MS

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PO Box 1653
Durango CO, 81302

Project: COGCC Table 915-1
Project Name / Number: Margaret Spaulding (OWP) 14
Project Manager: Kyle Siesser

Reported:
09/27/21 15:30

SS02**2109059-02 (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 13:00	3060A/3500-Cr D		JDA
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Saturated Paste Extraction

Calcium	94.5	0.100	0.058	mg/L	1	09/23/21 14:08	EPA200.7		AES
Conductivity	617			umho/cm @ 25.0°C	1	09/23/21 09:50	ASA#9 10-3.3		VJW
Magnesium	12.9	0.100	0.065	mg/L	1	09/23/21 14:08	EPA200.7		AES
pH	7.50			pH Units	1	09/23/21 07:44	ASA#9 10-3.2		VJW
SAR	0.36			No Unit	1	09/23/21 14:08	Calculation		AES
Sodium	14.0	1.00	0.079	mg/L	1	09/23/21 14:08	EPA200.7		AES

Total Metals by ICP

Barium	129	5.00	0.390	mg/kg dry	100	09/21/21 14:24	6010B		AES
Cadmium	<5.00	5.00	1.10	mg/kg dry	100	09/21/21 14:24	6010B		AES
Chromium	18.3	5.00	0.400	mg/kg dry	100	09/21/21 14:24	6010B		AES
Copper	30.0	5.00	2.39	mg/kg dry	100	09/21/21 14:24	6010B		AES
Lead	40.1	10.0	0.906	mg/kg dry	100	09/21/21 14:24	6010B		AES
Nickel	12.4	5.00	0.874	mg/kg dry	100	09/21/21 14:24	6010B		AES
Selenium	<20.0	20.0	4.70	mg/kg dry	100	09/21/21 14:24	6010B		AES
Silver	<1.00	1.00	0.688	mg/kg dry	100	09/21/21 14:24	6010B		AES
Zinc	194	10.0	1.71	mg/kg dry	100	09/21/21 14:24	6010B		AES

Total Metals by ICPMS

Arsenic	4.89	1.00	0.0950	mg/kg dry	1000	09/17/21 14:36	6020A		AES
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Hot Water Extractable

Boron	<1.20	1.20	0.568	mg/L	4	09/22/21 16:03	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 10:25	8015B		MS
DRO >C10-C28*	259	10.0	4.26	mg/kg	1	09/13/21 10:25	8015B		MS
EXT DRO >C28-C36	186	10.0	4.26	mg/kg	1	09/13/21 10:25	8015B		MS

Surrogate: 1-Chlorooctane	99.1 %	44.3-133	09/13/21 10:25	8015B	MS
Surrogate: 1-Chlorooctadecane	117 %	38.9-142	09/13/21 10:25	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) 14
Project Manager: Kyle Siesser

Reported:
09/27/21 15:30

SS02

2109059-02 (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 03:25	8260B		MS
Toluene*	<0.0250	0.0250	0.00670	mg/kg	50	09/10/21 03:25	8260B		MS
Ethylbenzene*	<0.0250	0.0250	0.00405	mg/kg	50	09/10/21 03:25	8260B		MS
m+p - Xylene*	<0.0500	0.0500	0.0186	mg/kg	50	09/10/21 03:25	8260B		MS
o-Xylene*	<0.0250	0.0250	0.00700	mg/kg	50	09/10/21 03:25	8260B		MS
Total Xylenes*	<0.0750	0.0750	0.0250	mg/kg	50	09/10/21 03:25	8260B		MS
1,3,5-Trimethylbenzene	<0.0250	0.0250	0.00450	mg/kg	50	09/10/21 03:25	8260B		MS
1,2,4-Trimethylbenzene	<0.0250	0.0250	0.00650	mg/kg	50	09/10/21 03:25	8260B		MS
Naphthalene*	<0.0250	0.0250	0.00500	mg/kg	50	09/10/21 03:25	8260B		MS

Surrogate: Dibromofluoromethane 103 % 84.6-114 09/10/21 03:25 8260B MS

Surrogate: Toluene-d8 97.1 % 90.4-109 09/10/21 03:25 8260B MS

Surrogate: 4-Bromofluorobenzene 88.2 % 82.5-117 09/10/21 03:25 8260B MS

Polynuclear Aromatic Compounds by GC/MS

Naphthalene*	<0.015	0.040	0.015	mg/kg	40	09/15/21 14:03	8270C		MS
2-Methylnaphthalene*	<0.023	0.040	0.023	mg/kg	40	09/15/21 14:03	8270C		MS
1-Methylnaphthalene	<0.016	0.040	0.016	mg/kg	40	09/15/21 14:03	8270C		MS
Acenaphthylene*	<0.020	0.040	0.020	mg/kg	40	09/15/21 14:03	8270C		MS
Acenaphthene*	<0.024	0.040	0.024	mg/kg	40	09/15/21 14:03	8270C		MS
Fluorene*	<0.014	0.040	0.014	mg/kg	40	09/15/21 14:03	8270C		MS
Phenanthrene*	<0.021	0.040	0.021	mg/kg	40	09/15/21 14:03	8270C		MS
Anthracene*	<0.017	0.040	0.017	mg/kg	40	09/15/21 14:03	8270C		MS
Carbazole*	<0.019	0.040	0.019	mg/kg	40	09/15/21 14:03	8270C		MS
Fluoranthene*	<0.019	0.040	0.019	mg/kg	40	09/15/21 14:03	8270C		MS
Pyrene*	<0.013	0.040	0.013	mg/kg	40	09/15/21 14:03	8270C		MS
Benzo[a]anthracene*	<0.023	0.040	0.023	mg/kg	40	09/15/21 14:03	8270C		MS
Chrysene*	<0.017	0.040	0.017	mg/kg	40	09/15/21 14:03	8270C		MS
Benzo[b]fluoranthene*	<0.019	0.040	0.019	mg/kg	40	09/15/21 14:03	8270C		MS
Benzo[k]fluoranthene*	<0.016	0.040	0.016	mg/kg	40	09/15/21 14:03	8270C		MS
Benzo[a]pyrene*	<0.018	0.040	0.018	mg/kg	40	09/15/21 14:03	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) 14
Project Manager: Kyle Siesser

Reported:
09/27/21 15:30

SS02

2109059-02 (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	09/15/21 14:03	8270C		MS
Dibenz[a,h]anthracene*	<0.019	0.040	0.019	mg/kg	40	09/15/21 14:03	8270C		MS
Benzo[g,h,i]perylene*	<0.019	0.040	0.019	mg/kg	40	09/15/21 14:03	8270C		MS
Surrogate: Nitrobenzene-d5			55.4 %	39.6-121		09/15/21 14:03	8270C		MS
Surrogate: 2-Fluorobiphenyl			66.5 %	39.8-134		09/15/21 14:03	8270C		MS
Surrogate: Terphenyl-d14			73.0 %	33.3-136		09/15/21 14:03	8270C		MS

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Debbie Zufelt, Reports Manager

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Project: COGCC Table 915-1
Project Name / Number: Margaret Spaulding (OWP) 14
Project Manager: Kyle Siesser

Reported:
09/27/21 15:30

SS03

2109059-03 (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 13:00	3060A/3500-Cr D		JDA
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Saturated Paste Extraction

Calcium	164	0.200	0.116	mg/L	2	09/23/21 14:10	EPA200.7		AES
Conductivity	1510			umho/cm @ 25.0°C	1	09/23/21 09:50	ASA#9 10-3.3		VJW
Magnesium	12.1	0.200	0.131	mg/L	2	09/23/21 14:10	EPA200.7		AES
pH	7.23			pH Units	1	09/23/21 07:44	ASA#9 10-3.2		VJW
SAR	3.41			No Unit	1	09/23/21 14:10	Calculation		AES
Sodium	168	2.00	0.159	mg/L	2	09/23/21 14:10	EPA200.7		AES

Total Metals by ICP

Barium	112	5.00	0.390	mg/kg dry	100	09/21/21 14:28	6010B		AES
Cadmium	<5.00	5.00	1.10	mg/kg dry	100	09/21/21 14:28	6010B		AES
Chromium	19.8	5.00	0.400	mg/kg dry	100	09/21/21 14:28	6010B		AES
Copper	17.6	5.00	2.39	mg/kg dry	100	09/21/21 14:28	6010B		AES
Lead	11.4	10.0	0.906	mg/kg dry	100	09/21/21 14:28	6010B		AES
Nickel	11.6	5.00	0.874	mg/kg dry	100	09/21/21 14:28	6010B		AES
Selenium	<20.0	20.0	4.70	mg/kg dry	100	09/21/21 14:28	6010B		AES
Silver	<1.00	1.00	0.688	mg/kg dry	100	09/21/21 14:28	6010B		AES
Zinc	87.6	10.0	1.71	mg/kg dry	100	09/21/21 14:28	6010B		AES

Total Metals by ICPMS

Arsenic	2.77	1.00	0.0950	mg/kg dry	1000	09/17/21 14:39	6020A		AES
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Hot Water Extractable

Boron	<1.20	1.20	0.568	mg/L	4	09/22/21 16:05	EPA200.7		AES
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Subcontracted -- Cardinal Laboratories 101 East Marland Hobbs, NM 88240

Petroleum Hydrocarbons by GC FID

GRO C6-C10*	85.8	10.0	6.25	mg/kg	1	09/10/21 22:23	8015B		MS
DRO >C10-C28*	531	10.0	4.26	mg/kg	1	09/10/21 22:23	8015B		MS
EXT DRO >C28-C36	191	10.0	4.26	mg/kg	1	09/10/21 22:23	8015B		MS

Surrogate: 1-Chlorooctane	106 %	44.3-133	09/10/21 22:23	8015B	MS
Surrogate: 1-Chlorooctadecane	118 %	38.9-142	09/10/21 22:23	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) 14
Project Manager: Kyle Siesser

Reported:
09/27/21 15:30

SS03

2109059-03 (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*	0.0353	0.0250	0.00885	mg/kg	50	09/10/21 03:45	8260B		MS
Toluene*	<0.0250	0.0250	0.00670	mg/kg	50	09/10/21 03:45	8260B		MS
Ethylbenzene*	0.234	0.0250	0.00405	mg/kg	50	09/10/21 03:45	8260B		MS
m+p - Xylene*	1.56	0.0500	0.0186	mg/kg	50	09/10/21 03:45	8260B		MS
o-Xylene*	0.446	0.0250	0.00700	mg/kg	50	09/10/21 03:45	8260B		MS
Total Xylenes*	2.00	0.0750	0.0250	mg/kg	50	09/10/21 03:45	8260B		MS
1,3,5-Trimethylbenzene	0.530	0.0250	0.00450	mg/kg	50	09/10/21 03:45	8260B		MS
1,2,4-Trimethylbenzene	2.12	0.0250	0.00650	mg/kg	50	09/10/21 03:45	8260B		MS
Naphthalene*	0.634	0.0250	0.00500	mg/kg	50	09/10/21 03:45	8260B		MS

Surrogate: Dibromofluoromethane 99.9 % 84.6-114 09/10/21 03:45 8260B MS

Surrogate: Toluene-d8 102 % 90.4-109 09/10/21 03:45 8260B MS

Surrogate: 4-Bromofluorobenzene 141 % 82.5-117 09/10/21 03:45 8260B S-04 MS

Polynuclear Aromatic Compounds by GC/MS

Naphthalene*	0.439	0.040	0.015	mg/kg	40	09/15/21 14:32	8270C		MS
2-Methylnaphthalene*	1.12	0.040	0.023	mg/kg	40	09/15/21 14:32	8270C		MS
1-Methylnaphthalene	0.842	0.040	0.016	mg/kg	40	09/15/21 14:32	8270C		MS
Acenaphthylene*	<0.020	0.040	0.020	mg/kg	40	09/15/21 14:32	8270C		MS
Acenaphthene*	<0.024	0.040	0.024	mg/kg	40	09/15/21 14:32	8270C		MS
Fluorene*	0.144	0.040	0.014	mg/kg	40	09/15/21 14:32	8270C		MS
Phenanthrene*	0.320	0.040	0.021	mg/kg	40	09/15/21 14:32	8270C		MS
Anthracene*	<0.017	0.040	0.017	mg/kg	40	09/15/21 14:32	8270C		MS
Carbazole*	<0.019	0.040	0.019	mg/kg	40	09/15/21 14:32	8270C		MS
Fluoranthene*	<0.019	0.040	0.019	mg/kg	40	09/15/21 14:32	8270C		MS
Pyrene*	0.063	0.040	0.013	mg/kg	40	09/15/21 14:32	8270C		MS
Benzo[a]anthracene*	<0.023	0.040	0.023	mg/kg	40	09/15/21 14:32	8270C		MS
Chrysene*	0.140	0.040	0.017	mg/kg	40	09/15/21 14:32	8270C		MS
Benzo[b]fluoranthene*	<0.019	0.040	0.019	mg/kg	40	09/15/21 14:32	8270C		MS
Benzo[k]fluoranthene*	<0.016	0.040	0.016	mg/kg	40	09/15/21 14:32	8270C		MS
Benzo[a]pyrene*	0.166	0.040	0.018	mg/kg	40	09/15/21 14:32	8270C		MS
Indeno[1,2,3-cd]pyrene*	<0.017	0.040	0.017	mg/kg	40	09/15/21 14:32	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) 14
Project Manager: Kyle Siesser

Reported:
09/27/21 15:30

SS03

2109059-03 (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	09/15/21 14:32	8270C		MS
Benzo[g,h,i]perylene*	0.063	0.040	0.019	mg/kg	40	09/15/21 14:32	8270C		MS
Surrogate: Nitrobenzene-d5			64.6 %	39.6-121		09/15/21 14:32	8270C		MS
Surrogate: 2-Fluorobiphenyl			84.9 %	39.8-134		09/15/21 14:32	8270C		MS
Surrogate: Terphenyl-d14			81.9 %	33.3-136		09/15/21 14:32	8270C		MS

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PO Box 1653
Durango CO, 81302

Project: COGCC Table 915-1
Project Name / Number: Margaret Spaulding (OWP) 14
Project Manager: Kyle Siesser

Reported:
09/27/21 15:30

General Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B212205 - General Prep - Wet Chem

Blank (B212205-BLK1)

Prepared: 09/17/21 Analyzed: 09/23/21

Hexavalent Chromium	ND	0.250	mg/kg							
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LCS (B212205-BS1)

Prepared: 09/17/21 Analyzed: 09/23/21

Hexavalent Chromium	1.92	0.250	mg/kg	2.00		96.1	85-115			
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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 B212243 - Paste Extract

Blank (B212243-BLK1)

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

Calcium	ND	0.100	mg/L							
Magnesium	ND	0.100	mg/L							
SAR	0.00		No Unit							
Sodium	ND	1.00	mg/L							

Duplicate (B212243-DUP1)

Source: 2109059-03

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

Calcium	158	0.200	mg/L		164			3.65	20	
Magnesium	12.1	0.200	mg/L		12.1			0.177	20	
SAR	3.37		No Unit		3.41			1.18	20	
Sodium	163	2.00	mg/L		168			3.20	20	

Batch B212244 - Paste Extract

Duplicate (B212244-DUP1)

Source: 2109059-03

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

Conductivity	1490		umho/cm @ 25.0°C		1510			1.60	20	
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Batch B212245 - Paste Extract

Duplicate (B212245-DUP1)

Source: 2109059-03

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

pH	7.28		pH Units		7.23			0.689	20	
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Durango CO, 81302

Project: COGCC Table 915-1
Project Name / Number: Margaret Spaulding (OWP) 14
Project Manager: Kyle Siesser

Reported:
09/27/21 15:30

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 B212138 - EPA 3050

Blank (B212138-BLK1)

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

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 (B212138-BS1)

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

Barium	174	5.00	mg/kg dry	200	87.1	80-120
Cadmium	161	5.00	mg/kg dry	200	80.4	80-120
Chromium	177	5.00	mg/kg dry	200	88.4	80-120
Copper	368	5.00	mg/kg dry	400	92.0	80-120
Lead	166	10.0	mg/kg dry	200	83.1	80-120
Nickel	167	5.00	mg/kg dry	200	83.3	80-120
Selenium	739	20.0	mg/kg dry	800	92.3	80-120
Silver	8.96	1.00	mg/kg dry	10.0	89.6	80-120
Zinc	163	10.0	mg/kg dry	200	81.6	80-120

LCS Dup (B212138-BSD1)

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

Barium	176	5.00	mg/kg dry	200	87.9	80-120	0.947	20
Cadmium	163	5.00	mg/kg dry	200	81.4	80-120	1.27	20
Chromium	178	5.00	mg/kg dry	200	89.1	80-120	0.754	20
Copper	373	5.00	mg/kg dry	400	93.2	80-120	1.30	20
Lead	168	10.0	mg/kg dry	200	84.0	80-120	1.09	20
Nickel	169	5.00	mg/kg dry	200	84.7	80-120	1.72	20
Selenium	745	20.0	mg/kg dry	800	93.2	80-120	0.892	20
Silver	9.52	1.00	mg/kg dry	10.0	95.2	80-120	6.12	20
Zinc	166	10.0	mg/kg dry	200	82.8	80-120	1.50	20

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Cottonwood Consulting
PO Box 1653
Durango CO, 81302

Project: COGCC Table 915-1
Project Name / Number: Margaret Spaulding (OWP) 14
Project Manager: Kyle Siesser

Reported:
09/27/21 15:30

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 B212142 - EPA 3050M

Blank (B212142-BLK1)

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

Arsenic	ND	0.100	mg/kg dry							
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LCS (B212142-BS1)

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

Arsenic	5.10	0.100	mg/kg dry	5.00		102	80-120			
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LCS Dup (B212142-BSD1)

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

Arsenic	4.63	0.100	mg/kg dry	5.00		92.7	80-120	9.66	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 B212179 - Hot Water Soluble Metals Extract

Blank (B212179-BLK1)

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

Boron	ND	1.20	mg/L							
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Duplicate (B212179-DUP1)

Source: 2109058-01 Prepared: 09/15/21 Analyzed: 09/22/21

Boron	0.606	1.20	mg/L		0.654			7.66	200	
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Cottonwood Consulting
PO Box 1653
Durango CO, 81302

Project: COGCC Table 915-1
Project Name / Number: Margaret Spaulding (OWP) 14
Project Manager: Kyle Siesser

Reported:
09/27/21 15:30

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 1090906 - General Prep - Organics

Blank (1090906-BLK1)

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

Surrogate: 1-Chlorooctadecane	40.2		mg/kg	50.0		80.3	38.9-142			
Surrogate: 1-Chlorooctane	45.0		mg/kg	50.0		89.9	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 (1090906-BS1)

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

Surrogate: 1-Chlorooctadecane	40.0		mg/kg	50.0		80.0	38.9-142			
Surrogate: 1-Chlorooctane	43.9		mg/kg	50.0		87.8	44.3-133			
DRO >C10-C28	196	10.0	mg/kg	200		98.2	79.3-136			
GRO C6-C10	174	10.0	mg/kg	200		86.9	83.4-129			
Total TPH C6-C28	370	10.0	mg/kg	400		92.5	85.3-130			

LCS Dup (1090906-BSD1)

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

Surrogate: 1-Chlorooctadecane	42.9		mg/kg	50.0		85.9	38.9-142			
Surrogate: 1-Chlorooctane	46.7		mg/kg	50.0		93.5	44.3-133			
DRO >C10-C28	197	10.0	mg/kg	200		98.3	79.3-136	0.185	12.1	
GRO C6-C10	177	10.0	mg/kg	200		88.7	83.4-129	2.03	12.6	
Total TPH C6-C28	374	10.0	mg/kg	400		93.5	85.3-130	1.06	11.6	

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Cottonwood Consulting
PO Box 1653
Durango CO, 81302

Project: COGCC Table 915-1
Project Name / Number: Margaret Spaulding (OWP) 14
Project Manager: Kyle Siesser

Reported:
09/27/21 15:30

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 1090814 - Volatiles**Blank (1090814-BLK1)**

Prepared: 09/08/21 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	1.11		mg/kg	1.25		88.8	82.5-117		
Benzene	ND	0.0250	mg/kg						
Surrogate: Dibromofluoromethane	1.23		mg/kg	1.25		98.6	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	1.22		mg/kg	1.25		97.3	90.4-109		
Total Xylenes	ND	0.0750	mg/kg						

LCS (1090814-BS1)

Prepared: 09/08/21 Analyzed: 09/10/21

1,2,4-Trimethylbenzene	0.462	0.0250	mg/kg	0.500		92.4	62.4-140		
1,3,5-Trimethylbenzene	0.469	0.0250	mg/kg	0.500		93.7	64.4-138		
Surrogate: 4-Bromofluorobenzene	1.18		mg/kg	1.25		94.4	82.5-117		
Benzene	0.499	0.0250	mg/kg	0.500		99.7	73-130		
Surrogate: Dibromofluoromethane	1.16		mg/kg	1.25		92.6	84.6-114		
Ethylbenzene	0.475	0.0250	mg/kg	0.500		95.1	75.4-127		
m+p - Xylene	0.974	0.0500	mg/kg	1.00		97.4	71.8-133		
Naphthalene	0.329	0.0250	mg/kg	0.500		65.8	28.7-158		
o-Xylene	0.458	0.0250	mg/kg	0.500		91.6	78.6-125		
Toluene	0.499	0.0250	mg/kg	0.500		99.9	79-122		
Surrogate: Toluene-d8	1.21		mg/kg	1.25		97.1	90.4-109		
Total Xylenes	1.43	0.0750	mg/kg	1.50		95.5	74.6-130		

LCS Dup (1090814-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	9.11	38.2
1,3,5-Trimethylbenzene	0.505	0.0250	mg/kg	0.500		101	64.4-138	7.56	39.1
Surrogate: 4-Bromofluorobenzene	1.24		mg/kg	1.25		99.4	82.5-117		
Benzene	0.514	0.0250	mg/kg	0.500		103	73-130	3.04	17.1
Surrogate: Dibromofluoromethane	1.19		mg/kg	1.25		95.0	84.6-114		
Ethylbenzene	0.508	0.0250	mg/kg	0.500		102	75.4-127	6.57	16.5
m+p - Xylene	1.03	0.0500	mg/kg	1.00		103	71.8-133	5.55	19.1
Naphthalene	0.392	0.0250	mg/kg	0.500		78.5	28.7-158	17.6	64
o-Xylene	0.508	0.0250	mg/kg	0.500		102	78.6-125	10.3	13.2
Toluene	0.505	0.0250	mg/kg	0.500		101	79-122	1.02	18.3

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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: Margaret Spaulding (OWP) 14
Project Manager: Kyle Siesser

Reported:
09/27/21 15:30

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 1090814 - Volatiles (Continued)

LCS Dup (1090814-BSD1) (Continued)

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

Surrogate: Toluene-d8	1.24		mg/kg	1.25		99.1	90.4-109			
Total Xylenes	1.54	0.0750	mg/kg	1.50		102	74.6-130	7.10	16.5	

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Debbie Zufelt, Reports Manager

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Project: COGCC Table 915-1
Project Name / Number: Margaret Spaulding (OWP) 14
Project Manager: Kyle Siesser

Reported:
09/27/21 15:30

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 1090817 - SW846-3510

Blank (1090817-BLK1)

Prepared: 09/08/21 Analyzed: 09/14/21

1-Methylnaphthalene	ND	0.040	mg/kg							
Surrogate: 2-Fluorobiphenyl	1.34		mg/kg	2.00		67.2	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	1.21		mg/kg	2.00		60.5	39.6-121			
Phenanthrene	ND	0.040	mg/kg							
Pyrene	ND	0.040	mg/kg							
Surrogate: Terphenyl-d14	1.43		mg/kg	2.00		71.7	33.3-136			

LCS (1090817-BS1)

Prepared: 09/08/21 Analyzed: 09/14/21

1-Methylnaphthalene	0.250	0.040	mg/kg	0.400		62.4	57.6-108			
Surrogate: 2-Fluorobiphenyl	1.20		mg/kg	2.00		59.9	39.8-134			
2-Methylnaphthalene	0.254	0.040	mg/kg	0.400		63.6	59-106			
Acenaphthene	0.275	0.040	mg/kg	0.400		68.8	60.9-105			
Acenaphthylene	0.262	0.040	mg/kg	0.400		65.5	57.4-107			
Anthracene	0.268	0.040	mg/kg	0.400		67.0	60.8-105			
Benzo[a]anthracene	0.271	0.040	mg/kg	0.400		67.7	56.1-121			
Benzo[a]pyrene	0.230	0.040	mg/kg	0.400		57.4	56.7-115			
Benzo[b]fluoranthene	0.272	0.040	mg/kg	0.400		68.0	45.4-128			
Benzo[g,h,i]perylene	0.255	0.040	mg/kg	0.400		63.7	56.5-107			
Benzo[k]fluoranthene	0.274	0.040	mg/kg	0.400		68.6	49.6-119			
Carbazole	0.270	0.040	mg/kg	0.400		67.6	59.7-107			
Chrysene	0.268	0.040	mg/kg	0.400		66.9	12.2-190			
Dibenz[a,h]anthracene	0.245	0.040	mg/kg	0.400		61.3	59.1-111			
Fluoranthene	0.268	0.040	mg/kg	0.400		67.1	60.6-111			

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Cottonwood Consulting
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Durango CO, 81302

Project: COGCC Table 915-1
Project Name / Number: Margaret Spaulding (OWP) 14
Project Manager: Kyle Siesser

Reported:
09/27/21 15:30

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 1090817 - SW846-3510 (Continued)

LCS (1090817-BS1) (Continued)

Prepared: 09/08/21 Analyzed: 09/14/21

Fluorene	0.266	0.040	mg/kg	0.400		66.5	59.3-108			
Indeno[1,2,3-cd]pyrene	0.258	0.040	mg/kg	0.400		64.4	53.4-116			
Naphthalene	0.250	0.040	mg/kg	0.400		62.5	56.5-106			
Surrogate: Nitrobenzene-d5	1.16		mg/kg	2.00		57.8	39.6-121			
Phenanthrene	0.270	0.040	mg/kg	0.400		67.5	59.9-107			
Pyrene	0.279	0.040	mg/kg	0.400		69.8	51.5-122			
Surrogate: Terphenyl-d14	1.32		mg/kg	2.00		66.1	33.3-136			

LCS Dup (1090817-BSD1)

Prepared: 09/08/21 Analyzed: 09/14/21

1-Methylnaphthalene	0.242	0.040	mg/kg	0.400		60.5	57.6-108	3.13	6.22	
Surrogate: 2-Fluorobiphenyl	1.28		mg/kg	2.00		63.9	39.8-134			
2-Methylnaphthalene	0.262	0.040	mg/kg	0.400		65.4	59-106	2.81	6.23	
Acenaphthene	0.267	0.040	mg/kg	0.400		66.7	60.9-105	3.05	8.18	
Acenaphthylene	0.265	0.040	mg/kg	0.400		66.2	57.4-107	1.04	5	
Anthracene	0.255	0.040	mg/kg	0.400		63.7	60.8-105	5.04	3.68	QR-04
Benzo[a]anthracene	0.282	0.040	mg/kg	0.400		70.5	56.1-121	4.08	9.01	
Benzo[a]pyrene	0.236	0.040	mg/kg	0.400		59.0	56.7-115	2.79	4.92	
Benzo[b]fluoranthene	0.284	0.040	mg/kg	0.400		71.0	45.4-128	4.44	7.63	
Benzo[g,h,i]perylene	0.257	0.040	mg/kg	0.400		64.2	56.5-107	0.751	12.5	
Benzo[k]fluoranthene	0.257	0.040	mg/kg	0.400		64.2	49.6-119	6.64	10.6	
Carbazole	0.275	0.040	mg/kg	0.400		68.7	59.7-107	1.69	8.65	
Chrysene	0.273	0.040	mg/kg	0.400		68.1	12.2-190	1.88	21.8	
Dibenz[a,h]anthracene	0.247	0.040	mg/kg	0.400		61.6	59.1-111	0.500	11.6	
Fluoranthene	0.256	0.040	mg/kg	0.400		63.9	60.6-111	4.84	7.54	
Fluorene	0.267	0.040	mg/kg	0.400		66.8	59.3-108	0.499	5.49	
Indeno[1,2,3-cd]pyrene	0.260	0.040	mg/kg	0.400		65.1	53.4-116	0.996	22.3	
Naphthalene	0.249	0.040	mg/kg	0.400		62.3	56.5-106	0.341	4.56	
Surrogate: Nitrobenzene-d5	1.13		mg/kg	2.00		56.3	39.6-121			
Phenanthrene	0.258	0.040	mg/kg	0.400		64.4	59.9-107	4.69	5.21	
Pyrene	0.260	0.040	mg/kg	0.400		64.9	51.5-122	7.23	10.6	
Surrogate: Terphenyl-d14	1.27		mg/kg	2.00		63.5	33.3-136			

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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) 14
Project Manager: Kyle Siesser

Reported:
09/27/21 15:30

Notes and Definitions

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).

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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† GAL cannot always accept verbal changes. Please fax or email written change requests.