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13 August 2021

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

Enclosed are the results of analyses for samples received by the laboratory on 07/30/21 08:15. 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 blue ink, reading 'Jeremy D. Allen', is written in a cursive style.

Jeremy D Allen For 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) #7
Project Manager: Jake Harter

Reported:
08/13/21 16:40

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Notes
SS01	2107317-01	Solid	07/28/21 09:50	07/30/21 08:15	
SS02	2107317-02	Solid	07/28/21 10:00	07/30/21 08:15	
SS03	2107317-03	Solid	07/28/21 10:10	07/30/21 08:15	

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Jeremy D Allen For Debbie Zufelt, Reports Manager

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PO Box 1653
Durango CO, 81302

Project: COGCC Table 915-1
Project Name / Number: Margaret Spaulding (OWP) #7
Project Manager: Jake Harter

Reported:
08/13/21 16:40

SS01**2107317-01 (Soil)**

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

Calcium	50.2	0.100	0.058	mg/L	1	08/13/21 12:41	EPA200.7		AES
Conductivity	448			umho/cm @ 25.0°C	1	08/13/21 14:45	ASA#9 10-3.3		VJW
Magnesium	6.43	0.100	0.065	mg/L	1	08/13/21 12:41	EPA200.7		AES
pH	6.80			pH Units	1	08/13/21 08:30	ASA#9 10-3.2		VJW
SAR	1.52			No Unit	1	08/13/21 12:41	Calculation		AES
Sodium	42.9	1.00	0.079	mg/L	1	08/13/21 12:41	EPA200.7		AES

Total Metals by ICP

Barium	66.3	5.00	0.390	mg/kg dry	100	08/10/21 16:23	6010B		AES
Cadmium	<5.00	5.00	1.10	mg/kg dry	100	08/10/21 16:23	6010B		AES
Chromium	18.3	5.00	0.400	mg/kg dry	100	08/10/21 16:23	6010B		AES
Copper	16.7	5.00	2.39	mg/kg dry	100	08/10/21 16:23	6010B		AES
Lead	<10.0	10.0	0.906	mg/kg dry	100	08/10/21 16:23	6010B		AES
Nickel	9.55	5.00	0.874	mg/kg dry	100	08/10/21 16:23	6010B		AES
Selenium	<20.0	20.0	4.70	mg/kg dry	100	08/10/21 16:23	6010B		AES
Silver	<1.00	1.00	0.688	mg/kg dry	100	08/10/21 16:23	6010B		AES
Zinc	41.6	10.0	1.71	mg/kg dry	100	08/10/21 16:23	6010B		AES

Total Metals by ICPMS

Arsenic	<1.00	1.00	0.0950	mg/kg dry	1000	08/10/21 18:23	6020A		AES
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Hot Water Extractable

Boron	<1.20	1.20	0.568	mg/L	4	08/13/21 13:11	EPA200.7		AES
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Subcontracted -- Cardinal Laboratories**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<50.0	50.0	31.2	mg/kg	5	08/05/21 00:50	8015B		MS
DRO >C10-C28*	230	50.0	21.3	mg/kg	5	08/05/21 00:50	8015B		MS
EXT DRO >C28-C36	252	50.0	21.3	mg/kg	5	08/05/21 00:50	8015B		MS

Surrogate: 1-Chlorooctane	78.1 %	44.3-133	08/05/21 00:50	8015B	MS
Surrogate: 1-Chlorooctadecane	80.6 %	38.9-142	08/05/21 00:50	8015B	MS

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Jeremy D Allen For Debbie Zufelt, Reports Manager

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Project: COGCC Table 915-1
Project Name / Number: Margaret Spaulding (OWP) #7
Project Manager: Jake Harter

Reported:
08/13/21 16:40

SS01

2107317-01 (Soil)

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

VOLATILES BY GC/MS

Benzene*	<0.0250	0.0250	0.00885	mg/kg	50	08/04/21 13:04	8260B		MS
Toluene*	<0.0250	0.0250	0.00670	mg/kg	50	08/04/21 13:04	8260B		MS
Ethylbenzene*	<0.0250	0.0250	0.00405	mg/kg	50	08/04/21 13:04	8260B		MS
m+p - Xylene*	<0.0500	0.0500	0.0186	mg/kg	50	08/04/21 13:04	8260B		MS
o-Xylene*	<0.0250	0.0250	0.00700	mg/kg	50	08/04/21 13:04	8260B		MS
Total Xylenes*	<0.0250	0.0250	0.0250	mg/kg	50	08/04/21 13:04	8260B		MS
1,3,5-Trimethylbenzene	<0.0250	0.0250	0.00450	mg/kg	50	08/04/21 13:04	8260B		MS
1,2,4-Trimethylbenzene	<0.0250	0.0250	0.00650	mg/kg	50	08/04/21 13:04	8260B		MS
Naphthalene*	<0.0250	0.0250	0.00500	mg/kg	50	08/04/21 13:04	8260B		MS

Surrogate: Dibromofluoromethane	101 %	84.6-114			08/04/21 13:04	8260B		MS
Surrogate: Toluene-d8	102 %	90.4-109			08/04/21 13:04	8260B		MS
Surrogate: 4-Bromofluorobenzene	96.6 %	82.5-117			08/04/21 13:04	8260B		MS

Polynuclear Aromatic Compounds by GC/MS

Naphthalene*	<0.153	0.400	0.153	mg/kg	400	08/12/21 09:59	8270C		MS
2-Methylnaphthalene*	<0.226	0.400	0.226	mg/kg	400	08/12/21 09:59	8270C		MS
1-Methylnaphthalene	<0.161	0.400	0.161	mg/kg	400	08/12/21 09:59	8270C		MS
Acenaphthylene*	<0.196	0.400	0.196	mg/kg	400	08/12/21 09:59	8270C		MS
Acenaphthene*	<0.235	0.400	0.235	mg/kg	400	08/12/21 09:59	8270C		MS
Fluorene*	<0.142	0.400	0.142	mg/kg	400	08/12/21 09:59	8270C		MS
Phenanthrene*	<0.214	0.400	0.214	mg/kg	400	08/12/21 09:59	8270C		MS
Anthracene*	<0.172	0.400	0.172	mg/kg	400	08/12/21 09:59	8270C		MS
Carbazole*	<0.190	0.400	0.190	mg/kg	400	08/12/21 09:59	8270C		MS
Fluoranthene*	<0.185	0.400	0.185	mg/kg	400	08/12/21 09:59	8270C		MS
Pyrene*	<0.132	0.400	0.132	mg/kg	400	08/12/21 09:59	8270C		MS
Benzo[a]anthracene*	<0.230	0.400	0.230	mg/kg	400	08/12/21 09:59	8270C		MS
Chrysene*	<0.172	0.400	0.172	mg/kg	400	08/12/21 09:59	8270C		MS
Benzo[b]fluoranthene*	<0.192	0.400	0.192	mg/kg	400	08/12/21 09:59	8270C		MS
Benzo[k]fluoranthene*	<0.157	0.400	0.157	mg/kg	400	08/12/21 09:59	8270C		MS
Benzo[a]pyrene*	<0.182	0.400	0.182	mg/kg	400	08/12/21 09:59	8270C		MS

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Jeremy D Allen For Debbie Zufelt, Reports Manager

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Project: COGCC Table 915-1
Project Name / Number: Margaret Spaulding (OWP) #7
Project Manager: Jake Harter

Reported:
08/13/21 16:40

SS01**2107317-01 (Soil)**

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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Subcontracted -- Cardinal Laboratories**Polynuclear Aromatic Compounds by GC/MS**

Indeno[1,2,3-cd]pyrene*	<0.168	0.400	0.168	mg/kg	400	08/12/21 09:59	8270C		MS
Dibenz[a,h]anthracene*	<0.186	0.400	0.186	mg/kg	400	08/12/21 09:59	8270C		MS
Benzo[g,h,i]perylene*	<0.186	0.400	0.186	mg/kg	400	08/12/21 09:59	8270C		MS
Surrogate: Nitrobenzene-d5			96.1 %	39.6-121		08/12/21 09:59	8270C		MS
Surrogate: 2-Fluorobiphenyl			91.6 %	39.8-134		08/12/21 09:59	8270C		MS
Surrogate: Terphenyl-d14			99.7 %	33.3-136		08/12/21 09:59	8270C		MS

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Durango CO, 81302

Project: COGCC Table 915-1
Project Name / Number: Margaret Spaulding (OWP) #7
Project Manager: Jake Harter

Reported:
08/13/21 16:40

SS02**2107317-02 (Soil)**

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

Calcium	40.6	0.100	0.058	mg/L	1	08/13/21 12:43	EPA200.7		AES
Conductivity	276			umho/cm @ 25.0°C	1	08/13/21 14:45	ASA#9 10-3.3		VJW
Magnesium	7.55	0.100	0.065	mg/L	1	08/13/21 12:43	EPA200.7		AES
pH	7.29			pH Units	1	08/13/21 08:30	ASA#9 10-3.2		VJW
SAR	0.31			No Unit	1	08/13/21 12:43	Calculation		AES
Sodium	8.09	1.00	0.079	mg/L	1	08/13/21 12:43	EPA200.7		AES

Total Metals by ICP

Barium	109	5.00	0.390	mg/kg dry	100	08/10/21 16:27	6010B		AES
Cadmium	<5.00	5.00	1.10	mg/kg dry	100	08/10/21 16:27	6010B		AES
Chromium	32.9	5.00	0.400	mg/kg dry	100	08/10/21 16:27	6010B		AES
Copper	36.1	5.00	2.39	mg/kg dry	100	08/10/21 16:27	6010B		AES
Lead	<10.0	10.0	0.906	mg/kg dry	100	08/10/21 16:27	6010B		AES
Nickel	17.3	5.00	0.874	mg/kg dry	100	08/10/21 16:27	6010B		AES
Selenium	<20.0	20.0	4.70	mg/kg dry	100	08/10/21 16:26	6010B		AES
Silver	<1.00	1.00	0.688	mg/kg dry	100	08/10/21 16:26	6010B		AES
Zinc	65.1	10.0	1.71	mg/kg dry	100	08/10/21 16:27	6010B		AES

Total Metals by ICPMS

Arsenic	<1.00	1.00	0.0950	mg/kg dry	1000	08/10/21 18:26	6020A		AES
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Hot Water Extractable

Boron	<1.20	1.20	0.568	mg/L	4	08/13/21 13:13	EPA200.7		AES
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Subcontracted -- Cardinal Laboratories**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0	10.0	6.25	mg/kg	1	08/05/21 13:02	8015B		MS
DRO >C10-C28*	<10.0	10.0	4.26	mg/kg	1	08/05/21 13:02	8015B	QM-07	MS
EXT DRO >C28-C36	<10.0	10.0	4.26	mg/kg	1	08/05/21 13:02	8015B		MS

Surrogate: 1-Chlorooctane	68.0 %	44.3-133	08/05/21 13:02	8015B	MS
Surrogate: 1-Chlorooctadecane	60.9 %	38.9-142	08/05/21 13:02	8015B	MS

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Project: COGCC Table 915-1
Project Name / Number: Margaret Spaulding (OWP) #7
Project Manager: Jake Harter

Reported:
08/13/21 16:40

SS02

2107317-02 (Soil)

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

VOLATILES BY GC/MS

Benzene*	<0.0250	0.0250	0.00885	mg/kg	50	08/04/21 13:27	8260B		MS
Toluene*	<0.0250	0.0250	0.00670	mg/kg	50	08/04/21 13:27	8260B		MS
Ethylbenzene*	<0.0250	0.0250	0.00405	mg/kg	50	08/04/21 13:27	8260B		MS
m+p - Xylene*	<0.0500	0.0500	0.0186	mg/kg	50	08/04/21 13:27	8260B		MS
o-Xylene*	<0.0250	0.0250	0.00700	mg/kg	50	08/04/21 13:27	8260B		MS
Total Xylenes*	<0.0250	0.0250	0.0250	mg/kg	50	08/04/21 13:27	8260B		MS
1,3,5-Trimethylbenzene	<0.0250	0.0250	0.00450	mg/kg	50	08/04/21 13:27	8260B		MS
1,2,4-Trimethylbenzene	<0.0250	0.0250	0.00650	mg/kg	50	08/04/21 13:27	8260B		MS
Naphthalene*	<0.0250	0.0250	0.00500	mg/kg	50	08/04/21 13:27	8260B		MS

Surrogate: Dibromofluoromethane 102 % 84.6-114 08/04/21 13:27 8260B MS

Surrogate: Toluene-d8 100 % 90.4-109 08/04/21 13:27 8260B MS

Surrogate: 4-Bromofluorobenzene 95.3 % 82.5-117 08/04/21 13:27 8260B MS

Polynuclear Aromatic Compounds by GC/MS

Naphthalene*	<0.015	0.040	0.015	mg/kg	40	08/11/21 20:11	8270C		MS
2-Methylnaphthalene*	<0.023	0.040	0.023	mg/kg	40	08/11/21 20:11	8270C		MS
1-Methylnaphthalene	<0.016	0.040	0.016	mg/kg	40	08/11/21 20:11	8270C		MS
Acenaphthylene*	<0.020	0.040	0.020	mg/kg	40	08/11/21 20:11	8270C		MS
Acenaphthene*	<0.024	0.040	0.024	mg/kg	40	08/11/21 20:11	8270C		MS
Fluorene*	<0.014	0.040	0.014	mg/kg	40	08/11/21 20:11	8270C		MS
Phenanthrene*	<0.021	0.040	0.021	mg/kg	40	08/11/21 20:11	8270C		MS
Anthracene*	<0.017	0.040	0.017	mg/kg	40	08/11/21 20:11	8270C		MS
Carbazole*	<0.019	0.040	0.019	mg/kg	40	08/11/21 20:11	8270C		MS
Fluoranthene*	<0.019	0.040	0.019	mg/kg	40	08/11/21 20:11	8270C		MS
Pyrene*	<0.013	0.040	0.013	mg/kg	40	08/11/21 20:11	8270C		MS
Benzo[a]anthracene*	<0.023	0.040	0.023	mg/kg	40	08/11/21 20:11	8270C		MS
Chrysene*	<0.017	0.040	0.017	mg/kg	40	08/11/21 20:11	8270C		MS
Benzo[b]fluoranthene*	<0.019	0.040	0.019	mg/kg	40	08/11/21 20:11	8270C		MS
Benzo[k]fluoranthene*	<0.016	0.040	0.016	mg/kg	40	08/11/21 20:11	8270C		MS
Benzo[a]pyrene*	<0.018	0.040	0.018	mg/kg	40	08/11/21 20:11	8270C		MS

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Durango CO, 81302

Project: COGCC Table 915-1
Project Name / Number: Margaret Spaulding (OWP) #7
Project Manager: Jake Harter

Reported:
08/13/21 16:40

SS02

2107317-02 (Soil)

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

Polynuclear Aromatic Compounds by GC/MS

Indeno[1,2,3-cd]pyrene*	<0.017	0.040	0.017	mg/kg	40	08/11/21 20:11	8270C		MS
Dibenz[a,h]anthracene*	<0.019	0.040	0.019	mg/kg	40	08/11/21 20:11	8270C		MS
Benzo[g,h,i]perylene*	<0.019	0.040	0.019	mg/kg	40	08/11/21 20:11	8270C		MS
Surrogate: Nitrobenzene-d5			74.2 %	39.6-121		08/11/21 20:11	8270C		MS
Surrogate: 2-Fluorobiphenyl			76.2 %	39.8-134		08/11/21 20:11	8270C		MS
Surrogate: Terphenyl-d14			79.6 %	33.3-136		08/11/21 20:11	8270C		MS

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Project: COGCC Table 915-1
Project Name / Number: Margaret Spaulding (OWP) #7
Project Manager: Jake Harter

Reported:
08/13/21 16:40

SS03**2107317-03 (Soil)**

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

Calcium	102	0.100	0.058	mg/L	1	08/13/21 12:45	EPA200.7		AES
Conductivity	761			umho/cm @ 25.0°C	1	08/13/21 14:45	ASA#9 10-3.3		VJW
Magnesium	14.3	0.100	0.065	mg/L	1	08/13/21 12:45	EPA200.7		AES
pH	7.30			pH Units	1	08/13/21 08:30	ASA#9 10-3.2		VJW
SAR	1.01			No Unit	1	08/13/21 12:45	Calculation		AES
Sodium	41.3	1.00	0.079	mg/L	1	08/13/21 12:45	EPA200.7		AES

Total Metals by ICP

Barium	173	5.00	0.390	mg/kg dry	100	08/10/21 16:31	6010B		AES
Cadmium	<5.00	5.00	1.10	mg/kg dry	100	08/10/21 16:31	6010B		AES
Chromium	33.7	5.00	0.400	mg/kg dry	100	08/10/21 16:31	6010B		AES
Copper	31.2	5.00	2.39	mg/kg dry	100	08/10/21 16:31	6010B		AES
Lead	<10.0	10.0	0.906	mg/kg dry	100	08/10/21 16:31	6010B		AES
Nickel	16.7	5.00	0.874	mg/kg dry	100	08/10/21 16:31	6010B		AES
Selenium	<20.0	20.0	4.70	mg/kg dry	100	08/10/21 16:30	6010B		AES
Silver	<1.00	1.00	0.688	mg/kg dry	100	08/10/21 16:30	6010B		AES
Zinc	66.1	10.0	1.71	mg/kg dry	100	08/10/21 16:31	6010B		AES

Total Metals by ICPMS

Arsenic	<1.00	1.00	0.0950	mg/kg dry	1000	08/10/21 18:30	6020A		AES
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Hot Water Extractable

Boron	<1.20	1.20	0.568	mg/L	4	08/13/21 13:15	EPA200.7		AES
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Subcontracted -- Cardinal Laboratories**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0	10.0	6.25	mg/kg	1	08/05/21 13:19	8015B		MS
DRO >C10-C28*	<10.0	10.0	4.26	mg/kg	1	08/05/21 13:19	8015B		MS
EXT DRO >C28-C36	<10.0	10.0	4.26	mg/kg	1	08/05/21 13:19	8015B		MS

Surrogate: 1-Chlorooctane	64.4 %	44.3-133	08/05/21 13:19	8015B	MS
Surrogate: 1-Chlorooctadecane	57.6 %	38.9-142	08/05/21 13:19	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) #7
Project Manager: Jake Harter

Reported:
08/13/21 16:40

SS03

2107317-03 (Soil)

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

VOLATILES BY GC/MS

Benzene*	<0.0250	0.0250	0.00885	mg/kg	50	08/04/21 13:50	8260B		MS
Toluene*	<0.0250	0.0250	0.00670	mg/kg	50	08/04/21 13:50	8260B		MS
Ethylbenzene*	<0.0250	0.0250	0.00405	mg/kg	50	08/04/21 13:50	8260B		MS
m+p - Xylene*	<0.0500	0.0500	0.0186	mg/kg	50	08/04/21 13:50	8260B		MS
o-Xylene*	<0.0250	0.0250	0.00700	mg/kg	50	08/04/21 13:50	8260B		MS
Total Xylenes*	<0.0250	0.0250	0.0250	mg/kg	50	08/04/21 13:50	8260B		MS
1,3,5-Trimethylbenzene	<0.0250	0.0250	0.00450	mg/kg	50	08/04/21 13:50	8260B		MS
1,2,4-Trimethylbenzene	<0.0250	0.0250	0.00650	mg/kg	50	08/04/21 13:50	8260B		MS
Naphthalene*	<0.0250	0.0250	0.00500	mg/kg	50	08/04/21 13:50	8260B		MS

Surrogate: Dibromofluoromethane 101 % 84.6-114 08/04/21 13:50 8260B MS

Surrogate: Toluene-d8 102 % 90.4-109 08/04/21 13:50 8260B MS

Surrogate: 4-Bromofluorobenzene 96.4 % 82.5-117 08/04/21 13:50 8260B MS

Polynuclear Aromatic Compounds by GC/MS

Naphthalene*	<0.015	0.040	0.015	mg/kg	40	08/11/21 20:40	8270C		MS
2-Methylnaphthalene*	<0.023	0.040	0.023	mg/kg	40	08/11/21 20:40	8270C		MS
1-Methylnaphthalene	<0.016	0.040	0.016	mg/kg	40	08/11/21 20:40	8270C		MS
Acenaphthylene*	<0.020	0.040	0.020	mg/kg	40	08/11/21 20:40	8270C		MS
Acenaphthene*	<0.024	0.040	0.024	mg/kg	40	08/11/21 20:40	8270C		MS
Fluorene*	<0.014	0.040	0.014	mg/kg	40	08/11/21 20:40	8270C		MS
Phenanthrene*	<0.021	0.040	0.021	mg/kg	40	08/11/21 20:40	8270C		MS
Anthracene*	<0.017	0.040	0.017	mg/kg	40	08/11/21 20:40	8270C		MS
Carbazole*	<0.019	0.040	0.019	mg/kg	40	08/11/21 20:40	8270C		MS
Fluoranthene*	<0.019	0.040	0.019	mg/kg	40	08/11/21 20:40	8270C		MS
Pyrene*	<0.013	0.040	0.013	mg/kg	40	08/11/21 20:40	8270C		MS
Benzo[a]anthracene*	<0.023	0.040	0.023	mg/kg	40	08/11/21 20:40	8270C		MS
Chrysene*	<0.017	0.040	0.017	mg/kg	40	08/11/21 20:40	8270C		MS
Benzo[b]fluoranthene*	<0.019	0.040	0.019	mg/kg	40	08/11/21 20:40	8270C		MS
Benzo[k]fluoranthene*	<0.016	0.040	0.016	mg/kg	40	08/11/21 20:40	8270C		MS
Benzo[a]pyrene*	<0.018	0.040	0.018	mg/kg	40	08/11/21 20:40	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) #7
Project Manager: Jake Harter

Reported:
08/13/21 16:40

SS03**2107317-03 (Soil)**

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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Subcontracted -- Cardinal Laboratories**Polynuclear Aromatic Compounds by GC/MS**

Indeno[1,2,3-cd]pyrene*	<0.017	0.040	0.017	mg/kg	40	08/11/21 20:40	8270C		MS
Dibenz[a,h]anthracene*	<0.019	0.040	0.019	mg/kg	40	08/11/21 20:40	8270C		MS
Benzo[g,h,i]perylene*	<0.019	0.040	0.019	mg/kg	40	08/11/21 20:40	8270C		MS
Surrogate: Nitrobenzene-d5			85.5 %	39.6-121		08/11/21 20:40	8270C		MS
Surrogate: 2-Fluorobiphenyl			81.0 %	39.8-134		08/11/21 20:40	8270C		MS
Surrogate: Terphenyl-d14			85.4 %	33.3-136		08/11/21 20:40	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) #7
Project Manager: Jake Harter

Reported:
08/13/21 16:40

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 B211850 - Paste Extract

Blank (B211850-BLK1)

Prepared: 08/12/21 Analyzed: 08/13/21

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

Reference (B211850-SRM1)

Prepared: 08/12/21 Analyzed: 08/13/21

SAR	7.93		No Unit	7.50		106	90-110			
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Batch B211851 - Paste Extract

Reference (B211851-SRM1)

Prepared: 08/12/21 Analyzed: 08/13/21

Conductivity	7800		umho/cm @ 25.0°C	6720		116	90-110			BS1
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Batch B211852 - Paste Extract

Reference (B211852-SRM1)

Prepared: 08/12/21 Analyzed: 08/13/21

pH	8.65		pH Units	9.14		94.6	95-105			
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Cottonwood Consulting
PO Box 1653
Durango CO, 81302

Project: COGCC Table 915-1
Project Name / Number: Margaret Spaulding (OWP) #7
Project Manager: Jake Harter

Reported:
08/13/21 16:40

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 B211786 - EPA 3050

Blank (B211786-BLK1)

Prepared: 08/05/21 Analyzed: 08/10/21

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 (B211786-BS1)

Prepared: 08/05/21 Analyzed: 08/10/21

Barium	183	5.00	mg/kg dry	200	91.5	80-120
Cadmium	169	5.00	mg/kg dry	200	84.7	80-120
Chromium	183	5.00	mg/kg dry	200	91.6	80-120
Copper	390	5.00	mg/kg dry	400	97.4	80-120
Lead	179	10.0	mg/kg dry	200	89.3	80-120
Nickel	180	5.00	mg/kg dry	200	89.9	80-120
Selenium	769	20.0	mg/kg dry	800	96.1	80-120
Silver	9.46	1.00	mg/kg dry	10.0	94.6	80-120
Zinc	167	10.0	mg/kg dry	200	83.7	80-120

LCS Dup (B211786-BSD1)

Prepared: 08/05/21 Analyzed: 08/10/21

Barium	185	5.00	mg/kg dry	200	92.3	80-120	0.875	20
Cadmium	171	5.00	mg/kg dry	200	85.5	80-120	0.946	20
Chromium	185	5.00	mg/kg dry	200	92.5	80-120	0.942	20
Copper	394	5.00	mg/kg dry	400	98.4	80-120	1.04	20
Lead	174	10.0	mg/kg dry	200	87.2	80-120	2.44	20
Nickel	176	5.00	mg/kg dry	200	87.9	80-120	2.25	20
Selenium	763	20.0	mg/kg dry	800	95.4	80-120	0.702	20
Silver	9.16	1.00	mg/kg dry	10.0	91.6	80-120	3.25	20
Zinc	163	10.0	mg/kg dry	200	81.7	80-120	2.41	20

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Cottonwood Consulting
PO Box 1653
Durango CO, 81302

Project: COGCC Table 915-1
Project Name / Number: Margaret Spaulding (OWP) #7
Project Manager: Jake Harter

Reported:
08/13/21 16:40

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 B211787 - EPA 3050M

Blank (B211787-BLK1)

Prepared: 08/05/21 Analyzed: 08/10/21

Arsenic	ND	0.100	mg/kg dry							
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LCS (B211787-BS1)

Prepared: 08/05/21 Analyzed: 08/10/21

Arsenic	4.99	0.100	mg/kg dry	5.00		99.8	80-120			
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LCS Dup (B211787-BSD1)

Prepared: 08/05/21 Analyzed: 08/10/21

Arsenic	4.73	0.100	mg/kg dry	5.00		94.7	80-120	5.25	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 B211853 - Hot Water Soluble Metals Extract

Blank (B211853-BLK1)

Prepared: 08/12/21 Analyzed: 08/13/21

Boron	ND	1.20	mg/L							
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Cottonwood Consulting
PO Box 1653
Durango CO, 81302

Project: COGCC Table 915-1
Project Name / Number: Margaret Spaulding (OWP) #7
Project Manager: Jake Harter

Reported:
08/13/21 16:40

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 1080408 - General Prep - Organics

Blank (1080408-BLK1)

Prepared & Analyzed: 08/04/21

Surrogate: 1-Chlorooctadecane	39.8		mg/kg	50.0		79.6	38.9-142			
Surrogate: 1-Chlorooctane	41.1		mg/kg	50.0		82.1	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 (1080408-BS1)

Prepared & Analyzed: 08/04/21

Surrogate: 1-Chlorooctadecane	42.0		mg/kg	50.0		83.9	38.9-142			
Surrogate: 1-Chlorooctane	43.5		mg/kg	50.0		87.1	44.3-133			
DRO >C10-C28	208	10.0	mg/kg	200		104	79.3-136			
GRO C6-C10	218	10.0	mg/kg	200		109	83.4-129			
Total TPH C6-C28	426	10.0	mg/kg	400		107	85.3-130			

LCS Dup (1080408-BSD1)

Prepared & Analyzed: 08/04/21

Surrogate: 1-Chlorooctadecane	41.7		mg/kg	50.0		83.5	38.9-142			
Surrogate: 1-Chlorooctane	42.8		mg/kg	50.0		85.6	44.3-133			
DRO >C10-C28	208	10.0	mg/kg	200		104	79.3-136	0.181	12.1	
GRO C6-C10	214	10.0	mg/kg	200		107	83.4-129	1.85	12.6	
Total TPH C6-C28	422	10.0	mg/kg	400		105	85.3-130	1.03	11.6	

Batch 1080410 - General Prep - Organics

Blank (1080410-BLK1)

Prepared: 08/04/21 Analyzed: 08/05/21

Surrogate: 1-Chlorooctadecane	38.0		mg/kg	50.0		76.0	38.9-142			
Surrogate: 1-Chlorooctane	40.7		mg/kg	50.0		81.4	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 (1080410-BS1)

Prepared: 08/04/21 Analyzed: 08/05/21

Surrogate: 1-Chlorooctadecane	39.0		mg/kg	50.0		78.0	38.9-142			
Surrogate: 1-Chlorooctane	41.7		mg/kg	50.0		83.4	44.3-133			
DRO >C10-C28	201	10.0	mg/kg	200		100	79.3-136			
GRO C6-C10	203	10.0	mg/kg	200		102	83.4-129			
Total TPH C6-C28	404	10.0	mg/kg	400		101	85.3-130			

LCS Dup (1080410-BSD1)

Prepared: 08/04/21 Analyzed: 08/05/21

Surrogate: 1-Chlorooctadecane	38.4		mg/kg	50.0		76.9	38.9-142			
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Jeremy D Allen For 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) #7
Project Manager: Jake Harter

Reported:
08/13/21 16:40

**Petroleum Hydrocarbons by GC FID - Quality Control
(Continued)**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1080410 - General Prep - Organics (Continued)

LCS Dup (1080410-BSD1) (Continued)

Prepared: 08/04/21 Analyzed: 08/05/21

Surrogate: 1-Chlorooctane	41.1		mg/kg	50.0		82.2	44.3-133			
DRO >C10-C28	200	10.0	mg/kg	200		100	79.3-136	0.175	12.1	
GRO C6-C10	203	10.0	mg/kg	200		101	83.4-129	0.409	12.6	
Total TPH C6-C28	403	10.0	mg/kg	400		101	85.3-130	0.293	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) #7
Project Manager: Jake Harter

Reported:
08/13/21 16:40

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 1080214 - Volatiles**Blank (1080214-BLK1)**

Prepared: 08/02/21 Analyzed: 08/03/21

1,2,4-Trimethylbenzene	ND	0.0250	mg/kg							
1,3,5-Trimethylbenzene	ND	0.0250	mg/kg							
Surrogate: 4-Bromofluorobenzene	1.18		mg/kg	1.25		94.5	82.5-117			
Benzene	ND	0.0250	mg/kg							
Surrogate: Dibromofluoromethane	1.26		mg/kg	1.25		101	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	1.25		mg/kg	1.25		100	90.4-109			
Total Xylenes	ND	0.0250	mg/kg							

LCS (1080214-BS1)

Prepared: 08/02/21 Analyzed: 08/03/21

1,2,4-Trimethylbenzene	0.518	0.0250	mg/kg	0.500		104	62.4-140			
1,3,5-Trimethylbenzene	0.521	0.0250	mg/kg	0.500		104	64.4-138			
Surrogate: 4-Bromofluorobenzene	1.25		mg/kg	1.25		100	82.5-117			
Benzene	0.511	0.0250	mg/kg	0.500		102	73-130			
Surrogate: Dibromofluoromethane	1.44		mg/kg	1.25		115	84.6-114			S-05
Ethylbenzene	0.521	0.0250	mg/kg	0.500		104	75.4-127			
m+p - Xylene	1.03	0.0500	mg/kg	1.00		103	71.8-133			
Naphthalene	0.502	0.0250	mg/kg	0.500		100	28.7-158			
o-Xylene	0.504	0.0250	mg/kg	0.500		101	78.6-125			
Toluene	0.520	0.0250	mg/kg	0.500		104	79-122			
Surrogate: Toluene-d8	1.26		mg/kg	1.25		101	90.4-109			
Total Xylenes	1.54	0.0250	mg/kg	1.50		103	74.6-130			

LCS Dup (1080214-BSD1)

Prepared: 08/02/21 Analyzed: 08/03/21

1,2,4-Trimethylbenzene	0.499	0.0250	mg/kg	0.500		99.8	62.4-140	3.72	38.2	
1,3,5-Trimethylbenzene	0.487	0.0250	mg/kg	0.500		97.5	64.4-138	6.71	39.1	
Surrogate: 4-Bromofluorobenzene	1.24		mg/kg	1.25		99.3	82.5-117			
Benzene	0.496	0.0250	mg/kg	0.500		99.2	73-130	2.96	17.1	
Surrogate: Dibromofluoromethane	1.25		mg/kg	1.25		99.8	84.6-114			
Ethylbenzene	0.499	0.0250	mg/kg	0.500		99.8	75.4-127	4.32	16.5	
m+p - Xylene	0.980	0.0500	mg/kg	1.00		98.0	71.8-133	5.46	19.1	
Naphthalene	0.452	0.0250	mg/kg	0.500		90.4	28.7-158	10.5	64	
o-Xylene	0.486	0.0250	mg/kg	0.500		97.2	78.6-125	3.73	13.2	
Toluene	0.486	0.0250	mg/kg	0.500		97.2	79-122	6.80	18.3	

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Jeremy D Allen For 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) #7
Project Manager: Jake Harter

Reported:
08/13/21 16:40

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 1080214 - Volatiles (Continued)

LCS Dup (1080214-BSD1) (Continued)

Prepared: 08/02/21 Analyzed: 08/03/21

Surrogate: Toluene-d8	1.27		mg/kg	1.25		102	90.4-109			
Total Xylenes	1.47	0.0250	mg/kg	1.50		97.7	74.6-130	4.89	16.5	

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Project: COGCC Table 915-1
Project Name / Number: Margaret Spaulding (OWP) #7
Project Manager: Jake Harter

Reported:
08/13/21 16:40

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 1080404 - SW846-3510

Blank (1080404-BLK1)

Prepared: 08/04/21 Analyzed: 08/11/21

1-Methylnaphthalene	ND	0.040	mg/kg							
Surrogate: 2-Fluorobiphenyl	1.41		mg/kg	2.00		70.3	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	1.53		mg/kg	2.00		76.3	39.6-121			
Phenanthrene	ND	0.040	mg/kg							
Pyrene	ND	0.040	mg/kg							
Surrogate: Terphenyl-d14	1.46		mg/kg	2.00		73.0	33.3-136			

LCS (1080404-BS1)

Prepared: 08/04/21 Analyzed: 08/11/21

1-Methylnaphthalene	0.355	0.040	mg/kg	0.400		88.9	57.6-108			
Surrogate: 2-Fluorobiphenyl	1.77		mg/kg	2.00		88.7	39.8-134			
2-Methylnaphthalene	0.366	0.040	mg/kg	0.400		91.6	59-106			
Acenaphthene	0.392	0.040	mg/kg	0.400		97.9	60.9-105			
Acenaphthylene	0.372	0.040	mg/kg	0.400		93.1	57.4-107			
Anthracene	0.348	0.040	mg/kg	0.400		86.9	60.8-105			
Benzo[a]anthracene	0.360	0.040	mg/kg	0.400		89.9	56.1-121			
Benzo[a]pyrene	0.305	0.040	mg/kg	0.400		76.4	56.7-115			
Benzo[b]fluoranthene	0.348	0.040	mg/kg	0.400		87.1	45.4-128			
Benzo[g,h,i]perylene	0.357	0.040	mg/kg	0.400		89.2	56.5-107			
Benzo[k]fluoranthene	0.373	0.040	mg/kg	0.400		93.4	49.6-119			
Carbazole	0.360	0.040	mg/kg	0.400		89.9	59.7-107			
Chrysene	0.353	0.040	mg/kg	0.400		88.2	12.2-190			
Dibenz[a,h]anthracene	0.329	0.040	mg/kg	0.400		82.1	59.1-111			
Fluoranthene	0.354	0.040	mg/kg	0.400		88.4	60.6-111			

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PO Box 1653
Durango CO, 81302

Project: COGCC Table 915-1
Project Name / Number: Margaret Spaulding (OWP) #7
Project Manager: Jake Harter

Reported:
08/13/21 16:40

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 1080404 - SW846-3510 (Continued)

LCS (1080404-BS1) (Continued)

Prepared: 08/04/21 Analyzed: 08/11/21

Fluorene	0.365	0.040	mg/kg	0.400		91.2	59.3-108			
Indeno[1,2,3-cd]pyrene	0.336	0.040	mg/kg	0.400		84.1	53.4-116			
Naphthalene	0.348	0.040	mg/kg	0.400		87.1	56.5-106			
Surrogate: Nitrobenzene-d5	1.80		mg/kg	2.00		90.2	39.6-121			
Phenanthrene	0.345	0.040	mg/kg	0.400		86.2	59.9-107			
Pyrene	0.355	0.040	mg/kg	0.400		88.8	51.5-122			
Surrogate: Terphenyl-d14	1.81		mg/kg	2.00		90.7	33.3-136			

LCS Dup (1080404-BS1)

Prepared: 08/04/21 Analyzed: 08/11/21

1-Methylnaphthalene	0.340	0.040	mg/kg	0.400		85.1	57.6-108	4.32	6.22	
Surrogate: 2-Fluorobiphenyl	1.79		mg/kg	2.00		89.3	39.8-134			
2-Methylnaphthalene	0.362	0.040	mg/kg	0.400		90.4	59-106	1.26	6.23	
Acenaphthene	0.397	0.040	mg/kg	0.400		99.3	60.9-105	1.45	8.18	
Acenaphthylene	0.377	0.040	mg/kg	0.400		94.3	57.4-107	1.34	5	
Anthracene	0.362	0.040	mg/kg	0.400		90.5	60.8-105	4.08	3.68	QR-04
Benzo[a]anthracene	0.360	0.040	mg/kg	0.400		90.0	56.1-121	0.0639	9.01	
Benzo[a]pyrene	0.304	0.040	mg/kg	0.400		75.9	56.7-115	0.542	4.92	
Benzo[b]fluoranthene	0.354	0.040	mg/kg	0.400		88.5	45.4-128	1.55	7.63	
Benzo[g,h,i]perylene	0.341	0.040	mg/kg	0.400		85.3	56.5-107	4.42	12.5	
Benzo[k]fluoranthene	0.356	0.040	mg/kg	0.400		89.1	49.6-119	4.67	10.6	
Carbazole	0.369	0.040	mg/kg	0.400		92.3	59.7-107	2.64	8.65	
Chrysene	0.358	0.040	mg/kg	0.400		89.5	12.2-190	1.43	21.8	
Dibenz[a,h]anthracene	0.315	0.040	mg/kg	0.400		78.8	59.1-111	4.11	11.6	
Fluoranthene	0.353	0.040	mg/kg	0.400		88.2	60.6-111	0.212	7.54	
Fluorene	0.357	0.040	mg/kg	0.400		89.2	59.3-108	2.17	5.49	
Indeno[1,2,3-cd]pyrene	0.337	0.040	mg/kg	0.400		84.3	53.4-116	0.303	22.3	
Naphthalene	0.342	0.040	mg/kg	0.400		85.5	56.5-106	1.85	4.56	
Surrogate: Nitrobenzene-d5	1.89		mg/kg	2.00		94.3	39.6-121			
Phenanthrene	0.354	0.040	mg/kg	0.400		88.4	59.9-107	2.46	5.21	
Pyrene	0.363	0.040	mg/kg	0.400		90.6	51.5-122	2.09	10.6	
Surrogate: Terphenyl-d14	1.80		mg/kg	2.00		90.2	33.3-136			

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Jeremy D Allen For Debbie Zufelt, Reports Manager

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Project: COGCC Table 915-1
Project Name / Number: Margaret Spaulding (OWP) #7
Project Manager: Jake Harter

Reported:
08/13/21 16:40

Notes and Definitions

S-05 The surrogate recovery is outside of lab established statistical control limits but still within method limits. Data is not adversely affected.

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

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

BS1 Laboratory control sample recovery above laboratory acceptance criteria. Results for analyte potentially biased high.

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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