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20 September 2023

Jacob Harter  
Cottonwood Consulting  
PO Box 1653  
Durango, CO 81302  
RE: Dyehard (OWP) 3A

Enclosed are the results of analyses for samples received by the laboratory on 08/30/23 15:57. The data to follow was performed, in whole or in part, by Green Analytical Laboratories. Any data that was performed by a subcontract laboratory is included within the GAL report, or with an additional report attached.

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

Sincerely,

A handwritten signature in blue ink that reads 'Veronica J. Wells'.

Veronica Wells  
Project 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: T104704514-23-17

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: T104704398-23-16



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Cottonwood Consulting  
PO Box 1653  
Durango CO, 81302

Project: COGCC Table 915-1  
Project Name / Number: Dyehard (OWP) 3A  
Project Manager: Jacob Harter

**Reported:**  
09/20/23 15:42

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Notes
SS01	2308435-01	Solid	08/30/23 14:30	08/30/23 15:57	

Green Analytical Laboratories

Veronica Wells, Project Manager

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Project: COGCC Table 915-1  
Project Name / Number: Dyehard (OWP) 3A  
Project Manager: Jacob Harter

Reported:  
09/20/23 15:42

### SS01

2308435-01 (Soil)

Sampled Date: 08/30/23 14:30

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

Hexavalent Chromium	<0.250	0.250	0.191	mg/kg dry	25	09/12/23 10:19	3060A/3500-Cr B		CAI
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#### Saturated Paste Extraction

Calcium	77.2	0.100	0.058	mg/L	1	09/12/23 17:11	EPA200.7		AES
Conductivity	897			umho/cm@25 C	1	09/07/23 13:30	ASA#9 10-3.3		AES
Magnesium	12.7	0.100	0.065	mg/L	1	09/12/23 17:11	EPA200.7		AES
pH	7.97			pH Units	1	09/07/23 13:30	ASA#9 10-3.2		AES
SAR	2.73			No Unit	1	09/12/23 17:11	Calculation		AES
Sodium	98.3	1.00	0.079	mg/L	1	09/12/23 17:11	EPA200.7		AES

#### Total Metals by ICP

Barium	237	5.00	0.942	mg/kg dry	100	09/12/23 13:06	6010B		AES
Cadmium	<5.00	5.00	1.29	mg/kg dry	100	09/12/23 13:06	6010B		AES
Chromium	39.8	5.00	4.53	mg/kg dry	100	09/12/23 13:06	6010B		AES
Copper	22.4	10.0	4.61	mg/kg dry	100	09/12/23 13:06	6010B		AES
Lead	11.6	10.0	1.88	mg/kg dry	100	09/12/23 13:06	6010B		AES
Nickel	21.4	5.00	1.41	mg/kg dry	100	09/12/23 13:06	6010B		AES
Selenium	<20.0	20.0	9.47	mg/kg dry	100	09/12/23 13:05	6010B		AES
Silver	<1.00	1.00	0.460	mg/kg dry	100	09/12/23 13:05	6010B		AES
Zinc	38.3	10.0	1.24	mg/kg dry	100	09/12/23 13:06	6010B		AES

#### Total Metals by ICPMS

Arsenic	4.88	1.00	0.158	mg/kg dry	1000	09/12/23 16:38	6020A		AES
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#### Hot Water Extractable

Boron	<1.20	1.20	0.568	mg/L	4	09/12/23 17:43	EPA200.7		AES
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Subcontracted -- Cardinal Laboratories 101 East Marland Hobbs, NM 88240

#### Petroleum Hydrocarbons by GC FID

GRO C6-C10*	10.4	10.0	6.25	mg/kg	1	09/05/23 15:43	8015B		MS
DRO >C10-C28*	117	10.0	4.26	mg/kg	1	09/05/23 15:43	8015B		MS
EXT DRO >C28-C36	42.5	10.0	4.26	mg/kg	1	09/05/23 15:43	8015B		MS

Surrogate: 1-Chlorooctane	93.5 %	48.2-134	09/05/23 15:43	8015B	MS
Surrogate: 1-Chlorooctadecane	106 %	49.1-148	09/05/23 15:43	8015B	MS

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Veronica J. Wells

Veronica Wells, Project Manager

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Project: COGCC Table 915-1  
Project Name / Number: Dyehard (OWP) 3A  
Project Manager: Jacob Harter

Reported:  
09/20/23 15:42

SS01

2308435-01 (Soil)

Sampled Date: 08/30/23 14:30

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*	<0.00885	0.0250	0.00885	mg/kg	50	09/11/23 17:14	8260B		MS
Toluene*	<0.00670	0.0250	0.00670	mg/kg	50	09/11/23 17:14	8260B		MS
Ethylbenzene*	0.0154	0.0250	0.00405	mg/kg	50	09/11/23 17:14	8260B	J	MS
m+p - Xylene*	<0.0186	0.0500	0.0186	mg/kg	50	09/11/23 17:14	8260B		MS
o-Xylene*	0.0134	0.0250	0.00700	mg/kg	50	09/11/23 17:14	8260B	J	MS
Total Xylenes*	<0.0256	0.0750	0.0256	mg/kg	50	09/11/23 17:14	8260B		MS
1,3,5-Trimethylbenzene	0.0461	0.0250	0.00450	mg/kg	50	09/11/23 17:14	8260B		MS
1,2,4-Trimethylbenzene	0.0277	0.0250	0.00650	mg/kg	50	09/11/23 17:14	8260B		MS
Naphthalene*	0.0148	0.0250	0.00500	mg/kg	50	09/11/23 17:14	8260B	J	MS
Surrogate: Dibromofluoromethane			101 %	84.6-114		09/11/23 17:14	8260B		MS
Surrogate: Toluene-d8			102 %	90.4-109		09/11/23 17:14	8260B		MS
Surrogate: 4-Bromofluorobenzene			103 %	82.5-117		09/11/23 17:14	8260B		MS

#### Polynuclear Aromatic Compounds by GC/MS

Naphthalene*	<0.015	0.040	0.015	mg/kg	40	09/19/23 13:29	8270C		MS
2-Methylnaphthalene*	<0.023	0.040	0.023	mg/kg	40	09/19/23 13:29	8270C		MS
1-Methylnaphthalene	<0.016	0.040	0.016	mg/kg	40	09/19/23 13:29	8270C		MS
Acenaphthene*	<0.024	0.040	0.024	mg/kg	40	09/19/23 13:29	8270C		MS
Fluorene*	<0.014	0.040	0.014	mg/kg	40	09/19/23 13:29	8270C		MS
Anthracene*	<0.017	0.040	0.017	mg/kg	40	09/19/23 13:29	8270C		MS
Fluoranthene*	<0.019	0.040	0.019	mg/kg	40	09/19/23 13:29	8270C		MS
Pyrene*	<0.013	0.040	0.013	mg/kg	40	09/19/23 13:29	8270C		MS
Benzo[a]anthracene*	<0.023	0.040	0.023	mg/kg	40	09/19/23 13:29	8270C		MS
Chrysene	<0.017	0.040	0.017	mg/kg	40	09/19/23 13:29	8270C		MS
Benzo[b]fluoranthene*	<0.019	0.040	0.019	mg/kg	40	09/19/23 13:29	8270C		MS
Benzo[k]fluoranthene*	<0.016	0.040	0.016	mg/kg	40	09/19/23 13:29	8270C		MS
Benzo[a]pyrene*	<0.018	0.040	0.018	mg/kg	40	09/19/23 13:29	8270C		MS
Indeno[1,2,3-cd]pyrene*	<0.017	0.040	0.017	mg/kg	40	09/19/23 13:29	8270C		MS
Dibenz[a,h]anthracene*	<0.019	0.040	0.019	mg/kg	40	09/19/23 13:29	8270C		MS

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Veronica J. Wells

Veronica Wells, Project Manager

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Project: COGCC Table 915-1  
Project Name / Number: Dyehard (OWP) 3A  
Project Manager: Jacob Harter

Reported:  
09/20/23 15:42

SS01

2308435-01 (Soil)

Sampled Date: 08/30/23 14:30

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**

Surrogate: Nitrobenzene-d5	139 %	39.6-121	09/19/23 13:29	8270C	S-04	MS
Surrogate: 2-Fluorobiphenyl	99.8 %	39.8-134	09/19/23 13:29	8270C		MS
Surrogate: Terphenyl-d14	130 %	33.3-136	09/19/23 13:29	8270C		MS

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Project: COGCC Table 915-1  
Project Name / Number: Dyehard (OWP) 3A  
Project Manager: Jacob Harter

Reported:  
09/20/23 15:42

### 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 B232675 - General Prep - Wet Chem

##### Blank (B232675-BLK1)

Prepared: 09/07/23 Analyzed: 09/12/23

Hexavalent Chromium	ND	0.250	mg/kg dry							
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##### LCS (B232675-BS1)

Prepared: 09/07/23 Analyzed: 09/12/23

Hexavalent Chromium	2.14	0.250	mg/kg dry	2.50		85.7	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 B232659 - Paste Extract

##### Reference (B232659-SRM1)

Prepared & Analyzed: 09/07/23

Conductivity	7370		umho/cm@25C	6480		114	90-110			BS1
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#### Batch B232670 - Paste Extract

##### Reference (B232670-SRM1)

Prepared & Analyzed: 09/07/23

pH	7.40		pH Units	7.35		101	92-108			
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#### Batch B232671 - Paste Extract

##### Blank (B232671-BLK1)

Prepared: 09/07/23 Analyzed: 09/12/23

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

##### Reference (B232671-SRM1)

Prepared: 09/07/23 Analyzed: 09/12/23

SAR	6.11		No Unit	6.20		98.6	90-110			
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Project: COGCC Table 915-1  
Project Name / Number: Dyehard (OWP) 3A  
Project Manager: Jacob Harter

Reported:  
09/20/23 15:42

### 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 B232653 - EPA 3050

##### Blank (B232653-BLK1)

Prepared: 09/06/23 Analyzed: 09/12/23

Barium	ND	5.00	mg/kg dry
Cadmium	ND	5.00	mg/kg dry
Chromium	ND	5.00	mg/kg dry
Copper	ND	10.0	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 (B232653-BS1)

Prepared: 09/06/23 Analyzed: 09/12/23

Barium	186	5.00	mg/kg dry	200	93.2	80-120
Cadmium	176	5.00	mg/kg dry	200	88.0	80-120
Chromium	191	5.00	mg/kg dry	200	95.6	80-120
Copper	390	10.0	mg/kg dry	400	97.6	80-120
Lead	180	10.0	mg/kg dry	200	90.1	80-120
Nickel	180	5.00	mg/kg dry	200	90.0	80-120
Selenium	775	20.0	mg/kg dry	800	96.9	80-120
Silver	9.40	1.00	mg/kg dry	10.0	94.0	80-120
Zinc	170	10.0	mg/kg dry	200	85.2	80-120

##### LCS Dup (B232653-BSD1)

Prepared: 09/06/23 Analyzed: 09/12/23

Barium	183	5.00	mg/kg dry	200	91.6	80-120	1.77	20
Cadmium	172	5.00	mg/kg dry	200	86.1	80-120	2.18	20
Chromium	188	5.00	mg/kg dry	200	94.0	80-120	1.62	20
Copper	386	10.0	mg/kg dry	400	96.4	80-120	1.17	20
Lead	179	10.0	mg/kg dry	200	89.4	80-120	0.729	20
Nickel	176	5.00	mg/kg dry	200	88.0	80-120	2.20	20
Selenium	782	20.0	mg/kg dry	800	97.8	80-120	0.946	20
Silver	9.43	1.00	mg/kg dry	10.0	94.3	80-120	0.323	20
Zinc	166	10.0	mg/kg dry	200	83.0	80-120	2.64	20

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*Veronica J. Wells*

Veronica Wells, Project Manager

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Project: COGCC Table 915-1  
Project Name / Number: Dyehard (OWP) 3A  
Project Manager: Jacob Harter

Reported:  
09/20/23 15:42

### 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 B232654 - EPA 3050M

##### Blank (B232654-BLK1)

Prepared: 09/06/23 Analyzed: 09/12/23

Arsenic	ND	0.100	mg/kg dry							
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##### LCS (B232654-BS1)

Prepared: 09/06/23 Analyzed: 09/12/23

Arsenic	5.15	0.100	mg/kg dry	5.00		103	80-120			
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##### LCS Dup (B232654-BSD1)

Prepared: 09/06/23 Analyzed: 09/12/23

Arsenic	5.29	0.100	mg/kg dry	5.00		106	80-120	2.72	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 B232673 - General Prep-SOILS

##### Blank (B232673-BLK1)

Prepared: 09/07/23 Analyzed: 09/12/23

Boron	ND	1.20	mg/L							
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09/20/23 15:42

### 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 3090502 - General Prep - Organics

##### Blank (3090502-BLK1)

Prepared & Analyzed: 09/05/23

Surrogate: 1-Chlorooctadecane	46.5		mg/kg	50.0		93.0	49.1-148			
Surrogate: 1-Chlorooctane	43.5		mg/kg	50.0		86.9	48.2-134			
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 (3090502-BS1)

Prepared & Analyzed: 09/05/23

Surrogate: 1-Chlorooctadecane	45.3		mg/kg	50.0		90.5	49.1-148			
Surrogate: 1-Chlorooctane	44.5		mg/kg	50.0		89.0	48.2-134			
DRO >C10-C28	174	10.0	mg/kg	200		87.1	66.5-118			
GRO C6-C10	180	10.0	mg/kg	200		89.9	66.4-123			
Total TPH C6-C28	354	10.0	mg/kg	400		88.5	77.6-123			

##### LCS Dup (3090502-BSD1)

Prepared & Analyzed: 09/05/23

Surrogate: 1-Chlorooctadecane	45.1		mg/kg	50.0		90.3	49.1-148			
Surrogate: 1-Chlorooctane	44.2		mg/kg	50.0		88.3	48.2-134			
DRO >C10-C28	172	10.0	mg/kg	200		85.8	66.5-118	1.47	21	
GRO C6-C10	178	10.0	mg/kg	200		89.2	66.4-123	0.785	17.7	
Total TPH C6-C28	350	10.0	mg/kg	400		87.5	77.6-123	1.12	18.5	

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09/20/23 15:42

**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 3091111 - Volatiles****Blank (3091111-BLK1)**

Prepared &amp; Analyzed: 09/11/23

1,2,4-Trimethylbenzene	0.0142	0.0250	mg/kg							J
1,3,5-Trimethylbenzene	ND	0.0250	mg/kg							
Surrogate: 4-Bromofluorobenzene	1.15		mg/kg	1.25		92.1	82.5-117			
Benzene	ND	0.0250	mg/kg							
Surrogate: Dibromofluoromethane	1.29		mg/kg	1.25		103	84.6-114			
Ethylbenzene	0.0118	0.0250	mg/kg							J
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	1.31		mg/kg	1.25		104	90.4-109			
Total Xylenes	ND	0.0750	mg/kg							

**LCS (3091111-BS1)**

Prepared &amp; Analyzed: 09/11/23

1,2,4-Trimethylbenzene	0.491	0.0250	mg/kg	0.500		98.2	62.4-140			
1,3,5-Trimethylbenzene	0.529	0.0250	mg/kg	0.500		106	64.4-138			
Surrogate: 4-Bromofluorobenzene	1.26		mg/kg	1.25		100	82.5-117			
Benzene	0.506	0.0250	mg/kg	0.500		101	73-130			
Surrogate: Dibromofluoromethane	1.25		mg/kg	1.25		100	84.6-114			
Ethylbenzene	0.486	0.0250	mg/kg	0.500		97.2	75.4-127			
m+p - Xylene	0.999	0.0500	mg/kg	1.00		99.9	71.8-133			
Naphthalene	0.578	0.0250	mg/kg	0.500		116	28.7-158			
o-Xylene	0.486	0.0250	mg/kg	0.500		97.2	78.6-125			
Toluene	0.513	0.0250	mg/kg	0.500		103	79-122			
Surrogate: Toluene-d8	1.28		mg/kg	1.25		102	90.4-109			
Total Xylenes	1.48	0.0750	mg/kg	1.50		99.0	74.6-130			

**LCS Dup (3091111-BSD1)**

Prepared &amp; Analyzed: 09/11/23

1,2,4-Trimethylbenzene	0.481	0.0250	mg/kg	0.500		96.2	62.4-140	2.07	38.2	
1,3,5-Trimethylbenzene	0.508	0.0250	mg/kg	0.500		102	64.4-138	3.96	39.1	
Surrogate: 4-Bromofluorobenzene	1.27		mg/kg	1.25		102	82.5-117			
Benzene	0.493	0.0250	mg/kg	0.500		98.6	73-130	2.71	17.1	
Surrogate: Dibromofluoromethane	1.24		mg/kg	1.25		99.4	84.6-114			
Ethylbenzene	0.491	0.0250	mg/kg	0.500		98.2	75.4-127	1.01	16.5	
m+p - Xylene	0.991	0.0500	mg/kg	1.00		99.1	71.8-133	0.721	19.1	
Naphthalene	0.523	0.0250	mg/kg	0.500		105	28.7-158	10.0	64	
o-Xylene	0.499	0.0250	mg/kg	0.500		99.9	78.6-125	2.70	13.2	
Toluene	0.502	0.0250	mg/kg	0.500		100	79-122	2.06	18.3	

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Veronica Wells, Project Manager

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Cottonwood Consulting  
PO Box 1653  
Durango CO, 81302

Project: COGCC Table 915-1  
Project Name / Number: Dyehard (OWP) 3A  
Project Manager: Jacob Harter

Reported:  
09/20/23 15:42

**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 3091111 - Volatiles (Continued)**

**LCS Dup (3091111-BSD1) (Continued)**

Prepared & Analyzed: 09/11/23

Surrogate: Toluene-d8	1.30		mg/kg	1.25		104	90.4-109			
Total Xylenes	1.49	0.0750	mg/kg	1.50		99.4	74.6-130	0.412	16.5	

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Cottonwood Consulting  
PO Box 1653  
Durango CO, 81302

Project: COGCC Table 915-1  
Project Name / Number: Dyehard (OWP) 3A  
Project Manager: Jacob Harter

Reported:  
09/20/23 15:42

### 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 3090127 - SW846-3510

##### Blank (3090127-BLK1)

Prepared: 09/01/23 Analyzed: 09/19/23

1-Methylnaphthalene	ND	0.040	mg/kg							
Surrogate: 2-Fluorobiphenyl	2.15		mg/kg	2.00		108	39.8-134			
2-Methylnaphthalene	ND	0.040	mg/kg							
Acenaphthene	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[k]fluoranthene	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	2.52		mg/kg	2.00		126	39.6-121			S-05
Pyrene	ND	0.040	mg/kg							
Surrogate: Terphenyl-d14	2.13		mg/kg	2.00		106	33.3-136			

##### LCS (3090127-BS1)

Prepared: 09/01/23 Analyzed: 09/19/23

1-Methylnaphthalene	0.444	0.040	mg/kg	0.400		111	57.6-108			BS-3
Surrogate: 2-Fluorobiphenyl	1.95		mg/kg	2.00		97.6	39.8-134			
2-Methylnaphthalene	0.429	0.040	mg/kg	0.400		107	59-106			BS-3
Acenaphthene	0.352	0.040	mg/kg	0.400		88.0	60.9-105			
Acenaphthylene	0.360	0.040	mg/kg	0.400		90.0	57.4-107			
Anthracene	0.340	0.040	mg/kg	0.400		85.1	60.8-105			
Benzo[a]anthracene	0.363	0.040	mg/kg	0.400		90.8	56.1-121			
Benzo[a]pyrene	0.333	0.040	mg/kg	0.400		83.2	56.7-115			
Benzo[b]fluoranthene	0.343	0.040	mg/kg	0.400		85.7	45.4-128			
Benzo[g,h,i]perylene	0.351	0.040	mg/kg	0.400		87.8	56.5-107			
Benzo[k]fluoranthene	0.368	0.040	mg/kg	0.400		91.9	49.6-119			
Carbazole	0.377	0.040	mg/kg	0.400		94.1	59.7-107			
Chrysene	0.385	0.040	mg/kg	0.400		96.2	12.2-190			
Dibenz[a,h]anthracene	0.343	0.040	mg/kg	0.400		85.7	59.1-111			
Fluoranthene	0.374	0.040	mg/kg	0.400		93.4	60.6-111			
Fluorene	0.360	0.040	mg/kg	0.400		89.9	59.3-108			
Indeno[1,2,3-cd]pyrene	0.324	0.040	mg/kg	0.400		81.1	53.4-116			
Naphthalene	0.440	0.040	mg/kg	0.400		110	56.5-106			BS-3

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Veronica Wells, Project Manager

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Cottonwood Consulting  
PO Box 1653  
Durango CO, 81302

Project: COGCC Table 915-1  
Project Name / Number: Dyehard (OWP) 3A  
Project Manager: Jacob Harter

Reported:  
09/20/23 15:42

**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 3090127 - SW846-3510 (Continued)**

**LCS (3090127-BS1) (Continued)**

Prepared: 09/01/23 Analyzed: 09/19/23

Surrogate: Nitrobenzene-d5	2.10		mg/kg	2.00		105	39.6-121			
Phenanthrene	0.358	0.040	mg/kg	0.400		89.5	59.9-107			
Pyrene	0.380	0.040	mg/kg	0.400		95.1	51.5-122			
Surrogate: Terphenyl-d14	2.07		mg/kg	2.00		103	33.3-136			

**LCS Dup (3090127-BS1)**

Prepared: 09/01/23 Analyzed: 09/19/23

1-Methylnaphthalene	0.471	0.040	mg/kg	0.400		118	57.6-108	6.00	6.22	BS-3
Surrogate: 2-Fluorobiphenyl	1.99		mg/kg	2.00		99.3	39.8-134			
2-Methylnaphthalene	0.458	0.040	mg/kg	0.400		114	59-106	6.46	6.23	BS-3, QR-04
Acenaphthene	0.364	0.040	mg/kg	0.400		91.0	60.9-105	3.28	8.18	
Acenaphthylene	0.371	0.040	mg/kg	0.400		92.8	57.4-107	3.13	5	
Anthracene	0.411	0.040	mg/kg	0.400		103	60.8-105	18.8	3.68	QR-04
Benzo[a]anthracene	0.370	0.040	mg/kg	0.400		92.6	56.1-121	1.90	9.01	
Benzo[a]pyrene	0.324	0.040	mg/kg	0.400		80.9	56.7-115	2.74	4.92	
Benzo[b]fluoranthene	0.338	0.040	mg/kg	0.400		84.6	45.4-128	1.29	7.63	
Benzo[g,h,i]perylene	0.341	0.040	mg/kg	0.400		85.2	56.5-107	3.07	12.5	
Benzo[k]fluoranthene	0.371	0.040	mg/kg	0.400		92.8	49.6-119	0.929	10.6	
Carbazole	0.442	0.040	mg/kg	0.400		111	59.7-107	16.0	8.65	BS-3, QR-04
Chrysene	0.387	0.040	mg/kg	0.400		96.7	12.2-190	0.552	21.8	
Dibenz[a,h]anthracene	0.348	0.040	mg/kg	0.400		86.9	59.1-111	1.47	11.6	
Fluoranthene	0.431	0.040	mg/kg	0.400		108	60.6-111	14.2	7.54	QR-04
Fluorene	0.371	0.040	mg/kg	0.400		92.8	59.3-108	3.13	5.49	
Indeno[1,2,3-cd]pyrene	0.321	0.040	mg/kg	0.400		80.2	53.4-116	1.17	22.3	
Naphthalene	0.459	0.040	mg/kg	0.400		115	56.5-106	4.26	4.56	BS-3
Surrogate: Nitrobenzene-d5	2.15		mg/kg	2.00		108	39.6-121			
Phenanthrene	0.440	0.040	mg/kg	0.400		110	59.9-107	20.5	5.21	BS-3, QR-04
Pyrene	0.387	0.040	mg/kg	0.400		96.8	51.5-122	1.82	10.6	
Surrogate: Terphenyl-d14	2.19		mg/kg	2.00		109	33.3-136			

Green Analytical Laboratories

*Veronica J. Wells*

Veronica Wells, Project Manager

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Cottonwood Consulting  
PO Box 1653  
Durango CO, 81302

Project: COGCC Table 915-1  
Project Name / Number: Dyehard (OWP) 3A  
Project Manager: Jacob Harter

**Reported:**  
09/20/23 15:42

### 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.

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

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

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

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

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

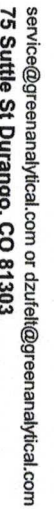
MDL Method Detection Limit

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

**SAMPLE CONDITION RECEIPT FORM**

Client Name: Cottonwood Consulting

Work Order # 2308-435

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Client ☐ Kangaroo

Custody Seals on Box/Cooler Present: ☐ Yes ☒ No

Seals Intact: ☐ Yes ☒ No

Thermometer Used: 2 Samples on ice, cooling process has begun: ☒ Yes ☐ No

Type of Ice: ☒ Wet ☐ Blue ☐ None

Cooler Temp: Observed Temp: 23.5 °C Correction Factor: 0 °C Final Temp: 23.5 °C

\* Temp should be above freezing to 6°C

Date/Initials of person  
examining contents: 8/30/23  
[Signature]

Labeled by Initials:  
(if different than above) \_\_\_\_\_

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3.
Sampler Name and Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	4.
Samples arrived within hold time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Dissolved Testing Needed:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	11.
Field Filtered: <input type="checkbox"/> Yes <input type="checkbox"/> No		
Sample Labels match COC: -Includes Date/Time/ID	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12.
Matrix:	WT <u>6</u> SU OT	
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
Trip Blank Custody Seals Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	

Client Notification/Resolution:

Person Contacted: \_\_\_\_\_

Date/Time: \_\_\_\_\_

Comments/Resolution: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_