



Eagle Environmental Consulting, LLC

December 24, 2024

David Castro

8000 W 44th Ave

Wheat Ridge CO 80033

Project Name - Noble Pad PW Dumpline Release Project Number - [none]

Attached are your analytical results for Noble Pad PW Dumpline Release received by Origins Laboratory November 13, 2024. This project is associated with Origins project number E4K0340-01.

The analytical results in the following report were analyzed under the guidelines of EPA Methods. These methods are identified as follows; "SW" are defined in SW-846, "EPA" are defined in 40CFR part 136 and "SM" are defined in the most current revision of Standard Methods For the Examination of Water and Wastewater.

The analytical results apply specifically to the samples and analyses specified per the attached Chain of Custody. As such, this report shall not be reproduced except in full, without the written approval of Origin's laboratory.

Unless otherwise noted, the analytical results for all soil samples are reported on a wet weight basis. All analytical analyses were performed under NELAP guidelines unless noted by a data qualifier.

Any holding time exceedances, deviations from the method specifications or deviations from Origins Laboratory's Standard Operating Procedures are outlined in the case narrative.

Thank you for selecting Origins for your analytical needs. Please contact us with any questions concerning this report, or if we can help with anything at all.

Origins Laboratory  
303.433.1322  
projectmanager@originslab.com





Eagle Environmental Consulting, LLC  
8000 W 44th Ave  
Wheat Ridge CO 80033

David Castro  
Project Number: [none]  
Project: Noble Pad PW Dumpline Release

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
EX-FS-01@11'	E4K0340-01	Soil	November 13, 2024 10:26	11/13/2024 12:40

Origins Laboratory

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Jordan A. Bynon, Project Manager



Eagle Environmental Consulting, LLC  
 8000 W 44th Ave  
 Wheat Ridge CO 80033

David Castro  
 Project Number: [none]  
 Project: Noble Pad PW Dumpline Release

Origins Laboratory

F-012207-01-R1  
 Effective Date: 01/09/12

**Sample Receipt Checklist**

Origins Work Order: E440340

Client: Eagle

Checklist Completed by: SHO

Client Project ID: Noble Pad

Date/time completed: 11/13/12

Shipped Via: HO  
 (UPS, FedEx, Hand Delivered, Pick-up, etc.)

Airbill #: N/A

Matrix(s) Received: (Check all that apply):  Soil/Solid     Water     Other: \_\_\_\_\_

Cooler Number/Temperature: 13.9 °C    /    °C    /    °C    (Describe)    °C

Thermometer ID: 7009

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C <sup>(1)?</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact <sup>(1)?</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided <sup>(1)?</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present <sup>(1)?</sup>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) present and filled out completely <sup>(1)?</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received <sup>(1)?</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC <sup>(1)?</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client with date and time recorded <sup>(1)?</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace (> ¼ inch bubble) present? <b>If yes, contact client and note in narrative.</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation and was it checked <sup>(1)?</sup> (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <= 2 for samples preserved with HNO <sub>3</sub> , HCL, H <sub>2</sub> SO <sub>4</sub> ) / (pH > 10 for samples preserved with NaAsO <sub>2</sub> +NaOH, ZnAc+NaOH)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				

<sup>(1)</sup>If NO, then contact the client before proceeding with analysis and note date/time and person contacted as well as the corrective action to in the additional comments (above) and the case narrative.

Reviewed by (Project Manager) SHO

11/13/12  
 Date/Time Reviewed

Origins Laboratory



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8000 W 44th Ave  
Wheat Ridge CO 80033

David Castro  
Project Number: [none]  
Project: Noble Pad PW Dumpline Release

EX-FS-01@11'

11/13/2024 10:26:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory**  
E4K0340-01 (Soil)

**Boron (DTPA Sorbitol)**

Boron	0.260		0.0998	mg/L	1	B4K1401	11/14/2024	11/17/2024	
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**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	ND		25.0	mg/kg	1	B4K1338	11/13/2024	11/14/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua

Surrogate: o-Terphenyl	75.6 %		50-150			"	"	"	
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**GBTEX+TMBs by 8260D**

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B4K1337	"	11/14/2024	Ua
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Benzene	0.00678		0.00200	"	"	"	"	"	
Ethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Toluene	0.00374		0.00200	"	"	"	"	"	
Xylenes, total	ND		0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND		0.200	"	"	"	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	79.6 %		70-130			"	"	"	
Surrogate: Toluene-d8	95.6 %		70-130			"	"	"	

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EX-FS-01@11'

11/13/2024 10:26:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory**  
E4K0340-01 (Soil)

**GBTEX+TMBs by 8260D**

Surrogate: 4-Bromofluorobenzene	81.4 %		70-130			B4K13 37	11/13/2024	11/14/2024	
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**Metals by Saturated Paste by EPA 6010**

Calcium	2.14		0.499	meq/L	10	[CALC]	11/14/2024	11/15/2024	
Magnesium	11.9		0.823	"	"	"	"	"	
Sodium	1.53		0.435	"	"	"	"	"	

**PAH by 3541/8270**

1-Methylnaphthalene	ND	0.00124	0.00376	mg/kg dry	1	2708362	11/20/2024	11/20/2024	U
2-Methylnaphthalene	ND	0.00124	0.00376	"	"	"	"	"	U
Acenaphthene	ND	0.00124	0.00376	"	"	"	"	"	U
Acenaphthylene	ND	0.00124	0.00376	"	"	"	"	"	U
Anthracene	ND	0.00124	0.00376	"	"	"	"	"	U
Benzo(a)anthracene	ND	0.00124	0.00376	"	"	"	"	"	U
Benzo(a)pyrene	ND	0.00124	0.00376	"	"	"	"	"	U
Benzo(b)fluoranthene	ND	0.00124	0.00376	"	"	"	"	"	U
Benzo(k)fluoranthene	ND	0.00124	0.00376	"	"	"	"	"	U
Chrysene	ND	0.00124	0.00376	"	"	"	"	"	U
Dibenzo(a,h)anthracene	ND	0.00124	0.00376	"	"	"	"	"	U
Fluoranthene	ND	0.00124	0.00376	"	"	"	"	"	U

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11/13/2024 10:26:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**GEL Laboratories, LLC**

E4K0340-01 (Soil)

**PAH by 3541/8270**

Fluorene	ND	0.00124	0.00376	mg/kg dry	1	2708362	11/20/2024	11/20/2024	U
Indeno(1,2,3-cd)pyrene	ND	0.00124	0.00376	"	"	"	"	"	U
Naphthalene	ND	0.00124	0.00376	"	"	"	"	"	U
Pyrene	ND	0.00124	0.00376	"	"	"	"	"	U

Surrogate: 5-alpha-Androstane 81 % 22-135 " " "

**pH in Soil by 9045D**

pH 8.31 pH Units 1 B4K1420 11/14/2024 11/15/2024

**SAR by 20B Saturated Paste**

SAR 0.576 0.0100 SAR 1 B4K1412 11/14/2024 11/15/2024

**Specific Conductance Mod. 9050A**

Specific Conductance (EC) 1.68 0.00500 mmhos/cm 1 B4K1420 11/14/2024 11/15/2024

**Table 915 metals by EPA 6020B**

Arsenic 4.25 0.258 mg/kg 10 B4K1341 11/13/2024 11/14/2024  
Barium 26.5 8.89 " " " " "

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11/13/2024 10:26:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory**  
 E4K0340-01 (Soil)

**Table 915 metals by EPA 6020B**

Cadmium	ND		0.0889	mg/kg	10	B4K1341	11/13/2024	11/14/2024	
Copper	ND		8.89	"	"	"	"	"	
Lead	<b>7.68</b>		0.889	"	"	"	"	"	
Nickel	<b>7.70</b>		0.889	"	"	"	"	"	
Selenium	ND		0.231	"	"	"	"	"	
Silver	ND		0.0889	"	"	"	"	"	
Zinc	ND		32.9	"	"	"	"	"	

**Total Metals 7196A**

Hexavalent Chromium	ND	0.123	0.307	mg/kg dry	1	2717812	12/12/2024	12/17/2024	U
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**Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control**  
**Origins Laboratory**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4K1337 - EPA 5030 (soil)

Blank (B4K1337-BLK1)

Prepared: 11/13/2024 Analyzed: 11/14/2024

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg							Ua
1,3,5-Trimethylbenzene	ND	0.00200	"							Ua
Benzene	ND	0.00200	"							Ua
Ethylbenzene	ND	0.00200	"							Ua
Naphthalene	ND	0.00380	"							Ua
Toluene	ND	0.00200	"							Ua
Xylenes, total	ND	0.00200	"							Ua
Gasoline Range Hydrocarbons	ND	0.200	"							Ua
Surrogate: 1,2-Dichloroethane-d4	0.093		"	0.125		74.8	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		96.8	70-130			
Surrogate: 4-Bromofluorobenzene	0.10		"	0.125		82.8	70-130			

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**Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control**  
**Origins Laboratory**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4K1337 - EPA 5030 (soil)

**LCS (B4K1337-BS1)**

Prepared: 11/13/2024 Analyzed: 11/14/2024

1,2,4-Trimethylbenzene	0.112	0.00200	mg/kg	0.100		112	70-130			
1,3,5-Trimethylbenzene	0.114	0.00200	"	0.100		114	70-130			
Benzene	0.111	0.00200	"	0.100		111	70-130			
Ethylbenzene	0.107	0.00200	"	0.100		107	70-130			
Naphthalene	0.106	0.00380	"	0.100		106	70-130			
Toluene	0.109	0.00200	"	0.100		109	70-130			
o-Xylene	0.107	0.00200	"	0.100		107	70-130			
m,p-Xylene	0.229	0.00400	"	0.200		114	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.091		"	0.125		72.9	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		94.6	70-130			
Surrogate: 4-Bromofluorobenzene	0.11		"	0.125		89.5	70-130			

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**Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control**  
**Origins Laboratory**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4K1337 - EPA 5030 (soil)

Matrix Spike (B4K1337-MS1)	Source: E4K0340-01			Prepared: 11/13/2024 Analyzed: 11/14/2024						
1,2,4-Trimethylbenzene	0.104	0.00200	mg/kg	0.100	ND	104	70-130			
1,3,5-Trimethylbenzene	0.105	0.00200	"	0.100	ND	105	70-130			
Benzene	0.112	0.00200	"	0.100	0.00678	106	70-130			
Ethylbenzene	0.0984	0.00200	"	0.100	ND	98.4	70-130			
Naphthalene	0.101	0.00380	"	0.100	ND	101	70-130			
Toluene	0.104	0.00200	"	0.100	0.00374	101	70-130			
o-Xylene	0.0993	0.00200	"	0.100	ND	99.3	70-130			
m,p-Xylene	0.213	0.00400	"	0.200	ND	106	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.093		"	0.125		74.0	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		93.4	70-130			
Surrogate: 4-Bromofluorobenzene	0.11		"	0.125		89.5	70-130			

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David Castro  
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**Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control**  
**Origins Laboratory**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4K1337 - EPA 5030 (soil)

Matrix Spike Dup (B4K1337-MSD1)	Source: E4K0340-01			Prepared: 11/13/2024 Analyzed: 11/14/2024						
1,2,4-Trimethylbenzene	0.106	0.00200	mg/kg	0.100	ND	106	70-130	2.38	20	
1,3,5-Trimethylbenzene	0.107	0.00200	"	0.100	ND	107	70-130	1.73	20	
Benzene	0.114	0.00200	"	0.100	0.00678	107	70-130	1.13	20	
Ethylbenzene	0.100	0.00200	"	0.100	ND	100	70-130	1.65	20	
Naphthalene	0.107	0.00380	"	0.100	ND	107	70-130	5.46	20	
Toluene	0.105	0.00200	"	0.100	0.00374	101	70-130	0.668	20	
o-Xylene	0.101	0.00200	"	0.100	ND	101	70-130	1.32	20	
m,p-Xylene	0.216	0.00400	"	0.200	ND	108	70-130	1.72	20	
Surrogate: 1,2-Dichloroethane-d4	0.093		"	0.125		74.6	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		92.1	70-130			
Surrogate: 4-Bromofluorobenzene	0.11		"	0.125		89.3	70-130			

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**Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control**  
**Origins Laboratory**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B4K1338 - EPA 3550B</b>										
<b>Blank (B4K1338-BLK1)</b>										
					Prepared: 11/13/2024 Analyzed: 11/14/2024					
Diesel (C10-C28)	ND	25.0	mg/kg							Ua
Residual Range Organics (C28-C40)	ND	100	"							Ua
Surrogate: o-Terphenyl	19		"	24.9		76.4	50-150			

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Jordan A. Bynon, Project Manager



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**Extractable Petroleum Hydrocarbons by 8015D - Quality Control**  
**Origins Laboratory**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B4K1338 - EPA 3550B</b>										
<b>LCS (B4K1338-BS1)</b>										
					Prepared: 11/13/2024 Analyzed: 11/14/2024					
Diesel (C10-C28)	934	50.0	mg/kg	1000		93.4	70-130			
Residual Range Organics (C28-C40)	969	200	"	1000		96.9	70-130			
Surrogate: o-Terphenyl	49		"	49.8		98.9	50-150			

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**Extractable Petroleum Hydrocarbons by 8015D - Quality Control**  
**Origins Laboratory**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B4K1338 - EPA 3550B**

<b>Matrix Spike (B4K1338-MS1)</b>	<b>Source: E4K0340-01</b>		<b>Prepared: 11/13/2024 Analyzed: 11/14/2024</b>							
Diesel (C10-C28)	930	50.0	mg/kg	1000	ND	93.0	70-130			
Residual Range Organics (C28-C40)	977	200	"	1000	ND	97.7	70-130			
Surrogate: o-Terphenyl	47		"	49.8		95.4	50-150			

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**Extractable Petroleum Hydrocarbons by 8015D - Quality Control**  
**Origins Laboratory**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B4K1338 - EPA 3550B**

<b>Matrix Spike Dup (B4K1338-MSD1)</b>	<b>Source: E4K0340-01</b>				<b>Prepared: 11/13/2024 Analyzed: 11/14/2024</b>					
Diesel (C10-C28)	987	50.0	mg/kg	1000	ND	98.7	70-130	5.90	35	
Residual Range Organics (C28-C40)	1060	200	"	1000	ND	106	70-130	8.39	35	
<i>Surrogate: o-Terphenyl</i>	52		"	49.8		104	50-150			

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**Extractable Petroleum Hydrocarbons by 8015D - Quality Control**  
**Origins Laboratory**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Metals by EPA 6000/7000 Series Methods - Quality Control**  
**Origins Laboratory**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B4K1341 - EPA 3050B**

**Blank (B4K1341-BLK1)**

Prepared: 11/13/2024 Analyzed: 11/14/2024

Arsenic	ND	0.290	mg/kg							
Barium	ND	10.0	"							
Cadmium	ND	0.100	"							
Copper	ND	10.0	"							
Lead	ND	1.00	"							
Nickel	ND	1.00	"							
Selenium	ND	0.260	"							
Silver	ND	0.100	"							
Zinc	ND	37.0	"							

**LCS (B4K1341-BS1)**

Prepared: 11/13/2024 Analyzed: 11/14/2024

Arsenic	5.60	0.290	mg/kg	5.00		112	80-120			
Barium	557	10.0	"	500		111	80-120			
Cadmium	5.90	0.100	"	5.00		118	80-120			
Copper	59.9	10.0	"	50.0		120	80-120			
Lead	5.57	1.00	"	5.00		111	80-120			
Nickel	5.84	1.00	"	5.00		117	80-120			
Selenium	5.53	0.260	"	5.00		111	80-120			
Silver	4.92	0.100	"	5.00		98.4	80-120			
Zinc	57.8	37.0	"	50.0		116	80-120			

**Matrix Spike (B4K1341-MS1)**

Source: E4K0340-01

Prepared: 11/13/2024 Analyzed: 11/14/2024

Origins Laboratory

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Eagle Environmental Consulting, LLC  
 8000 W 44th Ave  
 Wheat Ridge CO 80033

David Castro  
 Project Number: [none]  
 Project: Noble Pad PW Dumpline Release

**Metals by EPA 6000/7000 Series Methods - Quality Control**  
**Origins Laboratory**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B4K1341 - EPA 3050B**

<b>Matrix Spike (B4K1341-MS1)</b>	<b>Source: E4K0340-01</b>			<b>Prepared: 11/13/2024 Analyzed: 11/14/2024</b>						
Arsenic	9.06	0.260	mg/kg	4.48	4.25	107	75-125			
Barium	483	8.96	"	448	26.5	102	75-125			
Cadmium	4.92	0.0896	"	4.48	0.0320	109	75-125			
Copper	52.9	8.96	"	44.8	3.33	111	75-125			
Lead	12.8	0.896	"	4.48	7.68	114	75-125			
Nickel	12.6	0.896	"	4.48	7.70	109	75-125			
Selenium	4.77	0.233	"	4.48	0.196	102	75-125			
Silver	5.08	0.0896	"	4.48	0.0142	113	75-125			
Zinc	79.7	33.1	"	44.8	31.5	107	75-125			

<b>Matrix Spike Dup (B4K1341-MSD1)</b>	<b>Source: E4K0340-01</b>			<b>Prepared: 11/13/2024 Analyzed: 11/14/2024</b>						
Arsenic	9.35	0.281	mg/kg	4.84	4.25	105	75-125	3.20	20	
Barium	545	9.69	"	484	26.5	107	75-125	12.1	20	
Cadmium	5.59	0.0969	"	4.84	0.0320	115	75-125	12.8	20	
Copper	57.9	9.69	"	48.4	3.33	113	75-125	9.05	20	
Lead	13.2	0.969	"	4.84	7.68	115	75-125	3.59	20	
Nickel	13.1	0.969	"	4.84	7.70	112	75-125	3.99	20	
Selenium	5.35	0.252	"	4.84	0.196	106	75-125	11.4	20	
Silver	4.69	0.0969	"	4.84	0.0142	96.6	75-125	7.86	20	
Zinc	83.1	35.8	"	48.4	31.5	106	75-125	4.19	20	

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 Wheat Ridge CO 80033

David Castro  
 Project Number: [none]  
 Project: Noble Pad PW Dumpline Release

**Classical Chemistry Parameters - Quality Control**  
**Origins Laboratory**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B4K1401 - DTPA Sorbitol Preparation**

**Blank (B4K1401-BLK1)**

Prepared: 11/14/2024 Analyzed: 11/17/2024

Boron ND 0.100 mg/L

**Duplicate (B4K1401-DUP1)**

**Source: E4K0081-01**

Prepared: 11/14/2024 Analyzed: 11/17/2024

Boron 0.727 0.102 mg/L 0.655 10.4 50

**Batch B4K1412 - Saturated Paste Metals**

**Blank (B4K1412-BLK1)**

Prepared: 11/14/2024 Analyzed: 11/15/2024

Calcium PPM ND 10.0 mg/L

SAR ND 0.0100 SAR

Magnesium PPM ND 10.0 mg/L

Sodium PPM ND 10.0 "

**Duplicate (B4K1412-DUP1)**

**Source: E410823-08**

Prepared: 11/14/2024 Analyzed: 11/15/2024

Calcium PPM 145 10.0 mg/L 93.8 42.7 50

SAR ND 0.0100 SAR 16.1 200

Magnesium PPM 96.4 10.0 mg/L 75.5 24.4 50

Sodium PPM 853 10.0 " 864 1.32 50

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David Castro  
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**Saturated Paste - Quality Control**  
**Origins Laboratory**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B4K1420 - Saturated Paste pH/EC**

**Blank (B4K1420-BLK1)**

Prepared: 11/14/2024 Analyzed: 11/15/2024

Specific Conductance (EC) ND 0.00500 mmhos/cm

**Duplicate (B4K1420-DUP1)**

**Source: E410823-08**

Prepared: 11/14/2024 Analyzed: 11/15/2024

pH	8.14		pH Units	8.28			1.71	25	
Specific Conductance (EC)	4.73	0.00500	mmhos/cm	4.38			7.66	25	

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David Castro  
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**PAH by 3541/8270 - Quality Control**  
**GEL Laboratories, LLC**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 2708362 - SW846 3541

**BLANK (1205924802-BLK)**

Prepared: 11/20/2024 Analyzed: 11/20/2024

Benzo(k)fluoranthene	ND	0.00327	mg/kg				-			U
Pyrene	ND	0.00327	"				-			U
Naphthalene	ND	0.00327	"				-			U
Indeno(1,2,3-cd)pyrene	ND	0.00327	"				-			U
Fluorene	ND	0.00327	"				-			U
Fluoranthene	ND	0.00327	"				-			U
Chrysene	ND	0.00327	"				-			U
Benzo(b)fluoranthene	ND	0.00327	"				-			U
2-Methylnaphthalene	ND	0.00327	"				-			U
Benzo(a)anthracene	ND	0.00327	"				-			U
Anthracene	ND	0.00327	"				-			U
Acenaphthylene	ND	0.00327	"				-			U
Acenaphthene	ND	0.00327	"				-			U
Benzo(a)pyrene	ND	0.00327	"				-			U
Dibenzo(a,h)anthracene	ND	0.00327	"				-			U
1-Methylnaphthalene	ND	0.00327	"				-			U

Surrogate: 5-alpha-Androstane

0.152

"

0.163

93

22-135

**LCS (1205924803-BKS)**

Prepared: 11/20/2024 Analyzed: 11/20/2024

Chrysene	0.330	0.00331	mg/kg	0.331		100	42-117			
Dibenzo(a,h)anthracene	0.396	0.00331	"	0.331		120	38-132			
Fluoranthene	0.354	0.00331	"	0.331		107	39-119			
Fluorene	0.346	0.00331	"	0.331		105	37-115			
Indeno(1,2,3-cd)pyrene	0.372	0.00331	"	0.331		112	38-133			
Pyrene	0.353	0.00331	"	0.331		107	38-117			
Benzo(k)fluoranthene	0.327	0.00331	"	0.331		99	40-122			
1-Methylnaphthalene	0.333	0.00331	"	0.331		101	39-109			

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 Wheat Ridge CO 80033

David Castro  
 Project Number: [none]  
 Project: Noble Pad PW Dumpline Release

**PAH by 3541/8270 - Quality Control**  
**GEL Laboratories, LLC**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 2708362 - SW846 3541

**LCS (1205924803-BKS)**

Prepared: 11/20/2024 Analyzed: 11/20/2024

Naphthalene	0.330	0.00331	mg/kg	0.331		100	38-109			
Benzo(a)pyrene	0.381	0.00331	"	0.331		115	39-127			
Benzo(a)anthracene	0.380	0.00331	"	0.331		115	42-120			
Anthracene	0.357	0.00331	"	0.331		108	41-117			
Acenaphthylene	0.368	0.00331	"	0.331		111	39-119			
Acenaphthene	0.340	0.00331	"	0.331		103	41-112			
2-Methylnaphthalene	0.347	0.00331	"	0.331		105	39-110			
Benzo(b)fluoranthene	0.358	0.00331	"	0.331		108	39-123			

Surrogate: 5-alpha-Androstane 0.157 " 0.166 95 22-135

**LCSD (1205924804-BKSD)**

Prepared: 11/20/2024 Analyzed: 11/20/2024

Benzo(b)fluoranthene	0.353	0.00332	mg/kg	0.332		106	39-123	1	30	
Benzo(k)fluoranthene	0.342	0.00332	"	0.332		103	40-122	4	30	
Pyrene	0.358	0.00332	"	0.332		108	38-117	1	30	
Dibenzo(a,h)anthracene	0.401	0.00332	"	0.332		121	38-132	1	30	
Fluoranthene	0.359	0.00332	"	0.332		108	39-119	1	30	
Fluorene	0.353	0.00332	"	0.332		106	37-115	2	30	
Naphthalene	0.336	0.00332	"	0.332		101	38-109	2	30	
Indeno(1,2,3-cd)pyrene	0.377	0.00332	"	0.332		114	38-133	1	30	
1-Methylnaphthalene	0.341	0.00332	"	0.332		103	39-109	2	30	
Benzo(a)pyrene	0.384	0.00332	"	0.332		116	39-127	1	30	
Chrysene	0.334	0.00332	"	0.332		100	42-117	1	30	
2-Methylnaphthalene	0.355	0.00332	"	0.332		107	39-110	2	30	
Acenaphthene	0.347	0.00332	"	0.332		104	41-112	2	30	
Acenaphthylene	0.374	0.00332	"	0.332		113	39-119	2	30	
Anthracene	0.359	0.00332	"	0.332		108	41-117	1	30	
Benzo(a)anthracene	0.383	0.00332	"	0.332		115	42-120	1	30	

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David Castro  
 Project Number: [none]  
 Project: Noble Pad PW Dumpline Release

**PAH by 3541/8270 - Quality Control**  
**GEL Laboratories, LLC**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 2708362 - SW846 3541**

**LCSD (1205924804-BKSD)**

Prepared: 11/20/2024 Analyzed: 11/20/2024

Surrogate: 5-alpha-Androstane	0.152		mg/kg	0.166		92	22-135			
<b>MS (1205924805 S)</b>										
		<b>Source: 695644022</b>								Prepared: 11/20/2024 Analyzed: 11/20/2024
Naphthalene	0.144	0.00373	mg/kg dry	0.373	<0.00123	39	16-126			
Benzo(k)fluoranthene	0.152	0.00373	"	0.373	<0.00123	41	18-138			
Indeno(1,2,3-cd)pyrene	0.170	0.00373	"	0.373	<0.00123	45	13-134			
Fluorene	0.155	0.00373	"	0.373	<0.00123	42	16-134			
Fluoranthene	0.161	0.00373	"	0.373	<0.00123	43	14-136			
Dibenzo(a,h)anthracene	0.181	0.00373	"	0.373	<0.00123	49	11-134			
Chrysene	0.155	0.00373	"	0.373	<0.00123	42	19-129			
Pyrene	0.162	0.00373	"	0.373	<0.00123	43	12-139			
1-Methylnaphthalene	0.147	0.00373	"	0.373	<0.00123	39	15-129			
Benzo(a)pyrene	0.176	0.00373	"	0.373	<0.00123	47	16-133			
Benzo(a)anthracene	0.177	0.00373	"	0.373	<0.00123	47	20-132			
Anthracene	0.160	0.00373	"	0.373	<0.00123	43	18-136			
Acenaphthylene	0.163	0.00373	"	0.373	<0.00123	44	18-134			
Acenaphthene	0.152	0.00373	"	0.373	<0.00123	41	17-129			
2-Methylnaphthalene	0.152	0.00373	"	0.373	<0.00123	41	15-132			
Benzo(b)fluoranthene	0.164	0.00373	"	0.373	<0.00123	44	14-136			

Surrogate: 5-alpha-Androstane	0.0831		"	0.186	0.155	45	22-135			
<b>MSD (1205924806 SD)</b>										
		<b>Source: 695644022</b>								Prepared: 11/20/2024 Analyzed: 11/20/2024

Chrysene	0.220	0.00376	mg/kg dry	0.376	<0.00124	59	19-129	35	30	
Dibenzo(a,h)anthracene	0.254	0.00376	"	0.376	<0.00124	68	11-134	33	30	
Fluoranthene	0.234	0.00376	"	0.376	<0.00124	62	14-136	37	30	
Fluorene	0.228	0.00376	"	0.376	<0.00124	61	16-134	38	30	
Indeno(1,2,3-cd)pyrene	0.237	0.00376	"	0.376	<0.00124	63	13-134	33	30	

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David Castro  
Project Number: [none]  
Project: Noble Pad PW Dumpline Release

**PAH by 3541/8270 - Quality Control**  
**GEL Laboratories, LLC**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 2708362 - SW846 3541

MSD (1205924806 SD)	Source: 695644022		Prepared: 11/20/2024 Analyzed: 11/20/2024							
Benzo(k)fluoranthene	0.221	0.00376	mg/kg dry	0.376	<0.00124	59	18-138	37	30	
Pyrene	0.234	0.00376	"	0.376	<0.00124	62	12-139	36	30	
Benzo(a)anthracene	0.249	0.00376	"	0.376	<0.00124	66	20-132	34	30	
Naphthalene	0.201	0.00376	"	0.376	<0.00124	54	16-126	33	30	
1-Methylnaphthalene	0.211	0.00376	"	0.376	<0.00124	56	15-129	36	30	
Benzo(a)pyrene	0.249	0.00376	"	0.376	<0.00124	66	16-133	34	30	
Anthracene	0.238	0.00376	"	0.376	<0.00124	63	18-136	39	30	
Acenaphthylene	0.238	0.00376	"	0.376	<0.00124	63	18-134	37	30	
Acenaphthene	0.220	0.00376	"	0.376	<0.00124	59	17-129	37	30	
2-Methylnaphthalene	0.218	0.00376	"	0.376	<0.00124	58	15-132	35	30	
Benzo(b)fluoranthene	0.226	0.00376	"	0.376	<0.00124	60	14-136	31	30	
Surrogate: 5-alpha-Androstane	0.0962		"	0.188	0.155	51	22-135			

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David Castro  
Project Number: [none]  
Project: Noble Pad PW Dumpline Release

**Total Metals 7196A - Quality Control**  
**GEL Laboratories, LLC**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 2717812 - SW846 3060A</b>										
<b>BLANK (1205943216-BLK)</b>					Prepared: 12/12/2024 Analyzed: 12/17/2024					
Hexavalent Chromium	ND	0.357	mg/kg				-			U
<b>LCS (1205943217-BKS)</b>					Prepared: 12/12/2024 Analyzed: 12/17/2024					
Hexavalent Chromium	3.86	0.388	mg/kg	3.88		99.5	80-120			
<b>DUP (1205943218 D)</b>					Source: E4K0340-01 Prepared: 12/12/2024 Analyzed: 12/17/2024					
Hexavalent Chromium	ND	0.307	mg/kg dry		<0.123		0-50	N/A	50	U
<b>MS (1205943219 S)</b>					Source: E4K0340-01 Prepared: 12/12/2024 Analyzed: 12/17/2024					
Hexavalent Chromium	2.82	0.307	mg/kg dry	3.07	<0.123	91.3	75-125			
<b>DUP (1205943220 D)</b>					Source: 695945001 Prepared: 12/12/2024 Analyzed: 12/17/2024					
Hexavalent Chromium	ND	0.302	mg/kg dry		<0.121		0-50	N/A	50	U
<b>MS (1205943221 S)</b>					Source: 695945001 Prepared: 12/12/2024 Analyzed: 12/17/2024					
Hexavalent Chromium	2.26	0.302	mg/kg dry	3.02	<0.121	73.4	75-125			
<b>ILCS (1205943222-ILCS)</b>					Prepared: 12/12/2024 Analyzed: 12/17/2024					
Hexavalent Chromium	6.86	0.319	mg/kg	6.50		106	80-120			

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8000 W 44th Ave  
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David Castro  
Project Number: [none]  
Project: Noble Pad PW Dumpline Release

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**Notes and Definitions**

Ua Sample is Non-Detect.

U Result not detected above the detection limit

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported on a wet weight basis.

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Jordan A. Bynon, Project Manager