



Eagle Environmental Consulting, LLC

David Castro

8000 W 44th Ave

Wheat Ridge CO 80033

November 12, 2024

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 11, 2024. This project is associated with Origins project number E4K0266-01.

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



1725 Elk Place, Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

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-SS-01@4'	E4K0266-01	Soil	November 11, 2024 9:35	11/11/2024 13:26
EX-SS-02@4'	E4K0266-02	Soil	November 11, 2024 9:40	11/11/2024 13:26
EX-SS-03@4'	E4K0266-03	Soil	November 11, 2024 9:47	11/11/2024 13:26
EX-SS-04@4'	E4K0266-04	Soil	November 11, 2024 9:53	11/11/2024 13:26
EX-FS-01@6'	E4K0266-05	Soil	November 11, 2024 10:00	11/11/2024 13:26

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

Client: Eagle Environmental Consulting
 Address: 8000 W 44th Ave
 Project Manager: David Castro
 Key: W=Water
White Pad PW Dumpline Release
 Project Name: White Pad PW Dumpline Release
 Project Number: ---
 Collected By: IM
 SW=Surface Water
 Telephone Number: 303-433-0479
 Invoice/Billing Info: Private Operation
 WW=Waste Water
 Email Address: dcastro@eagle-environment.com
 L=Liquid
 S=Soil | SO=Solid | O=Oil | A=Air | G=Gas | UNP=Unpres | HCl= Hydrochloric | HNO3=Nitric | H2SO4=Sulfuric | NaOH=Sodium Hydroxide

#	Sample ID	Date Sampled	Time Sampled	# of Containers	Matrix	Preservative	Analysis		Comments
1	EX-55-01(EG)	11/11/24	0455	3	S	UNP	X		EC/As/PHz
2	EX-55-02(EG)		0940						sampled inside pty
3	EX-55-03(EG)		0947						
4	EX-55-04(EG)		0953						
5	EX-55-01(EG)		1000						to HPLC's needed
6									
7									
8									
9									
10									

Relinquished By: [Signature] Date: 11/11/24 Time: 1510
 Received By: [Signature] Date: 11/11/24 Time: 1320
 Relinquished By: [Signature] Date: 11/11/24 Time: 1320

Temp Received- 4.3 Received On Ice? Yes No
 Turnaround Time: SAME DAY 24 Hr 48 Hr 72 Hr
 Standard

Origins Laboratory


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Eagle Environmental Consulting, LLC
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 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: E44602006

Client: Eagle

Client Project ID: Noble Pad

Checklist Completed by: SHD
 Date/time completed: 11/11/12

Shipped Via: HO
 (UPS, FedEx, Hand Delivered, Pick-up, etc.)
 Airbill #: N/A

Matrix(s) Received: (Check all that apply): Soil/Solid Water Other: _____ (Describe)

Cooler Number/Temperature: 1143 °C / _____ °C / _____ °C / _____ °C

Thermometer ID: 1007

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?	<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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (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 HNO3, HCL, H2SO4) / (pH >10 for samples preserved with NaAsO2+NaOH, ZnAc+NaOH)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Additional Comments (if any):				

⁽¹⁾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): SHD

Date/Time Reviewed: 11/11/12

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

EX-SS-01@4'

11/11/2024 9:35:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E4K0266-01 (Soil)

DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4K1101	11/11/2024	11/11/2024	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: <i>o</i> -Terphenyl	74.6 %	50-150	"	"	"	"	"	"
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4K1134	11/11/2024	11/11/2024	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	U
Benzene	ND	0.00200	"	"	"	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	"	"	U
Toluene	ND	0.00200	"	"	"	"	"	U
Xylenes, total	ND	0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	110 %	70-130	"	"	"	"	"	"
Surrogate: Toluene-d8	103 %	70-130	"	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene	99.3 %	70-130	"	"	"	"	"	"

Table 915 metals by EPA 6020B

Origins Laboratory



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David Castro
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 Project: Noble Pad PW Dumpline Release

EX-SS-01@4'

11/11/2024 9:35:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E4K0266-01 (Soil)

Table 915 metals by EPA 6020B

Arsenic	5.20		0.245	mg/kg	10	B4K1133	11/11/2024	11/12/2024	
Barium	160		8.46	"	"	"	"	"	
Cadmium	0.165		0.0846	"	"	"	"	"	
Copper	11.0		8.46	"	"	"	"	"	
Lead	10.7		0.846	"	"	"	"	"	
Nickel	13.4		0.846	"	"	"	"	"	
Selenium	0.279		0.220	"	"	"	"	"	
Silver	ND		0.0846	"	"	"	"	"	
Zinc	46.3		31.3	"	"	"	"	"	

Origins Laboratory



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

EX-SS-02@4'

11/11/2024 9:40:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E4K0266-02 (Soil)

DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4K1101	11/11/2024	11/11/2024	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: <i>o</i> -Terphenyl	77.4 %	50-150	"	"	"	"	"	"
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4K1134	11/11/2024	11/11/2024	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	U
Benzene	ND	0.00200	"	"	"	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	"	"	U
Toluene	ND	0.00200	"	"	"	"	"	U
Xylenes, total	ND	0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	107 %	70-130	"	"	"	"	"	"
Surrogate: Toluene-d8	98.4 %	70-130	"	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene	98.0 %	70-130	"	"	"	"	"	"

Table 915 metals by EPA 6020B

Origins Laboratory



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Eagle Environmental Consulting, LLC
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 Wheat Ridge CO 80033

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

EX-SS-02@4'

11/11/2024 9:40:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E4K0266-02 (Soil)

Table 915 metals by EPA 6020B

Arsenic	5.62		0.258	mg/kg	10	B4K1133	11/11/2024	11/12/2024	
Barium	169		8.89	"	"	"	"	"	
Cadmium	0.180		0.0889	"	"	"	"	"	
Copper	12.3		8.89	"	"	"	"	"	
Lead	11.6		0.889	"	"	"	"	"	
Nickel	14.7		0.889	"	"	"	"	"	
Selenium	0.287		0.231	"	"	"	"	"	
Silver	ND		0.0889	"	"	"	"	"	
Zinc	50.8		32.9	"	"	"	"	"	

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Wheat Ridge CO 80033

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

EX-SS-03@4'

11/11/2024 9:47:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory
E4K0266-03 (Soil)**

DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		25.0	mg/kg	1	B4K1101	11/11/2024	11/11/2024	U
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	U

Surrogate: o-Terphenyl	78.2 %		50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B4K1134	11/11/2024	11/11/2024	U
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	U
Benzene	ND		0.00200	"	"	"	"	"	U
Ethylbenzene	ND		0.00200	"	"	"	"	"	U
Toluene	ND		0.00200	"	"	"	"	"	U
Xylenes, total	ND		0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND		0.200	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	110 %		70-130			"	"	"	
Surrogate: Toluene-d8	101 %		70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	104 %		70-130			"	"	"	

Table 915 metals by EPA 6020B

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

EX-SS-03@4'

11/11/2024 9:47:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E4K0266-03 (Soil)

Table 915 metals by EPA 6020B

Arsenic	5.32		0.247	mg/kg	10	B4K1133	11/11/2024	11/12/2024	
Barium	153		8.52	"	"	"	"	"	
Cadmium	0.185		0.0852	"	"	"	"	"	
Copper	12.5		8.52	"	"	"	"	"	
Lead	11.5		0.852	"	"	"	"	"	
Nickel	15.4		0.852	"	"	"	"	"	
Selenium	0.261		0.222	"	"	"	"	"	
Silver	ND		0.0852	"	"	"	"	"	
Zinc	51.7		31.5	"	"	"	"	"	

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

EX-SS-04@4'

11/11/2024 9:53:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory
E4K0266-04 (Soil)**

DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		25.0	mg/kg	1	B4K1101	11/11/2024	11/11/2024	U
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	U

Surrogate: <i>o</i> -Terphenyl	82.9 %		50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B4K1134	11/11/2024	11/11/2024	U
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	U
Benzene	ND		0.00200	"	"	"	"	"	U
Ethylbenzene	ND		0.00200	"	"	"	"	"	U
Toluene	ND		0.00200	"	"	"	"	"	U
Xylenes, total	ND		0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND		0.200	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	110 %		70-130			"	"	"	
Surrogate: Toluene-d8	103 %		70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	101 %		70-130			"	"	"	

Table 915 metals by EPA 6020B

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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

EX-SS-04@4'

11/11/2024 9:53:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E4K0266-04 (Soil)

Table 915 metals by EPA 6020B

Arsenic	5.39		0.286	mg/kg	10	B4K1133	11/11/2024	11/12/2024	
Barium	156		9.88	"	"	"	"	"	
Cadmium	0.170		0.0988	"	"	"	"	"	
Copper	11.8		9.88	"	"	"	"	"	
Lead	11.4		0.988	"	"	"	"	"	
Nickel	14.6		0.988	"	"	"	"	"	
Selenium	0.288		0.257	"	"	"	"	"	
Silver	ND		0.0988	"	"	"	"	"	
Zinc	49.7		36.5	"	"	"	"	"	

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

EX-FS-01@6'

11/11/2024 10:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory
E4K0266-05 (Soil)**

DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		25.0	mg/kg	1	B4K1101	11/11/2024	11/11/2024	U
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	U

Surrogate: o-Terphenyl	82.2 %		50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B4K1134	11/11/2024	11/11/2024	U
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	U
Benzene	0.0863		0.00200	"	"	"	"	"	
Ethylbenzene	ND		0.00200	"	"	"	"	"	U
Toluene	0.0334		0.00200	"	"	"	"	"	
Xylenes, total	0.0125		0.00200	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND		0.200	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	113 %		70-130			"	"	"	
Surrogate: Toluene-d8	102 %		70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	98.2 %		70-130			"	"	"	

Table 915 metals by EPA 6020B

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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@6'

11/11/2024 10:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory
 E4K0266-05 (Soil)**

Table 915 metals by EPA 6020B

Arsenic	6.97		0.267	mg/kg	10	B4K1133	11/11/2024	11/12/2024	
Barium	168		9.20	"	"	"	"	"	
Cadmium	0.134		0.0920	"	"	"	"	"	
Copper	11.8		9.20	"	"	"	"	"	
Lead	12.2		0.920	"	"	"	"	"	
Nickel	14.6		0.920	"	"	"	"	"	
Selenium	0.371		0.239	"	"	"	"	"	
Silver	ND		0.0920	"	"	"	"	"	
Zinc	50.9		34.1	"	"	"	"	"	

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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
Batch B4K1101 - EPA 3550B										
Blank (B4K1101-BLK1)										
					Prepared: 11/11/2024 Analyzed: 11/11/2024					
Diesel (C10-C28)	ND	25.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	100	"							U
Surrogate: o-Terphenyl	23		"	24.9		91.4	50-150			

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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

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 B4K1101 - EPA 3550B

LCS (B4K1101-BS1)

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

Diesel (C10-C28)	1040	50.0	mg/kg	1000		104	70-130			
Residual Range Organics (C28-C40)	1100	200	"	1000		110	70-130			
Surrogate: o-Terphenyl	49		"	49.8		99.2	50-150			

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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

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 B4K1101 - EPA 3550B

Matrix Spike (B4K1101-MS1)	Source: E4K0264-01			Prepared: 11/11/2024 Analyzed: 11/11/2024						
Diesel (C10-C28)	1140	50.0	mg/kg	1000	ND	114	70-130			
Residual Range Organics (C28-C40)	1260	200	"	1000	ND	126	70-130			
Surrogate: o-Terphenyl	50		"	49.8		101	50-150			

Origins Laboratory

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Jordan A. Bynon, Project Manager



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David Castro
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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 B4K1101 - EPA 3550B

Matrix Spike Dup (B4K1101-MSD1)	Source: E4K0264-01				Prepared: 11/11/2024 Analyzed: 11/11/2024					
Diesel (C10-C28)	904	50.0	mg/kg	1000	ND	90.4	70-130	22.8	35	
Residual Range Organics (C28-C40)	968	200	"	1000	ND	96.8	70-130	26.6	35	
<i>Surrogate: o-Terphenyl</i>	36		"	49.8		72.6	50-150			

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David Castro
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 Project: Noble Pad PW Dumpline Release

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
Batch B4K1134 - EPA 5030 (soil)										
Blank (B4K1134-BLK1)										
					Prepared: 11/11/2024 Analyzed: 11/11/2024					
1,2,4-Trimethylbenzene	ND	0.00200	mg/kg							U
1,3,5-Trimethylbenzene	ND	0.00200	"							U
Benzene	ND	0.00200	"							U
Ethylbenzene	ND	0.00200	"							U
Naphthalene	ND	0.00380	"							U
Toluene	ND	0.00200	"							U
Xylenes, total	ND	0.00200	"							U
Gasoline Range Hydrocarbons	ND	0.200	"							U
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125	112		70-130			
Surrogate: Toluene-d8	0.13		"	0.125	103		70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125	100		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 B4K1134 - EPA 5030 (soil)

LCS (B4K1134-BS1)

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

1,2,4-Trimethylbenzene	0.106	0.00200	mg/kg	0.100		106	70-130			
1,3,5-Trimethylbenzene	0.107	0.00200	"	0.100		107	70-130			
Benzene	0.105	0.00200	"	0.100		105	70-130			
Ethylbenzene	0.106	0.00200	"	0.100		106	70-130			
Naphthalene	0.112	0.00380	"	0.100		112	70-130			
Toluene	0.100	0.00200	"	0.100		100	70-130			
o-Xylene	0.107	0.00200	"	0.100		107	70-130			
m,p-Xylene	0.212	0.00400	"	0.200		106	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		112	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		99.7	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		104	70-130			

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 Project: Noble Pad PW Dumpline Release

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 B4K1134 - EPA 5030 (soil)

Matrix Spike (B4K1134-MS1)	Source: E4K0264-01			Prepared: 11/11/2024 Analyzed: 11/11/2024						
1,2,4-Trimethylbenzene	0.108	0.00200	mg/kg	0.100	ND	108	70-130			
1,3,5-Trimethylbenzene	0.108	0.00200	"	0.100	ND	108	70-130			
Benzene	0.105	0.00200	"	0.100	ND	105	70-130			
Ethylbenzene	0.106	0.00200	"	0.100	ND	106	70-130			
Naphthalene	0.115	0.00380	"	0.100	ND	115	70-130			
Toluene	0.102	0.00200	"	0.100	ND	102	70-130			
o-Xylene	0.108	0.00200	"	0.100	ND	108	70-130			
m,p-Xylene	0.212	0.00400	"	0.200	ND	106	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		109	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		100	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		102	70-130			

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

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 B4K1134 - EPA 5030 (soil)

Matrix Spike Dup (B4K1134-MSD1)	Source: E4K0264-01			Prepared: 11/11/2024 Analyzed: 11/11/2024						
1,2,4-Trimethylbenzene	0.0984	0.00200	mg/kg	0.100	ND	98.4	70-130	9.13	20	
1,3,5-Trimethylbenzene	0.0982	0.00200	"	0.100	ND	98.2	70-130	9.89	20	
Benzene	0.100	0.00200	"	0.100	ND	100	70-130	4.60	20	
Ethylbenzene	0.0974	0.00200	"	0.100	ND	97.4	70-130	8.25	20	
Naphthalene	0.108	0.00380	"	0.100	ND	108	70-130	5.83	20	
Toluene	0.0950	0.00200	"	0.100	ND	95.0	70-130	7.54	20	
o-Xylene	0.0989	0.00200	"	0.100	ND	98.9	70-130	8.87	20	
m,p-Xylene	0.197	0.00400	"	0.200	ND	98.3	70-130	7.46	20	
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		111	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		98.1	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		102	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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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 B4K1133 - EPA 3050B

Blank (B4K1133-BLK1)

Prepared: 11/11/2024 Analyzed: 11/12/2024

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 (B4K1133-BS1)

Prepared: 11/11/2024 Analyzed: 11/12/2024

Arsenic	5.20	0.290	mg/kg	5.00		104	80-120			
Barium	525	10.0	"	500		105	80-120			
Cadmium	5.09	0.100	"	5.00		102	80-120			
Copper	55.1	10.0	"	50.0		110	80-120			
Lead	5.17	1.00	"	5.00		103	80-120			
Nickel	5.42	1.00	"	5.00		108	80-120			
Selenium	5.44	0.260	"	5.00		109	80-120			
Silver	5.62	0.100	"	5.00		112	80-120			
Zinc	52.0	37.0	"	50.0		104	80-120			

Matrix Spike (B4K1133-MS1)

Source: E4K0266-01

Prepared: 11/11/2024 Analyzed: 11/12/2024

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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 B4K1133 - EPA 3050B

Matrix Spike (B4K1133-MS1)		Source: E4K0266-01			Prepared: 11/11/2024 Analyzed: 11/12/2024					
Arsenic	9.89	0.262	mg/kg	4.53	5.20	103	75-125			
Barium	701	9.05	"	453	160	119	75-125			
Cadmium	4.96	0.0905	"	4.53	0.165	106	75-125			
Copper	58.8	9.05	"	45.3	11.0	106	75-125			
Lead	15.6	0.905	"	4.53	10.7	109	75-125			
Nickel	18.6	0.905	"	4.53	13.4	116	75-125			
Selenium	5.25	0.235	"	4.53	0.279	110	75-125			
Silver	5.27	0.0905	"	4.53	0.0415	115	75-125			
Zinc	92.2	33.5	"	45.3	46.3	101	75-125			

Matrix Spike Dup (B4K1133-MSD1)		Source: E4K0266-01			Prepared: 11/11/2024 Analyzed: 11/12/2024					
Arsenic	9.81	0.244	mg/kg	4.20	5.20	110	75-125	0.763	20	
Barium	580	8.41	"	420	160	99.9	75-125	18.8	20	
Cadmium	4.53	0.0841	"	4.20	0.165	104	75-125	9.01	20	
Copper	55.2	8.41	"	42.0	11.0	105	75-125	6.40	20	
Lead	15.8	0.841	"	4.20	10.7	121	75-125	0.846	20	
Nickel	18.3	0.841	"	4.20	13.4	116	75-125	2.00	20	
Selenium	4.77	0.219	"	4.20	0.279	107	75-125	9.58	20	
Silver	4.80	0.0841	"	4.20	0.0415	113	75-125	9.25	20	
Zinc	90.5	31.1	"	42.0	46.3	105	75-125	1.84	20	

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Notes and Definitions

U Sample is Non-Detect.

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