



**Absaroka
Joel Mason
112 High St.**

November 05, 2024

Buffalo WY 82834

Project Name - FEO Spicer Annex S32

Project Number - FEO.CO.0701.29

Attached are your analytical results for FEO Spicer Annex S32 received by Origins Laboratory October 07, 2024. This project is associated with Origins project number E410219-01.

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

Absaroka
 112 High St.
 Buffalo WY 82834

Joel Mason
 Project Number: FEO.CO.0701.29
 Project: FEO Spicer Annex S32

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS_S32_1@3FT	E410219-01	Soil	October 2, 2024 16:00	10/07/2024 15:59
SS_S32_3@8FT sw	E410219-02	Soil	October 2, 2024 16:30	10/07/2024 15:59
SS_S32_4@4FT sw	E410219-03	Soil	October 2, 2024 16:36	10/07/2024 15:59
SS_S32_5@10FT	E410219-04	Soil	October 3, 2024 6:45	10/07/2024 15:59
SS_S32_6@6FT	E410219-05	Soil	October 3, 2024 7:00	10/07/2024 15:59
SS_S32_7@4FT sw	E410219-06	Soil	October 3, 2024 7:05	10/07/2024 15:59
SS_S32_8@4FT sw	E410219-07	Soil	October 3, 2024 7:10	10/07/2024 15:59
SS_S32_9@3FT	E410219-08	Soil	October 3, 2024 7:17	10/07/2024 15:59
SS_S32_10@3FT sw	E410219-09	Soil	October 3, 2024 7:25	10/07/2024 15:59
SS_S32_11@3FT	E410219-10	Soil	October 3, 2024 7:28	10/07/2024 15:59
SS_S32_12@4FT sw	E410219-11	Soil	October 3, 2024 7:40	10/07/2024 15:59
SS_S32_13@1FT	E410219-12	Soil	October 3, 2024 7:40	10/07/2024 15:59
SS_S32_14@2FT	E410219-13	Soil	October 3, 2024 7:46	10/07/2024 15:59
SS_S32_15@4FT sw	E410219-14	Soil	October 3, 2024 7:53	10/07/2024 15:59

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CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS_S32_16@4FT	E410219-15	Soil	October 3, 2024 7:56	10/07/2024 15:59
SS_S32_17@4FT sw	E410219-16	Soil	October 3, 2024 8:06	10/07/2024 15:59
SS_S32_18@3FT	E410219-17	Soil	October 3, 2024 8:10	10/07/2024 15:59
SS_S32_19@7FT sw	E410219-18	Soil	October 3, 2024 8:18	10/07/2024 15:59
SS_S32_20@4FT sw	E410219-19	Soil	October 3, 2024 8:26	10/07/2024 15:59
SS_S32_21@4FT sw	E410219-20	Soil	October 3, 2024 8:31	10/07/2024 15:59
SS_S32_22@8FT	E410219-21	Soil	October 3, 2024 8:49	10/07/2024 15:59
SS_S32_23@8FT	E410219-22	Soil	October 3, 2024 8:49	10/07/2024 15:59
SS_S32_24@11FT sw	E410219-23	Soil	October 3, 2024 8:51	10/07/2024 15:59
SS_S32_25@11FT sw	E410219-24	Soil	October 3, 2024 9:02	10/07/2024 15:59
SS_S32_26@11FT	E410219-25	Soil	October 3, 2024 9:07	10/07/2024 15:59
SS_S32_27@11FT sw	E410219-26	Soil	October 3, 2024 9:13	10/07/2024 15:59
SS_S32_28@5FT sw	E410219-27	Soil	October 3, 2024 9:20	10/07/2024 15:59
SS_S32_29@11FT sw	E410219-28	Soil	October 3, 2024 9:31	10/07/2024 15:59

Origins Laboratory



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Project: FEO Spicer Annex S32

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS_S32_30@5FT sw	E410219-29	Soil	October 3, 2024 9:40	10/07/2024 15:59
SS_S32_31@9FT sw	E410219-30	Soil	October 3, 2024 9:49	10/07/2024 15:59
SS_S32_32@9FT	E410219-31	Soil	October 3, 2024 9:54	10/07/2024 15:59
SS_S32_33@10FT sw	E410219-32	Soil	October 3, 2024 10:00	10/07/2024 15:59
SS_S32_34@6FT sw	E410219-33	Soil	October 3, 2024 10:08	10/07/2024 15:59
SS_S32_35@14FT	E410219-34	Soil	October 3, 2024 10:16	10/07/2024 15:59
SS_S32_36@13FT sw	E410219-35	Soil	October 3, 2024 10:21	10/07/2024 15:59
SS_S32_37@7FT sw	E410219-36	Soil	October 3, 2024 10:26	10/07/2024 15:59
SS_S32_38@4FT	E410219-37	Soil	October 3, 2024 10:35	10/07/2024 15:59

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Joel Mason
Project Number: FEO.CO.0701.29
Project: FEO Spicer Annex S32

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



E410219

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page 2 of 4

Client: Absaroka Solutions
Address: 112 High St, Buffalo WY
Project Manager: Joel Mason
Project Name: FEO Spicer Annex S32
Telephone Number: 307-262-8975 & 402.651.7406
Project Number: FEO.CO.0701.29
Email Address: Shane.Rosenthal@absarakasolutions.com
and Joel.Mason@absarakasolutions.com
Samples Collected By: Shane.Rosenthal@absarakasolutions.com

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative			Matrix			Analysis	Sample Instructions
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil		
SS_S32_11 @ 3 FT	10/3/2024	7:28	2	X						X	
SS_S32_12 @ 4 FT SW	10/3/2024	7:40	2	X						X	
SS_S32_13 @ 1 FT	10/3/2024	7:40	2	X						X	
SS_S32_14 @ 2 FT	10/3/2024	7:46	2	X						X	
SS_S32_15 @ 4 FT SW	10/3/2024	7:53	2	X						X	
SS_S32_16 @ 4 FT	10/3/2024	7:56	2	X						X	
SS_S32_17 @ 4 FT SW	10/3/2024	8:06	2	X						X	
SS_S32_18 @ 3 FT	10/3/2024	8:10	2	X						X	
SS_S32_19 @ 7 FT SW	10/3/2024	8:18	2	X						X	
SS_S32_20 @ 4 FT SW	10/3/2024	8:26	2	X						X	

Relinquished By: *[Signature]*
Date: 10/7/24
Time: 15:30

Received By: *[Signature]*
Date: 10/7/24
Time: 15:59

Turnaround Time:
Same Day 48 Hr 72 Hr Standard
24 Hr

5.7 Date Results Needed

Origins Laboratory

[Signature]

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Project Number: FEO.CO.0701.29
Project: FEO Spicer Annex S32

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ORIGINS LABORATORY, INC

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page 3 of 4

Client: Absaroka Solutions
Address: 112 High St, Buffalo WY

Project Manager: Joel Mason
Project Name: FEO Spicer Annex S32

Telephone Number: 307-262-8975 & 402.651.7406

Project Number: FEO.CO.0701.29

Email Address: Shane.Rosenthal@absarokasolutions.com and Joel.Mason@absarokasolutions.com

Samples Collected By: Shane.Rosenthal@absarokasolutions.com

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative			Matrix			Analysis	Sample Instructions
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil		
SS_S32_21 @ 4 FT SW	10/3/2024	8:31	2	X					X		
SS_S32_22 @ 8 FT	10/3/2024	8:49	2	X					X		
SS_S32_23 @ 8 FT	10/3/2024	8:49	2	X					X		
SS_S32_24 @ 11 FT SW	10/3/2024	8:51	2	X					X		
SS_S32_25 @ 11 FT SW	10/3/2024	9:02	2	X					X		
SS_S32_26 @ 11 FT	10/3/2024	9:07	2	X					X		
SS_S32_27 @ 11 FT SW	10/3/2024	9:13	2	X					X		
SS_S32_28 @ 5 FT SW	10/3/2024	9:20	2	X					X		
SS_S32_29 @ 11 FT SW	10/3/2024	9:31	2	X					X		
SS_S32_30 @ 5 FT SW	10/3/2024	9:40	2	X					X		

Relinquished By: *[Signature]* Date: 10/1/24 Time: 1530
Received By: *[Signature]* Date: 10/7/24 Time: 1559
Turnaround Time: 48 Hr 24 Hr Standard

S.7 Date Results Needed

Origins Laboratory
[Signature]

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Joel Mason
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Project: FEO Spicer Annex S32

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ORIGINS LABORATORY, INC

E410219

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page 4 of 4

Client: Absaroka Solutions
Address: 112 High St, Buffalo WY
Telephone Number: 307-262-8975 & 402.651.7406
Email Address: Joel.Mason@absarakasolutions.com

Project Manager: Joel Mason
Project Name: FEO Spicer Annex S32
Project Number: FEO.CO.0701.29
Samples Collected By: Joel.Mason@absarakasolutions.com

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative			Matrix		Analysis	Sample Instructions	
				Unpreserved	HCl	HNO ₃	Other	Groundwater			Soil
SS_S32_31 @ 9 FT SW	10/3/2024	9:49	2	X					X		
SS_S32_32 @ 9FT	10/3/2024	9:54	2	X					X		
SS_S32_33 @ 10FT SW	10/3/2024	10:00	2	X					X		
SS_S32_34 @ 6FT SW	10/3/2024	10:08	2	X					X		
SS_S32_35 @ 14FT	10/3/2024	10:16	2	X					X		
SS_S32_36 @ 13FT SW	10/3/2024	10:21	2	X					X		
SS_S32_37 @ 7FT SW	10/3/2024	10:26	2	X					X		
SS_S32_38 @ 4FT	10/3/2024	10:35	2	X					X		
											10
											9
Relinquished By: <i>WLN</i>	Date: 10/30 10/7/24	Time: 15:35									
Received By: <i>JM</i>	Date: 10/7/24	Time: 15:59									

5.7 Date Results Needed

Turnaround Time:
 Same Day
 24 Hr
 48 Hr
 Standard
 72 Hr

Origins Laboratory



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Joel Mason
Project Number: FEO.CO.0701.29
Project: FEO Spicer Annex S32

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: E410219

Client: Absaroka

Client Project ID: FEO Spicer

Checklist Completed by: EMD

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

Date/time completed: 10/8/12

Airbill #: N/A

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

Cooler Number/Temperature: 1 15.7 °C / _____ °C / _____ °C (Describe) _____ °C

Thermometer ID: 7004

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 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 ⁽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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 HNO ₃ , HCL, H ₂ SO ₄) / (pH >10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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) EMD

Date/Time Reviewed 10/9/12

Origins Laboratory



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 112 High St.
 Buffalo WY 82834

Joel Mason
 Project Number: FEO.CO.0701.29
 Project: FEO Spicer Annex S32

SS S32 1@3FT
10/2/2024 4:00:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-01 (Soil)

Boron (DTPA Sorbitol)

Boron	ND		0.101	mg/L	1	B4J0919	10/09/2024	10/10/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		25.0	mg/kg	1	B4J0833	10/08/2024	10/09/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua

Surrogate: <i>o</i> -Terphenyl	84.4 %		50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B4J0932	10/09/2024	10/10/2024	Ua
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Benzene	ND		0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Toluene	ND		0.00200	"	"	"	"	"	Ua
Xylenes, total	ND		0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND		0.200	"	"	"	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	99.4 %		70-130			"	"	"	
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 Buffalo WY 82834

Joel Mason
 Project Number: FEO.CO.0701.29
 Project: FEO Spicer Annex S32

SS S32 1@3FT
10/2/2024 4:00:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-01 (Soil)

GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	99.3 %		70-130			B4J09 32	10/09/2024	10/10/2024	
Surrogate: 4-Bromofluorobenzene	105 %		70-130			"	"	"	

Metals by Saturated Paste by EPA 6010

Calcium	2.34		0.499	meq/L	10	[CALC]	10/09/2024	10/10/2024	
Magnesium	ND		0.823	"	"	"	"	"	
Sodium	ND		0.435	"	"	"	"	"	

PAH by EPA 8270E extracted via 3580A

1-Methylnaphthalene	ND		0.002	mg/kg	1	B4J1028	10/10/2024	10/11/2024	Ua
2-Methylnaphthalene	ND		0.002	"	"	"	"	"	Ua
Acenaphthene	ND		0.020	"	"	"	"	"	Ua
Anthracene	ND		0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND		0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND		0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND		0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND		0.020	"	"	"	"	"	Ua
Chrysene	ND		0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND		0.020	"	"	"	"	"	Ua
Fluoranthene	ND		0.020	"	"	"	"	"	Ua

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SS S32 1@3FT
10/2/2024 4:00:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-01 (Soil)

PAH by EPA 8270E extracted via 3580A

Fluorene	ND	0.020	mg/kg	1	B4J1028	10/10/2024	10/11/2024	Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	Ua
Naphthalene	ND	0.002	"	"	"	"	"	Ua
Pyrene	ND	0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	96.7 %	60-130	"	"	"	"	"
Surrogate: Anthracene-d10	96.9 %	60-130	"	"	"	"	"
Surrogate: Pyrene-d10	104 %	60-130	"	"	"	"	"
Surrogate: Benzo (a) pyrene-d12	99.0 %	60-130	"	"	"	"	"

pH in Soil by 9045D

pH	7.87	pH Units	1	B4J0928	10/09/2024	10/10/2024
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SAR by 20B Saturated Paste

SAR	0.222	0.0100	SAR	1	B4J0911	10/09/2024	10/10/2024
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.434	0.00500	mmhos/cm	1	B4J0928	10/09/2024	10/10/2024
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Table 915 metals by EPA 6020B

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Joel Mason
Project Number: FEO.CO.0701.29
Project: FEO Spicer Annex S32

SS S32 1@3FT
10/2/2024 4:00:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-01 (Soil)

Table 915 metals by EPA 6020B

Arsenic	3.74	0.258	mg/kg	10	B4J0831	10/08/2024	10/09/2024	
Barium	133	8.91	"	"	"	"	"	
Cadmium	0.169	0.0891	"	"	"	"	"	
Copper	10.9	8.91	"	"	"	"	"	
Lead	6.21	0.891	"	"	"	"	"	
Nickel	12.9	0.891	"	"	"	"	"	
Selenium	0.232	0.232	"	"	"	"	"	
Silver	ND	0.0891	"	"	"	"	"	
Zinc	42.3	33.0	"	"	"	"	"	

Total Metals 7196A

Hexavalent Chromium	ND	0.119	0.298	mg/kg dry	1	2688992	10/24/2024	10/25/2024	U
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 Project: FEO Spicer Annex S32

SS S32 3@8FT sw
10/2/2024 4:30:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-02 (Soil)

Boron (DTPA Sorbitol)

Boron	ND	0.0988	mg/L	1	B4J0919	10/09/2024	10/10/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4J0833	10/08/2024	10/09/2024	Ua
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	Ua

Surrogate: <i>o</i> -Terphenyl	83.3 %	50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4J0932	10/09/2024	10/10/2024	Ua
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	Ua
Benzene	ND	0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND	0.00200	"	"	"	"	"	Ua
Toluene	ND	0.00200	"	"	"	"	"	Ua
Xylenes, total	ND	0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	102 %	70-130			"	"	"	
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 112 High St.
 Buffalo WY 82834

Joel Mason
 Project Number: FEO.CO.0701.29
 Project: FEO Spicer Annex S32

SS S32 3@8FT sw
10/2/2024 4:30:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-02 (Soil)

GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	98.5 %	70-130	B4J09 32	10/09/2024	10/10/2024
Surrogate: 4-Bromofluorobenzene	106 %	70-130	"	"	"

Metals by Saturated Paste by EPA 6010

Calcium	8.93	0.499	meq/L	10	[CALC]	10/09/2024	10/10/2024
Magnesium	6.22	0.823	"	"	"	"	"
Sodium	13.9	0.435	"	"	"	"	"

PAH by EPA 8270E extracted via 3580A

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4J1028	10/10/2024	10/11/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	Ua

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SS S32 3@8FT sw
10/2/2024 4:30:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-02 (Soil)

PAH by EPA 8270E extracted via 3580A

Fluorene	ND		0.020	mg/kg	1	B4J1028	10/10/2024	10/11/2024	Ua
Indeno (1,2,3-cd) pyrene	ND		0.020	"	"	"	"	"	Ua
Naphthalene	ND		0.002	"	"	"	"	"	Ua
Pyrene	ND		0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	96.6 %		60-130			"	"	"	
Surrogate: Anthracene-d10	97.0 %		60-130			"	"	"	
Surrogate: Pyrene-d10	105 %		60-130			"	"	"	
Surrogate: Benzo (a) pyrene-d12	101 %		60-130			"	"	"	

pH in Soil by 9045D

pH	8.03			pH Units	1	B4J0928	10/09/2024	10/10/2024	
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SAR by 20B Saturated Paste

SAR	5.05		0.0100	SAR	1	B4J0911	10/09/2024	10/10/2024	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	2.96		0.00500	mmhos/cm	1	B4J0928	10/09/2024	10/10/2024	
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Table 915 metals by EPA 6020B

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10/2/2024 4:30:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-02 (Soil)

Table 915 metals by EPA 6020B

Arsenic	4.48		0.280	mg/kg	10	B4J0831	10/08/2024	10/09/2024	
Barium	142		9.64	"	"	"	"	"	
Cadmium	0.213		0.0964	"	"	"	"	"	
Copper	19.2		9.64	"	"	"	"	"	
Lead	7.89		0.964	"	"	"	"	"	
Nickel	12.0		0.964	"	"	"	"	"	
Selenium	ND		0.251	"	"	"	"	"	
Silver	ND		0.0964	"	"	"	"	"	
Zinc	39.7		35.7	"	"	"	"	"	

Total Metals 7196A

Hexavalent Chromium	ND	0.166	0.415	mg/kg dry	1	2688992	10/24/2024	10/25/2024	U
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10/2/2024 4:36:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-03 (Soil)

Boron (DTPA Sorbitol)

Boron	0.108		0.0995	mg/L	1	B4J0919	10/09/2024	10/10/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		25.0	mg/kg	1	B4J0833	10/08/2024	10/09/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua

Surrogate: <i>o</i> -Terphenyl	77.7 %		50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B4J0932	10/09/2024	10/10/2024	Ua
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Benzene	ND		0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Toluene	ND		0.00200	"	"	"	"	"	Ua
Xylenes, total	ND		0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND		0.200	"	"	"	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	102 %		70-130			"	"	"	
Surrogate: Toluene-d8	99.0 %		70-130			"	"	"	

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SS S32 4@4FT sw
10/2/2024 4:36:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-03 (Soil)

GBTEX+TMBs by 8260D

Surrogate: 4-Bromofluorobenzene	105 %	70-130		B4J09 32	10/09/2024	10/10/2024
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Metals by Saturated Paste by EPA 6010

Calcium	1.89	0.499	meq/L	10	[CALC]	10/09/2024	10/10/2024
Magnesium	1.70	0.823	"	"	"	"	"
Sodium	1.41	0.435	"	"	"	"	"

PAH by EPA 8270E extracted via 3580A

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4J1028	10/10/2024	10/11/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	Ua
Fluorene	ND	0.020	"	"	"	"	"	Ua

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10/2/2024 4:36:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-03 (Soil)

PAH by EPA 8270E extracted via 3580A

Indeno (1,2,3-cd) pyrene	ND	0.020	mg/kg	1	B4J1028	10/10/2024	10/11/2024	Ua
Naphthalene	ND	0.002	"	"	"	"	"	Ua
Pyrene	ND	0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	97.9 %	60-130	"	"	"	"	"
Surrogate: Anthracene-d10	96.7 %	60-130	"	"	"	"	"
Surrogate: Pyrene-d10	99.8 %	60-130	"	"	"	"	"
Surrogate: Benzo (a) pyrene-d12	103 %	60-130	"	"	"	"	"

pH in Soil by 9045D

pH	8.23	pH Units	1	B4J0928	10/09/2024	10/10/2024
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SAR by 20B Saturated Paste

SAR	1.05	0.0100	SAR	1	B4J0911	10/09/2024	10/10/2024
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.577	0.00500	mmhos/cm	1	B4J0928	10/09/2024	10/10/2024
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Table 915 metals by EPA 6020B

Arsenic	4.71	0.266	mg/kg	10	B4J0831	10/08/2024	10/09/2024
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10/2/2024 4:36:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-03 (Soil)

Table 915 metals by EPA 6020B

Barium	162		9.17	mg/kg	10	B4J0831	10/08/2024	10/09/2024	
Cadmium	0.263		0.0917	"	"	"	"	"	
Copper	29.6		9.17	"	"	"	"	"	
Lead	13.4		0.917	"	"	"	"	"	
Nickel	22.5		0.917	"	"	"	"	"	
Selenium	ND		0.238	"	"	"	"	"	
Silver	ND		0.0917	"	"	"	"	"	
Zinc	61.5		33.9	"	"	"	"	"	

Total Metals 7196A

Hexavalent Chromium	ND	0.179	0.448	mg/kg dry	1	2688992	10/24/2024	10/25/2024	U
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SS S32 5@10FT
10/3/2024 6:45:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-04 (Soil)

Boron (DTPA Sorbitol)

Boron	0.221		0.100	mg/L	1	B4J0919	10/09/2024	10/10/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		25.0	mg/kg	1	B4J0833	10/08/2024	10/09/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua

Surrogate: <i>o</i> -Terphenyl	88.7 %		50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B4J0932	10/09/2024	10/10/2024	Ua
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Benzene	ND		0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Toluene	ND		0.00200	"	"	"	"	"	Ua
Xylenes, total	ND		0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND		0.200	"	"	"	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	104 %		70-130			"	"	"	
Surrogate: Toluene-d8	97.6 %		70-130			"	"	"	

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SS S32 5@10FT
10/3/2024 6:45:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-04 (Soil)

GBTEX+TMBs by 8260D

Surrogate: 4-Bromofluorobenzene	104 %	70-130		B4J09 32	10/09/2024	10/10/2024
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Metals by Saturated Paste by EPA 6010

Calcium	13.4	0.499	meq/L	10	[CALC]	10/09/2024	10/10/2024
Magnesium	8.33	0.823	"	"	"	"	"
Sodium	9.04	0.435	"	"	"	"	"

PAH by EPA 8270E extracted via 3580A

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4J1028	10/10/2024	10/11/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	Ua
Fluorene	ND	0.020	"	"	"	"	"	Ua

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112 High St.
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SS S32 5@10FT
10/3/2024 6:45:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-04 (Soil)

PAH by EPA 8270E extracted via 3580A

Indeno (1,2,3-cd) pyrene	ND		0.020	mg/kg	1	B4J1028	10/10/2024	10/11/2024	Ua
Naphthalene	ND		0.002	"	"	"	"	"	Ua
Pyrene	ND		0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	97.0 %		60-130			"	"	"	
Surrogate: Anthracene-d10	96.5 %		60-130			"	"	"	
Surrogate: Pyrene-d10	103 %		60-130			"	"	"	
Surrogate: Benzo (a) pyrene-d12	104 %		60-130			"	"	"	

pH in Soil by 9045D

pH	8.10			pH Units	1	B4J0928	10/09/2024	10/10/2024	
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SAR by 20B Saturated Paste

SAR	2.74		0.0100	SAR	1	B4J0911	10/09/2024	10/10/2024	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	2.42		0.00500	mmhos/cm	1	B4J0928	10/09/2024	10/10/2024	
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Table 915 metals by EPA 6020B

Arsenic	2.83		0.272	mg/kg	10	B4J0831	10/08/2024	10/09/2024	
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Project: FEO Spicer Annex S32

SS S32 5@10FT
10/3/2024 6:45:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-04 (Soil)

Table 915 metals by EPA 6020B

Barium	208		9.38	mg/kg	10	B4J0831	10/08/2024	10/09/2024	
Cadmium	0.175		0.0938	"	"	"	"	"	
Copper	19.0		9.38	"	"	"	"	"	
Lead	7.98		0.938	"	"	"	"	"	
Nickel	13.3		0.938	"	"	"	"	"	
Selenium	ND		0.244	"	"	"	"	"	
Silver	ND		0.0938	"	"	"	"	"	
Zinc	43.7		34.7	"	"	"	"	"	

Total Metals 7196 A

Hexavalent Chromium	0.601	0.154	0.385	mg/kg dry	1	2689009	10/25/2024	10/29/2024	
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SS S32 6@6FT
10/3/2024 7:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-05 (Soil)

Boron (DTPA Sorbitol)

Boron	0.118		0.100	mg/L	1	B4J0920	10/09/2024	10/10/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		25.0	mg/kg	1	B4J0833	10/08/2024	10/09/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua

Surrogate: <i>o</i> -Terphenyl	86.2 %		50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B4J0932	10/09/2024	10/10/2024	Ua
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Benzene	ND		0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Toluene	ND		0.00200	"	"	"	"	"	Ua
Xylenes, total	ND		0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND		0.200	"	"	"	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	104 %		70-130			"	"	"	
Surrogate: Toluene-d8	97.6 %		70-130			"	"	"	

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SS S32 6@6FT
10/3/2024 7:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-05 (Soil)

GBTEX+TMBs by 8260D

Surrogate: 4-Bromofluorobenzene	103 %	70-130		B4J09 32	10/09/2024	10/10/2024
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Metals by Saturated Paste by EPA 6010

Calcium	1.06	0.499	meq/L	10	[CALC]	10/09/2024	10/10/2024
Magnesium	1.30	0.823	"	"	"	"	"
Sodium	1.58	0.435	"	"	"	"	"

PAH by EPA 8270E extracted via 3580A

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4J1028	10/10/2024	10/11/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	Ua
Fluorene	ND	0.020	"	"	"	"	"	Ua

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Absaroka
112 High St.
Buffalo WY 82834

Joel Mason
Project Number: FEO.CO.0701.29
Project: FEO Spicer Annex S32

SS S32 6@6FT
10/3/2024 7:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-05 (Soil)

PAH by EPA 8270E extracted via 3580A

Indeno (1,2,3-cd) pyrene	ND		0.020	mg/kg	1	B4J1028	10/10/2024	10/11/2024	Ua
Naphthalene	ND		0.002	"	"	"	"	"	Ua
Pyrene	ND		0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	96.0 %		60-130			"	"	"	
Surrogate: Anthracene-d10	92.9 %		60-130			"	"	"	
Surrogate: Pyrene-d10	105 %		60-130			"	"	"	
Surrogate: Benzo (a) pyrene-d12	106 %		60-130			"	"	"	

pH in Soil by 9045D

pH	8.42			pH Units	1	B4J0928	10/09/2024	10/10/2024	
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SAR by 20B Saturated Paste

SAR	1.46		0.0100	SAR	1	B4J0911	10/09/2024	10/10/2024	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.415		0.00500	mmhos/cm	1	B4J0928	10/09/2024	10/10/2024	
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Table 915 metals by EPA 6020B

Arsenic	3.96		0.260	mg/kg	10	B4J0831	10/08/2024	10/09/2024	
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Project: FEO Spicer Annex S32

SS S32 6@6FT
10/3/2024 7:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-05 (Soil)

Table 915 metals by EPA 6020B

Barium	169		8.96	mg/kg	10	B4J0831	10/08/2024	10/09/2024	
Cadmium	0.220		0.0896	"	"	"	"	"	
Copper	14.6		8.96	"	"	"	"	"	
Lead	6.30		0.896	"	"	"	"	"	
Nickel	13.4		0.896	"	"	"	"	"	
Selenium	ND		0.233	"	"	"	"	"	
Silver	ND		0.0896	"	"	"	"	"	
Zinc	43.4		33.2	"	"	"	"	"	

Total Metals 7196 A

Hexavalent Chromium	ND	0.124	0.310	mg/kg dry	1	2689009	10/25/2024	10/29/2024	U
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SS S32 7@4FT sw
10/3/2024 7:05:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-06 (Soil)

Boron (DTPA Sorbitol)

Boron	ND	0.0993	mg/L	1	B4J0920	10/09/2024	10/10/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4J0833	10/08/2024	10/09/2024	Ua
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	Ua

Surrogate: <i>o</i> -Terphenyl	87.3 %	50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4J0932	10/09/2024	10/10/2024	Ua
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	Ua
Benzene	ND	0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND	0.00200	"	"	"	"	"	Ua
Toluene	ND	0.00200	"	"	"	"	"	Ua
Xylenes, total	ND	0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	105 %	70-130			"	"	"	
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10/3/2024 7:05:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-06 (Soil)

GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	97.9 %	70-130	B4J09 32	10/09/2024	10/10/2024
Surrogate: 4-Bromofluorobenzene	106 %	70-130	"	"	"

Metals by Saturated Paste by EPA 6010

Calcium	2.01	0.499	meq/L	10	[CALC]	10/09/2024	10/10/2024
Magnesium	1.61	0.823	"	"	"	"	"
Sodium	1.62	0.435	"	"	"	"	"

PAH by EPA 8270E extracted via 3580A

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4J1028	10/10/2024	10/11/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	Ua

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10/3/2024 7:05:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-06 (Soil)

PAH by EPA 8270E extracted via 3580A

Fluorene	ND	0.020	mg/kg	1	B4J1028	10/10/2024	10/11/2024	Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	Ua
Naphthalene	ND	0.002	"	"	"	"	"	Ua
Pyrene	ND	0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	96.4 %	60-130	"	"	"	"	"
Surrogate: Anthracene-d10	95.9 %	60-130	"	"	"	"	"
Surrogate: Pyrene-d10	104 %	60-130	"	"	"	"	"
Surrogate: Benzo (a) pyrene-d12	106 %	60-130	"	"	"	"	"

pH in Soil by 9045D

pH	8.19	pH Units	1	B4J0928	10/09/2024	10/10/2024
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SAR by 20B Saturated Paste

SAR	1.20	0.0100	SAR	1	B4J0911	10/09/2024	10/10/2024
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.619	0.00500	mmhos/cm	1	B4J0928	10/09/2024	10/10/2024
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Table 915 metals by EPA 6020B

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SS S32 7@4FT sw
10/3/2024 7:05:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-06 (Soil)

Table 915 metals by EPA 6020B

Arsenic	4.66		0.269	mg/kg	10	B4J0831	10/08/2024	10/09/2024	
Barium	151		9.27	"	"	"	"	"	
Cadmium	0.231		0.0927	"	"	"	"	"	
Copper	16.8		9.27	"	"	"	"	"	
Lead	6.96		0.927	"	"	"	"	"	
Nickel	12.3		0.927	"	"	"	"	"	
Selenium	ND		0.241	"	"	"	"	"	
Silver	ND		0.0927	"	"	"	"	"	
Zinc	40.2		34.3	"	"	"	"	"	

Total Metals 7196 A

Hexavalent Chromium	ND	0.134	0.335	mg/kg dry	1	2689009	10/25/2024	10/29/2024	U
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SS S32 8@4FT sw
10/3/2024 7:10:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-07 (Soil)

Boron (DTPA Sorbitol)

Boron	0.137	0.100	mg/L	1	B4J0920	10/09/2024	10/10/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4J0833	10/08/2024	10/09/2024	Ua
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	Ua

Surrogate: <i>o</i> -Terphenyl	85.0 %	50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4J0932	10/09/2024	10/10/2024	Ua
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	Ua
Benzene	ND	0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND	0.00200	"	"	"	"	"	Ua
Toluene	ND	0.00200	"	"	"	"	"	Ua
Xylenes, total	ND	0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	105 %	70-130			"	"	"	
Surrogate: Toluene-d8	96.5 %	70-130			"	"	"	

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 Project Number: FEO.CO.0701.29
 Project: FEO Spicer Annex S32

SS S32 8@4FT sw
10/3/2024 7:10:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-07 (Soil)

GBTEX+TMBs by 8260D

Surrogate: 4-Bromofluorobenzene	103 %	70-130		B4J09 32	10/09/2024	10/10/2024
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Metals by Saturated Paste by EPA 6010

Calcium	2.98	0.499	meq/L	10	[CALC]	10/09/2024	10/10/2024
Magnesium	3.92	0.823	"	"	"	"	"
Sodium	1.83	0.435	"	"	"	"	"

PAH by EPA 8270E extracted via 3580A

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4J1028	10/10/2024	10/11/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	Ua
Fluorene	ND	0.020	"	"	"	"	"	Ua

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Project: FEO Spicer Annex S32

SS S32 8@4FT sw
10/3/2024 7:10:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-07 (Soil)

PAH by EPA 8270E extracted via 3580A

Indeno (1,2,3-cd) pyrene	ND		0.020	mg/kg	1	B4J1028	10/10/2024	10/11/2024	Ua
Naphthalene	ND		0.002	"	"	"	"	"	Ua
Pyrene	ND		0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	96.1 %		60-130			"	"	"	
Surrogate: Anthracene-d10	96.5 %		60-130			"	"	"	
Surrogate: Pyrene-d10	102 %		60-130			"	"	"	
Surrogate: Benzo (a) pyrene-d12	103 %		60-130			"	"	"	

pH in Soil by 9045D

pH	8.13			pH Units	1	B4J0928	10/09/2024	10/10/2024	
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SAR by 20B Saturated Paste

SAR	0.985		0.0100	SAR	1	B4J0911	10/09/2024	10/10/2024	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	1.02		0.00500	mmhos/cm	1	B4J0928	10/09/2024	10/10/2024	
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Table 915 metals by EPA 6020B

Arsenic	4.19		0.251	mg/kg	10	B4J0831	10/08/2024	10/09/2024	
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Joel Mason
Project Number: FEO.CO.0701.29
Project: FEO Spicer Annex S32

SS S32 8@4FT sw
10/3/2024 7:10:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-07 (Soil)

Table 915 metals by EPA 6020B

Barium	134		8.67	mg/kg	10	B4J0831	10/08/2024	10/09/2024	
Cadmium	0.233		0.0867	"	"	"	"	"	
Copper	20.9		8.67	"	"	"	"	"	
Lead	10.3		0.867	"	"	"	"	"	
Nickel	16.0		0.867	"	"	"	"	"	
Selenium	0.246		0.225	"	"	"	"	"	
Silver	ND		0.0867	"	"	"	"	"	
Zinc	52.5		32.1	"	"	"	"	"	

Total Metals 7196 A

Hexavalent Chromium	ND	0.133	0.333	mg/kg dry	1	2689009	10/25/2024	10/29/2024	U
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Joel Mason
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Project: FEO Spicer Annex S32

SS S32 9@3FT
10/3/2024 7:17:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-08 (Soil)

Boron (DTPA Sorbitol)

Boron	0.155		0.100	mg/L	1	B4J0920	10/09/2024	10/10/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		25.0	mg/kg	1	B4J0833	10/08/2024	10/09/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua

Surrogate: <i>o</i> -Terphenyl	74.8 %		50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B4J0932	10/09/2024	10/10/2024	Ua
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Benzene	ND		0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Toluene	ND		0.00200	"	"	"	"	"	Ua
Xylenes, total	ND		0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND		0.200	"	"	"	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	106 %		70-130			"	"	"	
Surrogate: Toluene-d8	96.0 %		70-130			"	"	"	

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112 High St.
Buffalo WY 82834

Joel Mason
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Project: FEO Spicer Annex S32

SS S32 9@3FT
10/3/2024 7:17:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-08 (Soil)

GBTEX+TMBs by 8260D

Surrogate: 4-Bromofluorobenzene	105 %	70-130				B4J09 32	10/09/2024	10/10/2024	
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Metals by Saturated Paste by EPA 6010

Calcium	2.81	0.499	meq/L	10	[CALC]		10/09/2024	10/10/2024	
Magnesium	3.01	0.823	"	"	"	"	"	"	
Sodium	1.32	0.435	"	"	"	"	"	"	

PAH by EPA 8270E extracted via 3580A

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4J1028		10/10/2024	10/11/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	"	Ua
Fluorene	ND	0.020	"	"	"	"	"	"	Ua

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Joel Mason
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Project: FEO Spicer Annex S32

SS S32 9@3FT

10/3/2024 7:17:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory
E410219-08 (Soil)**

PAH by EPA 8270E extracted via 3580A

Indeno (1,2,3-cd) pyrene	ND		0.020	mg/kg	1	B4J1028	10/10/2024	10/11/2024	Ua
Naphthalene	ND		0.002	"	"	"	"	"	Ua
Pyrene	ND		0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	96.3 %		60-130			"	"	"	
Surrogate: Anthracene-d10	95.8 %		60-130			"	"	"	
Surrogate: Pyrene-d10	104 %		60-130			"	"	"	
Surrogate: Benzo (a) pyrene-d12	102 %		60-130			"	"	"	

pH in Soil by 9045D

pH	8.27			pH Units	1	B4J0928	10/09/2024	10/10/2024	
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SAR by 20B Saturated Paste

SAR	0.772		0.0100	SAR	1	B4J0911	10/09/2024	10/10/2024	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.828		0.00500	mmhos/cm	1	B4J0928	10/09/2024	10/10/2024	
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Table 915 metals by EPA 6020B

Arsenic	4.19		0.287	mg/kg	10	B4J0831	10/08/2024	10/09/2024	
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Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-08 (Soil)

Table 915 metals by EPA 6020B

Barium	190		9.89	mg/kg	10	B4J0831	10/08/2024	10/09/2024	
Cadmium	0.212		0.0989	"	"	"	"	"	
Copper	16.4		9.89	"	"	"	"	"	
Lead	9.25		0.989	"	"	"	"	"	
Nickel	16.5		0.989	"	"	"	"	"	
Selenium	0.312		0.257	"	"	"	"	"	
Silver	ND		0.0989	"	"	"	"	"	
Zinc	54.1		36.6	"	"	"	"	"	

Total Metals 7196 A

Hexavalent Chromium	ND	0.106	0.265	mg/kg dry	1	2689009	10/25/2024	10/29/2024	U
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Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-09 (Soil)

Boron (DTPA Sorbitol)

Boron	0.416		0.0997	mg/L	1	B4J0920	10/09/2024	10/10/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		25.0	mg/kg	1	B4J0833	10/08/2024	10/09/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua

Surrogate: <i>o</i> -Terphenyl	82.0 %		50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B4J0932	10/09/2024	10/10/2024	Ua
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Benzene	ND		0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Toluene	ND		0.00200	"	"	"	"	"	Ua
Xylenes, total	ND		0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND		0.200	"	"	"	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	103 %		70-130			"	"	"	
Surrogate: Toluene-d8	98.9 %		70-130			"	"	"	

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10/3/2024 7:25:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-09 (Soil)

GBTEX+TMBs by 8260D

Surrogate: 4-Bromofluorobenzene	104 %	70-130		B4J09 32	10/09/2024	10/10/2024
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Metals by Saturated Paste by EPA 6010

Calcium	1.33	0.499	meq/L	10	[CALC]	10/09/2024	10/10/2024
Magnesium	2.01	0.823	"	"	"	"	"
Sodium	1.58	0.435	"	"	"	"	"

PAH by EPA 8270E extracted via 3580A

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4J1028	10/10/2024	10/11/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	Ua
Fluorene	ND	0.020	"	"	"	"	"	Ua

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10/3/2024 7:25:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-09 (Soil)

PAH by EPA 8270E extracted via 3580A

Indeno (1,2,3-cd) pyrene	ND		0.020	mg/kg	1	B4J1028	10/10/2024	10/11/2024	Ua
Naphthalene	ND		0.002	"	"	"	"	"	Ua
Pyrene	ND		0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	98.5 %		60-130			"	"	"	
Surrogate: Anthracene-d10	95.4 %		60-130			"	"	"	
Surrogate: Pyrene-d10	101 %		60-130			"	"	"	
Surrogate: Benzo (a) pyrene-d12	103 %		60-130			"	"	"	

pH in Soil by 9045D

pH	8.34			pH Units	1	B4J0928	10/09/2024	10/10/2024	
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SAR by 20B Saturated Paste

SAR	1.22		0.0100	SAR	1	B4J0911	10/09/2024	10/10/2024	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.551		0.00500	mmhos/cm	1	B4J0928	10/09/2024	10/10/2024	
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Table 915 metals by EPA 6020B

Arsenic	4.46		0.269	mg/kg	10	B4J0831	10/08/2024	10/09/2024	
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10/3/2024 7:25:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-09 (Soil)

Table 915 metals by EPA 6020B

Barium	271		9.27	mg/kg	10	B4J0831	10/08/2024	10/09/2024	
Cadmium	0.348		0.0927	"	"	"	"	"	
Copper	23.2		9.27	"	"	"	"	"	
Lead	11.1		0.927	"	"	"	"	"	
Nickel	19.1		0.927	"	"	"	"	"	
Selenium	ND		0.241	"	"	"	"	"	
Silver	ND		0.0927	"	"	"	"	"	
Zinc	55.2		34.3	"	"	"	"	"	

Total Metals 7196 A

Hexavalent Chromium	ND	0.186	0.466	mg/kg dry	1	2689009	10/25/2024	10/29/2024	U
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10/3/2024 7:28:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-10 (Soil)

Boron (DTPA Sorbitol)

Boron	0.533		0.0996	mg/L	1	B4J0920	10/09/2024	10/10/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		25.0	mg/kg	1	B4J0833	10/08/2024	10/09/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua

Surrogate: <i>o</i> -Terphenyl	81.9 %		50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B4J0932	10/09/2024	10/10/2024	Ua
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Benzene	ND		0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Toluene	ND		0.00200	"	"	"	"	"	Ua
Xylenes, total	ND		0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND		0.200	"	"	"	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	107 %		70-130			"	"	"	
Surrogate: Toluene-d8	99.5 %		70-130			"	"	"	

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10/3/2024 7:28:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-10 (Soil)

GBTEX+TMBs by 8260D

Surrogate: 4-Bromofluorobenzene	105 %	70-130		B4J09 32	10/09/2024	10/10/2024
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Metals by Saturated Paste by EPA 6010

Calcium	4.15	0.499	meq/L	10	[CALC]	10/09/2024	10/10/2024
Magnesium	3.60	0.823	"	"	"	"	"
Sodium	1.62	0.435	"	"	"	"	"

PAH by EPA 8270E extracted via 3580A

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4J1028	10/10/2024	10/11/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	Ua
Fluorene	ND	0.020	"	"	"	"	"	Ua

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10/3/2024 7:28:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-10 (Soil)

PAH by EPA 8270E extracted via 3580A

Indeno (1,2,3-cd) pyrene	ND		0.020	mg/kg	1	B4J1028	10/10/2024	10/11/2024	Ua
Naphthalene	ND		0.002	"	"	"	"	"	Ua
Pyrene	ND		0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	96.9 %		60-130			"	"	"	
Surrogate: Anthracene-d10	95.1 %		60-130			"	"	"	
Surrogate: Pyrene-d10	104 %		60-130			"	"	"	
Surrogate: Benzo (a) pyrene-d12	104 %		60-130			"	"	"	

pH in Soil by 9045D

pH	8.18			pH Units	1	B4J0928	10/09/2024	10/10/2024	
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SAR by 20B Saturated Paste

SAR	0.823		0.0100	SAR	1	B4J0911	10/09/2024	10/10/2024	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	1.07		0.00500	mmhos/cm	1	B4J0928	10/09/2024	10/10/2024	
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Table 915 metals by EPA 6020B

Arsenic	6.32		0.282	mg/kg	10	B4J0831	10/08/2024	10/09/2024	
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10/3/2024 7:28:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-10 (Soil)

Table 915 metals by EPA 6020B

Barium	294		9.74	mg/kg	10	B4J0831	10/08/2024	10/09/2024	
Cadmium	0.408		0.0974	"	"	"	"	"	
Copper	30.3		9.74	"	"	"	"	"	
Lead	14.0		0.974	"	"	"	"	"	
Nickel	22.8		0.974	"	"	"	"	"	
Selenium	0.272		0.253	"	"	"	"	"	
Silver	ND		0.0974	"	"	"	"	"	
Zinc	71.9		36.0	"	"	"	"	"	

Total Metals 7196 A

Hexavalent Chromium	ND	0.175	0.438	mg/kg dry	1	2689009	10/25/2024	10/29/2024	U
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10/3/2024 7:40:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-11 (Soil)

Boron (DTPA Sorbitol)

Boron	1.45		0.0998	mg/L	1	B4J0920	10/09/2024	10/10/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		25.0	mg/kg	1	B4J0833	10/08/2024	10/09/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua

Surrogate: <i>o</i> -Terphenyl	82.7 %		50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B4J0932	10/09/2024	10/10/2024	Ua
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Benzene	ND		0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Toluene	ND		0.00200	"	"	"	"	"	Ua
Xylenes, total	ND		0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	0.343		0.200	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	108 %		70-130			"	"	"	
Surrogate: Toluene-d8	97.3 %		70-130			"	"	"	

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SS S32 12@4FT sw
10/3/2024 7:40:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-11 (Soil)

GBTEX+TMBs by 8260D

Surrogate: 4-Bromofluorobenzene	103 %	70-130		B4J09 32	10/09/2024	10/10/2024
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Metals by Saturated Paste by EPA 6010

Calcium	8.81	0.499	meq/L	10	[CALC]	10/09/2024	10/10/2024
Magnesium	4.92	0.823	"	"	"	"	"
Sodium	8.87	0.435	"	"	"	"	"

PAH by EPA 8270E extracted via 3580A

1-Methylnaphthalene	0.280	0.002	mg/kg	1	B4J1028	10/10/2024	10/11/2024	
2-Methylnaphthalene	0.399	0.002	"	"	"	"	"	
Acenaphthene	ND	0.020	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	Ua
Fluorene	0.086	0.020	"	"	"	"	"	

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SS S32 12@4FT sw
10/3/2024 7:40:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-11 (Soil)

PAH by EPA 8270E extracted via 3580A

Indeno (1,2,3-cd) pyrene	ND		0.020	mg/kg	1	B4J1028	10/10/2024	10/11/2024	Ua
Naphthalene	0.010		0.002	"	"	"	"	"	
Pyrene	0.136		0.020	"	"	"	"	"	

Surrogate: Fluorene-d10	95.1 %		60-130			"	"	"	
Surrogate: Anthracene-d10	91.3 %		60-130			"	"	"	
Surrogate: Pyrene-d10	117 %		60-130			"	"	"	
Surrogate: Benzo (a) pyrene-d12	103 %		60-130			"	"	"	

pH in Soil by 9045D

pH	7.88			pH Units	1	B4J0928	10/09/2024	10/10/2024	
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SAR by 20B Saturated Paste

SAR	3.38		0.0100	SAR	1	B4J0911	10/09/2024	10/10/2024	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	2.49		0.00500	mmhos/cm	1	B4J0928	10/09/2024	10/10/2024	
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Table 915 metals by EPA 6020B

Arsenic	3.78		0.261	mg/kg	10	B4J0831	10/08/2024	10/09/2024	
Barium	222		9.00	"	"	"	"	"	

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112 High St.
Buffalo WY 82834

Joel Mason
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Project: FEO Spicer Annex S32

SS S32 12@4FT sw
10/3/2024 7:40:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-11 (Soil)

Table 915 metals by EPA 6020B

Cadmium	0.417		0.0900	mg/kg	10	B4J0831	10/08/2024	10/09/2024	
Copper	18.3		9.00	"	"	"	"	"	
Lead	9.98		0.900	"	"	"	"	"	
Nickel	16.9		0.900	"	"	"	"	"	
Selenium	ND		0.234	"	"	"	"	"	
Silver	ND		0.0900	"	"	"	"	"	
Zinc	58.0		33.3	"	"	"	"	"	

Total Metals 7196 A

Hexavalent Chromium	ND	0.154	0.386	mg/kg dry	1	2689009	10/25/2024	10/29/2024	U
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Joel Mason
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SS S32 13@1FT
10/3/2024 7:40:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-12 (Soil)

Boron (DTPA Sorbitol)

Boron	0.731		0.0996	mg/L	1	B4J0920	10/09/2024	10/10/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		25.0	mg/kg	1	B4J0833	10/08/2024	10/09/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua

Surrogate: <i>o</i> -Terphenyl	85.2 %		50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B4J0932	10/09/2024	10/10/2024	Ua
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Benzene	ND		0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Toluene	ND		0.00200	"	"	"	"	"	Ua
Xylenes, total	ND		0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND		0.200	"	"	"	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	107 %		70-130			"	"	"	
Surrogate: Toluene-d8	96.5 %		70-130			"	"	"	

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10/3/2024 7:40:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-12 (Soil)

GBTEX+TMBs by 8260D

Surrogate: 4-Bromofluorobenzene	105 %	70-130				B4J09 32	10/09/2024	10/10/2024	
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Metals by Saturated Paste by EPA 6010

Calcium	7.35	0.499	meq/L	10	[CALC]		10/09/2024	10/10/2024	
Magnesium	2.23	0.823	"	"	"		"	"	
Sodium	3.95	0.435	"	"	"		"	"	

PAH by EPA 8270E extracted via 3580A

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4J1028		10/10/2024	10/11/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"		"	"	Ua
Acenaphthene	ND	0.020	"	"	"		"	"	Ua
Anthracene	ND	0.020	"	"	"		"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"		"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"		"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"		"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"		"	"	Ua
Chrysene	ND	0.020	"	"	"		"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"		"	"	Ua
Fluoranthene	ND	0.020	"	"	"		"	"	Ua
Fluorene	ND	0.020	"	"	"		"	"	Ua

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Project: FEO Spicer Annex S32

SS S32 13@1FT
10/3/2024 7:40:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-12 (Soil)

PAH by EPA 8270E extracted via 3580A

Indeno (1,2,3-cd) pyrene	ND		0.020	mg/kg	1	B4J1028	10/10/2024	10/11/2024	Ua
Naphthalene	ND		0.002	"	"	"	"	"	Ua
Pyrene	ND		0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	97.0 %		60-130			"	"	"	
Surrogate: Anthracene-d10	93.9 %		60-130			"	"	"	
Surrogate: Pyrene-d10	107 %		60-130			"	"	"	
Surrogate: Benzo (a) pyrene-d12	102 %		60-130			"	"	"	

pH in Soil by 9045D

pH	8.01			pH Units	1	B4J0928	10/09/2024	10/10/2024	
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SAR by 20B Saturated Paste

SAR	1.81		0.0100	SAR	1	B4J0911	10/09/2024	10/10/2024	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	1.45		0.00500	mmhos/cm	1	B4J0928	10/09/2024	10/10/2024	
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Table 915 metals by EPA 6020B

Arsenic	3.23		0.264	mg/kg	10	B4J0831	10/08/2024	10/09/2024	
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10/3/2024 7:40:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-12 (Soil)

Table 915 metals by EPA 6020B

Barium	86.5		9.11	mg/kg	10	B4J0831	10/08/2024	10/09/2024	
Cadmium	ND		0.0911	"	"	"	"	"	
Copper	ND		9.11	"	"	"	"	"	
Lead	5.85		0.911	"	"	"	"	"	
Nickel	6.42		0.911	"	"	"	"	"	
Selenium	ND		0.237	"	"	"	"	"	
Silver	ND		0.0911	"	"	"	"	"	
Zinc	ND		33.7	"	"	"	"	"	

Total Metals 7196 A

Hexavalent Chromium	ND	0.128	0.321	mg/kg dry	1	2689009	10/25/2024	10/29/2024	U
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SS S32 14@2FT
10/3/2024 7:46:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-13 (Soil)

Boron (DTPA Sorbitol)

Boron	0.127		0.0997	mg/L	1	B4J0920	10/09/2024	10/10/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		25.0	mg/kg	1	B4J0833	10/08/2024	10/09/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua

Surrogate: <i>o</i> -Terphenyl	86.4 %		50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B4J0932	10/09/2024	10/10/2024	Ua
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Benzene	ND		0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Toluene	ND		0.00200	"	"	"	"	"	Ua
Xylenes, total	ND		0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND		0.200	"	"	"	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	105 %		70-130			"	"	"	
Surrogate: Toluene-d8	98.3 %		70-130			"	"	"	

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SS S32 14@2FT
10/3/2024 7:46:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-13 (Soil)

GBTEX+TMBs by 8260D

Surrogate: 4-Bromofluorobenzene	104 %	70-130		B4J09 32	10/09/2024	10/10/2024
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Metals by Saturated Paste by EPA 6010

Calcium	2.24	0.499	meq/L	10	[CALC]	10/09/2024	10/10/2024
Magnesium	2.32	0.823	"	"	"	"	"
Sodium	0.834	0.435	"	"	"	"	"

PAH by EPA 8270E extracted via 3580A

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4J1028	10/10/2024	10/11/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	Ua
Fluorene	ND	0.020	"	"	"	"	"	Ua

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10/3/2024 7:46:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-13 (Soil)

PAH by EPA 8270E extracted via 3580A

Indeno (1,2,3-cd) pyrene	ND		0.020	mg/kg	1	B4J1028	10/10/2024	10/11/2024	Ua
Naphthalene	ND		0.002	"	"	"	"	"	Ua
Pyrene	ND		0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	97.1 %		60-130			"	"	"	
Surrogate: Anthracene-d10	98.0 %		60-130			"	"	"	
Surrogate: Pyrene-d10	103 %		60-130			"	"	"	
Surrogate: Benzo (a) pyrene-d12	101 %		60-130			"	"	"	

pH in Soil by 9045D

pH	8.20			pH Units	1	B4J0928	10/09/2024	10/10/2024	
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SAR by 20B Saturated Paste

SAR	0.552		0.0100	SAR	1	B4J0911	10/09/2024	10/10/2024	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.630		0.00500	mmhos/cm	1	B4J0928	10/09/2024	10/10/2024	
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Table 915 metals by EPA 6020B

Arsenic	4.52		0.262	mg/kg	10	B4J0831	10/08/2024	10/09/2024	
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SS S32 14@2FT
10/3/2024 7:46:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-13 (Soil)

Table 915 metals by EPA 6020B

Barium	193		9.05	mg/kg	10	B4J0831	10/08/2024	10/09/2024	
Cadmium	0.318		0.0905	"	"	"	"	"	
Copper	19.6		9.05	"	"	"	"	"	
Lead	9.93		0.905	"	"	"	"	"	
Nickel	17.3		0.905	"	"	"	"	"	
Selenium	0.265		0.235	"	"	"	"	"	
Silver	ND		0.0905	"	"	"	"	"	
Zinc	49.4		33.5	"	"	"	"	"	

Total Metals 7196 A

Hexavalent Chromium	ND	0.183	0.457	mg/kg dry	1	2689009	10/25/2024	10/29/2024	U
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SS S32 15@4FT sw
10/3/2024 7:53:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-14 (Soil)

Boron (DTPA Sorbitol)

Boron	1.99		0.0996	mg/L	1	B4J0920	10/09/2024	10/10/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		25.0	mg/kg	1	B4J0833	10/08/2024	10/09/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua

Surrogate: <i>o</i> -Terphenyl	83.3 %		50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B4J0932	10/09/2024	10/10/2024	Ua
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Benzene	ND		0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Toluene	ND		0.00200	"	"	"	"	"	Ua
Xylenes, total	ND		0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND		0.200	"	"	"	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	107 %		70-130			"	"	"	
Surrogate: Toluene-d8	97.9 %		70-130			"	"	"	

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SS S32 15@4FT sw
10/3/2024 7:53:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-14 (Soil)

GBTEX+TMBs by 8260D

Surrogate: 4-Bromofluorobenzene	106 %	70-130		B4J09 32	10/09/2024	10/10/2024
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Metals by Saturated Paste by EPA 6010

Calcium	ND	0.499	meq/L	10	[CALC]	10/09/2024	10/10/2024
Magnesium	1.08	0.823	"	"	"	"	"
Sodium	9.10	0.435	"	"	"	"	"

PAH by EPA 8270E extracted via 3580A

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4J1028	10/10/2024	10/11/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	Ua
Fluorene	ND	0.020	"	"	"	"	"	Ua

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SS S32 15@4FT sw
10/3/2024 7:53:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-14 (Soil)

PAH by EPA 8270E extracted via 3580A

Indeno (1,2,3-cd) pyrene	ND		0.020	mg/kg	1	B4J1028	10/10/2024	10/11/2024	Ua
Naphthalene	ND		0.002	"	"	"	"	"	Ua
Pyrene	ND		0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	97.9 %		60-130			"	"	"	
Surrogate: Anthracene-d10	94.8 %		60-130			"	"	"	
Surrogate: Pyrene-d10	104 %		60-130			"	"	"	
Surrogate: Benzo (a) pyrene-d12	104 %		60-130			"	"	"	

pH in Soil by 9045D

pH	8.86			pH Units	1	B4J0928	10/09/2024	10/10/2024	
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SAR by 20B Saturated Paste

SAR	11.1		0.0100	SAR	1	B4J0911	10/09/2024	10/10/2024	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.984		0.00500	mmhos/cm	1	B4J0928	10/09/2024	10/10/2024	
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Table 915 metals by EPA 6020B

Arsenic	3.73		0.262	mg/kg	10	B4J0831	10/08/2024	10/09/2024	
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SS S32 15@4FT sw
10/3/2024 7:53:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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E410219-14 (Soil)

Table 915 metals by EPA 6020B

Barium	208		9.04	mg/kg	10	B4J0831	10/08/2024	10/09/2024	
Cadmium	0.267		0.0904	"	"	"	"	"	
Copper	19.1		9.04	"	"	"	"	"	
Lead	10.1		0.904	"	"	"	"	"	
Nickel	15.2		0.904	"	"	"	"	"	
Selenium	0.255		0.235	"	"	"	"	"	
Silver	ND		0.0904	"	"	"	"	"	
Zinc	56.1		33.5	"	"	"	"	"	

Total Metals 7196 A

Hexavalent Chromium	ND	0.164	0.410	mg/kg dry	1	2689009	10/25/2024	10/29/2024	U
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Absaroka
112 High St.
Buffalo WY 82834

Joel Mason
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Project: FEO Spicer Annex S32

SS S32 16@4FT
10/3/2024 7:56:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-15 (Soil)

Boron (DTPA Sorbitol)

Boron	0.676		0.0999	mg/L	1	B4J0920	10/09/2024	10/10/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		25.0	mg/kg	1	B4J0833	10/08/2024	10/09/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua

Surrogate: o-Terphenyl	86.6 %		50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B4J0932	10/09/2024	10/10/2024	Ua
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Benzene	ND		0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Toluene	ND		0.00200	"	"	"	"	"	Ua
Xylenes, total	ND		0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND		0.200	"	"	"	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	106 %		70-130			"	"	"	
Surrogate: Toluene-d8	98.3 %		70-130			"	"	"	

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10/3/2024 7:56:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-15 (Soil)

GBTEX+TMBs by 8260D

Surrogate: 4-Bromofluorobenzene	104 %	70-130		B4J09 32	10/09/2024	10/10/2024
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Metals by Saturated Paste by EPA 6010

Calcium	ND	0.499	meq/L	10	[CALC]	10/09/2024	10/10/2024
Magnesium	ND	0.823	"	"	"	"	"
Sodium	5.70	0.435	"	"	"	"	"

PAH by EPA 8270E extracted via 3580A

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4J1028	10/10/2024	10/11/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	Ua
Fluorene	ND	0.020	"	"	"	"	"	Ua

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10/3/2024 7:56:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-15 (Soil)

PAH by EPA 8270E extracted via 3580A

Indeno (1,2,3-cd) pyrene	ND		0.020	mg/kg	1	B4J1028	10/10/2024	10/11/2024	Ua
Naphthalene	ND		0.002	"	"	"	"	"	Ua
Pyrene	ND		0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	97.3 %		60-130			"	"	"	
Surrogate: Anthracene-d10	96.0 %		60-130			"	"	"	
Surrogate: Pyrene-d10	104 %		60-130			"	"	"	
Surrogate: Benzo (a) pyrene-d12	103 %		60-130			"	"	"	

pH in Soil by 9045D

pH	8.77			pH Units	1	B4J0928	10/09/2024	10/10/2024	
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SAR by 20B Saturated Paste

SAR	8.71		0.0100	SAR	1	B4J0911	10/09/2024	10/10/2024	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.692		0.00500	mmhos/cm	1	B4J0928	10/09/2024	10/10/2024	
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Table 915 metals by EPA 6020B

Arsenic	2.34		0.274	mg/kg	10	B4J0831	10/08/2024	10/09/2024	
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Project: FEO Spicer Annex S32

SS S32 16@4FT
10/3/2024 7:56:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-15 (Soil)

Table 915 metals by EPA 6020B

Barium	155		9.46	mg/kg	10	B4J0831	10/08/2024	10/09/2024	
Cadmium	0.123		0.0946	"	"	"	"	"	
Copper	12.8		9.46	"	"	"	"	"	
Lead	6.58		0.946	"	"	"	"	"	
Nickel	17.0		0.946	"	"	"	"	"	
Selenium	ND		0.246	"	"	"	"	"	
Silver	ND		0.0946	"	"	"	"	"	
Zinc	51.2		35.0	"	"	"	"	"	

Total Metals 7196 A

Hexavalent Chromium	ND	0.139	0.349	mg/kg dry	1	2689009	10/25/2024	10/29/2024	U
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SS S32 17@4FT sw
10/3/2024 8:06:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-16 (Soil)

Boron (DTPA Sorbitol)

Boron	1.06		0.0998	mg/L	1	B4J0920	10/09/2024	10/10/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	95.4		25.0	mg/kg	1	B4J0833	10/08/2024	10/09/2024	
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua

Surrogate: <i>o</i> -Terphenyl	88.3 %		50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B4J0932	10/09/2024	10/10/2024	Ua
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Benzene	ND		0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Toluene	ND		0.00200	"	"	"	"	"	Ua
Xylenes, total	ND		0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND		0.200	"	"	"	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	109 %		70-130			"	"	"	
Surrogate: Toluene-d8	97.7 %		70-130			"	"	"	

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SS S32 17@4FT sw
10/3/2024 8:06:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-16 (Soil)

GBTEX+TMBs by 8260D

Surrogate: 4-Bromofluorobenzene	100 %	70-130		B4J09 32	10/09/2024	10/10/2024
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Metals by Saturated Paste by EPA 6010

Calcium	4.20	0.499	meq/L	10	[CALC]	10/09/2024	10/10/2024
Magnesium	3.38	0.823	"	"	"	"	"
Sodium	6.37	0.435	"	"	"	"	"

PAH by EPA 8270E extracted via 3580A

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4J1028	10/10/2024	10/11/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	Ua
Fluorene	ND	0.020	"	"	"	"	"	Ua

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SS S32 17@4FT sw
10/3/2024 8:06:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-16 (Soil)

PAH by EPA 8270E extracted via 3580A

Indeno (1,2,3-cd) pyrene	ND		0.020	mg/kg	1	B4J1028	10/10/2024	10/11/2024	Ua
Naphthalene	ND		0.002	"	"	"	"	"	Ua
Pyrene	ND		0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	99.4 %		60-130			"	"	"	
Surrogate: Anthracene-d10	91.1 %		60-130			"	"	"	
Surrogate: Pyrene-d10	101 %		60-130			"	"	"	
Surrogate: Benzo (a) pyrene-d12	107 %		60-130			"	"	"	

pH in Soil by 9045D

pH	8.13			pH Units	1	B4J0928	10/09/2024	10/10/2024	
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SAR by 20B Saturated Paste

SAR	3.27		0.0100	SAR	1	B4J0911	10/09/2024	10/10/2024	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	1.54		0.00500	mmhos/cm	1	B4J0928	10/09/2024	10/10/2024	
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Table 915 metals by EPA 6020B

Arsenic	3.41		0.262	mg/kg	10	B4J0831	10/08/2024	10/09/2024	
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SS S32 17@4FT sw
10/3/2024 8:06:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-16 (Soil)

Table 915 metals by EPA 6020B

Barium	196		9.05	mg/kg	10	B4J0831	10/08/2024	10/09/2024	
Cadmium	0.215		0.0905	"	"	"	"	"	
Copper	15.3		9.05	"	"	"	"	"	
Lead	8.63		0.905	"	"	"	"	"	
Nickel	14.6		0.905	"	"	"	"	"	
Selenium	ND		0.235	"	"	"	"	"	
Silver	ND		0.0905	"	"	"	"	"	
Zinc	50.3		33.5	"	"	"	"	"	

Total Metals 7196 A

Hexavalent Chromium	ND	0.121	0.304	mg/kg dry	1	2689009	10/25/2024	10/29/2024	U
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SS S32 18@3FT
10/3/2024 8:10:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-17 (Soil)

Boron (DTPA Sorbitol)

Boron	0.308		0.0998	mg/L	1	B4J0920	10/09/2024	10/10/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	32.0		25.0	mg/kg	1	B4J0833	10/08/2024	10/09/2024	
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua

Surrogate: <i>o</i> -Terphenyl	87.2 %		50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B4J0932	10/09/2024	10/10/2024	Ua
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Benzene	ND		0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Toluene	ND		0.00200	"	"	"	"	"	Ua
Xylenes, total	ND		0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND		0.200	"	"	"	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	107 %		70-130			"	"	"	
Surrogate: Toluene-d8	98.1 %		70-130			"	"	"	

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Project: FEO Spicer Annex S32

SS S32 18@3FT
10/3/2024 8:10:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-17 (Soil)

GBTEX+TMBs by 8260D

Surrogate: 4-Bromofluorobenzene	105 %	70-130				B4J09 32	10/09/2024	10/10/2024	
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Metals by Saturated Paste by EPA 6010

Calcium	1.90	0.499	meq/L	10	[CALC]		10/09/2024	10/10/2024	
Magnesium	1.44	0.823	"	"	"	"	"	"	
Sodium	1.11	0.435	"	"	"	"	"	"	

PAH by EPA 8270E extracted via 3580A

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4J1028		10/10/2024	10/11/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	"	Ua
Fluorene	ND	0.020	"	"	"	"	"	"	Ua

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SS S32 18@3FT
10/3/2024 8:10:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-17 (Soil)

PAH by EPA 8270E extracted via 3580A

Indeno (1,2,3-cd) pyrene	ND		0.020	mg/kg	1	B4J1028	10/10/2024	10/11/2024	Ua
Naphthalene	ND		0.002	"	"	"	"	"	Ua
Pyrene	ND		0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	98.6 %		60-130			"	"	"	
Surrogate: Anthracene-d10	91.7 %		60-130			"	"	"	
Surrogate: Pyrene-d10	110 %		60-130			"	"	"	
Surrogate: Benzo (a) pyrene-d12	104 %		60-130			"	"	"	

pH in Soil by 9045D

pH	8.32			pH Units	1	B4J0928	10/09/2024	10/10/2024	
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SAR by 20B Saturated Paste

SAR	0.862		0.0100	SAR	1	B4J0911	10/09/2024	10/10/2024	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.514		0.00500	mmhos/cm	1	B4J0928	10/09/2024	10/10/2024	
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Table 915 metals by EPA 6020B

Arsenic	3.85		0.274	mg/kg	10	B4J0831	10/08/2024	10/09/2024	
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SS S32 18@3FT
10/3/2024 8:10:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-17 (Soil)

Table 915 metals by EPA 6020B

Barium	175		9.43	mg/kg	10	B4J0831	10/08/2024	10/09/2024	
Cadmium	0.219		0.0943	"	"	"	"	"	
Copper	15.1		9.43	"	"	"	"	"	
Lead	7.99		0.943	"	"	"	"	"	
Nickel	15.2		0.943	"	"	"	"	"	
Selenium	ND		0.245	"	"	"	"	"	
Silver	ND		0.0943	"	"	"	"	"	
Zinc	52.3		34.9	"	"	"	"	"	

Total Metals 7196 A

Hexavalent Chromium	ND	0.132	0.331	mg/kg dry	1	2689009	10/25/2024	10/29/2024	U
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SS S32 19@7FT sw
10/3/2024 8:18:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-18 (Soil)

Boron (DTPA Sorbitol)

Boron	ND		0.0992	mg/L	1	B4J0920	10/09/2024	10/10/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		25.0	mg/kg	1	B4J0833	10/08/2024	10/09/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua

Surrogate: o-Terphenyl	84.4 %		50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B4J0932	10/09/2024	10/10/2024	Ua
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Benzene	ND		0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Toluene	ND		0.00200	"	"	"	"	"	Ua
Xylenes, total	ND		0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND		0.200	"	"	"	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	104 %		70-130			"	"	"	
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 Buffalo WY 82834

Joel Mason
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SS S32 19@7FT sw
10/3/2024 8:18:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-18 (Soil)

GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	98.1 %	70-130	B4J09 32	10/09/2024	10/10/2024
Surrogate: 4-Bromofluorobenzene	107 %	70-130	"	"	"

Metals by Saturated Paste by EPA 6010

Calcium	1.39	0.499	meq/L	10	[CALC]	10/09/2024	10/10/2024
Magnesium	ND	0.823	"	"	"	"	"
Sodium	ND	0.435	"	"	"	"	"

PAH by EPA 8270E extracted via 3580A

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4J1028	10/10/2024	10/11/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	Ua

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Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-18 (Soil)

PAH by EPA 8270E extracted via 3580A

Fluorene	ND		0.020	mg/kg	1	B4J1028	10/10/2024	10/11/2024	Ua
Indeno (1,2,3-cd) pyrene	ND		0.020	"	"	"	"	"	Ua
Naphthalene	ND		0.002	"	"	"	"	"	Ua
Pyrene	ND		0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	98.0 %		60-130			"	"	"	
Surrogate: Anthracene-d10	95.3 %		60-130			"	"	"	
Surrogate: Pyrene-d10	103 %		60-130			"	"	"	
Surrogate: Benzo (a) pyrene-d12	103 %		60-130			"	"	"	

pH in Soil by 9045D

pH	8.44			pH Units	1	B4J0928	10/09/2024	10/10/2024	
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SAR by 20B Saturated Paste

SAR	0.173		0.0100	SAR	1	B4J0911	10/09/2024	10/10/2024	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.226		0.00500	mmhos/cm	1	B4J0928	10/09/2024	10/10/2024	
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Table 915 metals by EPA 6020B

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Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-18 (Soil)

Table 915 metals by EPA 6020B

Arsenic	3.83		0.261	mg/kg	10	B4J0831	10/08/2024	10/09/2024	
Barium	120		8.99	"	"	"	"	"	
Cadmium	0.128		0.0899	"	"	"	"	"	
Copper	ND		8.99	"	"	"	"	"	
Lead	4.45		0.899	"	"	"	"	"	
Nickel	9.72		0.899	"	"	"	"	"	
Selenium	ND		0.234	"	"	"	"	"	
Silver	ND		0.0899	"	"	"	"	"	
Zinc	ND		33.3	"	"	"	"	"	

Total Metals 7196 A

Hexavalent Chromium	ND	0.131	0.327	mg/kg dry	1	2689009	10/25/2024	10/29/2024	U
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10/3/2024 8:26:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-19 (Soil)

Boron (DTPA Sorbitol)

Boron	ND	0.0995	mg/L	1	B4J0920	10/09/2024	10/10/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4J0833	10/08/2024	10/09/2024	Ua
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	Ua

Surrogate: <i>o</i> -Terphenyl	80.1 %	50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4J0932	10/09/2024	10/10/2024	Ua
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	Ua
Benzene	ND	0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND	0.00200	"	"	"	"	"	Ua
Toluene	ND	0.00200	"	"	"	"	"	Ua
Xylenes, total	ND	0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	105 %	70-130			"	"	"	
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Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-19 (Soil)

GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	99.4 %	70-130	B4J09 32	10/09/2024	10/10/2024
Surrogate: 4-Bromofluorobenzene	106 %	70-130	"	"	"

Metals by Saturated Paste by EPA 6010

Calcium	2.16	0.499	meq/L	10	[CALC]	10/09/2024	10/10/2024
Magnesium	ND	0.823	"	"	"	"	"
Sodium	ND	0.435	"	"	"	"	"

PAH by EPA 8270E extracted via 3580A

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4J1028	10/10/2024	10/11/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	Ua

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10/3/2024 8:26:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-19 (Soil)

PAH by EPA 8270E extracted via 3580A

Fluorene	ND		0.020	mg/kg	1	B4J1028	10/10/2024	10/11/2024	Ua
Indeno (1,2,3-cd) pyrene	ND		0.020	"	"	"	"	"	Ua
Naphthalene	ND		0.002	"	"	"	"	"	Ua
Pyrene	ND		0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	97.7 %		60-130			"	"	"	
Surrogate: Anthracene-d10	96.2 %		60-130			"	"	"	
Surrogate: Pyrene-d10	101 %		60-130			"	"	"	
Surrogate: Benzo (a) pyrene-d12	103 %		60-130			"	"	"	

pH in Soil by 9045D

pH	8.19			pH Units	1	B4J0928	10/09/2024	10/10/2024	
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SAR by 20B Saturated Paste

SAR	0.328		0.0100	SAR	1	B4J0911	10/09/2024	10/10/2024	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.304		0.00500	mmhos/cm	1	B4J0928	10/09/2024	10/10/2024	
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Table 915 metals by EPA 6020B

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10/3/2024 8:26:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-19 (Soil)

Table 915 metals by EPA 6020B

Arsenic	3.40		0.275	mg/kg	10	B4J0831	10/08/2024	10/09/2024	
Barium	179		9.47	"	"	"	"	"	
Cadmium	0.256		0.0947	"	"	"	"	"	
Copper	16.7		9.47	"	"	"	"	"	
Lead	8.13		0.947	"	"	"	"	"	
Nickel	15.3		0.947	"	"	"	"	"	
Selenium	0.256		0.246	"	"	"	"	"	
Silver	ND		0.0947	"	"	"	"	"	
Zinc	44.6		35.0	"	"	"	"	"	

Total Metals 7196 A

Hexavalent Chromium	ND	0.143	0.357	mg/kg dry	1	2689009	10/25/2024	10/29/2024	U
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10/3/2024 8:31:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-20 (Soil)

Boron (DTPA Sorbitol)

Boron	0.109		0.0990	mg/L	1	B4J0920	10/09/2024	10/10/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		25.0	mg/kg	1	B4J0833	10/08/2024	10/10/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua

Surrogate: <i>o</i> -Terphenyl	79.0 %		50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B4J0932	10/09/2024	10/10/2024	Ua
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Benzene	ND		0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Toluene	ND		0.00200	"	"	"	"	"	Ua
Xylenes, total	ND		0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND		0.200	"	"	"	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	107 %		70-130			"	"	"	
Surrogate: Toluene-d8	97.7 %		70-130			"	"	"	

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10/3/2024 8:31:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-20 (Soil)

GBTEX+TMBs by 8260D

Surrogate: 4-Bromofluorobenzene	102 %	70-130		B4J09 32	10/09/2024	10/10/2024
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Metals by Saturated Paste by EPA 6010

Calcium	2.51	0.499	meq/L	10	[CALC]	10/14/2024	10/15/2024
Magnesium	0.912	0.823	"	"	"	"	"
Sodium	0.559	0.435	"	"	"	"	"

PAH by EPA 8270E extracted via 3580A

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4J1028	10/10/2024	10/11/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	Ua
Fluorene	ND	0.020	"	"	"	"	"	Ua

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10/3/2024 8:31:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-20 (Soil)

PAH by EPA 8270E extracted via 3580A

Indeno (1,2,3-cd) pyrene	ND		0.020	mg/kg	1	B4J1028	10/10/2024	10/11/2024	Ua
Naphthalene	ND		0.002	"	"	"	"	"	Ua
Pyrene	ND		0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	98.6 %		60-130			"	"	"	
Surrogate: Anthracene-d10	97.2 %		60-130			"	"	"	
Surrogate: Pyrene-d10	104 %		60-130			"	"	"	
Surrogate: Benzo (a) pyrene-d12	105 %		60-130			"	"	"	

pH in Soil by 9045D

pH	7.63			pH Units	1	B4J1411	10/14/2024	10/15/2024	
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SAR by 20B Saturated Paste

SAR	0.428		0.0100	SAR	1	B4J1408	10/14/2024	10/15/2024	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.623		0.00500	mmhos/cm	1	B4J1411	10/14/2024	10/15/2024	
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Table 915 metals by EPA 6020B

Arsenic	3.71		0.289	mg/kg	10	B4J0831	10/08/2024	10/09/2024	
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10/3/2024 8:31:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-20 (Soil)

Table 915 metals by EPA 6020B

Barium	171		9.98	mg/kg	10	B4J0831	10/08/2024	10/09/2024	
Cadmium	0.207		0.0998	"	"	"	"	"	
Copper	18.3		9.98	"	"	"	"	"	
Lead	9.25		0.998	"	"	"	"	"	
Nickel	16.4		0.998	"	"	"	"	"	
Selenium	0.279		0.259	"	"	"	"	"	
Silver	ND		0.0998	"	"	"	"	"	
Zinc	52.3		36.9	"	"	"	"	"	

Total Metals 7196 A

Hexavalent Chromium	ND	0.105	0.262	mg/kg dry	1	2689009	10/25/2024	10/29/2024	U
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10/3/2024 8:49:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-21 (Soil)

Boron (DTPA Sorbitol)

Boron	ND		0.0995	mg/L	1	B4J0920	10/09/2024	10/10/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		25.0	mg/kg	1	B4J0834	10/08/2024	10/09/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua

Surrogate: <i>o</i> -Terphenyl	84.8 %		50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B4J0933	10/09/2024	10/10/2024	Ua
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Benzene	ND		0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Toluene	ND		0.00200	"	"	"	"	"	Ua
Xylenes, total	ND		0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND		0.200	"	"	"	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	99.6 %		70-130			"	"	"	
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 Project: FEO Spicer Annex S32

SS S32 22@8FT
10/3/2024 8:49:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-21 (Soil)

GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	105 %		70-130			B4J09 33	10/09/2024	10/10/2024	
Surrogate: 4-Bromofluorobenzene	101 %		70-130			"	"	"	

Metals by Saturated Paste by EPA 6010

Calcium	2.32		0.499	meq/L	10	[CALC]	10/09/2024	10/10/2024	
Magnesium	ND		0.823	"	"	"	"	"	
Sodium	ND		0.435	"	"	"	"	"	

PAH by EPA 8270E extracted via 3580A

1-Methylnaphthalene	ND		0.002	mg/kg	1	B4J1029	10/10/2024	10/11/2024	Ua
2-Methylnaphthalene	ND		0.002	"	"	"	"	"	Ua
Acenaphthene	ND		0.020	"	"	"	"	"	Ua
Anthracene	ND		0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND		0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND		0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND		0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND		0.020	"	"	"	"	"	Ua
Chrysene	ND		0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND		0.020	"	"	"	"	"	Ua
Fluoranthene	ND		0.020	"	"	"	"	"	Ua

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 Buffalo WY 82834

Joel Mason
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 Project: FEO Spicer Annex S32

SS S32 22@8FT
10/3/2024 8:49:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-21 (Soil)

PAH by EPA 8270E extracted via 3580A

Fluorene	ND	0.020	mg/kg	1	B4J1029	10/10/2024	10/11/2024	Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	Ua
Naphthalene	ND	0.002	"	"	"	"	"	Ua
Pyrene	ND	0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	107 %	60-130	"	"	"	"	"
Surrogate: Anthracene-d10	91.3 %	60-130	"	"	"	"	"
Surrogate: Pyrene-d10	109 %	60-130	"	"	"	"	"
Surrogate: Benzo (a) pyrene-d12	101 %	60-130	"	"	"	"	"

pH in Soil by 9045D

pH	8.26	pH Units	1	B4J0929	10/09/2024	10/10/2024
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SAR by 20B Saturated Paste

SAR	0.287	0.0100	SAR	1	B4J0912	10/09/2024	10/10/2024
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.395	0.00500	mmhos/cm	1	B4J0929	10/09/2024	10/10/2024
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Table 915 metals by EPA 6020B

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10/3/2024 8:49:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-21 (Soil)

Table 915 metals by EPA 6020B

Arsenic	2.76		0.286	mg/kg	10	B4J0832	10/08/2024	10/09/2024	
Barium	134		9.87	"	"	"	"	"	
Cadmium	0.146		0.0987	"	"	"	"	"	
Copper	ND		9.87	"	"	"	"	"	
Lead	3.97		0.987	"	"	"	"	"	
Nickel	8.97		0.987	"	"	"	"	"	
Selenium	ND		0.257	"	"	"	"	"	
Silver	ND		0.0987	"	"	"	"	"	
Zinc	ND		36.5	"	"	"	"	"	

Total Metals 7196 A

Hexavalent Chromium	ND	0.134	0.335	mg/kg dry	1	2689009	10/25/2024	10/29/2024	U
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SS S32 23@8FT
10/3/2024 8:49:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-22 (Soil)

Boron (DTPA Sorbitol)

Boron	0.203		0.0992	mg/L	1	B4J0920	10/09/2024	10/10/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	253		25.0	mg/kg	1	B4J0834	10/08/2024	10/09/2024	
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua

Surrogate: <i>o</i> -Terphenyl	95.2 %		50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B4J0933	10/09/2024	10/10/2024	Ua
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Benzene	ND		0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Toluene	ND		0.00200	"	"	"	"	"	Ua
Xylenes, total	ND		0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	2.23		0.200	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	100 %		70-130			"	"	"	
Surrogate: Toluene-d8	106 %		70-130			"	"	"	

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SS S32 23@8FT
10/3/2024 8:49:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-22 (Soil)

GBTEX+TMBs by 8260D

Surrogate: 4-Bromofluorobenzene	98.7 %		70-130			B4J09 33	10/09/2024	10/10/2024	
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Metals by Saturated Paste by EPA 6010

Calcium	2.51		0.499	meq/L	10	[CALC]	10/09/2024	10/10/2024	
Magnesium	ND		0.823	"	"	"	"	"	
Sodium	1.26		0.435	"	"	"	"	"	

PAH by EPA 8270E extracted via 3580A

1-Methylnaphthalene	0.067		0.002	mg/kg	1	B4J1029	10/10/2024	10/11/2024	
2-Methylnaphthalene	0.043		0.002	"	"	"	"	"	
Acenaphthene	0.060		0.020	"	"	"	"	"	
Anthracene	ND		0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND		0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND		0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND		0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND		0.020	"	"	"	"	"	Ua
Chrysene	ND		0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND		0.020	"	"	"	"	"	Ua
Fluoranthene	ND		0.020	"	"	"	"	"	Ua
Fluorene	0.033		0.020	"	"	"	"	"	

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10/3/2024 8:49:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-22 (Soil)

PAH by EPA 8270E extracted via 3580A

Indeno (1,2,3-cd) pyrene	ND		0.020	mg/kg	1	B4J1029	10/10/2024	10/11/2024	Ua
Naphthalene	ND		0.002	"	"	"	"	"	Ua
Pyrene	0.055		0.020	"	"	"	"	"	

Surrogate: Fluorene-d10	92.7 %		60-130			"	"	"	
Surrogate: Anthracene-d10	88.3 %		60-130			"	"	"	
Surrogate: Pyrene-d10	96.3 %		60-130			"	"	"	
Surrogate: Benzo (a) pyrene-d12	97.0 %		60-130			"	"	"	

pH in Soil by 9045D

pH	8.20			pH Units	1	B4J0929	10/09/2024	10/10/2024	
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SAR by 20B Saturated Paste

SAR	0.984		0.0100	SAR	1	B4J0912	10/09/2024	10/10/2024	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.539		0.00500	mmhos/cm	1	B4J0929	10/09/2024	10/10/2024	
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Table 915 metals by EPA 6020B

Arsenic	1.35		0.287	mg/kg	10	B4J0832	10/08/2024	10/09/2024	
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10/3/2024 8:49:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-22 (Soil)

Table 915 metals by EPA 6020B

Barium	147		9.91	mg/kg	10	B4J0832	10/08/2024	10/09/2024	
Cadmium	0.114		0.0991	"	"	"	"	"	
Copper	ND		9.91	"	"	"	"	"	
Lead	4.19		0.991	"	"	"	"	"	
Nickel	9.31		0.991	"	"	"	"	"	
Selenium	ND		0.258	"	"	"	"	"	
Silver	ND		0.0991	"	"	"	"	"	
Zinc	ND		36.7	"	"	"	"	"	

Total Metals 7196 A

Hexavalent Chromium	ND	0.157	0.393	mg/kg dry	1	2689009	10/25/2024	10/29/2024	U
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10/3/2024 8:51:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-23 (Soil)

Boron (DTPA Sorbitol)

Boron	ND	0.100	mg/L	1	B4J0920	10/09/2024	10/10/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4J0834	10/08/2024	10/09/2024	Ua
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	Ua

Surrogate: <i>o</i> -Terphenyl	83.7 %	50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4J0933	10/09/2024	10/10/2024	Ua
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	Ua
Benzene	ND	0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND	0.00200	"	"	"	"	"	Ua
Toluene	ND	0.00200	"	"	"	"	"	Ua
Xylenes, total	ND	0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	0.256	0.200	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	101 %	70-130			"	"	"	
Surrogate: Toluene-d8	105 %	70-130			"	"	"	

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Project Number: FEO.CO.0701.29
Project: FEO Spicer Annex S32

SS S32 24@11FT sw
10/3/2024 8:51:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-23 (Soil)

GBTEX+TMBs by 8260D

Surrogate: 4-Bromofluorobenzene	99.8 %	70-130				B4J09 33	10/09/2024	10/10/2024	
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Metals by Saturated Paste by EPA 6010

Calcium	0.823	0.499	meq/L	10	[CALC]		10/09/2024	10/10/2024	
Magnesium	ND	0.823	"	"	"	"	"	"	
Sodium	ND	0.435	"	"	"	"	"	"	

PAH by EPA 8270E extracted via 3580A

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4J1029		10/10/2024	10/11/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	"	Ua
Fluorene	ND	0.020	"	"	"	"	"	"	Ua

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SS S32 24@11FT sw
10/3/2024 8:51:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-23 (Soil)

PAH by EPA 8270E extracted via 3580A

Indeno (1,2,3-cd) pyrene	ND		0.020	mg/kg	1	B4J1029	10/10/2024	10/11/2024	Ua
Naphthalene	ND		0.002	"	"	"	"	"	Ua
Pyrene	ND		0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	104 %		60-130			"	"	"	
Surrogate: Anthracene-d10	87.5 %		60-130			"	"	"	
Surrogate: Pyrene-d10	107 %		60-130			"	"	"	
Surrogate: Benzo (a) pyrene-d12	104 %		60-130			"	"	"	

pH in Soil by 9045D

pH	8.32			pH Units	1	B4J0929	10/09/2024	10/10/2024	
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SAR by 20B Saturated Paste

SAR	0.192		0.0100	SAR	1	B4J0912	10/09/2024	10/10/2024	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.147		0.00500	mmhos/cm	1	B4J0929	10/09/2024	10/10/2024	
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Table 915 metals by EPA 6020B

Arsenic	0.911		0.247	mg/kg	10	B4J0832	10/08/2024	10/09/2024	
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10/3/2024 8:51:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-23 (Soil)

Table 915 metals by EPA 6020B

Barium	50.6		8.51	mg/kg	10	B4J0832	10/08/2024	10/09/2024	
Cadmium	ND		0.0851	"	"	"	"	"	
Copper	ND		8.51	"	"	"	"	"	
Lead	3.31		0.851	"	"	"	"	"	
Nickel	5.30		0.851	"	"	"	"	"	
Selenium	ND		0.221	"	"	"	"	"	
Silver	ND		0.0851	"	"	"	"	"	
Zinc	ND		31.5	"	"	"	"	"	

Total Metals 7196 A

Hexavalent Chromium	ND	0.136	0.339	mg/kg dry	1	2689009	10/25/2024	10/29/2024	U
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Joel Mason
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Project: FEO Spicer Annex S32

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10/3/2024 9:02:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-24 (Soil)

Boron (DTPA Sorbitol)

Boron	ND		0.100	mg/L	1	B4J0920	10/09/2024	10/10/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		25.0	mg/kg	1	B4J0834	10/08/2024	10/09/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua

Surrogate: *o*-Terphenyl 78.2 % 50-150 " " "

GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B4J0933	10/09/2024	10/10/2024	Ua
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Benzene	ND		0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Toluene	ND		0.00200	"	"	"	"	"	Ua
Xylenes, total	ND		0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND		0.200	"	"	"	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4 100 % 70-130 " " "

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 Buffalo WY 82834

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 Project Number: FEO.CO.0701.29
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SS S32 25@11FT sw
10/3/2024 9:02:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-24 (Soil)

GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	105 %	70-130	B4J09 33	10/09/2024	10/10/2024
Surrogate: 4-Bromofluorobenzene	99.6 %	70-130	"	"	"

Metals by Saturated Paste by EPA 6010

Calcium	4.77	0.499	meq/L	10	[CALC]	10/09/2024	10/10/2024
Magnesium	1.35	0.823	"	"	"	"	"
Sodium	ND	0.435	"	"	"	"	"

PAH by EPA 8270E extracted via 3580A

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4J1029	10/10/2024	10/11/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	Ua

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 Project: FEO Spicer Annex S32

SS S32 25@11FT sw
10/3/2024 9:02:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-24 (Soil)

PAH by EPA 8270E extracted via 3580A

Fluorene	ND	0.020	mg/kg	1	B4J1029	10/10/2024	10/11/2024	Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	Ua
Naphthalene	ND	0.002	"	"	"	"	"	Ua
Pyrene	ND	0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	100 %	60-130	"	"	"	"	"
Surrogate: Anthracene-d10	89.0 %	60-130	"	"	"	"	"
Surrogate: Pyrene-d10	100 %	60-130	"	"	"	"	"
Surrogate: Benzo (a) pyrene-d12	98.7 %	60-130	"	"	"	"	"

pH in Soil by 9045D

pH	8.13	pH Units	1	B4J0929	10/09/2024	10/10/2024
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SAR by 20B Saturated Paste

SAR	0.200	0.0100	SAR	1	B4J0912	10/09/2024	10/10/2024
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.691	0.00500	mmhos/cm	1	B4J0929	10/09/2024	10/10/2024
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Table 915 metals by EPA 6020B

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Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-24 (Soil)

Table 915 metals by EPA 6020B

Arsenic	3.78		0.268	mg/kg	10	B4J0832	10/08/2024	10/09/2024	
Barium	128		9.23	"	"	"	"	"	
Cadmium	0.230		0.0923	"	"	"	"	"	
Copper	17.6		9.23	"	"	"	"	"	
Lead	9.09		0.923	"	"	"	"	"	
Nickel	14.6		0.923	"	"	"	"	"	
Selenium	ND		0.240	"	"	"	"	"	
Silver	ND		0.0923	"	"	"	"	"	
Zinc	51.9		34.1	"	"	"	"	"	

Total Metals 7196A

Hexavalent Chromium	ND	0.161	0.402	mg/kg dry	1	2689011	10/25/2024	10/29/2024	U
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Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-25 (Soil)

Boron (DTPA Sorbitol)

Boron	ND		0.100	mg/L	1	B4J0921	10/09/2024	10/10/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		25.0	mg/kg	1	B4J0834	10/08/2024	10/09/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua

Surrogate: o-Terphenyl	81.7 %		50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B4J0933	10/09/2024	10/10/2024	Ua
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Benzene	ND		0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Toluene	ND		0.00200	"	"	"	"	"	Ua
Xylenes, total	ND		0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND		0.200	"	"	"	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	101 %		70-130			"	"	"	
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Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-25 (Soil)

GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	105 %	70-130	B4J09 33	10/09/2024	10/10/2024
Surrogate: 4-Bromofluorobenzene	101 %	70-130	"	"	"

Metals by Saturated Paste by EPA 6010

Calcium	1.16	0.499	meq/L	10	[CALC]	10/09/2024	10/10/2024
Magnesium	ND	0.823	"	"	"	"	"
Sodium	ND	0.435	"	"	"	"	"

PAH by EPA 8270E extracted via 3580A

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4J1029	10/10/2024	10/11/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	Ua

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Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-25 (Soil)

PAH by EPA 8270E extracted via 3580A

Fluorene	ND	0.020	mg/kg	1	B4J1029	10/10/2024	10/11/2024	Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	Ua
Naphthalene	ND	0.002	"	"	"	"	"	Ua
Pyrene	ND	0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	101 %	60-130	"	"	"	"	"
Surrogate: Anthracene-d10	87.7 %	60-130	"	"	"	"	"
Surrogate: Pyrene-d10	93.2 %	60-130	"	"	"	"	"
Surrogate: Benzo (a) pyrene-d12	107 %	60-130	"	"	"	"	"

pH in Soil by 9045D

pH	8.33	pH Units	1	B4J0929	10/09/2024	10/10/2024
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SAR by 20B Saturated Paste

SAR	0.213	0.0100	SAR	1	B4J0912	10/09/2024	10/10/2024
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.177	0.00500	mmhos/cm	1	B4J0929	10/09/2024	10/10/2024
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Table 915 metals by EPA 6020B

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Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-25 (Soil)

Table 915 metals by EPA 6020B

Arsenic	0.925	0.255	mg/kg	10	B4J0832	10/08/2024	10/09/2024	
Barium	60.5	8.81	"	"	"	"	"	
Cadmium	ND	0.0881	"	"	"	"	"	
Copper	ND	8.81	"	"	"	"	"	
Lead	3.46	0.881	"	"	"	"	"	
Nickel	6.70	0.881	"	"	"	"	"	
Selenium	ND	0.229	"	"	"	"	"	
Silver	ND	0.0881	"	"	"	"	"	
Zinc	ND	32.6	"	"	"	"	"	

Total Metals 7196A

Hexavalent Chromium	ND	0.145	0.363	mg/kg dry	1	2689011	10/25/2024	10/29/2024	U
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Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-26 (Soil)

Boron (DTPA Sorbitol)

Boron	ND	0.102	mg/L	1	B4J0921	10/09/2024	10/10/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4J0834	10/08/2024	10/09/2024	Ua
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	Ua

Surrogate: <i>o</i> -Terphenyl	87.1 %	50-150						
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4J0933	10/09/2024	10/10/2024	Ua
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	Ua
Benzene	ND	0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND	0.00200	"	"	"	"	"	Ua
Toluene	ND	0.00200	"	"	"	"	"	Ua
Xylenes, total	ND	0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	0.307	0.200	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	101 %	70-130						
Surrogate: Toluene-d8	105 %	70-130						

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10/3/2024 9:13:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-26 (Soil)

GBTEX+TMBs by 8260D

Surrogate: 4-Bromofluorobenzene	99.7 %	70-130		B4J09 33	10/09/2024	10/10/2024
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Metals by Saturated Paste by EPA 6010

Calcium	0.949	0.499	meq/L	10	[CALC]	10/09/2024	10/10/2024
Magnesium	ND	0.823	"	"	"	"	"
Sodium	ND	0.435	"	"	"	"	"

PAH by EPA 8270E extracted via 3580A

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4J1029	10/10/2024	10/11/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	Ua
Fluorene	ND	0.020	"	"	"	"	"	Ua

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Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-26 (Soil)

PAH by EPA 8270E extracted via 3580A

Indeno (1,2,3-cd) pyrene	ND		0.020	mg/kg	1	B4J1029	10/10/2024	10/11/2024	Ua
Naphthalene	ND		0.002	"	"	"	"	"	Ua
Pyrene	ND		0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	101 %		60-130			"	"	"	
Surrogate: Anthracene-d10	88.6 %		60-130			"	"	"	
Surrogate: Pyrene-d10	104 %		60-130			"	"	"	
Surrogate: Benzo (a) pyrene-d12	97.3 %		60-130			"	"	"	

pH in Soil by 9045D

pH	8.16			pH Units	1	B4J0929	10/09/2024	10/10/2024	
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SAR by 20B Saturated Paste

SAR	0.215		0.0100	SAR	1	B4J0912	10/09/2024	10/10/2024	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.156		0.00500	mmhos/cm	1	B4J0929	10/09/2024	10/10/2024	
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Table 915 metals by EPA 6020B

Arsenic	1.08		0.251	mg/kg	10	B4J0832	10/08/2024	10/09/2024	
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Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-26 (Soil)

Table 915 metals by EPA 6020B

Barium	61.6		8.65	mg/kg	10	B4J0832	10/08/2024	10/09/2024	
Cadmium	ND		0.0865	"	"	"	"	"	
Copper	ND		8.65	"	"	"	"	"	
Lead	3.58		0.865	"	"	"	"	"	
Nickel	5.40		0.865	"	"	"	"	"	
Selenium	ND		0.225	"	"	"	"	"	
Silver	ND		0.0865	"	"	"	"	"	
Zinc	ND		32.0	"	"	"	"	"	

Total Metals 7196A

Hexavalent Chromium	ND	0.148	0.369	mg/kg dry	1	2689011	10/25/2024	10/29/2024	U
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10/3/2024 9:20:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-27 (Soil)

Boron (DTPA Sorbitol)

Boron	ND		0.101	mg/L	1	B4J0921	10/09/2024	10/10/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		25.0	mg/kg	1	B4J0834	10/08/2024	10/09/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua

Surrogate: o-Terphenyl	83.2 %		50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B4J0933	10/09/2024	10/10/2024	Ua
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Benzene	ND		0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Toluene	ND		0.00200	"	"	"	"	"	Ua
Xylenes, total	ND		0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND		0.200	"	"	"	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	98.6 %		70-130			"	"	"	
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10/3/2024 9:20:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-27 (Soil)

GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	105 %	70-130	B4J09 33	10/09/2024	10/10/2024
Surrogate: 4-Bromofluorobenzene	101 %	70-130	"	"	"

Metals by Saturated Paste by EPA 6010

Calcium	0.620	0.499	meq/L	10	[CALC]	10/09/2024	10/10/2024
Magnesium	ND	0.823	"	"	"	"	"
Sodium	ND	0.435	"	"	"	"	"

PAH by EPA 8270E extracted via 3580A

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4J1029	10/10/2024	10/11/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	Ua

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Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-27 (Soil)

PAH by EPA 8270E extracted via 3580A

Fluorene	ND	0.020	mg/kg	1	B4J1029	10/10/2024	10/11/2024	Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	Ua
Naphthalene	ND	0.002	"	"	"	"	"	Ua
Pyrene	ND	0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	99.9 %	60-130	"	"	"	"	"
Surrogate: Anthracene-d10	85.5 %	60-130	"	"	"	"	"
Surrogate: Pyrene-d10	104 %	60-130	"	"	"	"	"
Surrogate: Benzo (a) pyrene-d12	97.8 %	60-130	"	"	"	"	"

pH in Soil by 9045D

pH	7.48	pH Units	1	B4J0929	10/09/2024	10/10/2024
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SAR by 20B Saturated Paste

SAR	0.196	0.0100	SAR	1	B4J0912	10/09/2024	10/10/2024
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.120	0.00500	mmhos/cm	1	B4J0929	10/09/2024	10/10/2024
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Table 915 metals by EPA 6020B

Origins Laboratory



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112 High St.
Buffalo WY 82834

Joel Mason
Project Number: FEO.CO.0701.29
Project: FEO Spicer Annex S32

SS S32 28@5FT sw
10/3/2024 9:20:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-27 (Soil)

Table 915 metals by EPA 6020B

Arsenic	6.36		0.249	mg/kg	10	B4J0832	10/08/2024	10/09/2024	
Barium	409		8.59	"	"	"	"	"	
Cadmium	0.342		0.0859	"	"	"	"	"	
Copper	14.9		8.59	"	"	"	"	"	
Lead	6.12		0.859	"	"	"	"	"	
Nickel	16.8		0.859	"	"	"	"	"	
Selenium	0.385		0.223	"	"	"	"	"	
Silver	ND		0.0859	"	"	"	"	"	
Zinc	65.3		31.8	"	"	"	"	"	

Total Metals 7196A

Hexavalent Chromium	ND	0.145	0.362	mg/kg dry	1	2689011	10/25/2024	10/29/2024	U
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Buffalo WY 82834

Joel Mason
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10/3/2024 9:31:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-28 (Soil)

Boron (DTPA Sorbitol)

Boron	ND		0.101	mg/L	1	B4J0921	10/09/2024	10/10/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		25.0	mg/kg	1	B4J0834	10/08/2024	10/09/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua

Surrogate: *o*-Terphenyl 77.5 % 50-150 " " "

GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B4J0933	10/09/2024	10/10/2024	Ua
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Benzene	ND		0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Toluene	ND		0.00200	"	"	"	"	"	Ua
Xylenes, total	ND		0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	0.435		0.200	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 102 % 70-130 " " "
Surrogate: Toluene-d8 105 % 70-130 " " "

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10/3/2024 9:31:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-28 (Soil)

GBTEX+TMBs by 8260D

Surrogate: 4-Bromofluorobenzene	100 %	70-130		B4J09 33	10/09/2024	10/10/2024
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Metals by Saturated Paste by EPA 6010

Calcium	1.14	0.499	meq/L	10	[CALC]	10/09/2024	10/10/2024
Magnesium	ND	0.823	"	"	"	"	"
Sodium	ND	0.435	"	"	"	"	"

PAH by EPA 8270E extracted via 3580A

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4J1029	10/10/2024	10/11/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	Ua
Fluorene	ND	0.020	"	"	"	"	"	Ua

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10/3/2024 9:31:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-28 (Soil)

PAH by EPA 8270E extracted via 3580A

Indeno (1,2,3-cd) pyrene	ND		0.020	mg/kg	1	B4J1029	10/10/2024	10/11/2024	Ua
Naphthalene	ND		0.002	"	"	"	"	"	Ua
Pyrene	ND		0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	103 %		60-130			"	"	"	
Surrogate: Anthracene-d10	86.1 %		60-130			"	"	"	
Surrogate: Pyrene-d10	102 %		60-130			"	"	"	
Surrogate: Benzo (a) pyrene-d12	99.3 %		60-130			"	"	"	

pH in Soil by 9045D

pH	8.25			pH Units	1	B4J0929	10/09/2024	10/10/2024	
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SAR by 20B Saturated Paste

SAR	0.272		0.0100	SAR	1	B4J0912	10/09/2024	10/10/2024	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.192		0.00500	mmhos/cm	1	B4J0929	10/09/2024	10/10/2024	
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Table 915 metals by EPA 6020B

Arsenic	1.62		0.271	mg/kg	10	B4J0832	10/08/2024	10/09/2024	
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10/3/2024 9:31:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-28 (Soil)

Table 915 metals by EPA 6020B

Barium	129		9.34	mg/kg	10	B4J0832	10/08/2024	10/09/2024	
Cadmium	ND		0.0934	"	"	"	"	"	
Copper	9.76		9.34	"	"	"	"	"	
Lead	8.50		0.934	"	"	"	"	"	
Nickel	18.9		0.934	"	"	"	"	"	
Selenium	ND		0.243	"	"	"	"	"	
Silver	ND		0.0934	"	"	"	"	"	
Zinc	62.0		34.6	"	"	"	"	"	

Total Metals 7196A

Hexavalent Chromium	ND	0.159	0.396	mg/kg dry	1	2689011	10/25/2024	10/29/2024	U
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10/3/2024 9:40:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-29 (Soil)

Boron (DTPA Sorbitol)

Boron	ND		0.0991	mg/L	1	B4J0921	10/09/2024	10/10/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		25.0	mg/kg	1	B4J0834	10/08/2024	10/09/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua

Surrogate: *o*-Terphenyl 85.0 % 50-150 " " "

GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B4J0933	10/09/2024	10/10/2024	Ua
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Benzene	ND		0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Toluene	ND		0.00200	"	"	"	"	"	Ua
Xylenes, total	ND		0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND		0.200	"	"	"	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4 101 % 70-130 " " "

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10/3/2024 9:40:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-29 (Soil)

GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	106 %		70-130			B4J09 33	10/09/2024	10/10/2024	
Surrogate: 4-Bromofluorobenzene	99.5 %		70-130			"	"	"	

Metals by Saturated Paste by EPA 6010

Calcium	1.12		0.499	meq/L	10	[CALC]	10/09/2024	10/10/2024	
Magnesium	ND		0.823	"	"	"	"	"	
Sodium	ND		0.435	"	"	"	"	"	

PAH by EPA 8270E extracted via 3580A

1-Methylnaphthalene	ND		0.002	mg/kg	1	B4J1029	10/10/2024	10/11/2024	Ua
2-Methylnaphthalene	ND		0.002	"	"	"	"	"	Ua
Acenaphthene	ND		0.020	"	"	"	"	"	Ua
Anthracene	ND		0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND		0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND		0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND		0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND		0.020	"	"	"	"	"	Ua
Chrysene	ND		0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND		0.020	"	"	"	"	"	Ua
Fluoranthene	ND		0.020	"	"	"	"	"	Ua

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10/3/2024 9:40:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-29 (Soil)

PAH by EPA 8270E extracted via 3580A

Fluorene	ND		0.020	mg/kg	1	B4J1029	10/10/2024	10/11/2024	Ua
Indeno (1,2,3-cd) pyrene	ND		0.020	"	"	"	"	"	Ua
Naphthalene	ND		0.002	"	"	"	"	"	Ua
Pyrene	ND		0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	104 %		60-130			"	"	"	
Surrogate: Anthracene-d10	85.0 %		60-130			"	"	"	
Surrogate: Pyrene-d10	101 %		60-130			"	"	"	
Surrogate: Benzo (a) pyrene-d12	98.2 %		60-130			"	"	"	

pH in Soil by 9045D

pH	8.32			pH Units	1	B4J0929	10/09/2024	10/10/2024	
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SAR by 20B Saturated Paste

SAR	0.142		0.0100	SAR	1	B4J0912	10/09/2024	10/10/2024	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.174		0.00500	mmhos/cm	1	B4J0929	10/09/2024	10/10/2024	
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Table 915 metals by EPA 6020B

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10/3/2024 9:40:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-29 (Soil)

Table 915 metals by EPA 6020B

Arsenic	3.20	0.263	mg/kg	10	B4J0832	10/08/2024	10/09/2024	
Barium	158	9.06	"	"	"	"	"	
Cadmium	0.178	0.0906	"	"	"	"	"	
Copper	10.5	9.06	"	"	"	"	"	
Lead	5.85	0.906	"	"	"	"	"	
Nickel	11.1	0.906	"	"	"	"	"	
Selenium	ND	0.236	"	"	"	"	"	
Silver	ND	0.0906	"	"	"	"	"	
Zinc	37.6	33.5	"	"	"	"	"	

Total Metals 7196A

Hexavalent Chromium	ND	0.151	0.376	mg/kg dry	1	2689011	10/25/2024	10/29/2024	U
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SS S32 31@9FT sw
10/3/2024 9:49:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-30 (Soil)

Boron (DTPA Sorbitol)

Boron	ND	0.101	mg/L	1	B4J0921	10/09/2024	10/10/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4J0834	10/08/2024	10/09/2024	Ua
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	Ua

Surrogate: <i>o</i> -Terphenyl	80.8 %	50-150			"	"	"
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4J0933	10/09/2024	10/10/2024	Ua
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	Ua
Benzene	ND	0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND	0.00200	"	"	"	"	"	Ua
Toluene	ND	0.00200	"	"	"	"	"	Ua
Xylenes, total	ND	0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	99.5 %	70-130			"	"	"
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 Project Number: FEO.CO.0701.29
 Project: FEO Spicer Annex S32

SS S32 31@9FT sw
10/3/2024 9:49:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-30 (Soil)

GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	105 %	70-130	B4J09 33	10/09/2024	10/10/2024
Surrogate: 4-Bromofluorobenzene	100 %	70-130	"	"	"

Metals by Saturated Paste by EPA 6010

Calcium	1.13	0.499	meq/L	10	[CALC]	10/09/2024	10/10/2024
Magnesium	ND	0.823	"	"	"	"	"
Sodium	ND	0.435	"	"	"	"	"

PAH by EPA 8270E extracted via 3580A

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4J1029	10/10/2024	10/11/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	Ua

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10/3/2024 9:49:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-30 (Soil)

PAH by EPA 8270E extracted via 3580A

Fluorene	ND	0.020	mg/kg	1	B4J1029	10/10/2024	10/11/2024	Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	Ua
Naphthalene	ND	0.002	"	"	"	"	"	Ua
Pyrene	ND	0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	105 %	60-130	"	"	"	"	"
Surrogate: Anthracene-d10	82.6 %	60-130	"	"	"	"	"
Surrogate: Pyrene-d10	102 %	60-130	"	"	"	"	"
Surrogate: Benzo (a) pyrene-d12	99.5 %	60-130	"	"	"	"	"

pH in Soil by 9045D

pH	8.35	pH Units	1	B4J0929	10/09/2024	10/10/2024
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SAR by 20B Saturated Paste

SAR	0.296	0.0100	SAR	1	B4J0912	10/09/2024	10/10/2024
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.193	0.00500	mmhos/cm	1	B4J0929	10/09/2024	10/10/2024
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Table 915 metals by EPA 6020B

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10/3/2024 9:49:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-30 (Soil)

Table 915 metals by EPA 6020B

Arsenic	2.18		0.268	mg/kg	10	B4J0832	10/08/2024	10/09/2024	
Barium	104		9.25	"	"	"	"	"	
Cadmium	ND		0.0925	"	"	"	"	"	
Copper	9.43		9.25	"	"	"	"	"	
Lead	5.21		0.925	"	"	"	"	"	
Nickel	8.92		0.925	"	"	"	"	"	
Selenium	ND		0.240	"	"	"	"	"	
Silver	ND		0.0925	"	"	"	"	"	
Zinc	ND		34.2	"	"	"	"	"	

Total Metals 7196A

Hexavalent Chromium	ND	0.157	0.393	mg/kg dry	1	2689011	10/25/2024	10/29/2024	U
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SS S32 32@9FT
10/3/2024 9:54:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-31 (Soil)

Boron (DTPA Sorbitol)

Boron	ND		0.0985	mg/L	1	B4J0921	10/09/2024	10/10/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	207		25.0	mg/kg	1	B4J0834	10/08/2024	10/09/2024	
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua

Surrogate: <i>o</i> -Terphenyl	89.1 %		50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B4J0933	10/09/2024	10/10/2024	Ua
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Benzene	ND		0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Toluene	ND		0.00200	"	"	"	"	"	Ua
Xylenes, total	ND		0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	2.78		0.200	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	103 %		70-130			"	"	"	
Surrogate: Toluene-d8	105 %		70-130			"	"	"	

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Absaroka
 112 High St.
 Buffalo WY 82834

Joel Mason
 Project Number: FEO.CO.0701.29
 Project: FEO Spicer Annex S32

SS S32 32@9FT
10/3/2024 9:54:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-31 (Soil)

GBTEX+TMBs by 8260D

Surrogate: 4-Bromofluorobenzene	99.4 %	70-130			B4J09 33	10/09/2024	10/10/2024
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Metals by Saturated Paste by EPA 6010

Calcium	2.61	0.499	meq/L	10	[CALC]	10/09/2024	10/10/2024
Magnesium	1.59	0.823	"	"	"	"	"
Sodium	3.97	0.435	"	"	"	"	"

PAH by EPA 8270E extracted via 3580A

1-Methylnaphthalene	0.071	0.002	mg/kg	1	B4J1029	10/10/2024	10/11/2024	
2-Methylnaphthalene	0.038	0.002	"	"	"	"	"	
Acenaphthene	ND	0.020	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	Ua
Fluorene	0.028	0.020	"	"	"	"	"	

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SS S32 32@9FT
10/3/2024 9:54:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-31 (Soil)

PAH by EPA 8270E extracted via 3580A

Indeno (1,2,3-cd) pyrene	ND		0.020	mg/kg	1	B4J1029	10/10/2024	10/11/2024	Ua
Naphthalene	ND		0.002	"	"	"	"	"	Ua
Pyrene	0.045		0.020	"	"	"	"	"	

Surrogate: Fluorene-d10	106 %		60-130			"	"	"	
Surrogate: Anthracene-d10	82.4 %		60-130			"	"	"	
Surrogate: Pyrene-d10	104 %		60-130			"	"	"	
Surrogate: Benzo (a) pyrene-d12	97.5 %		60-130			"	"	"	

pH in Soil by 9045D

pH	8.27			pH Units	1	B4J0929	10/09/2024	10/10/2024	
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SAR by 20B Saturated Paste

SAR	2.74		0.0100	SAR	1	B4J0912	10/09/2024	10/10/2024	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.881		0.00500	mmhos/cm	1	B4J0929	10/09/2024	10/10/2024	
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Table 915 metals by EPA 6020B

Arsenic	1.72		0.289	mg/kg	10	B4J0832	10/08/2024	10/09/2024	
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Joel Mason
Project Number: FEO.CO.0701.29
Project: FEO Spicer Annex S32

SS S32 32@9FT
10/3/2024 9:54:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-31 (Soil)

Table 915 metals by EPA 6020B

Barium	203		9.97	mg/kg	10	B4J0832	10/08/2024	10/09/2024	
Cadmium	ND		0.0997	"	"	"	"	"	
Copper	28.8		9.97	"	"	"	"	"	
Lead	12.0		0.997	"	"	"	"	"	
Nickel	25.4		0.997	"	"	"	"	"	
Selenium	ND		0.259	"	"	"	"	"	
Silver	ND		0.0997	"	"	"	"	"	
Zinc	81.5		36.9	"	"	"	"	"	

Total Metals 7196A

Hexavalent Chromium	ND	0.191	0.478	mg/kg dry	1	2689011	10/25/2024	10/29/2024	U
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SS S32 33@10FT sw
10/3/2024 10:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-32 (Soil)

Boron (DTPA Sorbitol)

Boron	ND		0.100	mg/L	1	B4J0921	10/09/2024	10/10/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		25.0	mg/kg	1	B4J0834	10/08/2024	10/09/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua

Surrogate: <i>o</i> -Terphenyl	76.5 %		50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B4J0933	10/09/2024	10/10/2024	Ua
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Benzene	ND		0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Toluene	ND		0.00200	"	"	"	"	"	Ua
Xylenes, total	ND		0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	0.225		0.200	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	101 %		70-130			"	"	"	
Surrogate: Toluene-d8	105 %		70-130			"	"	"	

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Project: FEO Spicer Annex S32

SS S32 33@10FT sw
10/3/2024 10:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-32 (Soil)

GBTEX+TMBs by 8260D

Surrogate: 4-Bromofluorobenzene	99.3 %	70-130				B4J09 33	10/09/2024	10/10/2024	
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Metals by Saturated Paste by EPA 6010

Calcium	0.517	0.499	meq/L	10	[CALC]		10/09/2024	10/10/2024	
Magnesium	ND	0.823	"	"	"		"	"	
Sodium	1.86	0.435	"	"	"		"	"	

PAH by EPA 8270E extracted via 3580A

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4J1029		10/10/2024	10/11/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"		"	"	Ua
Acenaphthene	ND	0.020	"	"	"		"	"	Ua
Anthracene	ND	0.020	"	"	"		"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"		"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"		"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"		"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"		"	"	Ua
Chrysene	ND	0.020	"	"	"		"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"		"	"	Ua
Fluoranthene	ND	0.020	"	"	"		"	"	Ua
Fluorene	ND	0.020	"	"	"		"	"	Ua

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SS S32 33@10FT sw
10/3/2024 10:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-32 (Soil)

PAH by EPA 8270E extracted via 3580A

Indeno (1,2,3-cd) pyrene	ND		0.020	mg/kg	1	B4J1029	10/10/2024	10/11/2024	Ua
Naphthalene	ND		0.002	"	"	"	"	"	Ua
Pyrene	ND		0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	101 %		60-130			"	"	"	
Surrogate: Anthracene-d10	84.2 %		60-130			"	"	"	
Surrogate: Pyrene-d10	102 %		60-130			"	"	"	
Surrogate: Benzo (a) pyrene-d12	98.3 %		60-130			"	"	"	

pH in Soil by 9045D

pH	8.48			pH Units	1	B4J0929	10/09/2024	10/10/2024	
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SAR by 20B Saturated Paste

SAR	2.87		0.0100	SAR	1	B4J0912	10/09/2024	10/10/2024	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.295		0.00500	mmhos/cm	1	B4J0929	10/09/2024	10/10/2024	
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Table 915 metals by EPA 6020B

Arsenic	0.940		0.278	mg/kg	10	B4J0832	10/08/2024	10/09/2024	
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Project Number: FEO.CO.0701.29
Project: FEO Spicer Annex S32

SS S32 33@10FT sw
10/3/2024 10:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-32 (Soil)

Table 915 metals by EPA 6020B

Barium	156		9.59	mg/kg	10	B4J0832	10/08/2024	10/09/2024	
Cadmium	0.124		0.0959	"	"	"	"	"	
Copper	26.0		9.59	"	"	"	"	"	
Lead	10.2		0.959	"	"	"	"	"	
Nickel	31.1		0.959	"	"	"	"	"	
Selenium	ND		0.249	"	"	"	"	"	
Silver	ND		0.0959	"	"	"	"	"	
Zinc	96.6		35.5	"	"	"	"	"	

Total Metals 7196A

Hexavalent Chromium	ND	0.174	0.434	mg/kg dry	1	2689011	10/25/2024	10/29/2024	U
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Joel Mason
 Project Number: FEO.CO.0701.29
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SS S32 34@6FT sw
10/3/2024 10:08:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-33 (Soil)

Boron (DTPA Sorbitol)

Boron	0.605		0.100	mg/L	1	B4J0921	10/09/2024	10/10/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	30.3		25.0	mg/kg	1	B4J0834	10/08/2024	10/09/2024	
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua

Surrogate: <i>o</i> -Terphenyl	81.6 %		50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B4J0933	10/09/2024	10/10/2024	Ua
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Benzene	ND		0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Toluene	ND		0.00200	"	"	"	"	"	Ua
Xylenes, total	ND		0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	0.339		0.200	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	100 %		70-130			"	"	"	
Surrogate: Toluene-d8	105 %		70-130			"	"	"	

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Joel Mason
 Project Number: FEO.CO.0701.29
 Project: FEO Spicer Annex S32

SS S32 34@6FT sw
10/3/2024 10:08:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-33 (Soil)

GBTEX+TMBs by 8260D

Surrogate: 4-Bromofluorobenzene	99.6 %	70-130		B4J09 33	10/09/2024	10/10/2024
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Metals by Saturated Paste by EPA 6010

Calcium	ND	0.499	meq/L	10	[CALC]	10/09/2024	10/10/2024
Magnesium	ND	0.823	"	"	"	"	"
Sodium	8.31	0.435	"	"	"	"	"

PAH by EPA 8270E extracted via 3580A

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4J1029	10/10/2024	10/11/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	Ua
Fluorene	ND	0.020	"	"	"	"	"	Ua

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Project: FEO Spicer Annex S32

SS S32 34@6FT sw
10/3/2024 10:08:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-33 (Soil)

PAH by EPA 8270E extracted via 3580A

Indeno (1,2,3-cd) pyrene	ND		0.020	mg/kg	1	B4J1029	10/10/2024	10/11/2024	Ua
Naphthalene	ND		0.002	"	"	"	"	"	Ua
Pyrene	ND		0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	104 %		60-130			"	"	"	
Surrogate: Anthracene-d10	82.6 %		60-130			"	"	"	
Surrogate: Pyrene-d10	103 %		60-130			"	"	"	
Surrogate: Benzo (a) pyrene-d12	97.4 %		60-130			"	"	"	

pH in Soil by 9045D

pH	8.89			pH Units	1	B4J0929	10/09/2024	10/10/2024	
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SAR by 20B Saturated Paste

SAR	15.0		0.0100	SAR	1	B4J0912	10/09/2024	10/10/2024	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.903		0.00500	mmhos/cm	1	B4J0929	10/09/2024	10/10/2024	
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Table 915 metals by EPA 6020B

Arsenic	1.86		0.260	mg/kg	10	B4J0832	10/08/2024	10/09/2024	
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Joel Mason
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Project: FEO Spicer Annex S32

SS S32 34@6FT sw
10/3/2024 10:08:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-33 (Soil)

Table 915 metals by EPA 6020B

Barium	259		8.96	mg/kg	10	B4J0832	10/08/2024	10/09/2024	
Cadmium	0.100		0.0896	"	"	"	"	"	
Copper	22.4		8.96	"	"	"	"	"	
Lead	8.36		0.896	"	"	"	"	"	
Nickel	22.6		0.896	"	"	"	"	"	
Selenium	ND		0.233	"	"	"	"	"	
Silver	ND		0.0896	"	"	"	"	"	
Zinc	69.6		33.1	"	"	"	"	"	

Total Metals 7196A

Hexavalent Chromium	ND	0.156	0.389	mg/kg dry	1	2689011	10/25/2024	10/29/2024	U
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Joel Mason
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 Project: FEO Spicer Annex S32

SS S32 35@14FT
10/3/2024 10:16:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-34 (Soil)

Boron (DTPA Sorbitol)

Boron	ND	0.100	mg/L	1	B4J0921	10/09/2024	10/10/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4J0834	10/08/2024	10/09/2024	Ua
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	Ua

Surrogate: <i>o</i> -Terphenyl	80.7 %	50-150			"	"	"
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4J0933	10/09/2024	10/10/2024	Ua
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	Ua
Benzene	ND	0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND	0.00200	"	"	"	"	"	Ua
Toluene	ND	0.00200	"	"	"	"	"	Ua
Xylenes, total	ND	0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	0.204	0.200	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	102 %	70-130			"	"	"
Surrogate: Toluene-d8	104 %	70-130			"	"	"

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Absaroka
 112 High St.
 Buffalo WY 82834

Joel Mason
 Project Number: FEO.CO.0701.29
 Project: FEO Spicer Annex S32

SS S32 35@14FT
10/3/2024 10:16:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-34 (Soil)

GBTEX+TMBs by 8260D

Surrogate: 4-Bromofluorobenzene	100 %	70-130		B4J09 33	10/09/2024	10/10/2024
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Metals by Saturated Paste by EPA 6010

Calcium	1.16	0.499	meq/L	10	[CALC]	10/09/2024	10/10/2024
Magnesium	ND	0.823	"	"	"	"	"
Sodium	ND	0.435	"	"	"	"	"

PAH by EPA 8270E extracted via 3580A

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4J1029	10/10/2024	10/11/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	Ua
Fluorene	ND	0.020	"	"	"	"	"	Ua

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Project: FEO Spicer Annex S32

SS S32 35@14FT
10/3/2024 10:16:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-34 (Soil)

PAH by EPA 8270E extracted via 3580A

Indeno (1,2,3-cd) pyrene	ND		0.020	mg/kg	1	B4J1029	10/10/2024	10/11/2024	Ua
Naphthalene	ND		0.002	"	"	"	"	"	Ua
Pyrene	ND		0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	101 %		60-130			"	"	"	
Surrogate: Anthracene-d10	84.7 %		60-130			"	"	"	
Surrogate: Pyrene-d10	100 %		60-130			"	"	"	
Surrogate: Benzo (a) pyrene-d12	103 %		60-130			"	"	"	

pH in Soil by 9045D

pH	8.21			pH Units	1	B4J0929	10/09/2024	10/10/2024	
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SAR by 20B Saturated Paste

SAR	0.329		0.0100	SAR	1	B4J0912	10/09/2024	10/10/2024	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.260		0.00500	mmhos/cm	1	B4J0929	10/09/2024	10/10/2024	
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Table 915 metals by EPA 6020B

Arsenic	0.495		0.249	mg/kg	10	B4J0832	10/08/2024	10/09/2024	
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10/3/2024 10:16:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-34 (Soil)

Table 915 metals by EPA 6020B

Barium	31.0		8.60	mg/kg	10	B4J0832	10/08/2024	10/09/2024	
Cadmium	ND		0.0860	"	"	"	"	"	
Copper	ND		8.60	"	"	"	"	"	
Lead	4.21		0.860	"	"	"	"	"	
Nickel	7.10		0.860	"	"	"	"	"	
Selenium	ND		0.223	"	"	"	"	"	
Silver	ND		0.0860	"	"	"	"	"	
Zinc	ND		31.8	"	"	"	"	"	

Total Metals 7196A

Hexavalent Chromium	ND	0.141	0.352	mg/kg dry	1	2689011	10/25/2024	10/29/2024	U
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SS S32 36@13FT sw
10/3/2024 10:21:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-35 (Soil)

Boron (DTPA Sorbitol)

Boron	ND		0.102	mg/L	1	B4J0921	10/09/2024	10/10/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		25.0	mg/kg	1	B4J0834	10/08/2024	10/09/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua

Surrogate: o-Terphenyl	79.6 %		50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B4J0933	10/09/2024	10/10/2024	Ua
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Benzene	ND		0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Toluene	ND		0.00200	"	"	"	"	"	Ua
Xylenes, total	ND		0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND		0.200	"	"	"	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	101 %		70-130			"	"	"	
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SS S32 36@13FT sw
10/3/2024 10:21:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-35 (Soil)

GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	104 %	70-130	B4J09 33	10/09/2024	10/10/2024
Surrogate: 4-Bromofluorobenzene	100 %	70-130	"	"	"

Metals by Saturated Paste by EPA 6010

Calcium	9.35	0.499	meq/L	10	[CALC]	10/09/2024	10/10/2024
Magnesium	5.41	0.823	"	"	"	"	"
Sodium	1.08	0.435	"	"	"	"	"

PAH by EPA 8270E extracted via 3580A

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4J1029	10/10/2024	10/11/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	Ua

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10/3/2024 10:21:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-35 (Soil)

PAH by EPA 8270E extracted via 3580A

Fluorene	ND	0.020	mg/kg	1	B4J1029	10/10/2024	10/11/2024	Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	Ua
Naphthalene	ND	0.002	"	"	"	"	"	Ua
Pyrene	ND	0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	103 %	60-130	"	"	"	"	"
Surrogate: Anthracene-d10	82.5 %	60-130	"	"	"	"	"
Surrogate: Pyrene-d10	102 %	60-130	"	"	"	"	"
Surrogate: Benzo (a) pyrene-d12	101 %	60-130	"	"	"	"	"

pH in Soil by 9045D

pH	8.10	pH Units	1	B4J0929	10/09/2024	10/10/2024
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SAR by 20B Saturated Paste

SAR	0.396	0.0100	SAR	1	B4J0912	10/09/2024	10/10/2024
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	1.34	0.00500	mmhos/cm	1	B4J0929	10/09/2024	10/10/2024
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Table 915 metals by EPA 6020B

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10/3/2024 10:21:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-35 (Soil)

Table 915 metals by EPA 6020B

Arsenic	1.14		0.275	mg/kg	10	B4J0832	10/08/2024	10/09/2024	
Barium	241		9.48	"	"	"	"	"	
Cadmium	0.213		0.0948	"	"	"	"	"	
Copper	15.9		9.48	"	"	"	"	"	
Lead	10.4		0.948	"	"	"	"	"	
Nickel	21.4		0.948	"	"	"	"	"	
Selenium	ND		0.246	"	"	"	"	"	
Silver	ND		0.0948	"	"	"	"	"	
Zinc	64.6		35.1	"	"	"	"	"	

Total Metals 7196A

Hexavalent Chromium	ND	0.188	0.471	mg/kg dry	1	2689011	10/25/2024	10/29/2024	U
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SS S32 37@7FT sw
10/3/2024 10:26:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-36 (Soil)

Boron (DTPA Sorbitol)

Boron	0.465		0.102	mg/L	1	B4J0921	10/09/2024	10/10/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	39.3		25.0	mg/kg	1	B4J0834	10/08/2024	10/09/2024	
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua

Surrogate: <i>o</i> -Terphenyl	81.7 %		50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B4J0933	10/09/2024	10/10/2024	Ua
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Benzene	ND		0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Toluene	ND		0.00200	"	"	"	"	"	Ua
Xylenes, total	ND		0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	0.524		0.200	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	102 %		70-130			"	"	"	
Surrogate: Toluene-d8	105 %		70-130			"	"	"	

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SS S32 37@7FT sw
10/3/2024 10:26:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-36 (Soil)

GBTEX+TMBs by 8260D

Surrogate: 4-Bromofluorobenzene	101 %	70-130		B4J09 33	10/09/2024	10/10/2024
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Metals by Saturated Paste by EPA 6010

Calcium	1.01	0.499	meq/L	10	[CALC]	10/09/2024	10/10/2024
Magnesium	ND	0.823	"	"	"	"	"
Sodium	3.23	0.435	"	"	"	"	"

PAH by EPA 8270E extracted via 3580A

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4J1029	10/10/2024	10/11/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	Ua
Fluorene	ND	0.020	"	"	"	"	"	Ua

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SS S32 37@7FT sw
10/3/2024 10:26:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-36 (Soil)

PAH by EPA 8270E extracted via 3580A

Indeno (1,2,3-cd) pyrene	ND	0.020	mg/kg	1	B4J1029	10/10/2024	10/11/2024	Ua
Naphthalene	ND	0.002	"	"	"	"	"	Ua
Pyrene	ND	0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	104 %	60-130	"	"	"	"	"
Surrogate: Anthracene-d10	86.5 %	60-130	"	"	"	"	"
Surrogate: Pyrene-d10	102 %	60-130	"	"	"	"	"
Surrogate: Benzo (a) pyrene-d12	97.6 %	60-130	"	"	"	"	"

pH in Soil by 9045D

pH	8.32	pH Units	1	B4J0929	10/09/2024	10/10/2024
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SAR by 20B Saturated Paste

SAR	3.49	0.0100	SAR	1	B4J0912	10/09/2024	10/10/2024
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.552	0.00500	mmhos/cm	1	B4J0929	10/09/2024	10/10/2024
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Table 915 metals by EPA 6020B

Arsenic	0.864	0.262	mg/kg	10	B4J0832	10/08/2024	10/09/2024
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10/3/2024 10:26:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-36 (Soil)

Table 915 metals by EPA 6020B

Barium	147		9.05	mg/kg	10	B4J0832	10/08/2024	10/09/2024	
Cadmium	0.0941		0.0905	"	"	"	"	"	
Copper	16.4		9.05	"	"	"	"	"	
Lead	8.43		0.905	"	"	"	"	"	
Nickel	25.1		0.905	"	"	"	"	"	
Selenium	ND		0.235	"	"	"	"	"	
Silver	ND		0.0905	"	"	"	"	"	
Zinc	73.4		33.5	"	"	"	"	"	

Total Metals 7196A

Hexavalent Chromium	ND	0.160	0.399	mg/kg dry	1	2689011	10/25/2024	10/29/2024	U
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SS S32 38@4FT
10/3/2024 10:35:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-37 (Soil)

Boron (DTPA Sorbitol)

Boron	0.149		0.101	mg/L	1	B4J0921	10/09/2024	10/10/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	65.2		25.0	mg/kg	1	B4J0834	10/08/2024	10/09/2024	
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua

Surrogate: <i>o</i> -Terphenyl	85.8 %		50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B4J0933	10/09/2024	10/10/2024	Ua
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Benzene	ND		0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Toluene	ND		0.00200	"	"	"	"	"	Ua
Xylenes, total	ND		0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	0.457		0.200	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	102 %		70-130			"	"	"	
Surrogate: Toluene-d8	106 %		70-130			"	"	"	

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 Buffalo WY 82834

Joel Mason
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 Project: FEO Spicer Annex S32

SS S32 38@4FT
10/3/2024 10:35:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-37 (Soil)

GBTEX+TMBs by 8260D

Surrogate: 4-Bromofluorobenzene	99.8 %	70-130		B4J09 33	10/09/2024	10/10/2024
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Metals by Saturated Paste by EPA 6010

Calcium	2.95	0.499	meq/L	10	[CALC]	10/09/2024	10/10/2024
Magnesium	1.13	0.823	"	"	"	"	"
Sodium	ND	0.435	"	"	"	"	"

PAH by EPA 8270E extracted via 3580A

1-Methylnaphthalene	0.010	0.002	mg/kg	1	B4J1029	10/10/2024	10/11/2024	
2-Methylnaphthalene	0.009	0.002	"	"	"	"	"	
Acenaphthene	ND	0.020	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	Ua
Fluorene	ND	0.020	"	"	"	"	"	Ua

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Absaroka
112 High St.
Buffalo WY 82834

Joel Mason
Project Number: FEO.CO.0701.29
Project: FEO Spicer Annex S32

SS S32 38@4FT
10/3/2024 10:35:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-37 (Soil)

PAH by EPA 8270E extracted via 3580A

Indeno (1,2,3-cd) pyrene	ND		0.020	mg/kg	1	B4J1029	10/10/2024	10/11/2024	Ua
Naphthalene	ND		0.002	"	"	"	"	"	Ua
Pyrene	0.030		0.020	"	"	"	"	"	

Surrogate: Fluorene-d10	105 %		60-130			"	"	"	
Surrogate: Anthracene-d10	86.8 %		60-130			"	"	"	
Surrogate: Pyrene-d10	105 %		60-130			"	"	"	
Surrogate: Benzo (a) pyrene-d12	101 %		60-130			"	"	"	

pH in Soil by 9045D

pH	8.12			pH Units	1	B4J0929	10/09/2024	10/10/2024	
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SAR by 20B Saturated Paste

SAR	0.217		0.0100	SAR	1	B4J0912	10/09/2024	10/10/2024	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.516		0.00500	mmhos/cm	1	B4J0929	10/09/2024	10/10/2024	
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Table 915 metals by EPA 6020B

Arsenic	4.33		0.274	mg/kg	10	B4J0832	10/08/2024	10/09/2024	
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Project: FEO Spicer Annex S32

SS S32 38@4FT
10/3/2024 10:35:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E410219-37 (Soil)

Table 915 metals by EPA 6020B

Barium	182		9.45	mg/kg	10	B4J0832	10/08/2024	10/09/2024	
Cadmium	0.371		0.0945	"	"	"	"	"	
Copper	18.4		9.45	"	"	"	"	"	
Lead	9.95		0.945	"	"	"	"	"	
Nickel	17.3		0.945	"	"	"	"	"	
Selenium	ND		0.246	"	"	"	"	"	
Silver	ND		0.0945	"	"	"	"	"	
Zinc	51.8		35.0	"	"	"	"	"	

Total Metals 7196A

Hexavalent Chromium	ND	0.146	0.365	mg/kg dry	1	2689011	10/25/2024	10/29/2024	U
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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 B4J0833 - EPA 3550B										
Blank (B4J0833-BLK1)										
					Prepared: 10/08/2024 Analyzed: 10/09/2024					
Diesel (C10-C28)	ND	25.0	mg/kg							Ua
Residual Range Organics (C28-C40)	ND	100	"							Ua
Surrogate: o-Terphenyl	19		"	24.9		76.0	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 B4J0833 - EPA 3550B

LCS (B4J0833-BS1)

Prepared: 10/08/2024 Analyzed: 10/09/2024

Diesel (C10-C28)	958	50.0	mg/kg	1000		95.8	70-130			
Residual Range Organics (C28-C40)	1060	200	"	1000		106	70-130			
Surrogate: o-Terphenyl	42		"	49.8		83.6	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 B4J0833 - EPA 3550B

Matrix Spike (B4J0833-MS1)	Source: E410219-01			Prepared: 10/08/2024 Analyzed: 10/09/2024						
Diesel (C10-C28)	1030	50.0	mg/kg	1000	ND	103	70-130			
Residual Range Organics (C28-C40)	1150	200	"	1000	ND	115	70-130			
Surrogate: o-Terphenyl	41		"	49.8		82.0	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 B4J0833 - EPA 3550B

Matrix Spike Dup (B4J0833-MSD1)	Source: E410219-01			Prepared: 10/08/2024 Analyzed: 10/09/2024						
Diesel (C10-C28)	963	50.0	mg/kg	1000	ND	96.3	70-130	6.47	35	
Residual Range Organics (C28-C40)	1080	200	"	1000	ND	108	70-130	6.44	35	
Surrogate: o-Terphenyl	39		"	49.8		78.2	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
Batch B4J0834 - EPA 3550B										
Blank (B4J0834-BLK1)										
					Prepared: 10/08/2024 Analyzed: 10/09/2024					
Diesel (C10-C28)	ND	25.0	mg/kg							Ua
Residual Range Organics (C28-C40)	ND	100	"							Ua
Surrogate: o-Terphenyl	24		"	24.9		96.7	50-150			

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Extractable Petroleum Hydrocarbons by 8015D - Quality Control
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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4J0834 - EPA 3550B

LCS (B4J0834-BS1)

Prepared: 10/08/2024 Analyzed: 10/09/2024

Diesel (C10-C28)	1180	50.0	mg/kg	1000		118	70-130			
Residual Range Organics (C28-C40)	1240	200	"	1000		124	70-130			
Surrogate: o-Terphenyl	55		"	49.8		110	50-150			

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4J0834 - EPA 3550B

Matrix Spike (B4J0834-MS1)	Source: E410187-01			Prepared: 10/08/2024 Analyzed: 10/09/2024						
Diesel (C10-C28)	5330	50.0	mg/kg	1000	2060	327	70-130			QM-07
Residual Range Organics (C28-C40)	12400	2000	"	1000	5740	663	70-130			QM-07
Surrogate: o-Terphenyl	69		"	49.8		138	50-150			

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Extractable Petroleum Hydrocarbons by 8015D - Quality Control
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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4J0834 - EPA 3550B

Matrix Spike Dup (B4J0834-MSD1)	Source: E410187-01			Prepared: 10/08/2024 Analyzed: 10/09/2024						
Diesel (C10-C28)	3980	50.0	mg/kg	1000	2060	192	70-130	29.0	35	QM-07
Residual Range Organics (C28-C40)	9360	200	"	1000	5740	362	70-130	27.7	35	QM-07
Surrogate: o-Terphenyl	68		"	49.8		136	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
Batch B4J0932 - EPA 5030 (soil)										
Blank (B4J0932-BLK1)										
					Prepared: 10/09/2024 Analyzed: 10/10/2024					
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	0.12		"	0.125		100	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		97.6	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		102	70-130			

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Project: FEO Spicer Annex S32

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 B4J0932 - EPA 5030 (soil)

LCS (B4J0932-BS1)

Prepared: 10/09/2024 Analyzed: 10/10/2024

1,2,4-Trimethylbenzene	0.0971	0.00200	mg/kg	0.100		97.1	70-130			
1,3,5-Trimethylbenzene	0.0954	0.00200	"	0.100		95.4	70-130			
Benzene	0.0989	0.00200	"	0.100		98.9	70-130			
Ethylbenzene	0.0932	0.00200	"	0.100		93.2	70-130			
Naphthalene	0.0916	0.00380	"	0.100		91.6	70-130			
Toluene	0.0933	0.00200	"	0.100		93.3	70-130			
o-Xylene	0.0940	0.00200	"	0.100		94.0	70-130			
m,p-Xylene	0.186	0.00400	"	0.200		92.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		99.5	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		97.3	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		98.8	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 B4J0932 - EPA 5030 (soil)

Matrix Spike (B4J0932-MS1)	Source: E410219-01			Prepared: 10/09/2024 Analyzed: 10/10/2024						
1,2,4-Trimethylbenzene	0.0985	0.00200	mg/kg	0.100	ND	98.5	70-130			
1,3,5-Trimethylbenzene	0.0984	0.00200	"	0.100	ND	98.4	70-130			
Benzene	0.0951	0.00200	"	0.100	ND	95.1	70-130			
Ethylbenzene	0.101	0.00200	"	0.100	ND	101	70-130			
Naphthalene	0.0689	0.00380	"	0.100	ND	68.9	70-130			QM-07
Toluene	0.0935	0.00200	"	0.100	ND	93.5	70-130			
o-Xylene	0.0983	0.00200	"	0.100	ND	98.3	70-130			
m,p-Xylene	0.199	0.00400	"	0.200	ND	99.5	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.11		"	0.125		90.6	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		102	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		103	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 B4J0932 - EPA 5030 (soil)

Matrix Spike Dup (B4J0932-MSD1)	Source: E410219-01			Prepared: 10/09/2024 Analyzed: 10/10/2024						
1,2,4-Trimethylbenzene	0.0879	0.00200	mg/kg	0.100	ND	87.9	70-130	11.4	20	
1,3,5-Trimethylbenzene	0.0872	0.00200	"	0.100	ND	87.2	70-130	12.2	20	
Benzene	0.0898	0.00200	"	0.100	ND	89.8	70-130	5.71	20	
Ethylbenzene	0.0885	0.00200	"	0.100	ND	88.5	70-130	13.0	20	
Naphthalene	0.0730	0.00380	"	0.100	ND	73.0	70-130	5.67	20	
Toluene	0.0858	0.00200	"	0.100	ND	85.8	70-130	8.64	20	
o-Xylene	0.0876	0.00200	"	0.100	ND	87.6	70-130	11.5	20	
m,p-Xylene	0.176	0.00400	"	0.200	ND	88.1	70-130	12.1	20	
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		96.4	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		98.8	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 B4J0933 - EPA 5030 (soil)

Blank (B4J0933-BLK1)

Prepared: 10/09/2024 Analyzed: 10/10/2024

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	0.12		"	0.125	97.2		70-130			
Surrogate: Toluene-d8	0.13		"	0.125	106		70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125	101		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 B4J0933 - EPA 5030 (soil)

LCS (B4J0933-BS1)

Prepared: 10/09/2024 Analyzed: 10/10/2024

1,2,4-Trimethylbenzene	0.108	0.00200	mg/kg	0.100		108	70-130			
1,3,5-Trimethylbenzene	0.108	0.00200	"	0.100		108	70-130			
Benzene	0.0865	0.00200	"	0.100		86.5	70-130			
Ethylbenzene	0.108	0.00200	"	0.100		108	70-130			
Naphthalene	0.101	0.00380	"	0.100		101	70-130			
Toluene	0.0961	0.00200	"	0.100		96.1	70-130			
o-Xylene	0.107	0.00200	"	0.100		107	70-130			
m,p-Xylene	0.225	0.00400	"	0.200		112	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		93.4	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		104	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		103	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 B4J0933 - EPA 5030 (soil)

Matrix Spike (B4J0933-MS1)	Source: E410219-21			Prepared: 10/09/2024 Analyzed: 10/10/2024						
1,2,4-Trimethylbenzene	0.108	0.00200	mg/kg	0.100	ND	108	70-130			
1,3,5-Trimethylbenzene	0.110	0.00200	"	0.100	ND	110	70-130			
Benzene	0.0878	0.00200	"	0.100	ND	87.8	70-130			
Ethylbenzene	0.111	0.00200	"	0.100	ND	111	70-130			
Naphthalene	0.0964	0.00380	"	0.100	ND	96.4	70-130			
Toluene	0.0985	0.00200	"	0.100	ND	98.5	70-130			
o-Xylene	0.110	0.00200	"	0.100	ND	110	70-130			
m,p-Xylene	0.233	0.00400	"	0.200	ND	117	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.11		"	0.125		91.3	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		105	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		103	70-130			

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Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4J0933 - EPA 5030 (soil)

Matrix Spike Dup (B4J0933-MSD1)	Source: E410219-21			Prepared: 10/09/2024 Analyzed: 10/10/2024						
1,2,4-Trimethylbenzene	0.106	0.00200	mg/kg	0.100	ND	106	70-130	1.74	20	
1,3,5-Trimethylbenzene	0.107	0.00200	"	0.100	ND	107	70-130	2.78	20	
Benzene	0.0897	0.00200	"	0.100	ND	89.7	70-130	2.16	20	
Ethylbenzene	0.110	0.00200	"	0.100	ND	110	70-130	1.72	20	
Naphthalene	0.0974	0.00380	"	0.100	ND	97.4	70-130	1.07	20	
Toluene	0.0990	0.00200	"	0.100	ND	99.0	70-130	0.466	20	
o-Xylene	0.108	0.00200	"	0.100	ND	108	70-130	1.47	20	
m,p-Xylene	0.229	0.00400	"	0.200	ND	115	70-130	1.79	20	
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		93.6	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		105	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		103	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 B4J0831 - EPA 3050B

Blank (B4J0831-BLK1)

Prepared: 10/08/2024 Analyzed: 10/09/2024

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 (B4J0831-BS1)

Prepared: 10/08/2024 Analyzed: 10/09/2024

Arsenic	5.56	0.290	mg/kg	5.00		111	80-120			
Barium	595	10.0	"	500		119	80-120			
Cadmium	5.75	0.100	"	5.00		115	80-120			
Copper	56.2	10.0	"	50.0		112	80-120			
Lead	5.70	1.00	"	5.00		114	80-120			
Nickel	5.61	1.00	"	5.00		112	80-120			
Selenium	5.68	0.260	"	5.00		114	80-120			
Silver	5.81	0.100	"	5.00		116	80-120			
Zinc	54.7	37.0	"	50.0		109	80-120			

Matrix Spike (B4J0831-MS1)

Source: E410219-03

Prepared: 10/08/2024 Analyzed: 10/09/2024

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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 B4J0831 - EPA 3050B

Matrix Spike (B4J0831-MS1)		Source: E410219-03			Prepared: 10/08/2024 Analyzed: 10/09/2024					
Arsenic	10.0	0.288	mg/kg	4.96	4.71	107	75-125			
Barium	767	9.93	"	496	162	122	75-125			
Cadmium	6.05	0.0993	"	4.96	0.263	117	75-125			
Copper	83.9	9.93	"	49.6	29.6	110	75-125			
Lead	19.0	0.993	"	4.96	13.4	113	75-125			
Nickel	26.4	0.993	"	4.96	22.5	77.6	75-125			
Selenium	5.95	0.258	"	4.96	0.213	116	75-125			
Silver	5.93	0.0993	"	4.96	0.0550	118	75-125			
Zinc	113	36.7	"	49.6	61.5	104	75-125			

Matrix Spike Dup (B4J0831-MSD1)		Source: E410219-03			Prepared: 10/08/2024 Analyzed: 10/09/2024					
Arsenic	10.0	0.268	mg/kg	4.62	4.71	115	75-125	0.0317	20	
Barium	744	9.24	"	462	162	126	75-125	2.96	20	QM-07
Cadmium	5.72	0.0924	"	4.62	0.263	118	75-125	5.63	20	
Copper	84.3	9.24	"	46.2	29.6	118	75-125	0.444	20	
Lead	19.8	0.924	"	4.62	13.4	139	75-125	4.09	20	QM-07
Nickel	28.4	0.924	"	4.62	22.5	127	75-125	7.42	20	QM-07
Selenium	5.52	0.240	"	4.62	0.213	115	75-125	7.56	20	
Silver	5.58	0.0924	"	4.62	0.0550	119	75-125	6.11	20	
Zinc	115	34.2	"	46.2	61.5	115	75-125	1.56	20	

Batch B4J0832 - EPA 3050B

Blank (B4J0832-BLK1)		Prepared: 10/08/2024 Analyzed: 10/09/2024								
Arsenic	ND	0.290	mg/kg							
Barium	ND	10.0	"							
Cadmium	ND	0.100	"							

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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 B4J0832 - EPA 3050B

Blank (B4J0832-BLK1)

Prepared: 10/08/2024 Analyzed: 10/09/2024

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

LCS (B4J0832-BS1)

Prepared: 10/08/2024 Analyzed: 10/09/2024

Arsenic	5.46	0.290	mg/kg	5.00		109	80-120			
Barium	561	10.0	"	500		112	80-120			
Cadmium	5.53	0.100	"	5.00		111	80-120			
Copper	56.0	10.0	"	50.0		112	80-120			
Lead	5.71	1.00	"	5.00		114	80-120			
Nickel	5.47	1.00	"	5.00		109	80-120			
Selenium	5.76	0.260	"	5.00		115	80-120			
Silver	5.63	0.100	"	5.00		113	80-120			
Zinc	53.2	37.0	"	50.0		106	80-120			

Matrix Spike (B4J0832-MS1)

Source: E410219-22

Prepared: 10/08/2024 Analyzed: 10/09/2024

Arsenic	6.88	0.281	mg/kg	4.85	1.35	114	75-125			
Barium	710	9.69	"	485	147	116	75-125			
Cadmium	5.60	0.0969	"	4.85	0.114	113	75-125			
Copper	60.1	9.69	"	48.5	6.07	112	75-125			
Lead	9.75	0.969	"	4.85	4.19	115	75-125			
Nickel	15.7	0.969	"	4.85	9.31	132	75-125			QM-07
Selenium	5.83	0.252	"	4.85	0.130	118	75-125			
Silver	5.59	0.0969	"	4.85	ND	115	75-125			

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Metals by EPA 6000/7000 Series Methods - Quality Control
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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4J0832 - EPA 3050B										
Matrix Spike (B4J0832-MS1)			Source: E410219-22		Prepared: 10/08/2024 Analyzed: 10/09/2024					
Zinc	80.4	35.9	mg/kg	48.5	24.6	115	75-125			
Matrix Spike Dup (B4J0832-MSD1)			Source: E410219-22		Prepared: 10/08/2024 Analyzed: 10/09/2024					
Arsenic	6.22	0.264	mg/kg	4.55	1.35	107	75-125	10.2	20	
Barium	623	9.10	"	455	147	104	75-125	13.1	20	
Cadmium	4.92	0.0910	"	4.55	0.114	106	75-125	12.8	20	
Copper	53.5	9.10	"	45.5	6.07	104	75-125	11.7	20	
Lead	9.29	0.910	"	4.55	4.19	112	75-125	4.85	20	
Nickel	13.5	0.910	"	4.55	9.31	92.5	75-125	15.1	20	
Selenium	5.15	0.237	"	4.55	0.130	110	75-125	12.4	20	
Silver	4.91	0.0910	"	4.55	ND	108	75-125	12.8	20	
Zinc	71.3	33.7	"	45.5	24.6	103	75-125	12.0	20	

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Project: FEO Spicer Annex S32

EPA 8270E (SW846) - Semivolatile Organic Compounds - 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 B4J1028 - EPA 3580

Blank (B4J1028-BLK1)

Prepared: 10/10/2024 Analyzed: 10/11/2024

1-Methylnaphthalene	ND	0.002	mg/kg							Ua
2-Methylnaphthalene	ND	0.002	"							Ua
Acenaphthene	ND	0.020	"							Ua
Anthracene	ND	0.020	"							Ua
Benzo (a) anthracene	ND	0.005	"							Ua
Benzo (a) pyrene	ND	0.020	"							Ua
Benzo (b) fluoranthene	ND	0.020	"							Ua
Benzo (g,h,i) perylene	ND	0.020	"							Ua
Benzo (k) fluoranthene	ND	0.020	"							Ua
Chrysene	ND	0.020	"							Ua
Dibenz (a,h) anthracene	ND	0.020	"							Ua
Fluoranthene	ND	0.020	"							Ua
Fluorene	ND	0.020	"							Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"							Ua
Naphthalene	ND	0.002	"							Ua
Phenanthrene	ND	0.020	"							Ua
Pyrene	ND	0.020	"							Ua
<hr/>										
Surrogate: Fluorene-d10	190		ug/kg	200		95.6	60-130			
Surrogate: Anthracene-d10	190		"	200		94.0	60-130			
Surrogate: Pyrene-d10	210		"	200		103	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		102	60-130			

LCS (B4J1028-BS1)

Prepared: 10/10/2024 Analyzed: 10/11/2024

1-Methylnaphthalene	0.201	0.002	mg/kg	0.200		100	70-130			
2-Methylnaphthalene	0.196	0.002	"	0.200		97.8	70-130			
Acenaphthene	0.196	0.020	"	0.200		98.1	70-130			
Anthracene	0.193	0.020	"	0.200		96.4	70-130			

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EPA 8270E (SW846) - Semivolatile Organic Compounds - 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 B4J1028 - EPA 3580

LCS (B4J1028-BS1)

Prepared: 10/10/2024 Analyzed: 10/11/2024

Benzo (a) anthracene	0.209	0.005	mg/kg	0.200		104	70-130			
Benzo (a) pyrene	0.201	0.020	"	0.200		101	70-130			
Benzo (b) fluoranthene	0.179	0.020	"	0.200		89.4	70-130			
Benzo (g,h,i) perylene	0.180	0.020	"	0.200		89.9	70-130			
Benzo (k) fluoranthene	0.172	0.020	"	0.200		86.2	70-130			
Chrysene	0.184	0.020	"	0.200		91.8	70-130			
Dibenz (a,h) anthracene	0.169	0.020	"	0.200		84.6	70-130			
Fluoranthene	0.177	0.020	"	0.200		88.5	70-130			
Fluorene	0.191	0.020	"	0.200		95.5	70-130			
Indeno (1,2,3-cd) pyrene	0.203	0.020	"	0.200		102	70-130			
Naphthalene	0.203	0.002	"	0.200		102	70-130			
Phenanthrene	0.177	0.020	"	0.200		88.7	70-130			
Pyrene	0.199	0.020	"	0.200		99.6	70-130			

Surrogate: Fluorene-d10	190		ug/kg	200		96.1	60-130			
Surrogate: Anthracene-d10	190		"	200		96.7	60-130			
Surrogate: Pyrene-d10	210		"	200		103	60-130			
Surrogate: Benzo (a) pyrene-d12	210		"	200		105	60-130			

Matrix Spike (B4J1028-MS1)

Source: E410219-01

Prepared: 10/10/2024 Analyzed: 10/11/2024

1-Methylnaphthalene	0.198	0.002	mg/kg	0.200	ND	99.2	70-130			
2-Methylnaphthalene	0.194	0.002	"	0.200	ND	97.0	70-130			
Acenaphthene	0.194	0.020	"	0.200	ND	97.1	70-130			
Anthracene	0.194	0.020	"	0.200	ND	97.0	70-130			
Benzo (a) anthracene	0.205	0.005	"	0.200	ND	102	70-130			
Benzo (a) pyrene	0.210	0.020	"	0.200	ND	105	70-130			
Benzo (b) fluoranthene	0.186	0.020	"	0.200	0.0003	92.9	70-130			
Benzo (g,h,i) perylene	0.179	0.020	"	0.200	0.0009	89.2	70-130			

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EPA 8270E (SW846) - Semivolatile Organic Compounds - 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 B4J1028 - EPA 3580

Matrix Spike (B4J1028-MS1)	Source: E410219-01			Prepared: 10/10/2024 Analyzed: 10/11/2024						
Benzo (k) fluoranthene	0.180	0.020	mg/kg	0.200	0.0007	89.5	70-130			
Chrysene	0.183	0.020	"	0.200	ND	91.3	70-130			
Dibenz (a,h) anthracene	0.167	0.020	"	0.200	0.003	81.8	70-130			
Fluoranthene	0.175	0.020	"	0.200	ND	87.6	70-130			
Fluorene	0.192	0.020	"	0.200	ND	95.9	70-130			
Indeno (1,2,3-cd) pyrene	0.213	0.020	"	0.200	ND	106	70-130			
Naphthalene	0.200	0.002	"	0.200	ND	99.9	70-130			
Phenanthrene	0.176	0.020	"	0.200	ND	87.8	70-130			
Pyrene	0.202	0.020	"	0.200	0.0005	101	70-130			
Surrogate: Fluorene-d10	190		ug/kg	200		95.9	60-130			
Surrogate: Anthracene-d10	190		"	200		96.0	60-130			
Surrogate: Pyrene-d10	210		"	200		105	60-130			
Surrogate: Benzo (a) pyrene-d12	210		"	200		104	60-130			

Matrix Spike Dup (B4J1028-MSD1)	Source: E410219-01			Prepared: 10/10/2024 Analyzed: 10/11/2024						
1-Methylnaphthalene	0.195	0.002	mg/kg	0.200	ND	97.6	70-130	1.63	20	
2-Methylnaphthalene	0.191	0.002	"	0.200	ND	95.3	70-130	1.83	20	
Acenaphthene	0.192	0.020	"	0.200	ND	96.2	70-130	0.875	20	
Anthracene	0.188	0.020	"	0.200	ND	93.8	70-130	3.44	20	
Benzo (a) anthracene	0.201	0.005	"	0.200	ND	100	70-130	1.94	20	
Benzo (a) pyrene	0.198	0.020	"	0.200	ND	98.8	70-130	6.23	20	
Benzo (b) fluoranthene	0.183	0.020	"	0.200	0.0003	91.1	70-130	1.96	20	
Benzo (g,h,i) perylene	0.183	0.020	"	0.200	0.0009	91.1	70-130	2.07	20	
Benzo (k) fluoranthene	0.178	0.020	"	0.200	0.0007	88.8	70-130	0.807	20	
Chrysene	0.188	0.020	"	0.200	ND	94.0	70-130	2.88	20	
Dibenz (a,h) anthracene	0.172	0.020	"	0.200	0.003	84.6	70-130	3.27	20	
Fluoranthene	0.174	0.020	"	0.200	ND	86.9	70-130	0.840	20	

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EPA 8270E (SW846) - Semivolatile Organic Compounds - 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 B4J1028 - EPA 3580

Matrix Spike Dup (B4J1028-MSD1)	Source: E410219-01			Prepared: 10/10/2024 Analyzed: 10/11/2024						
Fluorene	0.189	0.020	mg/kg	0.200	ND	94.7	70-130	1.32	20	
Indeno (1,2,3-cd) pyrene	0.185	0.020	"	0.200	ND	92.4	70-130	14.0	20	
Naphthalene	0.197	0.002	"	0.200	ND	98.7	70-130	1.20	20	
Phenanthrene	0.172	0.020	"	0.200	ND	86.1	70-130	1.94	20	
Pyrene	0.197	0.020	"	0.200	0.0005	98.2	70-130	2.61	20	
Surrogate: Fluorene-d10	190		ug/kg	200		95.3	60-130			
Surrogate: Anthracene-d10	190		"	200		96.5	60-130			
Surrogate: Pyrene-d10	200		"	200		101	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		101	60-130			

Batch B4J1029 - EPA 3580

Blank (B4J1029-BLK1)	Prepared: 10/10/2024 Analyzed: 10/11/2024									
1-Methylnaphthalene	ND	0.002	mg/kg							Ua
2-Methylnaphthalene	ND	0.002	"							Ua
Acenaphthene	ND	0.020	"							Ua
Anthracene	ND	0.020	"							Ua
Benzo (a) anthracene	ND	0.005	"							Ua
Benzo (a) pyrene	ND	0.020	"							Ua
Benzo (b) fluoranthene	ND	0.020	"							Ua
Benzo (g,h,i) perylene	ND	0.020	"							Ua
Benzo (k) fluoranthene	ND	0.020	"							Ua
Chrysene	ND	0.020	"							Ua
Dibenz (a,h) anthracene	ND	0.020	"							Ua
Fluoranthene	ND	0.020	"							Ua
Fluorene	ND	0.020	"							Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"							Ua

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EPA 8270E (SW846) - Semivolatile Organic Compounds - 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 B4J1029 - EPA 3580

Blank (B4J1029-BLK1)

Prepared: 10/10/2024 Analyzed: 10/11/2024

Naphthalene	ND	0.002	mg/kg							Ua
Phenanthrene	ND	0.020	"							Ua
Pyrene	ND	0.020	"							Ua
Surrogate: Fluorene-d10	200		ug/kg	200		101	60-130			
Surrogate: Anthracene-d10	180		"	200		88.2	60-130			
Surrogate: Pyrene-d10	210		"	200		105	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		99.5	60-130			

LCS (B4J1029-BS1)

Prepared: 10/10/2024 Analyzed: 10/11/2024

1-Methylnaphthalene	0.186	0.002	mg/kg	0.200		93.1	70-130			
2-Methylnaphthalene	0.183	0.002	"	0.200		91.4	70-130			
Acenaphthene	0.196	0.020	"	0.200		98.0	70-130			
Anthracene	0.170	0.020	"	0.200		84.9	70-130			
Benzo (a) anthracene	0.195	0.005	"	0.200		97.4	70-130			
Benzo (a) pyrene	0.174	0.020	"	0.200		87.1	70-130			
Benzo (b) fluoranthene	0.190	0.020	"	0.200		94.9	70-130			
Benzo (g,h,i) perylene	0.181	0.020	"	0.200		90.6	70-130			
Benzo (k) fluoranthene	0.190	0.020	"	0.200		94.9	70-130			
Chrysene	0.191	0.020	"	0.200		95.5	70-130			
Dibenz (a,h) anthracene	0.183	0.020	"	0.200		91.5	70-130			
Fluoranthene	0.199	0.020	"	0.200		99.3	70-130			
Fluorene	0.197	0.020	"	0.200		98.5	70-130			
Indeno (1,2,3-cd) pyrene	0.176	0.020	"	0.200		88.2	70-130			
Naphthalene	0.188	0.002	"	0.200		93.8	70-130			
Phenanthrene	0.177	0.020	"	0.200		88.4	70-130			
Pyrene	0.216	0.020	"	0.200		108	70-130			
Surrogate: Fluorene-d10	210		ug/kg	200		105	60-130			

Origins Laboratory



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Absaroka
 112 High St.
 Buffalo WY 82834

Joel Mason
 Project Number: FEO.CO.0701.29
 Project: FEO Spicer Annex S32

EPA 8270E (SW846) - Semivolatile Organic Compounds - 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 B4J1029 - EPA 3580

LCS (B4J1029-BS1)

Prepared: 10/10/2024 Analyzed: 10/11/2024

Surrogate: Anthracene-d10	170		ug/kg	200		83.9	60-130
Surrogate: Pyrene-d10	210		"	200		106	60-130
Surrogate: Benzo (a) pyrene-d12	190		"	200		95.2	60-130

Matrix Spike (B4J1029-MS1)

Source: E410219-21

Prepared: 10/10/2024 Analyzed: 10/11/2024

1-Methylnaphthalene	0.177	0.002	mg/kg	0.200	ND	88.5	70-130
2-Methylnaphthalene	0.179	0.002	"	0.200	ND	89.3	70-130
Acenaphthene	0.187	0.020	"	0.200	0.001	92.7	70-130
Anthracene	0.167	0.020	"	0.200	0.001	83.0	70-130
Benzo (a) anthracene	0.188	0.005	"	0.200	0.0009	93.4	70-130
Benzo (a) pyrene	0.181	0.020	"	0.200	ND	90.6	70-130
Benzo (b) fluoranthene	0.183	0.020	"	0.200	0.0006	91.3	70-130
Benzo (g,h,i) perylene	0.172	0.020	"	0.200	ND	85.8	70-130
Benzo (k) fluoranthene	0.193	0.020	"	0.200	ND	96.6	70-130
Chrysene	0.180	0.020	"	0.200	0.0005	89.6	70-130
Dibenz (a,h) anthracene	0.172	0.020	"	0.200	ND	86.0	70-130
Fluoranthene	0.190	0.020	"	0.200	0.0008	94.4	70-130
Fluorene	0.192	0.020	"	0.200	0.0002	96.1	70-130
Indeno (1,2,3-cd) pyrene	0.177	0.020	"	0.200	ND	88.3	70-130
Naphthalene	0.185	0.002	"	0.200	ND	92.5	70-130
Phenanthrene	0.182	0.020	"	0.200	0.0003	91.1	70-130
Pyrene	0.199	0.020	"	0.200	0.0009	99.1	70-130

Surrogate: Fluorene-d10	200		ug/kg	200		101	60-130
Surrogate: Anthracene-d10	180		"	200		90.7	60-130
Surrogate: Pyrene-d10	200		"	200		99.9	60-130
Surrogate: Benzo (a) pyrene-d12	190		"	200		96.0	60-130

Matrix Spike Dup (B4J1029-MSD1)

Source: E410219-21

Prepared: 10/10/2024 Analyzed: 10/11/2024

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Buffalo WY 82834

Joel Mason
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Project: FEO Spicer Annex S32

EPA 8270E (SW846) - Semivolatile Organic Compounds - Quality Control
Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4J1029 - EPA 3580										
1-Methylnaphthalene	0.161	0.002	mg/kg	0.200	ND	80.6	70-130	9.37	20	
2-Methylnaphthalene	0.166	0.002	"	0.200	ND	83.2	70-130	7.13	20	
Acenaphthene	0.178	0.020	"	0.200	0.001	88.3	70-130	4.83	20	
Anthracene	0.162	0.020	"	0.200	0.001	80.3	70-130	3.30	20	
Benzo (a) anthracene	0.177	0.005	"	0.200	0.0009	88.3	70-130	5.62	20	
Benzo (a) pyrene	0.189	0.020	"	0.200	ND	94.5	70-130	4.23	20	
Benzo (b) fluoranthene	0.179	0.020	"	0.200	0.0006	89.4	70-130	2.03	20	
Benzo (g,h,i) perylene	0.176	0.020	"	0.200	ND	88.0	70-130	2.60	20	
Benzo (k) fluoranthene	0.178	0.020	"	0.200	ND	89.0	70-130	8.24	20	
Chrysene	0.176	0.020	"	0.200	0.0005	87.5	70-130	2.36	20	
Dibenz (a,h) anthracene	0.183	0.020	"	0.200	ND	91.4	70-130	6.13	20	
Fluoranthene	0.198	0.020	"	0.200	0.0008	98.4	70-130	4.19	20	
Fluorene	0.193	0.020	"	0.200	0.0002	96.3	70-130	0.181	20	
Indeno (1,2,3-cd) pyrene	0.223	0.020	"	0.200	ND	112	70-130	23.4	20	QR-02
Naphthalene	0.178	0.002	"	0.200	ND	89.0	70-130	3.89	20	
Phenanthrene	0.170	0.020	"	0.200	0.0003	85.0	70-130	6.91	20	
Pyrene	0.217	0.020	"	0.200	0.0009	108	70-130	8.42	20	
Surrogate: Fluorene-d10	210		ug/kg	200		104	60-130			
Surrogate: Anthracene-d10	170		"	200		83.7	60-130			
Surrogate: Pyrene-d10	220		"	200		111	60-130			
Surrogate: Benzo (a) pyrene-d12	220		"	200		108	60-130			

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 Buffalo WY 82834

Joel Mason
 Project Number: FEO.CO.0701.29
 Project: FEO Spicer Annex S32

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 B4J0911 - Saturated Paste Metals

Blank (B4J0911-BLK1)

Prepared: 10/09/2024 Analyzed: 10/10/2024

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 (B4J0911-DUP1)

Source: E410219-12

Prepared: 10/09/2024 Analyzed: 10/10/2024

Calcium PPM	136	10.0	mg/L		147			7.73	50
SAR	ND	0.0100	SAR		1.81				200
Magnesium PPM	25.0	10.0	mg/L		27.0			8.04	50
Sodium PPM	92.8	10.0	"		90.9			2.06	50

Batch B4J0912 - Saturated Paste Metals

Blank (B4J0912-BLK1)

Prepared: 10/09/2024 Analyzed: 10/10/2024

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 (B4J0912-DUP1)

Source: E410192-01

Prepared: 10/09/2024 Analyzed: 10/10/2024

Calcium PPM	216	10.0	mg/L		184			15.9	50
SAR	ND	0.0100	SAR		0.427				200
Magnesium PPM	75.6	10.0	mg/L		63.8			17.0	50
Sodium PPM	28.8	10.0	"		26.4			8.95	50

Batch B4J0919 - DTPA Sorbitol Preparation

Blank (B4J0919-BLK1)

Prepared: 10/09/2024 Analyzed: 10/10/2024

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 Project: FEO Spicer Annex S32

Classical Chemistry Parameters - Quality Control
Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4J0919 - DTPA Sorbitol Preparation										
Blank (B4J0919-BLK1)					Prepared: 10/09/2024 Analyzed: 10/10/2024					
Boron	ND	0.100	mg/L							
Duplicate (B4J0919-DUP1)		Source: E410196-01			Prepared: 10/09/2024 Analyzed: 10/10/2024					
Boron	0.602	0.101	mg/L		0.614			2.00	50	
Batch B4J0920 - DTPA Sorbitol Preparation										
Blank (B4J0920-BLK1)					Prepared: 10/09/2024 Analyzed: 10/10/2024					
Boron	ND	0.100	mg/L							
Duplicate (B4J0920-DUP1)		Source: E410219-05			Prepared: 10/09/2024 Analyzed: 10/10/2024					
Boron	0.104	0.0990	mg/L		0.118			12.5	50	
Batch B4J0921 - DTPA Sorbitol Preparation										
Blank (B4J0921-BLK1)					Prepared: 10/09/2024 Analyzed: 10/10/2024					
Boron	ND	0.100	mg/L							
Duplicate (B4J0921-DUP1)		Source: E410219-25			Prepared: 10/09/2024 Analyzed: 10/10/2024					
Boron	ND	0.0989	mg/L		ND				50	
Batch B4J1408 - Saturated Paste Metals										
Blank (B4J1408-BLK1)					Prepared: 10/14/2024 Analyzed: 10/15/2024					
SAR	ND	0.0100	SAR							
Calcium PPM	ND	10.0	mg/L							
Magnesium PPM	ND	10.0	"							
Sodium PPM	ND	10.0	"							

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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 B4J1408 - Saturated Paste Metals

Duplicate (B4J1408-DUP1)	Source: E410356-01			Prepared: 10/14/2024 Analyzed: 10/15/2024						
SAR	ND	0.0100	SAR		3.99					200
Calcium PPM	42.8	10.0	mg/L		44.7			4.41		50
Magnesium PPM	13.2	10.0	"		13.9			4.80		50
Sodium PPM	120	10.0	"		119			0.418		50

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Jordan A. Bynon, Project Manager



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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 B4J0928 - Saturated Paste pH/EC

Blank (B4J0928-BLK1)

Prepared: 10/09/2024 Analyzed: 10/10/2024

Specific Conductance (EC) ND 0.00500 mmhos/cm

Duplicate (B4J0928-DUP1)

Source: E410219-12

Prepared: 10/09/2024 Analyzed: 10/10/2024

pH 8.01 pH Units 8.01 0.00 25

Specific Conductance (EC) 1.42 0.00500 mmhos/cm 1.45 2.11 25

Batch B4J0929 - Saturated Paste pH/EC

Blank (B4J0929-BLK1)

Prepared: 10/09/2024 Analyzed: 10/10/2024

Specific Conductance (EC) ND 0.00500 mmhos/cm

Duplicate (B4J0929-DUP1)

Source: E410192-01

Prepared: 10/09/2024 Analyzed: 10/10/2024

pH 7.76 pH Units 8.07 3.92 25

Specific Conductance (EC) 3.15 0.00500 mmhos/cm 2.77 13.0 25

Batch B4J1411 - Saturated Paste pH/EC

Blank (B4J1411-BLK1)

Prepared: 10/14/2024 Analyzed: 10/15/2024

Specific Conductance (EC) ND 0.00500 mmhos/cm

Duplicate (B4J1411-DUP1)

Source: E410356-01

Prepared: 10/14/2024 Analyzed: 10/15/2024

pH 8.18 pH Units 8.16 0.245 25

Specific Conductance (EC) 1.09 0.00500 mmhos/cm 1.28 16.1 25

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Jordan A. Bynon, Project Manager

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112 High St.
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Joel Mason
Project Number: FEO.CO.0701.29
Project: FEO Spicer Annex S32

Total Metals 7196A - Quality Control
GEL Laboratories, LLC

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2689011 - SW846 3060A										
BLANK (1205888658-BLK)					Prepared: 10/25/2024 Analyzed: 10/29/2024					
Hexavalent Chromium	ND	0.342	mg/kg				-			U
LCS (1205888659-BKS)					Prepared: 10/25/2024 Analyzed: 10/29/2024					
Hexavalent Chromium	3.98	0.396	mg/kg	3.96		101	80-120			
DUP (1205888660 D)					Source: 689250001 Prepared: 10/25/2024 Analyzed: 10/29/2024					
Hexavalent Chromium	ND	0.295	mg/kg dry		<0.118		0-50	N/A	50	U
MS (1205888661 S)					Source: 689250001 Prepared: 10/25/2024 Analyzed: 10/29/2024					
Hexavalent Chromium	2.51	0.256	mg/kg dry	2.56	<0.102	98.4	75-125			
DUP (1205888662 D)					Source: 689250002 Prepared: 10/25/2024 Analyzed: 10/29/2024					
Hexavalent Chromium	ND	0.429	mg/kg dry		<0.172		0-50	N/A	50	U
MS (1205888663 S)					Source: 689250002 Prepared: 10/25/2024 Analyzed: 10/29/2024					
Hexavalent Chromium	3.77	0.387	mg/kg dry	3.87	<0.155	97.3	75-125			
ILCS (1205888664-ILCS)					Prepared: 10/25/2024 Analyzed: 10/29/2024					
Hexavalent Chromium	6.99	0.336	mg/kg	6.75		104	80-120			

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Total Metals 7196 A - Quality Control
GEL Laboratories, LLC

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2689009 - SW846 3060A										
BLANK (1205888651-BLK)					Prepared: 10/25/2024 Analyzed: 10/29/2024					
Hexavalent Chromium	ND	0.377	mg/kg				-			U
LCS (1205888652-BKS)					Prepared: 10/25/2024 Analyzed: 10/29/2024					
Hexavalent Chromium	3.86	0.388	mg/kg	3.88		99.5	80-120			
DUP (1205888653 D)					Prepared: 10/25/2024 Analyzed: 10/29/2024					
Source: E410219-04										
Hexavalent Chromium	0.649	0.388	mg/kg dry		0.601		0-50	7.75	50	
MS (1205888654 S)					Prepared: 10/25/2024 Analyzed: 10/29/2024					
Source: E410219-04										
Hexavalent Chromium	1.40	0.330	mg/kg dry	3.30	0.601	24.3	75-125			
DUP (1205888655 D)					Prepared: 10/25/2024 Analyzed: 10/29/2024					
Source: E410219-05										
Hexavalent Chromium	ND	0.322	mg/kg dry		<0.129		0-50	N/A	50	U
MS (1205888656 S)					Prepared: 10/25/2024 Analyzed: 10/29/2024					
Source: E410219-05										
Hexavalent Chromium	3.84	0.424	mg/kg dry	4.24	<0.169	89.8	75-125			
ILCS (1205888657-ILCS)					Prepared: 10/25/2024 Analyzed: 10/29/2024					
Hexavalent Chromium	7.99	0.388	mg/kg	7.92		101	80-120			

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Total Metals 7196A - Quality Control
GEL Laboratories, LLC

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2688992 - SW846 3060A										
BLANK (1205888594-BLK)					Prepared: 10/24/2024 Analyzed: 10/25/2024					
Hexavalent Chromium	ND	0.301	mg/kg				-			U
LCS (1205888595-BKS)					Prepared: 10/24/2024 Analyzed: 10/25/2024					
Hexavalent Chromium	3.05	0.308	mg/kg	3.08		99.1	80-120			
DUP (1205888596 D)					Prepared: 10/24/2024 Analyzed: 10/25/2024					
Source: 688752001										
Hexavalent Chromium	ND	0.428	mg/kg dry		<0.171		0-50	N/A	50	U
MS (1205888597 S)					Prepared: 10/24/2024 Analyzed: 10/25/2024					
Source: 688752001										
Hexavalent Chromium	2.45	0.467	mg/kg dry	4.67	<0.187	52.3	75-125			
DUP (1205888598 D)					Prepared: 10/24/2024 Analyzed: 10/25/2024					
Source: 688752002										
Hexavalent Chromium	ND	0.485	mg/kg dry		<0.194		0-50	N/A	50	U
MS (1205888599 S)					Prepared: 10/24/2024 Analyzed: 10/25/2024					
Source: 688752002										
Hexavalent Chromium	1.95	0.261	mg/kg dry	2.61	<0.104	72.5	75-125			
ILCS (1205888600-ILCS)					Prepared: 10/24/2024 Analyzed: 10/25/2024					
Hexavalent Chromium	7.65	0.377	mg/kg	7.80		98	80-120			

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Project: FEO Spicer Annex S32

Notes and Definitions

Ua Sample is Non-Detect.

U Result not detected above the detection limit

QR-02 The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.

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

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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