



September 04, 2024

Environmental Works

Adam Kubat

AP@environmentalworks.com

Briggsdale CO 80204

Project Name - Taproot - Pintail Release

Project Number - 223274

Attached are your analytical results for Taproot - Pintail Release received by Origins Laboratory, Inc. August 23, 2024. This project is associated with Origins project number Y408652-01.

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, Inc.
303.433.1322
o-squad@oelabinc.com



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

Environmental Works

AP@environmentalworks.com

Briggsdale CO 80204

Adam Kubat

Project Number: 223274

Project: Taproot - Pintail Release

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B S3-3	Y408652-01	Soil	August 22, 2024 10:05	08/23/2024 10:50
BS3-10	Y408652-02	Soil	August 22, 2024 10:10	08/23/2024 10:50
BS4-5	Y408652-03	Soil	August 22, 2024 10:50	08/23/2024 10:50
BS4-10	Y408652-04	Soil	August 22, 2024 10:40	08/23/2024 10:50
BS5-3	Y408652-05	Soil	August 22, 2024 11:10	08/23/2024 10:50
BS5-8	Y408652-06	Soil	August 22, 2024 11:05	08/23/2024 10:50
BS2-4	Y408652-07	Soil	August 22, 2024 11:20	08/23/2024 10:50
BS2-8	Y408652-08	Soil	August 22, 2024 11:30	08/23/2024 10:50
SB11-5	Y408652-09	Soil	August 22, 2024 11:50	08/23/2024 10:50
SB11-9	Y408652-10	Soil	August 22, 2024 11:55	08/23/2024 10:50
SB12-5	Y408652-11	Soil	August 22, 2024 11:55	08/23/2024 10:50
SB12-9	Y408652-12	Soil	August 22, 2024 12:00	08/23/2024 10:50
SB13-5	Y408652-13	Soil	August 22, 2024 12:10	08/23/2024 10:50
SB13-9	Y408652-14	Soil	August 22, 2024 12:15	08/23/2024 10:50

Origins Laboratory



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Jen Pellegrini, Project Manager

Environmental Works

AP@environmentalworks.com

Briggsdale CO 80204

Adam Kubat

Project Number: 223274

Project: Taproot - Pintail Release

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB14-9	Y408652-15	Soil	August 22, 2024 12:45	08/23/2024 10:50
SB14-5	Y408652-16	Soil	August 22, 2024 12:50	08/23/2024 10:50
SB15-5	Y408652-17	Soil	August 22, 2024 12:50	08/23/2024 10:50
SB15-9	Y408652-18	Soil	August 22, 2024 12:55	08/23/2024 10:50
SB16-5	Y408652-19	Soil	August 22, 2024 13:00	08/23/2024 10:50
SB16-9	Y408652-20	Soil	August 22, 2024 13:05	08/23/2024 10:50

Origins Laboratory



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Jen Pellegrini, Project Manager

Environmental Works

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Briggsdale CO 80204

Adam Kubat

Project Number: 223274

Project: Taproot - Pintail Release

Environmental Works, Inc.

44085402
652

page 1 of 2

Client: Environmental Works, Inc. Project Manager: Adam Kubat

Address: 2770 Jackson Ln Project Name: Taproot - Pintail Release

Briggsdale, CO 80204 Project Number: 223274-01-A5

Telephone Number: 507-475-2825 Samples Collected By: AKK

Email Address: AKK@EnvironmentalWorks.com

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative			Matrix			Analysis			Sample Instructions	
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summa Canister #	Other	Arsenic		Boron
B53-3	8/27	10:05	2 X					X						1
B53-10		10:10	2 X					X						2
B54-5		10:50	2 X					X						3
B54-10		10:40	2 X					X						4
B55-3		11:10	2 X					X						5
B55-8		11:05	2 X					X						6
B52-4		11:20	2 X					X						7
B52-8		11:20	2 X					X						8
B51-5		11:50	2 X					X						9
B51-9		11:55	2 X					X						10
Relinquished By: <u>AKK</u>	Date: <u>8/23</u>	Time: <u>10:56</u>	Received By: <u>AKK</u>	Date: <u>8/27</u>	Time: <u>10:50</u>	Turnaround Time:								
				Some Day: <input type="checkbox"/>		24 Hr: <input type="checkbox"/>								
				48 Hr: <input type="checkbox"/>		72 Hr: <input type="checkbox"/>								
				Standard: <input checked="" type="checkbox"/>										

Temp received: 1.5 Date Result Needed

Origins Laboratory

Jen Pellegrini

Jen Pellegrini, Project Manager

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Environmental Works

AP@environmentalworks.com

Briggsdale CO 80204

Adam Kubat

Project Number: 223274

Project: Taproot - Pintail Release

Environmental Works, Inc.

page 2 of 2

Client: Environmental Works, Inc.
 Address: 2770 Industrial Ln
Brownfield, CO 80220
 Project Manager: Adam Kubat
 Project Name: Taproot - Pintail Release
 Project Number: 223274.01-A15
 Telephone Number: 303-475-2825
 Email Address: AKub@environmentalworks.com
 Sampler Collected By: AKK

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative			Matrix	Analysis				Sample Instructions						
				Unpreserved	HCl	HNO ₃		Other	Groundwater	Soil	Air Summa Container #		Other	Arsenic	Boron	EC	SAR	pH
SB12-5	8/22	1155	2	X			X										1	
SB12-9	8/22	1200	2	X			X										2	
SB13-5	8/22	1210	2	X			X										3	
SB13-9	8/22	1215	2	X			X										4	
SB14-9	8/22	1245	2	X			X										5	
SB14-5	8/22	1250	2	X			X										6	
SB15-5	8/22	1250	2	X			X										7	
SB15-9	8/22	1255	2	X			X										8	
SB16-9	8/22	1300	2	X			X										9	
SB16-9	8/22	1305	2	X			X										10	
Relinquished By: <u>AKK</u>	Date: <u>8/23</u>	Time: <u>10:56</u>	Received By: <u>AKK</u>	Date: <u>8/23/24</u>	Time: <u>0550</u>	Turnaround Time:												
Relinquished By:		Date:	Time:	Received By:	Date:	Time:	Some Day	48 Hr	72 Hr									

Temp Received: 1.5 Date Results Needed

Origins Laboratory

Jen Pellegrini

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Jen Pellegrini, Project Manager

Environmental Works

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Briggsdale CO 80204

Adam Kubat

Project Number: 223274

Project: Taproot - Pintail Release

Origins Laboratory

Sample Receipt Checklist

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

Origins Work Order: y408052

Client: Environmental Works

Client Project ID: Taproot

Checklist Completed by: EDD

Shipped Via: HD

Date/time completed: 6/23/24

Airbill #: _____

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

Cooler Number/Temperature: 1 / 1.5 °C / °C / °C (Describe) °C

Thermometer ID: T005

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

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

Reviewed by (Project Manager) EDD

Date/Time Reviewed 8/27/24

Origins Laboratory

Jen Pellegrini

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Jen Pellegrini, Project Manager

Environmental Works

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Briggsdale CO 80204

Adam Kubat

Project Number: 223274

Project: Taproot - Pintail Release

B S3-3

8/22/2024 10:05:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory Y408652-01 (Soil)

Boron (DTPA Sorbitol)

Boron	1.55	0.101	mg/L	1	B4H2621	KRM	08/26/2024	08/27/2024
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Metals by Saturated Paste by EPA 6010

Calcium	1.48	0.499	meq/L	10	[CALC]	KRM	08/27/2024	08/28/2024
Magnesium	ND	0.823	"	"	"	KRM	"	"
Sodium	2.43	0.435	"	"	"	KRM	"	"

pH in Soil by 9045D

pH	8.39		pH Units	1	B4H2730	ACC	08/27/2024	08/28/2024
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SAR by 20B Saturated Paste

SAR	2.53	0.0100	SAR	1	B4H2711	KRM	08/27/2024	08/28/2024
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.443	0.00500	mmhos/cm	1	B4H2730	ACC	08/27/2024	08/29/2024
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Table 915 metals by EPA 6020B

Arsenic	4.53	0.276	mg/kg	10	B4H2345	JAH	08/23/2024	08/27/2024
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Origins Laboratory



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Briggsdale CO 80204

Adam Kubat

Project Number: 223274

Project: Taproot - Pintail Release

BS3-10

8/22/2024 10:10:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory

Y408652-02 (Soil)

Boron (DTPA Sorbitol)

Boron	0.118	0.0992	mg/L	1	B4H2621	KRM	08/26/2024	08/27/2024
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Metals by Saturated Paste by EPA 6010

Calcium	4.30	0.499	meq/L	10	[CALC]	KRM	08/27/2024	08/28/2024
Magnesium	1.19	0.823	"	"	"	KRM	"	"
Sodium	3.93	0.435	"	"	"	KRM	"	"

pH in Soil by 9045D

pH	7.94		pH Units	1	B4H2730	ACC	08/27/2024	08/28/2024
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SAR by 20B Saturated Paste

SAR	2.37	0.0100	SAR	1	B4H2711	KRM	08/27/2024	08/28/2024
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	1.17	0.00500	mmhos/cm	1	B4H2730	ACC	08/27/2024	08/29/2024
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Table 915 metals by EPA 6020B

Arsenic	4.30	0.249	mg/kg	10	B4H2345	JAH	08/23/2024	08/27/2024
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Origins Laboratory



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Adam Kubat

Project Number: 223274

Project: Taproot - Pintail Release

BS4-5

8/22/2024 10:50:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory Y408652-03 (Soil)

Boron (DTPA Sorbitol)

Boron	0.700	0.0993	mg/L	1	B4H2621	KRM	08/26/2024	08/27/2024
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Metals by Saturated Paste by EPA 6010

Calcium	1.22	0.499	meq/L	10	[CALC]	KRM	08/27/2024	08/28/2024
Magnesium	ND	0.823	"	"	"	KRM	"	"
Sodium	2.85	0.435	"	"	"	KRM	"	"

pH in Soil by 9045D

pH	8.34		pH Units	1	B4H2730	ACC	08/27/2024	08/28/2024
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SAR by 20B Saturated Paste

SAR	3.23	0.0100	SAR	1	B4H2711	KRM	08/27/2024	08/28/2024
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.546	0.00500	mmhos/cm	1	B4H2730	ACC	08/27/2024	08/29/2024
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Table 915 metals by EPA 6020B

Arsenic	5.42	0.288	mg/kg	10	B4H2345	JAH	08/23/2024	08/27/2024
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Origins Laboratory



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Briggsdale CO 80204

Adam Kubat

Project Number: 223274

Project: Taproot - Pintail Release

BS4-10

8/22/2024 10:40:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory

Y408652-04 (Soil)

Boron (DTPA Sorbitol)

Boron	0.128	0.101	mg/L	1	B4H2621	KRM	08/26/2024	08/27/2024
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Metals by Saturated Paste by EPA 6010

Calcium	2.57	0.499	meq/L	10	[CALC]	KRM	08/27/2024	08/28/2024
Magnesium	ND	0.823	"	"	"	KRM	"	"
Sodium	4.66	0.435	"	"	"	KRM	"	"

pH in Soil by 9045D

pH	7.97		pH Units	1	B4H2730	ACC	08/27/2024	08/28/2024
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SAR by 20B Saturated Paste

SAR	3.62	0.0100	SAR	1	B4H2711	KRM	08/27/2024	08/28/2024
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	1.04	0.00500	mmhos/cm	1	B4H2730	ACC	08/27/2024	08/29/2024
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Table 915 metals by EPA 6020B

Arsenic	4.75	0.277	mg/kg	10	B4H2345	JAH	08/23/2024	08/27/2024
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Adam Kubat

Project Number: 223274

Project: Taproot - Pintail Release

BS5-3

8/22/2024 11:10:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory Y408652-05 (Soil)

Boron (DTPA Sorbitol)

Boron	0.504	0.0991	mg/L	1	B4H2621	KRM	08/26/2024	08/27/2024
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Metals by Saturated Paste by EPA 6010

Calcium	2.34	0.499	meq/L	10	[CALC]	KRM	08/27/2024	08/28/2024
Magnesium	ND	0.823	"	"	"	KRM	"	"
Sodium	2.86	0.435	"	"	"	KRM	"	"

pH in Soil by 9045D

pH	8.23		pH Units	1	B4H2730	ACC	08/27/2024	08/28/2024
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SAR by 20B Saturated Paste

SAR	2.29	0.0100	SAR	1	B4H2711	KRM	08/27/2024	08/28/2024
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.739	0.00500	mmhos/cm	1	B4H2730	ACC	08/27/2024	08/29/2024
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Table 915 metals by EPA 6020B

Arsenic	5.13	0.250	mg/kg	10	B4H2345	JAH	08/23/2024	08/27/2024
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Adam Kubat

Project Number: 223274

Project: Taproot - Pintail Release

BS5-8

8/22/2024 11:05:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory

Y408652-06 (Soil)

Boron (DTPA Sorbitol)

Boron	1.00	0.0990	mg/L	1	B4H2621	KRM	08/26/2024	08/27/2024
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Metals by Saturated Paste by EPA 6010

Calcium	3.46	0.499	meq/L	10	[CALC]	KRM	08/27/2024	08/28/2024
Magnesium	1.00	0.823	"	"	"	KRM	"	"
Sodium	4.54	0.435	"	"	"	KRM	"	"

pH in Soil by 9045D

pH	8.19		pH Units	1	B4H2730	ACC	08/27/2024	08/28/2024
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SAR by 20B Saturated Paste

SAR	3.04	0.0100	SAR	1	B4H2711	KRM	08/27/2024	08/28/2024
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	1.12	0.00500	mmhos/cm	1	B4H2730	ACC	08/27/2024	08/29/2024
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Table 915 metals by EPA 6020B

Arsenic	5.86	0.249	mg/kg	10	B4H2345	JAH	08/23/2024	08/27/2024
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Jen Pellegrini, Project Manager

Environmental Works

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Briggsdale CO 80204

Adam Kubat

Project Number: 223274

Project: Taproot - Pintail Release

BS2-4

8/22/2024 11:20:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory Y408652-07 (Soil)

Boron (DTPA Sorbitol)

Boron	0.687	0.100	mg/L	1	B4H2621	KRM	08/26/2024	08/27/2024
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Metals by Saturated Paste by EPA 6010

Calcium	1.99	0.499	meq/L	10	[CALC]	KRM	08/27/2024	08/28/2024
Magnesium	ND	0.823	"	"	"	KRM	"	"
Sodium	3.30	0.435	"	"	"	KRM	"	"

pH in Soil by 9045D

pH	8.29		pH Units	1	B4H2730	ACC	08/27/2024	08/28/2024
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SAR by 20B Saturated Paste

SAR	2.87	0.0100	SAR	1	B4H2711	KRM	08/27/2024	08/28/2024
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.729	0.00500	mmhos/cm	1	B4H2730	ACC	08/27/2024	08/29/2024
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Table 915 metals by EPA 6020B

Arsenic	4.63	0.255	mg/kg	10	B4H2345	JAH	08/23/2024	08/27/2024
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AP@environmentalworks.com

Briggsdale CO 80204

Adam Kubat

Project Number: 223274

Project: Taproot - Pintail Release

BS2-8

8/22/2024 11:30:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory Y408652-08 (Soil)

Boron (DTPA Sorbitol)

Boron	1.15	0.100	mg/L	1	B4H2621	KRM	08/26/2024	08/27/2024
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Metals by Saturated Paste by EPA 6010

Calcium	1.56	0.499	meq/L	10	[CALC]	KRM	08/27/2024	08/28/2024
Magnesium	ND	0.823	"	"	"	KRM	"	"
Sodium	3.54	0.435	"	"	"	KRM	"	"

pH in Soil by 9045D

pH	8.23		pH Units	1	B4H2731	ACC	08/27/2024	08/28/2024
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SAR by 20B Saturated Paste

SAR	3.54	0.0100	SAR	1	B4H2712	KRM	08/27/2024	08/28/2024
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.703	0.00500	mmhos/cm	1	B4H2731	ACC	08/27/2024	08/29/2024
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Table 915 metals by EPA 6020B

Arsenic	5.00	0.286	mg/kg	10	B4H2345	JAH	08/23/2024	08/27/2024
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Origins Laboratory



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Environmental Works

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Briggsdale CO 80204

Adam Kubat

Project Number: 223274

Project: Taproot - Pintail Release

SB11-5

8/22/2024 11:50:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory

Y408652-09 (Soil)

Boron (DTPA Sorbitol)

Boron	1.74	0.100	mg/L	1	B4H2621	KRM	08/26/2024	08/27/2024
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Metals by Saturated Paste by EPA 6010

Calcium	14.3	0.499	meq/L	10	[CALC]	KRM	08/27/2024	08/28/2024
Magnesium	3.76	0.823	"	"	"	KRM	"	"
Sodium	8.71	0.435	"	"	"	KRM	"	"

pH in Soil by 9045D

pH	7.88		pH Units	1	B4H2731	ACC	08/27/2024	08/28/2024
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SAR by 20B Saturated Paste

SAR	2.90	0.0100	SAR	1	B4H2712	KRM	08/27/2024	08/28/2024
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	2.84	0.00500	mmhos/cm	1	B4H2731	ACC	08/27/2024	08/29/2024
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Table 915 metals by EPA 6020B

Arsenic	4.33	0.244	mg/kg	10	B4H2345	JAH	08/23/2024	08/27/2024
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Jen Pellegrini, Project Manager

Environmental Works

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Briggsdale CO 80204

Adam Kubat

Project Number: 223274

Project: Taproot - Pintail Release

SB11-9

8/22/2024 11:55:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory

Y408652-10 (Soil)

Boron (DTPA Sorbitol)

Boron	0.160	0.0990	mg/L	1	B4H2621	KRM	08/26/2024	08/27/2024
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Metals by Saturated Paste by EPA 6010

Calcium	11.8	0.499	meq/L	10	[CALC]	KRM	08/27/2024	08/28/2024
Magnesium	3.24	0.823	"	"	"	KRM	"	"
Sodium	7.93	0.435	"	"	"	KRM	"	"

pH in Soil by 9045D

pH	7.85		pH Units	1	B4H2731	ACC	08/27/2024	08/28/2024
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SAR by 20B Saturated Paste

SAR	2.89	0.0100	SAR	1	B4H2712	KRM	08/27/2024	08/28/2024
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	2.58	0.00500	mmhos/cm	1	B4H2731	ACC	08/27/2024	08/29/2024
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Table 915 metals by EPA 6020B

Arsenic	4.98	0.274	mg/kg	10	B4H2345	JAH	08/23/2024	08/27/2024
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Environmental Works

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Project Number: 223274

Project: Taproot - Pintail Release

SB12-5

8/22/2024 11:55:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory Y408652-11 (Soil)

Boron (DTPA Sorbitol)

Boron	1.35	0.0999	mg/L	1	B4H2621	KRM	08/26/2024	08/27/2024
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Metals by Saturated Paste by EPA 6010

Calcium	10.9	0.499	meq/L	10	[CALC]	KRM	08/27/2024	08/28/2024
Magnesium	3.07	0.823	"	"	"	KRM	"	"
Sodium	7.94	0.435	"	"	"	KRM	"	"

pH in Soil by 9045D

pH	8.08		pH Units	1	B4H2731	ACC	08/27/2024	08/28/2024
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SAR by 20B Saturated Paste

SAR	3.00	0.0100	SAR	1	B4H2712	KRM	08/27/2024	08/28/2024
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	2.36	0.00500	mmhos/cm	1	B4H2731	ACC	08/27/2024	08/29/2024
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Table 915 metals by EPA 6020B

Arsenic	4.20	0.255	mg/kg	10	B4H2345	JAH	08/23/2024	08/27/2024
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Project Number: 223274

Project: Taproot - Pintail Release

SB12-9

8/22/2024 12:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory

Y408652-12 (Soil)

Boron (DTPA Sorbitol)

Boron	0.745	0.0995	mg/L	1	B4H2621	KRM	08/26/2024	08/27/2024
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Metals by Saturated Paste by EPA 6010

Calcium	9.73	0.499	meq/L	10	[CALC]	KRM	08/27/2024	08/28/2024
Magnesium	2.66	0.823	"	"	"	KRM	"	"
Sodium	7.94	0.435	"	"	"	KRM	"	"

pH in Soil by 9045D

pH	7.96		pH Units	1	B4H2731	ACC	08/27/2024	08/28/2024
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SAR by 20B Saturated Paste

SAR	3.19	0.0100	SAR	1	B4H2712	KRM	08/27/2024	08/28/2024
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	2.27	0.00500	mmhos/cm	1	B4H2731	ACC	08/27/2024	08/29/2024
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Table 915 metals by EPA 6020B

Arsenic	4.39	0.272	mg/kg	10	B4H2345	JAH	08/23/2024	08/27/2024
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Project Number: 223274

Project: Taproot - Pintail Release

SB13-5

8/22/2024 12:10:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory Y408652-13 (Soil)

Boron (DTPA Sorbitol)

Boron	1.50	0.0990	mg/L	1	B4H2621	KRM	08/26/2024	08/27/2024
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Metals by Saturated Paste by EPA 6010

Calcium	12.4	0.499	meq/L	10	[CALC]	KRM	08/27/2024	08/28/2024
Magnesium	3.12	0.823	"	"	"	KRM	"	"
Sodium	11.9	0.435	"	"	"	KRM	"	"

pH in Soil by 9045D

pH	8.04		pH Units	1	B4H2731	ACC	08/27/2024	08/28/2024
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SAR by 20B Saturated Paste

SAR	4.27	0.0100	SAR	1	B4H2712	KRM	08/27/2024	08/28/2024
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	3.01	0.00500	mmhos/cm	1	B4H2731	ACC	08/27/2024	08/29/2024
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Table 915 metals by EPA 6020B

Arsenic	4.86	0.284	mg/kg	10	B4H2345	JAH	08/23/2024	08/27/2024
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Adam Kubat

Project Number: 223274

Project: Taproot - Pintail Release

SB13-9

8/22/2024 12:15:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory

Y408652-14 (Soil)

Boron (DTPA Sorbitol)

Boron	0.676	0.100	mg/L	1	B4H2621	KRM	08/26/2024	08/27/2024
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Metals by Saturated Paste by EPA 6010

Calcium	10.5	0.499	meq/L	10	[CALC]	KRM	08/27/2024	08/28/2024
Magnesium	2.66	0.823	"	"	"	KRM	"	"
Sodium	7.80	0.435	"	"	"	KRM	"	"

pH in Soil by 9045D

pH	8.04		pH Units	1	B4H2731	ACC	08/27/2024	08/28/2024
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SAR by 20B Saturated Paste

SAR	3.04	0.0100	SAR	1	B4H2712	KRM	08/27/2024	08/28/2024
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	2.33	0.00500	mmhos/cm	1	B4H2731	ACC	08/27/2024	08/29/2024
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Table 915 metals by EPA 6020B

Arsenic	4.14	0.267	mg/kg	10	B4H2345	JAH	08/23/2024	08/27/2024
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Project Number: 223274

Project: Taproot - Pintail Release

SB14-9

8/22/2024 12:45:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory

Y408652-15 (Soil)

Boron (DTPA Sorbitol)

Boron	1.57	0.0986	mg/L	1	B4H2621	KRM	08/26/2024	08/27/2024
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Metals by Saturated Paste by EPA 6010

Calcium	19.0	0.499	meq/L	10	[CALC]	KRM	08/27/2024	08/28/2024
Magnesium	4.93	0.823	"	"	"	KRM	"	"
Sodium	8.36	0.435	"	"	"	KRM	"	"

pH in Soil by 9045D

pH	8.00		pH Units	1	B4H2731	ACC	08/27/2024	08/28/2024
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SAR by 20B Saturated Paste

SAR	2.42	0.0100	SAR	1	B4H2712	KRM	08/27/2024	08/28/2024
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	3.84	0.00500	mmhos/cm	1	B4H2731	ACC	08/27/2024	08/29/2024
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Table 915 metals by EPA 6020B

Arsenic	4.15	0.288	mg/kg	10	B4H2345	JAH	08/23/2024	08/27/2024
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Origins Laboratory



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Adam Kubat

Project Number: 223274

Project: Taproot - Pintail Release

SB14-5

8/22/2024 12:50:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory

Y408652-16 (Soil)

Boron (DTPA Sorbitol)

Boron	2.03	0.0993	mg/L	1	B4H2621	KRM	08/26/2024	08/27/2024
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Metals by Saturated Paste by EPA 6010

Calcium	23.9	0.499	meq/L	10	[CALC]	KRM	08/27/2024	08/28/2024
Magnesium	6.12	0.823	"	"	"	KRM	"	"
Sodium	9.46	0.435	"	"	"	KRM	"	"

pH in Soil by 9045D

pH	7.96		pH Units	1	B4H2731	ACC	08/27/2024	08/28/2024
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SAR by 20B Saturated Paste

SAR	2.44	0.0100	SAR	1	B4H2712	KRM	08/27/2024	08/28/2024
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	4.56	0.00500	mmhos/cm	1	B4H2731	ACC	08/27/2024	08/29/2024
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Table 915 metals by EPA 6020B

Arsenic	3.74	0.259	mg/kg	10	B4H2345	JAH	08/23/2024	08/27/2024
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Project Number: 223274

Project: Taproot - Pintail Release

SB15-5

8/22/2024 12:50:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory

Y408652-17 (Soil)

Boron (DTPA Sorbitol)

Boron	2.77	0.100	mg/L	1	B4H2621	KRM	08/26/2024	08/27/2024
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Metals by Saturated Paste by EPA 6010

Calcium	11.3	0.499	meq/L	10	[CALC]	KRM	08/27/2024	08/28/2024
Magnesium	2.93	0.823	"	"	"	KRM	"	"
Sodium	7.63	0.435	"	"	"	KRM	"	"

pH in Soil by 9045D

pH	8.12		pH Units	1	B4H2731	ACC	08/27/2024	08/28/2024
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SAR by 20B Saturated Paste

SAR	2.86	0.0100	SAR	1	B4H2712	KRM	08/27/2024	08/28/2024
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	2.60	0.00500	mmhos/cm	1	B4H2731	ACC	08/27/2024	08/29/2024
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Table 915 metals by EPA 6020B

Arsenic	5.09	0.282	mg/kg	10	B4H2345	JAH	08/23/2024	08/27/2024
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Adam Kubat

Project Number: 223274

Project: Taproot - Pintail Release

SB15-9

8/22/2024 12:55:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory

Y408652-18 (Soil)

Boron (DTPA Sorbitol)

Boron	2.20	0.0983	mg/L	1	B4H2621	KRM	08/26/2024	08/27/2024
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Metals by Saturated Paste by EPA 6010

Calcium	13.2	0.499	meq/L	10	[CALC]	KRM	08/27/2024	08/28/2024
Magnesium	3.41	0.823	"	"	"	KRM	"	"
Sodium	8.01	0.435	"	"	"	KRM	"	"

pH in Soil by 9045D

pH	7.93		pH Units	1	B4H2731	ACC	08/27/2024	08/28/2024
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SAR by 20B Saturated Paste

SAR	2.78	0.0100	SAR	1	B4H2712	KRM	08/27/2024	08/28/2024
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	2.94	0.00500	mmhos/cm	1	B4H2731	ACC	08/27/2024	08/29/2024
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Table 915 metals by EPA 6020B

Arsenic	4.30	0.277	mg/kg	10	B4H2345	JAH	08/23/2024	08/27/2024
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Project Number: 223274

Project: Taproot - Pintail Release

SB16-5

8/22/2024 1:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory Y408652-19 (Soil)

Boron (DTPA Sorbitol)

Boron	2.10	0.0996	mg/L	1	B4H2621	KRM	08/26/2024	08/27/2024
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Metals by Saturated Paste by EPA 6010

Calcium	10.2	0.499	meq/L	10	[CALC]	KRM	08/27/2024	08/28/2024
Magnesium	2.96	0.823	"	"	"	KRM	"	"
Sodium	7.19	0.435	"	"	"	KRM	"	"

pH in Soil by 9045D

pH	7.99		pH Units	1	B4H2731	ACC	08/27/2024	08/28/2024
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SAR by 20B Saturated Paste

SAR	2.80	0.0100	SAR	1	B4H2712	KRM	08/27/2024	08/28/2024
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	2.23	0.00500	mmhos/cm	1	B4H2731	ACC	08/27/2024	08/29/2024
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Table 915 metals by EPA 6020B

Arsenic	5.76	0.263	mg/kg	10	B4H2345	JAH	08/23/2024	08/27/2024
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Briggsdale CO 80204

Adam Kubat

Project Number: 223274

Project: Taproot - Pintail Release

SB16-9

8/22/2024 1:05:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory

Y408652-20 (Soil)

Boron (DTPA Sorbitol)

Boron	2.80	0.101	mg/L	1	B4H2621	KRM	08/26/2024	08/27/2024
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Metals by Saturated Paste by EPA 6010

Calcium	11.1	0.499	meq/L	10	[CALC]	KRM	08/27/2024	08/28/2024
Magnesium	2.81	0.823	"	"	"	KRM	"	"
Sodium	7.08	0.435	"	"	"	KRM	"	"

pH in Soil by 9045D

pH	7.93		pH Units	1	B4H2731	ACC	08/27/2024	08/28/2024
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SAR by 20B Saturated Paste

SAR	2.69	0.0100	SAR	1	B4H2712	KRM	08/27/2024	08/28/2024
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	2.25	0.00500	mmhos/cm	1	B4H2731	ACC	08/27/2024	08/29/2024
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Table 915 metals by EPA 6020B

Arsenic	4.38	0.246	mg/kg	10	B4H2345	JAH	08/23/2024	08/27/2024
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Environmental Works

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Briggsdale CO 80204

Adam Kubat

Project Number: 223274

Project: Taproot - Pintail Release

Metals by EPA 6000/7000 Series Methods - Quality Control

Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4H2345 - EPA 3050B

Blank (B4H2345-BLK1)

Prepared: 08/23/2024 Analyzed: 08/27/2024

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

LCS (B4H2345-BS1)

Prepared: 08/23/2024 Analyzed: 08/27/2024

Arsenic	5.38	0.290	mg/kg	5.00		108	80-120
Barium	526	10.0	"	500		105	80-120
Cadmium	5.48	0.100	"	5.00		110	80-120
Copper	55.5	10.0	"	50.0		111	80-120
Lead	5.30	1.00	"	5.00		106	80-120
Nickel	5.61	1.00	"	5.00		112	80-120
Selenium	5.13	0.260	"	5.00		103	80-120
Silver	5.33	0.100	"	5.00		107	80-120
Zinc	54.0	37.0	"	50.0		108	80-120

Matrix Spike (B4H2345-MS1)

Source: Y408652-07

Prepared: 08/23/2024 Analyzed: 08/27/2024

Arsenic	9.99	0.273	mg/kg	4.70	4.63	114	75-125
Barium	764	9.40	"	470	238	112	75-125
Cadmium	5.41	0.0940	"	4.70	0.141	112	75-125
Copper	65.8	9.40	"	47.0	14.1	110	75-125
Lead	21.2	0.940	"	4.70	16.9	91.1	75-125

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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 B4H2345 - EPA 3050B

Matrix Spike (B4H2345-MS1)		Source: Y408652-07			Prepared: 08/23/2024 Analyzed: 08/27/2024					
Nickel	14.0	0.940	mg/kg	4.70	8.99	107	75-125			
Selenium	5.15	0.244	"	4.70	0.0907	108	75-125			
Silver	5.15	0.0940	"	4.70	0.0202	109	75-125			
Zinc	102	34.8	"	47.0	52.1	107	75-125			
Matrix Spike Dup (B4H2345-MSD1)		Source: Y408652-07			Prepared: 08/23/2024 Analyzed: 08/27/2024					
Arsenic	8.83	0.254	mg/kg	4.38	4.63	96.0	75-125	12.3	20	
Barium	674	8.76	"	438	238	99.6	75-125	12.5	20	
Cadmium	4.89	0.0876	"	4.38	0.141	108	75-125	10.1	20	
Copper	58.2	8.76	"	43.8	14.1	101	75-125	12.2	20	
Lead	19.1	0.876	"	4.38	16.9	48.6	75-125	10.7	20	QM-07
Nickel	13.3	0.876	"	4.38	8.99	97.9	75-125	5.42	20	
Selenium	4.57	0.228	"	4.38	0.0907	102	75-125	12.0	20	
Silver	4.60	0.0876	"	4.38	0.0202	105	75-125	11.4	20	
Zinc	94.3	32.4	"	43.8	52.1	96.4	75-125	8.17	20	

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Project: Taproot - Pintail Release

Classical Chemistry Parameters - Quality Control

Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4H2621 - DTPA Sorbitol Preparation

Blank (B4H2621-BLK1)

Prepared: 08/26/2024 Analyzed: 08/27/2024

Boron	ND	0.100	mg/L							U
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Duplicate (B4H2621-DUP1)

Source: Y408652-01

Prepared: 08/26/2024 Analyzed: 08/27/2024

Boron	1.43	0.101	mg/L		1.55			8.43	50	
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Batch B4H2711 - Saturated Paste Metals

Blank (B4H2711-BLK1)

Prepared: 08/27/2024 Analyzed: 08/28/2024

Calcium PPM	ND	10.0	mg/L							U
SAR	ND	0.0100	SAR							U
Magnesium PPM	ND	10.0	mg/L							U
Sodium PPM	ND	10.0	"							U

Duplicate (B4H2711-DUP1)

Source: Y408643-01

Prepared: 08/27/2024 Analyzed: 08/28/2024

SAR	ND	0.0100	SAR		3.70				200	U
Calcium PPM	460	10.0	mg/L		460			0.0478	50	
Magnesium PPM	142	10.0	"		142			0.274	50	
Sodium PPM	358	10.0	"		354			1.05	50	

Batch B4H2712 - Saturated Paste Metals

Blank (B4H2712-BLK1)

Prepared: 08/27/2024 Analyzed: 08/28/2024

Calcium PPM	ND	10.0	mg/L							U
SAR	ND	0.0100	SAR							U
Magnesium PPM	ND	10.0	mg/L							U
Sodium PPM	ND	10.0	"							U

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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 B4H2712 - Saturated Paste Metals

Duplicate (B4H2712-DUP1)		Source: Y408652-08			Prepared: 08/27/2024 Analyzed: 08/28/2024					
Calcium PPM	34.0	10.0	mg/L		31.2			8.58	50	
SAR	ND	0.0100	SAR		3.54				200	U
Magnesium PPM	5.90	10.0	mg/L		5.39			9.03	50	U
Sodium PPM	83.9	10.0	"		81.4			3.05	50	

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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 B4H2730 - Saturated Paste pH/EC

Blank (B4H2730-BLK1)

Prepared: 08/27/2024 Analyzed: 08/29/2024

Specific Conductance (EC)	ND	0.00500	mmhos/cm							U
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Duplicate (B4H2730-DUP1)

Source: Y408643-01

Prepared: 08/27/2024 Analyzed: 08/29/2024

Specific Conductance (EC)	4.10	0.00500	mmhos/cm		4.05			1.31	25	
pH	7.87		pH Units		7.90			0.380	25	

Batch B4H2731 - Saturated Paste pH/EC

Blank (B4H2731-BLK1)

Prepared: 08/27/2024 Analyzed: 08/29/2024

Specific Conductance (EC)	ND	0.00500	mmhos/cm							U
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Duplicate (B4H2731-DUP1)

Source: Y408652-08

Prepared: 08/27/2024 Analyzed: 08/28/2024

pH	8.25		pH Units		8.23			0.243	25	
Specific Conductance (EC)	0.740	0.00500	mmhos/cm		0.703			5.19	25	

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Notes and Definitions

U Sample is Non-Detect.

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 at a wet weight basis.

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