



Environmental Works

December 16, 2024

Adam Kubat

AP@environmentalworks.com

Briggsdale CO 80204

Project Name - Taproot - Pintail

Project Number - 223274-C1

Attached are your analytical results for Taproot - Pintail received by Origins Laboratory December 04, 2024. This project is associated with Origins project number E4L0128-01.

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



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CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SW10D-7	E4L0128-01	Soil	December 4, 2024 11:20	12/04/2024 14:40
FS6-11	E4L0128-02	Soil	December 4, 2024 11:30	12/04/2024 14:40

Origins Laboratory

A handwritten signature in black ink, appearing to read "J. Bynon".

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ORIGINS LABORATORY

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Project Number: 223274-C1

Project: Taproot - Pintail

Origins Laboratory

Sample Receipt Checklist

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

Origins Work Order: E4L0123

Client: Env. Works

Client Project ID: Taproot

Checklist Completed by: 2H01 KAR

Shipped Via: HO

Date/time completed: 12/4/24

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

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

Cooler Number/Temperature: 1 10.3 °C / _____ °C / _____ °C (Describe) _____ °C

Thermometer ID: 7007

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 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 checked="" 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 checked="" 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 checked="" type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input checked="" 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 checked="" 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 checked="" type="checkbox"/>	<input checked="" 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): 2H01

12/4/24
Date/Time Reviewed

Origins Laboratory

J. Bynon

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Adam Kubat

Project Number: 223274-C1

Project: Taproot - Pintail

SW10D-7

12/4/2024 11:20:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E4L0128-01 (Soil)

Boron (DTPA Sorbitol)

Boron	2.14	0.101	mg/L	1	B4L0514	12/05/2024	12/06/2024
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Metals by Saturated Paste by EPA 6010

Calcium	17.3	0.499	meq/L	10	[CALC]	12/05/2024	12/10/2024
Magnesium	4.47	0.823	"	"	"	"	"
Sodium	9.43	0.435	"	"	"	"	"

pH in Soil by 9045D

pH	7.80		pH Units	1	B4L0521	12/05/2024	12/10/2024
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SAR by 20B Saturated Paste

SAR	2.86	0.0100	SAR	1	B4L0505	12/05/2024	12/10/2024
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	2.97	0.00500	mmhos/cm	1	B4L0521	12/05/2024	12/10/2024
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FS6-11

12/4/2024 11:30:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E4L0128-02 (Soil)

Boron (DTPA Sorbitol)

Boron	0.395	0.0988	mg/L	1	B4L0514	12/05/2024	12/06/2024
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Metals by Saturated Paste by EPA 6010

Calcium	20.7	0.499	meq/L	10	[CALC]	12/05/2024	12/10/2024
Magnesium	5.34	0.823	"	"	"	"	"
Sodium	9.61	0.435	"	"	"	"	"

pH in Soil by 9045D

pH	7.67		pH Units	1	B4L0521	12/05/2024	12/10/2024
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SAR by 20B Saturated Paste

SAR	2.66	0.0100	SAR	1	B4L0505	12/05/2024	12/10/2024
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	4.02	0.00500	mmhos/cm	1	B4L0521	12/05/2024	12/10/2024
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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 B4L0505 - Saturated Paste Metals

Blank (B4L0505-BLK1)

Prepared: 12/05/2024 Analyzed: 12/10/2024

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

Duplicate (B4L0505-DUP1)

Source: E4L0057-01

Prepared: 12/05/2024 Analyzed: 12/10/2024

SAR	ND	0.0100	SAR	1.74		200
Calcium PPM	34.4	10.0	mg/L	35.3	2.67	50
Magnesium PPM	23.2	10.0	"	23.4	1.20	50
Sodium PPM	54.1	10.0	"	54.3	0.295	50

Batch B4L0514 - DTPA Sorbitol Preparation

Blank (B4L0514-BLK1)

Prepared: 12/05/2024 Analyzed: 12/06/2024

Boron	ND	0.100	mg/L
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Duplicate (B4L0514-DUP1)

Source: E4L0049-01

Prepared: 12/05/2024 Analyzed: 12/06/2024

Boron	0.169	0.0989	mg/L	0.168	0.296	50
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Jordan A. Bynon For Jen Pellegrini, 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
Batch B4L0521 - Saturated Paste pH/EC										
Blank (B4L0521-BLK1)					Prepared: 12/05/2024 Analyzed: 12/10/2024					
Specific Conductance (EC)	ND	0.00500	mmhos/cm							
Duplicate (B4L0521-DUP1)					Source: E4L0057-01 Prepared: 12/05/2024 Analyzed: 12/10/2024					
Specific Conductance (EC)	0.673	0.00500	mmhos/cm		0.671			0.298	25	
pH	8.02		pH Units		8.00			0.250	25	

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Notes and Definitions

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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