



August 15, 2024

Tasman Geosciences

Sam Vogt

6855 West 119th Avenue

Broomfield CO 80020

**Project Name - Civitas - State Bierstadt 4-65 35-34 Project Number - [none]  
2AH**

Attached are your analytical results for Civitas - State Bierstadt 4-65 35-34 2AH received by Origins Laboratory, Inc. June 28, 2024. This project is associated with Origins project number Y406855-01.

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

Tasman Geosciences  
 6855 West 119th Avenue  
 Broomfield CO 80020

Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BG07@3"	Y406855-01	Soil	June 28, 2024 11:15	06/28/2024 17:00
BG07@5'	Y406855-02	Soil	June 28, 2024 11:20	06/28/2024 17:00
BG07@6'	Y406855-03	Soil	June 28, 2024 11:25	06/28/2024 17:00
BG06@3"	Y406855-04	Soil	June 28, 2024 11:00	06/28/2024 17:00
BG06@5'	Y406855-05	Soil	June 28, 2024 11:05	06/28/2024 17:00
BG06@6'	Y406855-06	Soil	June 28, 2024 11:10	06/28/2024 17:00
BG08@3"	Y406855-07	Soil	June 28, 2024 11:30	06/28/2024 17:00
BG08@5'	Y406855-08	Soil	June 28, 2024 11:35	06/28/2024 17:00
BG08@6'	Y406855-09	Soil	June 28, 2024 11:40	06/28/2024 17:00
BG09@3"	Y406855-10	Soil	June 28, 2024 11:45	06/28/2024 17:00
BG09@5'	Y406855-11	Soil	June 28, 2024 11:50	06/28/2024 17:00
BG09@6'	Y406855-12	Soil	June 28, 2024 11:55	06/28/2024 17:00
BG10@3"	Y406855-13	Soil	June 28, 2024 12:00	06/28/2024 17:00
BG10@5'	Y406855-14	Soil	June 28, 2024 12:05	06/28/2024 17:00

Origins Laboratory, Inc.



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 Broomfield CO 80020

Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BG10@6'	Y406855-15	Soil	June 28, 2024 12:10	06/28/2024 17:00
SEP-B01@6'	Y406855-16	Soil	June 28, 2024 14:30	06/28/2024 17:00
SEP-B02@6'	Y406855-17	Soil	June 28, 2024 14:32	06/28/2024 17:00
SEP-B03@6'	Y406855-18	Soil	June 28, 2024 14:34	06/28/2024 17:00
SEP-N01@5'	Y406855-19	Soil	June 28, 2024 14:36	06/28/2024 17:00
SEP-N02@5'	Y406855-20	Soil	June 28, 2024 14:38	06/28/2024 17:00
SEP-N03@5'	Y406855-21	Soil	June 28, 2024 14:40	06/28/2024 17:00
SEP-S01@5'	Y406855-22	Soil	June 28, 2024 14:42	06/28/2024 17:00
SEP-S02@5'	Y406855-23	Soil	June 28, 2024 14:44	06/28/2024 17:00
SEP-S03@5'	Y406855-24	Soil	June 28, 2024 14:46	06/28/2024 17:00
SEP-E01@5'	Y406855-25	Soil	June 28, 2024 14:48	06/28/2024 17:00
SEP-W01@5'	Y406855-26	Soil	June 28, 2024 14:50	06/28/2024 17:00

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Sam Vogt  
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 Project: Civitas - State Bierstadt 4-65 35-34 2AH

## ORIGINS LABORATORY LLC

**440035**

Client: Civitas/Tasman  
 Address: 6855 W 119th Ave  
Broomfield CO 80020  
 Telephone Number: 616-405-4078  
 Email Address: svogt@tasman-geoscience.com; cmayqueda@tasman-geoscience.com

Project Manager: Sam Vogt/Civitas/Mayqueda  
 Project Name: State Bierstadt 4-65 35-34 2AH  
 Project Number: 440035  
 Collected By: Angela Kyrlo, Sean Clute  
 Invoice/Billing Info: FE# 1672CD Billing, Cdr. 8311 512

S=Soil | SO=Solid | O=Oil | A=Air | G=Gas | UNP=Unpres | HCL=Hydrochloric | HNO3=Nitric | H2SO4=Sulfuric | NaOH=Sodium Hydroxide

Sample ID	Date Sampled	Time Sampled	# of Containers	Matrix Preservative	Analysis					Comments	
					PH	EC	SAR	Boron	Metals		
B5d7e3"	6/28/24	11:15	2	5	UNP	X	X	X	X	X	
B5d7e5"		11:20									
B5d7e6"		11:25									
B5d7e3"		11:00									
B5d7e5"		11:05									
B5d7e6"		11:10									
B5d7e3"		11:30									
B5d7e5"		11:35									
B5d7e6"		11:40									
B5d7e3"		11:45									

Relinquished By: Angela Kyrlo Date: 6/28/24 Time: 17:00  
 Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 Received By: [Signature] Date: 6/28/24 Time: 17:00  
 Received By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Temp Received - 33 Received On Ice?  Yes  No

Turnaround Time  
 SAME DAY  24 Hr  
 48 Hr  72 Hr  
 Standard

Origins Laboratory, Inc.

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 Broomfield CO 80020

Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

# ORIGINS

LABORATORY LLC

Client: Civitas Tasman

Address: 6855 W 119th Ave

Broomfield, CO 80020

Telephone Number: 610-405-9078

Email Address: Shog@tasman-geo.com | enquiries@tasman-geo.com

Project Manager: Sam Vogt / Costin Miqueo

Project Name: State Bierstadt 4-65 35-34 2AH

Project Number:

Collected By: Angela Wyrlo / Sean Clarke

Invoice/Billing Info: A/E/C: 9167200 Billing Code: 3911 512

S=Soil | SO=Soil | O=Oil | A=Air | G=Gas || UNP=Unpres | HCL= Hydrochloric | HNO3=Nitric | H2SO4=Sulfuric | NaOH=Sodium Hydroxide

#	Sample ID	Date Sampled	Time Sampled	# of Containers	Matrix Preservative	Analysis						Comments
						PH	FC	SAR	Boron	Metals		
1	SEP-N0305'	6/28/24	14:40	2	UNP	X	X	X	X	X		
2	SEP-S0105'		14:42									
3	SEP-S0205'		14:44									
4	SEP-S0305'		14:46									
5	SEP-E0105'		14:48									
6	SEP-W0105'		14:50									
7												
8												
9												
10												


Relinquished By: Angela Wyrlo Date: 6/28/24 Time: 17:00

Received By: [Signature] Date: 6/28/24 Time: 17:00

Temp Received - 33 Received On Ice?  Yes  No

Turnaround Time  SAME DAY  24 Hr  48 Hr  72 Hr

Standard

Origins Laboratory, Inc.  


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 Broomfield CO 80020

Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

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

**Sample Receipt Checklist**

Origins Work Order: 4406855 Client: Tasman  
 Client Project ID: state Bierstadt

Checklist Completed by: EHO/AN Shipped Via: HD  
 Date/time completed: 6/28/24 (UPS, FedEx, Hand Delivered, Pick-up, etc.)  
 Airbill #: N/A

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


Cooler Number/Temperature: 133 °C / \_\_\_\_\_ °C / \_\_\_\_\_ °C (Describe) \_\_\_\_\_ °C

Thermometer ID: 7005

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C <sup>(1)</sup> ?	/			
Is there ice present (document if blue ice is used)	/			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)			/	
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)			/	
Were all samples received intact <sup>(1)</sup> ?	/			
Was adequate sample volume provided <sup>(1)</sup> ?	/			
Are short holding time analytes or samples with HTs due within 48 hours present <sup>(1)</sup> ?	/			
Is a chain-of-custody (COC) present and filled out completely <sup>(1)</sup> ?	/			
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	/			
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	/			
Is the COC properly relinquished by the client with date and time recorded <sup>(1)</sup> ?	/			
For volatiles in water – is there headspace (> ¼ inch bubble) present? <b>If yes, contact client and note in narrative.</b>	/			
Are samples preserved that require preservation and was it checked <sup>(1)</sup> ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity) (pH <2 for samples preserved with HNO3, HCL, H2SO4) / (pH >10 for samples preserved with Na2SO3+NaOH, ZnAc+NaOH)	/			
<b>Additional Comments (if any):</b>				

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

Reviewed by (Project Manager) EHO Date/Time Reviewed 6/28/24

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 Broomfield CO 80020

Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

BG07@3"

6/28/2024 11:15:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406855-01 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	0.800		0.0984	mg/L	1	B4G0106	07/01/2024	07/02/2024	
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**Metals by Saturated Paste by EPA 6010**

Calcium	47.0		0.499	meq/L	10	[CALC]	07/01/2024	07/02/2024	
Magnesium	10.8		0.823	"	"	"	"	"	
Sodium	13.3		0.435	"	"	"	"	"	

**pH in Soil by 9045D**

pH	8.08			pH Units	1	B4G0119	07/01/2024	07/02/2024	
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**SAR by 20B Saturated Paste**

SAR	2.48		0.0100	SAR	1	B4G0113	07/01/2024	07/02/2024	
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	6.02		0.00500	mmhos/cm	1	B4G0119	07/01/2024	07/02/2024	
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**Table 915 metals by EPA 6020B**

Arsenic	3.05		0.276	mg/kg	10	B4F2846	06/28/2024	06/29/2024	
Barium	5820		9.51	"	"	"	"	"	
Cadmium	0.245		0.0951	"	"	"	"	"	
Copper	35.6		9.51	"	"	"	"	"	

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 Project: Civitas - State Bierstadt 4-65 35-34 2AH

BG07@3"

6/28/2024 11:15:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406855-01 (Soil)**

**Table 915 metals by EPA 6020B**

Lead	9.04		0.951	mg/kg	10	B4F2846	06/28/2024	06/29/2024	
Nickel	13.3		0.951	"	"	"	"	"	"
Selenium	0.518		0.247	"	"	"	"	"	"
Silver	0.140		0.0951	"	"	"	"	"	"
Zinc	83.9		35.2	"	"	"	"	"	"

**Total Metals by 7196A**

Hexavalent Chromium	ND	0.155	0.386	mg/kg dry	1	2643804	07/26/2024	07/30/2024	U
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Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

**BG07@5'**

**6/28/2024 11:20:00AM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406855-02 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	0.129		0.100	mg/L	1	B4G0106	07/01/2024	07/02/2024	
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**Metals by Saturated Paste by EPA 6010**

Calcium	9.69		0.499	meq/L	10	[CALC]	07/01/2024	07/02/2024	
Magnesium	3.57		0.823	"	"	"	"	"	
Sodium	5.70		0.435	"	"	"	"	"	

**pH in Soil by 9045D**

pH	8.01			pH Units	1	B4G0119	07/01/2024	07/02/2024	
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**SAR by 20B Saturated Paste**

SAR	2.21		0.0100	SAR	1	B4G0113	07/01/2024	07/02/2024	
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	1.77		0.00500	mmhos/cm	1	B4G0119	07/01/2024	07/02/2024	
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**Table 915 metals by EPA 6020B**

Arsenic	1.01		0.281	mg/kg	10	B4F2846	06/28/2024	06/29/2024	
Barium	475		9.70	"	"	"	"	"	
Cadmium	ND		0.0970	"	"	"	"	"	
Copper	ND		9.70	"	"	"	"	"	

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 Project: Civitas - State Bierstadt 4-65 35-34 2AH

BG07@5'

6/28/2024 11:20:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406855-02 (Soil)**

**Table 915 metals by EPA 6020B**

Lead	6.21		0.970	mg/kg	10	B4F2846	06/28/2024	06/29/2024	
Nickel	ND		0.970	"	"	"	"	"	
Selenium	ND		0.252	"	"	"	"	"	
Silver	ND		0.0970	"	"	"	"	"	
Zinc	ND		35.9	"	"	"	"	"	

**Total Metals by 7196A**

Hexavalent Chromium	0.439	0.196	0.489	mg/kg dry	1	2643804	07/26/2024	07/30/2024	J
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Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

BG07@6'

6/28/2024 11:25:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406855-03 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	0.152		0.0998	mg/L	1	B4G0106	07/01/2024	07/02/2024	
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**Metals by Saturated Paste by EPA 6010**

Calcium	10.3		0.499	meq/L	10	[CALC]	07/01/2024	07/02/2024	
Magnesium	3.76		0.823	"	"	"	"	"	
Sodium	5.87		0.435	"	"	"	"	"	

**pH in Soil by 9045D**

pH	8.10			pH Units	1	B4G0119	07/01/2024	07/02/2024	
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**SAR by 20B Saturated Paste**

SAR	2.21		0.0100	SAR	1	B4G0113	07/01/2024	07/02/2024	
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	1.87		0.00500	mmhos/cm	1	B4G0119	07/01/2024	07/02/2024	
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**Table 915 metals by EPA 6020B**

Arsenic	2.20		0.285	mg/kg	10	B4F2846	06/28/2024	06/29/2024	
Barium	232		9.84	"	"	"	"	"	
Cadmium	ND		0.0984	"	"	"	"	"	
Copper	ND		9.84	"	"	"	"	"	

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Sam Vogt  
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 Project: Civitas - State Bierstadt 4-65 35-34 2AH

BG07@6'

6/28/2024 11:25:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406855-03 (Soil)**

**Table 915 metals by EPA 6020B**

Lead	9.35		0.984	mg/kg	10	B4F2846	06/28/2024	06/29/2024	
Nickel	1.14		0.984	"	"	"	"	"	
Selenium	ND		0.256	"	"	"	"	"	
Silver	ND		0.0984	"	"	"	"	"	
Zinc	ND		36.4	"	"	"	"	"	

**Total Metals by 7196A**

Hexavalent Chromium	ND	0.185	0.462	mg/kg dry	1	2643804	07/26/2024	07/30/2024	U
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Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

BG06@3"

6/28/2024 11:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406855-04 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	0.381		0.0998	mg/L	1	B4G0106	07/01/2024	07/02/2024	
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**Metals by Saturated Paste by EPA 6010**

Calcium	6.45		0.499	meq/L	10	[CALC]	07/01/2024	07/02/2024	
Magnesium	1.68		0.823	"	"	"	"	"	
Sodium	3.71		0.435	"	"	"	"	"	

**pH in Soil by 9045D**

pH	8.40			pH Units	1	B4G0119	07/01/2024	07/02/2024	
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**SAR by 20B Saturated Paste**

SAR	1.84		0.0100	SAR	1	B4G0113	07/01/2024	07/02/2024	
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	1.27		0.00500	mmhos/cm	1	B4G0119	07/01/2024	07/02/2024	
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**Table 915 metals by EPA 6020B**

Arsenic	2.86		0.256	mg/kg	10	B4F2846	06/28/2024	06/29/2024	
Barium	306		8.82	"	"	"	"	"	
Cadmium	0.175		0.0882	"	"	"	"	"	
Copper	173		8.82	"	"	"	"	"	

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Sam Vogt  
Project Number: [none]  
Project: Civitas - State Bierstadt 4-65 35-34 2AH

BG06@3"

6/28/2024 11:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y406855-04 (Soil)

**Table 915 metals by EPA 6020B**

Lead	8.29		0.882	mg/kg	10	B4F2846	06/28/2024	06/29/2024	
Nickel	11.7		0.882	"	"	"	"	"	"
Selenium	0.339		0.229	"	"	"	"	"	"
Silver	ND		0.0882	"	"	"	"	"	"
Zinc	73.1		32.6	"	"	"	"	"	"

**Total Metals by 7196A**

Hexavalent Chromium	0.367	0.164	0.409	mg/kg dry	1	2643804	07/26/2024	07/30/2024	J
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Origins Laboratory, Inc.

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Tasman Geosciences  
 6855 West 119th Avenue  
 Broomfield CO 80020

Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

**BG06@5'**

**6/28/2024 11:05:00AM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406855-05 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	1.13		0.0985	mg/L	1	B4G0106	07/01/2024	07/02/2024	
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**Metals by Saturated Paste by EPA 6010**

Calcium	5.43		0.499	meq/L	10	[CALC]	07/01/2024	07/02/2024	
Magnesium	2.24		0.823	"	"	"	"	"	
Sodium	4.94		0.435	"	"	"	"	"	

**pH in Soil by 9045D**

pH	8.46			pH Units	1	B4G0119	07/01/2024	07/02/2024	
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**SAR by 20B Saturated Paste**

SAR	2.52		0.0100	SAR	1	B4G0113	07/01/2024	07/02/2024	
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	1.33		0.00500	mmhos/cm	1	B4G0119	07/01/2024	07/02/2024	
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**Table 915 metals by EPA 6020B**

Arsenic	2.40		0.258	mg/kg	10	B4F2846	06/28/2024	06/29/2024	
Barium	215		8.91	"	"	"	"	"	
Cadmium	0.102		0.0891	"	"	"	"	"	
Copper	ND		8.91	"	"	"	"	"	

Origins Laboratory, Inc.



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Tasman Geosciences  
 6855 West 119th Avenue  
 Broomfield CO 80020

Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

BG06@5'

6/28/2024 11:05:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406855-05 (Soil)**

**Table 915 metals by EPA 6020B**

Lead	14.2		0.891	mg/kg	10	B4F2846	06/28/2024	06/29/2024	
Nickel	3.87		0.891	"	"	"	"	"	
Selenium	ND		0.232	"	"	"	"	"	
Silver	ND		0.0891	"	"	"	"	"	
Zinc	49.9		33.0	"	"	"	"	"	

**Total Metals by 7196A**

Hexavalent Chromium	ND	0.173	0.433	mg/kg dry	1	2643804	07/26/2024	07/30/2024	U
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 Broomfield CO 80020

Sam Vogt  
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 Project: Civitas - State Bierstadt 4-65 35-34 2AH

**BG06@6'**

**6/28/2024 11:10:00AM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406855-06 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	0.465		0.0996	mg/L	1	B4G0106	07/01/2024	07/02/2024	
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**Metals by Saturated Paste by EPA 6010**

Calcium	23.1		0.499	meq/L	10	[CALC]	07/01/2024	07/02/2024	
Magnesium	8.25		0.823	"	"	"	"	"	
Sodium	8.51		0.435	"	"	"	"	"	

**pH in Soil by 9045D**

pH	8.12			pH Units	1	B4G0119	07/01/2024	07/02/2024	
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**SAR by 20B Saturated Paste**

SAR	2.15		0.0100	SAR	1	B4G0113	07/01/2024	07/02/2024	
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	2.98		0.00500	mmhos/cm	1	B4G0119	07/01/2024	07/02/2024	
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**Table 915 metals by EPA 6020B**

Arsenic	1.04		0.262	mg/kg	10	B4F2846	06/28/2024	06/29/2024	
Barium	287		9.04	"	"	"	"	"	
Cadmium	ND		0.0904	"	"	"	"	"	
Copper	ND		9.04	"	"	"	"	"	

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 Broomfield CO 80020

Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

BG06@6'

6/28/2024 11:10:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406855-06 (Soil)**

**Table 915 metals by EPA 6020B**

Lead	7.63		0.904	mg/kg	10	B4F2846	06/28/2024	06/29/2024	
Nickel	1.14		0.904	"	"	"	"	"	"
Selenium	ND		0.235	"	"	"	"	"	"
Silver	ND		0.0904	"	"	"	"	"	"
Zinc	ND		33.5	"	"	"	"	"	"

**Total Metals by 7196A**

Hexavalent Chromium	0.297	0.175	0.437	mg/kg dry	1	2643804	07/26/2024	07/30/2024	J
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Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

BG08@3"

6/28/2024 11:30:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406855-07 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	0.393		0.100	mg/L	1	B4G0106	07/01/2024	07/02/2024	
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**Metals by Saturated Paste by EPA 6010**

Calcium	19.9		0.499	meq/L	10	[CALC]	07/01/2024	07/02/2024	
Magnesium	5.41		0.823	"	"	"	"	"	
Sodium	6.82		0.435	"	"	"	"	"	

**pH in Soil by 9045D**

pH	8.23			pH Units	1	B4G0119	07/01/2024	07/02/2024	
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**SAR by 20B Saturated Paste**

SAR	1.92		0.0100	SAR	1	B4G0113	07/01/2024	07/02/2024	
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	2.80		0.00500	mmhos/cm	1	B4G0119	07/01/2024	07/02/2024	
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**Table 915 metals by EPA 6020B**

Arsenic	1.93		0.269	mg/kg	10	B4F2846	06/28/2024	06/29/2024	
Barium	2400		9.27	"	"	"	"	"	
Cadmium	49.9		0.0927	"	"	"	"	"	
Copper	1390		9.27	"	"	"	"	"	

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 Project: Civitas - State Bierstadt 4-65 35-34 2AH

BG08@3"

6/28/2024 11:30:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
 Y406855-07 (Soil)

**Table 915 metals by EPA 6020B**

Lead	855		0.927	mg/kg	10	B4F2846	06/28/2024	06/29/2024	
Nickel	15.4		0.927	"	"	"	"	"	"
Selenium	1.87		0.241	"	"	"	"	"	"
Silver	1.53		0.0927	"	"	"	"	"	"
Zinc	5660		34.3	"	"	"	"	"	"

**Total Metals by 7196A**

Hexavalent Chromium	0.375	0.167	0.418	mg/kg dry	1	2643804	07/26/2024	07/30/2024	J
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 Project: Civitas - State Bierstadt 4-65 35-34 2AH

**BG08@5'**

**6/28/2024 11:35:00AM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406855-08 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	0.373		0.0998	mg/L	1	B4G0106	07/01/2024	07/02/2024	
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**Metals by Saturated Paste by EPA 6010**

Calcium	16.9		0.499	meq/L	10	[CALC]	07/01/2024	07/02/2024	
Magnesium	7.02		0.823	"	"	"	"	"	
Sodium	8.51		0.435	"	"	"	"	"	

**pH in Soil by 9045D**

pH	8.16			pH Units	1	B4G0119	07/01/2024	07/02/2024	
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**SAR by 20B Saturated Paste**

SAR	2.46		0.0100	SAR	1	B4G0113	07/01/2024	07/02/2024	
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	2.84		0.00500	mmhos/cm	1	B4G0119	07/01/2024	07/02/2024	
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**Table 915 metals by EPA 6020B**

Arsenic	3.81		0.265	mg/kg	10	B4F2846	06/28/2024	06/29/2024	
Barium	221		9.15	"	"	"	"	"	
Cadmium	0.292		0.0915	"	"	"	"	"	
Copper	ND		9.15	"	"	"	"	"	

Origins Laboratory, Inc.



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 6855 West 119th Avenue  
 Broomfield CO 80020

Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

BG08@5'

6/28/2024 11:35:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406855-08 (Soil)**

**Table 915 metals by EPA 6020B**

Lead	13.2		0.915	mg/kg	10	B4F2846	06/28/2024	06/29/2024	
Nickel	2.49		0.915	"	"	"	"	"	
Selenium	ND		0.238	"	"	"	"	"	
Silver	ND		0.0915	"	"	"	"	"	
Zinc	48.1		33.9	"	"	"	"	"	

**Total Metals by 7196A**

Hexavalent Chromium	ND	0.324	0.811	mg/kg dry	1	2643804	07/26/2024	07/30/2024	U
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 6855 West 119th Avenue  
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Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

**BG08@6'**

**6/28/2024 11:40:00AM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406855-09 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	0.362		0.0995	mg/L	1	B4G0106	07/01/2024	07/02/2024	
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**Metals by Saturated Paste by EPA 6010**

Calcium	21.0		0.499	meq/L	10	[CALC]	07/01/2024	07/02/2024	
Magnesium	8.60		0.823	"	"	"	"	"	
Sodium	8.87		0.435	"	"	"	"	"	

**pH in Soil by 9045D**

pH	8.26			pH Units	1	B4G0119	07/01/2024	07/02/2024	
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**SAR by 20B Saturated Paste**

SAR	2.30		0.0100	SAR	1	B4G0113	07/01/2024	07/02/2024	
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	3.13		0.00500	mmhos/cm	1	B4G0119	07/01/2024	07/02/2024	
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**Table 915 metals by EPA 6020B**

Arsenic	12.4		0.287	mg/kg	10	B4F2846	06/28/2024	06/29/2024	
Barium	1500		9.91	"	"	"	"	"	
Cadmium	0.234		0.0991	"	"	"	"	"	
Copper	15.8		9.91	"	"	"	"	"	

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Sam Vogt  
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 Project: Civitas - State Bierstadt 4-65 35-34 2AH

BG08@6'

6/28/2024 11:40:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406855-09 (Soil)**

**Table 915 metals by EPA 6020B**

Lead	11.6		0.991	mg/kg	10	B4F2846	06/28/2024	06/29/2024	
Nickel	7.88		0.991	"	"	"	"	"	"
Selenium	0.272		0.258	"	"	"	"	"	"
Silver	ND		0.0991	"	"	"	"	"	"
Zinc	66.2		36.7	"	"	"	"	"	"

**Total Metals by 7196A**

Hexavalent Chromium	ND	0.192	0.479	mg/kg dry	1	2643804	07/26/2024	07/30/2024	U
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Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

BG09@3"

6/28/2024 11:45:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406855-10 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	ND		0.101	mg/L	1	B4G0106	07/01/2024	07/02/2024	
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**Metals by Saturated Paste by EPA 6010**

Calcium	4.63		0.499	meq/L	10	[CALC]	07/01/2024	07/02/2024	
Magnesium	2.05		0.823	"	"	"	"	"	
Sodium	1.03		0.435	"	"	"	"	"	

**pH in Soil by 9045D**

pH	8.18			pH Units	1	B4G0119	07/01/2024	07/02/2024	
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**SAR by 20B Saturated Paste**

SAR	0.564		0.0100	SAR	1	B4G0113	07/01/2024	07/02/2024	
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	1.07		0.00500	mmhos/cm	1	B4G0119	07/01/2024	07/02/2024	
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**Table 915 metals by EPA 6020B**

Arsenic	1.53		0.251	mg/kg	10	B4F2846	06/28/2024	06/29/2024	
Barium	210		8.67	"	"	"	"	"	
Cadmium	ND		0.0867	"	"	"	"	"	
Copper	17.4		8.67	"	"	"	"	"	

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Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

BG09@3"

6/28/2024 11:45:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406855-10 (Soil)**

**Table 915 metals by EPA 6020B**

Lead	3.34		0.867	mg/kg	10	B4F2846	06/28/2024	06/29/2024	
Nickel	18.5		0.867	"	"	"	"	"	"
Selenium	ND		0.225	"	"	"	"	"	"
Silver	ND		0.0867	"	"	"	"	"	"
Zinc	112		32.1	"	"	"	"	"	"

**Total Metals by 7196A**

Hexavalent Chromium	ND	0.166	0.416	mg/kg dry	1	2643804	07/26/2024	07/30/2024	U
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Origins Laboratory, Inc.



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 6855 West 119th Avenue  
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Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

BG09@5'

6/28/2024 11:50:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406855-11 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	ND		0.0996	mg/L	1	B4G0106	07/01/2024	07/02/2024	
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**Metals by Saturated Paste by EPA 6010**

Calcium	0.884		0.499	meq/L	10	[CALC]	07/01/2024	07/02/2024	
Magnesium	ND		0.823	"	"	"	"	"	
Sodium	1.41		0.435	"	"	"	"	"	

**pH in Soil by 9045D**

pH	8.33			pH Units	1	B4G0119	07/01/2024	07/02/2024	
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**SAR by 20B Saturated Paste**

SAR	1.55		0.0100	SAR	1	B4G0113	07/01/2024	07/02/2024	
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	0.354		0.00500	mmhos/cm	1	B4G0119	07/01/2024	07/02/2024	
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**Table 915 metals by EPA 6020B**

Arsenic	1.44		0.249	mg/kg	10	B4F2846	06/28/2024	06/29/2024	
Barium	51.5		8.60	"	"	"	"	"	
Cadmium	ND		0.0860	"	"	"	"	"	

Origins Laboratory, Inc.



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 6855 West 119th Avenue  
 Broomfield CO 80020

Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

BG09@5'

6/28/2024 11:50:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406855-11 (Soil)**

**Table 915 metals by EPA 6020B**

Copper	ND		8.60	mg/kg	10	B4F2846	06/28/2024	06/29/2024	
Lead	4.42		0.860	"	"	"	"	"	
Nickel	3.51		0.860	"	"	"	"	"	
Selenium	ND		0.224	"	"	"	"	"	
Silver	ND		0.0860	"	"	"	"	"	
Zinc	ND		31.8	"	"	"	"	"	

**Total Metals by 7196A**

Hexavalent Chromium	0.353	0.157	0.393	mg/kg dry	1	2643804	07/26/2024	07/30/2024	J
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Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

BG09@6'

6/28/2024 11:55:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406855-12 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	ND		0.0998	mg/L	1	B4G0106	07/01/2024	07/02/2024	
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**Metals by Saturated Paste by EPA 6010**

Calcium	0.815		0.499	meq/L	10	[CALC]	07/01/2024	07/02/2024	
Magnesium	ND		0.823	"	"	"	"	"	
Sodium	2.52		0.435	"	"	"	"	"	

**pH in Soil by 9045D**

pH	8.54			pH Units	1	B4G0119	07/01/2024	07/02/2024	
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**SAR by 20B Saturated Paste**

SAR	2.99		0.0100	SAR	1	B4G0113	07/01/2024	07/02/2024	
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	0.436		0.00500	mmhos/cm	1	B4G0119	07/01/2024	07/02/2024	
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**Table 915 metals by EPA 6020B**

Arsenic	2.99		0.263	mg/kg	10	B4F2846	06/28/2024	06/29/2024	
Barium	82.4		9.06	"	"	"	"	"	
Cadmium	ND		0.0906	"	"	"	"	"	

Origins Laboratory, Inc.



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Tasman Geosciences  
 6855 West 119th Avenue  
 Broomfield CO 80020

Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

BG09@6'

6/28/2024 11:55:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406855-12 (Soil)**

**Table 915 metals by EPA 6020B**

Copper	ND		9.06	mg/kg	10	B4F2846	06/28/2024	06/29/2024	
Lead	6.15		0.906	"	"	"	"	"	
Nickel	5.22		0.906	"	"	"	"	"	
Selenium	ND		0.236	"	"	"	"	"	
Silver	ND		0.0906	"	"	"	"	"	
Zinc	ND		33.5	"	"	"	"	"	

**Total Metals by 7196A**

Hexavalent Chromium	0.427	0.169	0.424	mg/kg dry	1	2643804	07/26/2024	07/30/2024	
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 6855 West 119th Avenue  
 Broomfield CO 80020

Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

BG10@3"

6/28/2024 12:00:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406855-13 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	0.106		0.0999	mg/L	1	B4G0106	07/01/2024	07/02/2024	
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**Metals by Saturated Paste by EPA 6010**

Calcium	7.57		0.499	meq/L	10	[CALC]	07/01/2024	07/02/2024	
Magnesium	2.22		0.823	"	"	"	"	"	
Sodium	2.58		0.435	"	"	"	"	"	

**pH in Soil by 9045D**

pH	8.21			pH Units	1	B4G0119	07/01/2024	07/02/2024	
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**SAR by 20B Saturated Paste**

SAR	1.17		0.0100	SAR	1	B4G0113	07/01/2024	07/02/2024	
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	1.28		0.00500	mmhos/cm	1	B4G0119	07/01/2024	07/02/2024	
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**Table 915 metals by EPA 6020B**

Arsenic	2.37		0.273	mg/kg	10	B4F2846	06/28/2024	06/29/2024	
Barium	232		9.42	"	"	"	"	"	
Cadmium	ND		0.0942	"	"	"	"	"	
Copper	26.6		9.42	"	"	"	"	"	

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 Broomfield CO 80020

Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

BG10@3"

6/28/2024 12:00:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406855-13 (Soil)**

**Table 915 metals by EPA 6020B**

Lead	4.99		0.942	mg/kg	10	B4F2846	06/28/2024	06/29/2024	
Nickel	17.9		0.942	"	"	"	"	"	"
Selenium	0.268		0.245	"	"	"	"	"	"
Silver	ND		0.0942	"	"	"	"	"	"
Zinc	74.1		34.9	"	"	"	"	"	"

**Total Metals by 7196A**

Hexavalent Chromium	ND	0.153	0.384	mg/kg dry	1	2643804	07/26/2024	07/30/2024	U
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 6855 West 119th Avenue  
 Broomfield CO 80020

Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

BG10@5'

6/28/2024 12:05:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406855-14 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	0.204		0.0983	mg/L	1	B4G0106	07/01/2024	07/02/2024	
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**Metals by Saturated Paste by EPA 6010**

Calcium	ND		0.499	meq/L	10	[CALC]	07/01/2024	07/02/2024	
Magnesium	ND		0.823	"	"	"	"	"	
Sodium	3.11		0.435	"	"	"	"	"	

**pH in Soil by 9045D**

pH	8.66			pH Units	1	B4G0119	07/01/2024	07/02/2024	
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**SAR by 20B Saturated Paste**

SAR	5.41		0.0100	SAR	1	B4G0113	07/01/2024	07/02/2024	
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	0.406		0.00500	mmhos/cm	1	B4G0119	07/01/2024	07/02/2024	
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**Table 915 metals by EPA 6020B**

Arsenic	1.90		0.260	mg/kg	10	B4F2846	06/28/2024	06/29/2024	
Barium	325		8.95	"	"	"	"	"	
Cadmium	ND		0.0895	"	"	"	"	"	

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 Broomfield CO 80020

Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

BG10@5'

6/28/2024 12:05:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406855-14 (Soil)**

**Table 915 metals by EPA 6020B**

Copper	ND		8.95	mg/kg	10	B4F2846	06/28/2024	06/29/2024	
Lead	<b>4.83</b>		0.895	"	"	"	"	"	
Nickel	<b>3.98</b>		0.895	"	"	"	"	"	
Selenium	ND		0.233	"	"	"	"	"	
Silver	ND		0.0895	"	"	"	"	"	
Zinc	ND		33.1	"	"	"	"	"	

**Total Metals by 7196A**

Hexavalent Chromium	<b>0.351</b>	<b>0.126</b>	0.314	mg/kg dry	1	2643804	07/26/2024	07/30/2024	
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 Broomfield CO 80020

Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

**BG10@6'**

**6/28/2024 12:10:00PM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406855-15 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	0.232		0.0999	mg/L	1	B4G0106	07/01/2024	07/02/2024	
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**Metals by Saturated Paste by EPA 6010**

Calcium	ND		0.499	meq/L	10	[CALC]	07/01/2024	07/02/2024	
Magnesium	ND		0.823	"	"	"	"	"	
Sodium	3.71		0.435	"	"	"	"	"	

**pH in Soil by 9045D**

pH	8.73			pH Units	1	B4G0119	07/01/2024	07/02/2024	
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**SAR by 20B Saturated Paste**

SAR	6.09		0.0100	SAR	1	B4G0113	07/01/2024	07/02/2024	
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	0.497		0.00500	mmhos/cm	1	B4G0119	07/01/2024	07/02/2024	
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**Table 915 metals by EPA 6020B**

Arsenic	1.83		0.275	mg/kg	10	B4F2846	06/28/2024	06/29/2024	
Barium	158		9.49	"	"	"	"	"	
Cadmium	ND		0.0949	"	"	"	"	"	

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Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

BG10@6'

6/28/2024 12:10:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406855-15 (Soil)**

**Table 915 metals by EPA 6020B**

Copper	ND		9.49	mg/kg	10	B4F2846	06/28/2024	06/29/2024	
Lead	5.44		0.949	"	"	"	"	"	
Nickel	4.51		0.949	"	"	"	"	"	
Selenium	ND		0.247	"	"	"	"	"	
Silver	ND		0.0949	"	"	"	"	"	
Zinc	ND		35.1	"	"	"	"	"	

**Total Metals by 7196A**

Hexavalent Chromium	0.411	0.183	0.458	mg/kg dry	1	2643804	07/26/2024	07/30/2024	J
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Origins Laboratory, Inc.

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 6855 West 119th Avenue  
 Broomfield CO 80020

Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

SEP-B01@6'  
 6/28/2024 2:30:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406855-16 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	0.518		0.0992	mg/L	1	B4G0106	07/01/2024	07/02/2024	
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**Metals by Saturated Paste by EPA 6010**

Calcium	7.54		0.499	meq/L	10	[CALC]	07/01/2024	07/02/2024	
Magnesium	3.34		0.823	"	"	"	"	"	
Sodium	8.09		0.435	"	"	"	"	"	

**pH in Soil by 9045D**

pH	8.26			pH Units	1	B4G0119	07/01/2024	07/02/2024	
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**SAR by 20B Saturated Paste**

SAR	3.47		0.0100	SAR	1	B4G0113	07/01/2024	07/02/2024	
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	1.81		0.00500	mmhos/cm	1	B4G0119	07/01/2024	07/02/2024	
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**Table 915 metals by EPA 6020B**

Arsenic	1.19		0.283	mg/kg	10	B4F2846	06/28/2024	06/29/2024	
Barium	242		9.76	"	"	"	"	"	
Cadmium	ND		0.0976	"	"	"	"	"	
Copper	ND		9.76	"	"	"	"	"	

Origins Laboratory, Inc.



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 6855 West 119th Avenue  
 Broomfield CO 80020

Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

SEP-B01@6'  
 6/28/2024 2:30:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406855-16 (Soil)**

**Table 915 metals by EPA 6020B**

Lead	10.2		0.976	mg/kg	10	B4F2846	06/28/2024	06/29/2024	
Nickel	2.83		0.976	"	"	"	"	"	
Selenium	ND		0.254	"	"	"	"	"	
Silver	ND		0.0976	"	"	"	"	"	
Zinc	ND		36.1	"	"	"	"	"	

**Total Metals by 7196A**

Hexavalent Chromium	0.400	0.178	0.445	mg/kg dry	1	2643804	07/26/2024	07/30/2024	J
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Origins Laboratory, Inc.  


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 6855 West 119th Avenue  
 Broomfield CO 80020

Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

SEP-B02@6'  
 6/28/2024 2:32:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406855-17 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	0.403		0.100	mg/L	1	B4G0106	07/01/2024	07/02/2024	
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**Metals by Saturated Paste by EPA 6010**

Calcium	5.52		0.499	meq/L	10	[CALC]	07/01/2024	07/02/2024	
Magnesium	2.28		0.823	"	"	"	"	"	
Sodium	6.69		0.435	"	"	"	"	"	

**pH in Soil by 9045D**

pH	8.29			pH Units	1	B4G0119	07/01/2024	07/02/2024	
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**SAR by 20B Saturated Paste**

SAR	3.39		0.0100	SAR	1	B4G0113	07/01/2024	07/02/2024	
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	1.44		0.00500	mmhos/cm	1	B4G0119	07/01/2024	07/02/2024	
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**Table 915 metals by EPA 6020B**

Arsenic	0.697		0.286	mg/kg	10	B4F2846	06/28/2024	06/29/2024	
Barium	145		9.86	"	"	"	"	"	
Cadmium	ND		0.0986	"	"	"	"	"	
Copper	ND		9.86	"	"	"	"	"	

Origins Laboratory, Inc.



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 Broomfield CO 80020

Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

SEP-B02@6'  
 6/28/2024 2:32:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406855-17 (Soil)**

**Table 915 metals by EPA 6020B**

Lead	10.7		0.986	mg/kg	10	B4F2846	06/28/2024	06/29/2024	
Nickel	2.85		0.986	"	"	"	"	"	"
Selenium	ND		0.256	"	"	"	"	"	"
Silver	ND		0.0986	"	"	"	"	"	"
Zinc	ND		36.5	"	"	"	"	"	"

**Total Metals by 7196A**

Hexavalent Chromium	0.426	0.169	0.423	mg/kg dry	1	2643804	07/26/2024	07/30/2024	
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Origins Laboratory, Inc.

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 6855 West 119th Avenue  
 Broomfield CO 80020

Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

SEP-B03@6'  
 6/28/2024 2:34:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406855-18 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	0.466		0.0993	mg/L	1	B4G0106	07/01/2024	07/02/2024	
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**Metals by Saturated Paste by EPA 6010**

Calcium	11.5		0.499	meq/L	10	[CALC]	07/01/2024	07/02/2024	
Magnesium	4.73		0.823	"	"	"	"	"	
Sodium	9.27		0.435	"	"	"	"	"	

**pH in Soil by 9045D**

pH	8.20			pH Units	1	B4G0119	07/01/2024	07/02/2024	
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**SAR by 20B Saturated Paste**

SAR	3.26		0.0100	SAR	1	B4G0113	07/01/2024	07/02/2024	
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	2.23		0.00500	mmhos/cm	1	B4G0119	07/01/2024	07/02/2024	
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**Table 915 metals by EPA 6020B**

Arsenic	0.947		0.265	mg/kg	10	B4F2846	06/28/2024	06/29/2024	
Barium	277		9.14	"	"	"	"	"	
Cadmium	ND		0.0914	"	"	"	"	"	
Copper	ND		9.14	"	"	"	"	"	

Origins Laboratory, Inc.



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 6855 West 119th Avenue  
 Broomfield CO 80020

Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

SEP-B03@6'  
 6/28/2024 2:34:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406855-18 (Soil)**

**Table 915 metals by EPA 6020B**

Lead	10.8		0.914	mg/kg	10	B4F2846	06/28/2024	06/29/2024	
Nickel	3.19		0.914	"	"	"	"	"	"
Selenium	ND		0.238	"	"	"	"	"	"
Silver	ND		0.0914	"	"	"	"	"	"
Zinc	ND		33.8	"	"	"	"	"	"

**Total Metals by 7196A**

Hexavalent Chromium	0.470	0.210	0.524	mg/kg dry	1	2643804	07/26/2024	07/30/2024	J
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Origins Laboratory, Inc.

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 6855 West 119th Avenue  
 Broomfield CO 80020

Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

SEP-N01@5'  
 6/28/2024 2:36:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406855-19 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	0.794		0.0994	mg/L	1	B4G0106	07/01/2024	07/02/2024	
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**Metals by Saturated Paste by EPA 6010**

Calcium	9.83		0.499	meq/L	10	[CALC]	07/01/2024	07/02/2024	
Magnesium	4.32		0.823	"	"	"	"	"	
Sodium	9.77		0.435	"	"	"	"	"	

**pH in Soil by 9045D**

pH	8.22			pH Units	1	B4G0119	07/01/2024	07/02/2024	
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**SAR by 20B Saturated Paste**

SAR	3.67		0.0100	SAR	1	B4G0113	07/01/2024	07/02/2024	
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	2.21		0.00500	mmhos/cm	1	B4G0119	07/01/2024	07/02/2024	
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**Table 915 metals by EPA 6020B**

Arsenic	1.55		0.258	mg/kg	10	B4F2846	06/28/2024	06/29/2024	
Barium	463		8.90	"	"	"	"	"	
Cadmium	ND		0.0890	"	"	"	"	"	
Copper	ND		8.90	"	"	"	"	"	

Origins Laboratory, Inc.

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Tasman Geosciences  
 6855 West 119th Avenue  
 Broomfield CO 80020

Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

SEP-N01@5'  
 6/28/2024 2:36:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406855-19 (Soil)**

**Table 915 metals by EPA 6020B**

Lead	13.3		0.890	mg/kg	10	B4F2846	06/28/2024	06/29/2024	
Nickel	2.56		0.890	"	"	"	"	"	"
Selenium	ND		0.231	"	"	"	"	"	"
Silver	ND		0.0890	"	"	"	"	"	"
Zinc	33.2		32.9	"	"	"	"	"	"

**Total Metals by 7196A**

Hexavalent Chromium	0.498	0.198	0.494	mg/kg dry	1	2643806	07/26/2024	07/30/2024	
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Tasman Geosciences  
 6855 West 119th Avenue  
 Broomfield CO 80020

Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

SEP-N02@5'  
 6/28/2024 2:38:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406855-20 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	1.25		0.100	mg/L	1	B4G0106	07/01/2024	07/02/2024	
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**Metals by Saturated Paste by EPA 6010**

Calcium	10.5		0.499	meq/L	10	[CALC]	07/01/2024	07/02/2024	
Magnesium	4.44		0.823	"	"	"	"	"	
Sodium	9.47		0.435	"	"	"	"	"	

**pH in Soil by 9045D**

pH	8.26			pH Units	1	B4G0119	07/01/2024	07/02/2024	
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**SAR by 20B Saturated Paste**

SAR	3.47		0.0100	SAR	1	B4G0113	07/01/2024	07/02/2024	
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	2.29		0.00500	mmhos/cm	1	B4G0119	07/01/2024	07/02/2024	
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**Table 915 metals by EPA 6020B**

Arsenic	2.46		0.288	mg/kg	10	B4F2846	06/28/2024	06/29/2024	
Barium	900		9.94	"	"	"	"	"	
Cadmium	0.104		0.0994	"	"	"	"	"	
Copper	ND		9.94	"	"	"	"	"	

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Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

SEP-N02@5'  
 6/28/2024 2:38:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406855-20 (Soil)**

**Table 915 metals by EPA 6020B**

Lead	15.9		0.994	mg/kg	10	B4F2846	06/28/2024	06/29/2024	
Nickel	5.56		0.994	"	"	"	"	"	"
Selenium	ND		0.258	"	"	"	"	"	"
Silver	ND		0.0994	"	"	"	"	"	"
Zinc	50.9		36.8	"	"	"	"	"	"

**Total Metals by 7196A**

Hexavalent Chromium	0.579	0.189	0.472	mg/kg dry	1	2643806	07/26/2024	07/30/2024	
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 6855 West 119th Avenue  
 Broomfield CO 80020

Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

SEP-N03@5'  
 6/28/2024 2:40:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406855-21 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	0.856		0.0988	mg/L	1	B4G0107	07/01/2024	07/02/2024	
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**Metals by Saturated Paste by EPA 6010**

Calcium	483		4.99	meq/L	100	[CALC]	07/01/2024	07/03/2024	
Magnesium	157		8.23	"	"	"	"	"	
Sodium	59.4		4.35	"	"	"	"	"	

**pH in Soil by 9045D**

pH	8.35			pH Units	1	B4G0120	07/01/2024	07/03/2024	
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**SAR by 20B Saturated Paste**

SAR	3.32		0.0100	SAR	1	B4G0114	07/01/2024	07/03/2024	
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	2.19		0.00500	mmhos/cm	1	B4G0120	07/01/2024	07/03/2024	
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**Table 915 metals by EPA 6020B**

Arsenic	1.92		0.264	mg/kg	10	B4F2845	06/28/2024	06/29/2024	
Barium	380		9.11	"	"	"	"	"	
Cadmium	0.0957		0.0911	"	"	"	"	"	
Copper	ND		9.11	"	"	"	"	"	

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 6855 West 119th Avenue  
 Broomfield CO 80020

Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

SEP-N03@5'  
 6/28/2024 2:40:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406855-21 (Soil)**

**Table 915 metals by EPA 6020B**

Lead	16.0		0.911	mg/kg	10	B4F2845	06/28/2024	06/29/2024	
Nickel	4.13		0.911	"	"	"	"	"	
Selenium	ND		0.237	"	"	"	"	"	
Silver	ND		0.0911	"	"	"	"	"	
Zinc	41.1		33.7	"	"	"	"	"	

**Total Metals by 7196A**

Hexavalent Chromium	0.485	0.216	0.541	mg/kg dry	1	2643806	07/26/2024	07/30/2024	J
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 Broomfield CO 80020

Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

SEP-S01@5'  
 6/28/2024 2:42:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406855-22 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	1.64		0.100	mg/L	1	B4G0107	07/01/2024	07/02/2024	
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**Metals by Saturated Paste by EPA 6010**

Calcium	473		4.99	meq/L	100	[CALC]	07/01/2024	07/03/2024	
Magnesium	165		8.23	"	"	"	"	"	
Sodium	64.4		4.35	"	"	"	"	"	

**pH in Soil by 9045D**

pH	8.47			pH Units	1	B4G0120	07/01/2024	07/03/2024	
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**SAR by 20B Saturated Paste**

SAR	3.60		0.0100	SAR	1	B4G0114	07/01/2024	07/03/2024	
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	1.45		0.00500	mmhos/cm	1	B4G0120	07/01/2024	07/03/2024	
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**Table 915 metals by EPA 6020B**

Arsenic	2.29		0.250	mg/kg	10	B4F2845	06/28/2024	06/29/2024	
Barium	760		8.63	"	"	"	"	"	
Cadmium	0.132		0.0863	"	"	"	"	"	
Copper	9.49		8.63	"	"	"	"	"	

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 Project Number: [none]  
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SEP-S01@5'  
 6/28/2024 2:42:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406855-22 (Soil)**

**Table 915 metals by EPA 6020B**

Lead	16.6		0.863	mg/kg	10	B4F2845	06/28/2024	06/29/2024	
Nickel	5.56		0.863	"	"	"	"	"	"
Selenium	ND		0.224	"	"	"	"	"	"
Silver	ND		0.0863	"	"	"	"	"	"
Zinc	53.1		31.9	"	"	"	"	"	"

**Total Metals by 7196A**

Hexavalent Chromium	0.413	0.164	0.410	mg/kg dry	1	2643806	07/26/2024	07/30/2024	
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 Broomfield CO 80020

Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

SEP-S02@5'  
 6/28/2024 2:44:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406855-23 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	1.42		0.0996	mg/L	1	B4G0107	07/01/2024	07/02/2024	
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**Metals by Saturated Paste by EPA 6010**

Calcium	458		4.99	meq/L	100	[CALC]	07/01/2024	07/03/2024	
Magnesium	156		8.23	"	"	"	"	"	
Sodium	56.1		4.35	"	"	"	"	"	

**pH in Soil by 9045D**

pH	8.63			pH Units	1	B4G0120	07/01/2024	07/03/2024	
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**SAR by 20B Saturated Paste**

SAR	3.20		0.0100	SAR	1	B4G0114	07/01/2024	07/03/2024	
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	0.789		0.00500	mmhos/cm	1	B4G0120	07/01/2024	07/03/2024	
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**Table 915 metals by EPA 6020B**

Arsenic	1.99		0.276	mg/kg	10	B4F2845	06/28/2024	06/29/2024	
Barium	612		9.51	"	"	"	"	"	
Cadmium	ND		0.0951	"	"	"	"	"	
Copper	ND		9.51	"	"	"	"	"	

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 6855 West 119th Avenue  
 Broomfield CO 80020

Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

SEP-S02@5'  
 6/28/2024 2:44:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406855-23 (Soil)**

**Table 915 metals by EPA 6020B**

Lead	14.8		0.951	mg/kg	10	B4F2845	06/28/2024	06/29/2024	
Nickel	4.43		0.951	"	"	"	"	"	
Selenium	ND		0.247	"	"	"	"	"	
Silver	ND		0.0951	"	"	"	"	"	
Zinc	47.1		35.2	"	"	"	"	"	

**Total Metals by 7196A**

Hexavalent Chromium	0.455	0.181	0.452	mg/kg dry	1	2643806	07/26/2024	07/30/2024	
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 6855 West 119th Avenue  
 Broomfield CO 80020

Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

SEP-S03@5'  
 6/28/2024 2:46:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406855-24 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	1.39		0.0989	mg/L	1	B4G0107	07/01/2024	07/02/2024	
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**Metals by Saturated Paste by EPA 6010**

Calcium	448		4.99	meq/L	100	[CALC]	07/01/2024	07/03/2024	
Magnesium	156		8.23	"	"	"	"	"	
Sodium	53.6		4.35	"	"	"	"	"	

**pH in Soil by 9045D**

pH	8.66			pH Units	1	B4G0120	07/01/2024	07/03/2024	
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**SAR by 20B Saturated Paste**

SAR	3.08		0.0100	SAR	1	B4G0114	07/01/2024	07/03/2024	
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	0.737		0.00500	mmhos/cm	1	B4G0120	07/01/2024	07/03/2024	
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**Table 915 metals by EPA 6020B**

Arsenic	1.45		0.254	mg/kg	10	B4F2845	06/28/2024	06/29/2024	
Barium	1160		8.75	"	"	"	"	"	
Cadmium	ND		0.0875	"	"	"	"	"	
Copper	ND		8.75	"	"	"	"	"	

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 6855 West 119th Avenue  
 Broomfield CO 80020

Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

SEP-S03@5'  
 6/28/2024 2:46:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406855-24 (Soil)**

**Table 915 metals by EPA 6020B**

Lead	10.4		0.875	mg/kg	10	B4F2845	06/28/2024	06/29/2024	
Nickel	3.10		0.875	"	"	"	"	"	
Selenium	ND		0.228	"	"	"	"	"	
Silver	ND		0.0875	"	"	"	"	"	
Zinc	32.5		32.4	"	"	"	"	"	

**Total Metals by 7196A**

Hexavalent Chromium	0.635	0.252	0.630	mg/kg dry	1	2643806	07/26/2024	07/30/2024	
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 6855 West 119th Avenue  
 Broomfield CO 80020

Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

SEP-E01@5'  
 6/28/2024 2:48:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406855-25 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	0.906		0.0994	mg/L	1	B4G0107	07/01/2024	07/02/2024	
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**Metals by Saturated Paste by EPA 6010**

Calcium	457		4.99	meq/L	100	[CALC]	07/01/2024	07/03/2024	
Magnesium	149		8.23	"	"	"	"	"	
Sodium	51.6		4.35	"	"	"	"	"	

**pH in Soil by 9045D**

pH	8.40			pH Units	1	B4G0120	07/01/2024	07/03/2024	
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**SAR by 20B Saturated Paste**

SAR	2.96		0.0100	SAR	1	B4G0114	07/01/2024	07/03/2024	
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	1.61		0.00500	mmhos/cm	1	B4G0120	07/01/2024	07/03/2024	
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**Table 915 metals by EPA 6020B**

Arsenic	2.35		0.248	mg/kg	10	B4F2845	06/28/2024	06/29/2024	
Barium	657		8.54	"	"	"	"	"	
Cadmium	0.155		0.0854	"	"	"	"	"	
Copper	9.22		8.54	"	"	"	"	"	

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Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

SEP-E01@5'  
 6/28/2024 2:48:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406855-25 (Soil)**

**Table 915 metals by EPA 6020B**

Lead	14.8		0.854	mg/kg	10	B4F2845	06/28/2024	06/29/2024	
Nickel	5.08		0.854	"	"	"	"	"	"
Selenium	ND		0.222	"	"	"	"	"	"
Silver	ND		0.0854	"	"	"	"	"	"
Zinc	46.9		31.6	"	"	"	"	"	"

**Total Metals by 7196A**

Hexavalent Chromium	0.343	0.202	0.505	mg/kg dry	1	2643806	07/26/2024	07/30/2024	J
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Origins Laboratory, Inc.

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 Broomfield CO 80020

Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

SEP-W01@5'  
 6/28/2024 2:50:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406855-26 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	1.39		0.100	mg/L	1	B4G0107	07/01/2024	07/02/2024	
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**Metals by Saturated Paste by EPA 6010**

Calcium	461		4.99	meq/L	100	[CALC]	07/01/2024	07/03/2024	
Magnesium	163		8.23	"	"	"	"	"	
Sodium	68.4		4.35	"	"	"	"	"	

**pH in Soil by 9045D**

pH	8.48			pH Units	1	B4G0120	07/01/2024	07/03/2024	
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**SAR by 20B Saturated Paste**

SAR	3.88		0.0100	SAR	1	B4G0114	07/01/2024	07/03/2024	
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	1.81		0.00500	mmhos/cm	1	B4G0120	07/01/2024	07/03/2024	
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**Table 915 metals by EPA 6020B**

Arsenic	2.32		0.260	mg/kg	10	B4F2845	06/28/2024	06/29/2024	
Barium	837		8.98	"	"	"	"	"	
Cadmium	0.0987		0.0898	"	"	"	"	"	
Copper	ND		8.98	"	"	"	"	"	

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Tasman Geosciences  
 6855 West 119th Avenue  
 Broomfield CO 80020

Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

SEP-W01@5'  
 6/28/2024 2:50:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y406855-26 (Soil)**

**Table 915 metals by EPA 6020B**

Lead	16.1		0.898	mg/kg	10	B4F2845	06/28/2024	06/29/2024	
Nickel	5.53		0.898	"	"	"	"	"	"
Selenium	ND		0.233	"	"	"	"	"	"
Silver	ND		0.0898	"	"	"	"	"	"
Zinc	52.7		33.2	"	"	"	"	"	"

**Total Metals by 7196A**

Hexavalent Chromium	0.283	0.167	0.418	mg/kg dry	1	2643806	07/26/2024	07/30/2024	J
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 6855 West 119th Avenue  
 Broomfield CO 80020

Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B4F2845 - EPA 3050B**

**Blank (B4F2845-BLK1)**

Prepared: 06/28/2024 Analyzed: 06/29/2024

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 (B4F2845-BS1)**

Prepared: 06/28/2024 Analyzed: 06/29/2024

Arsenic	5.36	0.290	mg/kg	5.00		107	80-120			
Barium	539	10.0	"	500		108	80-120			
Cadmium	5.41	0.100	"	5.00		108	80-120			
Copper	52.8	10.0	"	50.0		106	80-120			
Lead	5.06	1.00	"	5.00		101	80-120			
Nickel	5.27	1.00	"	5.00		105	80-120			
Selenium	5.06	0.260	"	5.00		101	80-120			
Silver	5.53	0.100	"	5.00		111	80-120			
Zinc	50.9	37.0	"	50.0		102	80-120			

**Matrix Spike (B4F2845-MS1)**

**Source: Y406853-02**

Prepared: 06/28/2024 Analyzed: 06/29/2024

Arsenic	5.27	0.243	mg/kg	4.20	0.732	108	75-125			
Barium	496	8.39	"	420	27.1	112	75-125			
Cadmium	4.64	0.0839	"	4.20	0.0393	110	75-125			
Copper	51.0	8.39	"	42.0	5.84	108	75-125			
Lead	8.12	0.839	"	4.20	3.28	115	75-125			

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Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B4F2845 - EPA 3050B**

**Matrix Spike (B4F2845-MS1)**

**Source: Y406853-02**

Prepared: 06/28/2024 Analyzed: 06/29/2024

Nickel	10.2	0.839	mg/kg	4.20	5.03	123	75-125			
Selenium	4.25	0.218	"	4.20	0.0543	99.9	75-125			
Silver	4.65	0.0839	"	4.20	0.0168	110	75-125			
Zinc	60.7	31.0	"	42.0	17.2	104	75-125			

**Matrix Spike Dup (B4F2845-MSD1)**

**Source: Y406853-02**

Prepared: 06/28/2024 Analyzed: 06/29/2024

Arsenic	5.42	0.254	mg/kg	4.38	0.732	107	75-125	2.83	20	
Barium	497	8.77	"	438	27.1	107	75-125	0.115	20	
Cadmium	4.82	0.0877	"	4.38	0.0393	109	75-125	3.94	20	
Copper	50.5	8.77	"	43.8	5.84	102	75-125	1.12	20	
Lead	8.51	0.877	"	4.38	3.28	119	75-125	4.63	20	
Nickel	9.43	0.877	"	4.38	5.03	100	75-125	7.91	20	
Selenium	4.30	0.228	"	4.38	0.0543	96.9	75-125	1.32	20	
Silver	4.84	0.0877	"	4.38	0.0168	110	75-125	4.03	20	
Zinc	59.2	32.4	"	43.8	17.2	95.7	75-125	2.51	20	

**Batch B4F2846 - EPA 3050B**

**Blank (B4F2846-BLK1)**

Prepared: 06/28/2024 Analyzed: 06/29/2024

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	"							

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 Broomfield CO 80020

Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B4F2846 - EPA 3050B**

Prepared: 06/28/2024 Analyzed: 06/29/2024

**Blank (B4F2846-BLK1)**

Zinc ND 37.0 mg/kg

**LCS (B4F2846-BS1)**

Prepared: 06/28/2024 Analyzed: 06/29/2024

Arsenic	4.43	0.290	mg/kg	5.00		88.6	80-120			
Barium	436	10.0	"	500		87.3	80-120			
Cadmium	4.49	0.100	"	5.00		89.8	80-120			
Copper	44.0	10.0	"	50.0		87.9	80-120			
Lead	4.42	1.00	"	5.00		88.4	80-120			
Nickel	4.39	1.00	"	5.00		87.7	80-120			
Selenium	4.10	0.260	"	5.00		82.0	80-120			
Silver	4.49	0.100	"	5.00		89.7	80-120			
Zinc	42.2	37.0	"	50.0		84.4	80-120			

**Matrix Spike (B4F2846-MS1)**

Source: Y406855-04

Prepared: 06/28/2024 Analyzed: 06/29/2024

Arsenic	7.64	0.252	mg/kg	4.35	2.86	110	75-125			
Barium	765	8.69	"	435	306	106	75-125			
Cadmium	4.62	0.0869	"	4.35	0.175	102	75-125			
Copper	68.6	8.69	"	43.5	173	NR	75-125			QM-07
Lead	11.7	0.869	"	4.35	8.29	77.8	75-125			
Nickel	14.9	0.869	"	4.35	11.7	72.5	75-125			QM-07
Selenium	4.29	0.226	"	4.35	0.339	90.8	75-125			
Silver	4.56	0.0869	"	4.35	0.0829	103	75-125			
Zinc	109	32.2	"	43.5	73.1	82.0	75-125			

**Matrix Spike Dup (B4F2846-MSD1)**

Source: Y406855-04

Prepared: 06/28/2024 Analyzed: 06/29/2024

Arsenic	7.26	0.245	mg/kg	4.23	2.86	104	75-125	5.00	20	
Barium	798	8.46	"	423	306	116	75-125	4.22	20	

Origins Laboratory, Inc.



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 Broomfield CO 80020

Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4F2846 - EPA 3050B

Matrix Spike Dup (B4F2846-MSD1)

Source: Y406855-04

Prepared: 06/28/2024 Analyzed: 06/29/2024

Cadmium	4.37	0.0846	mg/kg	4.23	0.175	99.1	75-125	5.57	20	
Copper	71.8	8.46	"	42.3	173	NR	75-125	4.54	20	QM-07
Lead	11.8	0.846	"	4.23	8.29	82.5	75-125	0.933	20	
Nickel	15.7	0.846	"	4.23	11.7	94.6	75-125	5.57	20	
Selenium	4.15	0.220	"	4.23	0.339	90.1	75-125	3.22	20	
Silver	4.39	0.0846	"	4.23	0.0829	102	75-125	3.96	20	
Zinc	108	31.3	"	42.3	73.1	83.5	75-125	0.267	20	

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 Broomfield CO 80020

Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

**Classical Chemistry Parameters - Quality Control**  
**Origins Laboratory, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B4G0106 - DTPA Sorbitol Preparation**

**Blank (B4G0106-BLK1)**

Prepared: 07/01/2024 Analyzed: 07/02/2024

Boron ND 0.100 mg/L

**Duplicate (B4G0106-DUP1)**

**Source: Y406855-01**

Prepared: 07/01/2024 Analyzed: 07/02/2024

Boron 0.987 0.0999 mg/L 0.800 20.9 50

**Batch B4G0107 - DTPA Sorbitol Preparation**

**Blank (B4G0107-BLK1)**

Prepared: 07/01/2024 Analyzed: 07/02/2024

Boron ND 0.100 mg/L

**Duplicate (B4G0107-DUP1)**

**Source: Y406841-01**

Prepared: 07/01/2024 Analyzed: 07/02/2024

Boron 0.402 0.0993 mg/L 0.420 4.38 50

**Batch B4G0113 - Saturated Paste Metals**

**Blank (B4G0113-BLK1)**

Prepared: 07/01/2024 Analyzed: 07/02/2024

SAR ND 0.0100 SAR

Calcium PPM ND 10.0 mg/L

Magnesium PPM ND 10.0 "

Sodium PPM ND 10.0 "

**Duplicate (B4G0113-DUP1)**

**Source: Y406855-02**

Prepared: 07/01/2024 Analyzed: 07/02/2024

SAR ND 0.0100 SAR 2.21 200

Calcium PPM 184 10.0 mg/L 194 5.63 50

Magnesium PPM 45.1 10.0 " 43.4 3.95 50

Sodium PPM 130 10.0 " 131 0.881 50

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 6855 West 119th Avenue  
 Broomfield CO 80020

Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

**Classical Chemistry Parameters - Quality Control**  
**Origins Laboratory, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B4G0114 - Saturated Paste Metals**

**Blank (B4G0114-BLK1)**

Prepared: 07/01/2024 Analyzed: 07/02/2024

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

**Duplicate (B4G0114-DUP1)**

**Source: Y406841-03**

Prepared: 07/01/2024 Analyzed: 07/02/2024

Calcium PPM	74.9	10.0	mg/L		66.0			12.6	50	
SAR	ND	0.0100	SAR		2.20				200	
Magnesium PPM	26.2	10.0	mg/L		23.1			12.7	50	
Sodium PPM	78.0	10.0	"		81.4			4.32	50	

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 Broomfield CO 80020

Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

**Saturated Paste - Quality Control**  
**Origins Laboratory, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B4G0119 - Saturated Paste pH/EC**

**Blank (B4G0119-BLK1)**

Prepared: 07/01/2024 Analyzed: 07/02/2024

Specific Conductance (EC) ND 0.00500 mmhos/cm

**Duplicate (B4G0119-DUP1)**

**Source: Y406855-02**

Prepared: 07/01/2024 Analyzed: 07/02/2024

pH 8.15 pH Units 8.01 1.73 25  
 Specific Conductance (EC) 1.72 0.00500 mmhos/cm 1.77 2.77 25

**Batch B4G0120 - Saturated Paste pH/EC**

**Blank (B4G0120-BLK1)**

Prepared: 07/01/2024 Analyzed: 07/03/2024

Specific Conductance (EC) ND 0.00500 mmhos/cm

**Duplicate (B4G0120-DUP1)**

**Source: Y406841-03**

Prepared: 07/01/2024 Analyzed: 07/03/2024

Specific Conductance (EC) 0.988 0.00500 mmhos/cm 1.01 2.62 25  
 pH 8.60 pH Units 8.50 1.17 25

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Tasman Geosciences  
 6855 West 119th Avenue  
 Broomfield CO 80020

Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 2643806 - SW846 3060A

**DUP (1205795520 D)**

Source: Y406855-19

Prepared: 07/26/2024 Analyzed: 07/30/2024

Hexavalent Chromium	0.319	0.404	mg/kg dry		0.498		0-50	43.9	50	hJ
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**MS (1205795521 S)**

Source: Y406855-19

Prepared: 07/26/2024 Analyzed: 07/30/2024

Hexavalent Chromium	4.64	0.441	mg/kg dry	4.41	0.498	94	75-125			h
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Origins Laboratory, Inc.



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Tasman Geosciences  
 6855 West 119th Avenue  
 Broomfield CO 80020

Sam Vogt  
 Project Number: [none]  
 Project: Civitas - State Bierstadt 4-65 35-34 2AH

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 2643804 - SW846 3060A**

**BLANK (1205795512-BLK)**

Prepared: 07/26/2024 Analyzed: 07/30/2024

Hexavalent Chromium	ND	0.379	mg/kg				-			U
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**LCS (1205795513-BKS)**

Prepared: 07/26/2024 Analyzed: 07/30/2024

Hexavalent Chromium	3.81	0.386	mg/kg	3.86		98.7	80-120			
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**DUP (1205795514 D)**

**Source: 674804002**

Prepared: 07/26/2024 Analyzed: 07/30/2024

Hexavalent Chromium	ND	0.435	mg/kg dry		<0.174		0-50	N/A	50	U
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**MS (1205795515 S)**

**Source: 674804002**

Prepared: 07/26/2024 Analyzed: 07/30/2024

Hexavalent Chromium	2.03	0.370	mg/kg dry	3.70	<0.148	52.1	75-125			
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**DUP (1205795516 D)**

**Source: Y406855-09**

Prepared: 07/26/2024 Analyzed: 07/30/2024

Hexavalent Chromium	ND	0.395	mg/kg dry		<0.158		0-50	N/A	50	U
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**MS (1205795517 S)**

**Source: Y406855-09**


Prepared: 07/26/2024 Analyzed: 07/30/2024

Hexavalent Chromium	3.03	0.501	mg/kg dry	5.01	<0.200	59.2	75-125			
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**ILCS (1205802695-ILCS)**

Prepared: 07/26/2024 Analyzed: 07/30/2024

Hexavalent Chromium	7.23	0.351	mg/kg	7.04		103	80-120			
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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Sam Vogt  
Project Number: [none]  
Project: Civitas - State Bierstadt 4-65 35-34 2AH

## Notes and Definitions

- U Result not detected above the detection limit
  - QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
  - J Greater than the detection limit but less than the reporting limit
  - hJ [Undefined]
  - h Preparation or preservation holding time was exceeded
  - ND Analyte NOT DETECTED at or above the reporting limit
  - RPD Relative Percent Difference
- All soil results are reported on a wet weight basis.  
Calculated results may use J-flag data (instead of reported "ND") as part of calculation to provide a more accurate result.

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