



May 05, 2023

Tetra Tech Inc.

Carl Lenker

1560 Broadway, Suite 1400

Denver

CO 80202

Project Name - Anderson UP 32-9A

Project Number - 194-1083-0003 18896

Attached are your analytical results for Anderson UP 32-9A received by Origins Laboratory, Inc. April 28, 2023. This project is associated with Origins project number Y305003-01.

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

Tetra Tech Inc.

1560 Broadway, Suite 1400

Denver CO 80202

Carl Lenker

Project Number: 194-1083-0003 18896

Project: Anderson UP 32-9A

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-04 4-5	Y305003-01	Soil	April 27, 2023 10:12	04/28/2023 13:35
MW-03 5-6	Y305003-02	Soil	April 27, 2023 11:48	04/28/2023 13:35
MW-02 3.5-4.5	Y305003-03	Soil	April 27, 2023 13:10	04/28/2023 13:35
MW-05 5-6	Y305003-04	Soil	April 27, 2023 13:40	04/28/2023 13:35
MW-01 5-6	Y305003-05	Soil	April 27, 2023 14:19	04/28/2023 13:35

Origins Laboratory, Inc.



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Tetra Tech Inc.
1560 Broadway, Suite 1400
Denver CO 80202

Carl Lenker
Project Number: 194-1083-0003 18896
Project: Anderson UP 32-9A

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: 4305003

Client: Tetra Tech
Client Project ID: Anderson UP 32-9A

Checklist Completed by: JH/EAS

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

Date/time completed: 4/28/23

Airbill #: na

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

Cooler Number/Temperature: 1 / 15 °C _____ / _____ °C _____ / _____ °C (Describe)

Thermometer ID: 7003

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?	/			
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 ⁽¹⁾ ?	/			
Was adequate sample volume provided ⁽¹⁾ ?	/			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?		/		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	/			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	/			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	/			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	/			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.			/	
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)			/	
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) [Signature]

5/6/23
Date/Time Reviewed

Origins Laboratory, Inc.

[Signature]

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1560 Broadway, Suite 1400
Denver CO 80202

Carl Lenker
Project Number: 194-1083-0003 18896
Project: Anderson UP 32-9A

MW-04 4-5

4/27/2023 10:12:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y305003-01 (Soil)

GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B3E0123	JSM	05/01/2023	05/02/2023	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	JSM	"	"	U
Benzene	ND	0.00200	"	"	"	JSM	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	JSM	"	"	U
Naphthalene	ND	0.00380	"	"	"	JSM	"	"	U
Toluene	ND	0.00200	"	"	"	JSM	"	"	U
Xylenes, total	ND	0.00200	"	"	"	JSM	"	"	U

Surrogate: 1,2-Dichloroethane-d4	104 %	70-130	"	"	"
Surrogate: Toluene-d8	99.5 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	97.6 %	70-130	"	"	"

Origins Laboratory, Inc.



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1560 Broadway, Suite 1400
Denver CO 80202

Carl Lenker
Project Number: 194-1083-0003 18896
Project: Anderson UP 32-9A

MW-03 5-6

4/27/2023 11:48:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y305003-02 (Soil)

GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B3E0123	JSM	05/01/2023	05/02/2023	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	JSM	"	"	U
Benzene	ND	0.00200	"	"	"	JSM	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	JSM	"	"	U
Naphthalene	ND	0.00380	"	"	"	JSM	"	"	U
Toluene	ND	0.00200	"	"	"	JSM	"	"	U
Xylenes, total	ND	0.00200	"	"	"	JSM	"	"	U

Surrogate: 1,2-Dichloroethane-d4	100 %	70-130	"	"	"
Surrogate: Toluene-d8	99.1 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	96.1 %	70-130	"	"	"

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Project Number: 194-1083-0003 18896
Project: Anderson UP 32-9A

MW-02 3.5-4.5

4/27/2023 1:10:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y305003-03 (Soil)

GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B3E0123	JSM	05/01/2023	05/02/2023	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	JSM	"	"	U
Benzene	ND	0.00200	"	"	"	JSM	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	JSM	"	"	U
Naphthalene	ND	0.00380	"	"	"	JSM	"	"	U
Toluene	ND	0.00200	"	"	"	JSM	"	"	U
Xylenes, total	ND	0.00200	"	"	"	JSM	"	"	U

Surrogate: 1,2-Dichloroethane-d4	102 %	70-130	"	"	"
Surrogate: Toluene-d8	99.6 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	95.9 %	70-130	"	"	"

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Carl Lenker
Project Number: 194-1083-0003 18896
Project: Anderson UP 32-9A

MW-05 5-6

4/27/2023 1:40:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y305003-04 (Soil)

GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B3E0123	JSM	05/01/2023	05/02/2023	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	JSM	"	"	U
Benzene	ND	0.00200	"	"	"	JSM	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	JSM	"	"	U
Naphthalene	ND	0.00380	"	"	"	JSM	"	"	U
Toluene	ND	0.00200	"	"	"	JSM	"	"	U
Xylenes, total	ND	0.00200	"	"	"	JSM	"	"	U

Surrogate: 1,2-Dichloroethane-d4	104 %	70-130	"	"	"
Surrogate: Toluene-d8	98.9 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	95.7 %	70-130	"	"	"

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Project Number: 194-1083-0003 18896
Project: Anderson UP 32-9A

MW-01 5-6

4/27/2023 2:19:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y305003-05 (Soil)

GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B3E0123	JSM	05/01/2023	05/02/2023	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	JSM	"	"	U
Benzene	ND	0.00200	"	"	"	JSM	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	JSM	"	"	U
Naphthalene	ND	0.00380	"	"	"	JSM	"	"	U
Toluene	ND	0.00200	"	"	"	JSM	"	"	U
Xylenes, total	ND	0.00200	"	"	"	JSM	"	"	U

Surrogate: 1,2-Dichloroethane-d4	102 %	70-130	"	"	"
Surrogate: Toluene-d8	98.2 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	97.1 %	70-130	"	"	"

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Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3E0123 - EPA 5030 (soil)										
Blank (B3E0123-BLK1)					Prepared: 05/01/2023 Analyzed: 05/02/2023					
1,2,4-Trimethylbenzene	ND	0.00200	mg/kg							U
1,3,5-Trimethylbenzene	ND	0.00200	"							U
Benzene	ND	0.00200	"							U
Ethylbenzene	ND	0.00200	"							U
Naphthalene	ND	0.00380	"							U
Toluene	ND	0.00200	"							U
Xylenes, total	ND	0.00200	"							U
Gasoline Range Hydrocarbons	ND	0.200	"							U
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		96.0	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		101	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		96.5	70-130			

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Volatile Organic Compounds by GC/MS SW846 8260D - 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 B3E0123 - EPA 5030 (soil)

LCS (B3E0123-BS1)

Prepared: 05/01/2023 Analyzed: 05/02/2023

1,2,4-Trimethylbenzene	0.0898	0.00200	mg/kg	0.100		89.8	70-130			
1,3,5-Trimethylbenzene	0.0905	0.00200	"	0.100		90.5	70-130			
Benzene	0.102	0.00200	"	0.100		102	70-130			
Ethylbenzene	0.0959	0.00200	"	0.100		95.9	70-130			
Naphthalene	0.0840	0.00380	"	0.100		84.0	70-130			
Toluene	0.102	0.00200	"	0.100		102	70-130			
o-Xylene	0.0925	0.00200	"	0.100		92.5	70-130			
m,p-Xylene	0.198	0.00400	"	0.200		99.1	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		94.6	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		98.5	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		104	70-130			

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Project: Anderson UP 32-9A

Volatile Organic Compounds by GC/MS SW846 8260D - 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 B3E0123 - EPA 5030 (soil)

Matrix Spike (B3E0123-MS1)		Source: Y305003-01			Prepared: 05/01/2023 Analyzed: 05/02/2023					
1,2,4-Trimethylbenzene	0.0825	0.00200	mg/kg	0.100	ND	82.5	70-130			
1,3,5-Trimethylbenzene	0.0818	0.00200	"	0.100	ND	81.8	70-130			
Benzene	0.0965	0.00200	"	0.100	ND	96.5	70-130			
Ethylbenzene	0.0888	0.00200	"	0.100	ND	88.8	70-130			
Naphthalene	0.0734	0.00380	"	0.100	ND	73.4	70-130			
Toluene	0.0962	0.00200	"	0.100	ND	96.2	70-130			
o-Xylene	0.0866	0.00200	"	0.100	ND	86.6	70-130			
m,p-Xylene	0.183	0.00400	"	0.200	ND	91.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		100	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		97.4	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		106	70-130			

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Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3E0123 - EPA 5030 (soil)										
Matrix Spike Dup (B3E0123-MSD1)		Source: Y305003-01			Prepared: 05/01/2023 Analyzed: 05/02/2023					
1,2,4-Trimethylbenzene	0.0747	0.00200	mg/kg	0.100	ND	74.7	70-130	9.97	20	
1,3,5-Trimethylbenzene	0.0726	0.00200	"	0.100	ND	72.6	70-130	12.0	20	
Benzene	0.0882	0.00200	"	0.100	ND	88.2	70-130	9.03	20	
Ethylbenzene	0.0812	0.00200	"	0.100	ND	81.2	70-130	8.89	20	
Naphthalene	0.0712	0.00380	"	0.100	ND	71.2	70-130	2.96	20	
Toluene	0.0869	0.00200	"	0.100	ND	86.9	70-130	10.2	20	
o-Xylene	0.0799	0.00200	"	0.100	ND	79.9	70-130	7.98	20	
m,p-Xylene	0.168	0.00400	"	0.200	ND	83.9	70-130	8.72	20	
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		102	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		98.0	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		107	70-130			

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Project Number: 194-1083-0003 18896

Project: Anderson UP 32-9A

Notes and Definitions

U Sample is Non-Detect.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

Origins Laboratory, Inc.



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