



Earth Systems Denver

Ryan Zernis

10701 Melody Drive Suite 304

Northglenn CO 80234

October 07, 2024

Project Name - Civitas - 44-19 Antelope CS

Project Number - 4419CS

Attached are your analytical results for Civitas - 44-19 Antelope CS received by Origins Laboratory September 27, 2024. This project is associated with Origins project number E409877-01.

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

Earth Systems Denver
10701 Melody Drive Suite 304
Northglenn CO 80234

Ryan Zernis
Project Number: 4419CS
Project: Civitas - 44-19 Antelope CS

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
W01@2.2'	E409877-01	Soil	September 26, 2024 14:00	09/27/2024 08:00
W02@1.8'	E409877-02	Soil	September 26, 2024 14:00	09/27/2024 08:00
NW01@1.3'	E409877-03	Soil	September 26, 2024 13:00	09/27/2024 08:00
N01@2.9'	E409877-04	Soil	September 26, 2024 13:00	09/27/2024 08:00
E01@1.8'	E409877-05	Soil	September 26, 2024 13:30	09/27/2024 08:00
SE01@2.5'	E409877-06	Soil	September 26, 2024 13:40	09/27/2024 08:00
S01@2.7'	E409877-07	Soil	September 26, 2024 13:50	09/27/2024 08:00
BS01@3.8'	E409877-08	Soil	September 26, 2024 14:10	09/27/2024 08:00
BN01@3.2'	E409877-09	Soil	September 26, 2024 14:10	09/27/2024 08:00

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Project Number: 4419CS
Project: Civitas - 44-19 Antelope CS

Sample ID	Date	Time	# of Containers	Matrix	Preservative	Analysis	Comments
W01@2.2'	9/26	1400	1	S	—		
W02@1.8'	1400	1	1	—	—		
NW01@1.3'	1303	1	1	—	—		
N01@2.9'	1303	1	1	—	—		
E01@1.8'	1330	1	1	—	—		
SE01@2.5'	1340	1	1	—	—		
S01@2.7'	1350	1	1	—	—		
SW01@3.8'	1415	1	1	—	—		
SW01@3.2'	1410	1	1	—	—		

Temp Received - 41.1° Received On Ice? ☐ Yes ☐ No

☒ Standard

☐ 48 Hr ☐ 72

☐ SAME ☐ 24 Hr

☐ DAY

Turnaround Time

Client: Earth Systems and Civitas Aff. Co.
Address: Denver
Telephone Number: 720.879.7989
Email Address: Earth Systems and Civitas Aff. Co.
Project Manager: Ryan Zernis
Project Name: 44-19 Antelope CS
Project Number: CC-4419CS mm: 8520162
Collected By: AM
Invoice/Billing Info: Civitas Aff. Co.
Key: W=Water
GW=Groundwater
SW=Surface Water
WW=Waste Water
L=Liquid
S=Solid O=Oil A=Air G=Gas U=Unlabeled HCl=Hydrochloric HNO3=Nitric H2SO4=Sulfuric NaOH=Sodium Hydroxide

ORIGINS

6009877

Page 1 of 1

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Bynon

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Ryan Zernis
Project Number: 4419CS
Project: Civitas - 44-19 Antelope CS

Origins Laboratory

Sample Receipt Checklist

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

Origins Work Order: 4409877

Client: Earth Systems
Client Project ID: 44-19 Antelope

Checklist Completed by: ZHJWS

Date/time completed: 9/27/24

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

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

Cooler Number/Temperature: 14.1 °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 ⁽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) AR

10/1/24
Date/Time Reviewed

Origins Laboratory

J. Bynon

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Earth Systems Denver

10701 Melody Drive Suite 304

Northglenn CO 80234

Ryan Zernis

Project Number: 4419CS

Project: Civitas - 44-19 Antelope CS

W01@2.2'

9/26/2024 2:00:00PM

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

E409877-01 (Soil)

DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4J0118	10/01/2024	10/01/2024	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl 93.4 % 50-150 " " "

GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4J0223	10/02/2024	10/03/2024	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	U
Benzene	ND	0.00200	"	"	"	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	"	"	U
Toluene	ND	0.00200	"	"	"	"	"	U
Xylenes, total	ND	0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	U

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

Surrogate: Toluene-d8 105 % 70-130 " " "

Surrogate: 4-Bromofluorobenzene 98.5 % 70-130 " " "

PAH by EPA 8270E extracted via 3580A

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Ryan Zernis

Project Number: 4419CS

Project: Civitas - 44-19 Antelope CS

W01@2.2'

9/26/2024 2:00:00PM

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

E409877-01 (Soil)

PAH by EPA 8270E extracted via 3580A

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4J0333	10/03/2024	10/05/2024	U
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	U
Acenaphthene	ND	0.020	"	"	"	"	"	U
Anthracene	ND	0.020	"	"	"	"	"	U
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	U
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	U
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	U
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	U
Chrysene	ND	0.020	"	"	"	"	"	U
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	U
Fluoranthene	ND	0.020	"	"	"	"	"	U
Fluorene	ND	0.020	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	U
Naphthalene	ND	0.002	"	"	"	"	"	U
Pyrene	ND	0.020	"	"	"	"	"	U

Surrogate: Fluorene-d10	102 %	60-130	"	"	"
Surrogate: Anthracene-d10	86.4 %	60-130	"	"	"
Surrogate: Pyrene-d10	103 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	107 %	60-130	"	"	"

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Northglenn CO 80234

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Project Number: 4419CS

Project: Civitas - 44-19 Antelope CS

W02@1.8'

9/26/2024 2:00:00PM

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

E409877-02 (Soil)

DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4J0118	10/01/2024	10/01/2024	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl 89.2 % 50-150 " " "

GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4J0223	10/02/2024	10/03/2024	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	U
Benzene	ND	0.00200	"	"	"	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	"	"	U
Toluene	ND	0.00200	"	"	"	"	"	U
Xylenes, total	ND	0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	U

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

Surrogate: Toluene-d8 104 % 70-130 " " "

Surrogate: 4-Bromofluorobenzene 100 % 70-130 " " "

PAH by EPA 8270E extracted via 3580A

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Northglenn CO 80234

Ryan Zernis

Project Number: 4419CS

Project: Civitas - 44-19 Antelope CS

W02@1.8'

9/26/2024 2:00:00PM

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

E409877-02 (Soil)

PAH by EPA 8270E extracted via 3580A

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4J0333	10/03/2024	10/05/2024	U
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	U
Acenaphthene	ND	0.020	"	"	"	"	"	U
Anthracene	ND	0.020	"	"	"	"	"	U
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	U
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	U
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	U
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	U
Chrysene	ND	0.020	"	"	"	"	"	U
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	U
Fluoranthene	ND	0.020	"	"	"	"	"	U
Fluorene	ND	0.020	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	U
Naphthalene	ND	0.002	"	"	"	"	"	U
Pyrene	ND	0.020	"	"	"	"	"	U

Surrogate: Fluorene-d10	97.6 %	60-130	"	"	"
Surrogate: Anthracene-d10	86.0 %	60-130	"	"	"
Surrogate: Pyrene-d10	102 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	110 %	60-130	"	"	"

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10701 Melody Drive Suite 304

Northglenn CO 80234

Ryan Zernis

Project Number: 4419CS

Project: Civitas - 44-19 Antelope CS

NW01@1.3'

9/26/2024 1:03:00PM

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

E409877-03 (Soil)

DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4J0118	10/01/2024	10/01/2024	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl 92.4 % 50-150 " " "

GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4J0223	10/02/2024	10/03/2024	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	U
Benzene	ND	0.00200	"	"	"	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	"	"	U
Toluene	ND	0.00200	"	"	"	"	"	U
Xylenes, total	ND	0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	U

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

Surrogate: Toluene-d8 104 % 70-130 " " "

Surrogate: 4-Bromofluorobenzene 101 % 70-130 " " "

PAH by EPA 8270E extracted via 3580A

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10701 Melody Drive Suite 304

Northglenn CO 80234

Ryan Zernis

Project Number: 4419CS

Project: Civitas - 44-19 Antelope CS

NW01@1.3'

9/26/2024 1:03:00PM

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

E409877-03 (Soil)

PAH by EPA 8270E extracted via 3580A

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4J0333	10/03/2024	10/05/2024	U
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	U
Acenaphthene	ND	0.020	"	"	"	"	"	U
Anthracene	ND	0.020	"	"	"	"	"	U
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	U
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	U
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	U
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	U
Chrysene	ND	0.020	"	"	"	"	"	U
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	U
Fluoranthene	ND	0.020	"	"	"	"	"	U
Fluorene	ND	0.020	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	U
Naphthalene	ND	0.002	"	"	"	"	"	U
Pyrene	ND	0.020	"	"	"	"	"	U

Surrogate: Fluorene-d10	94.4 %	60-130	"	"	"
Surrogate: Anthracene-d10	85.0 %	60-130	"	"	"
Surrogate: Pyrene-d10	109 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	106 %	60-130	"	"	"

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10701 Melody Drive Suite 304

Northglenn CO 80234

Ryan Zernis

Project Number: 4419CS

Project: Civitas - 44-19 Antelope CS

N01@2.9'

9/26/2024 1:03:00PM

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

E409877-04 (Soil)

DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4J0118	10/01/2024	10/01/2024	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl 88.6 % 50-150 " " "

GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4J0223	10/02/2024	10/03/2024	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	U
Benzene	ND	0.00200	"	"	"	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	"	"	U
Toluene	ND	0.00200	"	"	"	"	"	U
Xylenes, total	ND	0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	U

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

Surrogate: Toluene-d8 103 % 70-130 " " "

Surrogate: 4-Bromofluorobenzene 101 % 70-130 " " "

PAH by EPA 8270E extracted via 3580A

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10701 Melody Drive Suite 304

Northglenn CO 80234

Ryan Zernis

Project Number: 4419CS

Project: Civitas - 44-19 Antelope CS

N01@2.9'

9/26/2024 1:03:00PM

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

E409877-04 (Soil)

PAH by EPA 8270E extracted via 3580A

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4J0333	10/03/2024	10/05/2024	U
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	U
Acenaphthene	ND	0.020	"	"	"	"	"	U
Anthracene	ND	0.020	"	"	"	"	"	U
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	U
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	U
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	U
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	U
Chrysene	ND	0.020	"	"	"	"	"	U
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	U
Fluoranthene	ND	0.020	"	"	"	"	"	U
Fluorene	ND	0.020	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	U
Naphthalene	ND	0.002	"	"	"	"	"	U
Pyrene	ND	0.020	"	"	"	"	"	U

Surrogate: Fluorene-d10	99.5 %	60-130	"	"	"
Surrogate: Anthracene-d10	89.5 %	60-130	"	"	"
Surrogate: Pyrene-d10	90.1 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	114 %	60-130	"	"	"

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10701 Melody Drive Suite 304

Northglenn CO 80234

Ryan Zernis

Project Number: 4419CS

Project: Civitas - 44-19 Antelope CS

E01@1.8'

9/26/2024 1:30:00PM

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

E409877-05 (Soil)

DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4J0118	10/01/2024	10/01/2024	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl 93.9 % 50-150 " " "

GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4J0223	10/02/2024	10/03/2024	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	U
Benzene	ND	0.00200	"	"	"	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	"	"	U
Toluene	ND	0.00200	"	"	"	"	"	U
Xylenes, total	ND	0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	U

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

Surrogate: Toluene-d8 104 % 70-130 " " "

Surrogate: 4-Bromofluorobenzene 100 % 70-130 " " "

PAH by EPA 8270E extracted via 3580A

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10701 Melody Drive Suite 304

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Ryan Zernis

Project Number: 4419CS

Project: Civitas - 44-19 Antelope CS

E01@1.8'

9/26/2024 1:30:00PM

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

E409877-05 (Soil)

PAH by EPA 8270E extracted via 3580A

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4J0333	10/03/2024	10/05/2024	U
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	U
Acenaphthene	ND	0.020	"	"	"	"	"	U
Anthracene	ND	0.020	"	"	"	"	"	U
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	U
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	U
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	U
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	U
Chrysene	ND	0.020	"	"	"	"	"	U
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	U
Fluoranthene	ND	0.020	"	"	"	"	"	U
Fluorene	ND	0.020	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	U
Naphthalene	ND	0.002	"	"	"	"	"	U
Pyrene	ND	0.020	"	"	"	"	"	U

Surrogate: Fluorene-d10	98.5 %	60-130	"	"	"
Surrogate: Anthracene-d10	83.3 %	60-130	"	"	"
Surrogate: Pyrene-d10	108 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	111 %	60-130	"	"	"

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Earth Systems Denver

10701 Melody Drive Suite 304

Northglenn CO 80234

Ryan Zernis

Project Number: 4419CS

Project: Civitas - 44-19 Antelope CS

SE01@2.5'

9/26/2024 1:40:00PM

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

E409877-06 (Soil)

DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4J0118	10/01/2024	10/01/2024	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl 92.0 % 50-150 " " "

GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4J0223	10/02/2024	10/03/2024	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	U
Benzene	ND	0.00200	"	"	"	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	"	"	U
Toluene	ND	0.00200	"	"	"	"	"	U
Xylenes, total	ND	0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	U

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

Surrogate: Toluene-d8 103 % 70-130 " " "

Surrogate: 4-Bromofluorobenzene 99.7 % 70-130 " " "

PAH by EPA 8270E extracted via 3580A

Origins Laboratory



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Earth Systems Denver

10701 Melody Drive Suite 304

Northglenn CO 80234

Ryan Zernis

Project Number: 4419CS

Project: Civitas - 44-19 Antelope CS

SE01@2.5'

9/26/2024 1:40:00PM

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

E409877-06 (Soil)

PAH by EPA 8270E extracted via 3580A

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4J0333	10/03/2024	10/05/2024	U
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	U
Acenaphthene	ND	0.020	"	"	"	"	"	U
Anthracene	ND	0.020	"	"	"	"	"	U
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	U
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	U
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	U
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	U
Chrysene	ND	0.020	"	"	"	"	"	U
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	U
Fluoranthene	ND	0.020	"	"	"	"	"	U
Fluorene	ND	0.020	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	U
Naphthalene	ND	0.002	"	"	"	"	"	U
Pyrene	ND	0.020	"	"	"	"	"	U

Surrogate: Fluorene-d10	100 %	60-130	"	"	"
Surrogate: Anthracene-d10	83.0 %	60-130	"	"	"
Surrogate: Pyrene-d10	101 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	115 %	60-130	"	"	"

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Earth Systems Denver

10701 Melody Drive Suite 304

Northglenn CO 80234

Ryan Zernis

Project Number: 4419CS

Project: Civitas - 44-19 Antelope CS

S01@2.7'

9/26/2024 1:58:00PM

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

E409877-07 (Soil)

DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4J0118	10/01/2024	10/01/2024	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl 98.7 % 50-150 " " "

GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4J0223	10/02/2024	10/03/2024	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	U
Benzene	ND	0.00200	"	"	"	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	"	"	U
Toluene	ND	0.00200	"	"	"	"	"	U
Xylenes, total	ND	0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	U

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

Surrogate: Toluene-d8 104 % 70-130 " " "

Surrogate: 4-Bromofluorobenzene 99.7 % 70-130 " " "

PAH by EPA 8270E extracted via 3580A

Origins Laboratory



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Earth Systems Denver

10701 Melody Drive Suite 304

Northglenn CO 80234

Ryan Zernis

Project Number: 4419CS

Project: Civitas - 44-19 Antelope CS

S01@2.7'

9/26/2024 1:58:00PM

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

E409877-07 (Soil)

PAH by EPA 8270E extracted via 3580A

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4J0333	10/03/2024	10/05/2024	U
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	U
Acenaphthene	ND	0.020	"	"	"	"	"	U
Anthracene	ND	0.020	"	"	"	"	"	U
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	U
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	U
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	U
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	U
Chrysene	ND	0.020	"	"	"	"	"	U
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	U
Fluoranthene	ND	0.020	"	"	"	"	"	U
Fluorene	ND	0.020	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	U
Naphthalene	ND	0.002	"	"	"	"	"	U
Pyrene	ND	0.020	"	"	"	"	"	U

Surrogate: Fluorene-d10	97.3 %	60-130	"	"	"
Surrogate: Anthracene-d10	85.9 %	60-130	"	"	"
Surrogate: Pyrene-d10	101 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	106 %	60-130	"	"	"

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Earth Systems Denver

10701 Melody Drive Suite 304

Northglenn CO 80234

Ryan Zernis

Project Number: 4419CS

Project: Civitas - 44-19 Antelope CS

BS01@3.8'

9/26/2024 2:15:00PM

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

E409877-08 (Soil)

DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4J0118	10/01/2024	10/02/2024	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl 96.1 % 50-150 " " "

GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4J0223	10/02/2024	10/03/2024	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	U
Benzene	ND	0.00200	"	"	"	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	"	"	U
Toluene	ND	0.00200	"	"	"	"	"	U
Xylenes, total	ND	0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	U

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

Surrogate: Toluene-d8 104 % 70-130 " " "

Surrogate: 4-Bromofluorobenzene 101 % 70-130 " " "

PAH by EPA 8270E extracted via 3580A

Origins Laboratory



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Earth Systems Denver

10701 Melody Drive Suite 304

Northglenn CO 80234

Ryan Zernis

Project Number: 4419CS

Project: Civitas - 44-19 Antelope CS

BS01@3.8'

9/26/2024 2:15:00PM

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

E409877-08 (Soil)

PAH by EPA 8270E extracted via 3580A

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4J0333	10/03/2024	10/05/2024	U
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	U
Acenaphthene	ND	0.020	"	"	"	"	"	U
Anthracene	ND	0.020	"	"	"	"	"	U
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	U
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	U
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	U
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	U
Chrysene	ND	0.020	"	"	"	"	"	U
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	U
Fluoranthene	ND	0.020	"	"	"	"	"	U
Fluorene	ND	0.020	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	U
Naphthalene	ND	0.002	"	"	"	"	"	U
Pyrene	ND	0.020	"	"	"	"	"	U

Surrogate: Fluorene-d10	103 %	60-130	"	"	"
Surrogate: Anthracene-d10	87.9 %	60-130	"	"	"
Surrogate: Pyrene-d10	105 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	111 %	60-130	"	"	"

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Earth Systems Denver

10701 Melody Drive Suite 304

Northglenn CO 80234

Ryan Zernis

Project Number: 4419CS

Project: Civitas - 44-19 Antelope CS

BN01@3.2'

9/26/2024 2:10:00PM

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

E409877-09 (Soil)

DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4J0118	10/01/2024	10/02/2024	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl 94.3 % 50-150 " " "

GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4J0223	10/02/2024	10/03/2024	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	U
Benzene	ND	0.00200	"	"	"	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	"	"	U
Toluene	ND	0.00200	"	"	"	"	"	U
Xylenes, total	ND	0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	U

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

Surrogate: Toluene-d8 102 % 70-130 " " "

Surrogate: 4-Bromofluorobenzene 100 % 70-130 " " "

PAH by EPA 8270E extracted via 3580A

Origins Laboratory



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Earth Systems Denver

10701 Melody Drive Suite 304

Northglenn CO 80234

Ryan Zernis

Project Number: 4419CS

Project: Civitas - 44-19 Antelope CS

BN01@3.2'

9/26/2024 2:10:00PM

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

E409877-09 (Soil)

PAH by EPA 8270E extracted via 3580A

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4J0333	10/03/2024	10/05/2024	U
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	U
Acenaphthene	ND	0.020	"	"	"	"	"	U
Anthracene	ND	0.020	"	"	"	"	"	U
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	U
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	U
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	U
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	U
Chrysene	ND	0.020	"	"	"	"	"	U
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	U
Fluoranthene	ND	0.020	"	"	"	"	"	U
Fluorene	ND	0.020	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	U
Naphthalene	ND	0.002	"	"	"	"	"	U
Pyrene	ND	0.020	"	"	"	"	"	U

Surrogate: Fluorene-d10	101 %	60-130	"	"	"
Surrogate: Anthracene-d10	86.5 %	60-130	"	"	"
Surrogate: Pyrene-d10	94.2 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	121 %	60-130	"	"	"

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Earth Systems Denver
10701 Melody Drive Suite 304
Northglenn CO 80234

Ryan Zernis
Project Number: 4419CS
Project: Civitas - 44-19 Antelope CS

Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4J0118 - EPA 3550B										
Blank (B4J0118-BLK1)					Prepared: 10/01/2024 Analyzed: 10/01/2024					
Diesel (C10-C28)	ND	25.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	100	"							U
Surrogate: o-Terphenyl	22		"	24.9		89.3	50-150			

Origins Laboratory

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Jordan A. Bynon, Project Manager



Earth Systems Denver
10701 Melody Drive Suite 304
Northglenn CO 80234

Ryan Zernis
Project Number: 4419CS
Project: Civitas - 44-19 Antelope CS

Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4J0118 - EPA 3550B										
LCS (B4J0118-BS1)					Prepared: 10/01/2024 Analyzed: 10/01/2024					
Diesel (C10-C28)	905	50.0	mg/kg	1000		90.5	70-130			
Residual Range Organics (C28-C40)	927	200	"	1000		92.7	70-130			
Surrogate: o-Terphenyl	58		"	49.8		117	50-150			

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Jordan A. Bynon, Project Manager



Earth Systems Denver
10701 Melody Drive Suite 304
Northglenn CO 80234

Ryan Zernis
Project Number: 4419CS
Project: Civitas - 44-19 Antelope CS

Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4J0118 - EPA 3550B										
Matrix Spike (B4J0118-MS1)		Source: E409853-01			Prepared: 10/01/2024 Analyzed: 10/01/2024					
Diesel (C10-C28)	955	50.0	mg/kg	1000	ND	95.5	70-130			
Residual Range Organics (C28-C40)	982	200	"	1000	ND	98.2	70-130			
Surrogate: o-Terphenyl	48		"	49.8		95.9	50-150			

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Jordan A. Bynon, Project Manager



Earth Systems Denver
10701 Melody Drive Suite 304
Northglenn CO 80234

Ryan Zernis
Project Number: 4419CS
Project: Civitas - 44-19 Antelope CS

Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4J0118 - EPA 3550B										
Matrix Spike Dup (B4J0118-MSD1)		Source: E409853-01			Prepared: 10/01/2024 Analyzed: 10/01/2024					
Diesel (C10-C28)	982	50.0	mg/kg	1000	ND	98.2	70-130	2.78	35	
Residual Range Organics (C28-C40)	995	200	"	1000	ND	99.5	70-130	1.31	35	
Surrogate: o-Terphenyl	48		"	49.8		95.6	50-150			

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Jordan A. Bynon, Project Manager



Earth Systems Denver
10701 Melody Drive Suite 304
Northglenn CO 80234

Ryan Zernis
Project Number: 4419CS
Project: Civitas - 44-19 Antelope CS

Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4J0223 - EPA 5030 (soil)										
Blank (B4J0223-BLK1)					Prepared: 10/02/2024 Analyzed: 10/02/2024					
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	0.13		"	0.125		102	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		104	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		101	70-130			

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Jordan A. Bynon, Project Manager

Earth Systems Denver
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Northglenn CO 80234

Ryan Zernis
Project Number: 4419CS
Project: Civitas - 44-19 Antelope CS

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control

Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4J0223 - EPA 5030 (soil)										
LCS (B4J0223-BS1)					Prepared: 10/02/2024 Analyzed: 10/02/2024					
1,2,4-Trimethylbenzene	0.104	0.00200	mg/kg	0.100		104	70-130			
1,3,5-Trimethylbenzene	0.105	0.00200	"	0.100		105	70-130			
Benzene	0.0911	0.00200	"	0.100		91.1	70-130			
Ethylbenzene	0.104	0.00200	"	0.100		104	70-130			
Naphthalene	0.113	0.00380	"	0.100		113	70-130			
Toluene	0.101	0.00200	"	0.100		101	70-130			
o-Xylene	0.104	0.00200	"	0.100		104	70-130			
m,p-Xylene	0.228	0.00400	"	0.200		114	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		103	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		103	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		98.5	70-130			

Origins Laboratory



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Earth Systems Denver
10701 Melody Drive Suite 304
Northglenn CO 80234

Ryan Zernis
Project Number: 4419CS
Project: Civitas - 44-19 Antelope CS

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4J0223 - EPA 5030 (soil)										
Matrix Spike (B4J0223-MS1)		Source: E409794-01			Prepared: 10/02/2024 Analyzed: 10/02/2024					
1,2,4-Trimethylbenzene	0.0895	0.00200	mg/kg	0.100	0.000440	89.1	70-130			
1,3,5-Trimethylbenzene	0.0889	0.00200	"	0.100	ND	88.9	70-130			
Benzene	0.0767	0.00200	"	0.100	ND	76.7	70-130			
Ethylbenzene	0.0900	0.00200	"	0.100	ND	90.0	70-130			
Naphthalene	0.0824	0.00380	"	0.100	ND	82.4	70-130			
Toluene	0.0846	0.00200	"	0.100	ND	84.6	70-130			
o-Xylene	0.0889	0.00200	"	0.100	ND	88.9	70-130			
m,p-Xylene	0.196	0.00400	"	0.200	ND	98.1	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		99.9	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		101	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		100	70-130			

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Jordan A. Bynon, Project Manager

Earth Systems Denver
10701 Melody Drive Suite 304
Northglenn CO 80234

Ryan Zernis
Project Number: 4419CS
Project: Civitas - 44-19 Antelope CS

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control

Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4J0223 - EPA 5030 (soil)

Matrix Spike Dup (B4J0223-MSD1)		Source: E409794-01			Prepared: 10/02/2024 Analyzed: 10/02/2024					
1,2,4-Trimethylbenzene	0.101	0.00200	mg/kg	0.100	0.000440	100	70-130	11.7	20	
1,3,5-Trimethylbenzene	0.100	0.00200	"	0.100	ND	100	70-130	12.2	20	
Benzene	0.0857	0.00200	"	0.100	ND	85.7	70-130	11.1	20	
Ethylbenzene	0.102	0.00200	"	0.100	ND	102	70-130	12.3	20	
Naphthalene	0.0941	0.00380	"	0.100	ND	94.1	70-130	13.2	20	
Toluene	0.0945	0.00200	"	0.100	ND	94.5	70-130	11.0	20	
o-Xylene	0.100	0.00200	"	0.100	ND	100	70-130	11.8	20	
m,p-Xylene	0.222	0.00400	"	0.200	ND	111	70-130	12.5	20	
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		101	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		101	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		101	70-130			

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Jordan A. Bynon, Project Manager



Earth Systems Denver
10701 Melody Drive Suite 304
Northglenn CO 80234

Ryan Zernis
Project Number: 4419CS
Project: Civitas - 44-19 Antelope CS

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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EPA 8270E (SW846) - Semivolatile Organic Compounds - Quality Control
Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4J0333 - EPA 3580

Blank (B4J0333-BLK1)

Prepared: 10/03/2024 Analyzed: 10/05/2024

1-Methylnaphthalene	ND	0.002	mg/kg							U
2-Methylnaphthalene	ND	0.002	"							U
Acenaphthene	ND	0.020	"							U
Anthracene	ND	0.020	"							U
Benzo (a) anthracene	ND	0.005	"							U
Benzo (a) pyrene	ND	0.020	"							U
Benzo (b) fluoranthene	ND	0.020	"							U
Benzo (g,h,i) perylene	ND	0.020	"							U
Benzo (k) fluoranthene	ND	0.020	"							U
Chrysene	ND	0.020	"							U
Dibenz (a,h) anthracene	ND	0.020	"							U
Fluoranthene	ND	0.020	"							U
Fluorene	ND	0.020	"							U
Indeno (1,2,3-cd) pyrene	ND	0.020	"							U
Naphthalene	ND	0.002	"							U
Phenanthrene	ND	0.020	"							U
Pyrene	ND	0.020	"							U
Surrogate: Fluorene-d10	210		ug/kg	200		104	60-130			
Surrogate: Anthracene-d10	170		"	200		85.1	60-130			
Surrogate: Pyrene-d10	240		"	200		121	60-130			
Surrogate: Benzo (a) pyrene-d12	210		"	200		107	60-130			

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EPA 8270E (SW846) - Semivolatile Organic Compounds - Quality Control
Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4J0333 - EPA 3580

LCS (B4J0333-BS1)

Prepared: 10/03/2024 Analyzed: 10/05/2024

1-Methylnaphthalene	0.207	0.002	mg/kg	0.200		104	70-130
2-Methylnaphthalene	0.208	0.002	"	0.200		104	70-130
Acenaphthene	0.215	0.020	"	0.200		107	70-130
Anthracene	0.186	0.020	"	0.200		92.9	70-130
Benzo (a) anthracene	0.187	0.005	"	0.200		93.7	70-130
Benzo (a) pyrene	0.216	0.020	"	0.200		108	70-130
Benzo (b) fluoranthene	0.228	0.020	"	0.200		114	70-130
Benzo (g,h,i) perylene	0.222	0.020	"	0.200		111	70-130
Benzo (k) fluoranthene	0.221	0.020	"	0.200		111	70-130
Chrysene	0.192	0.020	"	0.200		96.2	70-130
Dibenz (a,h) anthracene	0.227	0.020	"	0.200		114	70-130
Fluoranthene	0.176	0.020	"	0.200		88.1	70-130
Fluorene	0.211	0.020	"	0.200		106	70-130
Indeno (1,2,3-cd) pyrene	0.226	0.020	"	0.200		113	70-130
Naphthalene	0.217	0.002	"	0.200		108	70-130
Phenanthrene	0.198	0.020	"	0.200		98.9	70-130
Pyrene	0.215	0.020	"	0.200		108	70-130

Surrogate: Fluorene-d10	200		ug/kg	200		97.8	60-130
Surrogate: Anthracene-d10	170		"	200		85.6	60-130
Surrogate: Pyrene-d10	210		"	200		104	60-130
Surrogate: Benzo (a) pyrene-d12	220		"	200		108	60-130

Matrix Spike (B4J0333-MS1)

Source: E409854-01

Prepared: 10/03/2024 Analyzed: 10/05/2024

1-Methylnaphthalene	0.208	0.002	mg/kg	0.200	0.0005	104	70-130
2-Methylnaphthalene	0.203	0.002	"	0.200	ND	102	70-130
Acenaphthene	0.210	0.020	"	0.200	ND	105	70-130
Anthracene	0.184	0.020	"	0.200	ND	92.0	70-130

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EPA 8270E (SW846) - Semivolatile Organic Compounds - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4J0333 - EPA 3580

Matrix Spike (B4J0333-MS1)		Source: E409854-01			Prepared: 10/03/2024 Analyzed: 10/05/2024					
Benzo (a) anthracene	0.181	0.005	mg/kg	0.200	0.0005	90.0	70-130			
Benzo (a) pyrene	0.195	0.020	"	0.200	ND	97.5	70-130			
Benzo (b) fluoranthene	0.207	0.020	"	0.200	0.001	103	70-130			
Benzo (g,h,i) perylene	0.222	0.020	"	0.200	0.001	110	70-130			
Benzo (k) fluoranthene	0.192	0.020	"	0.200	0.001	95.5	70-130			
Chrysene	0.191	0.020	"	0.200	0.001	94.9	70-130			
Dibenz (a,h) anthracene	0.211	0.020	"	0.200	ND	106	70-130			
Fluoranthene	0.189	0.020	"	0.200	0.0007	93.9	70-130			
Fluorene	0.209	0.020	"	0.200	0.0006	104	70-130			
Indeno (1,2,3-cd) pyrene	0.206	0.020	"	0.200	ND	103	70-130			
Naphthalene	0.225	0.002	"	0.200	ND	113	70-130			
Phenanthrene	0.192	0.020	"	0.200	0.0005	95.6	70-130			
Pyrene	0.191	0.020	"	0.200	0.0007	94.9	70-130			
Surrogate: Fluorene-d10	200		ug/kg	200		98.1	60-130			
Surrogate: Anthracene-d10	170		"	200		86.2	60-130			
Surrogate: Pyrene-d10	190		"	200		93.6	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		102	60-130			

Matrix Spike Dup (B4J0333-MSD1)		Source: E409854-01			Prepared: 10/03/2024 Analyzed: 10/05/2024					
1-Methylnaphthalene	0.202	0.002	mg/kg	0.200	0.0005	101	70-130	3.06	20	
2-Methylnaphthalene	0.211	0.002	"	0.200	ND	106	70-130	3.79	20	
Acenaphthene	0.215	0.020	"	0.200	ND	107	70-130	1.96	20	
Anthracene	0.187	0.020	"	0.200	ND	93.5	70-130	1.65	20	
Benzo (a) anthracene	0.201	0.005	"	0.200	0.0005	100	70-130	10.9	20	
Benzo (a) pyrene	0.202	0.020	"	0.200	ND	101	70-130	3.65	20	
Benzo (b) fluoranthene	0.216	0.020	"	0.200	0.001	107	70-130	4.32	20	
Benzo (g,h,i) perylene	0.249	0.020	"	0.200	0.001	124	70-130	11.8	20	

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EPA 8270E (SW846) - Semivolatile Organic Compounds - Quality Control
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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4J0333 - EPA 3580										
Matrix Spike Dup (B4J0333-MSD1)		Source: E409854-01			Prepared: 10/03/2024 Analyzed: 10/05/2024					
Benzo (k) fluoranthene	0.194	0.020	mg/kg	0.200	0.001	96.6	70-130	1.14	20	
Chrysene	0.193	0.020	"	0.200	0.001	95.8	70-130	0.920	20	
Dibenz (a,h) anthracene	0.248	0.020	"	0.200	ND	124	70-130	16.0	20	
Fluoranthene	0.170	0.020	"	0.200	0.0007	84.7	70-130	10.3	20	
Fluorene	0.206	0.020	"	0.200	0.0006	103	70-130	1.42	20	
Indeno (1,2,3-cd) pyrene	0.238	0.020	"	0.200	ND	119	70-130	14.3	20	
Naphthalene	0.218	0.002	"	0.200	ND	109	70-130	3.40	20	
Phenanthrene	0.185	0.020	"	0.200	0.0005	92.3	70-130	3.49	20	
Pyrene	0.207	0.020	"	0.200	0.0007	103	70-130	8.15	20	
Surrogate: Fluorene-d10	190		ug/kg	200		96.1	60-130			
Surrogate: Anthracene-d10	180		"	200		89.1	60-130			
Surrogate: Pyrene-d10	200		"	200		99.7	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		99.3	60-130			

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Jordan A. Bynon, Project Manager



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10701 Melody Drive Suite 304
Northglenn CO 80234

Ryan Zernis
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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 on a wet weight basis.

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

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