



CTEH

June 06, 2025

Kyle Lawrence

5120 North Shore Drive

North Little Rock AR 72118

Project Name - PROJ-054017

Project Number - PROJ-054017

Attached are your analytical results for PROJ-054017 received by Origins Laboratory May 15, 2025. This project is associated with Origins project number E5E0480-01.

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



CTEH

5120 North Shore Drive

North Little Rock AR 72118

Kyle Lawrence

Project Number: PROJ-054017

Project: PROJ-054017

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GACO0514T137S001	E5E0480-01	Soil	May 14, 2025 13:45	05/15/2025 07:45

Origins Laboratory

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Jen Pellegrini For Jordan A. Bynon, Project Manager

CTEH
 5120 North Shore Drive
 North Little Rock AR 72118

Kyle Lawrence
 Project Number: PROJ-054017
 Project: PROJ-054017

ENTHALPY ANALYTICAL Chain of Custody Record Lab No: ES04180 Page: 1 of 1		Turn Around Time (rush by advanced notice only) Standard: 2 Day 5 Day: 1 Day 3 Day: Custom TAT ASAP							
Matrix: A = Air S = Soil/Solid W = Water DW = Drinking Water P = Product O = Oil SD = Sediment T = Tissue WP = Wipe WW = Wastewater X = Other		Sample Type: Composite Grab or Discrete Blank							
Enthalpy Analytical - Denver 1725 W. Elk Place, Denver, CO 80211 Phone: 303-433-1322		Simple Receipt Temp and Notes: 0.9°C ice (lab use only)							
CUSTOMER INFORMATION Company: CTEH Report To: Genesis Bishop, Kyle Lawrence, Eric Galvin, Andrew Hensolt, Tom McMillin, Stephanie Ulmerman Email: genesis.bishop@cteh.net , kyle.lawrence@cteh.net , eric.galvin@cteh.net , andrew.hensolt@cteh.net , tom.mcmillin@cteh.net , stephanie.ulmerman@cteh.net Address: 5120 Northshore Dr, North Little Rock, AR 72118 Phone: Galveston, CO Phone: Site Name: Phone: Global ID: Billing Instructions: ctehnap@montrose-env.com		PROJECT INFORMATION Name: PROJ-054017 Number: Bishop, Loss of Containment P.O. #: Galveston, CO Address: Galveston, CO Site Name: Global ID: Sampled By: Matthew Beck							
ANALYSIS REQUEST Analysis Request: 2 VOCs 82600 Table 915		Test Instructions / Comments:							
Sample ID	Sampling Date	Sampling Time (24 hr)	Matrix	Sample Type	Sample Pres.	Cont. No.	Cont. Size	Cont. Initials	
1 GAC081411375881	5/14/2025	13:45 S		G	0	3	4 oz	MB	
2 GAC081411375881HS	5/14/2025	13:45 S		G	0	3	4 oz	MB	
3 GAC081411375881HSD	5/14/2025	13:45 S		G	0	3	4 oz	MB	
4									
5									
6									
7									
8									
9									
10									
Relinquished By:	Signature: Matthew Beck	Print Name: Matthew Beck	Company/Title: CTEH	Date/Time: 5-14-25 1800					
Received By:	Signature: NICKI MEREVA	Print Name: NICKI MEREVA	Company/Title: ENTHALPY	Date/Time: 05115125 07:45					
Relinquished By:									
Received By:									
Relinquished By:									
Received By:									

Origins Laboratory



Jen Pellegrini For Jordan A. Bynon, Project Manager

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ORIGINS LABORATORY

CTEH
5120 North Shore Drive
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Kyle Lawrence
Project Number: PROJ-054017
Project: PROJ-054017

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

Sample Receipt Checklist

Origins Work Order: E5E0480 Client: CTEH
Client Project ID: PROJ-054017
Checklist Completed by: NKM/NKM Shipped Via: HD
Date/time completed: 05/15/25 (UPS, FedEx, Hand Delivered, Pick-up, etc.)
Airbill #: N/A
Matrix(s) Received: (Check all that apply): Soil/Solid Water Other: _____
Cooler Number/Temperature: 1 / 0.9 °C _____ / _____ °C _____ / _____ °C (Describe)
Thermometer ID: T-007

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)	<input checked="" type="checkbox"/>			
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?		<input checked="" type="checkbox"/>		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.			<input checked="" type="checkbox"/>	
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 HNO3, HCL, H2SO4) / (pH >10 for samples preserved with NaAsO2+NaOH, ZnAc+NaOH)			<input checked="" type="checkbox"/>	
Additional Comments (if any):				

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

Reviewed by (Project Manager) NKM Date/Time Reviewed 05/15/25

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Kyle Lawrence
 Project Number: PROJ-054017
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GACO0514T137S001
5/14/2025 1:45:00PM

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
E5E0480-01 (Soil)									
Origins Laboratory									
Boron (DTPA Sorbitol)									
Boron	0.716		0.0994	mg/L	1	B5E1541	05/15/2025	05/19/2025	
Chromium Hexavalent by EPA 7199									
Hexavalent Chromium	ND		0.250	mg/kg	1	B5E1654	05/16/2025	06/04/2025	U
DRO/ORO by EPA 8015D									
Diesel (C10-C28)	ND		25.0	mg/kg	1	B5E1501	05/15/2025	05/15/2025	U
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	U
Surrogate: <i>o</i> -Terphenyl	87.6 %			50-150		"	"	"	
GBTEX+TMBs by 8260D									
1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B5E1472	05/15/2025	05/15/2025	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

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GACO0514T137S001
5/14/2025 1:45:00PM

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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E5E0480-01 (Soil)
Origins Laboratory

GBTEX+TMBs by 8260D

Surrogate: 1,2-Dichloroethane-d4	115 %			70-130		B5E1472	05/15/2025	05/15/2025	
Surrogate: Toluene-d8	99.7 %			70-130		"	"	"	
Surrogate: 4-Bromofluorobenzene	103 %			70-130		"	"	"	

Metals by Saturated Paste by EPA 6010

Calcium	1.92		0.499	meq/L	10	[CALC]	05/15/2025	05/19/2025	
Magnesium	ND		0.823	"	"	"	"	"	
Sodium	ND		0.435	"	"	"	"	"	

PAH by EPA 8270E extracted via 3580A

1-Methylnaphthalene	ND		0.002	mg/kg	1	B5E1524	05/15/2025	05/15/2025	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

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GACO0514T137S001
5/14/2025 1:45:00PM

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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E5E0480-01 (Soil)
Origins Laboratory

PAH by EPA 8270E extracted via 3580A

Fluoranthene	ND		0.020	mg/kg	1	B5E1524	05/15/2025	05/15/2025	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	99.3 %				60-130	"	"	"	
Surrogate: Anthracene-d10	98.6 %				60-130	"	"	"	
Surrogate: Pyrene-d10	112 %				60-130	"	"	"	
Surrogate: Benzo (a) pyrene-d12	107 %				60-130	"	"	"	

pH in Soil by 9045D

pH	8.11			pH Units	1	B5E1543	05/15/2025	05/17/2025	
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SAR by 20B Saturated Paste

SAR	0.334		0.0100	SAR	1	B5E1535	05/15/2025	05/19/2025	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.366		0.00500	mmhos/cm	1	B5E1543	05/15/2025	05/17/2025	
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Table 915 metals by EPA 6020B

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GACO0514T137S001
5/14/2025 1:45:00PM

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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E5E0480-01 (Soil)
Origins Laboratory

Table 915 metals by EPA 6020B

Arsenic	5.42		0.245	mg/kg	10	B5E1529	05/15/2025	05/15/2025	
Barium	79.7		69.2	"	"	"	"	"	
Cadmium	ND		0.321	"	"	"	"	"	U
Copper	ND		38.8	"	"	"	"	"	U
Lead	ND		11.8	"	"	"	"	"	U
Nickel	ND		21.9	"	"	"	"	"	U
Selenium	0.333		0.219	"	"	"	"	"	
Silver	ND		0.675	"	"	"	"	"	U
Zinc	ND		312	"	"	"	"	"	U

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***** DEFAULT GENERAL METHOD *** - Quality Control**
Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B5E1654 - EPA 3060A										
Blank (B5E1654-BLK1)										
					Prepared: 05/16/2025 Analyzed: 06/04/2025					
Hexavalent Chromium	ND	0.250	mg/kg							U
LCS (B5E1654-BS1)										
					Prepared: 05/16/2025 Analyzed: 06/04/2025					
Hexavalent Chromium	2.46	0.250	mg/kg	2.50		98.4	80-120			
Matrix Spike (B5E1654-MS1)										
					Source: E5E0480-01					
					Prepared: 05/16/2025 Analyzed: 06/05/2025					
Hexavalent Chromium	2.12	0.250	mg/kg	2.50	0.138	79.1	75-125			QM-07
Matrix Spike (B5E1654-MS2)										
					Source: E5E0480-01					
					Prepared: 05/16/2025 Analyzed: 06/05/2025					
Hexavalent Chromium	261	24.4	mg/kg	256	ND	102	75-125			
Matrix Spike Dup (B5E1654-MSD1)										
					Source: E5E0480-01					
					Prepared: 05/16/2025 Analyzed: 06/05/2025					
Hexavalent Chromium	2.17	0.252	mg/kg	2.52	0.138	80.4	75-125	2.39	200	QM-07
Post Spike (B5E1654-PS1)										
					Source: E5E0480-01					
					Prepared: 05/16/2025 Analyzed: 06/05/2025					
Hexavalent Chromium	51.1		ug/L	50.0	2.76	96.6	80-120			QM-07

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Classical Chemistry Parameters - Quality Control
Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B5E1535 - Saturated Paste Metals

Blank (B5E1535-BLK1)

Prepared: 05/15/2025 Analyzed: 05/19/2025

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

Duplicate (B5E1535-DUP1)

Source: E5E0480-01

Prepared: 05/15/2025 Analyzed: 05/19/2025

Calcium PPM	33.6	10.0	mg/L		38.5			13.5	50	
SAR	ND	0.0100	SAR		0.334				200	U
Magnesium PPM	6.17	10.0	mg/L		7.05			13.3	50	U
Sodium PPM	8.17	10.0	"		8.58			4.90	50	U

Batch B5E1541 - DTPA Sorbitol Preparation

Blank (B5E1541-BLK1)

Prepared: 05/15/2025 Analyzed: 05/19/2025

Boron	ND	0.100	mg/L							U
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Duplicate (B5E1541-DUP1)

Source: E5E0480-01

Prepared: 05/15/2025 Analyzed: 05/19/2025

Boron	0.780	0.0988	mg/L		0.716			8.63	50	
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 Project Number: PROJ-054017
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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 B5E1524 - EPA 3580

Blank (B5E1524-BLK1)

Prepared: 05/15/2025 Analyzed: 05/15/2025

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	200		ug/kg	200		100	60-130			
Surrogate: Anthracene-d10	200		"	200		100	60-130			
Surrogate: Pyrene-d10	220		"	200		112	60-130			
Surrogate: Benzo (a) pyrene-d12	210		"	200		107	60-130			

LCS (B5E1524-BS1)

Prepared: 05/15/2025 Analyzed: 05/15/2025

1-Methylnaphthalene	0.186	0.002	mg/kg	0.200		93.2	70-130			
2-Methylnaphthalene	0.185	0.002	"	0.200		92.7	70-130			
Acenaphthene	0.205	0.020	"	0.200		103	70-130			
Anthracene	0.198	0.020	"	0.200		99.0	70-130			

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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 B5E1524 - EPA 3580

LCS (B5E1524-BS1)

Prepared: 05/15/2025 Analyzed: 05/15/2025

Benzo (a) anthracene	0.227	0.005	mg/kg	0.200		113	70-130			
Benzo (a) pyrene	0.228	0.020	"	0.200		114	70-130			
Benzo (b) fluoranthene	0.221	0.020	"	0.200		110	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		110	70-130			
Chrysene	0.214	0.020	"	0.200		107	70-130			
Dibenz (a,h) anthracene	0.216	0.020	"	0.200		108	70-130			
Fluoranthene	0.230	0.020	"	0.200		115	70-130			
Fluorene	0.192	0.020	"	0.200		95.9	70-130			
Indeno (1,2,3-cd) pyrene	0.228	0.020	"	0.200		114	70-130			
Naphthalene	0.193	0.002	"	0.200		96.4	70-130			
Phenanthrene	0.205	0.020	"	0.200		102	70-130			
Pyrene	0.233	0.020	"	0.200		117	70-130			
Surrogate: Fluorene-d10	200		ug/kg	200		99.4	60-130			
Surrogate: Anthracene-d10	200		"	200		101	60-130			
Surrogate: Pyrene-d10	220		"	200		111	60-130			
Surrogate: Benzo (a) pyrene-d12	220		"	200		108	60-130			

Matrix Spike (B5E1524-MS1)

Source: E5E0480-01

Prepared: 05/15/2025 Analyzed: 05/15/2025

1-Methylnaphthalene	0.188	0.002	mg/kg	0.200	ND	94.1	70-130			
2-Methylnaphthalene	0.188	0.002	"	0.200	ND	94.0	70-130			
Acenaphthene	0.210	0.020	"	0.200	0.001	104	70-130			
Anthracene	0.201	0.020	"	0.200	0.0007	100	70-130			
Benzo (a) anthracene	0.222	0.005	"	0.200	0.001	110	70-130			
Benzo (a) pyrene	0.231	0.020	"	0.200	0.001	115	70-130			
Benzo (b) fluoranthene	0.223	0.020	"	0.200	0.001	111	70-130			
Benzo (g,h,i) perylene	0.223	0.020	"	0.200	0.002	110	70-130			

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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 B5E1524 - EPA 3580

Matrix Spike (B5E1524-MS1)

Source: E5E0480-01

Prepared: 05/15/2025 Analyzed: 05/15/2025

Benzo (k) fluoranthene	0.221	0.020	mg/kg	0.200	ND	110	70-130			
Chrysene	0.215	0.020	"	0.200	0.001	107	70-130			
Dibenz (a,h) anthracene	0.215	0.020	"	0.200	0.002	107	70-130			
Fluoranthene	0.231	0.020	"	0.200	0.001	115	70-130			
Fluorene	0.193	0.020	"	0.200	0.0004	96.4	70-130			
Indeno (1,2,3-cd) pyrene	0.226	0.020	"	0.200	0.003	112	70-130			
Naphthalene	0.194	0.002	"	0.200	ND	97.0	70-130			
Phenanthrene	0.205	0.020	"	0.200	0.001	102	70-130			
Pyrene	0.234	0.020	"	0.200	0.001	116	70-130			
Surrogate: Fluorene-d10	200		ug/kg	200		99.6	60-130			
Surrogate: Anthracene-d10	200		"	200		100	60-130			
Surrogate: Pyrene-d10	220		"	200		111	60-130			
Surrogate: Benzo (a) pyrene-d12	220		"	200		108	60-130			

Matrix Spike Dup (B5E1524-MSD1)

Source: E5E0480-01

Prepared: 05/15/2025 Analyzed: 05/15/2025

1-Methylnaphthalene	0.191	0.002	mg/kg	0.200	ND	95.6	70-130	1.61	20	
2-Methylnaphthalene	0.191	0.002	"	0.200	ND	95.4	70-130	1.51	20	
Acenaphthene	0.212	0.020	"	0.200	0.001	105	70-130	1.05	20	
Anthracene	0.198	0.020	"	0.200	0.0007	98.4	70-130	1.88	20	
Benzo (a) anthracene	0.235	0.005	"	0.200	0.001	117	70-130	6.03	20	
Benzo (a) pyrene	0.234	0.020	"	0.200	0.001	116	70-130	1.00	20	
Benzo (b) fluoranthene	0.226	0.020	"	0.200	0.001	112	70-130	0.983	20	
Benzo (g,h,i) perylene	0.226	0.020	"	0.200	0.002	112	70-130	1.47	20	
Benzo (k) fluoranthene	0.224	0.020	"	0.200	ND	112	70-130	1.61	20	
Chrysene	0.216	0.020	"	0.200	0.001	107	70-130	0.226	20	
Dibenz (a,h) anthracene	0.218	0.020	"	0.200	0.002	108	70-130	1.40	20	
Fluoranthene	0.234	0.020	"	0.200	0.001	116	70-130	1.15	20	

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 North Little Rock AR 72118

Kyle Lawrence
 Project Number: PROJ-054017
 Project: PROJ-054017

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 B5E1524 - EPA 3580

Matrix Spike Dup (B5E1524-MSD1)

Source: E5E0480-01

Prepared: 05/15/2025 Analyzed: 05/15/2025

Fluorene	0.194	0.020	mg/kg	0.200	0.0004	97.0	70-130	0.577	20	
Indeno (1,2,3-cd) pyrene	0.228	0.020	"	0.200	0.003	113	70-130	0.863	20	
Naphthalene	0.200	0.002	"	0.200	ND	100	70-130	3.12	20	
Phenanthrene	0.207	0.020	"	0.200	0.001	103	70-130	0.638	20	
Pyrene	0.237	0.020	"	0.200	0.001	118	70-130	1.32	20	
Surrogate: Fluorene-d10	200		ug/kg	200		98.8	60-130			
Surrogate: Anthracene-d10	200		"	200		99.7	60-130			
Surrogate: Pyrene-d10	220		"	200		112	60-130			
Surrogate: Benzo (a) pyrene-d12	220		"	200		108	60-130			

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Kyle Lawrence
 Project Number: PROJ-054017
 Project: PROJ-054017

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 B5E1501 - EPA 3550B										
Blank (B5E1501-BLK1)										
					Prepared: 05/15/2025 Analyzed: 05/15/2025					
Diesel (C10-C28)	ND	25.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	100	"							U
Surrogate: o-Terphenyl	25		"	24.9		101	50-150			
LCS (B5E1501-BS1)										
					Prepared: 05/15/2025 Analyzed: 05/15/2025					
Diesel (C10-C28)	966	50.0	mg/kg	1000		96.6	70-130			
Residual Range Organics (C28-C40)	1180	200	"	1000		118	70-130			
Surrogate: o-Terphenyl	54		"	49.8		109	50-150			
Matrix Spike (B5E1501-MS1)										
		Source: E5E0472-04			Prepared: 05/15/2025 Analyzed: 05/15/2025					
Diesel (C10-C28)	1060	50.0	mg/kg	1000	ND	106	70-130			
Residual Range Organics (C28-C40)	1340	200	"	1000	ND	134	70-130			QM-07
Surrogate: o-Terphenyl	55		"	49.8		110	50-150			
Matrix Spike (B5E1501-MS2)										
		Source: E5E0480-01			Prepared: 05/15/2025 Analyzed: 05/15/2025					
Diesel (C10-C28)	988	50.0	mg/kg	1000	ND	98.8	70-130			
Residual Range Organics (C28-C40)	1230	200	"	1000	ND	123	70-130			
Surrogate: o-Terphenyl	49		"	49.8		97.9	50-150			
Matrix Spike Dup (B5E1501-MSD1)										
		Source: E5E0472-04			Prepared: 05/15/2025 Analyzed: 05/15/2025					
Diesel (C10-C28)	1050	50.0	mg/kg	1000	ND	105	70-130	0.180	35	
Residual Range Organics (C28-C40)	1340	200	"	1000	ND	134	70-130	0.0929	35	QM-07
Surrogate: o-Terphenyl	52		"	49.8		104	50-150			
Matrix Spike Dup (B5E1501-MSD2)										
		Source: E5E0480-01			Prepared: 05/15/2025 Analyzed: 05/15/2025					
Diesel (C10-C28)	941	50.0	mg/kg	1000	ND	94.1	70-130	4.87	35	
Residual Range Organics (C28-C40)	1200	200	"	1000	ND	120	70-130	3.19	35	
Surrogate: o-Terphenyl	42		"	49.8		84.3	50-150			
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North Little Rock AR 72118

Kyle Lawrence

Project Number: PROJ-054017

Project: PROJ-054017

Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory

Table with 11 columns: Analyte, Result, Reporting Limit, Units, Spike Level, Source Result, %REC, %REC Limits, RPD, RPD Limit, Notes

Batch B5E1501 - EPA 3550B

Matrix Spike Dup (B5E1501-MSD2)

Source: E5E0480-01

Prepared: 05/15/2025 Analyzed: 05/15/2025

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Jen Pellegrini For Jordan A. Bynon, Project Manager



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Kyle Lawrence
 Project Number: PROJ-054017
 Project: PROJ-054017

Metals by EPA 6000/7000 Series Methods - Quality Control
Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B5E1529 - EPA 3050B

Blank (B5E1529-BLK1)

Prepared: 05/15/2025 Analyzed: 05/15/2025

Arsenic	ND	0.290	mg/kg							U
Barium	ND	82.0	"							U
Cadmium	ND	0.380	"							U
Copper	ND	46.0	"							U
Lead	ND	14.0	"							U
Nickel	ND	26.0	"							U
Selenium	ND	0.260	"							U
Silver	ND	0.800	"							U
Zinc	ND	370	"							U

LCS (B5E1529-BS1)

Prepared: 05/15/2025 Analyzed: 05/15/2025

Arsenic	5.63	0.290	mg/kg	5.00		113	80-120			
Barium	515	82.0	"	500		103	80-120			
Cadmium	5.46	0.380	"	5.00		109	80-120			
Copper	54.9	46.0	"	50.0		110	80-120			
Lead	5.02	14.0	"	5.00		100	80-120			U
Nickel	5.45	26.0	"	5.00		109	80-120			U
Selenium	5.69	0.260	"	5.00		114	80-120			
Silver	5.09	0.800	"	5.00		102	80-120			
Zinc	53.6	370	"	50.0		107	80-120			U

Matrix Spike (B5E1529-MS1)

Source: E5E0480-01

Prepared: 05/15/2025 Analyzed: 05/15/2025

Arsenic	16.5	0.274	mg/kg	4.73	5.42	234	75-125			QM-07
Barium	521	77.5	"	473	79.7	93.4	75-125			
Cadmium	5.03	0.359	"	4.73	0.207	102	75-125			
Copper	58.3	43.5	"	47.3	9.10	104	75-125			
Lead	13.1	13.2	"	4.73	7.99	107	75-125			U

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 Project: PROJ-054017

Metals by EPA 6000/7000 Series Methods - Quality Control
Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B5E1529 - EPA 3050B

Matrix Spike (B5E1529-MS1)

Source: E5E0480-01

Prepared: 05/15/2025 Analyzed: 05/15/2025

Nickel	15.5	24.6	mg/kg	4.73	9.03	136	75-125			QM-07, U
Selenium	5.35	0.246	"	4.73	0.333	106	75-125			
Silver	4.43	0.756	"	4.73	0.0295	93.1	75-125			
Zinc	92.3	350	"	47.3	37.8	115	75-125			U

Matrix Spike Dup (B5E1529-MSD1)

Source: E5E0480-01

Prepared: 05/15/2025 Analyzed: 05/15/2025

Arsenic	10.4	0.276	mg/kg	4.76	5.42	104	75-125	45.6	20	QR-DUP
Barium	563	78.1	"	476	79.7	101	75-125	7.68	20	
Cadmium	5.49	0.362	"	4.76	0.207	111	75-125	8.68	20	
Copper	60.9	43.8	"	47.6	9.10	109	75-125	4.44	20	
Lead	12.7	13.3	"	4.76	7.99	97.8	75-125	3.08	20	U
Nickel	14.2	24.8	"	4.76	9.03	108	75-125	8.77	20	U
Selenium	5.43	0.248	"	4.76	0.333	107	75-125	1.48	20	
Silver	4.93	0.762	"	4.76	0.0295	103	75-125	10.7	20	
Zinc	88.8	352	"	47.6	37.8	107	75-125	3.87	20	U

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Kyle Lawrence
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 Project: PROJ-054017

Saturated Paste - Quality Control
Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B5E1543 - Saturated Paste pH/EC

Blank (B5E1543-BLK1)

Prepared: 05/15/2025 Analyzed: 05/17/2025

Specific Conductance (EC)	ND	0.00500	mmhos/cm							U
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Duplicate (B5E1543-DUP1)

Source: E5E0480-01

Prepared: 05/15/2025 Analyzed: 05/17/2025

pH	8.05		pH Units		8.11		0.743	25		
Specific Conductance (EC)	0.349	0.00500	mmhos/cm		0.366		4.62	25		

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 Project Number: PROJ-054017
 Project: PROJ-054017

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 B5E1472 - EPA 5030 (soil)

Blank (B5E1472-BLK1)

Prepared: 05/15/2025 Analyzed: 05/15/2025

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	103	70-130				
Surrogate: Toluene-d8	0.13		"	0.125	103	70-130				
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125	96.5	70-130				

LCS (B5E1472-BS1)

Prepared: 05/15/2025 Analyzed: 05/15/2025

1,2,4-Trimethylbenzene	0.0919	0.00200	mg/kg	0.100	91.9	70-130				
1,3,5-Trimethylbenzene	0.0939	0.00200	"	0.100	93.9	70-130				
Benzene	0.0932	0.00200	"	0.100	93.2	70-130				
Ethylbenzene	0.0950	0.00200	"	0.100	95.0	70-130				
Naphthalene	0.0932	0.00380	"	0.100	93.2	70-130				
Toluene	0.0902	0.00200	"	0.100	90.2	70-130				
o-Xylene	0.0944	0.00200	"	0.100	94.4	70-130				
m,p-Xylene	0.182	0.00400	"	0.200	91.0	70-130				

Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125	101	70-130				
Surrogate: Toluene-d8	0.13		"	0.125	100	70-130				
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125	100	70-130				

Matrix Spike (B5E1472-MS1)

Source: E5E0472-04

Prepared: 05/15/2025 Analyzed: 05/15/2025

1,2,4-Trimethylbenzene	0.111	0.00200	mg/kg	0.100	ND	111	70-130			
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Kyle Lawrence
 Project Number: PROJ-054017
 Project: PROJ-054017

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 B5E1472 - EPA 5030 (soil)

Matrix Spike (B5E1472-MS1)

Source: E5E0472-04

Prepared: 05/15/2025 Analyzed: 05/15/2025

1,3,5-Trimethylbenzene	0.113	0.00200	mg/kg	0.100	ND	113	70-130			
Benzene	0.111	0.00200	"	0.100	0.000640	110	70-130			
Ethylbenzene	0.113	0.00200	"	0.100	ND	113	70-130			
Naphthalene	0.119	0.00380	"	0.100	ND	119	70-130			
Toluene	0.108	0.00200	"	0.100	ND	108	70-130			
o-Xylene	0.113	0.00200	"	0.100	ND	113	70-130			
m,p-Xylene	0.221	0.00400	"	0.200	ND	110	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		107	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		100	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		99.6	70-130			

Matrix Spike (B5E1472-MS2)

Source: E5E0480-01

Prepared: 05/15/2025 Analyzed: 05/15/2025

1,2,4-Trimethylbenzene	0.0904	0.00200	mg/kg	0.100	ND	90.4	70-130			
1,3,5-Trimethylbenzene	0.0916	0.00200	"	0.100	ND	91.6	70-130			
Benzene	0.101	0.00200	"	0.100	ND	101	70-130			
Ethylbenzene	0.0924	0.00200	"	0.100	ND	92.4	70-130			
Naphthalene	0.0908	0.00380	"	0.100	ND	90.8	70-130			
Toluene	0.0909	0.00200	"	0.100	ND	90.9	70-130			
o-Xylene	0.0930	0.00200	"	0.100	ND	93.0	70-130			
m,p-Xylene	0.181	0.00400	"	0.200	ND	90.3	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		111	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		98.4	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		99.2	70-130			

Matrix Spike Dup (B5E1472-MSD1)

Source: E5E0472-04

Prepared: 05/15/2025 Analyzed: 05/15/2025

1,2,4-Trimethylbenzene	0.0963	0.00200	mg/kg	0.100	ND	96.3	70-130	13.8	20	
1,3,5-Trimethylbenzene	0.0996	0.00200	"	0.100	ND	99.6	70-130	12.8	20	

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Jen Pellegrini For Jordan A. Bynon, Project Manager



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Kyle Lawrence
 Project Number: PROJ-054017
 Project: PROJ-054017

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 B5E1472 - EPA 5030 (soil)

Matrix Spike Dup (B5E1472-MSD1)

Source: E5E0472-04

Prepared: 05/15/2025 Analyzed: 05/15/2025

Benzene	0.0973	0.00200	mg/kg	0.100	0.000640	96.7	70-130	12.9	20	
Ethylbenzene	0.0982	0.00200	"	0.100	ND	98.2	70-130	14.0	20	
Naphthalene	0.0941	0.00380	"	0.100	ND	94.1	70-130	23.6	20	QR-02
Toluene	0.0948	0.00200	"	0.100	ND	94.8	70-130	12.9	20	
o-Xylene	0.101	0.00200	"	0.100	ND	101	70-130	11.6	20	
m,p-Xylene	0.191	0.00400	"	0.200	ND	95.7	70-130	14.3	20	
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		106	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		101	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		100	70-130			

Matrix Spike Dup (B5E1472-MSD2)

Source: E5E0480-01

Prepared: 05/15/2025 Analyzed: 05/15/2025

1,2,4-Trimethylbenzene	0.0842	0.00200	mg/kg	0.100	ND	84.2	70-130	7.10	20	
1,3,5-Trimethylbenzene	0.0861	0.00200	"	0.100	ND	86.1	70-130	6.19	20	
Benzene	0.0918	0.00200	"	0.100	ND	91.8	70-130	9.62	20	
Ethylbenzene	0.0864	0.00200	"	0.100	ND	86.4	70-130	6.69	20	
Naphthalene	0.0853	0.00380	"	0.100	ND	85.3	70-130	6.24	20	
Toluene	0.0854	0.00200	"	0.100	ND	85.4	70-130	6.26	20	
o-Xylene	0.0877	0.00200	"	0.100	ND	87.7	70-130	5.91	20	
m,p-Xylene	0.168	0.00400	"	0.200	ND	84.1	70-130	7.10	20	
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		115	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		99.6	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		99.4	70-130			

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Jen Pellegrini For Jordan A. Bynon, Project Manager

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North Little Rock AR 72118

Kyle Lawrence
Project Number: PROJ-054017
Project: PROJ-054017

Notes and Definitions

U Sample is Non-Detect.

QR-DUP RPD exceeds QC acceptance criteria, this indicates source sample is not homogenous.

QR-02 The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported on a wet weight basis.

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