



**CTEH**

**June 05, 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 13, 2025. This project is associated with Origins project number E5E0415-01.

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
GACO0512T230S001	E5E0415-01	Soil	May 12, 2025 13:45	05/13/2025 07:30

Origins Laboratory

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Jen Pellegrini For Jordan A. Bynon, Project Manager



# ORIGINS LABORATORY

CTEH  
5120 North Shore Drive  
North Little Rock AR 72118

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: ESE0415 Client: CTEH  
 Client Project ID: PROJ-054017  
 Checklist Completed by: SRM / gmc Shipped Via: TD  
 Date/time completed: 05/13/25 (UPS, FedEx, Hand Delivered, Pick-up, etc.)  
 Airbill #: N/A  
 Matrix(s) Received: (Check all that apply):  Soil/Solid  Water  Other: \_\_\_\_\_  
 Cooler Number/Temperature: 139 °C (Describe)  
 Thermometer ID: F001

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> ?	<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 <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Are short holding time analytes or samples with HTs due within 48 hours present <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Is a chain-of-custody (COC) present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client with date and time recorded <sup>(1)</sup> ?	<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 <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 HNO <sub>3</sub> , HCl, H <sub>2</sub> SO <sub>4</sub> ) / (pH > 10 for samples preserved with NaAsO <sub>2</sub> +NaOH, ZnAc+NaOH).	<input checked="" type="checkbox"/>			
Additional Comments (if any):				

<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 be taken in the additional comments (above) and the case narrative.

Reviewed by (Project Manager)

05/13/25  
Date/Time Reviewed

Origins Laboratory



Jen Pellegrini For Jordan A. Bynon, Project Manager

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**GACO0512T230S001**  
**5/12/2025 1:45:00PM**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
<b>E5E0415-01 (Soil)</b>									
<b>Origins Laboratory</b>									
<b>Boron (DTPA Sorbitol)</b>									
Boron	0.388		0.0992	mg/L	1	B5E1315	05/13/2025	05/15/2025	
<b>Chromium Hexavalent by EPA 7199</b>									
Hexavalent Chromium	ND		0.263	mg/kg	1	B5E1329	05/13/2025	06/02/2025	U
<b>DRO/ORO by EPA 8015D</b>									
Diesel (C10-C28)	ND		25.0	mg/kg	1	B5E1304	05/13/2025	05/13/2025	U
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	U
Surrogate: o-Terphenyl	89.2 %			50-150		"	"	"	
<b>GBTEX+TMBs by 8260D</b>									
1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B5E1313	05/13/2025	05/13/2025	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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**GACO0512T230S001**  
**5/12/2025 1:45:00PM**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**E5E0415-01 (Soil)**  
**Origins Laboratory**

**GBTEX+TMBs by 8260D**

Surrogate: 1,2-Dichloroethane-d4	103 %			70-130		B5E1313	05/13/2025	05/13/2025	
Surrogate: Toluene-d8	98.8 %			70-130		"	"	"	
Surrogate: 4-Bromofluorobenzene	92.2 %			70-130		"	"	"	

**Metals by Saturated Paste by EPA 6010**

Calcium	1.12		0.499	meq/L	10	[CALC]	05/13/2025	05/14/2025	
Magnesium	ND		0.823	"	"	"	"	"	
Sodium	ND		0.435	"	"	"	"	"	

**PAH by EPA 8270E extracted via 3580A**

1-Methylnaphthalene	ND		0.002	mg/kg	1	B5E1321	05/13/2025	05/13/2025	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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**GACO0512T230S001**  
**5/12/2025 1:45:00PM**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**E5E0415-01 (Soil)**  
**Origins Laboratory**

**PAH by EPA 8270E extracted via 3580A**

Fluoranthene	ND		0.020	mg/kg	1	B5E1321	05/13/2025	05/13/2025	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	98.8 %			60-130		"	"	"	
Surrogate: Anthracene-d10	100 %			60-130		"	"	"	
Surrogate: Pyrene-d10	111 %			60-130		"	"	"	
Surrogate: Benzo (a) pyrene-d12	107 %			60-130		"	"	"	

**pH in Soil by 9045D**

pH	7.82			pH Units	1	B5E1331	05/13/2025	05/14/2025	
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**SAR by 20B Saturated Paste**

SAR	0.354		0.0100	SAR	1	B5E1308	05/13/2025	05/14/2025	
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	0.318		0.00500	mmhos/cm	1	B5E1331	05/13/2025	05/14/2025	
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**Table 915 metals by EPA 6020B**

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**GACO0512T230S001**  
**5/12/2025 1:45:00PM**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**E5E0415-01 (Soil)**  
**Origins Laboratory**

**Table 915 metals by EPA 6020B**

Arsenic	67.4		0.246	mg/kg	10	B5E1306	05/13/2025	05/14/2025	
Barium	ND		69.6	"	"	"	"	"	U
Cadmium	ND		0.323	"	"	"	"	"	U
Copper	ND		39.0	"	"	"	"	"	U
Lead	56.3		11.9	"	"	"	"	"	
Nickel	ND		22.1	"	"	"	"	"	U
Selenium	ND		0.221	"	"	"	"	"	U
Silver	ND		0.679	"	"	"	"	"	U
Zinc	ND		314	"	"	"	"	"	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
<b>Batch B5E1329 - EPA 3060A</b>										
<b>Blank (B5E1329-BLK1)</b>										
					Prepared: 05/13/2025 Analyzed: 06/02/2025					
Hexavalent Chromium	ND	0.250	mg/kg							U
<b>LCS (B5E1329-BS1)</b>										
					Prepared: 05/13/2025 Analyzed: 06/02/2025					
Hexavalent Chromium	2.59	0.250	mg/kg	2.50		104	80-120			
<b>Matrix Spike (B5E1329-MS1)</b>		<b>Source: E5E0412-26</b>			Prepared: 05/13/2025 Analyzed: 06/02/2025				<b>QM-14</b>	
Hexavalent Chromium	0.943	0.249	mg/kg	2.49	ND	37.8	75-125			
<b>Matrix Spike (B5E1329-MS2)</b>		<b>Source: E5E0412-26</b>			Prepared: 05/13/2025 Analyzed: 06/02/2025				<b>QM-14</b>	
Hexavalent Chromium	168	25.2	mg/kg	288	ND	58.5	75-125			
<b>Matrix Spike Dup (B5E1329-MSD1)</b>		<b>Source: E5E0412-26</b>			Prepared: 05/13/2025 Analyzed: 06/02/2025				<b>QM-14</b>	
Hexavalent Chromium	0.0728	0.253	mg/kg	2.53	ND	2.88	75-125	171	200	U
<b>Post Spike (B5E1329-PS1)</b>		<b>Source: E5E0412-26</b>			Prepared: 05/13/2025 Analyzed: 06/02/2025					
Hexavalent Chromium	52.7		ug/L	50.0	0.630	104	80-120			

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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 B5E1308 - Saturated Paste Metals**

**Blank (B5E1308-BLK1)**

Prepared: 05/13/2025 Analyzed: 05/14/2025

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 (B5E1308-DUP1)**

Source: E5E0196-01

Prepared: 05/13/2025 Analyzed: 05/14/2025

Calcium PPM	37.5	10.0	mg/L		40.9			8.47	50	
SAR	ND	0.0100	SAR		1.15				200	U
Magnesium PPM	8.11	10.0	mg/L		8.75			7.59	50	U
Sodium PPM	30.5	10.0	"		30.9			1.27	50	

**Batch B5E1315 - DTPA Sorbitol Preparation**

**Blank (B5E1315-BLK1)**

Prepared: 05/13/2025 Analyzed: 05/15/2025

Boron	ND	0.100	mg/L							U
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**Duplicate (B5E1315-DUP1)**

Source: E5E0356-02

Prepared: 05/13/2025 Analyzed: 05/15/2025

Boron	0.664	0.100	mg/L		0.687			3.34	50	
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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 B5E1321 - EPA 3580**

**Blank (B5E1321-BLK1)**

Prepared: 05/13/2025 Analyzed: 05/13/2025

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		101	60-130			
Surrogate: Anthracene-d10	200		"	200		101	60-130			
Surrogate: Pyrene-d10	220		"	200		112	60-130			
Surrogate: Benzo (a) pyrene-d12	220		"	200		108	60-130			

**LCS (B5E1321-BS1)**

Prepared: 05/13/2025 Analyzed: 05/13/2025

1-Methylnaphthalene	0.196	0.002	mg/kg	0.200		98.2	70-130			
2-Methylnaphthalene	0.193	0.002	"	0.200		96.6	70-130			
Acenaphthene	0.215	0.020	"	0.200		107	70-130			
Anthracene	0.213	0.020	"	0.200		106	70-130			

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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 B5E1321 - EPA 3580**

**LCS (B5E1321-BS1)**

Prepared: 05/13/2025 Analyzed: 05/13/2025

Benzo (a) anthracene	0.228	0.005	mg/kg	0.200		114	70-130			
Benzo (a) pyrene	0.239	0.020	"	0.200		119	70-130			
Benzo (b) fluoranthene	0.227	0.020	"	0.200		114	70-130			
Benzo (g,h,i) perylene	0.226	0.020	"	0.200		113	70-130			
Benzo (k) fluoranthene	0.225	0.020	"	0.200		113	70-130			
Chrysene	0.221	0.020	"	0.200		110	70-130			
Dibenz (a,h) anthracene	0.224	0.020	"	0.200		112	70-130			
Fluoranthene	0.233	0.020	"	0.200		116	70-130			
Fluorene	0.202	0.020	"	0.200		101	70-130			
Indeno (1,2,3-cd) pyrene	0.232	0.020	"	0.200		116	70-130			
Naphthalene	0.204	0.002	"	0.200		102	70-130			
Phenanthrene	0.214	0.020	"	0.200		107	70-130			
Pyrene	0.235	0.020	"	0.200		118	70-130			
Surrogate: Fluorene-d10	200		ug/kg	200		99.6	60-130			
Surrogate: Anthracene-d10	200		"	200		101	60-130			
Surrogate: Pyrene-d10	210		"	200		107	60-130			
Surrogate: Benzo (a) pyrene-d12	220		"	200		109	60-130			

**Matrix Spike (B5E1321-MS1)**

**Source: E5E0412-24**

Prepared: 05/13/2025 Analyzed: 05/13/2025

1-Methylnaphthalene	0.190	0.002	mg/kg	0.200	0.0007	94.5	70-130			
2-Methylnaphthalene	0.191	0.002	"	0.200	ND	95.6	70-130			
Acenaphthene	0.209	0.020	"	0.200	0.001	104	70-130			
Anthracene	0.202	0.020	"	0.200	0.001	100	70-130			
Benzo (a) anthracene	0.221	0.005	"	0.200	0.003	109	70-130			
Benzo (a) pyrene	0.236	0.020	"	0.200	0.003	117	70-130			
Benzo (b) fluoranthene	0.233	0.020	"	0.200	0.005	114	70-130			
Benzo (g,h,i) perylene	0.227	0.020	"	0.200	0.004	112	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 B5E1321 - EPA 3580**

**Matrix Spike (B5E1321-MS1)**

**Source: E5E0412-24**

Prepared: 05/13/2025 Analyzed: 05/13/2025

Benzo (k) fluoranthene	0.228	0.020	mg/kg	0.200	0.002	113	70-130			
Chrysene	0.213	0.020	"	0.200	0.005	104	70-130			
Dibenz (a,h) anthracene	0.223	0.020	"	0.200	0.002	111	70-130			
Fluoranthene	0.233	0.020	"	0.200	0.004	114	70-130			
Fluorene	0.202	0.020	"	0.200	0.0006	101	70-130			
Indeno (1,2,3-cd) pyrene	0.225	0.020	"	0.200	0.003	111	70-130			
Naphthalene	0.200	0.002	"	0.200	ND	99.9	70-130			
Phenanthrene	0.210	0.020	"	0.200	0.002	104	70-130			
Pyrene	0.235	0.020	"	0.200	0.004	115	70-130			
Surrogate: Fluorene-d10	200		ug/kg	200		100	60-130			
Surrogate: Anthracene-d10	200		"	200		101	60-130			
Surrogate: Pyrene-d10	220		"	200		108	60-130			
Surrogate: Benzo (a) pyrene-d12	210		"	200		107	60-130			

**Matrix Spike Dup (B5E1321-MSD1)**

**Source: E5E0412-24**

Prepared: 05/13/2025 Analyzed: 05/13/2025

1-Methylnaphthalene	0.190	0.002	mg/kg	0.200	0.0007	94.7	70-130	0.175	20	
2-Methylnaphthalene	0.188	0.002	"	0.200	ND	93.8	70-130	1.91	20	
Acenaphthene	0.211	0.020	"	0.200	0.001	105	70-130	1.17	20	
Anthracene	0.207	0.020	"	0.200	0.001	103	70-130	2.33	20	
Benzo (a) anthracene	0.223	0.005	"	0.200	0.003	110	70-130	0.724	20	
Benzo (a) pyrene	0.235	0.020	"	0.200	0.003	116	70-130	0.263	20	
Benzo (b) fluoranthene	0.232	0.020	"	0.200	0.005	113	70-130	0.356	20	
Benzo (g,h,i) perylene	0.219	0.020	"	0.200	0.004	108	70-130	3.63	20	
Benzo (k) fluoranthene	0.229	0.020	"	0.200	0.002	113	70-130	0.589	20	
Chrysene	0.219	0.020	"	0.200	0.005	107	70-130	2.80	20	
Dibenz (a,h) anthracene	0.220	0.020	"	0.200	0.002	109	70-130	1.66	20	
Fluoranthene	0.232	0.020	"	0.200	0.004	114	70-130	0.384	20	

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Jen Pellegrini For Jordan A. Bynon, Project Manager



CTEH  
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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 B5E1321 - EPA 3580**

**Matrix Spike Dup (B5E1321-MSD1)**

**Source: E5E0412-24**

Prepared: 05/13/2025 Analyzed: 05/13/2025

Fluorene	0.199	0.020	mg/kg	0.200	0.0006	99.1	70-130	1.69	20	
Indeno (1,2,3-cd) pyrene	0.237	0.020	"	0.200	0.003	117	70-130	5.24	20	
Naphthalene	0.194	0.002	"	0.200	ND	97.2	70-130	2.74	20	
Phenanthrene	0.207	0.020	"	0.200	0.002	102	70-130	1.43	20	
Pyrene	0.233	0.020	"	0.200	0.004	114	70-130	0.824	20	
Surrogate: Fluorene-d10	200		ug/kg	200		100	60-130			
Surrogate: Anthracene-d10	200		"	200		99.6	60-130			
Surrogate: Pyrene-d10	220		"	200		109	60-130			
Surrogate: Benzo (a) pyrene-d12	220		"	200		108	60-130			

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 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
<b>Batch B5E1304 - EPA 3550B</b>										
<b>Blank (B5E1304-BLK1)</b>										
					Prepared: 05/13/2025 Analyzed: 05/13/2025					
Diesel (C10-C28)	ND	25.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	100	"							U
Surrogate: o-Terphenyl	21		"	24.9		85.1	50-150			
<b>LCS (B5E1304-BS1)</b>										
					Prepared: 05/13/2025 Analyzed: 05/13/2025					
Diesel (C10-C28)	1060	50.0	mg/kg	1000		106	70-130			
Residual Range Organics (C28-C40)	1030	200	"	1000		103	70-130			
Surrogate: o-Terphenyl	42		"	49.8		84.2	50-150			
<b>Matrix Spike (B5E1304-MS1)</b>										
		<b>Source: E5E0412-24</b>			Prepared: 05/13/2025 Analyzed: 05/13/2025					
Diesel (C10-C28)	1220	50.0	mg/kg	1000	81.2	114	70-130			
Residual Range Organics (C28-C40)	1290	200	"	1000	178	111	70-130			
Surrogate: o-Terphenyl	45		"	49.8		90.6	50-150			
<b>Matrix Spike Dup (B5E1304-MSD1)</b>										
		<b>Source: E5E0412-24</b>			Prepared: 05/13/2025 Analyzed: 05/13/2025					
Diesel (C10-C28)	1270	50.0	mg/kg	1000	81.2	119	70-130	3.82	35	
Residual Range Organics (C28-C40)	1400	200	"	1000	178	123	70-130	8.30	35	
Surrogate: o-Terphenyl	44		"	49.8		89.0	50-150			

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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 B5E1306 - EPA 3050B**

**Blank (B5E1306-BLK1)**

Prepared: 05/13/2025 Analyzed: 05/14/2025

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 (B5E1306-BS1)**

Prepared: 05/13/2025 Analyzed: 05/14/2025

Arsenic	4.97	0.290	mg/kg	5.00		99.4	80-120			
Barium	533	82.0	"	500		107	80-120			
Cadmium	5.32	0.380	"	5.00		106	80-120			
Copper	51.2	46.0	"	50.0		102	80-120			
Lead	5.29	14.0	"	5.00		106	80-120			U
Nickel	5.66	26.0	"	5.00		113	80-120			U
Selenium	5.34	0.260	"	5.00		107	80-120			
Silver	5.48	0.800	"	5.00		110	80-120			
Zinc	49.9	370	"	50.0		99.8	80-120			U

**Matrix Spike (B5E1306-MS1)**

**Source: E5E0412-24**

Prepared: 05/13/2025 Analyzed: 05/14/2025

Arsenic	9.02	0.267	mg/kg	4.60	6.50	54.8	75-125			QM-07
Barium	597	75.4	"	460	77.6	113	75-125			
Cadmium	5.38	0.349	"	4.60	0.259	111	75-125			
Copper	63.3	42.3	"	46.0	11.2	113	75-125			
Lead	23.1	12.9	"	4.60	18.2	106	75-125			

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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 B5E1306 - EPA 3050B**

**Matrix Spike (B5E1306-MS1)**

**Source: E5E0412-24**

Prepared: 05/13/2025 Analyzed: 05/14/2025

Nickel	12.9	23.9	mg/kg	4.60	8.01	106	75-125			U
Selenium	5.09	0.239	"	4.60	0.284	104	75-125			
Silver	5.36	0.736	"	4.60	0.0662	115	75-125			
Zinc	124	340	"	46.0	75.5	106	75-125			U

**Matrix Spike Dup (B5E1306-MSD1)**

**Source: E5E0412-24**

Prepared: 05/13/2025 Analyzed: 05/14/2025

Arsenic	9.06	0.265	mg/kg	4.57	6.50	55.9	75-125	0.407	20	QM-07
Barium	568	75.0	"	457	77.6	107	75-125	5.00	20	
Cadmium	4.99	0.347	"	4.57	0.259	103	75-125	7.64	20	
Copper	61.4	42.0	"	45.7	11.2	110	75-125	3.08	20	
Lead	23.0	12.8	"	4.57	18.2	104	75-125	0.627	20	
Nickel	12.4	23.8	"	4.57	8.01	95.7	75-125	3.90	20	U
Selenium	5.08	0.238	"	4.57	0.284	105	75-125	0.226	20	
Silver	4.98	0.731	"	4.57	0.0662	108	75-125	7.26	20	
Zinc	122	338	"	45.7	75.5	102	75-125	1.51	20	U

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**Saturated Paste - Quality Control**  
**Origins Laboratory**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B5E1331 - Saturated Paste pH/EC**

**Blank (B5E1331-BLK1)**

Prepared: 05/13/2025 Analyzed: 05/14/2025

Specific Conductance (EC)	ND	0.00500	mmhos/cm							U
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**Duplicate (B5E1331-DUP1)**

**Source: E5E0196-01**

Prepared: 05/13/2025 Analyzed: 05/14/2025

Specific Conductance (EC)	0.520	0.00500	mmhos/cm		0.535			2.79	25	
pH	8.24		pH Units		8.24			0.00	25	

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**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 B5E1313 - EPA 5030 (soil)**

**Blank (B5E1313-BLK1)**

Prepared: 05/13/2025 Analyzed: 05/13/2025

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	101	70-130				
Surrogate: Toluene-d8	0.12		"	0.125	98.4	70-130				
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125	93.8	70-130				

**LCS (B5E1313-BS1)**

Prepared: 05/13/2025 Analyzed: 05/13/2025

1,2,4-Trimethylbenzene	0.106	0.00200	mg/kg	0.100	106	70-130				
1,3,5-Trimethylbenzene	0.108	0.00200	"	0.100	108	70-130				
Benzene	0.0967	0.00200	"	0.100	96.7	70-130				
Ethylbenzene	0.106	0.00200	"	0.100	106	70-130				
Naphthalene	0.0993	0.00380	"	0.100	99.3	70-130				
Toluene	0.0944	0.00200	"	0.100	94.4	70-130				
o-Xylene	0.104	0.00200	"	0.100	104	70-130				
m,p-Xylene	0.213	0.00400	"	0.200	106	70-130				

Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125	97.2	70-130				
Surrogate: Toluene-d8	0.12		"	0.125	96.3	70-130				
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125	103	70-130				

**Matrix Spike (B5E1313-MS1)**

Source: E5E0412-24

Prepared: 05/13/2025 Analyzed: 05/13/2025

1,2,4-Trimethylbenzene	0.0582	0.00200	mg/kg	0.100	0.00392	54.2	70-130			QM-07
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Jen Pellegrini For Jordan A. Bynon, Project Manager



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 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 B5E1313 - EPA 5030 (soil)**

**Matrix Spike (B5E1313-MS1)**

**Source: E5E0412-24**

Prepared: 05/13/2025 Analyzed: 05/13/2025

1,3,5-Trimethylbenzene	0.0587	0.00200	mg/kg	0.100	0.00202	56.7	70-130			QM-07
Benzene	0.0718	0.00200	"	0.100	ND	71.8	70-130			
Ethylbenzene	0.0669	0.00200	"	0.100	0.00132	65.6	70-130			QM-07
Naphthalene	0.0460	0.00380	"	0.100	0.00158	44.4	70-130			QM-07
Toluene	0.0655	0.00200	"	0.100	0.00588	59.6	70-130			QM-07
o-Xylene	0.0662	0.00200	"	0.100	0.00208	64.1	70-130			QM-07
m,p-Xylene	0.133	0.00400	"	0.200	0.00614	63.5	70-130			QM-07
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		108	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		94.9	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		103	70-130			

**Matrix Spike Dup (B5E1313-MSD1)**

**Source: E5E0412-24**

Prepared: 05/13/2025 Analyzed: 05/13/2025

1,2,4-Trimethylbenzene	0.0623	0.00200	mg/kg	0.100	0.00392	58.3	70-130	6.81	20	QM-07
1,3,5-Trimethylbenzene	0.0630	0.00200	"	0.100	0.00202	61.0	70-130	7.10	20	QM-07
Benzene	0.0765	0.00200	"	0.100	ND	76.5	70-130	6.34	20	
Ethylbenzene	0.0716	0.00200	"	0.100	0.00132	70.3	70-130	6.70	20	
Naphthalene	0.0522	0.00380	"	0.100	0.00158	50.6	70-130	12.7	20	QM-07
Toluene	0.0699	0.00200	"	0.100	0.00588	64.0	70-130	6.56	20	QM-07
o-Xylene	0.0708	0.00200	"	0.100	0.00208	68.7	70-130	6.72	20	QM-07
m,p-Xylene	0.142	0.00400	"	0.200	0.00614	68.0	70-130	6.53	20	QM-07
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		108	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		95.0	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		103	70-130			

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

### Notes and Definitions

- U Sample is Non-Detect.
  - QM-14 The pre-digestion matrix spike recoveries for Cr6 were less than the acceptance range min. The soil sample reduced Cr6 and no measurable native Cr6 existed in the unspiked sample. Batch QC deemed acceptable based on passing LCS recovery.
  - 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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