



Ensolum

May 16, 2025

Jeremy Espinoza

11049 W 44th Avenue, Suite 103

Wheat Ridge CO 80033

**Project Name - KMG - Howard 30N, 4C, 29N-21HZ
O Facility**

Project Number - 09A14171102

Attached are your analytical results for KMG - Howard 30N, 4C, 29N-21HZ O Facility received by Origins Laboratory March 03, 2025. This project is associated with Origins project number E5C0054-01.

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.

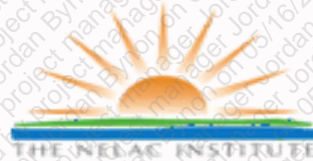
The analytical results apply specifically to the samples and analyses specified per the attached Chain of Custody. As such, this report shall not be reproduced except in full, without the written approval of Origin's laboratory.

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



Ensolium
11049 W 44th Avenue, Suite 103
Wheat Ridge CO 80033

Jeremy Espinoza
Project Number: 09A14171102
Project: KMG - Howard 30N, 4C, 29N-21HZ O
Facility

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TB-BG01@0.5'	E5C0054-01	Soil	March 3, 2025 9:10	03/03/2025 15:34
AST01@0.5'	E5C0054-02	Soil	March 3, 2025 9:30	03/03/2025 15:34
AST01@0.5'-V	E5C0054-03	Soil	March 3, 2025 9:35	03/03/2025 15:34
VRT-SEP01@0.5'	E5C0054-04	Soil	March 3, 2025 9:40	03/03/2025 15:34
VRT-SEP01@0.5'-V	E5C0054-05	Soil	March 3, 2025 9:45	03/03/2025 15:34

A Barium rerun was requested for AST01@0.5'-V per Hannah's email on 04/15/2025. No errors were found in the original data, all results are reported. JAB

Origins Laboratory

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

ORIGINS LABORATORY

Ensolium
 11049 W 44th Avenue, Suite 103
 Wheat Ridge CO 80033

Jeremy Espinoza
 Project Number: 09A14171102
 Project: KMG - Howard 30N, 4C, 29N-21HZ O Facility

Origins Laboratory

Sample Receipt Checklist

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

Origins Work Order: ES00054

Client: Ensolium

Client Project ID: Howard Facility

Checklist Completed by: NKM/NKM

Shipped Via: HD

Date/time completed: 03/04/25

(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 / 5.0 °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"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<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 type="checkbox"/>	<input type="checkbox"/>	<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) [Signature]

Date/Time Reviewed 3/5/25

Origins Laboratory

[Signature]

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.


Ensolium
11049 W 44th Avenue, Suite 103
Wheat Ridge CO 80033

Jeremy Espinoza
Project Number: 09A14171102
Project: KMG - Howard 30N, 4C, 29N-21HZ O
Facility

TB-BG01@0.5'
3/3/2025 9:10:00AM

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
E5C0054-01 (Soil)									
GEL Laboratories, LLC									
Total Metals 7196A									
Hexavalent Chromium	ND	0.121	0.302	mg/kg dry	1	2771709	03/26/2025	03/27/2025	U
Origins Laboratory									
Boron (DTPA Sorbitol)									
Boron	ND		0.0984	mg/L	1	B5C0459	03/04/2025	03/06/2025	
Metals by Saturated Paste by EPA 6010									
Calcium	0.768		0.499	meq/L	10	[CALC]	03/04/2025	03/06/2025	
Magnesium	ND		0.823	"	"	"	"	"	
Sodium	ND		0.435	"	"	"	"	"	
pH in Soil by 9045D									
pH	8.24			pH Units	1	B5C0463	03/04/2025	03/06/2025	
SAR by 20B Saturated Paste									
SAR	0.112		0.0100	SAR	1	B5C0461	03/04/2025	03/06/2025	
Specific Conductance Mod. 9050A									
Specific Conductance (EC)	0.109		0.00500	mmhos/cm	1	B5C0463	03/04/2025	03/06/2025	

Origins Laboratory



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Ensolium
 11049 W 44th Avenue, Suite 103
 Wheat Ridge CO 80033

Jeremy Espinoza
 Project Number: 09A14171102
 Project: KMG - Howard 30N, 4C, 29N-21HZ O
 Facility

TB-BG01@0.5'
3/3/2025 9:10:00AM

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
E5C0054-01 (Soil)									
Origins Laboratory									
Table 915 metals by EPA 6020B									
Arsenic	6.01		0.266	mg/kg	10	B5C0406	03/04/2025	03/05/2025	
Barium	56.1		9.16	"	"	"	"	"	"
Cadmium	0.186		0.0916	"	"	"	"	"	"
Copper	10.2		9.16	"	"	"	"	"	"
Lead	7.70		0.916	"	"	"	"	"	"
Nickel	9.23		0.916	"	"	"	"	"	"
Selenium	0.389		0.238	"	"	"	"	"	"
Silver	ND		0.0916	"	"	"	"	"	"
Zinc	ND		33.9	"	"	"	"	"	"

Origins Laboratory

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Ensolium
11049 W 44th Avenue, Suite 103
Wheat Ridge CO 80033

Jeremy Espinoza
Project Number: 09A14171102
Project: KMG - Howard 30N, 4C, 29N-21HZ O
Facility

AST01@0.5'
3/3/2025 9:30:00AM

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
E5C0054-02 (Soil)									
GEL Laboratories, LLC									
PAH by 3541/8270									
1-Methylnaphthalene	ND	0.00131	0.00398	mg/kg dry	1	2761897	03/10/2025	03/11/2025	U
2-Methylnaphthalene	ND	0.00131	0.00398	"	"	"	"	"	U
Acenaphthene	ND	0.00131	0.00398	"	"	"	"	"	U
Acenaphthylene	ND	0.00131	0.00398	"	"	"	"	"	U
Anthracene	0.00318	0.00131	0.00398	"	"	"	"	"	J
Benzo(a)anthracene	0.00835	0.00131	0.00398	"	"	"	"	"	
Benzo(a)pyrene	0.00835	0.00131	0.00398	"	"	"	"	"	
Benzo(b)fluoranthene	0.00875	0.00131	0.00398	"	"	"	"	"	
Benzo(ghi)perylene	0.00756	0.00131	0.00398	"	"	"	"	"	
Benzo(k)fluoranthene	0.00796	0.00131	0.00398	"	"	"	"	"	
Chrysene	0.00796	0.00131	0.00398	"	"	"	"	"	
Dibenzo(a,h)anthracene	0.00716	0.00131	0.00398	"	"	"	"	"	
Fluoranthene	0.00716	0.00131	0.00398	"	"	"	"	"	
Fluorene	ND	0.00131	0.00398	"	"	"	"	"	U
Indeno(1,2,3-cd)pyrene	0.00676	0.00131	0.00398	"	"	"	"	"	
Naphthalene	ND	0.00131	0.00398	"	"	"	"	"	U
Phenanthrene	0.00438	0.00131	0.00398	"	"	"	"	"	
Pyrene	0.00796	0.00131	0.00398	"	"	"	"	"	

Surrogate: 5-alpha-Androstane

89 %

22-135


"

"

"

Total Metals 7196A

Origins Laboratory



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Ensolium
11049 W 44th Avenue, Suite 103
Wheat Ridge CO 80033

Jeremy Espinoza
Project Number: 09A14171102
Project: KMG - Howard 30N, 4C, 29N-21HZ O
Facility

AST01@0.5'
3/3/2025 9:30:00AM

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
E5C0054-02 (Soil)									
GEL Laboratories, LLC									
Total Metals 7196A									
Hexavalent Chromium	ND	0.156	0.391	mg/kg dry	1	2762706	03/17/2025	03/17/2025	U
Origins Laboratory									
Boron (DTPA Sorbitol)									
Boron	0.372		0.0993	mg/L	1	B5C0459	03/04/2025	03/06/2025	
DRO/ORO by EPA 8015D									
Diesel (C10-C28)	ND		25.0	mg/kg	1	B5C0502	03/05/2025	03/07/2025	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua
Surrogate: o-Terphenyl	99.4 %			50-150		"	"	"	
GBTEX+TMBs by 8260D									
1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B5C0544	03/05/2025	03/10/2025	Ua
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Benzene	ND		0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Toluene	ND		0.00200	"	"	"	"	"	Ua
Xylenes, total	ND		0.00200	"	"	"	"	"	Ua

Origins Laboratory



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Ensolium
11049 W 44th Avenue, Suite 103
Wheat Ridge CO 80033

Jeremy Espinoza
Project Number: 09A14171102
Project: KMG - Howard 30N, 4C, 29N-21HZ O
Facility

AST01@0.5'
3/3/2025 9:30:00AM

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	-----------------	-----------------	-------	----------	-------	----------	----------	-------

E5C0054-02 (Soil)
Origins Laboratory

GBTEX+TMBs by 8260D

Gasoline Range Hydrocarbons	ND		0.200	mg/kg	1	B5C0544	03/05/2025	03/10/2025	Ua
Surrogate: 1,2-Dichloroethane-d4	115 %			70-130		"	"	"	
Surrogate: Toluene-d8	95.4 %			70-130		"	"	"	
Surrogate: 4-Bromofluorobenzene	100 %			70-130		"	"	"	

Metals by Saturated Paste by EPA 6010

Calcium	1.46		0.499	meq/L	10	[CALC]	03/04/2025	03/06/2025	
Magnesium	1.07		0.823	"	"	"	"	"	
Sodium	2.29		0.435	"	"	"	"	"	

pH in Soil by 9045D

pH	8.38			pH Units	1	B5C0463	03/04/2025	03/06/2025	
----	------	--	--	----------	---	---------	------------	------------	--

SAR by 20B Saturated Paste

SAR	2.04		0.0100	SAR	1	B5C0461	03/04/2025	03/06/2025	
-----	------	--	--------	-----	---	---------	------------	------------	--

Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.433		0.00500	mmhos/cm	1	B5C0463	03/04/2025	03/06/2025	
---------------------------	-------	--	---------	----------	---	---------	------------	------------	--

Table 915 metals by EPA 6020B

Origins Laboratory



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Ensolium
 11049 W 44th Avenue, Suite 103
 Wheat Ridge CO 80033

Jeremy Espinoza
 Project Number: 09A14171102
 Project: KMG - Howard 30N, 4C, 29N-21HZ O
 Facility

AST01@0.5'
3/3/2025 9:30:00AM

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	-----------------	-----------------	-------	----------	-------	----------	----------	-------

E5C0054-02 (Soil)
Origins Laboratory

Table 915 metals by EPA 6020B

Arsenic	5.68		0.244	mg/kg	10	B5C0406	03/04/2025	03/05/2025	
Barium	178		8.41	"	"	"	"	"	"
Cadmium	0.230		0.0841	"	"	"	"	"	"
Copper	15.7		8.41	"	"	"	"	"	"
Lead	13.6		0.841	"	"	"	"	"	"
Nickel	17.0		0.841	"	"	"	"	"	"
Selenium	ND		0.219	"	"	"	"	"	"
Silver	ND		0.0841	"	"	"	"	"	"
Zinc	63.5		31.1	"	"	"	"	"	"

Origins Laboratory

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Ensolium
11049 W 44th Avenue, Suite 103
Wheat Ridge CO 80033

Jeremy Espinoza
Project Number: 09A14171102
Project: KMG - Howard 30N, 4C, 29N-21HZ O
Facility

AST01@0.5'-V
3/3/2025 9:35:00AM

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
E5C0054-03 (Soil)									
Origins Laboratory									
pH in Soil by 9045D									
pH	8.23			pH Units	1	B5C0513	03/05/2025	03/06/2025	
Table 915 metals by EPA 6020B									
Barium	154		9.23	mg/kg	10	B5C3137	03/10/2025	04/01/2025	

Origins Laboratory

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Ensolium
11049 W 44th Avenue, Suite 103
Wheat Ridge CO 80033

Jeremy Espinoza
Project Number: 09A14171102
Project: KMG - Howard 30N, 4C, 29N-21HZ O
Facility

AST01@0.5'-V
3/3/2025 9:35:00AM

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
E5C0054-03RE1 (Soil)									
Origins Laboratory									
Table 915 metals by EPA 6020B									
Barium	201		9.18	mg/kg	10	B5D1632	03/10/2025	04/17/2025	

Origins Laboratory

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Ensolium
 11049 W 44th Avenue, Suite 103
 Wheat Ridge CO 80033

Jeremy Espinoza
 Project Number: 09A14171102
 Project: KMG - Howard 30N, 4C, 29N-21HZ O
 Facility

AST01@0.5'-V
3/3/2025 9:35:00AM

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
E5C0054-03RE2 (Soil)									
Origins Laboratory									
Table 915 metals by EPA 6020B									
Barium	188		8.98	mg/kg	10	B5D1632	03/10/2025	04/17/2025	

Origins Laboratory

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Ensolium
11049 W 44th Avenue, Suite 103
Wheat Ridge CO 80033

Jeremy Espinoza
Project Number: 09A14171102
Project: KMG - Howard 30N, 4C, 29N-21HZ O
Facility

VRT-SEP01@0.5'
3/3/2025 9:40:00AM

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
E5C0054-04 (Soil)									
GEL Laboratories, LLC									
PAH by 3541/8270									
1-Methylnaphthalene	0.188	0.00112	0.00340	mg/kg dry	1	2761897	03/10/2025	03/11/2025	
2-Methylnaphthalene	0.361	0.00112	0.00340	"	"	"	"	"	
Acenaphthene	0.00612	0.00112	0.00340	"	"	"	"	"	
Acenaphthylene	ND	0.00112	0.00340	"	"	"	"	"	U
Anthracene	ND	0.00112	0.00340	"	"	"	"	"	U
Benzo(a)anthracene	ND	0.00112	0.00340	"	"	"	"	"	U
Benzo(a)pyrene	ND	0.00112	0.00340	"	"	"	"	"	U
Benzo(b)fluoranthene	ND	0.00112	0.00340	"	"	"	"	"	U
Benzo(ghi)perylene	ND	0.00112	0.00340	"	"	"	"	"	U
Benzo(k)fluoranthene	ND	0.00112	0.00340	"	"	"	"	"	U
Chrysene	ND	0.00112	0.00340	"	"	"	"	"	U
Dibenzo(a,h)anthracene	ND	0.00112	0.00340	"	"	"	"	"	U
Fluoranthene	0.00408	0.00112	0.00340	"	"	"	"	"	
Fluorene	0.0555	0.00112	0.00340	"	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	0.00112	0.00340	"	"	"	"	"	U
Naphthalene	0.0235	0.00112	0.00340	"	"	"	"	"	
Phenanthrene	0.0997	0.00112	0.00340	"	"	"	"	"	
Pyrene	0.00442	0.00112	0.00340	"	"	"	"	"	
Surrogate: 5-alpha-Androstane	99 %			22-135		"	"	"	

Origins Laboratory



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Ensolium
11049 W 44th Avenue, Suite 103
Wheat Ridge CO 80033

Jeremy Espinoza
Project Number: 09A14171102
Project: KMG - Howard 30N, 4C, 29N-21HZ O
Facility

VRT-SEP01@0.5'
3/3/2025 9:40:00AM

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
E5C0054-04 (Soil)									
GEL Laboratories, LLC									
Total Metals 7196A									
Hexavalent Chromium	ND	0.154	0.386	mg/kg dry	1	2762706	03/17/2025	03/17/2025	U
Origins Laboratory									
Boron (DTPA Sorbitol)									
Boron	ND		0.0998	mg/L	1	B5C0459	03/04/2025	03/06/2025	
DRO/ORO by EPA 8015D									
Diesel (C10-C28)	429		25.0	mg/kg	1	B5C0502	03/05/2025	03/07/2025	
Residual Range Organics (C28-C40)	134		100	"	"	"	"	"	
Surrogate: o-Terphenyl	103 %			50-150		"	"	"	
GBTEX+TMBs by 8260D									
1,2,4-Trimethylbenzene	3.66		0.0500	mg/kg	25	B5C0544	03/05/2025	03/10/2025	
1,3,5-Trimethylbenzene	1.43		0.0500	"	"	"	"	"	
Benzene	ND		0.0500	"	"	"	"	"	R-05, Ua
Ethylbenzene	0.491		0.0500	"	"	"	"	"	
Toluene	0.518		0.0500	"	"	"	"	"	
Xylenes, total	6.99		0.0500	"	"	"	"	"	
Gasoline Range Hydrocarbons	173		5.00	"	"	"	"	"	

Origins Laboratory



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Ensolium
11049 W 44th Avenue, Suite 103
Wheat Ridge CO 80033

Jeremy Espinoza
Project Number: 09A14171102
Project: KMG - Howard 30N, 4C, 29N-21HZ O
Facility

VRT-SEP01@0.5'
3/3/2025 9:40:00AM

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
E5C0054-04 (Soil)									
Origins Laboratory									
GBTEX+TMBs by 8260D									
Surrogate: 1,2-Dichloroethane-d4	107 %			70-130		B5C0544	03/05/2025	03/10/2025	
Surrogate: Toluene-d8	102 %			70-130		"	"	"	
Surrogate: 4-Bromofluorobenzene	100 %			70-130		"	"	"	
Metals by Saturated Paste by EPA 6010									
Calcium	0.530		0.499	meq/L	10	[CALC]	03/04/2025	03/06/2025	
Magnesium	ND		0.823	"	"	"	"	"	
Sodium	1.94		0.435	"	"	"	"	"	
pH in Soil by 9045D									
pH	8.40			pH Units	1	B5C0463	03/04/2025	03/06/2025	
SAR by 20B Saturated Paste									
SAR	2.70		0.0100	SAR	1	B5C0461	03/04/2025	03/06/2025	
Specific Conductance Mod. 9050A									
Specific Conductance (EC)	0.332		0.00500	mmhos/cm	1	B5C0463	03/04/2025	03/06/2025	
Table 915 metals by EPA 6020B									
Arsenic	1.58		0.263	mg/kg	10	B5C0406	03/04/2025	03/05/2025	
Barium	42.4		9.08	"	"	"	"	"	

Origins Laboratory



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Ensolium
11049 W 44th Avenue, Suite 103
Wheat Ridge CO 80033

Jeremy Espinoza
Project Number: 09A14171102
Project: KMG - Howard 30N, 4C, 29N-21HZ O
Facility

VRT-SEP01@0.5'
3/3/2025 9:40:00AM

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
E5C0054-04 (Soil)									
Origins Laboratory									
Table 915 metals by EPA 6020B									
Cadmium	ND		0.0908	mg/kg	10	B5C0406	03/04/2025	03/05/2025	
Copper	ND		9.08	"	"	"	"	"	
Lead	3.62		0.908	"	"	"	"	"	
Nickel	4.71		0.908	"	"	"	"	"	
Selenium	ND		0.236	"	"	"	"	"	
Silver	ND		0.0908	"	"	"	"	"	
Zinc	ND		33.6	"	"	"	"	"	

Origins Laboratory

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Ensolium
11049 W 44th Avenue, Suite 103
Wheat Ridge CO 80033

Jeremy Espinoza
Project Number: 09A14171102
Project: KMG - Howard 30N, 4C, 29N-21HZ O
Facility

VRT-SEP01@0.5'-V
3/3/2025 9:45:00AM

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
E5C0054-05 (Soil)									
Origins Laboratory									
pH in Soil by 9045D									
pH	8.56			pH Units	1	B5C0513	03/05/2025	03/06/2025	

Origins Laboratory

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Ensolium
 11049 W 44th Avenue, Suite 103
 Wheat Ridge CO 80033

Jeremy Espinoza
 Project Number: 09A14171102
 Project: KMG - Howard 30N, 4C, 29N-21HZ O
 Facility

Classical Chemistry Parameters - Quality Control
Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch B5C0459 - DTPA Sorbitol Preparation

Blank (B5C0459-BLK1)

Prepared: 03/04/2025 Analyzed: 03/06/2025

Boron ND 0.100 mg/L

Duplicate (B5C0459-DUP1)

Source: E5C0023-23

Prepared: 03/04/2025 Analyzed: 03/06/2025

Boron 0.267 0.0999 mg/L 0.289 7.83 50

Batch B5C0461 - Saturated Paste Metals

Blank (B5C0461-BLK1)

Prepared: 03/04/2025 Analyzed: 03/06/2025

Calcium PPM ND 10.0 mg/L

SAR ND 0.0100 SAR

Magnesium PPM ND 10.0 mg/L

Sodium PPM ND 10.0 "

Duplicate (B5C0461-DUP1)

Source: E5C0023-23

Prepared: 03/04/2025 Analyzed: 03/06/2025

Calcium PPM 46.0 10.0 mg/L 48.5 5.21 50

SAR ND 0.0100 SAR 0.300 200

Magnesium PPM 5.29 10.0 mg/L 5.95 11.7 50

Sodium PPM 5.61 10.0 " 8.31 38.8 50

Origins Laboratory

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Ensolium
 11049 W 44th Avenue, Suite 103
 Wheat Ridge CO 80033

Jeremy Espinoza
 Project Number: 09A14171102
 Project: KMG - Howard 30N, 4C, 29N-21HZ O
 Facility

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 B5C0502 - EPA 3550B										
Blank (B5C0502-BLK1)										
					Prepared: 03/05/2025 Analyzed: 03/06/2025					
Diesel (C10-C28)	ND	25.0	mg/kg							Ua
Residual Range Organics (C28-C40)	ND	100	"							Ua
Surrogate: o-Terphenyl	26		"	24.9		103	50-150			
LCS (B5C0502-BS1)										
					Prepared: 03/05/2025 Analyzed: 03/06/2025					
Diesel (C10-C28)	953	50.0	mg/kg	1000		95.3	70-130			
Residual Range Organics (C28-C40)	952	200	"	1000		95.2	70-130			
Surrogate: o-Terphenyl	51		"	49.8		103	50-150			
Matrix Spike (B5C0502-MS1)										
		Source: E5C0035-01			Prepared: 03/05/2025 Analyzed: 03/06/2025					
Diesel (C10-C28)	962	50.0	mg/kg	1000	ND	96.2	70-130			
Residual Range Organics (C28-C40)	973	200	"	1000	ND	97.3	70-130			
Surrogate: o-Terphenyl	46		"	49.8		92.3	50-150			
Matrix Spike Dup (B5C0502-MSD1)										
		Source: E5C0035-01			Prepared: 03/05/2025 Analyzed: 03/06/2025					
Diesel (C10-C28)	888	50.0	mg/kg	1000	ND	88.8	70-130	7.99	35	
Residual Range Organics (C28-C40)	917	200	"	1000	ND	91.7	70-130	6.01	35	
Surrogate: o-Terphenyl	54		"	49.8		109	50-150			

Origins Laboratory

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Ensolium
 11049 W 44th Avenue, Suite 103
 Wheat Ridge CO 80033

Jeremy Espinoza
 Project Number: 09A14171102
 Project: KMG - Howard 30N, 4C, 29N-21HZ O
 Facility

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
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch B5C0406 - EPA 3050B

Blank (B5C0406-BLK1)

Prepared: 03/04/2025 Analyzed: 03/05/2025

Arsenic	ND	0.290	mg/kg							
Barium	ND	10.0	"							
Cadmium	ND	0.100	"							
Copper	ND	10.0	"							
Lead	ND	1.00	"							
Nickel	ND	1.00	"							
Selenium	ND	0.260	"							
Silver	ND	0.100	"							
Zinc	ND	37.0	"							

LCS (B5C0406-BS1)

Prepared: 03/04/2025 Analyzed: 03/05/2025

Arsenic	4.88	0.290	mg/kg	5.00		97.5	80-120			
Barium	546	10.0	"	500		109	80-120			
Cadmium	4.91	0.100	"	5.00		98.2	80-120			
Copper	53.4	10.0	"	50.0		107	80-120			
Lead	4.85	1.00	"	5.00		97.0	80-120			
Nickel	4.99	1.00	"	5.00		99.8	80-120			
Selenium	5.00	0.260	"	5.00		100	80-120			
Silver	4.93	0.100	"	5.00		98.6	80-120			
Zinc	51.6	37.0	"	50.0		103	80-120			

Matrix Spike (B5C0406-MS1)

Source: E5C0023-03

Prepared: 03/04/2025 Analyzed: 03/05/2025

Arsenic	8.99	0.247	mg/kg	4.25	2.77	146	75-125			QM-07
Barium	655	8.50	"	425	63.5	139	75-125			QM-07
Cadmium	4.79	0.0850	"	4.25	0.0721	111	75-125			
Copper	55.2	8.50	"	42.5	6.60	114	75-125			
Lead	9.29	0.850	"	4.25	4.89	104	75-125			

Origins Laboratory

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Ensolium
 11049 W 44th Avenue, Suite 103
 Wheat Ridge CO 80033

Jeremy Espinoza
 Project Number: 09A14171102
 Project: KMG - Howard 30N, 4C, 29N-21HZ O
 Facility

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
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch B5C0406 - EPA 3050B

Matrix Spike (B5C0406-MS1)

Source: E5C0023-03

Prepared: 03/04/2025 Analyzed: 03/05/2025

Nickel	11.4	0.850	mg/kg	4.25	5.67	135	75-125			QM-07
Selenium	4.37	0.221	"	4.25	ND	103	75-125			
Silver	4.60	0.0850	"	4.25	0.0168	108	75-125			
Zinc	75.2	31.5	"	42.5	24.3	120	75-125			

Matrix Spike Dup (B5C0406-MSD1)

Source: E5C0023-03

Prepared: 03/04/2025 Analyzed: 03/05/2025

Arsenic	7.41	0.279	mg/kg	4.82	2.77	96.2	75-125	19.4	20	
Barium	623	9.63	"	482	63.5	116	75-125	4.94	20	
Cadmium	5.38	0.0963	"	4.82	0.0721	110	75-125	11.7	20	
Copper	61.0	9.63	"	48.2	6.60	113	75-125	9.92	20	
Lead	10.0	0.963	"	4.82	4.89	106	75-125	7.48	20	
Nickel	10.8	0.963	"	4.82	5.67	107	75-125	5.21	20	
Selenium	4.88	0.250	"	4.82	ND	101	75-125	11.0	20	
Silver	5.23	0.0963	"	4.82	0.0168	108	75-125	12.7	20	
Zinc	77.4	35.6	"	48.2	24.3	110	75-125	2.87	20	

Batch B5C3137 - EPA 3050B

Blank (B5C3137-BLK1)

Prepared: 03/31/2025 Analyzed: 04/01/2025

Arsenic	ND	0.290	mg/kg							
Barium	ND	10.0	"							
Cadmium	ND	0.100	"							
Copper	ND	10.0	"							
Lead	ND	1.00	"							
Nickel	ND	1.00	"							
Selenium	ND	0.260	"							
Silver	ND	0.100	"							

Origins Laboratory

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Ensolium
 11049 W 44th Avenue, Suite 103
 Wheat Ridge CO 80033

Jeremy Espinoza
 Project Number: 09A14171102
 Project: KMG - Howard 30N, 4C, 29N-21HZ O
 Facility

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
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch B5C3137 - EPA 3050B

Blank (B5C3137-BLK1)

Prepared: 03/31/2025 Analyzed: 04/01/2025

Zinc	ND	37.0	mg/kg							
------	----	------	-------	--	--	--	--	--	--	--

LCS (B5C3137-BS1)

Prepared: 03/31/2025 Analyzed: 04/01/2025

Arsenic	5.68	0.290	mg/kg	5.00		114	80-120			
Barium	565	10.0	"	500		113	80-120			
Cadmium	5.32	0.100	"	5.00		106	80-120			
Copper	55.5	10.0	"	50.0		111	80-120			
Lead	5.43	1.00	"	5.00		109	80-120			
Nickel	5.55	1.00	"	5.00		111	80-120			
Selenium	5.54	0.260	"	5.00		111	80-120			
Silver	5.43	0.100	"	5.00		109	80-120			
Zinc	53.9	37.0	"	50.0		108	80-120			

Matrix Spike (B5C3137-MS1)

Source: E5C1027-01

Prepared: 03/31/2025 Analyzed: 04/01/2025

Arsenic	9.33	0.271	mg/kg	4.67	4.97	93.3	75-125			
Barium	1170	9.35	"	467	783	82.5	75-125			
Cadmium	5.07	0.0935	"	4.67	0.198	104	75-125			
Copper	62.3	9.35	"	46.7	12.5	107	75-125			
Lead	15.5	0.935	"	4.67	10.5	105	75-125			
Nickel	14.4	0.935	"	4.67	10.4	85.6	75-125			
Selenium	5.15	0.243	"	4.67	0.114	108	75-125			
Silver	4.98	0.0935	"	4.67	0.0240	106	75-125			
Zinc	163	34.6	"	46.7	217	NR	75-125			QM-07

Matrix Spike Dup (B5C3137-MSD1)

Source: E5C1027-01

Prepared: 03/31/2025 Analyzed: 04/01/2025

Arsenic	10.3	0.273	mg/kg	4.71	4.97	113	75-125	9.96	20	
Barium	1900	9.43	"	471	783	238	75-125	47.9	20	QM-07, QR-DUP

Origins Laboratory

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Ensolium
 11049 W 44th Avenue, Suite 103
 Wheat Ridge CO 80033

Jeremy Espinoza
 Project Number: 09A14171102
 Project: KMG - Howard 30N, 4C, 29N-21HZ O
 Facility

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
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch B5C3137 - EPA 3050B

Matrix Spike Dup (B5C3137-MSD1)

Source: E5C1027-01

Prepared: 03/31/2025 Analyzed: 04/01/2025

Cadmium	5.39	0.0943	mg/kg	4.71	0.198	110	75-125	6.19	20	
Copper	69.6	9.43	"	47.1	12.5	121	75-125	11.0	20	
Lead	15.7	0.943	"	4.71	10.5	110	75-125	1.63	20	
Nickel	15.2	0.943	"	4.71	10.4	102	75-125	5.53	20	
Selenium	5.17	0.245	"	4.71	0.114	107	75-125	0.462	20	
Silver	5.37	0.0943	"	4.71	0.0240	113	75-125	7.41	20	
Zinc	165	34.9	"	47.1	217	NR	75-125	1.57	20	QM-07

Batch B5D1632 - EPA 3050B

Blank (B5D1632-BLK1)

Prepared: 04/16/2025 Analyzed: 04/17/2025

Arsenic	ND	0.290	mg/kg							
Barium	ND	10.0	"							
Cadmium	ND	0.100	"							
Copper	ND	10.0	"							
Lead	ND	1.00	"							
Nickel	ND	1.00	"							
Zinc	ND	37.0	"							

LCS (B5D1632-BS1)

Prepared: 04/16/2025 Analyzed: 04/17/2025

Arsenic	5.38	0.290	mg/kg	5.00		108	80-120			
Barium	542	10.0	"	500		108	80-120			
Cadmium	5.31	0.100	"	5.00		106	80-120			
Copper	53.3	10.0	"	50.0		107	80-120			
Lead	5.32	1.00	"	5.00		106	80-120			
Nickel	5.25	1.00	"	5.00		105	80-120			
Zinc	56.2	37.0	"	50.0		112	80-120			

Origins Laboratory

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Ensolium
 11049 W 44th Avenue, Suite 103
 Wheat Ridge CO 80033

Jeremy Espinoza
 Project Number: 09A14171102
 Project: KMG - Howard 30N, 4C, 29N-21HZ O
 Facility

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
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch B5D1632 - EPA 3050B

Matrix Spike (B5D1632-MS1)

Source: E5D0424-01

Prepared: 04/16/2025 Analyzed: 04/17/2025

Arsenic	7.97	0.271	mg/kg	4.68	3.17	103	75-125			
Barium	598	9.35	"	468	76.1	112	75-125			
Cadmium	5.15	0.0935	"	4.68	0.0868	108	75-125			
Copper	54.4	9.35	"	46.8	3.15	110	75-125			
Lead	10.5	0.935	"	4.68	4.82	121	75-125			
Nickel	7.41	0.935	"	4.68	2.73	100	75-125			
Zinc	67.9	34.6	"	46.8	17.0	109	75-125			

Matrix Spike Dup (B5D1632-MSD1)

Source: E5D0424-01

Prepared: 04/16/2025 Analyzed: 04/17/2025

Arsenic	8.05	0.274	mg/kg	4.72	3.17	103	75-125	1.01	20	
Barium	651	9.44	"	472	76.1	122	75-125	8.56	20	
Cadmium	5.53	0.0944	"	4.72	0.0868	115	75-125	7.22	20	
Copper	59.2	9.44	"	47.2	3.15	119	75-125	8.59	20	
Lead	9.91	0.944	"	4.72	4.82	108	75-125	5.49	20	
Nickel	7.97	0.944	"	4.72	2.73	111	75-125	7.33	20	
Zinc	72.5	34.9	"	47.2	17.0	118	75-125	6.58	20	

Origins Laboratory

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Ensolium
 11049 W 44th Avenue, Suite 103
 Wheat Ridge CO 80033

Jeremy Espinoza
 Project Number: 09A14171102
 Project: KMG - Howard 30N, 4C, 29N-21HZ O
 Facility

Saturated Paste - Quality Control
Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch B5C0463 - Saturated Paste pH/EC

Blank (B5C0463-BLK1)

Prepared: 03/04/2025 Analyzed: 03/06/2025

Specific Conductance (EC) ND 0.00500 mmhos/cm

Duplicate (B5C0463-DUP1)

Source: E5C0023-23

Prepared: 03/04/2025 Analyzed: 03/06/2025

Specific Conductance (EC)	0.329	0.00500	mmhos/cm	0.341	3.43	25
pH	8.20		pH Units	8.23	0.365	25

Batch B5C0513 - Saturated Paste pH/EC

Duplicate (B5C0513-DUP1)

Source: E5C0039-06

Prepared: 03/05/2025 Analyzed: 03/06/2025

pH	8.06		pH Units	7.92	1.75	25
----	------	--	----------	------	------	----

Origins Laboratory

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Ensolium
 11049 W 44th Avenue, Suite 103
 Wheat Ridge CO 80033

Jeremy Espinoza
 Project Number: 09A14171102
 Project: KMG - Howard 30N, 4C, 29N-21HZ O
 Facility

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 B5C0544 - EPA 5030 (soil)

Prepared: 03/05/2025 Analyzed: 03/09/2025

Blank (B5C0544-BLK1)

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg							Ua
1,3,5-Trimethylbenzene	ND	0.00200	"							Ua
Benzene	ND	0.00200	"							Ua
Ethylbenzene	ND	0.00200	"							Ua
Toluene	ND	0.00200	"							Ua
Xylenes, total	ND	0.00200	"							Ua
Gasoline Range Hydrocarbons	ND	0.200	"							Ua

Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		101	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		97.8	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		101	70-130			

LCS (B5C0544-BS1)

Prepared: 03/05/2025 Analyzed: 03/09/2025

1,2,4-Trimethylbenzene	0.105	0.00200	mg/kg	0.100		105	70-130			
1,3,5-Trimethylbenzene	0.104	0.00200	"	0.100		104	70-130			
Benzene	0.0854	0.00200	"	0.100		85.4	70-130			
Ethylbenzene	0.0955	0.00200	"	0.100		95.5	70-130			
Toluene	0.0836	0.00200	"	0.100		83.6	70-130			
o-Xylene	0.104	0.00200	"	0.100		104	70-130			
m,p-Xylene	0.210	0.00400	"	0.200		105	70-130			

Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		98.7	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		98.4	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		101	70-130			

Matrix Spike (B5C0544-MS1)

Source: E5C0011-01

Prepared: 03/05/2025 Analyzed: 03/09/2025

1,2,4-Trimethylbenzene	0.0928	0.00200	mg/kg	0.100	ND	92.8	70-130			
1,3,5-Trimethylbenzene	0.0923	0.00200	"	0.100	ND	92.3	70-130			
Benzene	0.0807	0.00200	"	0.100	ND	80.7	70-130			

Origins Laboratory

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Ensolium
 11049 W 44th Avenue, Suite 103
 Wheat Ridge CO 80033

Jeremy Espinoza
 Project Number: 09A14171102
 Project: KMG - Howard 30N, 4C, 29N-21HZ O
 Facility

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 B5C0544 - EPA 5030 (soil)

Matrix Spike (B5C0544-MS1)

Source: E5C0011-01

Prepared: 03/05/2025 Analyzed: 03/09/2025

Ethylbenzene	0.0850	0.00200	mg/kg	0.100	ND	85.0	70-130			
Toluene	0.0766	0.00200	"	0.100	ND	76.6	70-130			
o-Xylene	0.0934	0.00200	"	0.100	ND	93.4	70-130			
m,p-Xylene	0.186	0.00400	"	0.200	ND	93.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		112	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		96.6	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		101	70-130			

Matrix Spike Dup (B5C0544-MSD1)

Source: E5C0011-01

Prepared: 03/05/2025 Analyzed: 03/09/2025

1,2,4-Trimethylbenzene	0.0923	0.00200	mg/kg	0.100	ND	92.3	70-130	0.540	20	
1,3,5-Trimethylbenzene	0.0908	0.00200	"	0.100	ND	90.8	70-130	1.62	20	
Benzene	0.0827	0.00200	"	0.100	ND	82.7	70-130	2.35	20	
Ethylbenzene	0.0842	0.00200	"	0.100	ND	84.2	70-130	0.969	20	
Toluene	0.0769	0.00200	"	0.100	ND	76.9	70-130	0.339	20	
o-Xylene	0.0920	0.00200	"	0.100	ND	92.0	70-130	1.47	20	
m,p-Xylene	0.186	0.00400	"	0.200	ND	93.0	70-130	0.161	20	
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		115	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		93.8	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		102	70-130			

Origins Laboratory

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Ensolium
 11049 W 44th Avenue, Suite 103
 Wheat Ridge CO 80033

Jeremy Espinoza
 Project Number: 09A14171102
 Project: KMG - Howard 30N, 4C, 29N-21HZ O
 Facility

Total Metals 7196A - Quality Control
GEL Laboratories, LLC

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 2762706 - SW846 3060A

BLANK (1206030988-BLK)

Prepared: 03/17/2025 Analyzed: 03/17/2025

Hexavalent Chromium	ND	0.329	mg/kg							U
---------------------	----	-------	-------	--	--	--	--	--	--	---

LCS (1206030989-BKS)

Prepared: 03/17/2025 Analyzed: 03/17/2025

Hexavalent Chromium	3.16	0.315	mg/kg	3.15		100	80-120			
---------------------	------	-------	-------	------	--	-----	--------	--	--	--

DUP (1206030990 D)

Source: 712034005

Prepared: 03/17/2025 Analyzed: 03/17/2025

Hexavalent Chromium	ND	0.347	mg/kg dry		<0.139		0-50	N/A	50	U
---------------------	----	-------	-----------	--	--------	--	------	-----	----	---

MS (1206030991 S)

Source: 712034005

Prepared: 03/17/2025 Analyzed: 03/17/2025

Hexavalent Chromium	3.33	0.346	mg/kg dry	3.46	<0.139	95.5	75-125			
---------------------	------	-------	-----------	------	--------	------	--------	--	--	--

DUP (1206030992 D)

Source: 712111001

Prepared: 03/17/2025 Analyzed: 03/17/2025

Hexavalent Chromium	ND	0.256	mg/kg dry		<0.103		0-50	N/A	50	U
---------------------	----	-------	-----------	--	--------	--	------	-----	----	---

MS (1206030993 S)

Source: 712111001

Prepared: 03/17/2025 Analyzed: 03/17/2025

Hexavalent Chromium	2.41	0.256	mg/kg dry	2.56	<0.103	93.3	75-125			
---------------------	------	-------	-----------	------	--------	------	--------	--	--	--

ILCS (1206030994-ILCS)

Prepared: 03/17/2025 Analyzed: 03/17/2025

Hexavalent Chromium	5.20	0.241	mg/kg	4.95		105	80-120			
---------------------	------	-------	-------	------	--	-----	--------	--	--	--

Batch 2771709 - SW846 3060A

BLANK (1206049907-BLK)

Prepared: 03/26/2025 Analyzed: 03/27/2025

Hexavalent Chromium	ND	0.399	mg/kg							U
---------------------	----	-------	-------	--	--	--	--	--	--	---

LCS (1206049908-BKS)

Prepared: 03/26/2025 Analyzed: 03/27/2025

Hexavalent Chromium	3.47	0.343	mg/kg	3.43		101	80-120			
---------------------	------	-------	-------	------	--	-----	--------	--	--	--

Origins Laboratory

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Ensolium
 11049 W 44th Avenue, Suite 103
 Wheat Ridge CO 80033

Jeremy Espinoza
 Project Number: 09A14171102
 Project: KMG - Howard 30N, 4C, 29N-21HZ O
 Facility

Total Metals 7196A - Quality Control
GEL Laboratories, LLC

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2771709 - SW846 3060A										
DUP (1206049909 D)			Source: 714642001			Prepared: 03/26/2025 Analyzed: 03/27/2025				
Hexavalent Chromium	ND	0.243	mg/kg dry		<0.0972		0-50	N/A	50	U
MS (1206049910 S)			Source: 714642001			Prepared: 03/26/2025 Analyzed: 03/27/2025				
Hexavalent Chromium	1.63	0.357	mg/kg dry	3.57	<0.143	44.8	75-125			
DUP (1206049911 D)			Source: 715319001			Prepared: 03/26/2025 Analyzed: 03/27/2025				
Hexavalent Chromium	ND	0.501	mg/kg dry		<0.200		0-50	N/A	50	U
MS (1206049912 S)			Source: 715319001			Prepared: 03/26/2025 Analyzed: 03/27/2025				
Hexavalent Chromium	2.78	0.488	mg/kg dry	4.88	<0.195	55.3	75-125			
ILCS (1206049913-ILCS)						Prepared: 03/26/2025 Analyzed: 03/27/2025				
Hexavalent Chromium	7.90	0.379	mg/kg	7.74		102	80-120			

Origins Laboratory

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Ensolium
 11049 W 44th Avenue, Suite 103
 Wheat Ridge CO 80033

Jeremy Espinoza
 Project Number: 09A14171102
 Project: KMG - Howard 30N, 4C, 29N-21HZ O
 Facility

PAH by 3541/8270 - Quality Control
GEL Laboratories, LLC

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 2761897 - SW846 3541

BLANK (1206029128-BLK)

Prepared: 03/10/2025 Analyzed: 03/10/2025

Fluorene	ND	0.00332	mg/kg	-	-	-	-	-	-	U
Fluoranthene	ND	0.00332	"	-	-	-	-	-	-	U
Dibenzo(a,h)anthracene	ND	0.00332	"	-	-	-	-	-	-	U
Chrysene	ND	0.00332	"	-	-	-	-	-	-	U
Benzo(k)fluoranthene	ND	0.00332	"	-	-	-	-	-	-	U
Indeno(1,2,3-cd)pyrene	ND	0.00332	"	-	-	-	-	-	-	U
Benzo(b)fluoranthene	ND	0.00332	"	-	-	-	-	-	-	U
Acenaphthylene	ND	0.00332	"	-	-	-	-	-	-	U
Benzo(a)pyrene	ND	0.00332	"	-	-	-	-	-	-	U
Benzo(ghi)perylene	ND	0.00332	"	-	-	-	-	-	-	U
Naphthalene	ND	0.00332	"	-	-	-	-	-	-	U
Phenanthrene	ND	0.00332	"	-	-	-	-	-	-	U
Anthracene	ND	0.00332	"	-	-	-	-	-	-	U
Benzo(a)anthracene	ND	0.00332	"	-	-	-	-	-	-	U
Acenaphthene	ND	0.00332	"	-	-	-	-	-	-	U
2-Methylnaphthalene	ND	0.00332	"	-	-	-	-	-	-	U
1-Methylnaphthalene	ND	0.00332	"	-	-	-	-	-	-	U
Pyrene	ND	0.00332	"	-	-	-	-	-	-	U

Surrogate: 5-alpha-Androstane

0.120

"

0.166

72

22-135

LCS (1206029129-BKS)

Prepared: 03/10/2025 Analyzed: 03/10/2025

Fluorene	0.211	0.00331	mg/kg	0.331	64	37-115
Fluoranthene	0.213	0.00331	"	0.331	64	39-119
Dibenzo(a,h)anthracene	0.224	0.00331	"	0.331	68	38-132
1-Methylnaphthalene	0.211	0.00331	"	0.331	64	39-109
Pyrene	0.209	0.00331	"	0.331	63	38-117
Phenanthrene	0.211	0.00331	"	0.331	64	42-113

Origins Laboratory

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Ensolium
 11049 W 44th Avenue, Suite 103
 Wheat Ridge CO 80033

Jeremy Espinoza
 Project Number: 09A14171102
 Project: KMG - Howard 30N, 4C, 29N-21HZ O
 Facility

PAH by 3541/8270 - Quality Control
GEL Laboratories, LLC

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 2761897 - SW846 3541

LCS (1206029129-BKS)

Prepared: 03/10/2025 Analyzed: 03/10/2025

Naphthalene	0.207	0.00331	mg/kg	0.331		63	38-109			
Indeno(1,2,3-cd)pyrene	0.200	0.00331	"	0.331		61	38-133			
Chrysene	0.225	0.00331	"	0.331		68	42-117			
Benzo(k)fluoranthene	0.210	0.00331	"	0.331		63	40-122			
Acenaphthene	0.207	0.00331	"	0.331		63	41-112			
2-Methylnaphthalene	0.215	0.00331	"	0.331		65	39-110			
Benzo(ghi)perylene	0.223	0.00331	"	0.331		67	35-120			
Acenaphthylene	0.207	0.00331	"	0.331		63	39-119			
Anthracene	0.214	0.00331	"	0.331		65	41-117			
Benzo(a)anthracene	0.218	0.00331	"	0.331		66	42-120			
Benzo(a)pyrene	0.225	0.00331	"	0.331		68	39-127			
Benzo(b)fluoranthene	0.222	0.00331	"	0.331		67	39-123			
Surrogate: 5-alpha-Androstane	0.115		"	0.165		70	22-135			

LCSD (1206029130-BKSD)

Prepared: 03/10/2025 Analyzed: 03/10/2025

Benzo(k)fluoranthene	0.195	0.00331	mg/kg	0.331		59	40-122	7	30	
1-Methylnaphthalene	0.204	0.00331	"	0.331		62	39-109	3	30	
Phenanthrene	0.196	0.00331	"	0.331		59	42-113	7	30	
Indeno(1,2,3-cd)pyrene	0.191	0.00331	"	0.331		58	38-133	5	30	
Fluorene	0.199	0.00331	"	0.331		60	37-115	6	30	
Fluoranthene	0.196	0.00331	"	0.331		59	39-119	8	30	
Dibenzo(a,h)anthracene	0.208	0.00331	"	0.331		63	38-132	7	30	
Chrysene	0.210	0.00331	"	0.331		63	42-117	7	30	
Naphthalene	0.200	0.00331	"	0.331		61	38-109	4	30	
Benzo(ghi)perylene	0.205	0.00331	"	0.331		62	35-120	8	30	
Benzo(b)fluoranthene	0.205	0.00331	"	0.331		62	39-123	8	30	
Benzo(a)pyrene	0.208	0.00331	"	0.331		63	39-127	8	30	

Origins Laboratory

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Ensolium
 11049 W 44th Avenue, Suite 103
 Wheat Ridge CO 80033

Jeremy Espinoza
 Project Number: 09A14171102
 Project: KMG - Howard 30N, 4C, 29N-21HZ O
 Facility

PAH by 3541/8270 - Quality Control
GEL Laboratories, LLC

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 2761897 - SW846 3541

LCSD (1206029130-BKSD)

Prepared: 03/10/2025 Analyzed: 03/10/2025

Benzo(a)anthracene	0.202	0.00331	mg/kg	0.331		61	42-120	8	30	
Anthracene	0.198	0.00331	"	0.331		60	41-117	7	30	
Acenaphthylene	0.196	0.00331	"	0.331		59	39-119	5	30	
Acenaphthene	0.196	0.00331	"	0.331		59	41-112	6	30	
2-Methylnaphthalene	0.209	0.00331	"	0.331		63	39-110	3	30	
Pyrene	0.195	0.00331	"	0.331		59	38-117	7	30	
Surrogate: 5-alpha-Androstane	0.109		"	0.165		66	22-135			

MS (1206029131 S)

Source: 712034005

Prepared: 03/10/2025 Analyzed: 03/11/2025

Dibenzo(a,h)anthracene	0.163	0.00354	mg/kg dry	0.354	<0.00117	46	11-134			
Fluorene	0.164	0.00354	"	0.354	<0.00117	46	16-134			
Benzo(k)fluoranthene	0.157	0.00354	"	0.354	<0.00117	44	18-138			
1-Methylnaphthalene	0.164	0.00354	"	0.354	<0.00117	46	15-129			
Pyrene	0.158	0.00354	"	0.354	<0.00117	45	12-139			
Phenanthrene	0.162	0.00354	"	0.354	0.00319	45	16-132			
Indeno(1,2,3-cd)pyrene	0.148	0.00354	"	0.354	<0.00117	42	13-134			
Fluoranthene	0.160	0.00354	"	0.354	<0.00117	45	14-136			
Chrysene	0.170	0.00354	"	0.354	<0.00117	48	19-129			
Benzo(ghi)perylene	0.164	0.00354	"	0.354	<0.00117	46	10-128			
Naphthalene	0.158	0.00354	"	0.354	<0.00117	45	16-126			
2-Methylnaphthalene	0.168	0.00354	"	0.354	<0.00117	47	15-132			
Benzo(b)fluoranthene	0.164	0.00354	"	0.354	<0.00117	46	14-136			
Acenaphthene	0.159	0.00354	"	0.354	<0.00117	45	17-129			
Acenaphthylene	0.160	0.00354	"	0.354	<0.00117	45	18-134			
Anthracene	0.166	0.00354	"	0.354	<0.00117	47	18-136			
Benzo(a)anthracene	0.164	0.00354	"	0.354	<0.00117	46	20-132			
Benzo(a)pyrene	0.169	0.00354	"	0.354	<0.00117	48	16-133			

Origins Laboratory

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Ensolium
 11049 W 44th Avenue, Suite 103
 Wheat Ridge CO 80033

Jeremy Espinoza
 Project Number: 09A14171102
 Project: KMG - Howard 30N, 4C, 29N-21HZ O
 Facility

PAH by 3541/8270 - Quality Control
GEL Laboratories, LLC

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 2761897 - SW846 3541

MS (1206029131 S)

Source: 712034005

Prepared: 03/10/2025 Analyzed: 03/11/2025

Surrogate: 5-alpha-Androstane	0.101		mg/kg dry	0.177	0.0747	57	22-135			
-------------------------------	-------	--	-----------	-------	--------	----	--------	--	--	--

MSD (1206029132 SD)

Source: 712034005

Prepared: 03/10/2025 Analyzed: 03/11/2025

Chrysene	0.124	0.00355	mg/kg dry	0.355	<0.00117	35	19-129	32	30	
1-Methylnaphthalene	0.105	0.00355	"	0.355	<0.00117	30	15-129	44	30	
Phenanthrene	0.115	0.00355	"	0.355	0.00319	32	16-132	34	30	
Naphthalene	0.0979	0.00355	"	0.355	<0.00117	28	16-126	47	30	
Indeno(1,2,3-cd)pyrene	0.106	0.00355	"	0.355	<0.00117	30	13-134	34	30	
Fluorene	0.110	0.00355	"	0.355	<0.00117	31	16-134	40	30	
Fluoranthene	0.117	0.00355	"	0.355	<0.00117	33	14-136	31	30	
Dibenzo(a,h)anthracene	0.117	0.00355	"	0.355	<0.00117	33	11-134	33	30	
Pyrene	0.116	0.00355	"	0.355	<0.00117	33	12-139	31	30	
Benzo(k)fluoranthene	0.114	0.00355	"	0.355	<0.00117	32	18-138	32	30	
Benzo(ghi)perylene	0.117	0.00355	"	0.355	<0.00117	33	10-128	34	30	
Benzo(b)fluoranthene	0.118	0.00355	"	0.355	<0.00117	33	14-136	33	30	
Benzo(a)pyrene	0.122	0.00355	"	0.355	<0.00117	34	16-133	32	30	
Benzo(a)anthracene	0.119	0.00355	"	0.355	<0.00117	34	20-132	32	30	
Anthracene	0.117	0.00355	"	0.355	<0.00117	33	18-136	34	30	
Acenaphthylene	0.106	0.00355	"	0.355	<0.00117	30	18-134	41	30	
Acenaphthene	0.103	0.00355	"	0.355	<0.00117	29	17-129	43	30	
2-Methylnaphthalene	0.107	0.00355	"	0.355	<0.00117	30	15-132	45	30	

Surrogate: 5-alpha-Androstane	0.0646		"	0.177	0.0747	36	22-135			
-------------------------------	--------	--	---	-------	--------	----	--------	--	--	--

Origins Laboratory

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Ensolium
11049 W 44th Avenue, Suite 103
Wheat Ridge CO 80033

Jeremy Espinoza
Project Number: 09A14171102
Project: KMG - Howard 30N, 4C, 29N-21HZ O
Facility

Notes and Definitions

- Ua Sample is Non-Detect.
- U Result not detected above the detection limit
- R-05 The sample was diluted due to the presence of high levels of non-target analytes resulting in elevated reporting limits.
- QR-DUP RPD exceeds QC acceptance criteria, this indicates source sample is not homogenous.
- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- J Greater than the detection limit but less than the reporting limit
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- All soil results are reported on a wet weight basis.

Origins Laboratory



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.