



Ensolum

May 09, 2025

Jeremy Espinoza

11049 W 44th Avenue, Suite 103

Wheat Ridge CO 80033

Project Name - KMG - Herman 1 Wellhead

Project Number - 09A14171095

Attached are your analytical results for KMG - Herman 1 Wellhead received by Origins Laboratory April 25, 2025. This project is associated with Origins project number E5D0712-01.

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



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

Jeremy Espinoza
Project Number: 09A14171095
Project: KMG - Herman 1 Wellhead

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SEP-RISER(32-14,1)@3'	E5D0712-01	Soil	April 24, 2025 15:40	04/25/2025 08:09
SEP-RISER(32-14,1)@3'-V	E5D0712-02	Soil	April 24, 2025 15:41	04/25/2025 08:09

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Jeremy Espinoza
Project Number: 09A14171095
Project: KMG - Herman 1 Wellhead

ORIGINS
LABORATORY

Please Provide Partial Report When Available

Page 1 of 1

Client: Ensolum
Address: _____
Project Manager: J. Espinoza
Project Name: Herman 1 Wellhead
Project Number: 09A14171095
WV: Water

Telephone Number: _____
Email Address: KMG Team
Collected By: JE
Invoice/Billing Info: Ensolum
WV: Waste Water

S=Soil | SO=Soil | O=Oil | A=Air | G=Gas | U=Unknown | HCL=Hydrochloric | HNO3=Nitric | H2SO4=Sulfuric | NaOH=Sodium Hydroxide

Sample ID	Date Sampled	Time Sampled	# of Containers	Matrix (Preservative)	Analysis	Comments
SENKSR(341)03	4/24	1540	3	WAP X		WV Volume Analyzed pending
SENKSR(341)03	4/24	1541	5	WAP X		WV Volume Analyzed pending
						Send Separate Report
						Analysis started by project # 09A14171095
						Herman 1 Wellhead

Temp Received: 24° Received on ice? Yes No

Turnaround Time
 SAME DAY
 24 Hr
 48 Hr
 72

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 Project: KMG - Herman 1 Wellhead

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: ESD0712

Client: Ensolum

Client Project ID: Herman 1WH

Checklist Completed by: JAR/JAR

Shipped Via: HD
 (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 / 29 °C / _____ °C / _____ °C (Describe) _____ °C

Thermometer ID: 1007

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 HNO ₃ , HCL, H ₂ SO ₄) / (pH > 10 for samples preserved with NaAsO ₂ , NaOH, ZnAc+NaOH)	<input checked="" type="checkbox"/>			
* ESD0712-02 has only 2 jars, COC says 3.				

⁽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) AJ

Date/Time Reviewed 4/28/25

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 Project: KMG - Herman 1 Wellhead

**SEP-RISER(32-14.1)@3'
 4/24/2025 3:40:00PM**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
E5D0712-01 (Soil) GEL Laboratories, LLC									
Total Metals 7196A									
Hexavalent Chromium	ND	0.162	0.405	mg/kg dry	1	2792791	05/06/2025	05/08/2025	U
Origins Laboratory									
Boron (DTPA Sorbitol)									
Boron	0.117		0.0989	mg/L	1	B5D2558	04/25/2025	04/30/2025	
DRO/ORO by EPA 8015D									
Diesel (C10-C28)	ND		25.0	mg/kg	1	B5D2542	04/25/2025	04/29/2025	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua
Surrogate: o-Terphenyl	78.8 %			50-150		"	"	"	
GBTEX+TMBs by 8260D									
1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B5D2575	04/25/2025	04/27/2025	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

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SEP-RISER(32-14.1)@3'
4/24/2025 3:40:00PM

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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E5D0712-01 (Soil)
Origins Laboratory

GBTEX+TMBs by 8260D

Gasoline Range Hydrocarbons	ND		0.200	mg/kg	1	B5D2575	04/25/2025	04/27/2025	Ua
Surrogate: 1,2-Dichloroethane-d4	105 %			70-130		"	"	"	
Surrogate: Toluene-d8	92.5 %			70-130		"	"	"	
Surrogate: 4-Bromofluorobenzene	94.2 %			70-130		"	"	"	

Metals by Saturated Paste by EPA 6010

Calcium	0.500		0.499	meq/L	10	[CALC]	04/30/2025	05/05/2025	
Magnesium	ND		0.823	"	"	"	"	"	
Sodium	0.815		0.435	"	"	"	"	"	

PAH by EPA 8270E extracted via 3580A

1-Methylnaphthalene	ND		0.002	mg/kg	1	B5D2927	04/29/2025	05/03/2025	Ua
2-Methylnaphthalene	ND		0.002	"	"	"	"	"	Ua
Acenaphthene	ND		0.020	"	"	"	"	"	Ua
Anthracene	ND		0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND		0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND		0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND		0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND		0.020	"	"	"	"	"	Ua

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**SEP-RISER(32-14.1)@3'
 4/24/2025 3:40:00PM**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**E5D0712-01 (Soil)
 Origins Laboratory**

PAH by EPA 8270E extracted via 3580A

Chrysene	ND		0.020	mg/kg	1	B5D2927	04/29/2025	05/03/2025	Ua
Dibenz (a,h) anthracene	ND		0.020	"	"	"	"	"	Ua
Fluoranthene	ND		0.020	"	"	"	"	"	Ua
Fluorene	ND		0.020	"	"	"	"	"	Ua
Indeno (1,2,3-cd) pyrene	ND		0.020	"	"	"	"	"	Ua
Naphthalene	ND		0.002	"	"	"	"	"	Ua
Pyrene	ND		0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	101 %			60-130		"	"	"	
Surrogate: Anthracene-d10	91.5 %			60-130		"	"	"	
Surrogate: Pyrene-d10	97.9 %			60-130		"	"	"	
Surrogate: Benzo (a) pyrene-d12	103 %			60-130		"	"	"	

pH in Soil by 9045D

pH	7.51			pH Units	1	B5D3055	04/30/2025	05/02/2025	
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SAR by 20B Saturated Paste

SAR	1.45		0.0100	SAR	1	B5D3053	04/30/2025	05/05/2025	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.224		0.00500	mmhos/cm	1	B5D3055	04/30/2025	05/02/2025	
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SEP-RISER(32-14.1)@3'
4/24/2025 3:40:00PM

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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E5D0712-01 (Soil)
Origins Laboratory

Table 915 metals by EPA 6020B

Arsenic	2.55		0.243	mg/kg	10	B5D2568	04/25/2025	04/28/2025	
Barium	57.3		8.37	"	"	"	"	"	
Cadmium	ND		0.0837	"	"	"	"	"	
Copper	ND		8.37	"	"	"	"	"	
Lead	7.07		0.837	"	"	"	"	"	
Nickel	5.75		0.837	"	"	"	"	"	
Selenium	ND		0.218	"	"	"	"	"	
Silver	ND		0.0837	"	"	"	"	"	
Zinc	ND		31.0	"	"	"	"	"	

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SEP-RISER(32-14.1)@3'-V
4/24/2025 3:41:00PM

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
E5D0712-02 (Soil)									
Origins Laboratory									
pH in Soil by 9045D									
pH	7.93			pH Units	1	B5E0223	05/02/2025	05/05/2025	

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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 B5D2558 - DTPA Sorbitol Preparation

Blank (B5D2558-BLK1)

Prepared: 04/25/2025 Analyzed: 04/30/2025

Boron ND 0.100 mg/L

Duplicate (B5D2558-DUP1)

Source: E5D0708-06

Prepared: 04/25/2025 Analyzed: 04/30/2025

Boron 0.107 0.0999 mg/L 0.0991 7.60 50

Batch B5D3053 - Saturated Paste Metals

Blank (B5D3053-BLK1)

Prepared: 04/30/2025 Analyzed: 05/05/2025

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 (B5D3053-DUP1)

Source: E5D0852-02

Prepared: 04/30/2025 Analyzed: 05/05/2025

SAR ND 0.0100 SAR 7.40 200

Calcium PPM 113 10.0 mg/L 135 18.4 50

Magnesium PPM 47.3 10.0 " 58.9 21.9 50

Sodium PPM 339 10.0 " 410 18.8 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 B5D2927 - EPA 3580

Blank (B5D2927-BLK1)

Prepared: 04/29/2025 Analyzed: 05/03/2025

1-Methylnaphthalene	ND	0.002	mg/kg							Ua
2-Methylnaphthalene	ND	0.002	"							Ua
Acenaphthene	ND	0.020	"							Ua
Anthracene	ND	0.020	"							Ua
Benzo (a) anthracene	ND	0.005	"							Ua
Benzo (a) pyrene	ND	0.020	"							Ua
Benzo (b) fluoranthene	ND	0.020	"							Ua
Benzo (g,h,i) perylene	ND	0.020	"							Ua
Benzo (k) fluoranthene	ND	0.020	"							Ua
Chrysene	ND	0.020	"							Ua
Dibenz (a,h) anthracene	ND	0.020	"							Ua
Fluoranthene	ND	0.020	"							Ua
Fluorene	ND	0.020	"							Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"							Ua
Naphthalene	ND	0.002	"							Ua
Phenanthrene	ND	0.020	"							Ua
Pyrene	ND	0.020	"							Ua

Surrogate: Fluorene-d10	200		ug/kg	200		99.8	60-130			
Surrogate: Anthracene-d10	190		"	200		96.0	60-130			
Surrogate: Pyrene-d10	190		"	200		93.8	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		102	60-130			

LCS (B5D2927-BS1)

Prepared: 04/29/2025 Analyzed: 05/03/2025

1-Methylnaphthalene	0.177	0.002	mg/kg	0.200		88.4	70-130			
2-Methylnaphthalene	0.177	0.002	"	0.200		88.7	70-130			
Acenaphthene	0.189	0.020	"	0.200		94.5	70-130			
Anthracene	0.190	0.020	"	0.200		95.0	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 B5D2927 - EPA 3580

LCS (B5D2927-BS1)

Prepared: 04/29/2025 Analyzed: 05/03/2025

Benzo (a) anthracene	0.198	0.005	mg/kg	0.200		99.2	70-130			
Benzo (a) pyrene	0.198	0.020	"	0.200		98.8	70-130			
Benzo (b) fluoranthene	0.227	0.020	"	0.200		114	70-130			
Benzo (g,h,i) perylene	0.194	0.020	"	0.200		96.9	70-130			
Benzo (k) fluoranthene	0.205	0.020	"	0.200		102	70-130			
Chrysene	0.193	0.020	"	0.200		96.3	70-130			
Dibenz (a,h) anthracene	0.222	0.020	"	0.200		111	70-130			
Fluoranthene	0.193	0.020	"	0.200		96.7	70-130			
Fluorene	0.192	0.020	"	0.200		96.2	70-130			
Indeno (1,2,3-cd) pyrene	0.195	0.020	"	0.200		97.5	70-130			
Naphthalene	0.186	0.002	"	0.200		92.8	70-130			
Phenanthrene	0.194	0.020	"	0.200		96.9	70-130			
Pyrene	0.189	0.020	"	0.200		94.4	70-130			

Surrogate: Fluorene-d10	200		ug/kg	200		101	60-130			
Surrogate: Anthracene-d10	190		"	200		93.6	60-130			
Surrogate: Pyrene-d10	190		"	200		93.9	60-130			
Surrogate: Benzo (a) pyrene-d12	210		"	200		104	60-130			

Matrix Spike (B5D2927-MS1)

Source: E5D0708-01

Prepared: 04/29/2025 Analyzed: 05/03/2025

1-Methylnaphthalene	0.195	0.002	mg/kg	0.200	ND	97.7	70-130			
2-Methylnaphthalene	0.194	0.002	"	0.200	ND	96.8	70-130			
Acenaphthene	0.210	0.020	"	0.200	ND	105	70-130			
Anthracene	0.229	0.020	"	0.200	ND	114	70-130			
Benzo (a) anthracene	0.209	0.005	"	0.200	ND	105	70-130			
Benzo (a) pyrene	0.214	0.020	"	0.200	0.0009	106	70-130			
Benzo (b) fluoranthene	0.246	0.020	"	0.200	0.0007	122	70-130			
Benzo (g,h,i) perylene	0.209	0.020	"	0.200	0.001	104	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 B5D2927 - EPA 3580

Matrix Spike (B5D2927-MS1)

Source: E5D0708-01

Prepared: 04/29/2025 Analyzed: 05/03/2025

Benzo (k) fluoranthene	0.220	0.020	mg/kg	0.200	ND	110	70-130			
Chrysene	0.206	0.020	"	0.200	0.001	102	70-130			
Dibenz (a,h) anthracene	0.244	0.020	"	0.200	0.001	121	70-130			
Fluoranthene	0.200	0.020	"	0.200	ND	100	70-130			
Fluorene	0.216	0.020	"	0.200	ND	108	70-130			
Indeno (1,2,3-cd) pyrene	0.213	0.020	"	0.200	ND	107	70-130			
Naphthalene	0.209	0.002	"	0.200	ND	104	70-130			
Phenanthrene	0.210	0.020	"	0.200	ND	105	70-130			
Pyrene	0.199	0.020	"	0.200	ND	99.3	70-130			

Surrogate: Fluorene-d10	210		ug/kg	200		104	60-130			
Surrogate: Anthracene-d10	190		"	200		96.3	60-130			
Surrogate: Pyrene-d10	180		"	200		89.2	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		101	60-130			

Matrix Spike Dup (B5D2927-MSD1)

Source: E5D0708-01

Prepared: 04/29/2025 Analyzed: 05/03/2025

1-Methylnaphthalene	0.161	0.002	mg/kg	0.200	ND	80.4	70-130	19.4	20	
2-Methylnaphthalene	0.161	0.002	"	0.200	ND	80.4	70-130	18.6	20	
Acenaphthene	0.175	0.020	"	0.200	ND	87.4	70-130	18.2	20	
Anthracene	0.175	0.020	"	0.200	ND	87.7	70-130	26.4	20	QR-02
Benzo (a) anthracene	0.180	0.005	"	0.200	ND	89.8	70-130	15.3	20	
Benzo (a) pyrene	0.182	0.020	"	0.200	0.0009	90.3	70-130	16.2	20	
Benzo (b) fluoranthene	0.206	0.020	"	0.200	0.0007	103	70-130	17.4	20	
Benzo (g,h,i) perylene	0.175	0.020	"	0.200	0.001	87.0	70-130	17.3	20	
Benzo (k) fluoranthene	0.178	0.020	"	0.200	ND	89.0	70-130	21.2	20	QR-02
Chrysene	0.173	0.020	"	0.200	0.001	85.9	70-130	17.4	20	
Dibenz (a,h) anthracene	0.206	0.020	"	0.200	0.001	103	70-130	16.6	20	
Fluoranthene	0.172	0.020	"	0.200	ND	86.1	70-130	15.0	20	

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

Jeremy Espinoza
 Project Number: 09A14171095
 Project: KMG - Herman 1 Wellhead

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 B5D2927 - EPA 3580

Matrix Spike Dup (B5D2927-MSD1)

Source: E5D0708-01

Prepared: 04/29/2025 Analyzed: 05/03/2025

Fluorene	0.181	0.020	mg/kg	0.200	ND	90.5	70-130	17.5	20	
Indeno (1,2,3-cd) pyrene	0.175	0.020	"	0.200	ND	87.6	70-130	19.6	20	
Naphthalene	0.174	0.002	"	0.200	ND	87.0	70-130	18.1	20	
Phenanthrene	0.178	0.020	"	0.200	ND	89.0	70-130	16.3	20	
Pyrene	0.167	0.020	"	0.200	ND	83.7	70-130	17.0	20	
Surrogate: Fluorene-d10	210		ug/kg	200		103	60-130			
Surrogate: Anthracene-d10	190		"	200		93.4	60-130			
Surrogate: Pyrene-d10	180		"	200		90.8	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		102	60-130			

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 Project: KMG - Herman 1 Wellhead

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
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Batch B5D2542 - EPA 3550B

Blank (B5D2542-BLK1)

Prepared: 04/25/2025 Analyzed: 04/30/2025

Diesel (C10-C28)	ND	25.0	mg/kg							Ua
Residual Range Organics (C28-C40)	ND	100	"							Ua
Surrogate: o-Terphenyl	21		"	24.9		85.6	50-150			

LCS (B5D2542-BS1)

Prepared: 04/25/2025 Analyzed: 04/29/2025

Diesel (C10-C28)	920	50.0	mg/kg	1000		92.0	70-130			
Residual Range Organics (C28-C40)	929	200	"	1000		92.9	70-130			
Surrogate: o-Terphenyl	51		"	49.8		102	50-150			

Matrix Spike (B5D2542-MS1)

Source: E5D0703-01

Prepared: 04/25/2025 Analyzed: 04/29/2025

Diesel (C10-C28)	961	50.0	mg/kg	1000	ND	96.1	70-130			
Residual Range Organics (C28-C40)	979	200	"	1000	ND	97.9	70-130			
Surrogate: o-Terphenyl	51		"	49.8		103	50-150			

Matrix Spike Dup (B5D2542-MSD1)

Source: E5D0703-01

Prepared: 04/25/2025 Analyzed: 04/29/2025

Diesel (C10-C28)	957	50.0	mg/kg	1000	ND	95.7	70-130	0.491	35	
Residual Range Organics (C28-C40)	975	200	"	1000	ND	97.5	70-130	0.403	35	
Surrogate: o-Terphenyl	51		"	49.8		102	50-150			

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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 B5D2568 - EPA 3050B

Blank (B5D2568-BLK1)

Prepared: 04/25/2025 Analyzed: 04/28/2025

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 (B5D2568-BS1)

Prepared: 04/25/2025 Analyzed: 05/05/2025

Arsenic	5.62	0.290	mg/kg	5.00		112	80-120			
Barium	587	82.0	"	500		117	80-120			
Cadmium	5.74	0.380	"	5.00		115	80-120			
Copper	53.4	46.0	"	50.0		107	80-120			
Lead	5.90	14.0	"	5.00		118	80-120			
Nickel	5.36	26.0	"	5.00		107	80-120			
Selenium	5.67	0.260	"	5.00		113	80-120			
Silver	5.38	0.800	"	5.00		108	80-120			
Zinc	54.1	370	"	50.0		108	80-120			

Matrix Spike (B5D2568-MS1)

Source: E5D0708-01

Prepared: 04/25/2025 Analyzed: 05/05/2025

Arsenic	7.36	0.256	mg/kg	4.41	2.48	111	75-125			
Barium	582	72.3	"	441	57.1	119	75-125			
Cadmium	5.11	0.335	"	4.41	0.102	114	75-125			
Copper	57.3	40.5	"	44.1	6.99	114	75-125			
Lead	13.3	12.3	"	4.41	7.10	141	75-125			QM-07

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Metals by EPA 6000/7000 Series Methods - Quality Control
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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B5D2568 - EPA 3050B

Matrix Spike (B5D2568-MS1)

Source: E5D0708-01

Prepared: 04/25/2025 Analyzed: 05/05/2025

Nickel	12.6	22.9	mg/kg	4.41	6.66	134	75-125			QM-07
Selenium	5.09	0.229	"	4.41	0.234	110	75-125			
Silver	4.53	0.705	"	4.41	0.0281	102	75-125			
Zinc	81.1	326	"	44.1	27.7	121	75-125			

Matrix Spike Dup (B5D2568-MSD1)

Source: E5D0708-01

Prepared: 04/25/2025 Analyzed: 05/05/2025

Arsenic	8.06	0.277	mg/kg	4.77	2.48	117	75-125	9.11	20	
Barium	633	78.3	"	477	57.1	121	75-125	8.43	20	
Cadmium	6.01	0.363	"	4.77	0.102	124	75-125	16.3	20	
Copper	59.6	43.9	"	47.7	6.99	110	75-125	4.05	20	
Lead	13.0	13.4	"	4.77	7.10	124	75-125	2.19	20	
Nickel	11.9	24.8	"	4.77	6.66	109	75-125	5.77	20	
Selenium	5.70	0.248	"	4.77	0.234	115	75-125	11.3	20	
Silver	5.14	0.764	"	4.77	0.0281	107	75-125	12.6	20	
Zinc	80.7	353	"	47.7	27.7	111	75-125	0.453	20	

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 Project: KMG - Herman 1 Wellhead

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 B5D3055 - Saturated Paste pH/EC

Blank (B5D3055-BLK1)

Prepared: 04/30/2025 Analyzed: 05/02/2025

Specific Conductance (EC) ND 0.00500 mmhos/cm

Duplicate (B5D3055-DUP1)

Source: E5D0852-02

Prepared: 04/30/2025 Analyzed: 05/02/2025

Specific Conductance (EC)	3.46	0.00500	mmhos/cm		4.17		18.8	25	
pH	8.30		pH Units		8.18		1.46	25	

Batch B5E0223 - Saturated Paste pH/EC

Duplicate (B5E0223-DUP1)

Source: E5D0705-27

Prepared: 05/02/2025 Analyzed: 05/05/2025

pH	7.54		pH Units		7.48		0.799	25	
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 Project: KMG - Herman 1 Wellhead

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 B5D2575 - EPA 5030 (soil)

Blank (B5D2575-BLK1)

Prepared: 04/25/2025 Analyzed: 04/27/2025

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
Naphthalene	ND	0.00380	"							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	97.5	70-130				
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125	96.9	70-130				

LCS (B5D2575-BS1)

Prepared: 04/25/2025 Analyzed: 04/27/2025

1,2,4-Trimethylbenzene	0.0903	0.00200	mg/kg	0.100	90.3	70-130				
1,3,5-Trimethylbenzene	0.0904	0.00200	"	0.100	90.4	70-130				
Benzene	0.0883	0.00200	"	0.100	88.3	70-130				
Ethylbenzene	0.0878	0.00200	"	0.100	87.8	70-130				
Naphthalene	0.100	0.00380	"	0.100	100	70-130				
Toluene	0.0913	0.00200	"	0.100	91.3	70-130				
o-Xylene	0.0911	0.00200	"	0.100	91.1	70-130				
m,p-Xylene	0.176	0.00400	"	0.200	87.9	70-130				

Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125	97.0	70-130				
Surrogate: Toluene-d8	0.13		"	0.125	102	70-130				
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125	98.5	70-130				

Matrix Spike (B5D2575-MS1)

Source: E5D0711-05

Prepared: 04/25/2025 Analyzed: 04/27/2025

1,2,4-Trimethylbenzene	0.105	0.00200	mg/kg	0.100	ND	105	70-130			
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Jeremy Espinoza
 Project Number: 09A14171095
 Project: KMG - Herman 1 Wellhead

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 B5D2575 - EPA 5030 (soil)

Matrix Spike (B5D2575-MS1)

Source: E5D0711-05

Prepared: 04/25/2025 Analyzed: 04/27/2025

1,3,5-Trimethylbenzene	0.109	0.00200	mg/kg	0.100	ND	109	70-130			
Benzene	0.0904	0.00200	"	0.100	ND	90.4	70-130			
Ethylbenzene	0.104	0.00200	"	0.100	ND	104	70-130			
Naphthalene	0.0663	0.00380	"	0.100	0.00150	64.8	70-130			QM-07
Toluene	0.0968	0.00200	"	0.100	ND	96.8	70-130			
o-Xylene	0.104	0.00200	"	0.100	ND	104	70-130			
m,p-Xylene	0.211	0.00400	"	0.200	ND	105	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.10		"	0.125		83.3	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		106	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		103	70-130			

Matrix Spike Dup (B5D2575-MSD1)

Source: E5D0711-05

Prepared: 04/25/2025 Analyzed: 04/27/2025

1,2,4-Trimethylbenzene	0.0976	0.00200	mg/kg	0.100	ND	97.6	70-130	7.34	20	
1,3,5-Trimethylbenzene	0.0981	0.00200	"	0.100	ND	98.1	70-130	10.4	20	
Benzene	0.0886	0.00200	"	0.100	ND	88.6	70-130	2.01	20	
Ethylbenzene	0.0963	0.00200	"	0.100	ND	96.3	70-130	8.09	20	
Naphthalene	0.0877	0.00380	"	0.100	0.00150	86.2	70-130	27.8	20	QR-02
Toluene	0.0906	0.00200	"	0.100	ND	90.6	70-130	6.60	20	
o-Xylene	0.0963	0.00200	"	0.100	ND	96.3	70-130	7.50	20	
m,p-Xylene	0.192	0.00400	"	0.200	ND	96.0	70-130	9.24	20	
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		95.2	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		103	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		102	70-130			

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Jeremy Espinoza
 Project Number: 09A14171095
 Project: KMG - Herman 1 Wellhead

Total Metals 7196A - Quality Control
GEL Laboratories, LLC

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 2792791 - SW846 3060A

BLANK (1206095278-BLK)

Prepared: 05/06/2025 Analyzed: 05/08/2025

Hexavalent Chromium	ND	0.356	mg/kg				-			U
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LCS (1206095279-BKS)

Prepared: 05/06/2025 Analyzed: 05/08/2025

Hexavalent Chromium	3.78	0.380	mg/kg	3.80		99.3	80-120			
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DUP (1206095280 D)

Source: 721752001

Prepared: 05/06/2025 Analyzed: 05/08/2025

Hexavalent Chromium	ND	0.444	mg/kg dry		<0.177		0-50	N/A	50	U
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MS (1206095281 S)

Source: 721752001

Prepared: 05/06/2025 Analyzed: 05/08/2025

Hexavalent Chromium	2.90	0.444	mg/kg dry	4.44	<0.178	64.9	75-125			
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DUP (1206095282 D)

Source: 721752002

Prepared: 05/06/2025 Analyzed: 05/08/2025

Hexavalent Chromium	ND	0.467	mg/kg dry		<0.187		0-50	N/A	50	U
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MS (1206095283 S)

Source: 721752002

Prepared: 05/06/2025 Analyzed: 05/08/2025

Hexavalent Chromium	3.90	0.467	mg/kg dry	4.67	<0.187	81.9	75-125			
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ILCS (1206095284-ILCS)

Prepared: 05/06/2025 Analyzed: 05/08/2025

Hexavalent Chromium	7.01	0.342	mg/kg	7.09		98.9	80-120			
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Project: KMG - Herman 1 Wellhead

Notes and Definitions

- Ua Sample is Non-Detect.
 - U Result not detected above the detection limit
 - 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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