



Ensolum

September 30, 2025

Jeremy Espinoza

11049 W 44th Avenue, Suite 103

Wheat Ridge CO 80033

Project Name - KMG - Madrigal 02-22 Facility

Project Number - 09A1417890

Attached are your analytical results for KMG - Madrigal 02-22 Facility received by Origins Laboratory September 19, 2025. This project is associated with Origins project number E5I0484-01.

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.

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

Jeremy Espinoza
Project Number: 09A1417890
Project: KMG - Madrigal 02-22 Facility

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW01	E510484-01	Water	September 19, 2025 12:02	09/19/2025 15:01
MW02	E510484-02	Water	September 19, 2025 11:45	09/19/2025 15:01
MW03	E510484-03	Water	September 19, 2025 11:39	09/19/2025 15:01
MW04	E510484-04	Water	September 19, 2025 11:29	09/19/2025 15:01
MW05	E510484-05	Water	September 19, 2025 11:53	09/19/2025 15:01

Origins Laboratory

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Sample Receipt Checklist

Origins Work Order: ESI0484

Client: Ensoium

Client Project ID: Madrigal 02-22 Facility

Checklist Completed by: NKM/smc

Shipped Via: HD
(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Date/time completed: 09/22/25

Airbill #: N/A

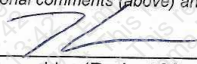
Matrix(s) Received: (Check all that apply): Soil/Solid Water Other: _____

Cooler Number/Temperature: 1 / 2.9 °C (Describe)

Thermometer ID: T-004

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 checked="" type="checkbox"/>	<input 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 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)

09/23/25
Date/Time Reviewed



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

Jeremy Espinoza
 Project Number: 09A1417890
 Project: KMG - Madrigal 02-22 Facility

MW01

9/19/2025 12:02:00PM

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
E5I0484-01 (Water) Origins Laboratory									
BTEX+N+TMBs by 8260D									
1,2,4-Trimethylbenzene	ND		2.00	ug/L	1	B5I2322	09/23/2025	09/23/2025	U
1,3,5-Trimethylbenzene	ND		2.00	"	"	"	"	"	U
Benzene	ND		1.00	"	"	"	"	"	U
Ethylbenzene	ND		1.00	"	"	"	"	"	U
Naphthalene	ND		2.00	"	"	"	"	"	U
Toluene	ND		1.00	"	"	"	"	"	U
Xylenes, total	ND		1.00	"	"	"	"	"	U
Surrogate: 1,2-Dichloroethane-d4	102 %				70-130	"	"	"	
Surrogate: Toluene-d8	94.8 %				70-130	"	"	"	
Surrogate: 4-Bromofluorobenzene	99.1 %				70-130	"	"	"	
Chloride and Sulfate By EPA 300.0									
Chloride	336		31.2	mg/L	125	B5I2403	09/24/2025	09/25/2025	
Sulfate	218		31.2	"	"	"	"	"	
Total Dissolved Solids by 2540C									
Total Dissolved Solids	1370		5.00	"	1	B5I2231	09/24/2025	09/25/2025	

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MW02

9/19/2025 11:45:00AM

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
E5I0484-02 (Water) Origins Laboratory									
BTEX+N+TMBs by 8260D									
1,2,4-Trimethylbenzene	ND		2.00	ug/L	1	B5I2322	09/23/2025	09/23/2025	U
1,3,5-Trimethylbenzene	ND		2.00	"	"	"	"	"	U
Benzene	ND		1.00	"	"	"	"	"	U
Ethylbenzene	ND		1.00	"	"	"	"	"	U
Naphthalene	ND		2.00	"	"	"	"	"	U
Toluene	ND		1.00	"	"	"	"	"	U
Xylenes, total	ND		1.00	"	"	"	"	"	U
Surrogate: 1,2-Dichloroethane-d4	101 %				70-130	"	"	"	
Surrogate: Toluene-d8	95.4 %				70-130	"	"	"	
Surrogate: 4-Bromofluorobenzene	100 %				70-130	"	"	"	
Chloride and Sulfate By EPA 300.0									
Chloride	193		31.2	mg/L	125	B5I2403	09/24/2025	09/25/2025	
Sulfate	158		31.2	"	"	"	"	"	
Total Dissolved Solids by 2540C									
Total Dissolved Solids	820		5.00	"	1	B5I2231	09/24/2025	09/25/2025	

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MW03

9/19/2025 11:39:00AM

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
E5I0484-03 (Water) Origins Laboratory									
BTEX+N+TMBs by 8260D									
1,2,4-Trimethylbenzene	ND		2.00	ug/L	1	B5I2322	09/23/2025	09/23/2025	U
1,3,5-Trimethylbenzene	ND		2.00	"	"	"	"	"	U
Benzene	ND		1.00	"	"	"	"	"	U
Ethylbenzene	ND		1.00	"	"	"	"	"	U
Naphthalene	ND		2.00	"	"	"	"	"	U
Toluene	ND		1.00	"	"	"	"	"	U
Xylenes, total	ND		1.00	"	"	"	"	"	U
Surrogate: 1,2-Dichloroethane-d4	100 %				70-130	"	"	"	
Surrogate: Toluene-d8	94.8 %				70-130	"	"	"	
Surrogate: 4-Bromofluorobenzene	102 %				70-130	"	"	"	
Chloride and Sulfate By EPA 300.0									
Chloride	186		31.2	mg/L	125	B5I2403	09/24/2025	09/25/2025	
Sulfate	143		31.2	"	"	"	"	"	
Total Dissolved Solids by 2540C									
Total Dissolved Solids	868		5.00	"	1	B5I2231	09/24/2025	09/25/2025	

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MW04

9/19/2025 11:29:00AM

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
E5I0484-04 (Water) Origins Laboratory									
BTEX+N+TMBs by 8260D									
1,2,4-Trimethylbenzene	ND		2.00	ug/L	1	B5I2322	09/23/2025	09/23/2025	U
1,3,5-Trimethylbenzene	ND		2.00	"	"	"	"	"	U
Benzene	ND		1.00	"	"	"	"	"	U
Ethylbenzene	ND		1.00	"	"	"	"	"	U
Naphthalene	ND		2.00	"	"	"	"	"	U
Toluene	ND		1.00	"	"	"	"	"	U
Xylenes, total	ND		1.00	"	"	"	"	"	U
Surrogate: 1,2-Dichloroethane-d4	101 %				70-130	"	"	"	
Surrogate: Toluene-d8	94.8 %				70-130	"	"	"	
Surrogate: 4-Bromofluorobenzene	102 %				70-130	"	"	"	
Chloride and Sulfate By EPA 300.0									
Chloride	204		31.2	mg/L	125	B5I2403	09/24/2025	09/25/2025	
Sulfate	187		31.2	"	"	"	"	"	
Total Dissolved Solids by 2540C									
Total Dissolved Solids	884		5.00	"	1	B5I2231	09/24/2025	09/25/2025	

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MW05

9/19/2025 11:53:00AM

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
E5I0484-05 (Water) Origins Laboratory									
BTEX+N+TMBs by 8260D									
1,2,4-Trimethylbenzene	ND		2.00	ug/L	1	B5I2322	09/23/2025	09/23/2025	U
1,3,5-Trimethylbenzene	ND		2.00	"	"	"	"	"	U
Benzene	ND		1.00	"	"	"	"	"	U
Ethylbenzene	ND		1.00	"	"	"	"	"	U
Naphthalene	ND		2.00	"	"	"	"	"	U
Toluene	ND		1.00	"	"	"	"	"	U
Xylenes, total	ND		1.00	"	"	"	"	"	U
Surrogate: 1,2-Dichloroethane-d4	98.6 %				70-130	"	"	"	
Surrogate: Toluene-d8	94.8 %				70-130	"	"	"	
Surrogate: 4-Bromofluorobenzene	100 %				70-130	"	"	"	
Chloride and Sulfate By EPA 300.0									
Chloride	212		31.2	mg/L	125	B5I2403	09/24/2025	09/25/2025	
Sulfate	219		31.2	"	"	"	"	"	
Total Dissolved Solids by 2540C									
Total Dissolved Solids	936		5.00	"	1	B5I2231	09/24/2025	09/25/2025	

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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 B512231 - NO PREP

Prepared: 09/24/2025 Analyzed: 09/25/2025

Blank (B512231-BLK1)

Total Dissolved Solids	ND	5.00	mg/L							U
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LCS (B512231-BS1)

Prepared: 09/24/2025 Analyzed: 09/25/2025

Total Dissolved Solids	960	5.00	mg/L	1000		96.0	90-110			
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Duplicate (B512231-DUP1)

Source: E510468-06

Prepared: 09/24/2025 Analyzed: 09/25/2025

Total Dissolved Solids	2510	5.00	mg/L		2510			0.00	10	
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Batch B512403 - Filter .45um non acidified

Prepared: 09/24/2025 Analyzed: 09/25/2025

Blank (B512403-BLK1)

Chloride	ND	0.250	mg/L							U
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Sulfate	ND	0.250	"							U
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LCS (B512403-BS1)

Prepared: 09/24/2025 Analyzed: 09/25/2025

Chloride	4.16	0.250	mg/L	4.00		104	90-110			
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Sulfate	4.07	0.250	"	4.00		102	90-110			
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Matrix Spike (B512403-MS1)

Source: E510484-01

Prepared: 09/24/2025 Analyzed: 09/26/2025

Chloride	876		mg/L	500	336	108	90-110			
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Sulfate	758		"	500	218	108	90-110			
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Matrix Spike Dup (B512403-MSD1)

Source: E510484-01

Prepared: 09/24/2025 Analyzed: 09/26/2025

Chloride	858		mg/L	500	336	104	90-110	2.08	5	
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Sulfate	740		"	500	218	104	90-110	2.43	5	
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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 B5I2322 - EPA 5030B (Water)

Blank (B5I2322-BLK1)

Prepared: 09/23/2025 Analyzed: 09/23/2025

1,2,4-Trimethylbenzene	ND	2.00	ug/L							U
1,3,5-Trimethylbenzene	ND	2.00	"							U
Benzene	ND	1.00	"							U
Ethylbenzene	ND	1.00	"							U
Naphthalene	ND	2.00	"							U
Toluene	ND	1.00	"							U
Xylenes, total	ND	1.00	"							U

Surrogate: 1,2-Dichloroethane-d4	65		"	62.5		103	70-130
Surrogate: Toluene-d8	60		"	62.5		95.3	70-130
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	70-130

LCS (B5I2322-BS1)

Prepared: 09/23/2025 Analyzed: 09/23/2025

1,2,4-Trimethylbenzene	52.3	2.00	ug/L	50.0		105	70-130
1,3,5-Trimethylbenzene	53.1	2.00	"	50.0		106	70-130
Benzene	50.8	1.00	"	50.0		102	70-130
Ethylbenzene	56.8	1.00	"	50.0		114	70-130
m,p-Xylene	113	2.00	"	100		113	70-130
Naphthalene	40.7	2.00	"	50.0		81.5	70-130
o-Xylene	54.5	1.00	"	50.0		109	70-130
Toluene	52.8	1.00	"	50.0		106	70-130

Surrogate: 1,2-Dichloroethane-d4	68		"	62.5		109	70-130
Surrogate: Toluene-d8	60		"	62.5		96.5	70-130
Surrogate: 4-Bromofluorobenzene	63		"	62.5		100	70-130

Matrix Spike (B5I2322-MS1)

Source: E5I0484-01

Prepared: 09/23/2025 Analyzed: 09/23/2025

1,2,4-Trimethylbenzene	41.4	2.00	ug/L	50.0	ND	82.9	70-130
1,3,5-Trimethylbenzene	39.2	2.00	"	50.0	ND	78.4	70-130

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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 B512322 - EPA 5030B (Water)

Matrix Spike (B512322-MS1)

Source: E510484-01

Prepared: 09/23/2025 Analyzed: 09/23/2025

Benzene	37.8	1.00	ug/L	50.0	ND	75.7	70-130			
Ethylbenzene	40.9	1.00	"	50.0	ND	81.8	70-130			
m,p-Xylene	83.7	2.00	"	100	ND	83.7	70-130			
Naphthalene	36.6	2.00	"	50.0	ND	73.2	70-130			
o-Xylene	43.8	1.00	"	50.0	ND	87.6	70-130			
Toluene	39.4	1.00	"	50.0	ND	78.8	70-130			

Surrogate: 1,2-Dichloroethane-d4	66		"	62.5		105	70-130			
Surrogate: Toluene-d8	61		"	62.5		98.2	70-130			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.5	70-130			

Matrix Spike Dup (B512322-MSD1)

Source: E510484-01

Prepared: 09/23/2025 Analyzed: 09/23/2025

1,2,4-Trimethylbenzene	53.8	2.00	ug/L	50.0	ND	108	70-130	25.9	20	QR-02
1,3,5-Trimethylbenzene	55.4	2.00	"	50.0	ND	111	70-130	34.3	20	QR-02
Benzene	49.2	1.00	"	50.0	ND	98.5	70-130	26.1	20	QR-02
Ethylbenzene	57.0	1.00	"	50.0	ND	114	70-130	32.8	20	QR-02
m,p-Xylene	113	2.00	"	100	ND	113	70-130	30.1	20	QR-02
Naphthalene	39.1	2.00	"	50.0	ND	78.1	70-130	6.58	20	
o-Xylene	54.3	1.00	"	50.0	ND	109	70-130	21.4	20	QR-02
Toluene	52.0	1.00	"	50.0	ND	104	70-130	27.5	20	QR-02

Surrogate: 1,2-Dichloroethane-d4	65		"	62.5		104	70-130			
Surrogate: Toluene-d8	61		"	62.5		96.8	70-130			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		100	70-130			

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Notes and Definitions

- U Sample is Non-Detect.
- 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.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference

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