



**Ensolum**

**December 29, 2025**

**Jeremy Espinoza**

**11049 W 44th Avenue, Suite 103**

**Wheat Ridge CO 80033**

**Project Name - KMG - Kugel V18-4 WH**

**Project Number - 09A1417811**

Attached are your analytical results for KMG - Kugel V18-4 WH received by Origins Laboratory December 17, 2025. This project is associated with Origins project number E5L0457-01.

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.

The laboratory is TNI accredited by the Utah DHHS ELAP under certificate number CO010822024.

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: 09A1417811  
Project: KMG - Kugel V18-4 WH

### CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B01(18-4)@6'	E5L0457-01	Soil	December 17, 2025 10:27	12/17/2025 15:14
WH01-Riser(18-4)@3'	E5L0457-02	Soil	December 17, 2025 10:30	12/17/2025 15:14
Native-BG01@3'	E5L0457-03	Soil	December 17, 2025 10:55	12/17/2025 15:14
Native-BG01@6'	E5L0457-04	Soil	December 17, 2025 10:58	12/17/2025 15:14
Native-BG02@3'	E5L0457-05	Soil	December 17, 2025 11:01	12/17/2025 15:14
Native-BG02@6'	E5L0457-06	Soil	December 17, 2025 11:04	12/17/2025 15:14
Native-BG03@3'	E5L0457-07	Soil	December 17, 2025 11:09	12/17/2025 15:14
Native-BG03@6'	E5L0457-08	Soil	December 17, 2025 11:11	12/17/2025 15:14
Native-BG04@3'	E5L0457-09	Soil	December 17, 2025 11:22	12/17/2025 15:14
Native-BG04@6'	E5L0457-10	Soil	December 17, 2025 11:25	12/17/2025 15:14
Native-BG05@3'	E5L0457-11	Soil	December 17, 2025 11:30	12/17/2025 15:14
Native-BG05@6'	E5L0457-12	Soil	December 17, 2025 11:33	12/17/2025 15:14

Origins Laboratory

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# ORIGINS

LABORATORY

EM # 35944  
ESLOW57

Client: ENSOlum  
Address: \_\_\_\_\_

Project Manager: Terey Espinoza  
Project Name: Highel V18-4 Wellhead

Key: W=Water  
GW=Groundwater  
SW=Surface Water  
WW=Waste Water

Telephone Number: (970) 590-2174  
Email Address: EMM@ENSOlum.com

Project Number: 09A1417811  
Collected By: EC  
Invoice/Billing Info: INTL

L=Liquid

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

#	Sample ID	Date Sampled	Time Sampled	# of Containers	Matrix	Preservative	Analysis						Comments		
							FULL	PH	EC	SAL	Boron	915metals			
1	Boil (18-4) EC	12/14/15	1027	3	S	UNP	X								
2	Water (18-4) EC		1030				X								
3	Native - 3701 EC		1055				X	X	X	X	X				
4	Native - 3701 EC		1058				X	X	X	X	X				
5	Native - 3702 EC		1101				X	X	X	X	X				
6	Native - 3702 EC		1104				X	X	X	X	X				
7	Native - 3705 EC		1109				X	X	X	X	X				
8	Native - 3705 EC		1111				X	X	X	X	X				
9	Native - 3705 EC		1122				X	X	X	X	X				
10	Native - 3705 EC		1125				X	X	X	X	X				

Relinquished By: <u>Emma Torres</u>	Date: <u>12/17/15</u>	Time: <u>1420</u>	Received By: <u>[Signature]</u>	Date: <u>12/17/15</u>	Time: <u>1420</u>
Relinquished By: <u>[Signature]</u>	Date: <u>12/17/15</u>	Time: <u>1514</u>	Received By: <u>[Signature]</u>	Date: <u>12/17/15</u>	Time: <u>1514</u>

Temp Received - 17 Received On Ice?  Yes  No

Turnaround Time  
 SAME DAY  24 Hr  
 48 Hr  72 Hr  
 Standard

# ORIGINS

LABORATORY

LABORATORY

Form # 352944  
ES10457

Page 2 of 2

Client: Emblem

Address: \_\_\_\_\_

Project Manager: Jenny Espinoza

Key: \_\_\_\_\_

Project Name: Bugel V18-4 Wellhead

Project Number: 09A1417 811

Collected By: KC

W=Water  
GW=Groundwater  
SW=Surface Water  
WW=Waste Water

Telephone Number: (970) 590-2134

Invoice/Billing Info: Initial

L=Liquid

S=Soil | SO=Solid | O=Oil | A=Air | G=Gas || UNP=Unpres | HCl = Hydrochloric | HNO3=Nitric | H2SO4=Sulfuric | NaOH=Sodium Hydroxide

#	Sample ID	Date Sampled	Time Sampled	# of Containers	Matrix	Preservative	Analysis					Comments
							PH	EC	SAR	Baron	9150tab	
1	Adm. Drapes	12/1/25	170	3	S	UNP	X	X	X	X		
2	Adm. Drapes	12/1/25	173	3	S	UNP	X	X	X	X		
3												
4												
5												
6												
7												
8												
9												
10												

Relinquished By: \_\_\_\_\_ Date: 12/17/25 Time: 15:14

Received By: Same Date: 12/17/25 Time: 15:14

Temp Received - 17 Received On Ice?  Yes  No

Turnaround Time  
 SAME DAY  
 24 Hr  
 48 Hr  
 72 Hr  
 Standard

1725 Elkridge Drive, Co. 90271 | # 303 433 1322 | originslab.com

Sample Receipt Checklist

Origins Work Order: ESL0457

Client: Ensolum

Client Project ID: Kugel 18-4

Checklist Completed by: gmc/Aw

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

Date/time completed: 12/17/25

Airbill #: N/A

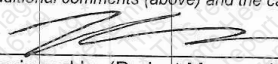
Matrix(s) Received: (Check all that apply):  Soil/Solid  Water  Other: \_\_\_\_\_

Cooler Number/Temperature: 1 11.7 °C (Describe)

Thermometer ID: T004

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤6°C <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<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 <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present <sup>(1)</sup> ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client with date and time recorded <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace (> ¼ inch bubble) present? <b>If yes, contact client and note in narrative.</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation and was it checked <sup>(1)</sup> ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO <sub>3</sub> , HCL, H <sub>2</sub> SO <sub>4</sub> ) / (pH >10 for samples preserved with NaAsO <sub>2</sub> +NaOH, ZnAc+NaOH)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<b>Additional Comments (if any):</b>				

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

  
Reviewed by (Project Manager)

12/18/25  
Date/Time Reviewed



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

Jeremy Espinoza  
 Project Number: 09A1417811  
 Project: KMG - Kugel V18-4 WH

**B01(18-4)@6'**

**12/17/2025 10:27:00AM**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
<b>E5L0457-01 (Soil)</b>									
<b>Origins Laboratory</b>									
<b>Boron (DTPA Sorbitol)</b>									
(DTPA Sorbitol) Boron	0.324		0.107	mg/L dry	1	5L18024	12/18/2025	12/19/2025	
<b>Chromium Hexavalent by EPA 7199</b>									
Hexavalent Chromium	ND	0.174	0.218	mg/kg dry	1	5L18037	12/18/2025	12/22/2025	U
<b>DRO/ORO by EPA 8015D</b>									
Diesel (C10-C28)	ND		26.5	mg/kg dry	1	5L18061	12/18/2025	12/18/2025	U
Residual Range Organics (C28-C36)	ND		106	"	"	"	"	"	U
Surrogate: o-Terphenyl	75.5 %			50-150		"	"	"	
<b>GBTEX+TMBs by 8260D</b>									
1,2,3-Trimethylbenzene	0.00			mg/kg dry	1	5L18043	12/18/2025	12/20/2025	U
1,2,4-Trimethylbenzene	ND		0.002	"	"	"	"	"	U
1,3,5-Trimethylbenzene	ND		0.002	"	"	"	"	"	U
Benzene	ND		0.002	"	"	"	"	"	U
Ethylbenzene	ND		0.002	"	"	"	"	"	U
Toluene	ND		0.002	"	"	"	"	"	U
Xylenes, total	ND		0.002	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND		0.213	"	"	"	"	"	U

Origins Laboratory

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 Project Number: 09A1417811  
 Project: KMG - Kugel V18-4 WH

**B01(18-4)@6'**

**12/17/2025 10:27:00AM**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**E5L0457-01 (Soil)  
 Origins Laboratory**

**GBTEX+TMBs by 8260D**

Surrogate: 1,2-Dichloroethane-d4	115 %		70-130			5L18043	12/18/2025	12/20/2025	
Surrogate: Toluene-d8	94.1 %		70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	93.6 %		70-130			"	"	"	

**Metals by Saturated Paste by EPA 6010**

Calcium	ND		0.499	meq/L	10	[CALC]	12/18/2025	12/19/2025	
Magnesium	ND		0.823	"	"	"	"	"	
Sodium	4.84		0.435	"	"	"	"	"	

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

1-Methylnaphthalene	ND		0.002	mg/kg dry	1	5L18063	12/18/2025	12/19/2025	U
2-Methylnaphthalene	ND		0.002	"	"	"	"	"	U
Acenaphthene	ND		0.022	"	"	"	"	"	U
Anthracene	ND		0.022	"	"	"	"	"	U
Benzo (a) anthracene	ND		0.005	"	"	"	"	"	U
Benzo (a) pyrene	ND		0.022	"	"	"	"	"	U
Benzo (b) fluoranthene	ND		0.022	"	"	"	"	"	U
Benzo (k) fluoranthene	ND		0.022	"	"	"	"	"	U
Chrysene	ND		0.022	"	"	"	"	"	U
Dibenz (a,h) anthracene	ND		0.022	"	"	"	"	"	U

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**B01(18-4)@6'**

**12/17/2025 10:27:00AM**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**E5L0457-01 (Soil)**  
**Origins Laboratory**

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

Fluoranthene	ND		0.022	mg/kg dry	1	5L18063	12/18/2025	12/19/2025	U
Fluorene	ND		0.022	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	ND		0.022	"	"	"	"	"	U
Naphthalene	ND		0.002	"	"	"	"	"	U
Pyrene	ND		0.022	"	"	"	"	"	U

Surrogate: Fluorene-d10	105 %			60-130		"	"	"	
Surrogate: Anthracene-d10	90.7 %			60-130		"	"	"	
Surrogate: Pyrene-d10	95.9 %			60-130		"	"	"	
Surrogate: Benzo (a) pyrene-d12	101 %			60-130		"	"	"	

**Percent Solids**

Total Solids, Percent	93.3			mass percent	1	5L17117	12/17/2025	12/18/2025	
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**pH in Soil by 9045D**

pH	9.35			pH Units	1	5L18034	12/18/2025	12/19/2025	
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**SAR by 20B Saturated Paste**

SAR	19.3		0.0100	SAR	1	5L18029	"	12/19/2025	
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**B01(18-4)@6'**

**12/17/2025 10:27:00AM**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**E5L0457-01 (Soil)  
 Origins Laboratory**

**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	0.738		0.00500	mmhos/cm	1	5L18034	12/18/2025	12/19/2025	
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**Table 915 metals by EPA 6020B**

Arsenic	1.92		0.223	mg/kg dry	10	5L18052	12/18/2025	12/23/2025	
Barium	ND		63.0	"	"	"	"	"	U
Cadmium	ND		0.292	"	"	"	"	"	U
Copper	ND		35.4	"	"	"	"	"	U
Lead	ND		10.8	"	"	"	"	"	U
Nickel	ND		20.0	"	"	"	"	"	U
Selenium	ND		0.189	"	"	"	"	"	U
Silver	ND		0.615	"	"	"	"	"	U
Zinc	ND		284	"	"	"	"	"	U

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 Project Number: 09A1417811  
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**WH01-Riser(18-4)@3'**  
**12/17/2025 10:30:00AM**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
<b>E5L0457-02 (Soil)</b>									
<b>Origins Laboratory</b>									
<b>Boron (DTPA Sorbitol)</b>									
(DTPA Sorbitol) Boron	0.695		0.113	mg/L dry	1	5L18025	12/18/2025	12/19/2025	
<b>Chromium Hexavalent by EPA 7199</b>									
Hexavalent Chromium	ND	0.179	0.223	mg/kg dry	1	5L18037	12/18/2025	12/22/2025	U
<b>DRO/ORO by EPA 8015D</b>									
Diesel (C10-C28)	ND		27.8	mg/kg dry	1	5L18061	12/18/2025	12/18/2025	U
Residual Range Organics (C28-C36)	ND		111	"	"	"	"	"	U
Surrogate: o-Terphenyl	71.4 %			50-150		"	"	"	
<b>GBTEX+TMBs by 8260D</b>									
1,2,3-Trimethylbenzene	0.00			mg/kg dry	1	5L18043	12/18/2025	12/20/2025	U
1,2,4-Trimethylbenzene	ND		0.002	"	"	"	"	"	U
1,3,5-Trimethylbenzene	ND		0.002	"	"	"	"	"	U
Benzene	ND		0.002	"	"	"	"	"	U
Ethylbenzene	ND		0.002	"	"	"	"	"	U
Toluene	ND		0.002	"	"	"	"	"	U
Xylenes, total	ND		0.002	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND		0.225	"	"	"	"	"	U

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Jeremy Espinoza  
 Project Number: 09A1417811  
 Project: KMG - Kugel V18-4 WH

**WH01-Riser(18-4)@3'**  
**12/17/2025 10:30:00AM**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**E5L0457-02 (Soil)**  
**Origins Laboratory**

**GBTEX+TMBs by 8260D**

Surrogate: 1,2-Dichloroethane-d4	114 %			70-130		5L18043	12/18/2025	12/20/2025	
Surrogate: Toluene-d8	95.4 %			70-130		"	"	"	
Surrogate: 4-Bromofluorobenzene	86.9 %			70-130		"	"	"	

**Metals by Saturated Paste by EPA 6010**

Calcium	ND		0.499	meq/L	10	[CALC]	12/18/2025	12/19/2025	
Magnesium	ND		0.823	"	"	"	"	"	
Sodium	3.70		0.435	"	"	"	"	"	

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

1-Methylnaphthalene	ND		0.002	mg/kg dry	1	5L18063	12/18/2025	12/19/2025	U
2-Methylnaphthalene	ND		0.002	"	"	"	"	"	U
Acenaphthene	ND		0.023	"	"	"	"	"	U
Anthracene	ND		0.023	"	"	"	"	"	U
Benzo (a) anthracene	ND		0.006	"	"	"	"	"	U
Benzo (a) pyrene	ND		0.023	"	"	"	"	"	U
Benzo (b) fluoranthene	ND		0.023	"	"	"	"	"	U
Benzo (k) fluoranthene	ND		0.023	"	"	"	"	"	U
Chrysene	ND		0.023	"	"	"	"	"	U
Dibenz (a,h) anthracene	ND		0.023	"	"	"	"	"	U

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Jeremy Espinoza  
 Project Number: 09A1417811  
 Project: KMG - Kugel V18-4 WH

**WH01-Riser(18-4)@3'**  
**12/17/2025 10:30:00AM**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**E5L0457-02 (Soil)**  
**Origins Laboratory**

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

Fluoranthene	ND		0.023	mg/kg dry	1	5L18063	12/18/2025	12/19/2025	U
Fluorene	ND		0.023	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	ND		0.023	"	"	"	"	"	U
Naphthalene	ND		0.002	"	"	"	"	"	U
Pyrene	ND		0.023	"	"	"	"	"	U

Surrogate: Fluorene-d10	103 %			60-130		"	"	"	
Surrogate: Anthracene-d10	87.8 %			60-130		"	"	"	
Surrogate: Pyrene-d10	94.4 %			60-130		"	"	"	
Surrogate: Benzo (a) pyrene-d12	99.4 %			60-130		"	"	"	

**Percent Solids**

Total Solids, Percent	90.3			mass percent	1	5L17117	12/17/2025	12/18/2025	
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**pH in Soil by 9045D**

pH	8.25			pH Units	1	5L18034	12/18/2025	12/19/2025	
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**SAR by 20B Saturated Paste**

SAR	16.1		0.0100	SAR	1	5L18029	"	12/19/2025	
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 Project Number: 09A1417811  
 Project: KMG - Kugel V18-4 WH

**WH01-Riser(18-4)@3'**  
**12/17/2025 10:30:00AM**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**E5L0457-02 (Soil)**  
**Origins Laboratory**

**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	0.449		0.00500	mmhos/cm	1	5L18034	12/18/2025	12/19/2025	
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**Table 915 metals by EPA 6020B**

Arsenic	2.46		0.210	mg/kg dry	10	5L18052	12/18/2025	12/19/2025	
Barium	ND		59.3	"	"	"	"	"	U
Cadmium	ND		0.275	"	"	"	"	"	U
Copper	ND		33.2	"	"	"	"	"	U
Lead	10.5		10.1	"	"	"	"	"	
Nickel	ND		18.8	"	"	"	"	"	U
Selenium	ND		0.178	"	"	"	"	"	U
Silver	ND		0.578	"	"	"	"	"	U
Zinc	ND		267	"	"	"	"	"	U

Origins Laboratory

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

Jeremy Espinoza  
 Project Number: 09A1417811  
 Project: KMG - Kugel V18-4 WH

**Native-BG01@3'**

**12/17/2025 10:55:00AM**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
<b>E5L0457-03 (Soil)</b>									
<b>Origins Laboratory</b>									
<b>Boron (DTPA Sorbitol)</b>									
(DTPA Sorbitol) Boron	ND		0.106	mg/L dry	1	5L18025	12/18/2025	12/19/2025	U
<b>Chromium Hexavalent by EPA 7199</b>									
Hexavalent Chromium	ND	0.172	0.215	mg/kg dry	1	5L18037	12/18/2025	12/22/2025	U
<b>Metals by Saturated Paste by EPA 6010</b>									
Calcium	0.690		0.499	meq/L	10	[CALC]	12/18/2025	12/19/2025	
Magnesium	ND		0.823	"	"	"	"	"	
Sodium	ND		0.435	"	"	"	"	"	
<b>Percent Solids</b>									
Total Solids, Percent	96.3			mass percent	1	5L17117	12/17/2025	12/18/2025	
<b>pH in Soil by 9045D</b>									
pH	8.21			pH Units	1	5L18035	12/18/2025	12/19/2025	
<b>SAR by 20B Saturated Paste</b>									
SAR	0.132		0.0100	SAR	1	5L18030	12/18/2025	12/19/2025	

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 Project Number: 09A1417811  
 Project: KMG - Kugel V18-4 WH

**Native-BG01@3'**  
**12/17/2025 10:55:00AM**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**E5L0457-03 (Soil)**  
**Origins Laboratory**

**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	0.167		0.00500	mmhos/cm	1	5L18035	12/18/2025	12/19/2025	
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**Table 915 metals by EPA 6020B**

Arsenic	2.20		0.211	mg/kg dry	10	5L18052	12/18/2025	12/19/2025	
Barium	ND		59.6	"	"	"	"	"	U
Cadmium	ND		0.276	"	"	"	"	"	U
Copper	ND		33.4	"	"	"	"	"	U
Lead	ND		10.2	"	"	"	"	"	U
Nickel	ND		18.9	"	"	"	"	"	U
Selenium	ND		0.179	"	"	"	"	"	U
Silver	ND		0.581	"	"	"	"	"	U
Zinc	ND		269	"	"	"	"	"	U

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**Native-BG01@6'**  
**12/17/2025 10:58:00AM**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
<b>E5L0457-04 (Soil)</b>									
<b>Origins Laboratory</b>									
<b>Boron (DTPA Sorbitol)</b>									
(DTPA Sorbitol) Boron	ND		0.106	mg/L dry	1	5L18025	12/18/2025	12/19/2025	U
<b>Chromium Hexavalent by EPA 7199</b>									
Hexavalent Chromium	ND	0.172	0.215	mg/kg dry	1	5L18037	12/18/2025	12/22/2025	U
<b>Metals by Saturated Paste by EPA 6010</b>									
Calcium	0.583		0.499	meq/L	10	[CALC]	12/18/2025	12/19/2025	
Magnesium	ND		0.823	"	"	"	"	"	"
Sodium	ND		0.435	"	"	"	"	"	"
<b>Percent Solids</b>									
Total Solids, Percent	95.3			mass percent	1	5L17117	12/17/2025	12/18/2025	
<b>pH in Soil by 9045D</b>									
pH	8.44			pH Units	1	5L18035	12/18/2025	12/19/2025	
<b>SAR by 20B Saturated Paste</b>									
SAR	0.209		0.0100	SAR	1	5L18030	12/18/2025	12/19/2025	

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 Project: KMG - Kugel V18-4 WH

**Native-BG01@6'**  
**12/17/2025 10:58:00AM**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**E5L0457-04 (Soil)**  
**Origins Laboratory**

**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	0.139		0.00500	mmhos/cm	1	5L18035	12/18/2025	12/19/2025	
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**Table 915 metals by EPA 6020B**

Arsenic	2.61		0.222	mg/kg dry	10	5L18052	12/18/2025	12/19/2025	
Barium	75.2		62.5	"	"	"	"	"	
Cadmium	ND		0.290	"	"	"	"	"	U
Copper	ND		35.1	"	"	"	"	"	U
Lead	ND		10.7	"	"	"	"	"	U
Nickel	ND		19.8	"	"	"	"	"	U
Selenium	ND		0.188	"	"	"	"	"	U
Silver	ND		0.610	"	"	"	"	"	U
Zinc	ND		282	"	"	"	"	"	U

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**Native-BG02@3'**

**12/17/2025 11:01:00AM**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
<b>E5L0457-05 (Soil)</b>									
<b>Origins Laboratory</b>									
<b>Boron (DTPA Sorbitol)</b>									
(DTPA Sorbitol) Boron	ND		0.102	mg/L dry	1	5L18025	12/18/2025	12/19/2025	U
<b>Chromium Hexavalent by EPA 7199</b>									
Hexavalent Chromium	ND	0.165	0.206	mg/kg dry	1	5L18037	12/18/2025	12/22/2025	U
<b>Metals by Saturated Paste by EPA 6010</b>									
Calcium	ND		0.499	meq/L	10	[CALC]	12/18/2025	12/19/2025	
Magnesium	ND		0.823	"	"	"	"	"	
Sodium	ND		0.435	"	"	"	"	"	
<b>Percent Solids</b>									
Total Solids, Percent	97.3			mass percent	1	5L17117	12/17/2025	12/18/2025	
<b>pH in Soil by 9045D</b>									
pH	7.95			pH Units	1	5L18035	12/18/2025	12/19/2025	
<b>SAR by 20B Saturated Paste</b>									
SAR	0.141		0.0100	SAR	1	5L18030	12/18/2025	12/19/2025	

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**Native-BG02@3'**  
**12/17/2025 11:01:00AM**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**E5L0457-05 (Soil)**  
**Origins Laboratory**

**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	0.0508		0.00500	mmhos/cm	1	5L18035	12/18/2025	12/19/2025	
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**Table 915 metals by EPA 6020B**

Arsenic	3.38		0.197	mg/kg dry	10	5L18052	12/18/2025	12/19/2025	
Barium	75.2		55.7	"	"	"	"	"	
Cadmium	ND		0.258	"	"	"	"	"	U
Copper	ND		31.2	"	"	"	"	"	U
Lead	ND		9.51	"	"	"	"	"	U
Nickel	ND		17.7	"	"	"	"	"	U
Selenium	ND		0.167	"	"	"	"	"	U
Silver	ND		0.543	"	"	"	"	"	U
Zinc	ND		251	"	"	"	"	"	U

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**Native-BG02@6'**

**12/17/2025 11:04:00AM**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
<b>E5L0457-06 (Soil)</b>									
<b>Origins Laboratory</b>									
<b>Boron (DTPA Sorbitol)</b>									
(DTPA Sorbitol) Boron	ND		0.103	mg/L dry	1	5L18025	12/18/2025	12/19/2025	U
<b>Chromium Hexavalent by EPA 7199</b>									
Hexavalent Chromium	ND	0.165	0.207	mg/kg dry	1	5L18037	12/18/2025	12/22/2025	U
<b>Metals by Saturated Paste by EPA 6010</b>									
Calcium	ND		0.499	meq/L	10	[CALC]	12/18/2025	12/19/2025	
Magnesium	ND		0.823	"	"	"	"	"	
Sodium	ND		0.435	"	"	"	"	"	
<b>Percent Solids</b>									
Total Solids, Percent	97.3			mass percent	1	5L17117	12/17/2025	12/18/2025	
<b>pH in Soil by 9045D</b>									
pH	8.42			pH Units	1	5L18035	12/18/2025	12/19/2025	
<b>SAR by 20B Saturated Paste</b>									
SAR	0.191		0.0100	SAR	1	5L18030	12/18/2025	12/19/2025	

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**Native-BG02@6'**  
**12/17/2025 11:04:00AM**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**E5L0457-06 (Soil)**  
**Origins Laboratory**

**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	0.134		0.00500	mmhos/cm	1	5L18035	12/18/2025	12/19/2025	
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**Table 915 metals by EPA 6020B**

Arsenic	3.12		0.208	mg/kg dry	10	5L18052	12/18/2025	12/19/2025	
Barium	77.7		58.5	"	"	"	"	"	
Cadmium	ND		0.271	"	"	"	"	"	U
Copper	ND		32.8	"	"	"	"	"	U
Lead	ND		9.99	"	"	"	"	"	U
Nickel	ND		18.6	"	"	"	"	"	U
Selenium	ND		0.176	"	"	"	"	"	U
Silver	ND		0.571	"	"	"	"	"	U
Zinc	ND		264	"	"	"	"	"	U

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 Project: KMG - Kugel V18-4 WH

**Native-BG03@3'**  
**12/17/2025 11:09:00AM**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
<b>E5L0457-07 (Soil)</b>									
<b>Origins Laboratory</b>									
<b>Boron (DTPA Sorbitol)</b>									
(DTPA Sorbitol) Boron	ND		0.103	mg/L dry	1	5L18025	12/18/2025	12/19/2025	U
<b>Chromium Hexavalent by EPA 7199</b>									
Hexavalent Chromium	ND	0.168	0.211	mg/kg dry	1	5L18037	12/18/2025	12/22/2025	U
<b>Metals by Saturated Paste by EPA 6010</b>									
Calcium	0.944		0.499	meq/L	10	[CALC]	12/18/2025	12/19/2025	
Magnesium	ND		0.823	"	"	"	"	"	
Sodium	ND		0.435	"	"	"	"	"	
<b>Percent Solids</b>									
Total Solids, Percent	97.5			mass percent	1	5L17117	12/17/2025	12/18/2025	
<b>pH in Soil by 9045D</b>									
pH	8.22			pH Units	1	5L18035	12/18/2025	12/19/2025	
<b>SAR by 20B Saturated Paste</b>									
SAR	0.148		0.0100	SAR	1	5L18030	12/18/2025	12/19/2025	

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 Project: KMG - Kugel V18-4 WH

**Native-BG03@3'**

**12/17/2025 11:09:00AM**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**E5L0457-07 (Soil)**

**Origins Laboratory**

**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	0.235		0.00500	mmhos/cm	1	5L18035	12/18/2025	12/19/2025	
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**Table 915 metals by EPA 6020B**

Arsenic	3.02		0.204	mg/kg dry	10	5L18052	12/18/2025	12/19/2025	
Barium	74.8		57.5	"	"	"	"	"	
Cadmium	ND		0.267	"	"	"	"	"	U
Copper	ND		32.3	"	"	"	"	"	U
Lead	ND		9.82	"	"	"	"	"	U
Nickel	ND		18.2	"	"	"	"	"	U
Selenium	ND		0.173	"	"	"	"	"	U
Silver	ND		0.561	"	"	"	"	"	U
Zinc	ND		260	"	"	"	"	"	U

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 Project: KMG - Kugel V18-4 WH

**Native-BG03@6'**

**12/17/2025 11:11:00AM**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
<b>E5L0457-08 (Soil)</b>									
<b>Origins Laboratory</b>									
<b>Boron (DTPA Sorbitol)</b>									
(DTPA Sorbitol) Boron	0.177		0.115	mg/L dry	1	5L18025	12/18/2025	12/19/2025	
<b>Chromium Hexavalent by EPA 7199</b>									
Hexavalent Chromium	0.328	0.185	0.232	mg/kg dry	1	5L18037	12/18/2025	12/23/2025	
<b>Metals by Saturated Paste by EPA 6010</b>									
Calcium	0.799		0.499	meq/L	10	[CALC]	12/18/2025	12/19/2025	
Magnesium	ND		0.823	"	"	"	"	"	
Sodium	0.609		0.435	"	"	"	"	"	
<b>Percent Solids</b>									
Total Solids, Percent	87.1			mass percent	1	5L17117	12/17/2025	12/18/2025	
<b>pH in Soil by 9045D</b>									
pH	8.39			pH Units	1	5L18035	12/18/2025	12/19/2025	
<b>SAR by 20B Saturated Paste</b>									
SAR	0.712		0.0100	SAR	1	5L18030	12/18/2025	12/19/2025	

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**Native-BG03@6'**  
**12/17/2025 11:11:00AM**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**E5L0457-08 (Soil)**  
**Origins Laboratory**

**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	0.284		0.00500	mmhos/cm	1	5L18035	12/18/2025	12/19/2025	
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**Table 915 metals by EPA 6020B**

Arsenic	26.3		0.237	mg/kg dry	10	5L18052	12/18/2025	12/19/2025	
Barium	129		67.0	"	"	"	"	"	
Cadmium	ND		0.310	"	"	"	"	"	U
Copper	ND		37.6	"	"	"	"	"	U
Lead	15.4		11.4	"	"	"	"	"	
Nickel	ND		21.2	"	"	"	"	"	U
Selenium	0.447		0.201	"	"	"	"	"	
Silver	ND		0.653	"	"	"	"	"	U
Zinc	ND		302	"	"	"	"	"	U

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**Native-BG04@3'**  
**12/17/2025 11:22:00AM**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
<b>E5L0457-09 (Soil)</b>									
<b>Origins Laboratory</b>									
<b>Boron (DTPA Sorbitol)</b>									
(DTPA Sorbitol) Boron	0.103		0.103	mg/L dry	1	5L18025	12/18/2025	12/19/2025	
<b>Chromium Hexavalent by EPA 7199</b>									
Hexavalent Chromium	ND	0.168	0.210	mg/kg dry	1	5L18037	12/18/2025	12/22/2025	U
<b>Metals by Saturated Paste by EPA 6010</b>									
Calcium	ND		0.499	meq/L	10	[CALC]	12/18/2025	12/19/2025	
Magnesium	ND		0.823	"	"	"	"	"	
Sodium	ND		0.435	"	"	"	"	"	
<b>Percent Solids</b>									
Total Solids, Percent	97.4			mass percent	1	5L17117	12/17/2025	12/18/2025	
<b>pH in Soil by 9045D</b>									
pH	7.98			pH Units	1	5L18035	12/18/2025	12/19/2025	
<b>SAR by 20B Saturated Paste</b>									
SAR	0.280		0.0100	SAR	1	5L18030	12/18/2025	12/19/2025	

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**Native-BG04@3'**  
**12/17/2025 11:22:00AM**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**E5L0457-09 (Soil)**  
**Origins Laboratory**

**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	0.0570		0.00500	mmhos/cm	1	5L18035	12/18/2025	12/19/2025	
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**Table 915 metals by EPA 6020B**

Arsenic	2.43		0.218	mg/kg dry	10	5L18052	12/18/2025	12/19/2025	
Barium	ND		61.4	"	"	"	"	"	U
Cadmium	ND		0.284	"	"	"	"	"	U
Copper	ND		34.4	"	"	"	"	"	U
Lead	ND		10.5	"	"	"	"	"	U
Nickel	ND		19.5	"	"	"	"	"	U
Selenium	ND		0.184	"	"	"	"	"	U
Silver	ND		0.599	"	"	"	"	"	U
Zinc	ND		277	"	"	"	"	"	U

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Jeremy Espinoza  
 Project Number: 09A1417811  
 Project: KMG - Kugel V18-4 WH

**Native-BG04@6'**

**12/17/2025 11:25:00AM**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
<b>E5L0457-10 (Soil)</b>									
<b>Origins Laboratory</b>									
<b>Boron (DTPA Sorbitol)</b>									
(DTPA Sorbitol) Boron	ND		0.102	mg/L dry	1	5L18025	12/18/2025	12/19/2025	U
<b>Chromium Hexavalent by EPA 7199</b>									
Hexavalent Chromium	ND	0.168	0.210	mg/kg dry	1	5L18037	12/18/2025	12/22/2025	U
<b>Metals by Saturated Paste by EPA 6010</b>									
Calcium	0.520		0.499	meq/L	10	[CALC]	12/18/2025	12/19/2025	
Magnesium	ND		0.823	"	"	"	"	"	
Sodium	ND		0.435	"	"	"	"	"	
<b>Percent Solids</b>									
Total Solids, Percent	97.9			mass percent	1	5L17116	12/17/2025	12/17/2025	
<b>pH in Soil by 9045D</b>									
pH	8.40			pH Units	1	5L18035	12/18/2025	12/19/2025	
<b>SAR by 20B Saturated Paste</b>									
SAR	0.185		0.0100	SAR	1	5L18030	12/18/2025	12/19/2025	

Origins Laboratory

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

Jeremy Espinoza  
 Project Number: 09A1417811  
 Project: KMG - Kugel V18-4 WH

**Native-BG04@6'**  
**12/17/2025 11:25:00AM**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**E5L0457-10 (Soil)**  
**Origins Laboratory**

**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	0.136		0.00500	mmhos/cm	1	5L18035	12/18/2025	12/19/2025	
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**Table 915 metals by EPA 6020B**

Arsenic	2.64		0.207	mg/kg dry	10	5L18052	12/18/2025	12/19/2025	
Barium	ND		58.5	"	"	"	"	"	U
Cadmium	ND		0.271	"	"	"	"	"	U
Copper	ND		32.8	"	"	"	"	"	U
Lead	ND		9.98	"	"	"	"	"	U
Nickel	ND		18.5	"	"	"	"	"	U
Selenium	ND		0.175	"	"	"	"	"	U
Silver	ND		0.570	"	"	"	"	"	U
Zinc	ND		264	"	"	"	"	"	U

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 Project: KMG - Kugel V18-4 WH

**Native-BG05@3'**  
**12/17/2025 11:30:00AM**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
<b>E5L0457-11 (Soil)</b>									
<b>Origins Laboratory</b>									
<b>Boron (DTPA Sorbitol)</b>									
(DTPA Sorbitol) Boron	ND		0.102	mg/L dry	1	5L18025	12/18/2025	12/19/2025	U
<b>Chromium Hexavalent by EPA 7199</b>									
Hexavalent Chromium	ND	0.163	0.204	mg/kg dry	1	5L18037	12/18/2025	12/22/2025	U
<b>Metals by Saturated Paste by EPA 6010</b>									
Calcium	ND		0.499	meq/L	10	[CALC]	12/18/2025	12/19/2025	
Magnesium	ND		0.823	"	"	"	"	"	
Sodium	ND		0.435	"	"	"	"	"	
<b>Percent Solids</b>									
Total Solids, Percent	97.0			mass percent	1	5L17116	12/17/2025	12/17/2025	
<b>pH in Soil by 9045D</b>									
pH	8.00			pH Units	1	5L18035	12/18/2025	12/19/2025	
<b>SAR by 20B Saturated Paste</b>									
SAR	0.222		0.0100	SAR	1	5L18030	12/18/2025	12/19/2025	

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Jeremy Espinoza  
 Project Number: 09A1417811  
 Project: KMG - Kugel V18-4 WH

**Native-BG05@3'**  
**12/17/2025 11:30:00AM**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**E5L0457-11 (Soil)**  
**Origins Laboratory**

**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	0.0595		0.00500	mmhos/cm	1	5L18035	12/18/2025	12/19/2025	
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**Table 915 metals by EPA 6020B**

Arsenic	3.43		0.206	mg/kg dry	10	5L18052	12/18/2025	12/19/2025	
Barium	64.3		58.0	"	"	"	"	"	
Cadmium	ND		0.269	"	"	"	"	"	U
Copper	ND		32.5	"	"	"	"	"	U
Lead	ND		9.90	"	"	"	"	"	U
Nickel	ND		18.4	"	"	"	"	"	U
Selenium	ND		0.174	"	"	"	"	"	U
Silver	ND		0.566	"	"	"	"	"	U
Zinc	ND		262	"	"	"	"	"	U

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 Project: KMG - Kugel V18-4 WH

**Native-BG05@6'**

**12/17/2025 11:33:00AM**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
<b>E5L0457-12 (Soil)</b>									
<b>Origins Laboratory</b>									
<b>Boron (DTPA Sorbitol)</b>									
(DTPA Sorbitol) Boron	ND		0.107	mg/L dry	1	5L18025	12/18/2025	12/19/2025	U
<b>Chromium Hexavalent by EPA 7199</b>									
Hexavalent Chromium	ND	0.164	0.205	mg/kg dry	1	5L18037	12/18/2025	12/22/2025	U
<b>Metals by Saturated Paste by EPA 6010</b>									
Calcium	0.665		0.499	meq/L	10	[CALC]	12/18/2025	12/19/2025	
Magnesium	ND		0.823	"	"	"	"	"	
Sodium	ND		0.435	"	"	"	"	"	
<b>Percent Solids</b>									
Total Solids, Percent	95.1			mass percent	1	5L17116	12/17/2025	12/17/2025	
<b>pH in Soil by 9045D</b>									
pH	8.46			pH Units	1	5L18035	12/18/2025	12/19/2025	
<b>SAR by 20B Saturated Paste</b>									
SAR	0.344		0.0100	SAR	1	5L18030	12/18/2025	12/19/2025	

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 Project: KMG - Kugel V18-4 WH

**Native-BG05@6'**  
**12/17/2025 11:33:00AM**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**E5L0457-12 (Soil)**  
**Origins Laboratory**

**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	0.177		0.00500	mmhos/cm	1	5L18035	12/18/2025	12/19/2025	
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**Table 915 metals by EPA 6020B**

Arsenic	3.51		0.221	mg/kg dry	10	5L18052	12/18/2025	12/19/2025	
Barium	75.7		62.2	"	"	"	"	"	
Cadmium	ND		0.288	"	"	"	"	"	U
Copper	ND		34.9	"	"	"	"	"	U
Lead	ND		10.6	"	"	"	"	"	U
Nickel	ND		19.7	"	"	"	"	"	U
Selenium	ND		0.187	"	"	"	"	"	U
Silver	ND		0.607	"	"	"	"	"	U
Zinc	ND		281	"	"	"	"	"	U

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 5L17116 - % Solids</b>										
<b>Duplicate (5L17116-DUP1)</b>			<b>Source: E5L0452-03</b>			Prepared: 12/17/2025 Analyzed: 12/17/2025				
Total Solids, Percent	69.9		mass percent		68.7			1.69	20	
<b>Batch 5L17117 - % Solids</b>										
<b>Duplicate (5L17117-DUP1)</b>			<b>Source: E5L0451-29</b>			Prepared: 12/17/2025 Analyzed: 12/18/2025				
Total Solids, Percent	95.7		mass percent		95.6			0.0132	20	
<b>Duplicate (5L17117-DUP2)</b>			<b>Source: E5L0451-30</b>			Prepared: 12/17/2025 Analyzed: 12/18/2025				
Total Solids, Percent	96.5		mass percent		96.2			0.299	20	
<b>Batch 5L18037 - EPA 3060A</b>										
<b>Blank (5L18037-BLK1)</b>			Prepared: 12/18/2025 Analyzed: 12/22/2025							
Hexavalent Chromium	ND	0.200	mg/kg wet							U
<b>LCS (5L18037-BS1)</b>			Prepared: 12/18/2025 Analyzed: 12/22/2025							
Hexavalent Chromium	1.67	0.200	mg/kg wet	2.00		83.7	80-120			
<b>Matrix Spike (5L18037-MS1)</b>			Prepared: 12/18/2025 Analyzed: 12/22/2025							
Hexavalent Chromium	1.86	0.214	mg/kg dry	2.14	ND	86.8	75-125			
<b>Matrix Spike (5L18037-MS2)</b>			Prepared: 12/18/2025 Analyzed: 12/22/2025							
Hexavalent Chromium	154	22.1	mg/kg dry	181	ND	85.2	75-125			
<b>Matrix Spike Dup (5L18037-MSD1)</b>			Prepared: 12/18/2025 Analyzed: 12/22/2025							
Hexavalent Chromium	1.90	0.221	mg/kg dry	2.21	ND	86.2	75-125	2.13	20	

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 Project: KMG - Kugel V18-4 WH

\*\*\* DEFAULT GENERAL METHOD \*\*\* - 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 5L18037 - EPA 3060A

Post Spike (5L18037-PS1)

Source: E5L0457-01

Prepared: 12/18/2025 Analyzed: 12/22/2025

Hexavalent Chromium	50.4		ug/L	50.0	0.740	99.3	80-120			
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 Project: KMG - Kugel V18-4 WH

**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 5L18024 - DTPA Sorbitol Preparation**

**Blank (5L18024-BLK1)**

Prepared: 12/18/2025 Analyzed: 12/19/2025

(DTPA Sorbitol) Boron ND 0.100 mg/L wet U

**Duplicate (5L18024-DUP1)**

Source: E5L0449-12

Prepared: 12/18/2025 Analyzed: 12/19/2025

(DTPA Sorbitol) Boron 0.115 0.121 mg/L dry 0.118 3.21 50 U

**Batch 5L18025 - DTPA Sorbitol Preparation**

**Blank (5L18025-BLK1)**

Prepared: 12/18/2025 Analyzed: 12/19/2025

(DTPA Sorbitol) Boron ND 0.100 mg/L wet U

**Duplicate (5L18025-DUP1)**

Source: E5L0457-02

Prepared: 12/18/2025 Analyzed: 12/19/2025

(DTPA Sorbitol) Boron 0.619 0.110 mg/L dry 0.695 11.6 50

**Batch 5L18029 - Saturated Paste Metals**

**Blank (5L18029-BLK1)**

Prepared: 12/18/2025 Analyzed: 12/19/2025

Calcium PPM ND 10.0 mg/L U

SAR ND 0.0100 SAR U

Magnesium PPM ND 10.0 mg/L U

Sodium PPM ND 10.0 " U

**Duplicate (5L18029-DUP1)**

Source: E5L0449-13

Prepared: 12/18/2025 Analyzed: 12/19/2025

SAR ND 0.0100 SAR 4.64 200 U

Calcium PPM 77.0 10.0 mg/L 53.7 35.7 50

Magnesium PPM 21.6 10.0 " 14.8 37.0 50

Sodium PPM 211 10.0 " 149 34.7 50

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 Project Number: 09A1417811  
 Project: KMG - Kugel V18-4 WH

**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 5L18030 - Saturated Paste Metals**

**Blank (5L18030-BLK1)**

Prepared: 12/18/2025 Analyzed: 12/19/2025

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

**Duplicate (5L18030-DUP1)**

**Source: E5L0457-03**

Prepared: 12/18/2025 Analyzed: 12/19/2025

Calcium PPM	17.8	10.0	mg/L		13.8			25.3	50	
SAR	ND	0.0100	SAR		0.132				200	U
Magnesium PPM	3.01	10.0	mg/L		2.36			24.2	50	U
Sodium PPM	2.75	10.0	"		2.02			30.6	50	U

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 Project Number: 09A1417811  
 Project: KMG - Kugel V18-4 WH

**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 5L18063 - EPA 3580**

**Blank (5L18063-BLK1)**

Prepared: 12/18/2025 Analyzed: 12/19/2025

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

Surrogate: Fluorene-d10

200

ug/kg

200

101

60-130

Surrogate: Anthracene-d10

190

"

200

93.3

60-130

Surrogate: Pyrene-d10

190

"

200

97.5

60-130

Surrogate: Benzo (a) pyrene-d12

200

"

200

101

60-130

**LCS (5L18063-BS1)**

Prepared: 12/18/2025 Analyzed: 12/19/2025

1-Methylnaphthalene	0.224	0.002	mg/kg wet	0.202		111	70-130			
2-Methylnaphthalene	0.225	0.002	"	0.202		111	70-130			
Acenaphthene	0.203	0.020	"	0.202		101	70-130			
Anthracene	0.190	0.020	"	0.202		94.1	70-130			
Benzo (a) anthracene	0.208	0.005	"	0.202		103	70-130			
Benzo (a) pyrene	0.212	0.020	"	0.202		105	70-130			

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 Project: KMG - Kugel V18-4 WH

**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 5L18063 - EPA 3580**

**LCS (5L18063-BS1)**

Prepared: 12/18/2025 Analyzed: 12/19/2025

Benzo (b) fluoranthene	0.224	0.020	mg/kg wet	0.202		111	70-130			
Benzo (g,h,i) perylene	0.201	0.020	"	0.202		99.3	70-130			
Benzo (k) fluoranthene	0.200	0.020	"	0.202		99.0	70-130			
Chrysene	0.207	0.020	"	0.202		102	70-130			
Dibenz (a,h) anthracene	0.207	0.020	"	0.202		103	70-130			
Fluoranthene	0.213	0.020	"	0.202		105	70-130			
Fluorene	0.207	0.020	"	0.202		102	70-130			
Indeno (1,2,3-cd) pyrene	0.206	0.020	"	0.202		102	70-130			
Naphthalene	0.214	0.002	"	0.202		106	70-130			
Phenanthrene	0.194	0.020	"	0.202		96.2	70-130			
Pyrene	0.208	0.020	"	0.202		103	70-130			
Surrogate: Fluorene-d10	210		ug/kg	200		103	60-130			
Surrogate: Anthracene-d10	180		"	200		91.0	60-130			
Surrogate: Pyrene-d10	190		"	200		96.2	60-130			
Surrogate: Benzo (a) pyrene-d12	210		"	200		104	60-130			

**Matrix Spike (5L18063-MS1)**

**Source: E5L0451-38**

Prepared: 12/18/2025 Analyzed: 12/19/2025

1-Methylnaphthalene	0.235	0.002	mg/kg dry	0.216	0.0007	109	70-130			
2-Methylnaphthalene	0.235	0.002	"	0.216	ND	109	70-130			
Acenaphthene	0.224	0.022	"	0.216	0.002	103	70-130			
Anthracene	0.206	0.022	"	0.216	0.002	94.3	70-130			
Benzo (a) anthracene	0.230	0.005	"	0.216	0.009	103	70-130			
Benzo (a) pyrene	0.268	0.022	"	0.216	0.013	118	70-130			
Benzo (b) fluoranthene	0.288	0.022	"	0.216	0.014	127	70-130			
Benzo (g,h,i) perylene	0.263	0.022	"	0.216	0.017	114	70-130			
Benzo (k) fluoranthene	0.281	0.022	"	0.216	0.013	124	70-130			
Chrysene	0.239	0.022	"	0.216	0.011	106	70-130			

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Jeremy Espinoza  
 Project Number: 09A1417811  
 Project: KMG - Kugel V18-4 WH

**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 5L18063 - EPA 3580

**Matrix Spike (5L18063-MS1)**

Source: E5L0451-38

Prepared: 12/18/2025 Analyzed: 12/19/2025

Dibenz (a,h) anthracene	0.266	0.022	mg/kg dry	0.216	0.023	113	70-130			
Fluoranthene	0.237	0.022	"	0.216	0.006	107	70-130			
Fluorene	0.239	0.022	"	0.216	0.002	110	70-130			
Indeno (1,2,3-cd) pyrene	0.261	0.022	"	0.216	0.019	112	70-130			
Naphthalene	0.234	0.002	"	0.216	ND	109	70-130			
Phenanthrene	0.218	0.022	"	0.216	0.003	99.7	70-130			
Pyrene	0.227	0.022	"	0.216	0.005	103	70-130			
Surrogate: Fluorene-d10	210		ug/kg	200		105	60-130			
Surrogate: Anthracene-d10	180		"	200		89.9	60-130			
Surrogate: Pyrene-d10	190		"	200		93.1	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		98.2	60-130			

**Matrix Spike Dup (5L18063-MSD1)**

Source: E5L0451-38

Prepared: 12/18/2025 Analyzed: 12/19/2025

1-Methylnaphthalene	0.238	0.002	mg/kg dry	0.212	0.0007	112	70-130	1.66	20	
2-Methylnaphthalene	0.239	0.002	"	0.212	ND	113	70-130	1.65	20	
Acenaphthene	0.227	0.021	"	0.212	0.002	107	70-130	1.73	20	
Anthracene	0.212	0.021	"	0.212	0.002	99.1	70-130	3.18	20	
Benzo (a) anthracene	0.230	0.005	"	0.212	0.009	104	70-130	0.374	20	
Benzo (a) pyrene	0.258	0.021	"	0.212	0.013	116	70-130	4.05	20	
Benzo (b) fluoranthene	0.271	0.021	"	0.212	0.014	121	70-130	5.92	20	
Benzo (g,h,i) perylene	0.249	0.021	"	0.212	0.017	110	70-130	5.12	20	
Benzo (k) fluoranthene	0.248	0.021	"	0.212	0.013	111	70-130	12.2	20	
Chrysene	0.230	0.021	"	0.212	0.011	104	70-130	4.14	20	
Dibenz (a,h) anthracene	0.264	0.021	"	0.212	0.023	114	70-130	0.674	20	
Fluoranthene	0.230	0.021	"	0.212	0.006	106	70-130	2.79	20	
Fluorene	0.241	0.021	"	0.212	0.002	113	70-130	0.635	20	
Indeno (1,2,3-cd) pyrene	0.251	0.021	"	0.212	0.019	109	70-130	4.06	20	

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

Jeremy Espinoza  
 Project Number: 09A1417811  
 Project: KMG - Kugel V18-4 WH

**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 5L18063 - EPA 3580

Matrix Spike Dup (5L18063-MSD1)

Source: E5L0451-38

Prepared: 12/18/2025 Analyzed: 12/19/2025

Naphthalene	0.234	0.002	mg/kg dry	0.212	ND	111	70-130	0.0831	20	
Phenanthrene	0.218	0.021	"	0.212	0.003	102	70-130	0.263	20	
Pyrene	0.224	0.021	"	0.212	0.005	103	70-130	1.21	20	
Surrogate: Fluorene-d10	210		ug/kg	200		106	60-130			
Surrogate: Anthracene-d10	180		"	200		90.0	60-130			
Surrogate: Pyrene-d10	190		"	200		92.9	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		101	60-130			

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**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 5L18061 - EPA 3550B**

**Blank (5L18061-BLK1)**

Prepared: 12/18/2025 Analyzed: 12/18/2025

Diesel (C10-C28)	ND	25.1	mg/kg wet							U
Residual Range Organics (C28-C36)	ND	100	"							U

Surrogate: o-Terphenyl

**LCS (5L18061-BS1)**

Prepared: 12/18/2025 Analyzed: 12/18/2025

Diesel (C10-C28)	940	50.1	mg/kg wet	1000		93.8	70-130			
Residual Range Organics (C28-C36)	1020	200	"	1000		102	70-130			

Surrogate: o-Terphenyl

**Matrix Spike (5L18061-MS1)**

**Source: E5L0451-35**

Prepared: 12/18/2025 Analyzed: 12/18/2025

Diesel (C10-C28)	1010	53.0	mg/kg dry	1060	ND	95.8	70-130			
Residual Range Organics (C28-C36)	1120	212	"	1060	ND	106	70-130			

Surrogate: o-Terphenyl

**Matrix Spike Dup (5L18061-MSD1)**

**Source: E5L0451-35**

Prepared: 12/18/2025 Analyzed: 12/18/2025

Diesel (C10-C28)	1030	52.8	mg/kg dry	1060	ND	98.0	70-130	1.91	35	
Residual Range Organics (C28-C36)	1170	211	"	1060	ND	111	70-130	4.44	35	

Surrogate: o-Terphenyl

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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 5L18052 - EPA 3050B**

**Blank (5L18052-BLK1)**

Prepared: 12/18/2025 Analyzed: 12/19/2025

Arsenic	ND	0.218	mg/kg wet							U
Barium	ND	61.5	"							U
Cadmium	ND	0.285	"							U
Copper	ND	34.5	"							U
Lead	ND	10.5	"							U
Nickel	ND	19.5	"							U
Selenium	ND	0.184	"							U
Silver	ND	0.600	"							U
Zinc	ND	278	"							U

**LCS (5L18052-BS1)**

Prepared: 12/18/2025 Analyzed: 12/19/2025

Arsenic	4.44	0.218	mg/kg wet	5.00		88.9	80-120			
Barium	454	61.5	"	500		90.8	80-120			
Cadmium	4.56	0.285	"	5.00		91.2	80-120			
Copper	47.9	34.5	"	50.0		95.7	80-120			
Lead	4.48	10.5	"	5.00		89.7	80-120			U
Nickel	4.60	19.5	"	5.00		92.0	80-120			U
Selenium	4.42	0.184	"	5.00		88.4	80-120			
Silver	4.72	0.600	"	5.00		94.3	80-120			
Zinc	44.2	278	"	50.0		88.5	80-120			U

**Matrix Spike (5L18052-MS1)**

**Source: E5L0457-01**

Prepared: 12/18/2025 Analyzed: 12/23/2025

Arsenic	6.36	0.222	mg/kg dry	5.10	1.92	86.9	75-125			
Barium	486	62.7	"	510	40.1	87.5	75-125			
Cadmium	4.65	0.291	"	5.10	0.0430	90.4	75-125			
Copper	50.4	35.2	"	51.0	3.75	91.5	75-125			
Lead	9.40	10.7	"	5.10	5.52	76.0	75-125			U

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 Project: KMG - Kugel V18-4 WH

**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 5L18052 - EPA 3050B**

**Matrix Spike (5L18052-MS1)**

**Source: E5L0457-01**

Prepared: 12/18/2025 Analyzed: 12/23/2025

Nickel	10.0	19.9	mg/kg dry	5.10	5.31	92.5	75-125			U
Selenium	5.59	0.188	"	5.10	0.0379	109	75-125			
Silver	4.69	0.612	"	5.10	0.00717	91.8	75-125			
Zinc	74.1	283	"	51.0	26.3	93.7	75-125			U

**Matrix Spike Dup (5L18052-MSD1)**

**Source: E5L0457-01**

Prepared: 12/18/2025 Analyzed: 12/23/2025

Arsenic	6.29	0.226	mg/kg dry	5.19	1.92	84.2	75-125	1.01	20	
Barium	481	63.8	"	519	40.1	85.0	75-125	1.10	20	
Cadmium	4.73	0.296	"	5.19	0.0430	90.4	75-125	1.72	20	
Copper	49.8	35.8	"	51.9	3.75	88.7	75-125	1.18	20	
Lead	9.75	10.9	"	5.19	5.52	81.4	75-125	3.64	20	U
Nickel	9.68	20.2	"	5.19	5.31	84.3	75-125	3.41	20	U
Selenium	5.01	0.191	"	5.19	0.0379	95.8	75-125	11.0	20	
Silver	4.73	0.623	"	5.19	0.00717	91.0	75-125	0.932	20	
Zinc	71.9	288	"	51.9	26.3	87.9	75-125	2.95	20	U

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 Project: KMG - Kugel V18-4 WH

**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 5L18034 - Saturated Paste pH/EC**

**Blank (5L18034-BLK1)**

Prepared: 12/18/2025 Analyzed: 12/19/2025

Specific Conductance (EC) ND 0.00500 mmhos/cm U

**Duplicate (5L18034-DUP1)**

**Source: E5L0449-13**

Prepared: 12/18/2025 Analyzed: 12/19/2025

Specific Conductance (EC) 2.00 0.00500 mmhos/cm 1.98 0.719 25

pH 7.92 pH Units 8.00 1.01 25

**Batch 5L18035 - Saturated Paste pH/EC**

**Blank (5L18035-BLK1)**

Prepared: 12/18/2025 Analyzed: 12/19/2025

Specific Conductance (EC) ND 0.00500 mmhos/cm U

**Duplicate (5L18035-DUP1)**

**Source: E5L0457-03**

Prepared: 12/18/2025 Analyzed: 12/19/2025

pH 8.26 pH Units 8.21 0.607 25

Specific Conductance (EC) 0.171 0.00500 mmhos/cm 0.167 2.01 25

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 Project: KMG - Kugel V18-4 WH

**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 5L18043 - EPA 5030 (soil)**

Prepared: 12/18/2025 Analyzed: 12/20/2025

**Blank (5L18043-BLK1)**

1,2,3-Trimethylbenzene	0.00		mg/kg wet							U
1,2,4-Trimethylbenzene	ND	0.002	"							U
1,3,5-Trimethylbenzene	ND	0.002	"							U
Benzene	ND	0.002	"							U
Ethylbenzene	ND	0.002	"							U
Toluene	ND	0.002	"							U
Xylenes, total	ND	0.002	"							U
Gasoline Range Hydrocarbons	ND	0.200	"							U

Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		106	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		101	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		97.6	70-130			

**LCS (5L18043-BS1)**

Prepared: 12/18/2025 Analyzed: 12/20/2025

1,2,4-Trimethylbenzene	0.099	0.002	mg/kg wet	0.100		99.0	70-130			
1,3,5-Trimethylbenzene	0.098	0.002	"	0.100		98.1	70-130			
Benzene	0.091	0.002	"	0.100		91.3	70-130			
Ethylbenzene	0.092	0.002	"	0.100		92.1	70-130			
Naphthalene	0.091	0.004	"	0.100		90.6	70-130			
Toluene	0.099	0.002	"	0.100		99.0	70-130			
o-Xylene	0.094	0.002	"	0.100		94.2	70-130			
m,p-Xylene	0.188	0.004	"	0.200		93.8	70-130			

Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		97.5	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		106	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		101	70-130			

**Matrix Spike (5L18043-MS1)**

Source: E5L0440-01

Prepared: 12/18/2025 Analyzed: 12/20/2025

1,2,4-Trimethylbenzene	0.107	0.002	mg/kg dry	0.111	ND	96.2	70-130			
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 Project Number: 09A1417811  
 Project: KMG - Kugel V18-4 WH

**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 5L18043 - EPA 5030 (soil)

**Matrix Spike (5L18043-MS1)**

Source: E5L0440-01

Prepared: 12/18/2025 Analyzed: 12/20/2025

1,3,5-Trimethylbenzene	0.108	0.002	mg/kg dry	0.111	ND	96.5	70-130			
Benzene	0.094	0.002	"	0.111	ND	84.2	70-130			
Ethylbenzene	0.096	0.002	"	0.111	ND	86.3	70-130			
Naphthalene	0.094	0.004	"	0.111	ND	84.4	70-130			
Toluene	0.108	0.002	"	0.111	ND	96.7	70-130			
o-Xylene	0.100	0.002	"	0.111	ND	90.1	70-130			
m,p-Xylene	0.199	0.004	"	0.223	ND	89.1	70-130			

Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.139		95.2	70-130			
Surrogate: Toluene-d8	0.16		"	0.139		112	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.139		96.8	70-130			

**Matrix Spike Dup (5L18043-MSD1)**

Source: E5L0440-01

Prepared: 12/18/2025 Analyzed: 12/20/2025

1,2,4-Trimethylbenzene	0.092	0.002	mg/kg dry	0.112	ND	82.3	70-130	14.8	20	
1,3,5-Trimethylbenzene	0.091	0.002	"	0.112	ND	80.9	70-130	16.8	20	
Benzene	0.092	0.002	"	0.112	ND	82.2	70-130	1.57	20	
Ethylbenzene	0.084	0.002	"	0.112	ND	74.3	70-130	14.1	20	
Naphthalene	0.107	0.004	"	0.112	ND	95.0	70-130	12.6	20	
Toluene	0.100	0.002	"	0.112	ND	89.4	70-130	7.00	20	
o-Xylene	0.088	0.002	"	0.112	ND	78.2	70-130	13.4	20	
m,p-Xylene	0.171	0.004	"	0.225	ND	76.2	70-130	14.8	20	

Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.140		95.9	70-130			
Surrogate: Toluene-d8	0.15		"	0.140		107	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.140		93.8	70-130			

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# ORIGINS LABORATORY

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

Jeremy Espinoza  
Project Number: 09A1417811  
Project: KMG - Kugel V18-4 WH

## Notes and Definitions

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

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