TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
KUGEL V 18-5
WELD COUNTY, COLORADO
KERR-MCGEE OIL & GAS ONSHORE LP

Soil Sample ID	Depth (bgs)	Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	DRO (mg/kg)	GRO (mg/kg)	ORO (mg/kg)	pH (su)	Specific Conductance (mmhos/cm)
B01@15'	15'	06/19/2017	<0.050	<0.050	0.090	1.12	**438**	**107**	**183**	8.38	0.136
B02@20'	20'	06/28/2017	<0.050	<0.050	<0.050	<0.050	<25.0	<5.00	<100	**9.02** †	0.0727
B03@20'	20'	06/29/2017	<0.002	<0.002	<0.002	<0.002	<25.0	<0.200	<100	**9.12** †	0.0807
E01@18'	18'	06/29/2017	<0.050	<0.050	<0.050	<0.050	**406**	**12.3**	**145**	**9.08** †	0.0483
N01@18'	18'	06/29/2017	<0.050	<0.050	<0.050	<0.050	**889**	**89.4**	**313**	8.88	0.0198
N02@18'	18'	06/29/2017	<0.050	<0.050	<0.050	<0.050	**421**	**12.5**	**130**	8.77	0.0335
S01@18'	18'	06/29/2017	<0.002	<0.002	<0.002	<0.002	<25.0	<0.200	<100	**9.03** †	0.568
W01@18'	18'	06/29/2017	<0.002	<0.002	<0.002	<0.002	<25.0	<0.200	<100	8.82	0.115
B04@20'	20'	07/05/2017	<0.002	<0.002	<0.002	<0.002	34.6	<0.200	<100	**9.04** †	0.0774
B05@20'	20'	07/05/2017	<0.002	<0.002	<0.002	<0.002	27.4	<0.200	<100	8.94	0.0410
E02@18'	18'	07/05/2017	<0.050	<0.050	0.055	0.120	**943**	**72.5**	**315**	**9.42** †	0.0325
E03@18'	18'	07/05/2017	<0.050	<0.050	<0.050	<0.050	219	20.0	<100	**9.25** †	0.0343
N03@18'	18'	07/05/2017	<0.050	<0.050	<0.050	<0.050	272	11.1	128	**9.25** †	0.0581
N04@18'	18'	07/05/2017	<0.050	<0.050	<0.050	<0.050	84.6	<5.00	<100	**9.38** †	0.0686
W02@18'	18'	07/05/2017	<0.002	<0.002	<0.002	<0.002	28.0	<0.200	<100	**9.14** †	0.0843
E04@18'	18'	07/06/2017	<0.002	<0.002	0.005	<0.002	128	4.84	<100	8.58	0.0388
N05@18'	18'	07/06/2017	<0.050	<0.050	<0.050	<0.050	287	18.7	116	8.44	0.0589

TABLE 1 (Continued)
SOIL SAMPLE ANALYTICAL RESULTS
KUGEL V 18-5
WELD COUNTY, COLORADO
KERR-MCGEE OIL & GAS ONSHORE LP

Soil Sample ID	Depth (bgs)	Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	DRO (mg/kg)	GRO (mg/kg)	ORO (mg/kg)	pH (su)	Specific Conductance (mmhos/cm)
COGCC Allowable Levels			**0.17**	**85**	**100**	**175**	**500***	**500***	**500***	**6-9**	**4**

Notes: bgs - below ground surface
COGCC - Colorado Oil and Gas Conservation Commission
DRO - diesel range organics
GRO - gasoline range organics
mg/kg - milligrams per kilogram
mmhos/cm - millimhos per centimeter
NA - not analyzed/not available
ORO - oil range organics
su - standard units
TPH - total petroleum hydrocarbons
† - Sample was collected below the designated root zone (>3' bgs)
* - TPH standard applies to combined DRO-GRO-ORO
< - less than laboratory reporting limit
Bold indicates result exceeds allowable level.

ORIGINS LABORATORY, INC

June 20, 2017

LT Environmental, Inc.
Brian Sulzberger
4600 West 60th Avenue
Arvada CO 80003

Project Name - KMG - Kugel V 18-5 **Project Number - 014217137**

Attached are your analytical results for KMG - Kugel V 18-5 received by Origins Laboratory, Inc. June 19, 2017. This project is associated with Origins project number Y706246-01.

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, Inc.
303.433.1322
o-squad@oelabinc.com

THE NELAC INSTITUTE

ACCREDITED
TESTING CERT # 3494.01

ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B01@15'	Y706246-01	Soil	June 19, 2017 15:00	06/19/2017 16:12

Origins Laboratory, Inc.

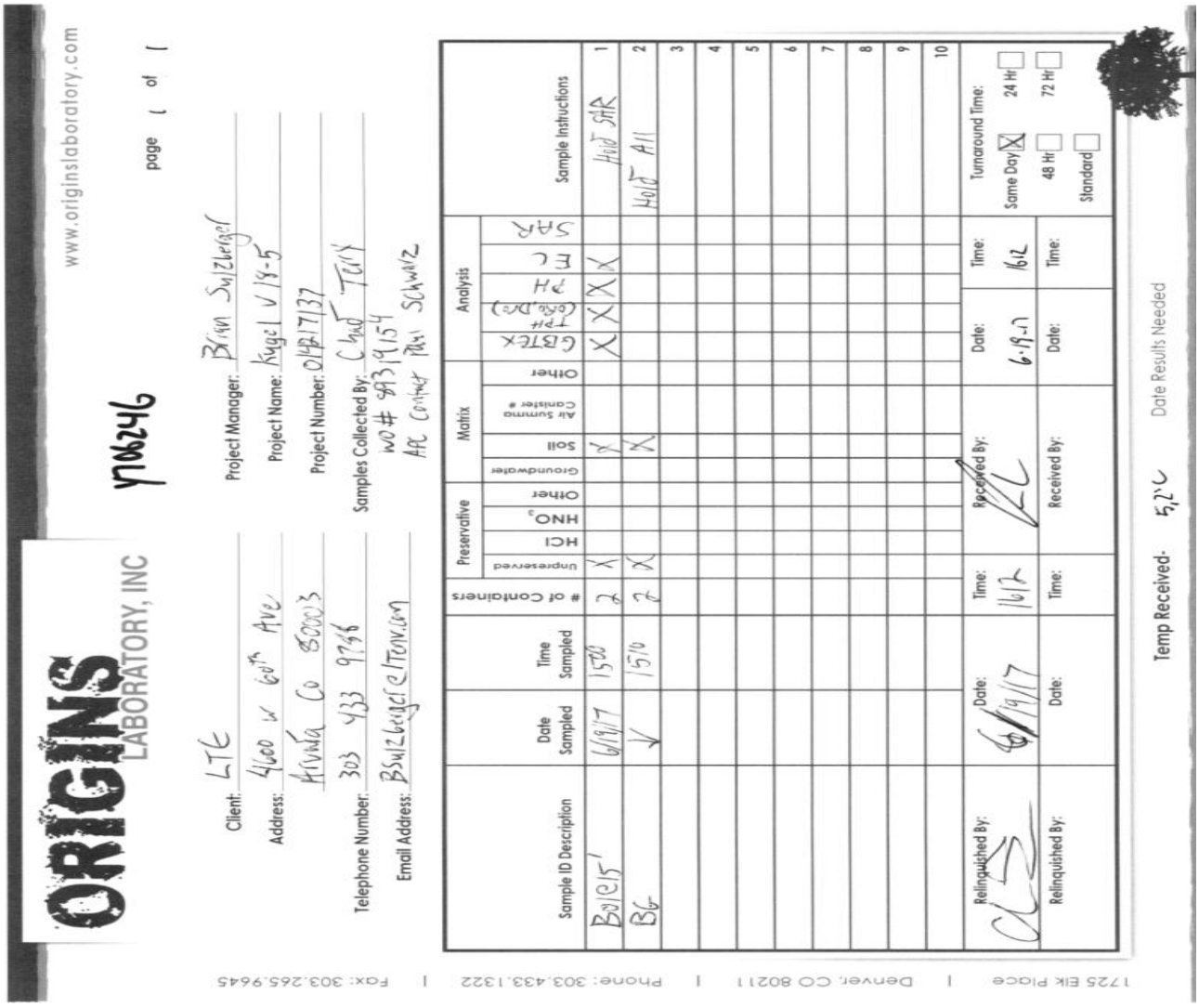
Jen Pellegrini For Noelle Doyle Mathis, President

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

ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5



ORIGINS LABORATORY, INC
www.originslaboratory.com
page 1 of 1
Y10646
Client: LTE
Address: 4600 W 60th Ave Arvada Co 80003
Telephone Number: 303 433 9748
Email Address: BSulzberger@LTEnv.com
Project Manager: Brian Sulzberger
Project Name: Kugel V 18-5
Project Number: 014217137
Samples Collected By: Chad Tebbs
WO # 913.19.15.4
AFE Contact Paul Schwartz

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative: Unpreserved	HCl	HNO_3	Other	Matrix: Groundwater	Soil	Air Summa Canister #	Other	Analysis: GRO/TEX	TPH (DRO)	PAH	BTEX	SAR	Sample Instructions
1 Bol@15'	6/19/17	1500	2	X					X			X	X	X	X		Hold SAR
2 BG	"	1510	2	X					X								Hold All
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Relinquished By: [signature] Date: 6/19/17 Time: 1612 Received By: [signature] Date: 6-19-17 Time: 1612
Relinquished By: Date: Time: Received By: Date: Time:

Turnaround Time: Same Day [X] 24 Hr [ ] 48 Hr [ ] 72 Hr [ ] Standard [ ]
Temp Received- 5.2°C Date Results Needed

1725 Elk Place | Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

Origins Laboratory, Inc.

Jen Pellegrini

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Jen Pellegrini For Noelle Doyle Mathis, President

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: 1706246
Client: LTE
Client Project ID: KMG- Kugel V 18-5
Checklist Completed by: [signature]
Date/time completed: 6-9-17 1620
Shipped Via: HD (UPS, FedEx, Hand Delivered, Pick-up, etc.)
Airbill #: NA
Matrix(s) Received: (Check all that apply): ✓ Soil/Solid ____ Water ____ Other: ____
Cooler Number/Temperature: ✓ / 5.2 °C ____/____ °C ____/____ °C ____/____ °C (Describe)
Thermometer ID: T003

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C[1]?	✓			
Is there ice present (document if blue ice is used)	✓			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		✓		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		✓		
Were all samples received intact[1]?	✓			
Was adequate sample volume provided[1]?	✓			
Are short holding time analytes or samples with HTs due within 48 hours present[1]?	✓			pH
Is a chain-of-custody (COC) present and filled out completely[1]?	✓			
Does the COC agree with the number and type of sample bottles received[1]?	✓			
Do the sample IDs on the bottle labels match the COC[1]?	✓			
Is the COC properly relinquished by the client with date and time recorded[1]?	✓			
For volatiles in water – is there headspace (> ¼ inch bubble) present? **If yes, contact client and note in narrative.**			✓	
Are samples preserved that require preservation and was it checked [1]? *(note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO3, HCL, H2SO4) / (pH >10 for samples preserved with NaAsO2+NaOH, ZnAc+NaOH)*		✓		
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.

[signature] Reviewed by (Project Manager)
6-9-17 1620 Date/Time Reviewed

Origins Laboratory, Inc.

Jen Pellegrini

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Jen Pellegrini For Noelle Doyle Mathis, President

ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

B01@15'
6/19/2017 3:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes

Origins Laboratory, Inc.
Y706246-01 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	**438**	25.0	mg/kg	1	B7F1905	06/19/2017	06/19/2017	
Residual Range Organics (C28-C40)	**183**	100	"	"	"	"	"	
Surrogate: o-Terphenyl	*70.2 %*	*59-131*			"	"	"	

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	**107**	5.00	mg/kg	25	B7F1904	"	06/20/2017	
Benzene	ND	0.050	"	"	"	"	"	U
Toluene	ND	0.050	"	"	"	"	"	U
Ethylbenzene	**0.090**	0.050	"	"	"	"	"	
Xylenes, total	**1.12**	0.050	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	*105 %*	*70-130*			"	"	*06/19/2017*	
Surrogate: Toluene-d8	*92.1 %*	*70-130*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*98.7 %*	*70-130*			"	"	"	

pH in Soil by EPA 9045D

pH	**8.38**		pH Units	1	B7F1906	06/19/2017	06/19/2017	

Specific Conductance by Modified 9050A

Specific Conductance (EC)	**0.136**		mmhos/cm	"	B7F1907	"	06/19/2017	

Origins Laboratory, Inc.

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Jen Pellegrini For Noelle Doyle Mathis, President

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B7F1904 - EPA 5030 (soil)										
Blank (B7F1904-BLK1)					Prepared: 06/19/2017 Analyzed: 06/19/2017					
Gasoline Range Hydrocarbons	ND	0.200	mg/kg							U
Benzene	ND	0.002	"							U
Toluene	ND	0.002	"							U
Ethylbenzene	ND	0.002	"							U
Xylenes, total	ND	0.002	"							U
Surrogate: 1,2-Dichloroethane-d4	*65*		*ug/kg*	*62.5*		*104*	*70-130*			
Surrogate: Toluene-d8	*60*		*"*	*62.5*		*95.8*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*61*		*"*	*62.5*		*96.9*	*70-130*			

Origins Laboratory, Inc.

Jen Pellegrini For Noelle Doyle Mathis, President

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LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B7F1904 - EPA 5030 (soil)										
LCS (B7F1904-BS1)					Prepared: 06/19/2017 Analyzed: 06/19/2017					
Benzene	0.091	0.002	mg/kg	0.100		91.4	77.1-124			
Toluene	0.098	0.002	"	0.100		97.8	74.5-128			
Ethylbenzene	0.094	0.002	"	0.100		93.6	66.4-127			
m,p-Xylene	0.185	0.004	"	0.200		92.3	76.6-124			
o-Xylene	0.094	0.002	"	0.100		93.9	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	*66*		*ug/kg*	*62.5*		*106*	*70-130*			
Surrogate: Toluene-d8	*60*		*"*	*62.5*		*95.2*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*61*		*"*	*62.5*		*96.8*	*70-130*			

Origins Laboratory, Inc.

Jen Pellegrini For Noelle Doyle Mathis, President

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LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B7F1904 - EPA 5030 (soil)										
Matrix Spike (B7F1904-MS1)		**Source: Y706247-01**			Prepared: 06/19/2017 Analyzed: 06/19/2017					
Benzene	0.087	0.002	mg/kg	0.100	ND	87.3	71.8-126			
Toluene	0.092	0.002	"	0.100	ND	92.5	65.1-130			
Ethylbenzene	0.084	0.002	"	0.100	ND	84.4	62.2-130			
m,p-Xylene	0.166	0.004	"	0.200	ND	83.0	46.5-137			
o-Xylene	0.085	0.002	"	0.100	ND	85.3	54.2-134			
Surrogate: 1,2-Dichloroethane-d4	*69*		*ug/kg*	*62.5*		*110*	*70-130*			
Surrogate: Toluene-d8	*59*		*"*	*62.5*		*93.8*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*59*		*"*	*62.5*		*94.5*	*70-130*			

Origins Laboratory, Inc.

Jen Pellegrini For Noelle Doyle Mathis, President

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LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B7F1904 - EPA 5030 (soil)										
Matrix Spike Dup (B7F1904-MSD1)		**Source: Y706247-01**			Prepared: 06/19/2017 Analyzed: 06/19/2017					
Benzene	0.076	0.002	mg/kg	0.100	ND	76.2	71.8-126	13.6	11.3	QM-07
Toluene	0.081	0.002	"	0.100	ND	81.0	65.1-130	13.2	15.4	
Ethylbenzene	0.075	0.002	"	0.100	ND	74.5	62.2-130	12.5	19.6	
m,p-Xylene	0.147	0.004	"	0.200	ND	73.5	46.5-137	12.1	19.2	
o-Xylene	0.076	0.002	"	0.100	ND	75.8	54.2-134	11.9	17.9	
Surrogate: 1,2-Dichloroethane-d4	*67*		*ug/kg*	*62.5*		*108*	*70-130*			
Surrogate: Toluene-d8	*59*		*"*	*62.5*		*94.4*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*60*		*"*	*62.5*		*96.3*	*70-130*			

Origins Laboratory, Inc.

Jen Pellegrini For Noelle Doyle Mathis, President

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LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

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

Extractable Petroleum Hydrocarbons by 8015C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B7F1905 - EPA 3580										
Blank (B7F1905-BLK1)					Prepared: 06/19/2017 Analyzed: 06/19/2017					
Diesel (C10-C28)	ND	50.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	200	"							U
Surrogate: o-Terphenyl	*41*		*"*	*50.0*		*83.0*	*59-131*			
LCS (B7F1905-BS1)					Prepared: 06/19/2017 Analyzed: 06/19/2017					
Diesel (C10-C28)	814	50.0	mg/kg	1000		81.4	64-121			
Residual Range Organics (C28-C40)	849	200	"	1000		84.9	58-124			
Surrogate: o-Terphenyl	*42*		*"*	*50.0*		*84.5*	*59-131*			
Matrix Spike (B7F1905-MS1)		**Source: Y706247-01**			Prepared: 06/19/2017 Analyzed: 06/19/2017					
Diesel (C10-C28)	865	50.0	mg/kg	1000	55.1	81.0	53-125			
Residual Range Organics (C28-C40)	879	200	"	1000	42.2	83.7	47-133			
Surrogate: o-Terphenyl	*45*		*"*	*50.0*		*90.2*	*59-131*			
Matrix Spike Dup (B7F1905-MSD1)		**Source: Y706247-01**			Prepared: 06/19/2017 Analyzed: 06/19/2017					
Diesel (C10-C28)	854	50.0	mg/kg	1000	55.1	79.9	53-125	1.36	20	
Residual Range Organics (C28-C40)	840	200	"	1000	42.2	79.8	47-133	4.79	20	
Surrogate: o-Terphenyl	*42*		*"*	*50.0*		*84.2*	*59-131*			

Origins Laboratory, Inc.

Jen Pellegrini For Noelle Doyle Mathis, President

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

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

Classical Chemistry Parameters - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B7F1906 - NO PREP										
Duplicate (B7F1906-DUP1)		**Source: Y706246-01**			Prepared: 06/19/2017 Analyzed: 06/19/2017					
pH	8.48		pH Units		8.38			1.19	25	
Batch B7F1907 - NO PREP										
Blank (B7F1907-BLK1)					Prepared: 06/19/2017 Analyzed: 06/19/2017					
Specific Conductance (EC)	0.00210		mmhos/cm							
Duplicate (B7F1907-DUP1)		**Source: Y706246-01**			Prepared: 06/19/2017 Analyzed: 06/19/2017					
Specific Conductance (EC)	0.137		mmhos/cm		0.136			0.584	25	

Origins Laboratory, Inc.

Jen Pellegrini For Noelle Doyle Mathis, President

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

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

Notes and Definitions

U Sample is Non-Detect.

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 at a wet weight basis.

Origins Laboratory, Inc.

Jen Pellegrini For Noelle Doyle Mathis, President

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

ORIGINS LABORATORY, INC

June 29, 2017

LT Environmental, Inc.
Brian Sulzberger
4600 West 60th Avenue
Arvada CO 80003

Project Name - KMG - Kugel V 18-5 **Project Number - 014217137**

Attached are your analytical results for KMG - Kugel V 18-5 received by Origins Laboratory, Inc. June 28, 2017. This project is associated with Origins project number Y706367-01.

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, Inc.
303.433.1322
o-squad@oelabinc.com

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ACCREDITED
TESTING CERT # 3494.01

ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B02@20'	Y706367-01	Soil	June 28, 2017 15:15	06/28/2017 16:49

Origins Laboratory, Inc.

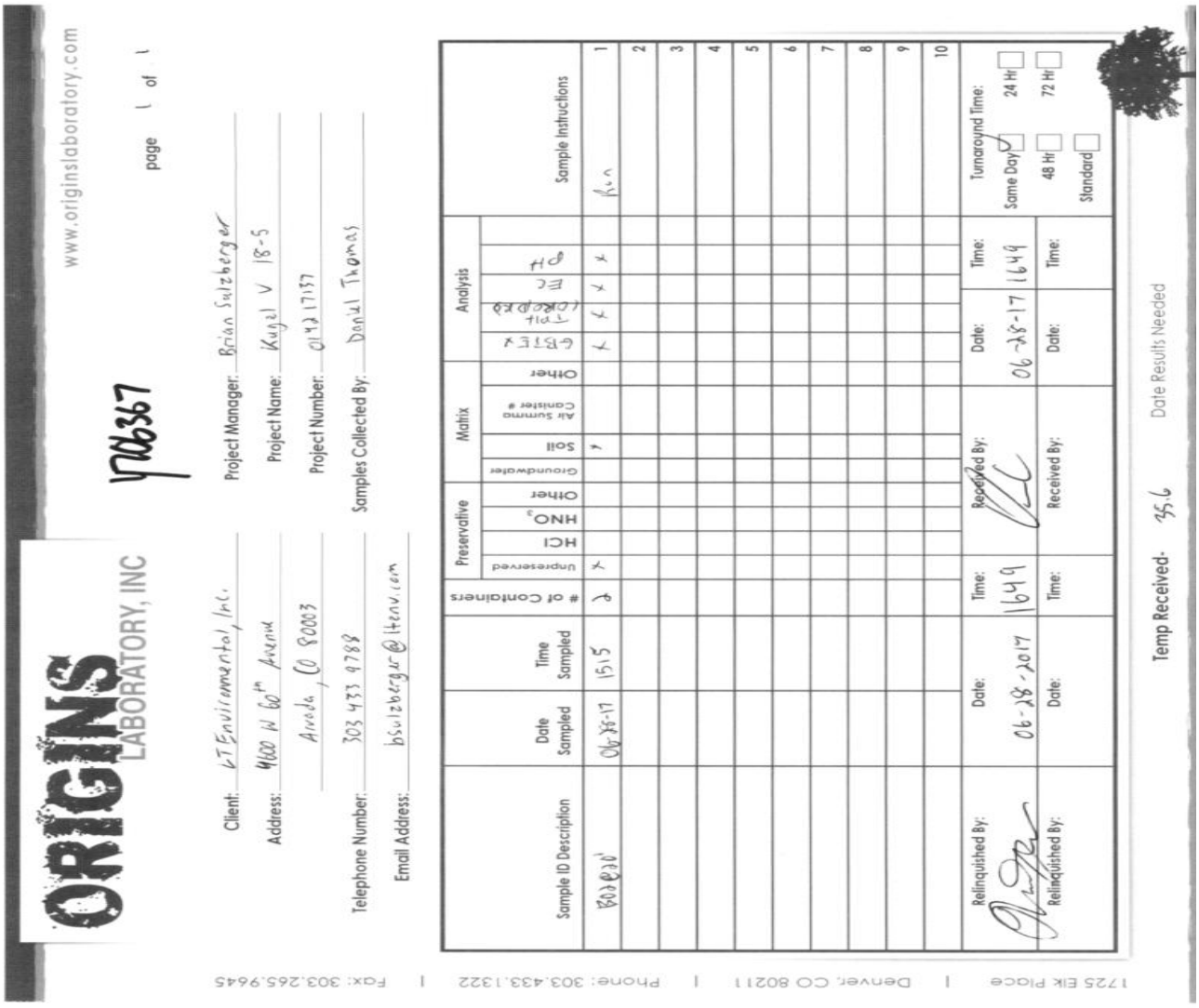
Jen Pellegrini For Noelle Doyle Mathis, President

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

ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5



Origins Laboratory, Inc.

Jen Pellegrini

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Jen Pellegrini For Noelle Doyle Mathis, President

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: Y706367
Client: LTE
Client Project ID: KMG - Kugel V 18-5
Checklist Completed by: Dan G
Shipped Via: HD (UPS, FedEx, Hand Delivered, Pick-up, etc.)
Date/time completed: 6-28-17 1651
Airbill #: NP
Matrix(s) Received: (Check all that apply): ✓ Soil/Solid ____ Water ____ Other: ____
Cooler Number/Temperature: ✓ / 35.6 °C ____/____ °C ____/____ °C ____/____ °C (Describe)
Thermometer ID: 003

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C[1]?		✓		Sampled Same Day
Is there ice present (document if blue ice is used)		✓		
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		✓		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		✓		
Were all samples received intact[1]?	✓			
Was adequate sample volume provided[1]?	✓			
Are short holding time analytes or samples with HTs due within 48 hours present[1]?	✓			pH
Is a chain-of-custody (COC) present and filled out completely[1]?	✓			
Does the COC agree with the number and type of sample bottles received[1]?	✓			
Do the sample IDs on the bottle labels match the COC[1]?	✓			
Is the COC properly relinquished by the client with date and time recorded[1]?	✓			
For volatiles in water – is there headspace (> ¼ inch bubble) present? **If yes, contact client and note in narrative.**			✓	
Are samples preserved that require preservation and was it checked [1]? *(note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO3, HCL, H2SO4) / (pH >10 for samples preserved with NaAsO2+NaOH, ZnAc+NaOH)*		✓		
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) — Date/Time Reviewed: 6-28-17 1651

Origins Laboratory, Inc.

Jen Pellegrini

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

Jen Pellegrini For Noelle Doyle Mathis, President

ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

B02@20'
6/28/2017 3:15:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Origins Laboratory, Inc.								
Y706367-01 (Soil)								
DRO/RRO by EPA8015C								
Diesel (C10-C28)	ND	25.0	mg/kg	1	B7F2803	06/28/2017	06/28/2017	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U
Surrogate: o-Terphenyl	*94.1 %*	*59-131*			"	"	"	
GBTEX by EPA 8260C								
Gasoline Range Hydrocarbons	ND	5.00	mg/kg	25	B7F2802	06/28/2017	06/28/2017	U
Benzene	ND	0.050	"	"	"	"	"	U
Toluene	ND	0.050	"	"	"	"	"	U
Ethylbenzene	ND	0.050	"	"	"	"	"	U
Xylenes, total	ND	0.050	"	"	"	"	"	U
Surrogate: 1,2-Dichloroethane-d4	*98.8 %*	*70-130*			"	"	"	
Surrogate: Toluene-d8	*94.4 %*	*70-130*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*93.4 %*	*70-130*			"	"	"	
pH in Soil by EPA 9045D								
pH	**9.02**		pH Units	1	B7F2804	06/28/2017	06/28/2017	
Specific Conductance by Modified 9050A								
Specific Conductance (EC)	**0.0727**		mmhos/cm	"	B7F2805	"	"	

Origins Laboratory, Inc.

Jen Pellegrini For Noelle Doyle Mathis, President

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LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B7F2802 - EPA 5030 (soil)										
Blank (B7F2802-BLK1)					Prepared: 06/28/2017 Analyzed: 06/28/2017					
Gasoline Range Hydrocarbons	ND	0.200	mg/kg							U
Benzene	ND	0.002	"							U
Toluene	ND	0.002	"							U
Ethylbenzene	ND	0.002	"							U
Xylenes, total	ND	0.002	"							U
Surrogate: 1,2-Dichloroethane-d4	*64*		*ug/kg*	*62.5*		*102*	*70-130*			
Surrogate: Toluene-d8	*59*		*"*	*62.5*		*94.7*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*59*		*"*	*62.5*		*94.1*	*70-130*			

Origins Laboratory, Inc.

Jen Pellegrini For Noelle Doyle Mathis, President

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LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B7F2802 - EPA 5030 (soil)										
LCS (B7F2802-BS1)					Prepared: 06/28/2017 Analyzed: 06/28/2017					
Benzene	0.108	0.002	mg/kg	0.100		108	77.1-124			
Toluene	0.102	0.002	"	0.100		102	74.5-128			
Ethylbenzene	0.099	0.002	"	0.100		98.6	66.4-127			
m,p-Xylene	0.191	0.004	"	0.200		95.6	76.6-124			
o-Xylene	0.095	0.002	"	0.100		95.1	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	*61*		*ug/kg*	*62.5*		*98.2*	*70-130*			
Surrogate: Toluene-d8	*59*		*"*	*62.5*		*94.4*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*58*		*"*	*62.5*		*93.0*	*70-130*			

Origins Laboratory, Inc.

Jen Pellegrini For Noelle Doyle Mathis, President

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LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B7F2802 - EPA 5030 (soil)										
Matrix Spike (B7F2802-MS1)		**Source: Y706366-01**			Prepared: 06/28/2017 Analyzed: 06/28/2017					
Benzene	0.104	0.002	mg/kg	0.100	ND	104	71.8-126			
Toluene	0.101	0.002	"	0.100	ND	101	65.1-130			
Ethylbenzene	0.095	0.002	"	0.100	ND	95.3	62.2-130			
m,p-Xylene	0.184	0.004	"	0.200	ND	91.8	46.5-137			
o-Xylene	0.092	0.002	"	0.100	ND	91.6	54.2-134			
Surrogate: 1,2-Dichloroethane-d4	*64*		*ug/kg*	*62.5*		*102*	*70-130*			
Surrogate: Toluene-d8	*59*		*"*	*62.5*		*95.1*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*59*		*"*	*62.5*		*94.5*	*70-130*			

Origins Laboratory, Inc.

Jen Pellegrini For Noelle Doyle Mathis, President

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LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B7F2802 - EPA 5030 (soil)										
Matrix Spike Dup (B7F2802-MSD1)		**Source: Y706366-01**			Prepared: 06/28/2017 Analyzed: 06/28/2017					
Benzene	0.101	0.002	mg/kg	0.100	ND	101	71.8-126	2.46	11.3	
Toluene	0.098	0.002	"	0.100	ND	97.8	65.1-130	2.96	15.4	
Ethylbenzene	0.090	0.002	"	0.100	ND	90.1	62.2-130	5.63	19.6	
m,p-Xylene	0.179	0.004	"	0.200	ND	89.3	46.5-137	2.77	19.2	
o-Xylene	0.088	0.002	"	0.100	ND	88.4	54.2-134	3.53	17.9	
Surrogate: 1,2-Dichloroethane-d4	*62*		*ug/kg*	*62.5*		*99.2*	*70-130*			
Surrogate: Toluene-d8	*60*		*"*	*62.5*		*95.5*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*58*		*"*	*62.5*		*93.5*	*70-130*			

Origins Laboratory, Inc.

Jen Pellegrini For Noelle Doyle Mathis, President

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LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

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

Extractable Petroleum Hydrocarbons by 8015C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B7F2803 - EPA 3550B										
Blank (B7F2803-BLK1)					Prepared: 06/28/2017 Analyzed: 06/28/2017					
Diesel (C10-C28)	110	50.0	mg/kg							A-01
Residual Range Organics (C28-C40)	ND	200	"							U
Surrogate: o-Terphenyl	*62*		*"*	*50.0*		*123*	*59-131*			
LCS (B7F2803-BS1)					Prepared: 06/28/2017 Analyzed: 06/28/2017					
Diesel (C10-C28)	1130	50.0	mg/kg	1000		113	64-121			
Residual Range Organics (C28-C40)	1060	200	"	1000		106	58-124			
Surrogate: o-Terphenyl	*59*		*"*	*50.0*		*118*	*59-131*			
Matrix Spike (B7F2803-MS1)		**Source: Y706366-01**			Prepared: 06/28/2017 Analyzed: 06/28/2017					
Diesel (C10-C28)	870	50.0	mg/kg	1000	14.6	85.5	53-125			
Residual Range Organics (C28-C40)	791	200	"	1000	11.5	78.0	47-133			
Surrogate: o-Terphenyl	*45*		*"*	*50.0*		*90.7*	*59-131*			
Matrix Spike Dup (B7F2803-MSD1)		**Source: Y706366-01**			Prepared: 06/28/2017 Analyzed: 06/28/2017					
Diesel (C10-C28)	1050	50.0	mg/kg	1000	14.6	103	53-125	18.9	20	
Residual Range Organics (C28-C40)	970	200	"	1000	11.5	95.8	47-133	20.5	20	QR-02
Surrogate: o-Terphenyl	*57*		*"*	*50.0*		*114*	*59-131*			

Origins Laboratory, Inc.

Jen Pellegrini For Noelle Doyle Mathis, President

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LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

Classical Chemistry Parameters - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B7F2804 - NO PREP										
Duplicate (B7F2804-DUP1)		**Source: Y706366-01**			Prepared: 06/28/2017 Analyzed: 06/28/2017					
pH	8.55		pH Units		9.23			7.65	25	
Batch B7F2805 - NO PREP										
Blank (B7F2805-BLK1)					Prepared: 06/28/2017 Analyzed: 06/28/2017					
Specific Conductance (EC)	0.00210		mmhos/cm							
Duplicate (B7F2805-DUP1)		**Source: Y706366-01**			Prepared: 06/28/2017 Analyzed: 06/28/2017					
Specific Conductance (EC)	0.0923		mmhos/cm		0.118			24.1	25	

Origins Laboratory, Inc.

Jen Pellegrini For Noelle Doyle Mathis, President

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LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

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.
A-01	The Method Blank for this batch was above the reporting limit for Diesel but the samples were well below the reporting limit so high bias was negligible.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference

All soil results are reported at a wet weight basis.

Origins Laboratory, Inc.

Jen Pellegrini For Noelle Doyle Mathis, President

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ORIGINS LABORATORY, INC

June 30, 2017

LT Environmental, Inc.
Brian Sulzberger
4600 West 60th Avenue
Arvada CO 80003

Project Name - KMG - Kugel V 18-5 **Project Number - 014217137**

Attached are your analytical results for KMG - Kugel V 18-5 received by Origins Laboratory, Inc. June 29, 2017. This project is associated with Origins project number Y706388-01.

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, Inc.
303.433.1322
o-squad@oelabinc.com

THE NELAC INSTITUTE

ACCREDITED
TESTING CERT # 3494.01

ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B03@20'	Y706388-01	Soil	June 29, 2017 16:30	06/29/2017 19:05
N01@18'	Y706388-02	Soil	June 29, 2017 16:35	06/29/2017 19:05
N02@18'	Y706388-03	Soil	June 29, 2017 16:40	06/29/2017 19:05
E01@18'	Y706388-04	Soil	June 29, 2017 16:45	06/29/2017 19:05
S01@18'	Y706388-05	Soil	June 29, 2017 16:50	06/29/2017 19:05
W01@18'	Y706388-06	Soil	June 29, 2017 16:55	06/29/2017 19:05

Origins Laboratory, Inc.

Jen Pellegrini For Noelle Doyle Mathis, President

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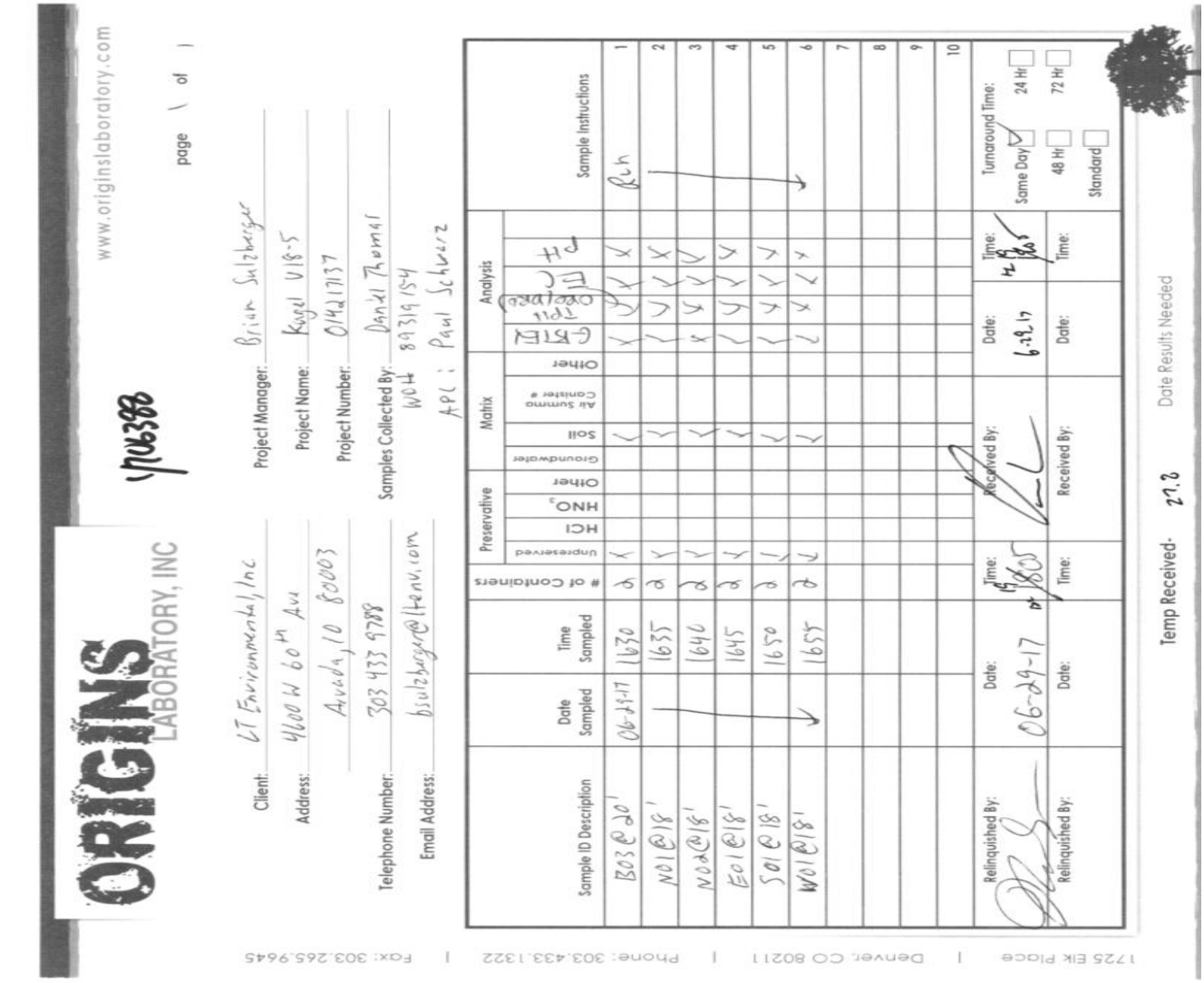
ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5



Origins Laboratory, Inc.

Jen Pellegrini

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Jen Pellegrini For Noelle Doyle Mathis, President

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

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

Sample Receipt Checklist

Origins Work Order: 1706388 Client: LTE
Client Project ID: KMG - Kugel V 18-5

Checklist Completed by: [signature] Shipped Via: HD (UPS, FedEx, Hand Delivered, Pick-up, etc.)
Date/time completed: 6-29-17 1918 Airbill #: NA

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

Cooler Number/Temperature: ✓ / 22.8 °C ____/____ °C ____/____ °C ____/____ °C (Describe)

Thermometer ID: T003

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C[1]?		✓		Sampled same Day
Is there ice present (document if blue ice is used)		✓		
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		✓		
~~Are custody seals present on each sample container?~~ (if so, document in comments if they are signed and dated, broken or intact)		✓		
Were all samples received intact[1]?	✓			
Was adequate sample volume provided[1]?	✓			
Are short holding time analytes or samples with HTs due within 48 hours present[1]?	✓			pH
Is a chain-of-custody (COC) present and filled out completely[1]?	✓			
Does the COC agree with the number and type of sample bottles received[1]?	✓			
Do the sample IDs on the bottle labels match the COC[1]?	✓			
Is the COC properly relinquished by the client with date and time recorded[1]?	✓			
For volatiles in water – is there headspace (> ¼ inch bubble) present? **If yes, contact client and note in narrative.**			✓	
Are samples preserved that require preservation and was it checked[1]? *(note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO3, HCL, H2SO4) / (pH >10 for samples preserved with NaAsO2+NaOH, ZnAc+NaOH)*		✓		
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.*

[signature] Reviewed by (Project Manager)

6-29-17 A19 Date/Time Reviewed

Origins Laboratory, Inc.

Jen Pellegrini

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Jen Pellegrini For Noelle Doyle Mathis, President

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

B03@20'
6/29/2017 4:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Origins Laboratory, Inc.								
Y706388-01 (Soil)								
DRO/RRO by EPA8015C								
Diesel (C10-C28)	ND	25.0	mg/kg	1	B7F2902	06/29/2017	06/30/2017	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U
Surrogate: o-Terphenyl	*97.6 %*	*59-131*			"	"	"	
GBTEX by EPA 8260C								
Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	B7F2901	06/29/2017	06/29/2017	U
Benzene	ND	0.002	"	"	"	"	"	U
Toluene	ND	0.002	"	"	"	"	"	U
Ethylbenzene	ND	0.002	"	"	"	"	"	U
Xylenes, total	ND	0.002	"	"	"	"	"	U
Surrogate: 1,2-Dichloroethane-d4	*121 %*	*70-130*			"	"	"	
Surrogate: Toluene-d8	*89.5 %*	*70-130*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*96.7 %*	*70-130*			"	"	"	
pH in Soil by EPA 9045D								
pH	**9.12**		pH Units	1	B7F2908	06/29/2017	06/29/2017	
Specific Conductance by Modified 9050A								
Specific Conductance (EC)	**0.0807**		mmhos/cm	"	B7F2909	"	"	

Origins Laboratory, Inc.

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Jen Pellegrini For Noelle Doyle Mathis, President

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

N01@18'
6/29/2017 4:35:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes

Origins Laboratory, Inc.

Y706388-02 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	**889**	25.0	mg/kg	1	B7F2902	06/29/2017	06/30/2017	
Residual Range Organics (C28-C40)	**313**	100	"	"	"	"	"	
Surrogate: o-Terphenyl	*109 %*	*59-131*			"	"	"	

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	**89.4**	5.00	mg/kg	25	B7F2901	06/29/2017	06/29/2017	
Benzene	ND	0.050	"	"	"	"	"	U
Toluene	ND	0.050	"	"	"	"	"	U
Ethylbenzene	ND	0.050	"	"	"	"	"	U
Xylenes, total	ND	0.050	"	"	"	"	"	U
Surrogate: 1,2-Dichloroethane-d4	*111 %*	*70-130*			"	"	"	
Surrogate: Toluene-d8	*78.8 %*	*70-130*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*110 %*	*70-130*			"	"	"	

pH in Soil by EPA 9045D

pH	**8.88**		pH Units	1	B7F2908	06/29/2017	06/29/2017	

Specific Conductance by Modified 9050A

Specific Conductance (EC)	**0.0198**		mmhos/cm	"	B7F2909	"	"	

Origins Laboratory, Inc.

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

Jen Pellegrini For Noelle Doyle Mathis, President

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

N02@18'
6/29/2017 4:40:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes

Origins Laboratory, Inc.
Y706388-03 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	**421**	25.0	mg/kg	1	B7F2902	06/29/2017	06/30/2017	
Residual Range Organics (C28-C40)	**130**	100	"	"	"	"	"	
Surrogate: o-Terphenyl	*103 %*	*59-131*			"	"	"	

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	**12.5**	5.00	mg/kg	25	B7F2901	06/29/2017	06/29/2017	
Benzene	ND	0.050	"	"	"	"	"	U
Toluene	ND	0.050	"	"	"	"	"	U
Ethylbenzene	ND	0.050	"	"	"	"	"	U
Xylenes, total	ND	0.050	"	"	"	"	"	U
Surrogate: 1,2-Dichloroethane-d4	*111 %*	*70-130*			"	"	"	
Surrogate: Toluene-d8	*90.3 %*	*70-130*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*96.7 %*	*70-130*			"	"	"	

pH in Soil by EPA 9045D

pH	**8.77**		pH Units	1	B7F2908	06/29/2017	06/29/2017	

Specific Conductance by Modified 9050A

Specific Conductance (EC)	**0.0335**		mmhos/cm	"	B7F2909	"	"	

Origins Laboratory, Inc.

Jen Pellegrini For Noelle Doyle Mathis, President

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LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

E01@18'
6/29/2017 4:45:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes

Origins Laboratory, Inc.

Y706388-04 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	**406**	25.0	mg/kg	1	B7F2902	06/29/2017	06/30/2017	
Residual Range Organics (C28-C40)	**145**	100	"	"	"	"	"	
Surrogate: o-Terphenyl	*96.3 %*	*59-131*			"	"	"	

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	**12.3**	5.00	mg/kg	25	B7F2901	06/29/2017	06/29/2017	
Benzene	ND	0.050	"	"	"	"	"	U
Toluene	ND	0.050	"	"	"	"	"	U
Ethylbenzene	ND	0.050	"	"	"	"	"	U
Xylenes, total	ND	0.050	"	"	"	"	"	U
Surrogate: 1,2-Dichloroethane-d4	*107 %*	*70-130*			"	"	"	
Surrogate: Toluene-d8	*89.7 %*	*70-130*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*99.5 %*	*70-130*			"	"	"	

pH in Soil by EPA 9045D

pH	**9.08**		pH Units	1	B7F2908	06/29/2017	06/29/2017	

Specific Conductance by Modified 9050A

Specific Conductance (EC)	**0.0483**		mmhos/cm	"	B7F2909	"	"	

Origins Laboratory, Inc.

Jen Pellegrini For Noelle Doyle Mathis, President

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LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

S01@18'
6/29/2017 4:50:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes

Origins Laboratory, Inc.

Y706388-05 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	25.0	mg/kg	1	B7F2902	06/29/2017	06/30/2017	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U
Surrogate: o-Terphenyl	*93.5 %*	*59-131*			"	"	"	

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	B7F2901	06/29/2017	06/30/2017	U
Benzene	ND	0.002	"	"	"	"	"	U
Toluene	ND	0.002	"	"	"	"	"	U
Ethylbenzene	ND	0.002	"	"	"	"	"	U
Xylenes, total	ND	0.002	"	"	"	"	"	U
Surrogate: 1,2-Dichloroethane-d4	*120 %*	*70-130*			"	"	"	
Surrogate: Toluene-d8	*90.5 %*	*70-130*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*95.8 %*	*70-130*			"	"	"	

pH in Soil by EPA 9045D

pH	**9.03**		pH Units	1	B7F2908	06/29/2017	06/29/2017	

Specific Conductance by Modified 9050A

Specific Conductance (EC)	**0.568**		mmhos/cm	"	B7F2909	"	"	

Origins Laboratory, Inc.

Jen Pellegrini For Noelle Doyle Mathis, President

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LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

W01@18'
6/29/2017 4:55:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes

Origins Laboratory, Inc.

Y706388-06 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	25.0	mg/kg	1	B7F2902	06/29/2017	06/30/2017	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U
Surrogate: o-Terphenyl	*100 %*	*59-131*			"	"	"	

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	B7F2901	06/29/2017	06/30/2017	U
Benzene	ND	0.002	"	"	"	"	"	U
Toluene	ND	0.002	"	"	"	"	"	U
Ethylbenzene	ND	0.002	"	"	"	"	"	U
Xylenes, total	ND	0.002	"	"	"	"	"	U
Surrogate: 1,2-Dichloroethane-d4	*117 %*	*70-130*			"	"	"	
Surrogate: Toluene-d8	*90.2 %*	*70-130*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*95.9 %*	*70-130*			"	"	"	

pH in Soil by EPA 9045D

pH	**8.82**		pH Units	1	B7F2908	06/29/2017	06/29/2017	

Specific Conductance by Modified 9050A

Specific Conductance (EC)	**0.115**		mmhos/cm	"	B7F2909	"	"	

Origins Laboratory, Inc.

Jen Pellegrini For Noelle Doyle Mathis, President

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LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B7F2901 - EPA 5030 (soil)										
Blank (B7F2901-BLK1)					Prepared: 06/29/2017 Analyzed: 06/29/2017					
Gasoline Range Hydrocarbons	ND	0.200	mg/kg							U
Benzene	ND	0.002	"							U
Toluene	ND	0.002	"							U
Ethylbenzene	ND	0.002	"							U
Xylenes, total	ND	0.002	"							U
Surrogate: 1,2-Dichloroethane-d4	*70*		*ug/kg*	*62.5*		*111*	*70-130*			
Surrogate: Toluene-d8	*57*		*"*	*62.5*		*91.2*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*60*		*"*	*62.5*		*95.5*	*70-130*			

Origins Laboratory, Inc.

Jen Pellegrini For Noelle Doyle Mathis, President

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LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B7F2901 - EPA 5030 (soil)										
LCS (B7F2901-BS1)					Prepared: 06/29/2017 Analyzed: 06/29/2017					
Benzene	0.108	0.002	mg/kg	0.100		108	77.1-124			
Toluene	0.109	0.002	"	0.100		109	74.5-128			
Ethylbenzene	0.101	0.002	"	0.100		101	66.4-127			
m,p-Xylene	0.203	0.004	"	0.200		102	76.6-124			
o-Xylene	0.102	0.002	"	0.100		102	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	*67*		*ug/kg*	*62.5*		*107*	*70-130*			
Surrogate: Toluene-d8	*58*		*"*	*62.5*		*92.8*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*60*		*"*	*62.5*		*96.7*	*70-130*			

Origins Laboratory, Inc.

Jen Pellegrini For Noelle Doyle Mathis, President

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LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B7F2901 - EPA 5030 (soil)										
Matrix Spike (B7F2901-MS1)		**Source: Y706348-01**			Prepared: 06/29/2017 Analyzed: 06/29/2017					
Benzene	0.113	0.002	mg/kg	0.100	ND	113	71.8-126			
Toluene	0.115	0.002	"	0.100	ND	115	65.1-130			
Ethylbenzene	0.107	0.002	"	0.100	ND	107	62.2-130			
m,p-Xylene	0.213	0.004	"	0.200	ND	106	46.5-137			
o-Xylene	0.106	0.002	"	0.100	ND	106	54.2-134			
Surrogate: 1,2-Dichloroethane-d4	*69*		*ug/kg*	*62.5*		*110*	*70-130*			
Surrogate: Toluene-d8	*58*		*"*	*62.5*		*92.1*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*61*		*"*	*62.5*		*97.8*	*70-130*			

Origins Laboratory, Inc.

Jen Pellegrini For Noelle Doyle Mathis, President

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

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B7F2901 - EPA 5030 (soil)										
Matrix Spike Dup (B7F2901-MSD1)		**Source: Y706348-01**			Prepared: 06/29/2017 Analyzed: 06/29/2017					
Benzene	0.106	0.002	mg/kg	0.100	ND	106	71.8-126	6.86	11.3	
Toluene	0.106	0.002	"	0.100	ND	106	65.1-130	8.25	15.4	
Ethylbenzene	0.099	0.002	"	0.100	ND	99.0	62.2-130	7.95	19.6	
m,p-Xylene	0.196	0.004	"	0.200	ND	98.1	46.5-137	8.03	19.2	
o-Xylene	0.098	0.002	"	0.100	ND	97.9	54.2-134	8.04	17.9	
Surrogate: 1,2-Dichloroethane-d4	*71*		*ug/kg*	*62.5*		*113*	*70-130*			
Surrogate: Toluene-d8	*57*		*"*	*62.5*		*91.3*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*61*		*"*	*62.5*		*97.4*	*70-130*			

Origins Laboratory, Inc.

Jen Pellegrini For Noelle Doyle Mathis, President

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LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

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

Extractable Petroleum Hydrocarbons by 8015C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B7F2902 - EPA 3580										
Blank (B7F2902-BLK1)					Prepared: 06/29/2017 Analyzed: 06/29/2017					
Diesel (C10-C28)	ND	50.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	200	"							U
Surrogate: o-Terphenyl	*61*		*"*	*50.0*		*122*	*59-131*			
LCS (B7F2902-BS1)					Prepared: 06/29/2017 Analyzed: 06/29/2017					
Diesel (C10-C28)	1090	50.0	mg/kg	1000		109	64-121			
Residual Range Organics (C28-C40)	1080	200	"	1000		108	58-124			
Surrogate: o-Terphenyl	*56*		*"*	*50.0*		*112*	*59-131*			
Matrix Spike (B7F2902-MS1)		**Source: Y706368-01**			Prepared: 06/29/2017 Analyzed: 06/29/2017					
Diesel (C10-C28)	1180	50.0	mg/kg	1000	105	108	53-125			
Residual Range Organics (C28-C40)	1170	200	"	1000	61.9	110	47-133			
Surrogate: o-Terphenyl	*56*		*"*	*50.0*		*111*	*59-131*			
Matrix Spike Dup (B7F2902-MSD1)		**Source: Y706368-01**			Prepared: 06/29/2017 Analyzed: 06/29/2017					
Diesel (C10-C28)	1070	50.0	mg/kg	1000	105	96.7	53-125	10.7	20	
Residual Range Organics (C28-C40)	1040	200	"	1000	61.9	98.2	47-133	11.7	20	
Surrogate: o-Terphenyl	*52*		*"*	*50.0*		*104*	*59-131*			

Origins Laboratory, Inc.

Jen Pellegrini For Noelle Doyle Mathis, President

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LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

Classical Chemistry Parameters - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B7F2908 - NO PREP										
Duplicate (B7F2908-DUP1)		**Source: Y706381-01**			Prepared: 06/29/2017 Analyzed: 06/29/2017					
pH	7.29		pH Units		6.83			6.52	25	
Batch B7F2909 - NO PREP										
Blank (B7F2909-BLK1)					Prepared: 06/29/2017 Analyzed: 06/29/2017					
Specific Conductance (EC)	0.00210		mmhos/cm							
Duplicate (B7F2909-DUP1)		**Source: Y706381-01**			Prepared: 06/29/2017 Analyzed: 06/29/2017					
Specific Conductance (EC)	0.185		mmhos/cm		0.220			17.5	25	

Origins Laboratory, Inc.

Jen Pellegrini For Noelle Doyle Mathis, President

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LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

Notes and Definitions

U Sample is Non-Detect.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

Origins Laboratory, Inc.

Jen Pellegrini For Noelle Doyle Mathis, President

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

ORIGINS LABORATORY, INC

July 06, 2017

LT Environmental, Inc.

Brian Sulzberger

4600 West 60th Avenue

Arvada CO 80003

Project Name - KMG - Kugel V 18-5 **Project Number - 014217137**

Attached are your analytical results for KMG - Kugel V 18-5 received by Origins Laboratory, Inc. July 05, 2017. This project is associated with Origins project number Y707040-01.

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, Inc.
303.433.1322
o-squad@oelabinc.com

THE NELAC INSTITUTE

ACCREDITED
TESTING CERT # 3494.01

ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B04@20'	Y707040-01	Soil	July 5, 2017 15:45	07/05/2017 17:42
B05@20'	Y707040-02	Soil	July 5, 2017 15:50	07/05/2017 17:42
W02@18'	Y707040-03	Soil	July 5, 2017 15:55	07/05/2017 17:42
N03@18'	Y707040-04	Soil	July 5, 2017 16:00	07/05/2017 17:42
N04@18'	Y707040-05	Soil	July 5, 2017 16:05	07/05/2017 17:42
E02@18'	Y707040-06	Soil	July 5, 2017 16:10	07/05/2017 17:42
E03@18'	Y707040-07	Soil	July 5, 2017 16:15	07/05/2017 17:42

Origins Laboratory, Inc.

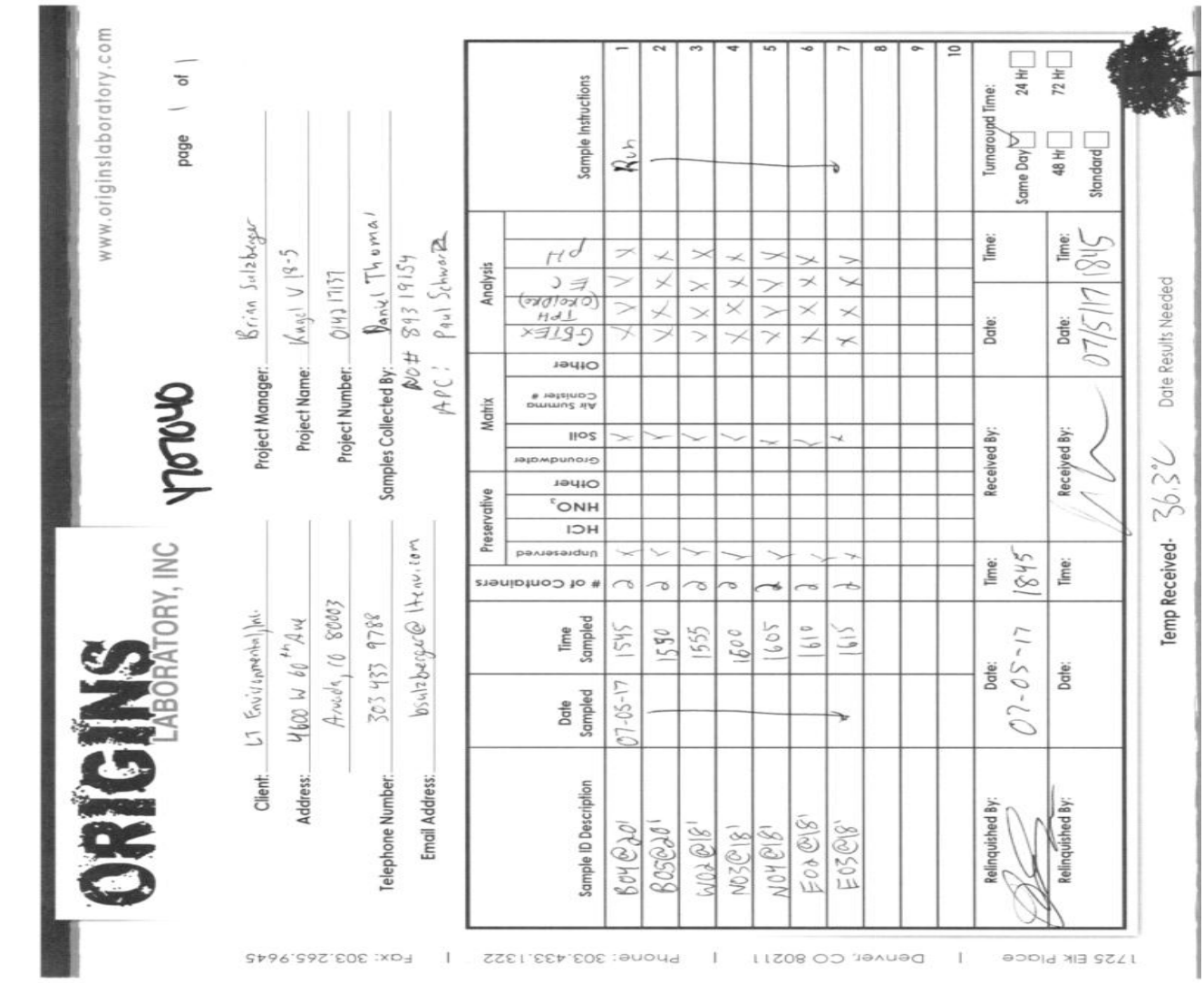
Jen Pellegrini For Noelle Doyle Mathis, President

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

ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5



Origins Laboratory, Inc.

Jen Pellegrini

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Jen Pellegrini For Noelle Doyle Mathis, President

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: Y07040

Client: LTE

Client Project ID: KMG- Kugel V. 18-5

Checklist Completed by: DM

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

Date/time completed: 7-5-17

Airbill #: NA

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

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

Thermometer ID: Tool

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C[1]?				
Is there ice present (document if blue ice is used)				
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		✓		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		✓		
Were all samples received intact[1]?	✓			
Was adequate sample volume provided[1]?	✓			
Are short holding time analytes or samples with HTs due within 48 hours present[1]?	✓			pH
Is a chain-of-custody (COC) present and filled out completely[1]?	✓			
Does the COC agree with the number and type of sample bottles received[1]?	✓			
Do the sample IDs on the bottle labels match the COC[1]?	✓			
Is the COC properly relinquished by the client with date and time recorded[1]?	✓			
For volatiles in water – is there headspace (> ¼ inch bubble) present? **If yes, contact client and note in narrative.**			✓	
Are samples preserved that require preservation and was it checked [1]? *(note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO3, HCL, H2SO4) / (pH >10 for samples preserved with NaAsO2+NaOH, ZnAc+NaOH)*		✓		
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) 7-5-17 Date/Time Reviewed

Origins Laboratory, Inc.

Jen Pellegrini

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

Jen Pellegrini For Noelle Doyle Mathis, President

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

B04@20'
7/5/2017 3:45:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes

Origins Laboratory, Inc.
Y707040-01 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	**34.6**	25.0	mg/kg	1	B7G0505	07/05/2017	07/05/2017	
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U
Surrogate: o-Terphenyl	*98.9 %*	*59-131*			"	"	"	

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	B7G0504	07/05/2017	07/05/2017	U
Benzene	ND	0.002	"	"	"	"	"	U
Toluene	ND	0.002	"	"	"	"	"	U
Ethylbenzene	ND	0.002	"	"	"	"	"	U
Xylenes, total	ND	0.002	"	"	"	"	"	U
Surrogate: 1,2-Dichloroethane-d4	*105 %*	*70-130*			"	"	"	
Surrogate: Toluene-d8	*93.3 %*	*70-130*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*93.4 %*	*70-130*			"	"	"	

pH in Soil by EPA 9045D

pH	**9.04**		pH Units	1	B7G0506	07/05/2017	07/05/2017	

Specific Conductance by Modified 9050A

Specific Conductance (EC)	**0.0774**		mmhos/cm	"	B7G0507	07/05/2017	07/05/2017	

Origins Laboratory, Inc.

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Jen Pellegrini For Noelle Doyle Mathis, President

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

B05@20'
7/5/2017 3:50:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes

Origins Laboratory, Inc.
Y707040-02 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	**27.4**	25.0	mg/kg	1	B7G0505	07/05/2017	07/05/2017	
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U
Surrogate: o-Terphenyl	*80.7 %*	*59-131*			"	"	"	

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	B7G0504	07/05/2017	07/05/2017	U
Benzene	ND	0.002	"	"	"	"	"	U
Toluene	ND	0.002	"	"	"	"	"	U
Ethylbenzene	ND	0.002	"	"	"	"	"	U
Xylenes, total	ND	0.002	"	"	"	"	"	U
Surrogate: 1,2-Dichloroethane-d4	*104 %*	*70-130*			"	"	"	
Surrogate: Toluene-d8	*93.6 %*	*70-130*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*91.7 %*	*70-130*			"	"	"	

pH in Soil by EPA 9045D

pH	**8.94**		pH Units	1	B7G0506	07/05/2017	07/05/2017	

Specific Conductance by Modified 9050A

Specific Conductance (EC)	**0.0410**		mmhos/cm	"	B7G0507	07/05/2017	07/05/2017	

Origins Laboratory, Inc.

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Jen Pellegrini For Noelle Doyle Mathis, President

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

W02@18'
7/5/2017 3:55:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes

Origins Laboratory, Inc.
Y707040-03 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	**28.0**	25.0	mg/kg	1	B7G0505	07/05/2017	07/05/2017	
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U
Surrogate: o-Terphenyl	*79.8 %*	*59-131*			"	"	"	

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	B7G0504	07/05/2017	07/05/2017	U
Benzene	ND	0.002	"	"	"	"	"	U
Toluene	ND	0.002	"	"	"	"	"	U
Ethylbenzene	ND	0.002	"	"	"	"	"	U
Xylenes, total	ND	0.002	"	"	"	"	"	U
Surrogate: 1,2-Dichloroethane-d4	*105 %*	*70-130*			"	"	"	
Surrogate: Toluene-d8	*93.0 %*	*70-130*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*92.5 %*	*70-130*			"	"	"	

pH in Soil by EPA 9045D

pH	**9.14**		pH Units	1	B7G0506	07/05/2017	07/05/2017	

Specific Conductance by Modified 9050A

Specific Conductance (EC)	**0.0843**		mmhos/cm	"	B7G0507	07/05/2017	07/05/2017	

Origins Laboratory, Inc.

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Jen Pellegrini For Noelle Doyle Mathis, President

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

N03@18'
7/5/2017 4:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes

Origins Laboratory, Inc.
Y707040-04 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	**272**	25.0	mg/kg	1	B7G0505	07/05/2017	07/05/2017	
Residual Range Organics (C28-C40)	**128**	100	"	"	"	"	"	
Surrogate: o-Terphenyl	*83.9 %*	*59-131*			"	"	"	

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	**11.1**	5.00	mg/kg	25	B7G0504	07/05/2017	07/05/2017	
Benzene	ND	0.050	"	"	"	"	"	U
Toluene	ND	0.050	"	"	"	"	"	U
Ethylbenzene	ND	0.050	"	"	"	"	"	U
Xylenes, total	ND	0.050	"	"	"	"	"	U
Surrogate: 1,2-Dichloroethane-d4	*101 %*	*70-130*			"	"	"	
Surrogate: Toluene-d8	*93.8 %*	*70-130*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*94.3 %*	*70-130*			"	"	"	

pH in Soil by EPA 9045D

pH	**9.25**		pH Units	1	B7G0506	07/05/2017	07/05/2017	

Specific Conductance by Modified 9050A

Specific Conductance (EC)	**0.0581**		mmhos/cm	"	B7G0507	07/05/2017	07/05/2017	

Origins Laboratory, Inc.

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LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

N04@18'
7/5/2017 4:05:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes

Origins Laboratory, Inc.
Y707040-05 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	**84.6**	25.0	mg/kg	1	B7G0505	07/05/2017	07/05/2017	
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U
Surrogate: o-Terphenyl	*85.7 %*	*59-131*			"	"	"	

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	5.00	mg/kg	25	B7G0504	07/05/2017	07/05/2017	U
Benzene	ND	0.050	"	"	"	"	"	U
Toluene	ND	0.050	"	"	"	"	"	U
Ethylbenzene	ND	0.050	"	"	"	"	"	U
Xylenes, total	ND	0.050	"	"	"	"	"	U
Surrogate: 1,2-Dichloroethane-d4	*101 %*	*70-130*			"	"	"	
Surrogate: Toluene-d8	*94.7 %*	*70-130*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*93.7 %*	*70-130*			"	"	"	

pH in Soil by EPA 9045D

pH	**9.38**		pH Units	1	B7G0506	07/05/2017	07/05/2017	

Specific Conductance by Modified 9050A

Specific Conductance (EC)	**0.0686**		mmhos/cm	"	B7G0507	07/05/2017	07/05/2017	

Origins Laboratory, Inc.

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Jen Pellegrini For Noelle Doyle Mathis, President

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

E02@18'
7/5/2017 4:10:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes

Origins Laboratory, Inc.
Y707040-06 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	**943**	25.0	mg/kg	1	B7G0505	07/05/2017	07/06/2017	
Residual Range Organics (C28-C40)	**315**	100	"	"	"	"	"	
Surrogate: o-Terphenyl	*105 %*	*59-131*			"	"	"	

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	**72.5**	5.00	mg/kg	25	B7G0504	07/05/2017	07/05/2017	
Benzene	ND	0.050	"	"	"	"	"	U
Toluene	ND	0.050	"	"	"	"	"	U
Ethylbenzene	**0.055**	0.050	"	"	"	"	"	
Xylenes, total	**0.120**	0.050	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	*99.4 %*	*70-130*			"	"	"	
Surrogate: Toluene-d8	*94.1 %*	*70-130*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*95.1 %*	*70-130*			"	"	"	

pH in Soil by EPA 9045D

pH	**9.42**		pH Units	1	B7G0506	07/05/2017	07/05/2017	

Specific Conductance by Modified 9050A

Specific Conductance (EC)	**0.0325**		mmhos/cm	"	B7G0507	07/05/2017	07/05/2017	

Origins Laboratory, Inc.

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Jen Pellegrini For Noelle Doyle Mathis, President

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

E03@18'
7/5/2017 4:15:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes

Origins Laboratory, Inc.
Y707040-07 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	**219**	25.0	mg/kg	1	B7G0505	07/05/2017	07/06/2017	
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U
Surrogate: o-Terphenyl	*91.1 %*	*59-131*			"	"	"	

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	**20.0**	5.00	mg/kg	25	B7G0504	07/05/2017	07/05/2017	
Benzene	ND	0.050	"	"	"	"	"	U
Toluene	ND	0.050	"	"	"	"	"	U
Ethylbenzene	ND	0.050	"	"	"	"	"	U
Xylenes, total	ND	0.050	"	"	"	"	"	U
Surrogate: 1,2-Dichloroethane-d4	*99.4 %*	*70-130*			"	"	"	
Surrogate: Toluene-d8	*94.7 %*	*70-130*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*95.0 %*	*70-130*			"	"	"	

pH in Soil by EPA 9045D

pH	**9.25**		pH Units	1	B7G0506	07/05/2017	07/05/2017	

Specific Conductance by Modified 9050A

Specific Conductance (EC)	**0.0343**		mmhos/cm	"	B7G0507	07/05/2017	07/05/2017	

Origins Laboratory, Inc.

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Jen Pellegrini For Noelle Doyle Mathis, President

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B7G0504 - EPA 5030 (soil)										
Blank (B7G0504-BLK1)					Prepared: 07/05/2017 Analyzed: 07/05/2017					
Gasoline Range Hydrocarbons	ND	0.200	mg/kg							U
Benzene	ND	0.002	"							U
Toluene	ND	0.002	"							U
Ethylbenzene	ND	0.002	"							U
Xylenes, total	ND	0.002	"							U
Surrogate: 1,2-Dichloroethane-d4	*63*		*ug/kg*	*62.5*		*101*	*70-130*			
Surrogate: Toluene-d8	*61*		*"*	*62.5*		*97.2*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*58*		*"*	*62.5*		*93.6*	*70-130*			

Origins Laboratory, Inc.

Jen Pellegrini For Noelle Doyle Mathis, President

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LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B7G0504 - EPA 5030 (soil)										
Blank (B7G0504-BLK2)					Prepared: 07/05/2017 Analyzed: 07/05/2017					
Gasoline Range Hydrocarbons	ND	0.200	mg/kg							U
Benzene	ND	0.002	"							U
Toluene	ND	0.002	"							U
Ethylbenzene	ND	0.002	"							U
Xylenes, total	ND	0.002	"							U
Surrogate: 1,2-Dichloroethane-d4	*64*		*ug/kg*	*62.5*		*102*	*70-130*			
Surrogate: Toluene-d8	*59*		*"*	*62.5*		*93.8*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*57*		*"*	*62.5*		*91.5*	*70-130*			

Origins Laboratory, Inc.

Jen Pellegrini For Noelle Doyle Mathis, President

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LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B7G0504 - EPA 5030 (soil)										
LCS (B7G0504-BS1)					Prepared: 07/05/2017 Analyzed: 07/05/2017					
Benzene	0.106	0.002	mg/kg	0.100		106	77.1-124			
Toluene	0.100	0.002	"	0.100		100	74.5-128			
Ethylbenzene	0.093	0.002	"	0.100		93.4	66.4-127			
m,p-Xylene	0.185	0.004	"	0.200		92.4	76.6-124			
o-Xylene	0.093	0.002	"	0.100		92.6	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	*60*		*ug/kg*	*62.5*		*95.8*	*70-130*			
Surrogate: Toluene-d8	*61*		*"*	*62.5*		*97.2*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*58*		*"*	*62.5*		*93.3*	*70-130*			

Origins Laboratory, Inc.

Jen Pellegrini For Noelle Doyle Mathis, President

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LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B7G0504 - EPA 5030 (soil)										
LCS (B7G0504-BS2)					Prepared: 07/05/2017 Analyzed: 07/05/2017					
Benzene	0.104	0.002	mg/kg	0.100		104	77.1-124			
Toluene	0.100	0.002	"	0.100		100	74.5-128			
Ethylbenzene	0.093	0.002	"	0.100		92.6	66.4-127			
m,p-Xylene	0.181	0.004	"	0.200		90.4	76.6-124			
o-Xylene	0.093	0.002	"	0.100		92.7	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	*61*		*ug/kg*	*62.5*		*96.9*	*70-130*			
Surrogate: Toluene-d8	*60*		*"*	*62.5*		*96.3*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*58*		*"*	*62.5*		*93.3*	*70-130*			

Origins Laboratory, Inc.

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LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B7G0504 - EPA 5030 (soil)										
Matrix Spike (B7G0504-MS1)		**Source: Y707033-01**			Prepared: 07/05/2017 Analyzed: 07/05/2017					
Benzene	0.096	0.002	mg/kg	0.100	ND	96.3	71.8-126			
Toluene	0.092	0.002	"	0.100	ND	91.7	65.1-130			
Ethylbenzene	0.085	0.002	"	0.100	ND	84.9	62.2-130			
m,p-Xylene	0.168	0.004	"	0.200	ND	83.9	46.5-137			
o-Xylene	0.087	0.002	"	0.100	ND	86.6	54.2-134			
Surrogate: 1,2-Dichloroethane-d4	*63*		*ug/kg*	*62.5*		*102*	*70-130*			
Surrogate: Toluene-d8	*60*		*"*	*62.5*		*96.5*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*60*		*"*	*62.5*		*95.4*	*70-130*			

Origins Laboratory, Inc.

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LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B7G0504 - EPA 5030 (soil)										
Matrix Spike (B7G0504-MS2)		**Source: Y707033-02**			Prepared: 07/05/2017 Analyzed: 07/05/2017					
Benzene	0.094	0.002	mg/kg	0.100	ND	94.1	71.8-126			
Toluene	0.088	0.002	"	0.100	ND	88.1	65.1-130			
Ethylbenzene	0.083	0.002	"	0.100	ND	82.9	62.2-130			
m,p-Xylene	0.162	0.004	"	0.200	ND	81.1	46.5-137			
o-Xylene	0.084	0.002	"	0.100	ND	84.2	54.2-134			
Surrogate: 1,2-Dichloroethane-d4	*62*		*ug/kg*	*62.5*		*100*	*70-130*			
Surrogate: Toluene-d8	*60*		*"*	*62.5*		*95.2*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*60*		*"*	*62.5*		*95.4*	*70-130*			

Origins Laboratory, Inc.

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LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B7G0504 - EPA 5030 (soil)										
Matrix Spike Dup (B7G0504-MSD1)		**Source: Y707033-01**			Prepared: 07/05/2017 Analyzed: 07/05/2017					
Benzene	0.092	0.002	mg/kg	0.100	ND	92.0	71.8-126	4.54	11.3	
Toluene	0.086	0.002	"	0.100	ND	85.9	65.1-130	6.55	15.4	
Ethylbenzene	0.082	0.002	"	0.100	ND	82.2	62.2-130	3.21	19.6	
m,p-Xylene	0.161	0.004	"	0.200	ND	80.7	46.5-137	3.85	19.2	
o-Xylene	0.084	0.002	"	0.100	ND	84.2	54.2-134	2.83	17.9	
Surrogate: 1,2-Dichloroethane-d4	*64*		*ug/kg*	*62.5*		*102*	*70-130*			
Surrogate: Toluene-d8	*59*		*"*	*62.5*		*94.6*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*60*		*"*	*62.5*		*96.2*	*70-130*			

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LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B7G0504 - EPA 5030 (soil)										
Matrix Spike Dup (B7G0504-MSD2)		**Source: Y707033-02**			Prepared: 07/05/2017 Analyzed: 07/05/2017					
Benzene	0.094	0.002	mg/kg	0.100	ND	93.9	71.8-126	0.234	11.3	
Toluene	0.089	0.002	"	0.100	ND	89.0	65.1-130	0.949	15.4	
Ethylbenzene	0.082	0.002	"	0.100	ND	82.0	62.2-130	1.09	19.6	
m,p-Xylene	0.162	0.004	"	0.200	ND	81.0	46.5-137	0.0864	19.2	
o-Xylene	0.082	0.002	"	0.100	ND	82.5	54.2-134	2.04	17.9	
Surrogate: 1,2-Dichloroethane-d4	*63*		*ug/kg*	*62.5*		*101*	*70-130*			
Surrogate: Toluene-d8	*60*		*"*	*62.5*		*95.9*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*61*		*"*	*62.5*		*97.0*	*70-130*			

Origins Laboratory, Inc.

Jen Pellegrini For Noelle Doyle Mathis, President

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LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

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

Extractable Petroleum Hydrocarbons by 8015C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B7G0505 - EPA 3550B										
Blank (B7G0505-BLK1)					Prepared: 07/05/2017 Analyzed: 07/06/2017					
Diesel (C10-C28)	ND	50.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	200	"							U
Surrogate: o-Terphenyl	*38*		*"*	*50.0*		*76.5*	*59-131*			
Blank (B7G0505-BLK2)					Prepared: 07/05/2017 Analyzed: 07/05/2017					
Diesel (C10-C28)	ND	50.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	200	"							U
Surrogate: o-Terphenyl	*46*		*"*	*50.0*		*92.9*	*59-131*			
LCS (B7G0505-BS1)					Prepared: 07/05/2017 Analyzed: 07/05/2017					
Diesel (C10-C28)	993	50.0	mg/kg	1000		99.3	64-121			
Residual Range Organics (C28-C40)	936	200	"	1000		93.6	58-124			
Surrogate: o-Terphenyl	*46*		*"*	*50.0*		*91.8*	*59-131*			
LCS (B7G0505-BS2)					Prepared: 07/05/2017 Analyzed: 07/05/2017					
Diesel (C10-C28)	997	50.0	mg/kg	1000		99.7	64-121			
Residual Range Organics (C28-C40)	982	200	"	1000		98.2	58-124			
Surrogate: o-Terphenyl	*49*		*"*	*50.0*		*97.7*	*59-131*			
Matrix Spike (B7G0505-MS1)		**Source: Y707033-01**			Prepared: 07/05/2017 Analyzed: 07/05/2017					
Diesel (C10-C28)	1020	50.0	mg/kg	1000	43.2	98.0	53-125			
Residual Range Organics (C28-C40)	996	200	"	1000	67.6	92.8	47-133			

Origins Laboratory, Inc.

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Jen Pellegrini For Noelle Doyle Mathis, President

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

Extractable Petroleum Hydrocarbons by 8015C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B7G0505 - EPA 3550B										
Matrix Spike (B7G0505-MS1)		**Source: Y707033-01**			Prepared: 07/05/2017 Analyzed: 07/05/2017					
Surrogate: o-Terphenyl	*46*		*mg/kg*	*50.0*		*92.4*	*59-131*			
Matrix Spike (B7G0505-MS2)		**Source: Y707033-02**			Prepared: 07/05/2017 Analyzed: 07/05/2017					
Diesel (C10-C28)	944	50.0	mg/kg	1000	45.7	89.8	53-125			
Residual Range Organics (C28-C40)	871	200	"	1000	252	61.9	47-133			
Surrogate: o-Terphenyl	*76*		*"*	*50.0*		*152*	*59-131*			*S-04*
Matrix Spike Dup (B7G0505-MSD1)		**Source: Y707033-01**			Prepared: 07/05/2017 Analyzed: 07/05/2017					
Diesel (C10-C28)	1030	50.0	mg/kg	1000	43.2	98.6	53-125	0.555	20	
Residual Range Organics (C28-C40)	1020	200	"	1000	67.6	95.4	47-133	2.76	20	
Surrogate: o-Terphenyl	*49*		*"*	*50.0*		*97.3*	*59-131*			
Matrix Spike Dup (B7G0505-MSD2)		**Source: Y707033-02**			Prepared: 07/05/2017 Analyzed: 07/05/2017					
Diesel (C10-C28)	1030	50.0	mg/kg	1000	45.7	98.3	53-125	9.01	20	
Residual Range Organics (C28-C40)	1050	200	"	1000	252	79.9	47-133	25.4	20	QR-02
Surrogate: o-Terphenyl	*48*		*"*	*50.0*		*96.2*	*59-131*			

Origins Laboratory, Inc.

Jen Pellegrini

Jen Pellegrini For Noelle Doyle Mathis, President

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LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

Classical Chemistry Parameters - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B7G0506 - NO PREP										
Duplicate (B7G0506-DUP1)		**Source: Y707040-01**			Prepared: 07/05/2017 Analyzed: 07/05/2017					
pH	8.91		pH Units		9.04			1.45	25	
Batch B7G0507 - NO PREP										
Blank (B7G0507-BLK1)					Prepared: 07/05/2017 Analyzed: 07/05/2017					
Specific Conductance (EC)	0.00270		mmhos/cm							
Duplicate (B7G0507-DUP1)		**Source: Y707040-01**			Prepared: 07/05/2017 Analyzed: 07/05/2017					
Specific Conductance (EC)	0.0675		mmhos/cm		0.0774			13.7	25	

Origins Laboratory, Inc.

Jen Pellegrini For Noelle Doyle Mathis, President

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LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

Notes and Definitions

U Sample is Non-Detect.

S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.

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

All soil results are reported at a wet weight basis.

Origins Laboratory, Inc.

Jen Pellegrini For Noelle Doyle Mathis, President

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ORIGINS LABORATORY, INC

July 07, 2017

LT Environmental, Inc.

Brian Sulzberger

4600 West 60th Avenue

Arvada CO 80003

Project Name - KMG - Kugel V 18-5 **Project Number - 014217137**

Attached are your analytical results for KMG - Kugel V 18-5 received by Origins Laboratory, Inc. July 06, 2017. This project is associated with Origins project number Y707059-01.

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, Inc.
303.433.1322
o-squad@oelabinc.com

THE NELAC INSTITUTE

ACCREDITED
TESTING CERT # 3494.01

ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
N05@18'	Y707059-01	Soil	July 6, 2017 15:30	07/06/2017 16:54
E04@18'	Y707059-02	Soil	July 6, 2017 15:35	07/06/2017 16:54

Origins Laboratory, Inc.

Jen Pellegrini For Noelle Doyle Mathis, President

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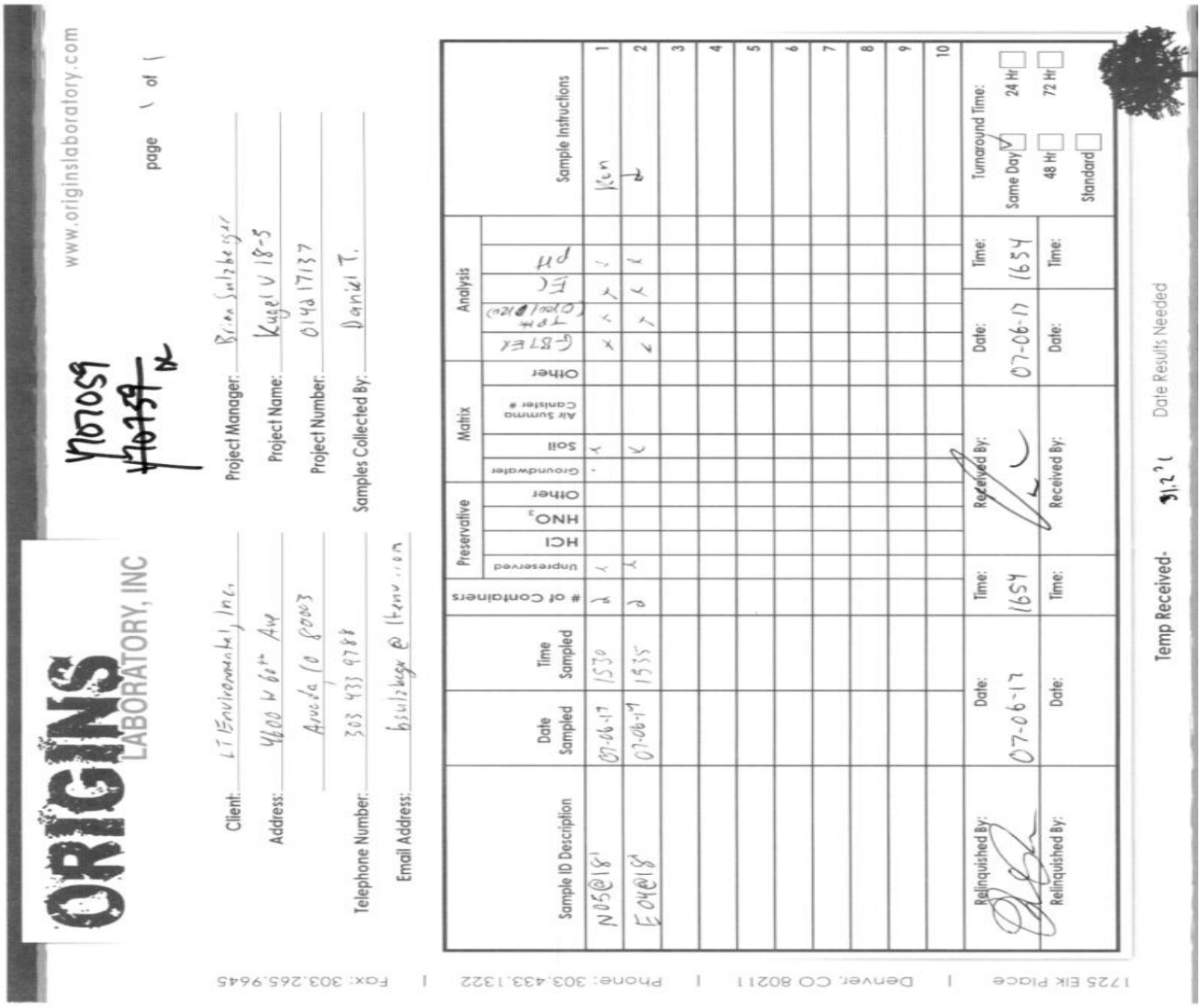
ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5



Origins Laboratory, Inc.

Jen Pellegrini

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Jen Pellegrini For Noelle Doyle Mathis, President

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: 1707059
Client: LTE
Client Project ID: KMG- Kugel V 18-5
Checklist Completed by: Dan L
Shipped Via: HD (UPS, FedEx, Hand Delivered, Pick-up, etc.)
Date/time completed: 7-6-17 1658
Airbill #: NA
Matrix(s) Received: (Check all that apply): / Soil/Solid ____Water ____Other:____
Cooler Number/Temperature: 1 / 31.2 °C ____/____°C ____/____°C ____/____°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[1]?		/		Sampled same Day
Is there ice present (document if blue ice is used)		/		
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		/		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		/		
Were all samples received intact[1]?	/			
Was adequate sample volume provided[1]?	/			
Are short holding time analytes or samples with HTs due within 48 hours present[1]?	/			pH
Is a chain-of-custody (COC) present and filled out completely[1]?	/			
Does the COC agree with the number and type of sample bottles received[1]?	/			
Do the sample IDs on the bottle labels match the COC[1]?	/			
Is the COC properly relinquished by the client with date and time recorded[1]?	/			
For volatiles in water – is there headspace (> ¼ inch bubble) present? **If yes, contact client and note in narrative.**			/	
Are samples preserved that require preservation and was it checked[1]? *(note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO3, HCL, H2SO4) / (pH >10 for samples preserved with NaAsO2+NaOH, ZnAc+NaOH)*		/		
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) 7-6-17 1658 Date/Time Reviewed

Origins Laboratory, Inc.

Jen Pellegrini

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Jen Pellegrini For Noelle Doyle Mathis, President

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

N05@18'
7/6/2017 3:30:00PM

Origins Laboratory, Inc.
Y707059-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
DRO/RRO by EPA8015C								
Diesel (C10-C28)	**287**	25.0	mg/kg	1	B7G0605	07/06/2017	07/06/2017	
Residual Range Organics (C28-C40)	**116**	100	"	"	"	"	"	
Surrogate: o-Terphenyl	*91.6 %*	*59-131*			"	"	"	
GBTEX by EPA 8260C								
Gasoline Range Hydrocarbons	**18.7**	5.00	mg/kg	25	B7G0604	07/06/2017	07/06/2017	
Benzene	ND	0.050	"	"	"	"	"	U
Toluene	ND	0.050	"	"	"	"	"	U
Ethylbenzene	ND	0.050	"	"	"	"	"	U
Xylenes, total	ND	0.050	"	"	"	"	"	U
Surrogate: 1,2-Dichloroethane-d4	*104 %*	*70-130*			"	"	"	
Surrogate: Toluene-d8	*92.7 %*	*70-130*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*92.6 %*	*70-130*			"	"	"	
pH in Soil by EPA 9045D								
pH	**8.44**		pH Units	1	B7G0606	07/06/2017	07/06/2017	
Specific Conductance by Modified 9050A								
Specific Conductance (EC)	**0.0589**		mmhos/cm	"	B7G0607	07/06/2017	07/06/2017	

Origins Laboratory, Inc.

Jen Pellegrini For Noelle Doyle Mathis, President

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LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

E04@18'
7/6/2017 3:35:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes

Origins Laboratory, Inc.
Y707059-02 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	**128**	25.0	mg/kg	1	B7G0605	07/06/2017	07/06/2017	
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U
Surrogate: o-Terphenyl	*88.6 %*	*59-131*			"	"	"	

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	**4.84**	0.200	mg/kg	1	B7G0604	07/06/2017	07/06/2017	
Benzene	ND	0.002	"	"	"	"	"	U
Toluene	ND	0.002	"	"	"	"	"	U
Ethylbenzene	**0.005**	0.002	"	"	"	"	"	
Xylenes, total	ND	0.002	"	"	"	"	"	U
Surrogate: 1,2-Dichloroethane-d4	*104 %*	*70-130*			"	"	"	
Surrogate: Toluene-d8	*90.7 %*	*70-130*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*96.7 %*	*70-130*			"	"	"	

pH in Soil by EPA 9045D

pH	**8.58**		pH Units	1	B7G0606	07/06/2017	07/06/2017	

Specific Conductance by Modified 9050A

Specific Conductance (EC)	**0.0388**		mmhos/cm	"	B7G0607	07/06/2017	07/06/2017	

Origins Laboratory, Inc.

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Jen Pellegrini For Noelle Doyle Mathis, President

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B7G0604 - EPA 5030 (soil)										
Blank (B7G0604-BLK1)					Prepared: 07/06/2017 Analyzed: 07/06/2017					
Gasoline Range Hydrocarbons	ND	0.200	mg/kg							U
Benzene	ND	0.002	"							U
Toluene	ND	0.002	"							U
Ethylbenzene	ND	0.002	"							U
Xylenes, total	ND	0.002	"							U
Surrogate: 1,2-Dichloroethane-d4	*65*		*ug/kg*	*62.5*		*105*	*70-130*			
Surrogate: Toluene-d8	*63*		*"*	*62.5*		*101*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*67*		*"*	*62.5*		*107*	*70-130*			

Origins Laboratory, Inc.

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LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B7G0604 - EPA 5030 (soil)										
LCS (B7G0604-BS1)					Prepared: 07/06/2017 Analyzed: 07/06/2017					
Benzene	0.097	0.002	mg/kg	0.100		96.8	77.1-124			
Toluene	0.098	0.002	"	0.100		98.1	74.5-128			
Ethylbenzene	0.097	0.002	"	0.100		96.9	66.4-127			
m,p-Xylene	0.193	0.004	"	0.200		96.4	76.6-124			
o-Xylene	0.098	0.002	"	0.100		97.8	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	*64*		*ug/kg*	*62.5*		*102*	*70-130*			
Surrogate: Toluene-d8	*64*		*"*	*62.5*		*102*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*62*		*"*	*62.5*		*99.4*	*70-130*			

Origins Laboratory, Inc.

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Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B7G0604 - EPA 5030 (soil)										
Matrix Spike (B7G0604-MS1)		**Source: Y706399-01**			Prepared: 07/06/2017 Analyzed: 07/06/2017					
Benzene	0.093	0.002	mg/kg	0.100	ND	93.4	71.8-126			
Toluene	0.092	0.002	"	0.100	0.001	90.7	65.1-130			
Ethylbenzene	0.093	0.002	"	0.100	ND	93.4	62.2-130			
m,p-Xylene	0.187	0.004	"	0.200	ND	93.4	46.5-137			
o-Xylene	0.100	0.002	"	0.100	ND	99.9	54.2-134			
Surrogate: 1,2-Dichloroethane-d4	*63*		*ug/kg*	*62.5*		*100*	*70-130*			
Surrogate: Toluene-d8	*62*		*"*	*62.5*		*99.5*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*67*		*"*	*62.5*		*107*	*70-130*			

Origins Laboratory, Inc.

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Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B7G0604 - EPA 5030 (soil)										
Matrix Spike Dup (B7G0604-MSD1)		**Source: Y706399-01**			Prepared: 07/06/2017 Analyzed: 07/06/2017					
Benzene	0.106	0.002	mg/kg	0.100	ND	106	71.8-126	12.9	11.3	QR-02
Toluene	0.106	0.002	"	0.100	0.001	104	65.1-130	13.8	15.4	
Ethylbenzene	0.102	0.002	"	0.100	ND	102	62.2-130	8.57	19.6	
m,p-Xylene	0.201	0.004	"	0.200	ND	100	46.5-137	7.20	19.2	
o-Xylene	0.104	0.002	"	0.100	ND	104	54.2-134	3.98	17.9	
Surrogate: 1,2-Dichloroethane-d4	*63*		*ug/kg*	*62.5*		*101*	*70-130*			
Surrogate: Toluene-d8	*62*		*"*	*62.5*		*99.9*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*61*		*"*	*62.5*		*97.4*	*70-130*			

Origins Laboratory, Inc.

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LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

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

Extractable Petroleum Hydrocarbons by 8015C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B7G0605 - EPA 3550B										
Blank (B7G0605-BLK1)					Prepared: 07/06/2017 Analyzed: 07/06/2017					
Diesel (C10-C28)	ND	50.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	200	"							U
Surrogate: o-Terphenyl	*48*		*"*	*50.0*		*95.8*	*59-131*			
LCS (B7G0605-BS1)					Prepared: 07/06/2017 Analyzed: 07/06/2017					
Diesel (C10-C28)	994	50.0	mg/kg	1000		99.4	64-121			
Residual Range Organics (C28-C40)	949	200	"	1000		94.9	58-124			
Surrogate: o-Terphenyl	*46*		*"*	*50.0*		*92.3*	*59-131*			
Matrix Spike (B7G0605-MS1)		**Source: Y706399-01**			Prepared: 07/06/2017 Analyzed: 07/06/2017					
Diesel (C10-C28)	990	50.0	mg/kg	1000	ND	99.0	53-125			
Residual Range Organics (C28-C40)	960	200	"	1000	22.3	93.8	47-133			
Surrogate: o-Terphenyl	*47*		*"*	*50.0*		*94.1*	*59-131*			
Matrix Spike Dup (B7G0605-MSD1)		**Source: Y706399-01**			Prepared: 07/06/2017 Analyzed: 07/06/2017					
Diesel (C10-C28)	989	50.0	mg/kg	1000	ND	98.9	53-125	0.0327	20	
Residual Range Organics (C28-C40)	963	200	"	1000	22.3	94.1	47-133	0.331	20	
Surrogate: o-Terphenyl	*49*		*"*	*50.0*		*97.0*	*59-131*			

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Jen Pellegrini For Noelle Doyle Mathis, President

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LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217137
Project: KMG - Kugel V 18-5

Classical Chemistry Parameters - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B7G0606 - NO PREP										
Duplicate (B7G0606-DUP1)		**Source: Y707019-09**			Prepared: 07/06/2017 Analyzed: 07/06/2017					
pH	7.42		pH Units		7.45			0.403	25	
Batch B7G0607 - NO PREP										
Blank (B7G0607-BLK1)					Prepared: 07/06/2017 Analyzed: 07/06/2017					
Specific Conductance (EC)	0.00220		mmhos/cm							
Duplicate (B7G0607-DUP1)		**Source: Y707019-09**			Prepared: 07/06/2017 Analyzed: 07/06/2017					
Specific Conductance (EC)	0.655		mmhos/cm		0.640			2.24	25	

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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

All soil results are reported at a wet weight basis.

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