



February 29, 2016

LT Environmental, Inc.

Justin Solomon

4600 West 60th Avenue

Arvada CO 80003

Project Name - KMG - Reynolds Cattle 6C-19Hz Project Number - 014211290-

Attached are your analytical results for KMG - Reynolds Cattle 6C-19Hz received by Origins Laboratory, Inc. February 18, 2016. This project is associated with Origins project number X602223-01.

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



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

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

Justin Solomon
Project Number: 014211290-
Project: KMG - Reynolds Cattle 6C-19Hz

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Off S	X602223-01	Soil	February 18, 2016 9:00	02/18/2016 16:58
Off E	X602223-02	Soil	February 18, 2016 9:10	02/18/2016 16:58
Off N	X602223-03	Soil	February 18, 2016 9:20	02/18/2016 16:58
Off W	X602223-04	Soil	February 18, 2016 9:30	02/18/2016 16:58
Off Comp	X602223-05	Soil	February 18, 2016 9:40	02/18/2016 16:58
Pad Comp	X602223-06	Soil	February 18, 2016 9:50	02/18/2016 16:58

Origins Laboratory, Inc.



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

Justin Solomon
 Project Number: 014211290-
 Project: KMG - Reynolds Cattle 6C-19Hz

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: X602223

Client: LTE

Client Project ID: Reynolds Cattle 6C-19Hz

Checklist Completed by: Jeff Smith

Shipped Via: H/D
 (UPS, FedEx, Hand Delivered, Pick-up, etc.)

Date/time completed: 2/19/12

Airbill #: NA

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

Cooler Number/Temperature: 1 / 5.7 °C 1 °C 1 °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⁾ ?	X			
Is there ice present (document if blue ice is used)	X			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		X		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		X		
Were all samples received intact ⁽¹⁾ ?	X			
Was adequate sample volume provided ⁽¹⁾ ?	X			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?	X			PH
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	X			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	X			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	X			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	X			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.			X	
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)			X	
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)

02/22/12
 Date/Time Reviewed

Origins Laboratory, Inc.

[Signature: Jen Pellegrini]

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

Justin Solomon
Project Number: 014211290-
Project: KMG - Reynolds Cattle 6C-19Hz

Off S

2/18/2016 9:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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GEL Laboratories, LLC
X602223-01 (Soil)

Metals by SW846 3050B/6020A

Arsenic	5.50	1.26	mg/kg dry	2	1546715	02/22/2016	02/23/2016	
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Origins Laboratory, Inc.



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4600 West 60th Avenue
Arvada CO 80003

Justin Solomon
Project Number: 014211290-
Project: KMG - Reynolds Cattle 6C-19Hz

Off E

2/18/2016 9:10:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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GEL Laboratories, LLC
X602223-02 (Soil)

Metals by SW846 3050B/6020A

Arsenic	3.22	1.09	mg/kg dry	2	1546715	02/22/2016	02/24/2016	
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4600 West 60th Avenue
Arvada CO 80003

Justin Solomon
Project Number: 014211290-
Project: KMG - Reynolds Cattle 6C-19Hz

Off N

2/18/2016 9:20:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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GEL Laboratories, LLC
X602223-03 (Soil)

Metals by SW846 3050B/6020A

Arsenic	5.11	1.23	mg/kg dry	2	1546715	02/22/2016	02/24/2016	
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4600 West 60th Avenue
Arvada CO 80003

Justin Solomon
Project Number: 014211290-
Project: KMG - Reynolds Cattle 6C-19Hz

Off W

2/18/2016 9:30:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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GEL Laboratories, LLC
X602223-04 (Soil)

Metals by SW846 3050B/6020A

Arsenic	5.33	1.21	mg/kg dry	2	1546715	02/22/2016	02/24/2016	
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Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

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

Justin Solomon
 Project Number: 014211290-
 Project: KMG - Reynolds Cattle 6C-19Hz

Off Comp
2/18/2016 9:40:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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AAL, Inc.
X602223-05 (Soil)

Metals by 6010

Calcium	10.39		me/L	1	'[none]'	02/22/2016	02/26/2016	
Magnesium	4.42		"	"	"	"	"	
Sodium	2.84		"	"	"	"	"	

Metals by SW846 3050B/6010C

Barium	146	0.613	mg/kg dry	1	1546739	"	02/23/2016	
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Metals by SW846 3050B/6020A

Arsenic	5.23	1.11	mg/kg dry	2	1546715	"	02/24/2016	
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pH in Soil by EPA 9045D

pH	7.52		pH Units	1	B6B2203	02/22/2016	02/22/2016	O-04
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SAR by 20B Saturated Paste

SAR	1.04			1	'[none]'	02/22/2016	02/26/2016	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.308		mmhos/cm	1	B6B2204	02/22/2016	02/22/2016	
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 Project Number: 014211290-
 Project: KMG - Reynolds Cattle 6C-19Hz

Pad Comp
2/18/2016 9:50:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X602223-06 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	25	mg/kg	1	B6B2206	02/22/2016	02/22/2016	Ua
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	Ua

Surrogate: o-Terphenyl 102 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	B6B2202	02/22/2016	02/24/2016	Ua
Benzene	ND	0.002	"	"	"	"	"	Ua
Toluene	ND	0.002	"	"	"	"	"	Ua
Ethylbenzene	ND	0.002	"	"	"	"	"	Ua
Xylenes, total	ND	0.002	"	"	"	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4 109 % 70-130 " " "
Surrogate: Toluene-d8 101 % 70-130 " " "
Surrogate: 4-Bromofluorobenzene 95.8 % 70-130 " " "

Metals by 6010

Calcium	3.36		me/L	1	'[none]'	02/22/2016	02/26/2016	
Magnesium	1.50		"	"	"	"	"	
Sodium	3.00		"	"	"	"	"	

Metals by SW846 3050B/6010C

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Pad Comp
2/18/2016 9:50:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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GEL Laboratories, LLC
X602223-06 (Soil)

Metals by SW846 3050B/6010C

Barium	169	0.553	mg/kg dry	1	1546739	02/22/2016	02/23/2016	
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Metals by SW846 3050B/6020A

Arsenic	5.09	1.09	mg/kg dry	2	1546715	"	02/24/2016	
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pH in Soil by EPA 9045D

pH	8.20		pH Units	1	B6B2203	02/22/2016	02/22/2016	O-04
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SAR by 20B Saturated Paste

SAR	1.92			1	'[none]'	02/22/2016	02/26/2016	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0798		mmhos/cm	1	B6B2204	02/22/2016	02/22/2016	
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TCLP Metals by 1311/3010A/6010C

Arsenic	ND	0.300	mg/L	1	1547091	02/23/2016	02/24/2016	U
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 Project: KMG - Reynolds Cattle 6C-19Hz

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
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Batch B6B2202 - EPA 5030 (soil)

Blank (B6B2202-BLK1)

Prepared: 02/22/2016 Analyzed: 02/24/2016

Gasoline Range Hydrocarbons	ND	0.200	mg/kg							Ua
Benzene	ND	0.002	"							Ua
Toluene	ND	0.002	"							Ua
Ethylbenzene	ND	0.002	"							Ua
Xylenes, total	ND	0.002	"							Ua
Surrogate: 1,2-Dichloroethane-d4	73.9		ug/kg	62.5		118	70-130			
Surrogate: Toluene-d8	60.5		"	62.5		96.7	70-130			
Surrogate: 4-Bromofluorobenzene	59.6		"	62.5		95.3	70-130			

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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
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Batch B6B2202 - EPA 5030 (soil)

LCS (B6B2202-BS1)

Prepared: 02/22/2016 Analyzed: 02/24/2016

Benzene	0.101	0.002	mg/kg	0.100		101	77.1-124			
Toluene	0.097	0.002	"	0.100		97.3	74.5-128			
Ethylbenzene	0.096	0.002	"	0.100		96.2	66.4-127			
m,p-Xylene	0.195	0.004	"	0.200		97.7	76.6-124			
o-Xylene	0.096	0.002	"	0.100		95.5	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	69.0		ug/kg	62.5		110	70-130			
Surrogate: Toluene-d8	62.3		"	62.5		99.6	70-130			
Surrogate: 4-Bromofluorobenzene	65.4		"	62.5		105	70-130			

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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
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Batch B6B2202 - EPA 5030 (soil)

Matrix Spike (B6B2202-MS1)	Source: X602220-06			Prepared: 02/22/2016 Analyzed: 02/24/2016						
Benzene	0.102	0.002	mg/kg	0.100	ND	102	71.8-126			
Toluene	0.104	0.002	"	0.100	ND	104	65.1-130			
Ethylbenzene	0.101	0.002	"	0.100	ND	101	62.2-130			
m,p-Xylene	0.205	0.004	"	0.200	ND	103	46.5-137			
o-Xylene	0.101	0.002	"	0.100	ND	101	54.2-134			
Surrogate: 1,2-Dichloroethane-d4	68.1		ug/kg	62.5		109	70-130			
Surrogate: Toluene-d8	64.3		"	62.5		103	70-130			
Surrogate: 4-Bromofluorobenzene	63.7		"	62.5		102	70-130			

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 Project: KMG - Reynolds Cattle 6C-19Hz

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
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Batch B6B2202 - EPA 5030 (soil)

Matrix Spike Dup (B6B2202-MSD1)	Source: X602220-06			Prepared: 02/22/2016 Analyzed: 02/24/2016						
Benzene	0.109	0.002	mg/kg	0.100	ND	109	71.8-126	6.76	11.3	
Toluene	0.099	0.002	"	0.100	ND	98.8	65.1-130	4.96	15.4	
Ethylbenzene	0.100	0.002	"	0.100	ND	100	62.2-130	0.894	19.6	
m,p-Xylene	0.209	0.004	"	0.200	ND	105	46.5-137	1.81	19.2	
o-Xylene	0.101	0.002	"	0.100	ND	101	54.2-134	0.198	17.9	
Surrogate: 1,2-Dichloroethane-d4	69.6		ug/kg	62.5		111	70-130			
Surrogate: Toluene-d8	60.3		"	62.5		96.5	70-130			
Surrogate: 4-Bromofluorobenzene	65.9		"	62.5		105	70-130			

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 Project Number: 014211290-
 Project: KMG - Reynolds Cattle 6C-19Hz

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
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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
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Batch B6B2206 - EPA 3580

Blank (B6B2206-BLK1)

Prepared: 02/22/2016 Analyzed: 02/22/2016

Diesel (C10-C28)	ND	50	mg/kg							Ua
Residual Range Organics (C28-C40)	ND	200	"							Ua
Surrogate: o-Terphenyl	49		"	50.0		97.9	59-131			

LCS (B6B2206-BS1)

Prepared: 02/22/2016 Analyzed: 02/22/2016

Diesel (C10-C28)	920	50	mg/kg	1000		92.3	64-121			
Residual Range Organics (C28-C40)	960	200	"	1000		95.9	58-124			
Surrogate: o-Terphenyl	50		"	50.0		99.7	59-131			

Matrix Spike (B6B2206-MS1)

Source: X602220-06

Prepared: 02/22/2016 Analyzed: 02/22/2016

Diesel (C10-C28)	810	50	mg/kg	1000	ND	80.7	53-125			
Residual Range Organics (C28-C40)	790	200	"	1000	23	77.1	47-133			
Surrogate: o-Terphenyl	42		"	50.0		83.9	59-131			

Matrix Spike Dup (B6B2206-MSD1)

Source: X602220-06

Prepared: 02/22/2016 Analyzed: 02/22/2016

Diesel (C10-C28)	830	50	mg/kg	1000	ND	83.2	53-125	2.95	20	
Residual Range Organics (C28-C40)	840	200	"	1000	23	81.5	47-133	5.42	20	
Surrogate: o-Terphenyl	38		"	50.0		75.2	59-131			

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 Project Number: 014211290-
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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 B6B2203 - NO PREP										
Duplicate (B6B2203-DUP1)		Source: X602220-05			Prepared: 02/22/2016 Analyzed: 02/22/2016					
pH	7.86		pH Units		7.56			3.89	25	
Duplicate (B6B2203-DUP2)		Source: X602253-01			Prepared: 02/22/2016 Analyzed: 02/22/2016					
pH	8.02		pH Units		8.72			8.36	25	
Batch B6B2204 - NO PREP										
Blank (B6B2204-BLK1)		Prepared: 02/22/2016 Analyzed: 02/22/2016								
Specific Conductance (EC)	0.00300		mmhos/cm							
Duplicate (B6B2204-DUP1)		Source: X602220-05			Prepared: 02/22/2016 Analyzed: 02/22/2016					
Specific Conductance (EC)	0.0661		mmhos/cm		0.0668			1.05	25	

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Project Number: 014211290-
Project: KMG - Reynolds Cattle 6C-19Hz

Notes and Definitions

- Ua Sample is Non-Detect.
- U Result not detected above the detection limit
- O-04 This sample was analyzed outside the EPA recommended holding time.
- N Spiked sample recovery not within control limits
- 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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