

TABLE 1
GROUNDWATER ANALYTICAL AND FIELD RESULTS
HATCH UPRR 42-11 1
WELD COUNTY, COLORADO
KERR-MCGEE OIL & GAS ONSHORE, LP

Well Name	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Depth to Water/ (Product Thickness) (ft bgs)	Relative GW Elev. (ft)
COGCC Allowable Levels		5	560	700	1400		
GW01	2/12/2018	167	772	130	2,180	17	NM
MW01	7/2/2018	Not Sampled				14.96	82.64
	7/23/2018	Not Sampled				14.97	82.63
	10/5/2018	<1.00	<1.00	<1.00	<1.00	14.64	82.96
	1/23/2019	<1.00	<1.00	<1.00	<1.00	15.63	81.97
	4/16/2019	<1.00	<1.00	<1.00	<1.00	15.80	81.80
	7/22/2019	<1.00	<1.00	<1.00	<1.00	15.54	82.06
	10/30/2019	<1.00	<1.00	<1.00	<1.00	15.47	82.13
	1/13/2020	<1.00	<1.00	<1.00	<1.00	15.87	81.73
	4/6/2020	<1.00	<1.00	<1.00	<1.00	15.97	81.63
	7/28/2020	<4.00	<4.00	<4.00	<4.00	15.74	81.86
	10/12/2020	<1.00	<1.00	<1.00	<1.00	15.83	81.77
	1/4/2021	<1.00	<1.00	<1.00	<1.00	16.27	81.33
MW02	7/2/2018	Not Sampled				13.36	82.44
	7/23/2018	Not Sampled				13.37	82.43
	10/5/2018	510	<20.0	<20.0	241	13.44	82.36
	1/23/2019	556	18.4	19.9	1,400	13.93	81.87
	4/16/2019	154	<10.0	<10.0	1,100	14.25	81.55
	7/22/2019	239	<10.0	55.6	1,080	13.79	82.01
	10/30/2019	215	<1.00	26.8	268	13.66	82.14
	1/13/2020	141	<10.0	<10.0	785	14.18	81.62
	4/6/2020	63.9	<4.00	<4.00	629	14.08	81.72
	7/28/2020	29.6	<1.00	11.7	222	13.95	81.85
	10/12/2020	26.0	<4.00	20.0	642	14.21	81.59
	1/4/2021	13.3	<1.00	<1.00	691	14.56	81.24
MW03	7/2/2018	Not Sampled				12.26	82.27
	7/23/2018	Not Sampled				12.27	82.26
	10/5/2018	2,440	13,600	658	11,400	12.28	82.25
	1/23/2019	2,450	14,300	908	16,800	12.87	81.66
	4/16/2019	1,330	8,800	590	11,600	13.03	81.50
	7/22/2019	1,350	7,720	569	10,700	12.49	82.04
	10/30/2019	1,540	7,110	646	12,100	12.55	81.98
	1/13/2020	830	3,710	304	12,600	12.98	81.55
	4/6/2020	1,040	5,520	542	11,400	13.19	81.34
	7/28/2020	997	4,210	612	11,100	12.76	81.77
	10/12/2020	739	4,060	540	12,800	13.07	81.46
	1/4/2021	801	970	567	9,610	13.42	81.11



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COGCC Allowable Levels		5	560	700	1400		
MW04	7/2/2018	Not Sampled				14.95	82.64
	7/23/2018	Not Sampled				15.07	82.52
	10/5/2018	4.68	<4.00	203	2,860	15.13	82.46
	1/23/2019	5.59	6.27	248	2,780	15.54	82.05
	4/16/2019	<20.0	<20.0	222	1,990	15.78	81.81
	7/22/2019	<4.00	<4.00	206	1,530	15.25	82.34
	10/30/2019	3.05	2.33	268	1,550	15.29	82.30
	1/13/2020	<4.00	<4.00	122	<4.00	15.73	81.86
	4/6/2020	<4.00	<4.00	186	648	15.88	81.71
	7/28/2020	<1.00	<1.00	11.4	286	15.46	82.13
	10/12/2020	<1.00	<1.00	19.7	90.0	15.79	81.80
	1/4/2021	<1.00	<1.00	49.4	108	16.26	81.33
MW05	7/23/2018	<1.00	<1.00	<1.00	<1.00	13.45	82.22
	10/5/2018	<1.00	<1.00	<1.00	<1.00	13.51	82.16
	1/23/2019	<1.00	<1.00	<1.00	<1.00	13.99	81.68
	4/16/2019	<1.00	<1.00	<1.00	<1.00	13.96	81.71
	7/22/2019	<1.00	<1.00	<1.00	<1.00	13.62	82.05
	10/30/2019	<1.00	<1.00	<1.00	<1.00	13.63	82.04
	1/13/2020	<1.00	<1.00	<1.00	<1.00	14.11	81.56
	4/6/2020	<1.00	<1.00	<1.00	3.69	14.36	81.31
	7/28/2020	<1.00	<1.00	<1.00	<1.00	13.87	81.80
	10/12/2020	<1.00	<1.00	<1.00	<1.00	14.26	81.41
	1/4/2021	<1.00	<1.00	<1.00	<1.00	14.68	80.99
MW06	7/23/2018	3,200	<20.0	171	6,630	11.56	81.92
	10/5/2018	2,590	<20.0	27.8	4,160	10.59	82.89
	1/23/2019	1,210	1.47	123	2,580	12.12	81.36
	4/16/2019	1,190	<50.0	64.0	1,780	12.24	81.24
	7/22/2019	993	<20.0	82.0	1,940	11.72	81.76
	10/30/2019	846	<1.00	132	1,880	11.79	81.69
	1/13/2020	Frozen - Not Sampled				NM	NA
	2/28/2020	702	<50.0	86.5	1,750	8.91	81.06
	4/6/2020	790	<4.00	41.8	1,280	12.36	81.12
	7/28/2020	271	<10.0	63.5	842	12.06	81.42
	10/12/2020	330	<1.00	44.4	1,200	12.29	81.19
	1/4/2021	438	<1.00	7.19	1,540	12.80	80.68
MW07	7/23/2018	<1.00	<1.00	<1.00	<1.00	11.31	82.06

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COGCC Allowable Levels		5	560	700	1400		
	10/5/2018	<1.00	<1.00	<1.00	<1.00	11.39	81.98
	1/23/2019	<1.00	<1.00	<1.00	4.94	11.88	81.49
	4/16/2019	<1.00	<1.00	<1.00	<1.00	12.02	81.35
	7/22/2019	<1.00	<1.00	<1.00	<1.00	11.63	81.74
	10/30/2019	<1.00	<1.00	<1.00	<1.00	11.64	81.73
	1/13/2020	<1.00	<1.00	<1.00	<1.00	12.05	81.32
	4/6/2020	<1.00	<1.00	<1.00	<1.00	12.14	81.23
	7/28/2020	<1.00	<1.00	<1.00	<1.00	11.78	81.59
	10/12/2020	<1.00	<1.00	<1.00	<1.00	11.97	81.40
	1/4/2021	<1.00	<1.00	<1.00	<1.00	12.46	80.91
MW08	7/23/2018	<1.00	<1.00	<1.00	<1.00	13.32	82.35
	10/5/2018	<1.00	<1.00	<1.00	<1.00	13.33	82.34
	1/23/2019	<1.00	<1.00	<1.00	<1.00	13.85	81.82
	4/16/2019	<1.00	<1.00	<1.00	<1.00	14.07	81.60
	7/22/2019	<1.00	<1.00	<1.00	<1.00	13.73	81.94
	10/30/2019	<1.00	<1.00	<1.00	<1.00	13.65	82.02
	1/13/2020	<1.00	<1.00	<1.00	<1.00	14.06	81.61
	4/6/2020	<1.00	<1.00	<1.00	<1.00	15.21	80.46
	7/28/2020	<1.00	<1.00	<1.00	<1.00	13.81	81.86
	10/12/2020	<1.00	<1.00	<1.00	<1.00	13.97	81.70
	1/4/2021	<1.00	<1.00	<1.00	<1.00	14.48	81.19
MW09	7/23/2018	<1.00	<1.00	<1.00	<1.00	15.55	82.61
	10/5/2018	<1.00	<1.00	<1.00	<1.00	15.58	82.58
	1/23/2019	<1.00	<1.00	<1.00	<1.00	16.17	81.99
	4/16/2019	<1.00	<1.00	<1.00	<1.00	16.29	81.87
	7/22/2019	<1.00	<1.00	<1.00	<1.00	15.80	82.36
	10/30/2019	<1.00	<1.00	<1.00	<1.00	15.77	82.39
	1/13/2020	<1.00	<1.00	<1.00	<1.00	16.22	81.94
	4/6/2020	<1.00	<1.00	<1.00	<1.00	16.30	81.86
	7/28/2020	<1.00	<1.00	<1.00	<1.00	15.96	82.20
	10/12/2020	<1.00	<1.00	<1.00	<1.00	16.24	81.92
	1/4/2021	<1.00	<1.00	<1.00	<1.00	16.69	81.47
MW10	11/13/2019	<1.00	<1.00	<1.00	<1.00	14.05	81.70
	1/13/2020	<1.00	<1.00	<1.00	<1.00	14.57	81.18
	4/6/2020	<1.00	<1.00	<1.00	<1.00	14.69	81.06
	7/28/2020	<1.00	<1.00	<1.00	<1.00	14.33	81.42
	10/12/2020	<1.00	<1.00	<1.00	<1.00	14.70	81.05

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COGCC Allowable Levels		5	560	700	1400		
	1/4/2021	<1.00	<1.00	<1.00	<1.00	15.08	80.67
MW11	11/13/2019	<1.00	<1.00	<1.00	<1.00	12.06	81.35
	1/13/2020	<1.00	<1.00	<1.00	<1.00	12.40	81.01
	4/6/2020	<1.00	<1.00	<1.00	<1.00	12.58	80.83
	7/28/2020	<1.00	<1.00	<1.00	<1.00	12.21	81.20
	10/12/2020	<1.00	<1.00	<1.00	<1.00	12.62	80.79
	1/4/2021	<1.00	<1.00	<1.00	<1.00	12.96	80.45
MW12	11/13/2019	<1.00	<1.00	<1.00	<1.00	11.75	81.32
	1/13/2020	<1.00	<1.00	<1.00	<1.00	12.03	81.04
	4/6/2020	<1.00	<1.00	<1.00	<1.00	12.01	81.06
	7/28/2020	<1.00	<1.00	<1.00	<1.00	11.82	81.25
	10/12/2020	<1.00	<1.00	<1.00	<1.00	12.60	80.47
	1/4/2021	<1.00	<1.00	<1.00	<1.00	12.69	80.38

Notes: COGCC - Colorado Oil and Gas Conservation Commission

µg/L - micrograms per liter

ft bgs - feet below ground surface

< - less than laboratory reporting limit

NA - not analyzed/not available

Excavation groundwater depth is approximate

NM - not measured

Corrected Relative GW Elev. is used when LNAPL is present.

BOLD = Analytical result is in exceedance of COGCC Table 910-1 groundwater standards.



March 04, 2020

LT Environmental, Inc.

Brian Sulzberger

4600 West 60th Avenue

Arvada

CO 80003

Project Name - KMG - Hatch UPRR 42-11 #1

Project Number - 014218028/WO #894941

Attached are your analytical results for KMG - Hatch UPRR 42-11 #1 received by Origins Laboratory, Inc. February 28, 2020. This project is associated with Origins project number Y002434-01.

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

Brian Sulzberger

Project Number: 014218028/WO #89494143

Project: KMG - Hatch UPRR 42-11 #1

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW06	Y002434-01	Water	February 28, 2020 10:25	02/28/2020 15:01

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.

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

Brian Sulzberger
Project Number: 014218028/WO #89494143
Project: KMG - Hatch UPRR 42-11 #1

www.originslaboratory.com

ORIGINS

LABORATORY, INC

page | of |

402434

Client: LT Environmental Inc
Address: 4600 W 60th Ave, Arvada, CO
80003
Telephone Number: 303-433-9788
Email Address: KMG Group
Project Manager: Brian Sulzberger
Project Name: Hatch UPRR 42-11 #1
Project Number: 014218028
Samples Collected By: TC

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

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis		Sample Instructions
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summa Canister #	Other		
MW06	08/08/02	1025	3	X				X				BTEX	1
													2
													3
													4
													5
													6
													7
													8
													9
													10
Relinquished By: <i>Joylea</i>	Date: 08/08/02	Time: 1501	Received By: <i>[Signature]</i>	Date: 2-25-20	Time: 1501	Turnaround Time: Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/> Standard <input checked="" type="checkbox"/>							
Relinquished By:	Date:	Time:	Received By:	Date:	Time:								

Temp Received- 3.1 Date Results Needed

Origins Laboratory, Inc.

Jefe Pellegrini

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

Brian Sulzberger
Project Number: 014218028/WO #89494143
Project: KMG - Hatch UPRR 42-11 #1

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

Sample Receipt Checklist

Origins Work Order: 4002434 Client: LTE
Client Project ID: KMG-Hatch

Checklist Completed by: JP Shipped Via: HD
Date/time completed: 2/28/20 (UPS, FedEx, Hand Delivered, Pick-up, etc.)
Airbill #: NA


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

Cooler Number/Temperature: 1 / 3.1 °C _____ / _____ °C _____ / _____ °C (Describe) _____ °C

Thermometer ID: TCB

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

03-02-20 0743
 Date/Time Reviewed

Origins Laboratory, Inc.

Jefe Pellegrini

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

Brian Sulzberger
Project Number: 014218028/WO #89494143
Project: KMG - Hatch UPRR 42-11 #1

MW06

2/28/2020 10:25:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y002434-01 (Water)

BTEX by EPA 8260D

Benzene	702	50.0	ug/L	50	B0B2811	KDK	02/28/2020	03/03/2020	
Toluene	ND	50.0	"	"	"	KDK	"	"	U
Ethylbenzene	86.5	50.0	"	"	"	KDK	"	"	
Xylenes, total	1750	50.0	"	"	"	KDK	"	"	

Surrogate: 1,2-Dichloroethane-d4	91.8 %	70-130			"	"	"	"
Surrogate: Toluene-d8	96.1 %	70-130			"	"	"	"
Surrogate: 4-Bromofluorobenzene	103 %	70-130			"	"	"	"

Origins Laboratory, Inc.



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

Brian Sulzberger
Project Number: 014218028/WO #89494143
Project: KMG - Hatch UPRR 42-11 #1

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B0B2811 - EPA 5030B (Water)										
Blank (B0B2811-BLK1)					Prepared: 02/28/2020 Analyzed: 03/03/2020					
Benzene	ND	1.00	ug/L							U
Toluene	ND	1.00	"							U
Ethylbenzene	ND	1.00	"							U
Xylenes, total	ND	1.00	"							U
Surrogate: 1,2-Dichloroethane-d4	60		"	62.5		95.9	70-130			
Surrogate: Toluene-d8	59		"	62.5		94.1	70-130			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	70-130			

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Brian Sulzberger
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Volatile Organic Compounds by GC/MS SW846 8260D - 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 B0B2811 - EPA 5030B (Water)

LCS (B0B2811-BS1)

Prepared: 02/28/2020 Analyzed: 03/03/2020

Benzene	52.4	1.00	ug/L	50.0		105	70-130			
Toluene	54.9	1.00	"	50.0		110	70-130			
Ethylbenzene	55.7	1.00	"	50.0		111	70-130			
m,p-Xylene	112	2.00	"	100		112	70-130			
o-Xylene	59.4	1.00	"	50.0		119	70-130			
Surrogate: 1,2-Dichloroethane-d4	57		"	62.5		91.4	70-130			
Surrogate: Toluene-d8	64		"	62.5		102	70-130			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.8	70-130			

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Project: KMG - Hatch UPRR 42-11 #1

Volatile Organic Compounds by GC/MS SW846 8260D - 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 B0B2811 - EPA 5030B (Water)

Matrix Spike (B0B2811-MS1)		Source: Y002433-01			Prepared: 02/28/2020 Analyzed: 03/03/2020					
Benzene	58.8	1.00	ug/L	50.0	10.9	95.8	70-130			
Toluene	117	1.00	"	50.0	78.2	77.7	70-130			
Ethylbenzene	188	1.00	"	50.0	153	69.7	70-130			QM-07
m,p-Xylene	503	2.00	"	100	2720	NR	70-130			QM-07
o-Xylene	314	1.00	"	50.0	540	NR	70-130			QM-07
Surrogate: 1,2-Dichloroethane-d4	55		"	62.5		87.3	70-130			
Surrogate: Toluene-d8	64		"	62.5		102	70-130			
Surrogate: 4-Bromofluorobenzene	68		"	62.5		108	70-130			

Origins Laboratory, Inc.



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

Brian Sulzberger
Project Number: 014218028/WO #89494143
Project: KMG - Hatch UPRR 42-11 #1

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B0B2811 - EPA 5030B (Water)										
Matrix Spike Dup (B0B2811-MSD1)		Source: Y002433-01			Prepared: 02/28/2020 Analyzed: 03/03/2020					
Benzene	61.7	1.00	ug/L	50.0	10.9	102	70-130	4.78	20	
Toluene	121	1.00	"	50.0	78.2	85.7	70-130	3.33	20	
Ethylbenzene	191	1.00	"	50.0	153	76.0	70-130	1.66	20	
m,p-Xylene	501	2.00	"	100	2720	NR	70-130	0.211	20	QM-07
o-Xylene	318	1.00	"	50.0	540	NR	70-130	1.47	20	QM-07
Surrogate: 1,2-Dichloroethane-d4	53		"	62.5		85.4	70-130			
Surrogate: Toluene-d8	63		"	62.5		100	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: 014218028/WO #89494143
Project: KMG - Hatch UPRR 42-11 #1

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.



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.



April 13, 2020

LT Environmental, Inc.

Brian Sulzberger

4600 West 60th Avenue

Arvada

CO 80003

Project Name - KMG - Hatch UPRR 42-11 #1

Project Number - 014218028/WO #894941

Attached are your analytical results for KMG - Hatch UPRR 42-11 #1 received by Origins Laboratory, Inc. April 06, 2020. This project is associated with Origins project number Y004102-01.

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

Brian Sulzberger
Project Number: 014218028/WO #89494143
Project: KMG - Hatch UPRR 42-11 #1

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW01	Y004102-01	Water	April 6, 2020 12:15	04/06/2020 15:22
MW02	Y004102-02	Water	April 6, 2020 12:21	04/06/2020 15:22
MW03	Y004102-03	Water	April 6, 2020 12:29	04/06/2020 15:22
MW04	Y004102-04	Water	April 6, 2020 12:36	04/06/2020 15:22
MW05	Y004102-05	Water	April 6, 2020 12:44	04/06/2020 15:22
MW06	Y004102-06	Water	April 6, 2020 12:55	04/06/2020 15:22
MW07	Y004102-07	Water	April 6, 2020 12:59	04/06/2020 15:22
MW08	Y004102-08	Water	April 6, 2020 13:06	04/06/2020 15:22
MW09	Y004102-09	Water	April 6, 2020 13:11	04/06/2020 15:22
MW10	Y004102-10	Water	April 6, 2020 13:18	04/06/2020 15:22
MW11	Y004102-11	Water	April 6, 2020 13:25	04/06/2020 15:22
MW12	Y004102-12	Water	April 6, 2020 13:34	04/06/2020 15:22

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.

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

Brian Sulzberger
Project Number: 014218028/WO #89494143
Project: KMG - Hatch UPRR 42-11 #1

ORIGINS
LABORATORY, INC

7004102

1725 Elk Place, Denver, CO 80211
Laboratory # - 303.433.1322

Client: LT Environmental, Inc.			Project Manager: Brian Sulzberger				
Project: KMG - Hatch UPRR 42-11 #1			Project Number: 014218028/WO #89494143				
Number	Sample Identification	Matrix	Sample Date	Sample Time	Container	Qty	Analyses
01-001	MW01	Water	04/06/20	1215	7C	3	BTEX by EPA 8260C
02-001	MW02	Water		1231		3	BTEX by EPA 8260C
03-001	MW03	Water		1239		3	BTEX by EPA 8260C
04-001	MW04	Water		1236		3	BTEX by EPA 8260C
05-001	MW05	Water		1244		3	BTEX by EPA 8260C
06-001	MW06	Water		1255		3	BTEX by EPA 8260C
07-001	MW07	Water		1259		3	BTEX by EPA 8260C
08-001	MW08	Water		1306		3	BTEX by EPA 8260C
09-001	MW09	Water		1311		3	BTEX by EPA 8260C
10-001	MW10	Water		1318		3	BTEX by EPA 8260C
11-001	MW11	Water		1325		3	BTEX by EPA 8260C

Temperature on Receipt: 14.5
Turn Around Time: 72-hr ☐ Standard ☒

Relinquished By: [Signature] Date / Time: 4/16/20 1522
Received By: [Signature] Date / Time: 4/16/20 1522

Relinquished By: [Signature] Date / Time: 04/06/20 1522
Received By: [Signature] Date / Time: 04/06/20 1522

Origins Laboratory, Inc.

Jefe 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.

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

Brian Sulzberger
Project Number: 014218028/WO #89494143
Project: KMG - Hatch UPRR 42-11 #1

ORIGINS
LABORATORY, INC

7004102

1725 Elk Place, Denver, CO 80211
Laboratory # - 303.433.1322

12-001	MM12	Water	04/16/20	1334	TC	-40mL Clear Vial Cool to 4°	3	BTEX by EPA 8260C
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Relinquished By [Signature] Date / Time 04/16/20 1500
Received By _____ Date / Time _____

Relinquished By [Signature] Date / Time 4/16/20 1522
Received By [Signature] Date / Time _____

Temperature on Receipt: 4.5
Turn Around Time:
Same Day ☐ 72-hr ☐
24-hr ☐ Standard ☒

Origins Laboratory, Inc.

Jefe 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.

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

Brian Sulzberger
Project Number: 014218028/WO #89494143
Project: KMG - Hatch UPRR 42-11 #1

Origins Laboratory

Origins Work Order: Y004102

Checklist Completed by: JG

Date/time completed: 4/7/2020

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

Cooler Number/Temperature: 1 / 14.5 °C 1 / 1 °C 1 / 1 °C (Describe)

Thermometer ID: T003

Sample Receipt Checklist

Client: LTE

Client Project ID: Hatch UPRR 42-11 #1

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

Airbill #: N/A

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

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

4-8-20
Date/Time Reviewed

Origins Laboratory, Inc.

Jefe 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.

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

Brian Sulzberger
Project Number: 014218028/WO #89494143
Project: KMG - Hatch UPRR 42-11 #1

MW01

4/6/2020 12:15:00PM

Analyte	Result	Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y004102-01 (Water)

BTEX by EPA 8260D

Benzene	ND	1.00	ug/L	1	B0D0801	ZZZ	04/08/2020	04/08/2020	U
Toluene	ND	1.00	"	"	"	ZZZ	"	"	U
Ethylbenzene	ND	1.00	"	"	"	ZZZ	"	"	U
Xylenes, total	ND	1.00	"	"	"	ZZZ	"	"	U

Surrogate: 1,2-Dichloroethane-d4
Surrogate: Toluene-d8
Surrogate: 4-Bromofluorobenzene

101 % 70-130
96.1 % 70-130
104 % 70-130

" " "
" " "
" " "

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.

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

Brian Sulzberger
Project Number: 014218028/WO #89494143
Project: KMG - Hatch UPRR 42-11 #1

MW02

4/6/2020 12:21:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y004102-02 (Water)

BTEX by EPA 8260D

Benzene	63.9	4.00	ug/L	4	B0D0801	ZZZ	04/08/2020	04/08/2020	
Toluene	ND	4.00	"	"	"	ZZZ	"	"	U
Ethylbenzene	ND	4.00	"	"	"	ZZZ	"	"	U
Xylenes, total	629	4.00	"	"	"	ZZZ	"	"	

Surrogate: 1,2-Dichloroethane-d4	102 %	70-130			"	"	"	
Surrogate: Toluene-d8	96.2 %	70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	104 %	70-130			"	"	"	

Origins Laboratory, Inc.



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

Brian Sulzberger
Project Number: 014218028/WO #89494143
Project: KMG - Hatch UPRR 42-11 #1

MW03

4/6/2020 12:29:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y004102-03 (Water)

BTEX by EPA 8260D

Benzene	1040	50.0	ug/L	50	B0D0801	KDK	04/08/2020	04/09/2020
Toluene	5520	50.0	"	"	"	KDK	"	"
Ethylbenzene	542	50.0	"	"	"	KDK	"	"
Xylenes, total	11400	50.0	"	"	"	KDK	"	"

Surrogate: 1,2-Dichloroethane-d4	97.8 %	70-130			"	"	04/08/2020
Surrogate: Toluene-d8	115 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	94.5 %	70-130			"	"	"

Origins Laboratory, Inc.



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

Brian Sulzberger
Project Number: 014218028/WO #89494143
Project: KMG - Hatch UPRR 42-11 #1

MW04

4/6/2020 12:36:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y004102-04 (Water)

BTEX by EPA 8260D

Benzene	ND	4.00	ug/L	4	B0D0801	KDK	04/08/2020	04/09/2020	U
Toluene	ND	4.00	"	"	"	KDK	"	"	U
Ethylbenzene	186	4.00	"	"	"	KDK	"	"	
Xylenes, total	648	4.00	"	"	"	KDK	"	"	

Surrogate: 1,2-Dichloroethane-d4	100 %	70-130			"	"	04/08/2020
Surrogate: Toluene-d8	106 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	100 %	70-130			"	"	"

Origins Laboratory, Inc.



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

Brian Sulzberger
Project Number: 014218028/WO #89494143
Project: KMG - Hatch UPRR 42-11 #1

MW05

4/6/2020 12:44:00PM

Analyte	Result	Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y004102-05 (Water)

BTEX by EPA 8260D

Benzene	ND	1.00	ug/L	1	B0D0801	ZZZ	04/08/2020	04/08/2020	U
Toluene	ND	1.00	"	"	"	ZZZ	"	"	U
Ethylbenzene	ND	1.00	"	"	"	ZZZ	"	"	U
Xylenes, total	3.69	1.00	"	"	"	ZZZ	"	"	

Surrogate: 1,2-Dichloroethane-d4
Surrogate: Toluene-d8
Surrogate: 4-Bromofluorobenzene

102 % 70-130 " "
95.1 % 70-130 " "
102 % 70-130 " "

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.

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

Brian Sulzberger
Project Number: 014218028/WO #89494143
Project: KMG - Hatch UPRR 42-11 #1

MW06

4/6/2020 12:55:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y004102-06 (Water)

BTEX by EPA 8260D

Benzene	790	4.00	ug/L	4	B0D0801	ZZZ	04/08/2020	04/08/2020	
Toluene	ND	4.00	"	"	"	ZZZ	"	"	U
Ethylbenzene	41.8	4.00	"	"	"	ZZZ	"	"	
Xylenes, total	1280	4.00	"	"	"	ZZZ	"	"	

Surrogate: 1,2-Dichloroethane-d4	101 %	70-130			"	"	"	
Surrogate: Toluene-d8	94.6 %	70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	105 %	70-130			"	"	"	

Origins Laboratory, Inc.



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

Brian Sulzberger
Project Number: 014218028/WO #89494143
Project: KMG - Hatch UPRR 42-11 #1

MW07

4/6/2020 12:59:00PM

Analyte	Result	Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y004102-07 (Water)

BTEX by EPA 8260D

Benzene	ND	1.00	ug/L	1	B0D0801	ZZZ	04/08/2020	04/08/2020	U
Toluene	ND	1.00	"	"	"	ZZZ	"	"	U
Ethylbenzene	ND	1.00	"	"	"	ZZZ	"	"	U
Xylenes, total	ND	1.00	"	"	"	ZZZ	"	"	U

Surrogate: 1,2-Dichloroethane-d4
Surrogate: Toluene-d8
Surrogate: 4-Bromofluorobenzene

101 % 70-130
97.7 % 70-130
105 % 70-130

" " "
" " "
" " "

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.

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

Brian Sulzberger
Project Number: 014218028/WO #89494143
Project: KMG - Hatch UPRR 42-11 #1

MW08

4/6/2020 1:06:00PM

Analyte	Result	Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y004102-08 (Water)

BTEX by EPA 8260D

Benzene	ND	1.00	ug/L	1	B0D0801	ZZZ	04/08/2020	04/08/2020	U
Toluene	ND	1.00	"	"	"	ZZZ	"	"	U
Ethylbenzene	ND	1.00	"	"	"	ZZZ	"	"	U
Xylenes, total	ND	1.00	"	"	"	ZZZ	"	"	U

Surrogate: 1,2-Dichloroethane-d4	103 %	70-130	"	"	"
Surrogate: Toluene-d8	95.3 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	104 %	70-130	"	"	"

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.

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

Brian Sulzberger
Project Number: 014218028/WO #89494143
Project: KMG - Hatch UPRR 42-11 #1

MW09

4/6/2020 1:11:00PM

Analyte	Result	Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y004102-09 (Water)

BTEX by EPA 8260D

Benzene	ND	1.00	ug/L	1	B0D0801	ZZZ	04/08/2020	04/08/2020	U
Toluene	ND	1.00	"	"	"	ZZZ	"	"	U
Ethylbenzene	ND	1.00	"	"	"	ZZZ	"	"	U
Xylenes, total	ND	1.00	"	"	"	ZZZ	"	"	U

Surrogate: 1,2-Dichloroethane-d4	102 %	70-130	"	"	"
Surrogate: Toluene-d8	98.4 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	101 %	70-130	"	"	"

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.

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

Brian Sulzberger
Project Number: 014218028/WO #89494143
Project: KMG - Hatch UPRR 42-11 #1

MW10

4/6/2020 1:18:00PM

Analyte	Result	Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y004102-10 (Water)

BTEX by EPA 8260D

Benzene	ND	1.00	ug/L	1	B0D0801	ZZZ	04/08/2020	04/08/2020	U
Toluene	ND	1.00	"	"	"	ZZZ	"	"	U
Ethylbenzene	ND	1.00	"	"	"	ZZZ	"	"	U
Xylenes, total	ND	1.00	"	"	"	ZZZ	"	"	U

Surrogate: 1,2-Dichloroethane-d4	103 %	70-130			"	"	"
Surrogate: Toluene-d8	95.6 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	102 %	70-130			"	"	"

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.

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

Brian Sulzberger
Project Number: 014218028/WO #89494143
Project: KMG - Hatch UPRR 42-11 #1

MW11

4/6/2020 1:25:00PM

Analyte	Result	Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y004102-11 (Water)

BTEX by EPA 8260D

Benzene	ND	1.00	ug/L	1	B0D0801	ZZZ	04/08/2020	04/08/2020	U
Toluene	ND	1.00	"	"	"	ZZZ	"	"	U
Ethylbenzene	ND	1.00	"	"	"	ZZZ	"	"	U
Xylenes, total	ND	1.00	"	"	"	ZZZ	"	"	U

Surrogate: 1,2-Dichloroethane-d4	104 %	70-130	"	"	"
Surrogate: Toluene-d8	95.1 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	105 %	70-130	"	"	"

Origins Laboratory, Inc.



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

Brian Sulzberger
Project Number: 014218028/WO #89494143
Project: KMG - Hatch UPRR 42-11 #1

MW12

4/6/2020 1:34:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y004102-12 (Water)

BTEX by EPA 8260D

Benzene	ND	1.00	ug/L	1	B0D0801	ZZZ	04/08/2020	04/08/2020	U
Toluene	ND	1.00	"	"	"	ZZZ	"	"	U
Ethylbenzene	ND	1.00	"	"	"	ZZZ	"	"	U
Xylenes, total	ND	1.00	"	"	"	ZZZ	"	"	U

Surrogate: 1,2-Dichloroethane-d4	103 %	70-130			"	"	"
Surrogate: Toluene-d8	95.8 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	104 %	70-130			"	"	"

Origins Laboratory, Inc.



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

Brian Sulzberger
Project Number: 014218028/WO #89494143
Project: KMG - Hatch UPRR 42-11 #1

Volatile Organic Compounds by GC/MS SW846 8260D - 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 B0D0801 - EPA 5030B (Water)

Blank (B0D0801-BLK1)

Prepared: 04/08/2020 Analyzed: 04/08/2020

Benzene	ND	1.00	ug/L							U
Toluene	ND	1.00	"							U
Ethylbenzene	ND	1.00	"							U
Xylenes, total	ND	1.00	"							U
Surrogate: 1,2-Dichloroethane-d4	64		"	62.5	102		70-130			
Surrogate: Toluene-d8	60		"	62.5	96.3		70-130			
Surrogate: 4-Bromofluorobenzene	64		"	62.5	102		70-130			

Origins Laboratory, Inc.



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

Brian Sulzberger
Project Number: 014218028/WO #89494143
Project: KMG - Hatch UPRR 42-11 #1

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B0D0801 - EPA 5030B (Water)										
LCS (B0D0801-BS1)					Prepared: 04/08/2020 Analyzed: 04/08/2020					
Benzene	50.2	1.00	ug/L	50.0		100	70-130			
Toluene	46.6	1.00	"	50.0		93.1	70-130			
Ethylbenzene	49.8	1.00	"	50.0		99.7	70-130			
m,p-Xylene	96.4	2.00	"	100		96.4	70-130			
o-Xylene	46.7	1.00	"	50.0		93.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	68		"	62.5		109	70-130			
Surrogate: Toluene-d8	61		"	62.5		96.9	70-130			
Surrogate: 4-Bromofluorobenzene	64		"	62.5		103	70-130			

Origins Laboratory, Inc.



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

Brian Sulzberger
Project Number: 014218028/WO #89494143
Project: KMG - Hatch UPRR 42-11 #1

Volatile Organic Compounds by GC/MS SW846 8260D - 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 B0D0801 - EPA 5030B (Water)

Matrix Spike (B0D0801-MS1)		Source: Y004102-07			Prepared: 04/08/2020 Analyzed: 04/08/2020					
Benzene	52.1	1.00	ug/L	50.0	ND	104	70-130			
Toluene	50.1	1.00	"	50.0	ND	100	70-130			
Ethylbenzene	53.0	1.00	"	50.0	ND	106	70-130			
m,p-Xylene	102	2.00	"	100	1.76	100	70-130			
o-Xylene	50.2	1.00	"	50.0	ND	100	70-130			
Surrogate: 1,2-Dichloroethane-d4	67		"	62.5		108	70-130			
Surrogate: Toluene-d8	63		"	62.5		100	70-130			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	70-130			

Origins Laboratory, Inc.



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

Brian Sulzberger
Project Number: 014218028/WO #89494143
Project: KMG - Hatch UPRR 42-11 #1

Volatile Organic Compounds by GC/MS SW846 8260D - 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 B0D0801 - EPA 5030B (Water)

Matrix Spike Dup (B0D0801-MSD1)		Source: Y004102-07			Prepared: 04/08/2020 Analyzed: 04/08/2020					
Benzene	51.0	1.00	ug/L	50.0	ND	102	70-130	2.10	20	
Toluene	49.3	1.00	"	50.0	ND	98.5	70-130	1.71	20	
Ethylbenzene	51.9	1.00	"	50.0	ND	104	70-130	1.98	20	
m,p-Xylene	101	2.00	"	100	1.76	99.2	70-130	1.18	20	
o-Xylene	50.1	1.00	"	50.0	ND	100	70-130	0.160	20	
Surrogate: 1,2-Dichloroethane-d4	59		"	62.5		93.8	70-130			
Surrogate: Toluene-d8	63		"	62.5		101	70-130			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		98.8	70-130			

Origins Laboratory, Inc.



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

Brian Sulzberger
Project Number: 014218028/WO #89494143
Project: KMG - Hatch UPRR 42-11 #1

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.



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



August 04, 2020

LT Environmental, Inc.

Brian Sulzberger

4600 West 60th Avenue

Arvada

CO 80003

Project Name - KMG - Hatch UPRR 42-11 #1

Project Number - 014218028/WO #894941

Attached are your analytical results for KMG - Hatch UPRR 42-11 #1 received by Origins Laboratory, Inc. July 28, 2020. This project is associated with Origins project number Y007406-01.

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

Brian Sulzberger
Project Number: 014218028/WO #89494143
Project: KMG - Hatch UPRR 42-11 #1

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW01	Y007406-01	Water	July 28, 2020 12:45	07/28/2020 15:20
MW02	Y007406-02	Water	July 28, 2020 12:52	07/28/2020 15:20
MW03	Y007406-03	Water	July 28, 2020 12:15	07/28/2020 15:20
MW04	Y007406-04	Water	July 28, 2020 12:32	07/28/2020 15:20
MW05	Y007406-05	Water	July 28, 2020 12:26	07/28/2020 15:20
MW06	Y007406-06	Water	July 28, 2020 13:35	07/28/2020 15:20
MW07	Y007406-07	Water	July 28, 2020 13:13	07/28/2020 15:20
MW08	Y007406-08	Water	July 28, 2020 12:59	07/28/2020 15:20
MW09	Y007406-09	Water	July 28, 2020 12:38	07/28/2020 15:20
MW10	Y007406-10	Water	July 28, 2020 13:42	07/28/2020 15:20
MW11	Y007406-11	Water	July 28, 2020 13:28	07/28/2020 15:20
MW12	Y007406-12	Water	July 28, 2020 13:20	07/28/2020 15:20

Origins Laboratory, Inc.



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

Brian Sulzberger
Project Number: 014218028/WO #89494143
Project: KMG - Hatch UPRR 42-11 #1

ORIGINS
LABORATORY, INC

1725 Elk Place, Denver, CO 80211
Laboratory # - 303.433.1322

Project Manager: Brian Sulzberger
Project Number: 014218028/WO #89494143

Client	Sample Identification	Matrix	Sample Date	Sample Time	Container	Qty	Analysis
LT Environmental, Inc.	MW01	Water	7/28/20	1245	40mL Clear Vial Cool to 4°	3	BTEX by EPA 8250C
Project: KMG - Hatch UPRR 42-11 #1	MW02	Water		1252	40mL Clear Vial Cool to 4°	3	BTEX by EPA 8250C
	MW03	Water		1215	40mL Clear Vial Cool to 4°	3	BTEX by EPA 8250C
	MW04	Water		1232	40mL Clear Vial Cool to 4°	3	BTEX by EPA 8250C
	MW05	Water		1226	40mL Clear Vial Cool to 4°	3	BTEX by EPA 8250C
	MW06	Water		1335	40mL Clear Vial Cool to 4°	3	BTEX by EPA 8250C
	MW07	Water		1313	40mL Clear Vial Cool to 4°	3	BTEX by EPA 8250C
	MW08	Water		1259	40mL Clear Vial Cool to 4°	3	BTEX by EPA 8250C
	MW09	Water		1238	40mL Clear Vial Cool to 4°	3	BTEX by EPA 8250C
	MW10	Water		1342	40mL Clear Vial Cool to 4°	3	BTEX by EPA 8250C
	MW11	Water		1328	40mL Clear Vial Cool to 4°	3	BTEX by EPA 8250C

Relinquished By: *Kyle Patton* 7/28/20 1520

Received By: *[Signature]* 7/28/20 1520

Relinquished By: _____ Date: / /

Received By: _____ Date: / /

Temperature on Receipt: 11.1

Turn Around Time: ☐ 24-hr ☒ 72-hr ☐ Standard

Origins Laboratory, Inc.

Jordan A. Merrill

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: 014218028/WO #89494143
Project: KMG - Hatch UPRR 42-11 #1

2 of 2

ORIGINS
LABORATORY, INC

1725 Elk Place, Denver, CO 80211
Laboratory # - 303.433.1322

12-001	MMY12	Water	7/28/20	1320	Km	3	BTEX by EPA 8250C
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40mL Clear Vial Cool to 4°

Relinquished By: Kyle Mathis Date / Time: 7/28/20 1529

Received By: [Signature] Date / Time: 7-28-20 1520

Temperature on Receipt: 11.1

Turn Around Time: ☐ Same Day ☐ 72-hr ☒ Standard

☐ 24-hr ☐ 48-hr

Origins Laboratory, Inc.

Jordan A. Merrill

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

Brian Sulzberger
Project Number: 014218028/WO #89494143
Project: KMG - Hatch UPRR 42-11 #1

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: 1007406 Client: LTE
Client Project ID: Hatch UPRR 42-11 #1

Checklist Completed by: JG Shipped Via: HD
Date/Time Completed: 7/18/20 (UPS, FedEx, Hand Delivered, Pick-up, etc.)
Airbill #: N/A

Matrix(s) Received: (Check all that apply): Soil/Solid ☒ Water ☐ Other: _____
Cooler Number/Temperature: 1, 11.1 °C _____ °C (Describe) _____ °C
Thermometer ID: T003

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 5°C ⁽¹⁾ ?		<input checked="" type="checkbox"/>		<u>Same Day</u>
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?		<input checked="" type="checkbox"/>		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.		<input checked="" type="checkbox"/>		
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity) / pH < 2 for samples preserved with HNO ₃ , HCL, H ₂ SO ₄ / (pH > 10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)		<input checked="" type="checkbox"/>		
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): [Signature] Date/Time Reviewed: 07.29.2020

Origins Laboratory, Inc.

[Signature]

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

Brian Sulzberger
Project Number: 014218028/WO #89494143
Project: KMG - Hatch UPRR 42-11 #1

MW01

7/28/2020 12:45:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y007406-01 (Water)

BTEX by EPA 8260D

Benzene	ND	4.00	ug/L	4	B0G2901	ZZZ	07/29/2020	07/29/2020	U
Toluene	ND	4.00	"	"	"	ZZZ	"	"	U
Ethylbenzene	ND	4.00	"	"	"	ZZZ	"	"	U
Xylenes, total	ND	4.00	"	"	"	ZZZ	"	"	U

Surrogate: 1,2-Dichloroethane-d4	99.2 %	70-130	"	"	"
Surrogate: Toluene-d8	98.8 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	98.2 %	70-130	"	"	"

Origins Laboratory, Inc.



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

Brian Sulzberger
Project Number: 014218028/WO #89494143
Project: KMG - Hatch UPRR 42-11 #1

MW02

7/28/2020 12:52:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y007406-02 (Water)

BTEX by EPA 8260D

Benzene	29.6	1.00	ug/L	1	B0G2901	ZZZ	07/29/2020	07/29/2020	
Toluene	ND	1.00	"	"	"	ZZZ	"	"	U
Ethylbenzene	11.7	1.00	"	"	"	ZZZ	"	"	
Xylenes, total	222	1.00	"	"	"	ZZZ	"	"	

Surrogate: 1,2-Dichloroethane-d4	97.0 %	70-130			"	"	"	
Surrogate: Toluene-d8	98.4 %	70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	98.9 %	70-130			"	"	"	

Origins Laboratory, Inc.



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

Brian Sulzberger
Project Number: 014218028/WO #89494143
Project: KMG - Hatch UPRR 42-11 #1

MW03

7/28/2020 12:15:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y007406-03 (Water)

BTEX by EPA 8260D

Benzene	997	10.0	ug/L	10	B0G2901	ZZZ	07/29/2020	07/29/2020
Toluene	4210	50.0	"	50	"	ZZZ	"	07/30/2020
Ethylbenzene	612	10.0	"	10	"	ZZZ	"	07/29/2020
Xylenes, total	11100	50.0	"	50	"	ZZZ	"	07/30/2020

Surrogate: 1,2-Dichloroethane-d4	95.1 %	70-130			"	"	07/29/2020
Surrogate: Toluene-d8	102 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	98.8 %	70-130			"	"	"

Origins Laboratory, Inc.



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

Brian Sulzberger
Project Number: 014218028/WO #89494143
Project: KMG - Hatch UPRR 42-11 #1

MW04

7/28/2020 12:32:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y007406-04 (Water)

BTEX by EPA 8260D

Benzene	ND	1.00	ug/L	1	B0G2901	ZZZ	07/29/2020	07/29/2020	U
Toluene	ND	1.00	"	"	"	ZZZ	"	07/30/2020	U
Ethylbenzene	11.4	1.00	"	"	"	ZZZ	"	"	
Xylenes, total	286	1.00	"	"	"	ZZZ	"	"	

Surrogate: 1,2-Dichloroethane-d4	97.0 %	70-130			"	"	07/29/2020
Surrogate: Toluene-d8	98.3 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	102 %	70-130			"	"	"

Origins Laboratory, Inc.



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

Brian Sulzberger
Project Number: 014218028/WO #89494143
Project: KMG - Hatch UPRR 42-11 #1

MW05

7/28/2020 12:26:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y007406-05 (Water)

BTEX by EPA 8260D

Benzene	ND	1.00	ug/L	1	B0G2901	ZZZ	07/29/2020	07/29/2020	U
Toluene	ND	1.00	"	"	"	ZZZ	"	"	U
Ethylbenzene	ND	1.00	"	"	"	ZZZ	"	"	U
Xylenes, total	ND	1.00	"	"	"	ZZZ	"	"	U

Surrogate: 1,2-Dichloroethane-d4	98.6 %	70-130	"	"	"
Surrogate: Toluene-d8	97.6 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	99.0 %	70-130	"	"	"

Origins Laboratory, Inc.



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

Brian Sulzberger
Project Number: 014218028/WO #89494143
Project: KMG - Hatch UPRR 42-11 #1

MW06

7/28/2020 1:35:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y007406-06 (Water)

BTEX by EPA 8260D

Benzene	271	10.0	ug/L	10	B0G2901	ZZZ	07/29/2020	07/30/2020	
Toluene	ND	10.0	"	"	"	ZZZ	"	"	U
Ethylbenzene	63.5	10.0	"	"	"	ZZZ	"	"	
Xylenes, total	842	10.0	"	"	"	ZZZ	"	"	

Surrogate: 1,2-Dichloroethane-d4	94.6 %	70-130			"	"	"	
Surrogate: Toluene-d8	96.9 %	70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	101 %	70-130			"	"	"	

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.

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

Brian Sulzberger
Project Number: 014218028/WO #89494143
Project: KMG - Hatch UPRR 42-11 #1

MW07

7/28/2020 1:13:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y007406-07 (Water)

BTEX by EPA 8260D

Benzene	ND	1.00	ug/L	1	B0G2901	ZZZ	07/29/2020	07/30/2020	U
Toluene	ND	1.00	"	"	"	ZZZ	"	"	U
Ethylbenzene	ND	1.00	"	"	"	ZZZ	"	"	U
Xylenes, total	ND	1.00	"	"	"	ZZZ	"	"	U

Surrogate: 1,2-Dichloroethane-d4	96.4 %	70-130	"	"	"
Surrogate: Toluene-d8	96.1 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	100 %	70-130	"	"	"

Origins Laboratory, Inc.

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

Brian Sulzberger
Project Number: 014218028/WO #89494143
Project: KMG - Hatch UPRR 42-11 #1

MW08

7/28/2020 12:59:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y007406-08 (Water)

BTEX by EPA 8260D

Benzene	ND	1.00	ug/L	1	B0G2901	ZZZ	07/29/2020	07/30/2020	U
Toluene	ND	1.00	"	"	"	ZZZ	"	"	U
Ethylbenzene	ND	1.00	"	"	"	ZZZ	"	"	U
Xylenes, total	ND	1.00	"	"	"	ZZZ	"	"	U

Surrogate: 1,2-Dichloroethane-d4	97.3 %	70-130	"	"	"
Surrogate: Toluene-d8	95.7 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	97.6 %	70-130	"	"	"

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.

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

Brian Sulzberger
Project Number: 014218028/WO #89494143
Project: KMG - Hatch UPRR 42-11 #1

MW09

7/28/2020 12:38:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y007406-09 (Water)

BTEX by EPA 8260D

Benzene	ND	1.00	ug/L	1	B0G2901	ZZZ	07/29/2020	07/30/2020	U
Toluene	ND	1.00	"	"	"	ZZZ	"	"	U
Ethylbenzene	ND	1.00	"	"	"	ZZZ	"	"	U
Xylenes, total	ND	1.00	"	"	"	ZZZ	"	"	U

Surrogate: 1,2-Dichloroethane-d4	97.3 %	70-130			"	"	"
Surrogate: Toluene-d8	95.6 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	102 %	70-130			"	"	"

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.

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

Brian Sulzberger
Project Number: 014218028/WO #89494143
Project: KMG - Hatch UPRR 42-11 #1

MW10

7/28/2020 1:42:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y007406-10 (Water)

BTEX by EPA 8260D

Benzene	ND	1.00	ug/L	1	B0G2901	ZZZ	07/29/2020	07/30/2020	U
Toluene	ND	1.00	"	"	"	ZZZ	"	"	U
Ethylbenzene	ND	1.00	"	"	"	ZZZ	"	"	U
Xylenes, total	ND	1.00	"	"	"	ZZZ	"	"	U

Surrogate: 1,2-Dichloroethane-d4	98.1 %	70-130	"	"	"
Surrogate: Toluene-d8	96.8 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	99.2 %	70-130	"	"	"

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.

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

Brian Sulzberger
Project Number: 014218028/WO #89494143
Project: KMG - Hatch UPRR 42-11 #1

MW11

7/28/2020 1:28:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y007406-11 (Water)

BTEX by EPA 8260D

Benzene	ND	1.00	ug/L	1	B0G2901	ZZZ	07/29/2020	07/30/2020	U
Toluene	ND	1.00	"	"	"	ZZZ	"	"	U
Ethylbenzene	ND	1.00	"	"	"	ZZZ	"	"	U
Xylenes, total	ND	1.00	"	"	"	ZZZ	"	"	U

Surrogate: 1,2-Dichloroethane-d4	98.1 %	70-130	"	"	"
Surrogate: Toluene-d8	94.2 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	99.4 %	70-130	"	"	"

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.

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

Brian Sulzberger
Project Number: 014218028/WO #89494143
Project: KMG - Hatch UPRR 42-11 #1

MW12

7/28/2020 1:20:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y007406-12 (Water)

BTEX by EPA 8260D

Benzene	ND	1.00	ug/L	1	B0G2901	ZZZ	07/29/2020	07/30/2020	U
Toluene	ND	1.00	"	"	"	ZZZ	"	"	U
Ethylbenzene	ND	1.00	"	"	"	ZZZ	"	"	U
Xylenes, total	ND	1.00	"	"	"	ZZZ	"	"	U

Surrogate: 1,2-Dichloroethane-d4	99.1 %	70-130	"	"	"
Surrogate: Toluene-d8	98.4 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	96.4 %	70-130	"	"	"

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.

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

Brian Sulzberger
Project Number: 014218028/WO #89494143
Project: KMG - Hatch UPRR 42-11 #1

Volatile Organic Compounds by GC/MS SW846 8260D - 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 B0G2901 - EPA 5030B (Water)

Blank (B0G2901-BLK1)

Prepared: 07/29/2020 Analyzed: 07/29/2020

Benzene	ND	1.00	ug/L							U
Toluene	ND	1.00	"							U
Ethylbenzene	ND	1.00	"							U
Xylenes, total	ND	1.00	"							U
Surrogate: 1,2-Dichloroethane-d4	59		"	62.5	93.9	70-130				
Surrogate: Toluene-d8	62		"	62.5	99.6	70-130				
Surrogate: 4-Bromofluorobenzene	63		"	62.5	101	70-130				

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.

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

Brian Sulzberger
Project Number: 014218028/WO #89494143
Project: KMG - Hatch UPRR 42-11 #1

Volatile Organic Compounds by GC/MS SW846 8260D - 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 B0G2901 - EPA 5030B (Water)

LCS (B0G2901-BS1)

Prepared: 07/29/2020 Analyzed: 07/29/2020

Benzene	55.4	1.00	ug/L	50.0		111	70-130			
Toluene	59.5	1.00	"	50.0		119	70-130			
Ethylbenzene	58.0	1.00	"	50.0		116	70-130			
m,p-Xylene	115	2.00	"	100		115	70-130			
o-Xylene	57.9	1.00	"	50.0		116	70-130			
Surrogate: 1,2-Dichloroethane-d4	52		"	62.5		84.0	70-130			
Surrogate: Toluene-d8	66		"	62.5		105	70-130			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.2	70-130			

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.

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

Brian Sulzberger
Project Number: 014218028/WO #89494143
Project: KMG - Hatch UPRR 42-11 #1

Volatile Organic Compounds by GC/MS SW846 8260D - 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 B0G2901 - EPA 5030B (Water)

Matrix Spike (B0G2901-MS1)		Source: Y007406-01			Prepared: 07/29/2020 Analyzed: 07/29/2020					
Benzene	53.8	1.00	ug/L	50.0	ND	108	70-130			
Toluene	54.2	1.00	"	50.0	ND	108	70-130			
Ethylbenzene	55.1	1.00	"	50.0	0.480	109	70-130			
m,p-Xylene	109	2.00	"	100	1.52	108	70-130			
o-Xylene	54.6	1.00	"	50.0	ND	109	70-130			
Surrogate: 1,2-Dichloroethane-d4	63		"	62.5		101	70-130			
Surrogate: Toluene-d8	62		"	62.5		99.5	70-130			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		100	70-130			

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.

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

Brian Sulzberger
Project Number: 014218028/WO #89494143
Project: KMG - Hatch UPRR 42-11 #1

Volatile Organic Compounds by GC/MS SW846 8260D - 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 B0G2901 - EPA 5030B (Water)

Matrix Spike Dup (B0G2901-MSD1)		Source: Y007406-01			Prepared: 07/29/2020 Analyzed: 07/29/2020					
Benzene	54.3	1.00	ug/L	50.0	ND	109	70-130	0.832	20	
Toluene	55.4	1.00	"	50.0	ND	111	70-130	2.21	20	
Ethylbenzene	55.8	1.00	"	50.0	0.480	111	70-130	1.21	20	
m,p-Xylene	110	2.00	"	100	1.52	109	70-130	0.982	20	
o-Xylene	55.4	1.00	"	50.0	ND	111	70-130	1.51	20	
Surrogate: 1,2-Dichloroethane-d4	64		"	62.5		102	70-130			
Surrogate: Toluene-d8	63		"	62.5		101	70-130			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	70-130			

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.

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

Brian Sulzberger
Project Number: 014218028/WO #89494143
Project: KMG - Hatch UPRR 42-11 #1

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.



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.



October 19, 2020

LT Environmental, Inc.

Brian Sulzberger

4600 West 60th Avenue

Arvada

CO 80003

Project Name - KMG - Hatch UPRR 42-11 #1

Project Number - 014218028/GS11278

Attached are your analytical results for KMG - Hatch UPRR 42-11 #1 received by Origins Laboratory, Inc. October 12, 2020. This project is associated with Origins project number Y010170-01.

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

Brian Sulzberger
Project Number: 014218028/GS11278
Project: KMG - Hatch UPRR 42-11 #1

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW01	Y010170-01	Water	October 12, 2020 12:40	10/12/2020 15:34
MW02	Y010170-02	Water	October 12, 2020 12:46	10/12/2020 15:34
MW03	Y010170-03	Water	October 12, 2020 12:52	10/12/2020 15:34
MW04	Y010170-04	Water	October 12, 2020 13:00	10/12/2020 15:34
MW05	Y010170-05	Water	October 12, 2020 13:08	10/12/2020 15:34
MW06	Y010170-06	Water	October 12, 2020 13:15	10/12/2020 15:34
MW07	Y010170-07	Water	October 12, 2020 13:22	10/12/2020 15:34
MW08	Y010170-08	Water	October 12, 2020 13:30	10/12/2020 15:34
MW09	Y010170-09	Water	October 12, 2020 13:38	10/12/2020 15:34
MW10	Y010170-10	Water	October 12, 2020 13:45	10/12/2020 15:34
MW11	Y010170-11	Water	October 12, 2020 13:52	10/12/2020 15:34
MW12	Y010170-12	Water	October 12, 2020 14:00	10/12/2020 15:34

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.

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

Brian Sulzberger
Project Number: 014218028/GS11278
Project: KMG - Hatch UPRR 42-11 #1

www.originslaboratory.com

page 1 of 2

ORIGINS

LABORATORY, INC

Client: LT Environmental, Inc
Address: 4600 W 60th Ave
Arvada CO 80003
Project Manager: Brian Sulzberger
Project Name: Hatch UPRR 42-11
Project Number: 014218028
Samples Collected By: Ryan J. Jorgensen
Telephone Number: KMG Group
Email Address: KMG Group

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

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis			Sample Instructions
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Sampling Container #	Other			
MW01	10-12-20	1246	3	X				X			X	BTX		1
MW02		1246	3	X				X			X			2
MW03		1252	3	X				X			X			3
MW04		1300	3	X				X			X			4
MW05		1308	3	X				X			X			5
MW06		1315	3	X				X			X			6
MW07		1322	3	X				X			X			7
MW08		1330	3	X				X			X			8
MW09		1338	3	X				X			X			9
MW10		1345	3	X				X			X			10
Relinquished By: <u>Brian Sulzberger</u>	Date: <u>10-12-20</u>	Time: <u>1534</u>	Time: <u>1534</u>	Received By: <u>[Signature]</u>	Date: <u>10/12/20</u>	Time: <u>1534</u>	Turnaround Time: <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input checked="" type="checkbox"/> Standard							
Relinquished By: <u>[Signature]</u>	Date: <u>10-12-20</u>	Time: <u>1534</u>	Time: <u>1534</u>	Received By: <u>[Signature]</u>	Date: <u>10/12/20</u>	Time: <u>1534</u>								

Date Results Needed

Temp Received: 6.6

Origins Laboratory, Inc.

[Signature]

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: 014218028/GS11278
Project: KMG - Hatch UPRR 42-11 #1

www.originslaboratory.com

Y000170

page 2 of 2

ORIGINS
LABORATORY, INC

Client: LT Environmental, Inc
Address: 4600 W 60th Ave
Arvada CO 80003
Telephone Number: _____
Email Address: KMG Group
Project Manager: Brian Sulzberger
Project Name: Hatch UPRR 42-11
Project Number: 014218028
Samples Collected By: Ryan Sedgwick

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis		Sample Instructions	
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summa Canister #	Other			
MW11	10-12-20	1352	3	X				X						1
MW12	1	1400	3	X				X						2
														3
														4
														5
														6
														7
														8
														9
														10
Relinquished By: <u>Brian Sulzberger</u>	Date: <u>10-12-20</u>	Time: <u>1354</u>	Received By: <u>[Signature]</u>	Date: <u>10/12/20</u>	Time: <u>1534</u>	Turnaround Time: Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input checked="" type="checkbox"/> Standard								
Relinquished By:	Date:	Time:	Received By:	Date:	Time:									

Date Results Needed

Temp Received- 16.6

Origins Laboratory, Inc.

Jordan A. Merrill

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: 014218028/GS11278
Project: KMG - Hatch UPRR 42-11 #1

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: Y010170

Client: LTE

Client Project ID: Hatch 42-11 I

Checklist Completed by: KDK

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

Date/time completed: 10-13-2020

Airbill #: N/A

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

Cooler Number/Temperature: 1, 16.6 °C / °C / °C (Describe) °C

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⁾ ?		<input checked="" type="checkbox"/>		Same Day
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)			<input checked="" type="checkbox"/>	
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)			<input checked="" type="checkbox"/>	
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.		<input checked="" type="checkbox"/>		
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO ₃ , HCL, H ₂ SO ₄) / (pH >10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)			<input checked="" type="checkbox"/>	
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: Jim (Project Manager)

10-14-20
Date/Time Reviewed

Origins Laboratory, Inc.

Jordan A. Merrill

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: 014218028/GS11278
Project: KMG - Hatch UPRR 42-11 #1

MW01

10/12/2020 12:40:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y010170-01 (Water)

BTEX by EPA 8260D

Benzene	ND	1.00	ug/L	1	BOJ1305	KDK	10/13/2020	10/14/2020	U
Toluene	ND	1.00	"	"	"	KDK	"	"	U
Ethylbenzene	ND	1.00	"	"	"	KDK	"	"	U
Xylenes, total	ND	1.00	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4	110 %	70-130	"	"	"
Surrogate: Toluene-d8	106 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	98.9 %	70-130	"	"	"

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.

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

Brian Sulzberger
Project Number: 014218028/GS11278
Project: KMG - Hatch UPRR 42-11 #1

MW02

10/12/2020 12:46:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y010170-02 (Water)

BTEX by EPA 8260D

Benzene	26.0	4.00	ug/L	4	BOJ1305	KDK	10/13/2020	10/14/2020	
Toluene	ND	4.00	"	"	"	KDK	"	"	U
Ethylbenzene	20.0	4.00	"	"	"	KDK	"	"	
Xylenes, total	642	4.00	"	"	"	KDK	"	"	

Surrogate: 1,2-Dichloroethane-d4	106 %	70-130			"	"	"	"
Surrogate: Toluene-d8	108 %	70-130			"	"	"	"
Surrogate: 4-Bromofluorobenzene	98.0 %	70-130			"	"	"	"

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.

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

Brian Sulzberger
Project Number: 014218028/GS11278
Project: KMG - Hatch UPRR 42-11 #1

MW03

10/12/2020 12:52:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y010170-03 (Water)

BTEX by EPA 8260D

Benzene	739	10.0	ug/L	10	BOJ1305	KDK	10/13/2020	10/14/2020
Toluene	4060	100	"	100	"	KDK	"	10/14/2020
Ethylbenzene	540	10.0	"	10	"	KDK	"	10/14/2020
Xylenes, total	12800	100	"	100	"	KDK	"	10/14/2020

Surrogate: 1,2-Dichloroethane-d4	110 %	70-130			"	"	10/14/2020
Surrogate: Toluene-d8	104 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	101 %	70-130			"	"	"

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.

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

Brian Sulzberger
Project Number: 014218028/GS11278
Project: KMG - Hatch UPRR 42-11 #1

MW04

10/12/2020 1:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y010170-04 (Water)

BTEX by EPA 8260D

Benzene	ND	1.00	ug/L	1	BOJ1305	KDK	10/13/2020	10/14/2020	U
Toluene	ND	1.00	"	"	"	KDK	"	"	U
Ethylbenzene	19.7	1.00	"	"	"	KDK	"	"	
Xylenes, total	90.0	1.00	"	"	"	KDK	"	"	

Surrogate: 1,2-Dichloroethane-d4	109 %	70-130			"	"	"
Surrogate: Toluene-d8	102 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	102 %	70-130			"	"	"

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.

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

Brian Sulzberger
Project Number: 014218028/GS11278
Project: KMG - Hatch UPRR 42-11 #1

MW05

10/12/2020 1:08:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y010170-05 (Water)

BTEX by EPA 8260D

Benzene	ND	1.00	ug/L	1	BOJ1305	KDK	10/13/2020	10/14/2020	U
Toluene	ND	1.00	"	"	"	KDK	"	"	U
Ethylbenzene	ND	1.00	"	"	"	KDK	"	"	U
Xylenes, total	ND	1.00	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4	107 %	70-130	"	"	"
Surrogate: Toluene-d8	108 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	97.6 %	70-130	"	"	"

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.

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

Brian Sulzberger
Project Number: 014218028/GS11278
Project: KMG - Hatch UPRR 42-11 #1

MW06

10/12/2020 1:15:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y010170-06 (Water)

BTEX by EPA 8260D

Benzene	330	10.0	ug/L	10	BOJ1305	KDK	10/13/2020	10/14/2020	
Toluene	ND	1.00	"	1	"	KDK	"	10/14/2020	U
Ethylbenzene	44.4	1.00	"	"	"	KDK	"	"	
Xylenes, total	1200	10.0	"	10	"	KDK	"	10/14/2020	

Surrogate: 1,2-Dichloroethane-d4	90.7 %	70-130			"	"	10/14/2020
Surrogate: Toluene-d8	101 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	103 %	70-130			"	"	"

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.

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

Brian Sulzberger
Project Number: 014218028/GS11278
Project: KMG - Hatch UPRR 42-11 #1

MW07

10/12/2020 1:22:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y010170-07 (Water)

BTEX by EPA 8260D

Benzene	ND	1.00	ug/L	1	BOJ1305	KDK	10/13/2020	10/14/2020	U
Toluene	ND	1.00	"	"	"	KDK	"	"	U
Ethylbenzene	ND	1.00	"	"	"	KDK	"	"	U
Xylenes, total	ND	1.00	"	"	"	KDK	"	10/14/2020	U

Surrogate: 1,2-Dichloroethane-d4	104 %	70-130	"	"	10/14/2020
Surrogate: Toluene-d8	106 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	96.9 %	70-130	"	"	"

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.

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

Brian Sulzberger
Project Number: 014218028/GS11278
Project: KMG - Hatch UPRR 42-11 #1

MW08

10/12/2020 1:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y010170-08 (Water)

BTEX by EPA 8260D

Benzene	ND	1.00	ug/L	1	BOJ1305	KDK	10/13/2020	10/14/2020	U
Toluene	ND	1.00	"	"	"	KDK	"	"	U
Ethylbenzene	ND	1.00	"	"	"	KDK	"	"	U
Xylenes, total	ND	1.00	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4	112 %	70-130	"	"	"
Surrogate: Toluene-d8	105 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	98.9 %	70-130	"	"	"

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.

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

Brian Sulzberger
Project Number: 014218028/GS11278
Project: KMG - Hatch UPRR 42-11 #1

MW09

10/12/2020 1:38:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y010170-09 (Water)

BTEX by EPA 8260D

Benzene	ND	1.00	ug/L	1	BOJ1305	KDK	10/13/2020	10/14/2020	U
Toluene	ND	1.00	"	"	"	KDK	"	"	U
Ethylbenzene	ND	1.00	"	"	"	KDK	"	"	U
Xylenes, total	ND	1.00	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4	105 %	70-130	"	"	"
Surrogate: Toluene-d8	106 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	97.3 %	70-130	"	"	"

Origins Laboratory, Inc.



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

Brian Sulzberger
Project Number: 014218028/GS11278
Project: KMG - Hatch UPRR 42-11 #1

MW10

10/12/2020 1:45:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y010170-10 (Water)

BTEX by EPA 8260D

Benzene	ND	1.00	ug/L	1	BOJ1305	KDK	10/13/2020	10/14/2020	U
Toluene	ND	1.00	"	"	"	KDK	"	"	U
Ethylbenzene	ND	1.00	"	"	"	KDK	"	"	U
Xylenes, total	ND	1.00	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4	108 %	70-130	"	"	"
Surrogate: Toluene-d8	107 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	99.6 %	70-130	"	"	"

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.

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

Brian Sulzberger
Project Number: 014218028/GS11278
Project: KMG - Hatch UPRR 42-11 #1

MW11

10/12/2020 1:52:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y010170-11 (Water)

BTEX by EPA 8260D

Benzene	ND	1.00	ug/L	1	BOJ1305	KDK	10/13/2020	10/14/2020	U
Toluene	ND	1.00	"	"	"	KDK	"	"	U
Ethylbenzene	ND	1.00	"	"	"	KDK	"	"	U
Xylenes, total	ND	1.00	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4	108 %	70-130	"	"	"
Surrogate: Toluene-d8	108 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	100 %	70-130	"	"	"

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.

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

Brian Sulzberger
Project Number: 014218028/GS11278
Project: KMG - Hatch UPRR 42-11 #1

MW12

10/12/2020 2:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y010170-12 (Water)

BTEX by EPA 8260D

Benzene	ND	1.00	ug/L	1	BOJ1305	KDK	10/13/2020	10/14/2020	U
Toluene	ND	1.00	"	"	"	KDK	"	"	U
Ethylbenzene	ND	1.00	"	"	"	KDK	"	"	U
Xylenes, total	ND	1.00	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4	110 %	70-130	"	"	"
Surrogate: Toluene-d8	106 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	93.2 %	70-130	"	"	"

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.

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

Brian Sulzberger
Project Number: 014218028/GS11278
Project: KMG - Hatch UPRR 42-11 #1

Volatile Organic Compounds by GC/MS SW846 8260D - 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 B0J1305 - EPA 5030B (Water)

Blank (B0J1305-BLK1)

Prepared: 10/13/2020 Analyzed: 10/14/2020

Benzene	ND	1.00	ug/L							U
Toluene	ND	1.00	"							U
Ethylbenzene	ND	1.00	"							U
Xylenes, total	ND	1.00	"							U
Surrogate: 1,2-Dichloroethane-d4	66		"	62.5	106		70-130			
Surrogate: Toluene-d8	67		"	62.5	107		70-130			
Surrogate: 4-Bromofluorobenzene	61		"	62.5	97.8		70-130			

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.

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

Brian Sulzberger
Project Number: 014218028/GS11278
Project: KMG - Hatch UPRR 42-11 #1

Volatile Organic Compounds by GC/MS SW846 8260D - 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 B0J1305 - EPA 5030B (Water)

LCS (B0J1305-BS1)

Prepared: 10/13/2020 Analyzed: 10/13/2020

Benzene	23.2	1.00	ug/L	25.0		93.0	70-130			
Toluene	26.6	1.00	"	25.0		106	70-130			
Ethylbenzene	26.0	1.00	"	25.0		104	70-130			
m,p-Xylene	54.5	2.00	"	50.0		109	70-130			
o-Xylene	26.8	1.00	"	25.0		107	70-130			
Surrogate: 1,2-Dichloroethane-d4	66		"	62.5		105	70-130			
Surrogate: Toluene-d8	67		"	62.5		107	70-130			
Surrogate: 4-Bromofluorobenzene	58		"	62.5		93.2	70-130			

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.

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

Brian Sulzberger
Project Number: 014218028/GS11278
Project: KMG - Hatch UPRR 42-11 #1

Volatile Organic Compounds by GC/MS SW846 8260D - 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 B0J1305 - EPA 5030B (Water)

Matrix Spike (B0J1305-MS1)		Source: Y010161-01			Prepared: 10/13/2020 Analyzed: 10/13/2020					
Benzene	23.1	1.00	ug/L	25.0	ND	92.4	70-130			
Toluene	26.7	1.00	"	25.0	ND	107	70-130			
Ethylbenzene	27.8	1.00	"	25.0	ND	111	70-130			
m,p-Xylene	58.3	2.00	"	50.0	ND	117	70-130			
o-Xylene	27.8	1.00	"	25.0	ND	111	70-130			
Surrogate: 1,2-Dichloroethane-d4	67		"	62.5		108	70-130			
Surrogate: Toluene-d8	68		"	62.5		108	70-130			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		100	70-130			

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.

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

Brian Sulzberger
Project Number: 014218028/GS11278
Project: KMG - Hatch UPRR 42-11 #1

Volatile Organic Compounds by GC/MS SW846 8260D - 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 B0J1305 - EPA 5030B (Water)

Matrix Spike Dup (B0J1305-MSD1)		Source: Y010161-01			Prepared: 10/13/2020 Analyzed: 10/13/2020					
Benzene	21.9	1.00	ug/L	25.0	ND	87.8	70-130	5.15	20	
Toluene	25.1	1.00	"	25.0	ND	101	70-130	6.17	20	
Ethylbenzene	25.2	1.00	"	25.0	ND	101	70-130	10.0	20	
m,p-Xylene	53.2	2.00	"	50.0	ND	106	70-130	9.22	20	
o-Xylene	25.8	1.00	"	25.0	ND	103	70-130	7.57	20	
Surrogate: 1,2-Dichloroethane-d4	68		"	62.5		109	70-130			
Surrogate: Toluene-d8	68		"	62.5		109	70-130			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	70-130			

Origins Laboratory, Inc.



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

Brian Sulzberger
Project Number: 014218028/GS11278
Project: KMG - Hatch UPRR 42-11 #1

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.



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.



January 12, 2021

WSP USA

Brian Sulzberger

4600 W. 60th Ave.

Arvada

CO 80003

Project Name - KMG - Hatch UPRR 42-11 1

Project Number - 014218028

Attached are your analytical results for KMG - Hatch UPRR 42-11 1 received by Origins Laboratory, Inc. January 04, 2021. This project is associated with Origins project number Y101018-01.

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

WSP USA

4600 W. 60th Ave.

Arvada CO 80003

Brian Sulzberger

Project Number: 014218028

Project: KMG - Hatch UPRR 42-11 1

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW01	Y101018-01	Water	January 4, 2021 12:30	01/04/2021 17:04
MW02	Y101018-02	Water	January 4, 2021 12:38	01/04/2021 17:04
MW03	Y101018-03	Water	January 4, 2021 12:45	01/04/2021 17:04
MW04	Y101018-04	Water	January 4, 2021 12:52	01/04/2021 17:04
MW05	Y101018-05	Water	January 4, 2021 13:00	01/04/2021 17:04
MW06	Y101018-06	Water	January 4, 2021 13:08	01/04/2021 17:04
MW07	Y101018-07	Water	January 4, 2021 13:15	01/04/2021 17:04
MW08	Y101018-08	Water	January 4, 2021 13:22	01/04/2021 17:04
MW09	Y101018-09	Water	January 4, 2021 13:30	01/04/2021 17:04
MW10	Y101018-10	Water	January 4, 2021 13:38	01/04/2021 17:04
MW11	Y101018-11	Water	January 4, 2021 13:45	01/04/2021 17:04
MW12	Y101018-12	Water	January 4, 2021 13:52	01/04/2021 17:04

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.

WSP USA

4600 W. 60th Ave.

Arvada

CO

80003

Brian Sulzberger

Project Number: 014218028

Project: KMG - Hatch UPRR 42-11 1

ORIGINS
LABORATORY, INC

101018

Page 1 of 2

1725 Elk Place, Denver, CO 80211

Laboratory # - 303.433.1322

Client: WSP USA		Project Manager: Brian Sulzberger		Project Number: 014218028	
Project: KMG - Hatch UPRR 42-11 1		Sample Date		Sample Time	
Number	Sample Identification	Matrix	Sample Date	Sample Time	Container
01-001	MW01	Water	1-4-21	1230	40mL Clear Vial Cool to 4°
02-001	MW02	Water		1238	40mL Clear Vial Cool to 4°
03-001	MW03	Water		1245	40mL Clear Vial Cool to 4°
04-001	MW04	Water		1252	40mL Clear Vial Cool to 4°
05-001	MW05	Water		1300	40mL Clear Vial Cool to 4°
06-001	MW06	Water		1308	40mL Clear Vial Cool to 4°
07-001	MW07	Water		1315	40mL Clear Vial Cool to 4°
08-001	MW08	Water		1322	40mL Clear Vial Cool to 4°
09-001	MW09	Water		1330	40mL Clear Vial Cool to 4°
10-001	MW10	Water		1338	40mL Clear Vial Cool to 4°
11-001	MW11	Water		1345	40mL Clear Vial Cool to 4°

Analyses

3 BTEX by EPA 8260C
3 BTEX by EPA 8260C
3 BTEX by EPA 8260C
3 BTEX by EPA 8260C
3 BTEX by EPA 8260C
3 BTEX by EPA 8260C
3 BTEX by EPA 8260C
3 BTEX by EPA 8260C
3 BTEX by EPA 8260C
3 BTEX by EPA 8260C
3 BTEX by EPA 8260C
3 BTEX by EPA 8260C

Temperature on Receipt: 3.6

Turn Around Time:

Same Day: ☐
24-hr: ☐
72-hr: ☒
Standard: ☐

Relinquished By: 
Date / Time: 1/4/21 1704

Received By: 
Date / Time: 1/4/21 1704

Relinquished By: 
Date / Time: 1/4/21 1704

Received By: 
Date / Time: 1/4/21 1704

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.

WSP USA

4600 W. 60th Ave.

Arvada

CO

80003

Brian Sulzberger

Project Number: 014218028

Project: KMG - Hatch UPRR 42-11 1

ORIGINS
LABORATORY, INC

Y101018

Page 2 of 2

1725 Elk Place, Denver, CO 80211

Laboratory # - 303.433.1322

12-001	MM12	Water	1-4-21	1352	At	40mL Clear Vial Cool to 4°	3	BTEX by EPA 8260C
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Relinquished By [Signature] Date / Time 1/4/21 1704

Received By _____ Date / Time _____

Relinquished By [Signature] Date / Time 1/4/21 1704

Received By _____ Date / Time _____

Temperature on Receipt: 3.6

Turn Around Time: ☐ 24-hr ☐ 72-hr ☒ Standard

Origins Laboratory, Inc.

[Signature]

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.

WSP USA

4600 W. 60th Ave.

Arvada

CO

80003

Brian Sulzberger

Project Number: 014218028

Project: KMG - Hatch UPRR 42-11 1

Origins Laboratory

F-012207-01-R1

Effective Date: 01/09/12

Sample Receipt Checklist

Origins Work Order: Y101018

Client: WSP USA

Client Project ID: Hatch UPRR

Checklist Completed by: SG KDK

Shipped Via: 14D

(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Date/time completed: 01/05/21

Airbill #: N/A

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

Cooler Number/Temperature: 1, 3.6 °C / °C / °C (Describe) °C

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⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO ₃ , HCL, H ₂ SO ₄) / (pH >10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				

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

Reviewed by (Project Manager) Jm

Date/Time Reviewed 1-6-21

Origins Laboratory, Inc.

Jm

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WSP USA

4600 W. 60th Ave.

Arvada CO 80003

Brian Sulzberger

Project Number: 014218028

Project: KMG - Hatch UPRR 42-11 1

MW01

1/4/2021 12:30:00PM

Analyte	Result	Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.

Y101018-01 (Water)

BTEX by EPA 8260D

Benzene	ND	1.00	ug/L	1	B1A0503	TEM	01/05/2021	01/05/2021	U
Toluene	ND	1.00	"	"	"	TEM	"	"	U
Ethylbenzene	ND	1.00	"	"	"	TEM	"	"	U
Xylenes, total	ND	1.00	"	"	"	TEM	"	"	U

Surrogate: 1,2-Dichloroethane-d4	109 %	70-130			"	"	"
Surrogate: Toluene-d8	94.4 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	99.1 %	70-130			"	"	"

Origins Laboratory, Inc.

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WSP USA

4600 W. 60th Ave.

Arvada CO 80003

Brian Sulzberger

Project Number: 014218028

Project: KMG - Hatch UPRR 42-11 1

MW02

1/4/2021 12:38:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.

Y101018-02 (Water)

BTEX by EPA 8260D

Benzene	13.3	1.00	ug/L	1	B1A0503	TEM	01/05/2021	01/05/2021	
Toluene	ND	1.00	"	"	"	TEM	"	"	U
Ethylbenzene	ND	1.00	"	"	"	TEM	"	"	U
Xylenes, total	691	10.0	"	10	"	TEM	"	01/06/2021	

Surrogate: 1,2-Dichloroethane-d4	107 %	70-130			"	"	01/05/2021
Surrogate: Toluene-d8	98.9 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	101 %	70-130			"	"	"

Origins Laboratory, Inc.



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Arvada CO 80003

Brian Sulzberger

Project Number: 014218028

Project: KMG - Hatch UPRR 42-11 1

MW03

1/4/2021 12:45:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y101018-03 (Water)

BTEX by EPA 8260D

Benzene	801	100	ug/L	100	B1A0503	TEM	01/05/2021	01/06/2021
Toluene	970	100	"	"	"	TEM	"	"
Ethylbenzene	567	100	"	"	"	TEM	"	"
Xylenes, total	9610	100	"	"	"	TEM	"	"

Surrogate: 1,2-Dichloroethane-d4	110 %	70-130			"	"	"
Surrogate: Toluene-d8	95.4 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	97.3 %	70-130			"	"	"

Origins Laboratory, Inc.



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Arvada CO 80003

Brian Sulzberger

Project Number: 014218028

Project: KMG - Hatch UPRR 42-11 1

MW04

1/4/2021 12:52:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y101018-04 (Water)

BTEX by EPA 8260D

Benzene	ND	1.00	ug/L	1	B1A0503	TEM	01/05/2021	01/05/2021	U
Toluene	ND	1.00	"	"	"	TEM	"	"	U
Ethylbenzene	49.4	1.00	"	"	"	TEM	"	"	
Xylenes, total	108	1.00	"	"	"	TEM	"	"	

Surrogate: 1,2-Dichloroethane-d4
Surrogate: Toluene-d8
Surrogate: 4-Bromofluorobenzene

106 % 70-130
95.7 % 70-130
101 % 70-130

" "
" "
" "

Origins Laboratory, Inc.

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Arvada CO 80003

Brian Sulzberger

Project Number: 014218028

Project: KMG - Hatch UPRR 42-11 1

MW05

1/4/2021 1:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.

Y101018-05 (Water)

BTEX by EPA 8260D

Benzene	ND	1.00	ug/L	1	B1A0503	TEM	01/05/2021	01/05/2021	U
Toluene	ND	1.00	"	"	"	TEM	"	"	U
Ethylbenzene	ND	1.00	"	"	"	TEM	"	"	U
Xylenes, total	ND	1.00	"	"	"	TEM	"	01/06/2021	U

Surrogate: 1,2-Dichloroethane-d4	107 %	70-130			"	"	01/05/2021
Surrogate: Toluene-d8	96.7 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	97.6 %	70-130			"	"	"

Origins Laboratory, Inc.

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Arvada CO 80003

Brian Sulzberger

Project Number: 014218028

Project: KMG - Hatch UPRR 42-11 1

MW06

1/4/2021 1:08:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.

Y101018-06 (Water)

BTEX by EPA 8260D

Benzene	438	10.0	ug/L	10	B1A0503	TEM	01/05/2021	01/06/2021	
Toluene	ND	1.00	"	1	"	TEM	"	01/05/2021	U
Ethylbenzene	7.19	1.00	"	"	"	TEM	"	"	
Xylenes, total	1540	10.0	"	10	"	TEM	"	01/06/2021	

Surrogate: 1,2-Dichloroethane-d4	106 %	70-130	"	"	01/05/2021
Surrogate: Toluene-d8	95.8 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	103 %	70-130	"	"	"

Origins Laboratory, Inc.



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Arvada CO 80003

Brian Sulzberger

Project Number: 014218028

Project: KMG - Hatch UPRR 42-11 1

MW07

1/4/2021 1:15:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.

Y101018-07 (Water)

BTEX by EPA 8260D

Benzene	ND	1.00	ug/L	1	B1A0503	TEM	01/05/2021	01/05/2021	U
Toluene	ND	1.00	"	"	"	TEM	"	"	U
Ethylbenzene	ND	1.00	"	"	"	TEM	"	"	U
Xylenes, total	ND	1.00	"	"	"	TEM	"	01/06/2021	U

Surrogate: 1,2-Dichloroethane-d4	108 %	70-130			"	"	01/05/2021
Surrogate: Toluene-d8	92.8 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	102 %	70-130			"	"	"

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Arvada CO 80003

Brian Sulzberger

Project Number: 014218028

Project: KMG - Hatch UPRR 42-11 1

MW08

1/4/2021 1:22:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y101018-08 (Water)

BTEX by EPA 8260D

Benzene	ND	1.00	ug/L	1	B1A0503	TEM	01/05/2021	01/05/2021	U
Toluene	ND	1.00	"	"	"	TEM	"	"	U
Ethylbenzene	ND	1.00	"	"	"	TEM	"	"	U
Xylenes, total	ND	1.00	"	"	"	TEM	"	"	U

Surrogate: 1,2-Dichloroethane-d4	108 %	70-130	"	"	"
Surrogate: Toluene-d8	94.1 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	100 %	70-130	"	"	"

Origins Laboratory, Inc.

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Brian Sulzberger

Project Number: 014218028

Project: KMG - Hatch UPRR 42-11 1

MW09

1/4/2021 1:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y101018-09 (Water)

BTEX by EPA 8260D

Benzene	ND	1.00	ug/L	1	B1A0503	TEM	01/05/2021	01/05/2021	U
Toluene	ND	1.00	"	"	"	TEM	"	"	U
Ethylbenzene	ND	1.00	"	"	"	TEM	"	"	U
Xylenes, total	ND	1.00	"	"	"	TEM	"	"	U

Surrogate: 1,2-Dichloroethane-d4	109 %	70-130	"	"	"
Surrogate: Toluene-d8	93.3 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	99.1 %	70-130	"	"	"

Origins Laboratory, Inc.

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Brian Sulzberger

Project Number: 014218028

Project: KMG - Hatch UPRR 42-11 1

MW10

1/4/2021 1:38:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y101018-10 (Water)

BTEX by EPA 8260D

Benzene	ND	1.00	ug/L	1	B1A0503	TEM	01/05/2021	01/05/2021	U
Toluene	ND	1.00	"	"	"	TEM	"	"	U
Ethylbenzene	ND	1.00	"	"	"	TEM	"	"	U
Xylenes, total	ND	1.00	"	"	"	TEM	"	"	U

Surrogate: 1,2-Dichloroethane-d4	109 %	70-130	"	"	"
Surrogate: Toluene-d8	96.1 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	97.6 %	70-130	"	"	"

Origins Laboratory, Inc.

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Brian Sulzberger

Project Number: 014218028

Project: KMG - Hatch UPRR 42-11 1

MW11

1/4/2021 1:45:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y101018-11 (Water)

BTEX by EPA 8260D

Benzene	ND	1.00	ug/L	1	B1A0503	TEM	01/05/2021	01/05/2021	U
Toluene	ND	1.00	"	"	"	TEM	"	"	U
Ethylbenzene	ND	1.00	"	"	"	TEM	"	"	U
Xylenes, total	ND	1.00	"	"	"	TEM	"	"	U

Surrogate: 1,2-Dichloroethane-d4	111 %	70-130	"	"	"
Surrogate: Toluene-d8	97.4 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	97.7 %	70-130	"	"	"

Origins Laboratory, Inc.

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Arvada CO 80003

Brian Sulzberger

Project Number: 014218028

Project: KMG - Hatch UPRR 42-11 1

MW12

1/4/2021 1:52:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y101018-12 (Water)

BTEX by EPA 8260D

Benzene	ND	1.00	ug/L	1	B1A0503	TEM	01/05/2021	01/05/2021	U
Toluene	ND	1.00	"	"	"	TEM	"	"	U
Ethylbenzene	ND	1.00	"	"	"	TEM	"	"	U
Xylenes, total	ND	1.00	"	"	"	TEM	"	"	U

Surrogate: 1,2-Dichloroethane-d4	111 %	70-130	"	"	"
Surrogate: Toluene-d8	91.3 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	101 %	70-130	"	"	"

Origins Laboratory, Inc.

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Arvada CO 80003

Brian Sulzberger

Project Number: 014218028

Project: KMG - Hatch UPRR 42-11 1

Volatile Organic Compounds by GC/MS SW846 8260D - 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 B1A0503 - EPA 5030B (Water)

Blank (B1A0503-BLK1)

Prepared: 01/05/2021 Analyzed: 01/05/2021

Benzene	ND	1.00	ug/L							U
Toluene	ND	1.00	"							U
Ethylbenzene	ND	1.00	"							U
Xylenes, total	ND	1.00	"							U
Surrogate: 1,2-Dichloroethane-d4	68		"	62.5	109		70-130			
Surrogate: Toluene-d8	59		"	62.5	95.2		70-130			
Surrogate: 4-Bromofluorobenzene	61		"	62.5	98.0		70-130			

Origins Laboratory, Inc.



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Arvada CO 80003

Brian Sulzberger

Project Number: 014218028

Project: KMG - Hatch UPRR 42-11 1

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

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

Batch B1A0503 - EPA 5030B (Water)

LCS (B1A0503-BS1)

Prepared: 01/05/2021 Analyzed: 01/05/2021

Benzene	53.8	1.00	ug/L	50.0		108	70-130			
Toluene	51.8	1.00	"	50.0		104	70-130			
Ethylbenzene	55.4	1.00	"	50.0		111	70-130			
m,p-Xylene	107	2.00	"	100		107	70-130			
o-Xylene	53.6	1.00	"	50.0		107	70-130			
Surrogate: 1,2-Dichloroethane-d4	72		"	62.5		115	70-130			
Surrogate: Toluene-d8	60		"	62.5		96.5	70-130			
Surrogate: 4-Bromofluorobenzene	64		"	62.5		102	70-130			

Origins Laboratory, Inc.



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WSP USA

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Arvada CO 80003

Brian Sulzberger

Project Number: 014218028

Project: KMG - Hatch UPRR 42-11 1

Volatile Organic Compounds by GC/MS SW846 8260D - 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 B1A0503 - EPA 5030B (Water)

Matrix Spike (B1A0503-MS1)		Source: Y101018-01			Prepared: 01/05/2021 Analyzed: 01/05/2021					
Benzene	54.9	1.00	ug/L	50.0	ND	110	70-130			
Toluene	52.2	1.00	"	50.0	ND	104	70-130			
Ethylbenzene	58.0	1.00	"	50.0	0.280	116	70-130			
m,p-Xylene	113	2.00	"	100	1.55	112	70-130			
o-Xylene	55.5	1.00	"	50.0	0.450	110	70-130			
Surrogate: 1,2-Dichloroethane-d4	72		"	62.5		115	70-130			
Surrogate: Toluene-d8	60		"	62.5		95.9	70-130			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	70-130			

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Brian Sulzberger

Project Number: 014218028

Project: KMG - Hatch UPRR 42-11 1

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control

Origins Laboratory, Inc.

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

Batch B1A0503 - EPA 5030B (Water)

Matrix Spike Dup (B1A0503-MSD1)		Source: Y101018-01			Prepared: 01/05/2021 Analyzed: 01/05/2021					
Benzene	53.3	1.00	ug/L	50.0	ND	107	70-130	3.01	20	
Toluene	52.3	1.00	"	50.0	ND	105	70-130	0.172	20	
Ethylbenzene	56.6	1.00	"	50.0	0.280	113	70-130	2.46	20	
m,p-Xylene	110	2.00	"	100	1.55	108	70-130	3.13	20	
o-Xylene	55.7	1.00	"	50.0	0.450	110	70-130	0.252	20	
Surrogate: 1,2-Dichloroethane-d4	72		"	62.5		115	70-130			
Surrogate: Toluene-d8	61		"	62.5		97.9	70-130			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		98.7	70-130			

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Arvada CO 80003

Brian Sulzberger

Project Number: 014218028

Project: KMG - Hatch UPRR 42-11 1

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.



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