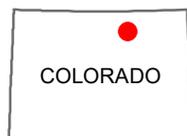
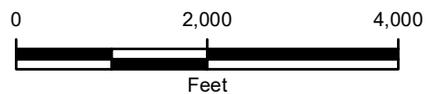


IMAGE COURTESY OF ESRI/USGS

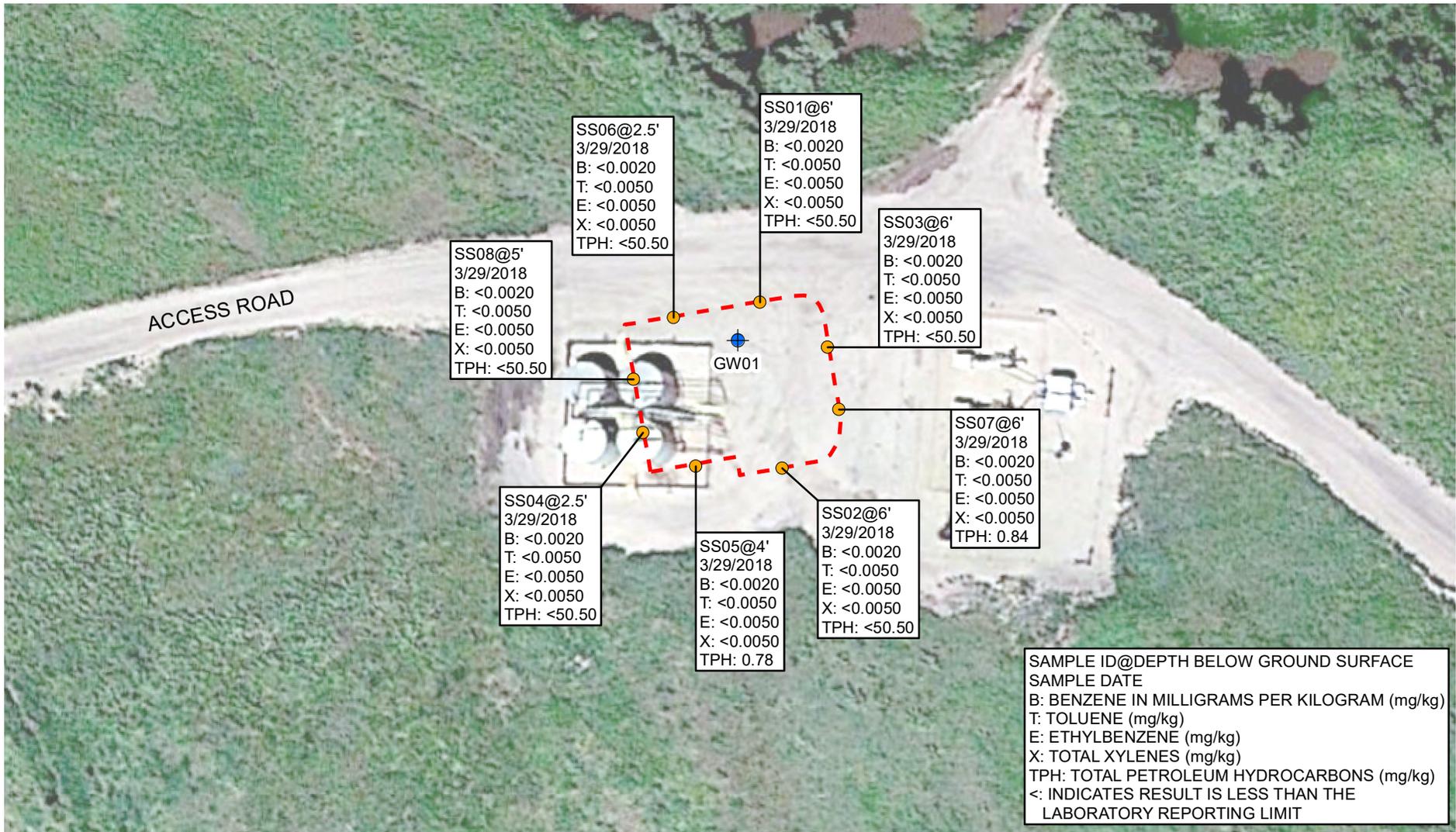
**LEGEND**

 SITE LOCATION



**FIGURE 1**  
**SITE LOCATION MAP**  
**DOW 23-28**  
**NESW SEC 28-T5N-R63W**  
**WELD COUNTY, COLORADO**  
**BONAZA CREEK ENERGY, INC.**



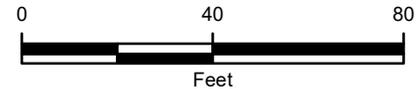


SAMPLE ID@DEPTH BELOW GROUND SURFACE  
 SAMPLE DATE  
 B: BENZENE IN MILLIGRAMS PER KILOGRAM (mg/kg)  
 T: TOLUENE (mg/kg)  
 E: ETHYLBENZENE (mg/kg)  
 X: TOTAL XYLENES (mg/kg)  
 TPH: TOTAL PETROLEUM HYDROCARBONS (mg/kg)  
 <: INDICATES RESULT IS LESS THAN THE LABORATORY REPORTING LIMIT

**LEGEND**

-  SOIL SAMPLE
-  GROUNDWATER SAMPLE
-  EXCAVATION EXTENT

IMAGE COURTESY OF GOOGLE EARTH 2016



**FIGURE 2**  
**SITE MAP**  
**DOW 23-28**  
**NESW SEC 28-T5N-R63W**  
**WELD COUNTY, COLORADO**  
**BONANZA CREEK ENERGY, INC.**



**TABLE 1**  
**EXCAVATION SOIL ANALYTICAL RESULTS**

**DOW 23-28**  
**WELD COUNTY, COLORADO**  
**BONANZA CREEK ENERGY OPERATING COMPANY, INC.**

Sample ID	Date Sampled	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	TPH (mg/kg)
SS01@6'	3/29/2018	<0.0020	<0.0050	<0.0050	<0.0050	<0.50	<50	<50.50
SS02@6'	3/29/2018	<0.0020	<0.0050	<0.0050	<0.0050	<0.50	<50	<50.50
SS03@6'	3/29/2018	<0.0020	<0.0050	<0.0050	<0.0050	<0.50	<50	<50.50
SS04@2.5'	3/29/2018	<0.0020	<0.0050	<0.0050	<0.0050	<0.50	<50	<50.50
SS05@4'	3/29/2018	<0.0020	<0.0050	<0.0050	<0.0050	0.78	<50	0.78
SS06@2.5'	3/29/2018	<0.0020	<0.0050	<0.0050	<0.0050	<0.50	<50	<50.50
SS07@6'	3/29/2018	<0.0020	<0.0050	<0.0050	<0.0050	0.84	<50	0.84
SS08@5'	3/29/2018	<0.0020	<0.0050	<0.0050	<0.0050	<0.50	<50	<50.50
South Soil Pile	3/30/2018	<0.0020	<0.0050	<0.0050	<0.0050	3.3	<50	3.3
<b>COGCC Table 910-1 Concentration Level</b>		<b>0.17</b>	<b>85</b>	<b>100</b>	<b>175</b>	<b>--</b>	<b>--</b>	<b>500</b>

**Notes:**

COGCC - Colorado Oil and Gas Conservation Commission

DRO - diesel range organics, analyzed by EPA Method 8015

GRO - gasoline range organics, analyzed by EPA Method 8260B

mg/kg - milligrams per kilogram

TPH - total petroleum hydrocarbons, sum of DRO and GRO

-- - not applicable

< - indicates result is less than the stated laboratory method reporting limit

**BOLD** - indicates result exceeds the applicable COGCC standard

Benzene, toluene, ethylbenzene, and total xylenes analyzed by EPA Method 8260B



**TABLE 2**  
**EXCAVATION GROUNDWATER ANALYTICAL RESULTS**

**DOW 23-28**  
**WELD COUNTY, COLORADO**  
**BONANZA CREEK ENERGY OPERATING COMPANY, INC.**

<b>Monitoring Well</b>	<b>Date</b>	<b>Benzene (µg/L)</b>	<b>Toluene (µg/L)</b>	<b>Ethylbenzene (µg/L)</b>	<b>Total Xylenes (µg/L)</b>
GW01	3/29/2018	120	170	7.9	120
<b>COGCC Table 910-1 Concentration Levels</b>		<b>5</b>	<b>560</b>	<b>700</b>	<b>1,400</b>

**NOTES:**

btc - below top of casing

COGCC - Colorado Oil and Gas Conservation Commission

µg/L - micrograms per liter

< - indicates result is less than the stated laboratory reporting limit

Benzene, toluene, ethylbenzene, and total xylenes analyzed by EPA Method 8260B



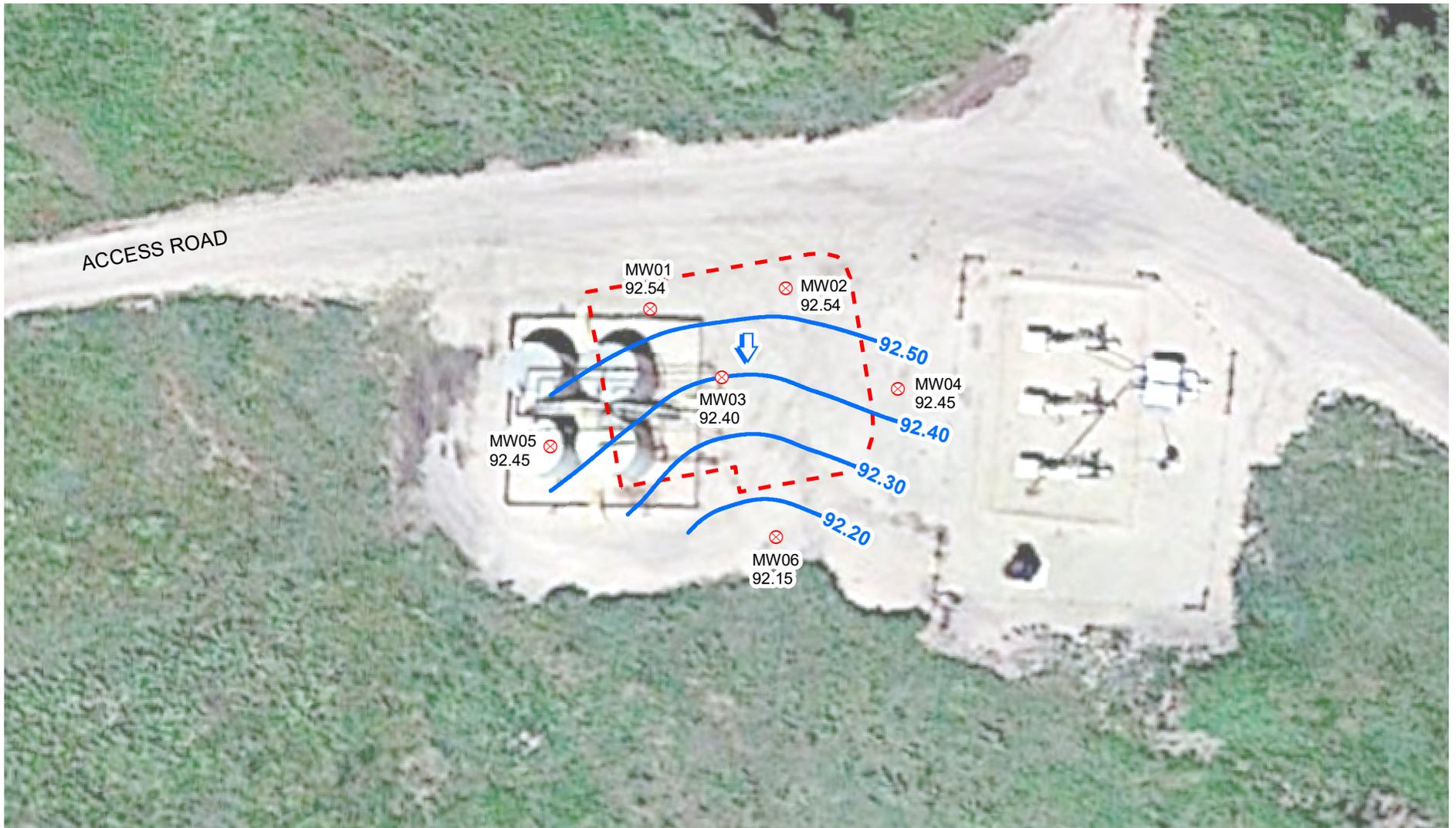


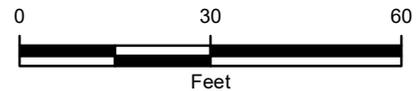
IMAGE COURTESY OF GOOGLE EARTH 2016

**LEGEND**

⊗ MONITORING WELL

⊔ EXCAVATION EXTENT

↓ CALCULATED GROUNDWATER FLOW DIRECTION



— RELATIVE GROUNDWATER ELEVATION CONTOUR

CONTOUR INTERVAL = 0.10 FEET

GRADIENT = 0.007 FEET/FOOT

GROUNDWATER ELEVATIONS WERE MEASURED ON JANUARY 8, 2019.

**FIGURE 2**  
**RELATIVE GROUNDWATER ELEVATION MAP**  
 DOW 23-28  
 NESW SEC 28-T5N-R63W  
 WELD COUNTY, COLORADO  
**BONANZA CREEK ENERGY, INC.**



**TABLE 1  
GROUNDWATER ANALYTICAL RESULTS**

**DOW 23-28  
WELD COUNTY, COLORADO  
BONANZA CREEK ENERGY, INC.**

Sample ID	Sample Date	Depth to Groundwater (feet bgs)	Relative Groundwater Elevation (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
MW01	7/27/2018	5.26	93.16	<1.00	<1.00	<1.00	<1.00
	10/26/2018	5.36	93.06	<1.00	<1.00	<1.00	<1.00
	1/8/2019	5.88	92.54	<1.00	<1.00	<1.00	<1.00
MW02	7/27/2018	5.32	93.17	<1.00	<1.00	<1.00	<1.00
	10/26/2018	5.41	93.08	<1.00	<1.00	<1.00	<1.00
	1/8/2019	5.95	92.54	<1.00	<1.00	<1.00	<1.00
MW03	7/27/2018	5.04	93.02	<1.00	<1.00	<1.00	<1.00
	10/26/2018	5.14	92.92	<1.00	<1.00	<1.00	<1.00
	1/8/2019	5.66	92.40	<1.00	<1.00	<1.00	<1.00
MW04	7/27/2018	5.24	93.12	<1.00	<1.00	<1.00	<1.00
	10/26/2018	5.37	92.99	<1.00	<1.00	<1.00	<1.00
	1/8/2019	5.91	92.45	<1.00	<1.00	<1.00	<1.00
MW05	7/27/2018	4.97	93.06	<1.00	<1.00	<1.00	<1.00
	10/26/2018	5.07	92.96	<1.00	<1.00	<1.00	<1.00
	1/8/2019	5.58	92.45	<1.00	<1.00	<1.00	<1.00
MW06	7/27/2018	5.06	92.77	<1.00	<1.00	<1.00	<1.00
	10/26/2018	5.16	92.67	<1.00	<1.00	<1.00	<1.00
	1/8/2019	5.68	92.15	<1.00	<1.00	<1.00	<1.00
<b>COGCC Table 910-1 Concentration Level</b>				<b>5</b>	<b>560</b>	<b>700</b>	<b>1,400</b>

Notes:

bgs - below ground surface

µg/L - micrograms per liter

< - Less than laboratory reporting limit.

COGCC - Colorado Oil and Gas Conservation Commission

**Bold** indicates result exceeds the applicable COGCC Table 910-1 Concentration Level



# Summit Scientific

---

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

April 05, 2018

Chris Roy  
LT Environmental, Inc.  
4600 West 60th Avenue  
Arvada, CO 80003  
RE: DOW 23-28 RTB

Enclosed are the results of analyses for samples received by Summit Scientific on 03/30/18 15:35. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Paul Shrewsbury  
President



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

Project: DOW 23-28 RTB

Project Number: 034518002.0004

Project Manager: Chris Roy

**Reported:**  
04/05/18 14:35

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS01@6'	1803404-01	Soil	03/29/18 15:05	03/30/18 15:35
SS02@6'	1803404-02	Soil	03/29/18 15:20	03/30/18 15:35
SS03@6'	1803404-03	Soil	03/29/18 15:10	03/30/18 15:35
SS04@2.5'	1803404-04	Soil	03/29/18 15:30	03/30/18 15:35
SS05@4'	1803404-05	Soil	03/29/18 15:50	03/30/18 15:35
SS06@2.5'	1803404-06	Soil	03/29/18 15:55	03/30/18 15:35
SS07@6'	1803404-07	Soil	03/29/18 16:20	03/30/18 15:35
SS08@5'	1803404-08	Soil	03/29/18 16:45	03/30/18 15:35

Summit Scientific

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

Project: DOW 23-28 RTB

Project Number: 034518002.0004  
Project Manager: Chris Roy

Reported:  
04/05/18 14:35

# Summit Scientific

S<sub>2</sub>

741 Corporate Circle, Suite J ♦ Golden, Colorado 80401  
303-277-9310 ♦ 303-374-5933

1803404

Page 1 of 1

Client: LT Environmental Project Manager: Chris Roy  
Address: 4600 W 60th E-Mail: C.Roy@LTENV.COM  
City/State/Zip: Arvada CO 80003  
Phone: 303-433-9788 Fax: Project Name: Dow 23-28 RTB  
Sampler Name: Glenn Thompson Project Number: 034518002.0004

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested				Special Instructions
					HCl	HNO3	None	Other (Specify)	Groundwater	Soil	Air-Canister #	Other (Specify)	BTEX	P20	P20		
1	SS-1 @ 6'	3/29/18	1505	1			X		X				X	X	X		
2	SS-2 @ 6'	3/29/18	1520	1			X		X				X	X	X		
3	SS-3 @ 6'	3/29/18	1510	1			X		X				X	X	X		
4	SS-4 @ 2.5'	3/29/18	1530	1			X		X				X	X	X		
5	SS-5 @ 4'	3/29/18	1550	1			X		X				X	X	X		
6	SS-6 @ 2.5'	3/29/18	1555	1			X		X				X	X	X		
7	SS-7 @ 6'	3/29/18	1620	1			X		X				X	X	X		
8	SS-8 @ 2.5'	3/29/18	1645	1			X		X				X	X	X		
9																	
10																	

Relinquished by:	Date/Time: 3/29/18 1700	Received by:	Date/Time: 3/29/18 1700	Turn Around Time (Check) Same Day <input type="checkbox"/> 24 hours <input type="checkbox"/> 48 hours <input type="checkbox"/> Sample Integrity: <u>Standard</u> <input checked="" type="checkbox"/> Temperature Upon Receipt: <u>3.7°C</u> Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Notes:  <u>on ice</u>
Relinquished by:	Date/Time: 3/30/18 1533	Received by:	Date/Time: 3/30/18 1535		
Relinquished by:	Date/Time:	Received by:	Date/Time:		

www.s2scientific.com



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

Project: DOW 23-28 RTB

Project Number: 034518002.0004  
Project Manager: Chris Roy

Reported:  
04/05/18 14:35

Sample Receipt Checklist

S2 Work Order: 1803404  
Client: LTE Client Project ID: Dow 23-28 RTB  
Shipped Via: PIU Airbill #: \_\_\_\_\_  
(UPS, FedEx, Hand Delivered, Pick-up, etc.)  
Matrix (check all that apply):  Air  Soil/Solid  Water  Other: \_\_\_\_\_  
(Describe)

Temp (°C) 3.7

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C <sup>(1)?</sup> NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.	<input checked="" type="checkbox"/>			
Were all samples received intact <sup>(1)?</sup>	<input checked="" type="checkbox"/>			
Was adequate sample volume provided <sup>(1)?</sup>	<input checked="" type="checkbox"/>			
If custody seals are present, are they intact <sup>(1)?</sup>			<input checked="" type="checkbox"/>	
Are short holding time analytes or samples due within 48 hours present?			<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely <sup>(1)?</sup>	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received <sup>(1)?</sup>	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC <sup>(1)?</sup>	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client with date and time recorded <sup>(1)?</sup>	<input checked="" type="checkbox"/>			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.			<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) <sup>(1)?</sup> Note the type of preservative in the Comments column – HCL, H2SO4, NaOH, HNO3, etc.			<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2 <sup>(1)?</sup> Record the pH in Comments.			<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?			<input checked="" type="checkbox"/>	

Additional Comments (if any):

<sup>(1)</sup> If NO, then contact the client before proceeding with analysis and note in case narrative.

Nakita  
Custodian Printed Name or Initials

[Signature]  
Signature of Custodian

3/30/18 1610  
Date/Time

[Signature]



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

Project: DOW 23-28 RTB  
Project Number: 034518002.0004  
Project Manager: Chris Roy

**Reported:**  
04/05/18 14:35

**SS01@6'**  
**1803404-01 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **03/29/18 15:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1804003	04/02/18	04/04/18	8015M	

Date Sampled: **03/29/18 15:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		97.4 %	30-150		"	"	"	"	

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **03/29/18 15:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1804002	04/02/18	04/03/18	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **03/29/18 15:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		82.5 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		103 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		81.1 %	21-167		"	"	"	"	

Summit Scientific

*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

Project: DOW 23-28 RTB  
Project Number: 034518002.0004  
Project Manager: Chris Roy

**Reported:**  
04/05/18 14:35

**SS02@6'**  
**1803404-02 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **03/29/18 15:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1804003	04/02/18	04/04/18	8015M	

Date Sampled: **03/29/18 15:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		100 %	30-150		"	"	"	"	

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **03/29/18 15:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1804002	04/02/18	04/03/18	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **03/29/18 15:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		83.8 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		103 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		84.1 %	21-167		"	"	"	"	

Summit Scientific

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

Project: DOW 23-28 RTB  
Project Number: 034518002.0004  
Project Manager: Chris Roy

**Reported:**  
04/05/18 14:35

**SS03@6'**  
**1803404-03 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **03/29/18 15:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1804003	04/02/18	04/04/18	8015M	

Date Sampled: **03/29/18 15:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		98.9 %	30-150		"	"	"	"	

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **03/29/18 15:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1804002	04/02/18	04/03/18	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **03/29/18 15:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		80.5 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		103 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		85.6 %	21-167		"	"	"	"	

Summit Scientific

*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

Project: DOW 23-28 RTB  
Project Number: 034518002.0004  
Project Manager: Chris Roy

**Reported:**  
04/05/18 14:35

**SS04@2.5'**  
**1803404-04 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **03/29/18 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1804003	04/02/18	04/04/18	8015M	

Date Sampled: **03/29/18 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		103 %	30-150		"	"	"	"	

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **03/29/18 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1804002	04/02/18	04/03/18	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **03/29/18 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		80.2 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		105 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		81.3 %	21-167		"	"	"	"	

Summit Scientific

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

Project: DOW 23-28 RTB  
Project Number: 034518002.0004  
Project Manager: Chris Roy

**Reported:**  
04/05/18 14:35

**SS05@4'**  
**1803404-05 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **03/29/18 15:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1804003	04/02/18	04/04/18	8015M	

Date Sampled: **03/29/18 15:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		104 %	30-150		"	"	"	"	

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **03/29/18 15:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1804002	04/02/18	04/03/18	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>0.78</b>	0.50	"	"	"	"	"	"	

Date Sampled: **03/29/18 15:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		83.1 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		103 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		84.2 %	21-167		"	"	"	"	

Summit Scientific

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

Project: DOW 23-28 RTB  
Project Number: 034518002.0004  
Project Manager: Chris Roy

**Reported:**  
04/05/18 14:35

**SS06@2.5'**  
**1803404-06 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **03/29/18 15:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1804003	04/02/18	04/04/18	8015M	

Date Sampled: **03/29/18 15:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		98.8 %	30-150		"	"	"	"	

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **03/29/18 15:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1804002	04/02/18	04/03/18	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **03/29/18 15:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		81.8 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		104 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		82.0 %	21-167		"	"	"	"	

Summit Scientific

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

Project: DOW 23-28 RTB  
Project Number: 034518002.0004  
Project Manager: Chris Roy

Reported:  
04/05/18 14:35

**SS07@6'**  
**1803404-07 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **03/29/18 16:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1804003	04/02/18	04/04/18	8015M	

Date Sampled: **03/29/18 16:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		102 %	30-150		"	"	"	"	

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **03/29/18 16:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1804002	04/02/18	04/03/18	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>0.84</b>	0.50	"	"	"	"	"	"	

Date Sampled: **03/29/18 16:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		81.9 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		104 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		84.6 %	21-167		"	"	"	"	

Summit Scientific

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

Project: DOW 23-28 RTB  
Project Number: 034518002.0004  
Project Manager: Chris Roy

**Reported:**  
04/05/18 14:35

**SS08@5'**  
**1803404-08 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **03/29/18 16:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1804003	04/02/18	04/04/18	8015M	

Date Sampled: **03/29/18 16:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		106 %	30-150		"	"	"	"	

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **03/29/18 16:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1804002	04/02/18	04/03/18	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **03/29/18 16:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		85.0 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		104 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		83.6 %	21-167		"	"	"	"	

Summit Scientific

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

Project: DOW 23-28 RTB

Project Number: 034518002.0004  
Project Manager: Chris Roy

**Reported:**  
04/05/18 14:35

**Extractable Petroleum Hydrocarbons by 8015 - Quality Control**  
**Summit Scientific**

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

**Batch 1804003 - EPA 3550A**

<b>Blank (1804003-BLK1)</b>				Prepared: 04/02/18 Analyzed: 04/03/18							
C10-C28 (DRO)	ND	50	mg/kg								
Surrogate: <i>o</i> -Terphenyl	12.7		"	12.5		101	30-150				
<b>LCS (1804003-BS1)</b>				Prepared: 04/02/18 Analyzed: 04/03/18							
C10-C28 (DRO)	452	50	mg/kg	499		90.6	73-134				
Surrogate: <i>o</i> -Terphenyl	15.2		"	12.5		122	30-150				
<b>Matrix Spike (1804003-MS1)</b>				<b>Source: 1803363-01</b>		Prepared: 04/02/18 Analyzed: 04/03/18					
C10-C28 (DRO)	2050	50	mg/kg	499	1190	172	50-148				QM-07
Surrogate: <i>o</i> -Terphenyl	12.1		"	12.5		96.7	30-150				
<b>Matrix Spike Dup (1804003-MSD1)</b>				<b>Source: 1803363-01</b>		Prepared: 04/02/18 Analyzed: 04/03/18					
C10-C28 (DRO)	2880	50	mg/kg	499	1190	338	50-148	33.7	20		QM-07
Surrogate: <i>o</i> -Terphenyl	11.4		"	12.5		91.1	30-150				

Summit Scientific

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

Project: DOW 23-28 RTB  
Project Number: 034518002.0004  
Project Manager: Chris Roy

Reported:  
04/05/18 14:35

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**Summit Scientific**

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

**Batch 1804002 - EPA 5030 Soil MS**

**Blank (1804002-BLK1)**

Prepared & Analyzed: 04/02/18

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.0050	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0340</i>		<i>"</i>	<i>0.0400</i>		<i>84.9</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0413</i>		<i>"</i>	<i>0.0400</i>		<i>103</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0335</i>		<i>"</i>	<i>0.0400</i>		<i>83.8</i>	<i>21-167</i>			

**LCS (1804002-BS1)**

Prepared & Analyzed: 04/02/18

Benzene	0.0897	0.0020	mg/kg	0.150		59.8	58-130			
Toluene	0.0939	0.0050	"	0.150		62.6	61-134			
Ethylbenzene	0.103	0.0050	"	0.150		68.4	74-139			
m,p-Xylene	0.200	0.010	"	0.300		66.6	73-137			
o-Xylene	0.0984	0.0050	"	0.150		65.6	73-141			
Xylenes (total)	0.298	0.0050	"				30-150			
Gasoline Range Hydrocarbons	2.16	0.50	"				30-150			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0332</i>		<i>"</i>	<i>0.0400</i>		<i>83.1</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0422</i>		<i>"</i>	<i>0.0400</i>		<i>105</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0326</i>		<i>"</i>	<i>0.0400</i>		<i>81.6</i>	<i>21-167</i>			

**Matrix Spike (1804002-MS1)**

Source: 1803395-01

Prepared & Analyzed: 04/02/18

Benzene	0.0824	0.0020	mg/kg	0.150	ND	55.0	30-131			
Toluene	0.0852	0.0050	"	0.150	ND	56.8	30-134			
Ethylbenzene	0.0907	0.0050	"	0.150	ND	60.4	22-153			
m,p-Xylene	0.176	0.010	"	0.300	ND	58.8	10-159			
o-Xylene	0.0874	0.0050	"	0.150	ND	58.3	31-151			
Xylenes (total)	0.264	0.0050	"		ND		30-150			
Gasoline Range Hydrocarbons	1.88	0.50	"		ND		30-150			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0339</i>		<i>"</i>	<i>0.0400</i>		<i>84.8</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0429</i>		<i>"</i>	<i>0.0400</i>		<i>107</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0327</i>		<i>"</i>	<i>0.0400</i>		<i>81.7</i>	<i>21-167</i>			

Summit Scientific

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

Project: DOW 23-28 RTB

Project Number: 034518002.0004  
 Project Manager: Chris Roy

Reported:  
 04/05/18 14:35

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**Summit Scientific**

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

**Batch 1804002 - EPA 5030 Soil MS**

<b>Matrix Spike Dup (1804002-MSD1)</b>	<b>Source: 1803395-01</b>			<b>Prepared &amp; Analyzed: 04/02/18</b>						
Benzene	0.0866	0.0020	mg/kg	0.150	ND	57.8	30-131	4.97	34	
Toluene	0.0906	0.0050	"	0.150	ND	60.4	30-134	6.15	30	
Ethylbenzene	0.0957	0.0050	"	0.150	ND	63.8	22-153	5.44	24	
m,p-Xylene	0.186	0.010	"	0.300	ND	62.0	10-159	5.26	68	
o-Xylene	0.0930	0.0050	"	0.150	ND	62.0	31-151	6.15	38	
Xylenes (total)	0.279	0.0050	"		ND		30-150	5.56	20	
Gasoline Range Hydrocarbons	2.05	0.50	"		ND		30-150	8.79	20	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0337</i>		<i>"</i>	<i>0.0400</i>		<i>84.2</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0422</i>		<i>"</i>	<i>0.0400</i>		<i>105</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0324</i>		<i>"</i>	<i>0.0400</i>		<i>81.1</i>	<i>21-167</i>			

Summit Scientific

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

Project: DOW 23-28 RTB

Project Number: 034518002.0004  
Project Manager: Chris Roy

**Reported:**  
04/05/18 14:35

### Notes and Definitions

- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference

# Summit Scientific

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741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

April 05, 2018

Chris Roy  
LT Environmental, Inc.  
4600 West 60th Avenue  
Arvada, CO 80003  
RE: DOW 23-28

Enclosed are the results of analyses for samples received by Summit Scientific on 03/30/18 15:35. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Paul Shrewsbury  
President



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

Project: DOW 23-28

Project Number: 034518002

Project Manager: Chris Roy

**Reported:**  
04/05/18 14:33

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
South Soil Pile	1803403-01	Soil	03/30/18 10:30	03/30/18 15:35

---

Summit Scientific

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

Project: DOW 23-28

Project Number: 034518002  
Project Manager: Chris Roy

Reported:  
04/05/18 14:33

Sample Receipt Checklist

S2 Work Order: 180 3403  
Client: LTE Client Project ID: DOW 23-28  
Shipped Via: PIU Airbill #: \_\_\_\_\_  
(UPS, FedEx, Hand Delivered, Pick-up, etc.)  
Matrix (check all that apply):  Air  Soil/Solid  Water  Other: \_\_\_\_\_  
(Describe)

Temp (°C) | 3-7

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C <sup>(1)</sup> ?				
NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.	✓			
Were all samples received intact <sup>(1)</sup> ?	✓			
Was adequate sample volume provided <sup>(1)</sup> ?	✓			
If custody seals are present, are they intact <sup>(1)</sup> ?			✓	
Are short holding time analytes or samples due within 48 hours present?			✓	
Is a chain-of-custody (COC) form present and filled out completely <sup>(1)</sup> ?	✓			
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	✓			
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	✓			
Is the COC properly relinquished by the client with date and time recorded <sup>(1)</sup> ?	✓			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.			✓	
Are samples preserved that require preservation (excluding cooling) <sup>(1)</sup> ?			✓	
Note the type of preservative in the Comments column – HCL, H2SO4, NaOH, HNO3, etc.			✓	
If samples are acid preserved for metals, is the pH ≤ 2 <sup>(1)</sup> ?			✓	
Record the pH in Comments.			✓	
If dissolved metals are requested, were samples field filtered?			✓	

Additional Comments (if any):

<sup>(1)</sup> If NO, then contact the client before proceeding with analysis and note in case narrative.

NH  
Custodian Printed Name or Initials

[Signature]  
Signature of Custodian

3/30/18 16:0  
Date/Time

[Signature]



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

Project: DOW 23-28

Project Number: 034518002  
Project Manager: Chris Roy

**Reported:**  
04/05/18 14:33

**South Soil Pile  
1803403-01 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **03/30/18 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1804003	04/02/18	04/04/18	8015M	

Date Sampled: **03/30/18 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		96.7 %	30-150		"	"	"	"	

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **03/30/18 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1804002	04/02/18	04/03/18	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>3.3</b>	0.50	"	"	"	"	"	"	

Date Sampled: **03/30/18 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		82.4 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		104 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		87.1 %	21-167		"	"	"	"	

Summit Scientific

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

Project: DOW 23-28

Project Number: 034518002  
Project Manager: Chris Roy

**Reported:**  
04/05/18 14:33

**Extractable Petroleum Hydrocarbons by 8015 - Quality Control**  
**Summit Scientific**

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

**Batch 1804003 - EPA 3550A**

<b>Blank (1804003-BLK1)</b>				Prepared: 04/02/18 Analyzed: 04/03/18							
C10-C28 (DRO)	ND	50	mg/kg								
Surrogate: <i>o</i> -Terphenyl	12.7		"	12.5		101	30-150				
<b>LCS (1804003-BS1)</b>				Prepared: 04/02/18 Analyzed: 04/03/18							
C10-C28 (DRO)	452	50	mg/kg	499		90.6	73-134				
Surrogate: <i>o</i> -Terphenyl	15.2		"	12.5		122	30-150				
<b>Matrix Spike (1804003-MS1)</b>				<b>Source: 1803363-01</b>		Prepared: 04/02/18 Analyzed: 04/03/18					
C10-C28 (DRO)	2050	50	mg/kg	499	1190	172	50-148				QM-07
Surrogate: <i>o</i> -Terphenyl	12.1		"	12.5		96.7	30-150				
<b>Matrix Spike Dup (1804003-MSD1)</b>				<b>Source: 1803363-01</b>		Prepared: 04/02/18 Analyzed: 04/03/18					
C10-C28 (DRO)	2880	50	mg/kg	499	1190	338	50-148	33.7	20		QM-07
Surrogate: <i>o</i> -Terphenyl	11.4		"	12.5		91.1	30-150				

Summit Scientific

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

Project: DOW 23-28

Project Number: 034518002  
Project Manager: Chris Roy

Reported:  
04/05/18 14:33

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**Summit Scientific**

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

**Batch 1804002 - EPA 5030 Soil MS**

**Blank (1804002-BLK1)**

Prepared & Analyzed: 04/02/18

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.0050	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0340</i>		<i>"</i>	<i>0.0400</i>		<i>84.9</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0413</i>		<i>"</i>	<i>0.0400</i>		<i>103</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0335</i>		<i>"</i>	<i>0.0400</i>		<i>83.8</i>	<i>21-167</i>			

**LCS (1804002-BS1)**

Prepared & Analyzed: 04/02/18

Benzene	0.0897	0.0020	mg/kg	0.150		59.8	58-130			
Toluene	0.0939	0.0050	"	0.150		62.6	61-134			
Ethylbenzene	0.103	0.0050	"	0.150		68.4	74-139			
m,p-Xylene	0.200	0.010	"	0.300		66.6	73-137			
o-Xylene	0.0984	0.0050	"	0.150		65.6	73-141			
Xylenes (total)	0.298	0.0050	"				30-150			
Gasoline Range Hydrocarbons	2.16	0.50	"				30-150			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0332</i>		<i>"</i>	<i>0.0400</i>		<i>83.1</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0422</i>		<i>"</i>	<i>0.0400</i>		<i>105</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0326</i>		<i>"</i>	<i>0.0400</i>		<i>81.6</i>	<i>21-167</i>			

**Matrix Spike (1804002-MS1)**

Source: 1803395-01

Prepared & Analyzed: 04/02/18

Benzene	0.0824	0.0020	mg/kg	0.150	ND	55.0	30-131			
Toluene	0.0852	0.0050	"	0.150	ND	56.8	30-134			
Ethylbenzene	0.0907	0.0050	"	0.150	ND	60.4	22-153			
m,p-Xylene	0.176	0.010	"	0.300	ND	58.8	10-159			
o-Xylene	0.0874	0.0050	"	0.150	ND	58.3	31-151			
Xylenes (total)	0.264	0.0050	"		ND		30-150			
Gasoline Range Hydrocarbons	1.88	0.50	"		ND		30-150			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0339</i>		<i>"</i>	<i>0.0400</i>		<i>84.8</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0429</i>		<i>"</i>	<i>0.0400</i>		<i>107</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0327</i>		<i>"</i>	<i>0.0400</i>		<i>81.7</i>	<i>21-167</i>			

Summit Scientific

*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

Project: DOW 23-28

Project Number: 034518002  
Project Manager: Chris Roy

Reported:  
04/05/18 14:33

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**Summit Scientific**

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

**Batch 1804002 - EPA 5030 Soil MS**

<b>Matrix Spike Dup (1804002-MSD1)</b>	<b>Source: 1803395-01</b>			<b>Prepared &amp; Analyzed: 04/02/18</b>						
Benzene	0.0866	0.0020	mg/kg	0.150	ND	57.8	30-131	4.97	34	
Toluene	0.0906	0.0050	"	0.150	ND	60.4	30-134	6.15	30	
Ethylbenzene	0.0957	0.0050	"	0.150	ND	63.8	22-153	5.44	24	
m,p-Xylene	0.186	0.010	"	0.300	ND	62.0	10-159	5.26	68	
o-Xylene	0.0930	0.0050	"	0.150	ND	62.0	31-151	6.15	38	
Xylenes (total)	0.279	0.0050	"		ND		30-150	5.56	20	
Gasoline Range Hydrocarbons	2.05	0.50	"		ND		30-150	8.79	20	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0337</i>		<i>"</i>	<i>0.0400</i>		<i>84.2</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0422</i>		<i>"</i>	<i>0.0400</i>		<i>105</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0324</i>		<i>"</i>	<i>0.0400</i>		<i>81.1</i>	<i>21-167</i>			

Summit Scientific

*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

Project: DOW 23-28

Project Number: 034518002  
Project Manager: Chris Roy

**Reported:**  
04/05/18 14:33

### Notes and Definitions

- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference

# Summit Scientific

---

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

April 05, 2018

Chris Roy  
LT Environmental, Inc.  
4600 West 60th Avenue  
Arvada, CO 80003  
RE: DOW 23-28 RTB

Enclosed are the results of analyses for samples received by Summit Scientific on 03/30/18 15:35. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Paul Shrewsbury  
President



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

Project: DOW 23-28 RTB

Project Number: 034518002.0004

Project Manager: Chris Roy

**Reported:**  
04/05/18 16:29

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW01	1803406-01	Water	03/29/18 17:06	03/30/18 15:35

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Summit Scientific

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

Project: DOW 23-28 RTB

Project Number: 034518002.0004  
Project Manager: Chris Roy

Reported:  
04/05/18 16:29

# Summit Scientific 1803406

S<sub>2</sub>

741 Corporate Circle, Suite J ♦ Golden, Colorado 80401  
303-277-9310 ♦ 303-374-5933

Page 1 of 1

Client: LT Environmental Project Manager: Chris Roy  
Address: 4600 W 60th AVE E-Mail: CRoy@LTENV.COM  
City/State/Zip: ARVADA CO 80003  
Phone: 303-433-9788 Fax: Project Name: DOW 23-28 RTB  
Sampler Name: Glenn Thompson Project Number: 034518002.0004

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested				Special Instructions	
					HCl	HNO3	None	Other (Specify)	Groundwater	Soil	Air-Canister #	Other (Specify)	BTEX				
1	GWD1	3/29/18	1706	3	X				X					X			
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Relinquished by:	Date/Time: 3/29/18 1700	Received by:	Date/Time: 3/29/18 1700	<b>Turn Around Time</b> (Check) Same Day <input type="checkbox"/> 72 hours 24 hours <input type="checkbox"/> Standard <input checked="" type="checkbox"/> 48 hours <input type="checkbox"/> <b>Sample Integrity:</b> Results by 4/5/18 Temperature Upon Receipt: 3.7°C Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>Notes:</b> on ice
Relinquished by:	Date/Time: 3/30/18 1535	Received by:	Date/Time: 3/30/18 1535		
Relinquished by:	Date/Time:	Received by:	Date/Time:		

www.s2scientific.com



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

Project: DOW 23-28 RTB

Project Number: 034518002.0004  
Project Manager: Chris Roy

Reported:  
04/05/18 16:29

Sample Receipt Checklist

S2 Work Order: 1803406  
Client: LTE Client Project ID: DOW 23-28 RTB  
Shipped Via: P/U Airbill #: \_\_\_\_\_  
(UPS, FedEx, Hand Delivered, Pick-up, etc.)  
Matrix (check all that apply):  Air  Soil/Solid  Water  Other: \_\_\_\_\_  
(Describe)

Temp (°C) 3.7

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.				
Were all samples received intact <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact <sup>(1)</sup> ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are short holding time analytes or samples due within 48 hours present?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client with date and time recorded <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water — is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) <sup>(1)</sup> ? Note the type of preservative in the Comments column — HCL, H2SO4, NaOH, HNO3, etc.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	HCl
If samples are acid preserved for metals, is the pH ≤ 2 <sup>(1)</sup> ? Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				
<sup>(1)</sup> If NO, then contact the client before proceeding with analysis and note in case narrative.				

Nakitz Custodian Printed Name or Initials  
[Signature] Signature of Custodian  
3/30/18 1610 Date/Time



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

Project: DOW 23-28 RTB  
 Project Number: 034518002.0004  
 Project Manager: Chris Roy

**Reported:**  
 04/05/18 16:29

**GW01**  
**1803406-01 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **03/29/18 17:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>120</b>	1.0	ug/l	1	1804006	04/05/18	04/05/18	EPA 8260B	
<b>Toluene</b>	<b>170</b>	1.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>7.9</b>	1.0	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>120</b>	2.0	"	"	"	"	"	"	

Date Sampled: **03/29/18 17:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		103 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		96.8 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.2 %	45-146		"	"	"	"	

Summit Scientific

*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

Project: DOW 23-28 RTB  
Project Number: 034518002.0004  
Project Manager: Chris Roy

Reported:  
04/05/18 16:29

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**Summit Scientific**

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

**Batch 1804006 - EPA 5030 Water MS**

**Blank (1804006-BLK1)**

Prepared & Analyzed: 04/05/18

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	2.0	"							
Surrogate: 1,2-Dichloroethane-d4	13.3		"	13.3		99.5	37-154			
Surrogate: Toluene-d8	12.5		"	13.3		93.5	45-149			
Surrogate: 4-Bromofluorobenzene	14.0		"	13.3		105	45-146			

**LCS (1804006-BS1)**

Prepared & Analyzed: 04/05/18

Benzene	25.9	1.0	ug/l	33.3		77.6	51-132			
Toluene	28.7	1.0	"	33.3		86.1	51-138			
Ethylbenzene	34.0	1.0	"	33.1		103	58-146			
m,p-Xylene	66.7	2.0	"	66.5		100	57-144			
o-Xylene	33.0	1.0	"	32.7		101	53-146			
Surrogate: 1,2-Dichloroethane-d4	14.5		"	13.3		109	37-154			
Surrogate: Toluene-d8	12.8		"	13.3		96.2	45-149			
Surrogate: 4-Bromofluorobenzene	13.4		"	13.3		101	45-146			

**Matrix Spike (1804006-MS1)**

Source: 1803391-04

Prepared & Analyzed: 04/05/18

Benzene	43.2	1.0	ug/l	33.3	ND	130	34-141			
Toluene	66.2	1.0	"	33.3	ND	199	27-151			QM-07
Ethylbenzene	35.0	1.0	"	33.1	ND	106	29-160			
m,p-Xylene	92.0	2.0	"	66.5	5.07	131	20-166			
o-Xylene	51.8	1.0	"	32.7	ND	159	33-159			
Surrogate: 1,2-Dichloroethane-d4	14.6		"	13.3		110	37-154			
Surrogate: Toluene-d8	12.9		"	13.3		97.1	45-149			
Surrogate: 4-Bromofluorobenzene	13.3		"	13.3		99.9	45-146			

Summit Scientific

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

Project: DOW 23-28 RTB

Project Number: 034518002.0004  
Project Manager: Chris Roy

**Reported:**  
04/05/18 16:29

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**Summit Scientific**

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

**Batch 1804006 - EPA 5030 Water MS**

<b>Matrix Spike Dup (1804006-MSD1)</b>	<b>Source: 1803391-04</b>			<b>Prepared &amp; Analyzed: 04/05/18</b>						
Benzene	40.0	1.0	ug/l	33.3	ND	120	34-141	7.67	32	
Toluene	58.4	1.0	"	33.3	ND	175	27-151	12.6	25	QM-07
Ethylbenzene	35.1	1.0	"	33.1	ND	106	29-160	0.371	50	
m,p-Xylene	87.6	2.0	"	66.5	5.07	124	20-166	4.89	36	
o-Xylene	48.1	1.0	"	32.7	ND	147	33-159	7.51	26	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>15.8</i>		<i>"</i>	<i>13.3</i>		<i>119</i>	<i>37-154</i>			
<i>Surrogate: Toluene-d8</i>	<i>12.6</i>		<i>"</i>	<i>13.3</i>		<i>94.4</i>	<i>45-149</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>13.4</i>		<i>"</i>	<i>13.3</i>		<i>101</i>	<i>45-146</i>			

Summit Scientific

*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

Project: DOW 23-28 RTB

Project Number: 034518002.0004

Project Manager: Chris Roy

**Reported:**  
04/05/18 16:29

### Notes and Definitions

- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference

August 02, 2018

LT Environmental, Inc.

Jeremy Pike

4600 West 60th Avenue

Arvada CO 80003

Project Name - Dow 23-28

Project Number - 034518002

Attached are your analytical results for Dow 23-28 received by Origins Laboratory, Inc. July 27, 2018. This project is associated with Origins project number Y807408-01.

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



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

Jeremy Pike  
Project Number: 034518002  
Project: Dow 23-28

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW01	Y807408-01	Water	July 27, 2018 12:48	07/27/2018 15:50
MW02	Y807408-02	Water	July 27, 2018 12:23	07/27/2018 15:50
MW03	Y807408-03	Water	July 27, 2018 14:06	07/27/2018 15:50
MW04	Y807408-04	Water	July 27, 2018 12:02	07/27/2018 15:50
MW05	Y807408-05	Water	July 27, 2018 13:37	07/27/2018 15:50
MW06	Y807408-06	Water	July 27, 2018 13:13	07/27/2018 15:50

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

Jeremy Pike  
 Project Number: 034518002  
 Project: Dow 23-28

Origins Laboratory

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

**Sample Receipt Checklist**

Origins Work Order: Y807408 Client: LTE  
 Client Project ID: Dow 23-28  
 Checklist Completed by: JG Shipped Via: HD  
 (UPS, FedEx, Hand Delivered, Pick-up, etc.)  
 Date/time completed: 7/30/2018 Airbill #: N/A  
 Matrix(s) Received: (Check all that apply): Soil/Solid  Water Other: \_\_\_\_\_ (Describe)  
 Cooler Number/Temperature: 1 / 5.8 °C \_\_\_\_\_ °C \_\_\_\_\_ °C \_\_\_\_\_ °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 <sup>(1)</sup> ?	<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 <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Are short holding time analytes or samples with HTs due within 48 hours present <sup>(1)</sup> ?		<input checked="" type="checkbox"/>		
Is a chain-of-custody (COC) present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client with date and time recorded <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<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 <sup>(1)</sup> ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO3, HCL, H2SO4) / (pH >10 for samples preserved with NaAsO2+NaOH, ZnAc+NaOH)		<input checked="" type="checkbox"/>		
Additional Comments (if any):				

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

Reviewed by (Project Manager)  Date/Time Reviewed 7/31/18

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

Jeremy Pike  
 Project Number: 034518002  
 Project: Dow 23-28

**MW01**

**7/27/2018 12:48:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y807408-01 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.00	ug/L	1	B8G3108	JTD	07/31/2018	08/01/2018	U
Toluene	ND	1.00	"	"	"	JTD	"	"	U
Ethylbenzene	ND	1.00	"	"	"	JTD	"	"	U
Xylenes, total	ND	1.00	"	"	"	JTD	"	"	U

Surrogate: 1,2-Dichloroethane-d4	97.4 %	84-121			"	"	"	"	
Surrogate: Toluene-d8	103 %	85-115			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	102 %	84-114			"	"	"	"	

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

Jeremy Pike  
 Project Number: 034518002  
 Project: Dow 23-28

**MW02**

**7/27/2018 12:23:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
---------	--------	-----------------	-------	----------	-------	---------	----------	----------	-------

**Origins Laboratory, Inc.**  
**Y807408-02 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.00	ug/L	1	B8G3108	JTD	07/31/2018	08/01/2018	U
Toluene	ND	1.00	"	"	"	JTD	"	"	U
Ethylbenzene	ND	1.00	"	"	"	JTD	"	"	U
Xylenes, total	ND	1.00	"	"	"	JTD	"	"	U

Surrogate: 1,2-Dichloroethane-d4	98.8 %	84-121			"	"	"	"	
Surrogate: Toluene-d8	103 %	85-115			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	103 %	84-114			"	"	"	"	

Origins Laboratory, Inc.



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

Jeremy Pike  
 Project Number: 034518002  
 Project: Dow 23-28

**MW03**

**7/27/2018 2:06:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y807408-03 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.00	ug/L	1	B8G3108	JTD	07/31/2018	08/01/2018	U
Toluene	ND	1.00	"	"	"	JTD	"	"	U
Ethylbenzene	ND	1.00	"	"	"	JTD	"	"	U
Xylenes, total	ND	1.00	"	"	"	JTD	"	"	U

Surrogate: 1,2-Dichloroethane-d4	99.4 %	84-121			"	"	"	"	
Surrogate: Toluene-d8	103 %	85-115			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	102 %	84-114			"	"	"	"	

Origins Laboratory, Inc.



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

Jeremy Pike  
 Project Number: 034518002  
 Project: Dow 23-28

**MW04**

**7/27/2018 12:02:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y807408-04 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.00	ug/L	1	B8G3108	JTD	07/31/2018	08/01/2018	U
Toluene	ND	1.00	"	"	"	JTD	"	"	U
Ethylbenzene	ND	1.00	"	"	"	JTD	"	"	U
Xylenes, total	ND	1.00	"	"	"	JTD	"	"	U

Surrogate: 1,2-Dichloroethane-d4	100 %	84-121			"	"	"	"	
Surrogate: Toluene-d8	102 %	85-115			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	104 %	84-114			"	"	"	"	

Origins Laboratory, Inc.



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

Jeremy Pike  
 Project Number: 034518002  
 Project: Dow 23-28

**MW05**

**7/27/2018 1:37:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y807408-05 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.00	ug/L	1	B8G3108	JTD	07/31/2018	08/01/2018	U
Toluene	ND	1.00	"	"	"	JTD	"	"	U
Ethylbenzene	ND	1.00	"	"	"	JTD	"	"	U
Xylenes, total	ND	1.00	"	"	"	JTD	"	"	U

Surrogate: 1,2-Dichloroethane-d4	99.1 %	84-121			"	"	"	"	
Surrogate: Toluene-d8	104 %	85-115			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	103 %	84-114			"	"	"	"	

Origins Laboratory, Inc.



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

Jeremy Pike  
 Project Number: 034518002  
 Project: Dow 23-28

**MW06**

**7/27/2018 1:13:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y807408-06 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.00	ug/L	1	B8G3108	JTD	07/31/2018	08/01/2018	U
Toluene	ND	1.00	"	"	"	JTD	"	"	U
Ethylbenzene	ND	1.00	"	"	"	JTD	"	"	U
Xylenes, total	ND	1.00	"	"	"	JTD	"	"	U

Surrogate: 1,2-Dichloroethane-d4	99.8 %	84-121			"	"	"	"	
Surrogate: Toluene-d8	102 %	85-115			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	103 %	84-114			"	"	"	"	

Origins Laboratory, Inc.



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

Jeremy Pike  
 Project Number: 034518002  
 Project: Dow 23-28

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B8G3108 - EPA 5030B (Water)**

**Blank (B8G3108-BLK1)**

Prepared: 07/31/2018 Analyzed: 07/31/2018

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	63		"	62.5	101		84-121			
Surrogate: Toluene-d8	59		"	62.5	95.2		85-115			
Surrogate: 4-Bromofluorobenzene	62		"	62.5	99.2		84-114			

Origins Laboratory, Inc.



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

Jeremy Pike  
 Project Number: 034518002  
 Project: Dow 23-28

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B8G3108 - EPA 5030B (Water)**

**Blank (B8G3108-BLK2)**

Prepared: 07/31/2018 Analyzed: 07/31/2018

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	63		"	62.5		101	84-121			
Surrogate: Toluene-d8	64		"	62.5		103	85-115			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	84-114			

Origins Laboratory, Inc.



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

Jeremy Pike  
 Project Number: 034518002  
 Project: Dow 23-28

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B8G3108 - EPA 5030B (Water)**

**LCS (B8G3108-BS1)**

Prepared: 07/31/2018 Analyzed: 07/31/2018

Benzene	50.8	1.00	ug/L	50.0		102	73.3-129			
Toluene	46.6	1.00	"	50.0		93.3	76.2-123			
Ethylbenzene	46.1	1.00	"	50.0		92.2	73.6-130			
m,p-Xylene	92.2	2.00	"	100		92.2	76.1-126			
o-Xylene	46.5	1.00	"	50.0		93.0	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	59		"	62.5		94.7	84-121			
Surrogate: Toluene-d8	60		"	62.5		96.0	85-115			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		98.8	84-114			

Origins Laboratory, Inc.



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

Jeremy Pike  
 Project Number: 034518002  
 Project: Dow 23-28

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B8G3108 - EPA 5030B (Water)

**LCS (B8G3108-BS2)**

Prepared: 07/31/2018 Analyzed: 07/31/2018

Benzene	44.4	1.00	ug/L	50.0		88.8	73.3-129			
Toluene	47.0	1.00	"	50.0		94.0	76.2-123			
Ethylbenzene	48.2	1.00	"	50.0		96.5	73.6-130			
m,p-Xylene	96.5	2.00	"	100		96.5	76.1-126			
o-Xylene	48.2	1.00	"	50.0		96.3	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	59		"	62.5		93.7	84-121			
Surrogate: Toluene-d8	64		"	62.5		103	85-115			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	84-114			

Origins Laboratory, Inc.



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

Jeremy Pike  
 Project Number: 034518002  
 Project: Dow 23-28

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B8G3108 - EPA 5030B (Water)**

<b>Matrix Spike (B8G3108-MS1)</b>	<b>Source: Y807405-01</b>			<b>Prepared: 07/31/2018 Analyzed: 08/01/2018</b>						
Benzene	49.4	1.00	ug/L	50.0	0.320	98.2	74-130			
Toluene	49.9	1.00	"	50.0	0.140	99.5	73-131			
Ethylbenzene	55.6	1.00	"	50.0	1.42	108	76-132			
m,p-Xylene	111	2.00	"	100	3.86	107	69-139			
o-Xylene	53.2	1.00	"	50.0	0.230	106	74-131			
Surrogate: 1,2-Dichloroethane-d4	58		"	62.5		93.3	84-121			
Surrogate: Toluene-d8	63		"	62.5		101	85-115			
Surrogate: 4-Bromofluorobenzene	68		"	62.5		109	84-114			

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

Jeremy Pike  
 Project Number: 034518002  
 Project: Dow 23-28

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B8G3108 - EPA 5030B (Water)

Matrix Spike (B8G3108-MS2)	Source: Y807405-02			Prepared: 07/31/2018 Analyzed: 08/01/2018						
Benzene	51.1	1.00	ug/L	50.0	5.99	90.2	74-130			
Toluene	49.9	1.00	"	50.0	ND	99.8	73-131			
Ethylbenzene	52.9	1.00	"	50.0	0.150	106	76-132			
m,p-Xylene	104	2.00	"	100	0.190	104	69-139			
o-Xylene	52.1	1.00	"	50.0	ND	104	74-131			
Surrogate: 1,2-Dichloroethane-d4	56		"	62.5		89.0	84-121			
Surrogate: Toluene-d8	65		"	62.5		104	85-115			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	84-114			

Origins Laboratory, Inc.



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

Jeremy Pike  
 Project Number: 034518002  
 Project: Dow 23-28

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B8G3108 - EPA 5030B (Water)

Matrix Spike Dup (B8G3108-MSD1)	Source: Y807405-01			Prepared: 07/31/2018 Analyzed: 08/01/2018						
Benzene	45.6	1.00	ug/L	50.0	0.320	90.6	74-130	7.98	20	
Toluene	46.2	1.00	"	50.0	0.140	92.1	73-131	7.64	20	
Ethylbenzene	49.1	1.00	"	50.0	1.42	95.4	76-132	12.2	20	
m,p-Xylene	101	2.00	"	100	3.86	96.9	69-139	9.59	20	
o-Xylene	49.1	1.00	"	50.0	0.230	97.8	74-131	8.05	20	
Surrogate: 1,2-Dichloroethane-d4	57		"	62.5		90.6	84-121			
Surrogate: Toluene-d8	64		"	62.5		102	85-115			
Surrogate: 4-Bromofluorobenzene	67		"	62.5		108	84-114			

Origins Laboratory, Inc.



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

Jeremy Pike  
 Project Number: 034518002  
 Project: Dow 23-28

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B8G3108 - EPA 5030B (Water)**

Matrix Spike Dup (B8G3108-MSD2)	Source: Y807405-02			Prepared: 07/31/2018 Analyzed: 08/01/2018						
Benzene	53.2	1.00	ug/L	50.0	5.99	94.4	74-130	4.03	20	
Toluene	52.8	1.00	"	50.0	ND	106	73-131	5.67	20	
Ethylbenzene	54.7	1.00	"	50.0	0.150	109	76-132	3.29	20	
m,p-Xylene	108	2.00	"	100	0.190	108	69-139	4.20	20	
o-Xylene	54.1	1.00	"	50.0	ND	108	74-131	3.71	20	
Surrogate: 1,2-Dichloroethane-d4	57		"	62.5		90.5	84-121			
Surrogate: Toluene-d8	66		"	62.5		105	85-115			
Surrogate: 4-Bromofluorobenzene	64		"	62.5		102	84-114			

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

Jeremy Pike  
Project Number: 034518002  
Project: Dow 23-28

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**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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---

Jen Pellegrini For Noelle Doyle Mathis, President



October 30, 2018

**LT Environmental, Inc.**

**Jeremy Pike**

**4600 West 60th Avenue**

**Arvada CO 80003**

**Project Name - Dow 23-28**

**Project Number - 034518002**

Attached are your analytical results for Dow 23-28 received by Origins Laboratory, Inc. October 26, 2018. This project is associated with Origins project number Y810414-01.

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

Jeremy Pike  
Project Number: 034518002  
Project: Dow 23-28

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW01	Y810414-01	Water	October 26, 2018 12:33	10/26/2018 16:55
MW02	Y810414-02	Water	October 26, 2018 12:11	10/26/2018 16:55
MW03	Y810414-03	Water	October 26, 2018 13:03	10/26/2018 16:55
MW04	Y810414-04	Water	October 26, 2018 12:01	10/26/2018 16:55
MW05	Y810414-05	Water	October 26, 2018 12:36	10/26/2018 16:55
MW06	Y810414-06	Water	October 26, 2018 12:51	10/26/2018 16:55

Per the email from Jeremy on 10/30/18, the project name was changed to Dow 23-28 and the project number was changed to 034518002.

Origins Laboratory, Inc.



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

Jeremy Pike  
 Project Number: 034517002  
 Project: Dow 23-28

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page 1 of 3

740414

# ORIGINS

LABORATORY, INC

Client: LT Environmental, Inc. Project Manager: Jeremy Pike  
 Address: 4600 West 60th Ave, Arvada, CO Project Name: Dow 43-28  
 Telephone Number: 303-433-9788 Project Number: 034517003  
 Email Address: jpik@ltenv.com, croy@ltenv.com Samples Collected By: New BULL-lyst

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis	Sample Instructions	
				Unpreserved	HCl	HNO <sub>3</sub>	Other	Groundwater	Soil	Air Summa Canister #			Other
MW01	10/25/11	12:33	3	X				X				BTEX	1
MW02	10/25/11	12:11	3	X				X				BTEX	2
MW03	10/25/11	13:00	3	X				X				BTEX	3
MW04	10/25/11	12:01	3	X				X				BTEX	4
MW05	10/25/11	12:36	3	X				X				BTEX	5
MW06	10/26/11	12:51	3	X				X				BTEX	6
													7
													8
													9
													10
Relinquished By: <i>New Sullivan</i>	Date: 10/24/18	Time: 16:55		Received By:	Received By: <i>[Signature]</i>	Date: 10/24/18	Time: 16:55	Received By:	Received By: <i>[Signature]</i>	Date: 10/24/18	Time: 16:55	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:	Received By:	Date:	Time:	Received By:	Received By:	Date:	Time:		

Date Results Needed: 34

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

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

Jeremy Pike  
 Project Number: 034518002  
 Project: Dow 23-28

Origins Laboratory

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

**Sample Receipt Checklist**

Origins Work Order: 7810414 Client: LTE  
 Client Project ID: Dow 43-28  
 Checklist Completed by: JG Shipped Via: HD  
 (UPS, FedEx, Hand Delivered, Pick-up, etc.)  
 Date/time completed: 10/29/2018 Airbill #: N/A  
 Matrix(s) Received: (Check all that apply): Soil/Solid  Water  Other: \_\_\_\_\_  
 Cooler Number/Temperature: 1 / 3.4 °C \_\_\_\_\_ °C \_\_\_\_\_ °C \_\_\_\_\_ °C (Describe)  
 Thermometer ID: T003

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

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

Reviewed by (Project Manager) JG Date/Time Reviewed 10/29/18

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

Jeremy Pike  
 Project Number: 034518002  
 Project: Dow 23-28

**MW01**  
**10/26/2018 12:33:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y810414-01 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.00	ug/L	1	B8J2902	KDK	10/29/2018	10/29/2018	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 %	84-121			"	"	"	"	
Surrogate: Toluene-d8	99.2 %	85-115			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	95.4 %	84-114			"	"	"	"	

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

Jeremy Pike  
 Project Number: 034518002  
 Project: Dow 23-28

**MW02**  
**10/26/2018 12:11:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y810414-02 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.00	ug/L	1	B8J2902	KDK	10/29/2018	10/29/2018	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 %	84-121			"	"	"	"	
Surrogate: Toluene-d8	99.4 %	85-115			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	96.1 %	84-114			"	"	"	"	

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

Jeremy Pike  
 Project Number: 034518002  
 Project: Dow 23-28

**MW03**

**10/26/2018 1:03:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y810414-03 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.00	ug/L	1	B8J2902	KDK	10/29/2018	10/29/2018	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	109 %	84-121			"	"	"	"	
Surrogate: Toluene-d8	99.0 %	85-115			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	96.7 %	84-114			"	"	"	"	

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

Jeremy Pike  
 Project Number: 034518002  
 Project: Dow 23-28

**MW04**

**10/26/2018 12:01:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y810414-04 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.00	ug/L	1	B8J2902	KDK	10/29/2018	10/30/2018	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	111 %	84-121			"	"	"	"	
Surrogate: Toluene-d8	98.8 %	85-115			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	95.6 %	84-114			"	"	"	"	

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

Jeremy Pike  
 Project Number: 034518002  
 Project: Dow 23-28

**MW05**  
**10/26/2018 12:36:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y810414-05 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.00	ug/L	1	B8J2902	KDK	10/29/2018	10/30/2018	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 %	84-121			"	"	"	"	
Surrogate: Toluene-d8	98.9 %	85-115			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	96.4 %	84-114			"	"	"	"	

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

Jeremy Pike  
 Project Number: 034518002  
 Project: Dow 23-28

**MW06**  
**10/26/2018 12:51:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y810414-06 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.00	ug/L	1	B8J2902	KDK	10/29/2018	10/30/2018	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 %	84-121			"	"	"	"	
Surrogate: Toluene-d8	99.0 %	85-115			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	95.7 %	84-114			"	"	"	"	

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

Jeremy Pike  
 Project Number: 034518002  
 Project: Dow 23-28

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B8J2902 - EPA 5030B (Water)**

**Blank (B8J2902-BLK1)**

Prepared: 10/29/2018 Analyzed: 10/29/2018

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		84-121			
Surrogate: Toluene-d8	62		"	62.5	99.4		85-115			
Surrogate: 4-Bromofluorobenzene	60		"	62.5	96.1		84-114			

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

Jeremy Pike  
 Project Number: 034518002  
 Project: Dow 23-28

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B8J2902 - EPA 5030B (Water)**

**LCS (B8J2902-BS1)**

Prepared: 10/29/2018 Analyzed: 10/29/2018

Benzene	49.5	1.00	ug/L	50.0		98.9	73.3-129			
Toluene	49.5	1.00	"	50.0		98.9	76.2-123			
Ethylbenzene	48.6	1.00	"	50.0		97.2	73.6-130			
m,p-Xylene	99.9	2.00	"	100		99.9	76.1-126			
o-Xylene	46.9	1.00	"	50.0		93.8	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	65		"	62.5		104	84-121			
Surrogate: Toluene-d8	62		"	62.5		98.8	85-115			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.8	84-114			

Origins Laboratory, Inc.



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

Jeremy Pike  
 Project Number: 034518002  
 Project: Dow 23-28

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B8J2902 - EPA 5030B (Water)**

<b>Matrix Spike (B8J2902-MS1)</b>	<b>Source: Y810413-01</b>			<b>Prepared: 10/29/2018 Analyzed: 10/29/2018</b>						
Benzene	50.0	1.00	ug/L	50.0	ND	100	74-130			
Toluene	49.8	1.00	"	50.0	0.300	99.1	73-131			
Ethylbenzene	48.1	1.00	"	50.0	0.060	96.0	76-132			
m,p-Xylene	99.0	2.00	"	100	ND	99.0	69-139			
o-Xylene	46.2	1.00	"	50.0	ND	92.4	74-131			
Surrogate: 1,2-Dichloroethane-d4	67		"	62.5		107	84-121			
Surrogate: Toluene-d8	61		"	62.5		98.0	85-115			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.4	84-114			

Origins Laboratory, Inc.



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

Jeremy Pike  
 Project Number: 034518002  
 Project: Dow 23-28

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B8J2902 - EPA 5030B (Water)**

Matrix Spike Dup (B8J2902-MSD1)	Source: Y810413-01			Prepared: 10/29/2018 Analyzed: 10/29/2018						
Benzene	51.1	1.00	ug/L	50.0	ND	102	74-130	2.20	20	
Toluene	50.2	1.00	"	50.0	0.300	99.8	73-131	0.740	20	
Ethylbenzene	49.1	1.00	"	50.0	0.060	98.1	76-132	2.12	20	
m,p-Xylene	101	2.00	"	100	ND	101	69-139	1.87	20	
o-Xylene	47.2	1.00	"	50.0	ND	94.4	74-131	2.12	20	
Surrogate: 1,2-Dichloroethane-d4	66		"	62.5		105	84-121			
Surrogate: Toluene-d8	61		"	62.5		97.2	85-115			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		100	84-114			

Origins Laboratory, Inc.



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

Jeremy Pike  
Project Number: 034518002  
Project: Dow 23-28

---

**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



January 15, 2019

LT Environmental, Inc.

Jeremy Pike

4600 West 60th Avenue

Arvada CO 80003

**Project Name - Dow 23-28**

**Project Number - 034518002**

Attached are your analytical results for Dow 23-28 received by Origins Laboratory, Inc. January 08, 2019. This project is associated with Origins project number Y901102-01.

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

Jeremy Pike  
Project Number: 034518002  
Project: Dow 23-28

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW01	Y901102-01	Water	January 8, 2019 11:41	01/08/2019 15:05
MW02	Y901102-02	Water	January 8, 2019 11:53	01/08/2019 15:05
MW03	Y901102-03	Water	January 8, 2019 12:22	01/08/2019 15:05
MW04	Y901102-04	Water	January 8, 2019 12:07	01/08/2019 15:05
MW05	Y901102-05	Water	January 8, 2019 12:38	01/08/2019 15:05
MW06	Y901102-06	Water	January 8, 2019 11:26	01/08/2019 15:05

Per the email from Jeremy on 01/15/2019, the project name was changed to Dow 23-28.

Origins Laboratory, Inc.



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

Jen Pellegrini For Noelle Doyle Mathis, President

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

Jeremy Pike  
 Project Number: 034517002  
 Project: Dow 23-28

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page 1 of 1

**ORIGINS**  
 LABORATORY, INC

Y901102

Client: LT Environmental, Inc. Project Manager: Jeremy Pike

Address: 4600 West 60th Ave, Arvada, CO Project Name: Dow 43-28

Telephone Number: 303-433-9788 Project Number: 034517003

Email Address: jpike@ltenv.com; croy@ltenv.com Samples Collected By: Drew Bullinger

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 <sub>3</sub>	Other	Groundwater	Soil	Air Summa #		
MW01	1/8/19	11:41	3	X				X			BTEX	1
MW02	1/8/19	11:53	3	X				X			BTEX	2
MW03	1/8/19	12:22	3	X				X			BTEX	3
MW04	1/8/19	12:07	3	X				X			BTEX	4
MW05	1/8/19	12:38	3	X				X			BTEX	5
MW06	1/8/19	11:26	3	X				X			BTEX	6
												7
												8
												9
												10
Relinquished By: <i>Drew Bullinger</i>	Date: 1/8/19	Time: 15:05	Received By: <i>[Signature]</i>	Date: 1-8-19	Time: 13:5	Turnaround Time: Same Day <input checked="" 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:							

2.6 Date Results Needed

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

Jeremy Pike  
 Project Number: 034518002  
 Project: Dow 23-28

Origins Laboratory

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

**Sample Receipt Checklist**

Origins Work Order: Y901102

Client: LTE

Client Project ID: DOW 43-28

Checklist Completed by: JG

Shipped Via: HD

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

Date/time completed: 1 / 9 / 2019

Airbill #: N/A

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

Cooler Number/Temperature: 1 / 2.8 °C          /          °C          /          °C          /          °C (Describe)

Thermometer ID: T003

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

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

[Signature]  
 Reviewed by (Project Manager)

1/10/19  
 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

Jeremy Pike  
 Project Number: 034518002  
 Project: Dow 23-28

**MW01**

**1/8/2019 11:41:00AM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y901102-01 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.00	ug/L	1	B9A1005	KDK	01/10/2019	01/10/2019	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	100 %	84-121			"	"	"	"	
Surrogate: Toluene-d8	100 %	85-115			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	99.8 %	84-114			"	"	"	"	

Origins Laboratory, Inc.



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

Jeremy Pike  
 Project Number: 034518002  
 Project: Dow 23-28

**MW02**

**1/8/2019 11:53:00AM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y901102-02 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.00	ug/L	1	B9A1005	KDK	01/10/2019	01/10/2019	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	103 %	84-121			"	"		"	
Surrogate: Toluene-d8	98.7 %	85-115			"	"		"	
Surrogate: 4-Bromofluorobenzene	98.9 %	84-114			"	"		"	

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

Jeremy Pike  
 Project Number: 034518002  
 Project: Dow 23-28

**MW03**

**1/8/2019 12:22:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y901102-03 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.00	ug/L	1	B9A1005	KDK	01/10/2019	01/10/2019	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	102 %	84-121			"	"	"	"	
Surrogate: Toluene-d8	99.8 %	85-115			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	100 %	84-114			"	"	"	"	

Origins Laboratory, Inc.



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 4600 West 60th Avenue  
 Arvada CO 80003

Jeremy Pike  
 Project Number: 034518002  
 Project: Dow 23-28

**MW04**

**1/8/2019 12:07:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y901102-04 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.00	ug/L	1	B9A1005	KDK	01/10/2019	01/10/2019	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	104 %	84-121			"	"	"	"	
Surrogate: Toluene-d8	98.2 %	85-115			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	99.2 %	84-114			"	"	"	"	

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 Project: Dow 23-28

**MW05**

**1/8/2019 12:38:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y901102-05 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.00	ug/L	1	B9A1005	KDK	01/10/2019	01/11/2019	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	101 %	84-121			"	"	"	"	
Surrogate: Toluene-d8	100 %	85-115			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	99.8 %	84-114			"	"	"	"	

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 Project: Dow 23-28

**MW06**

**1/8/2019 11:26:00AM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y901102-06 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.00	ug/L	1	B9A1005	KDK	01/10/2019	01/11/2019	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	103 %	84-121			"	"	"	"	
Surrogate: Toluene-d8	98.8 %	85-115			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	101 %	84-114			"	"	"	"	

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Jeremy Pike  
 Project Number: 034518002  
 Project: Dow 23-28

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B9A1005 - EPA 5030B (Water)**

**Blank (B9A1005-BLK1)**

Prepared: 01/10/2019 Analyzed: 01/10/2019

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	63		"	62.5		100	84-121			
Surrogate: Toluene-d8	62		"	62.5		99.5	85-115			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.5	84-114			

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 Project: Dow 23-28

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B9A1005 - EPA 5030B (Water)**

**Blank (B9A1005-BLK2)**

Prepared: 01/10/2019 Analyzed: 01/10/2019

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	63		"	62.5		101	84-121			
Surrogate: Toluene-d8	62		"	62.5		98.7	85-115			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.9	84-114			

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Jeremy Pike  
 Project Number: 034518002  
 Project: Dow 23-28

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B9A1005 - EPA 5030B (Water)**

**LCS (B9A1005-BS1)**

Prepared: 01/10/2019 Analyzed: 01/10/2019

Benzene	54.8	1.00	ug/L	50.0		110	73.3-129			
Toluene	49.7	1.00	"	50.0		99.5	76.2-123			
Ethylbenzene	51.3	1.00	"	50.0		103	73.6-130			
m,p-Xylene	90.7	2.00	"	100		90.7	76.1-126			
o-Xylene	47.4	1.00	"	50.0		94.9	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	61		"	62.5		97.7	84-121			
Surrogate: Toluene-d8	62		"	62.5		99.7	85-115			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		100	84-114			

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 Project Number: 034518002  
 Project: Dow 23-28

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B9A1005 - EPA 5030B (Water)

**LCS (B9A1005-BS2)**

Prepared: 01/10/2019 Analyzed: 01/10/2019

Benzene	58.8	1.00	ug/L	50.0		118	73.3-129			
Toluene	53.2	1.00	"	50.0		106	76.2-123			
Ethylbenzene	55.3	1.00	"	50.0		111	73.6-130			
m,p-Xylene	99.4	2.00	"	100		99.4	76.1-126			
o-Xylene	53.6	1.00	"	50.0		107	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	60		"	62.5		96.1	84-121			
Surrogate: Toluene-d8	62		"	62.5		100	85-115			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	84-114			

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Jeremy Pike  
 Project Number: 034518002  
 Project: Dow 23-28

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B9A1005 - EPA 5030B (Water)**

<b>Matrix Spike (B9A1005-MS1)</b>	<b>Source: Y901092-01</b>			<b>Prepared: 01/10/2019 Analyzed: 01/10/2019</b>						
Benzene	52.4	1.00	ug/L	50.0	ND	105	74-130			
Toluene	55.2	1.00	"	50.0	ND	110	73-131			
Ethylbenzene	55.9	1.00	"	50.0	ND	112	76-132			
m,p-Xylene	103	2.00	"	100	ND	103	69-139			
o-Xylene	53.4	1.00	"	50.0	ND	107	74-131			
Surrogate: 1,2-Dichloroethane-d4	62		"	62.5		99.4	84-121			
Surrogate: Toluene-d8	61		"	62.5		98.3	85-115			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.2	84-114			

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 Project Number: 034518002  
 Project: Dow 23-28

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B9A1005 - EPA 5030B (Water)**

<b>Matrix Spike (B9A1005-MS2)</b>	<b>Source: Y901092-02</b>			<b>Prepared: 01/10/2019 Analyzed: 01/10/2019</b>						
Benzene	53.8	1.00	ug/L	50.0	ND	108	74-130			
Toluene	56.4	1.00	"	50.0	ND	113	73-131			
Ethylbenzene	57.7	1.00	"	50.0	ND	115	76-132			
m,p-Xylene	105	2.00	"	100	ND	105	69-139			
o-Xylene	55.7	1.00	"	50.0	ND	111	74-131			
Surrogate: 1,2-Dichloroethane-d4	62		"	62.5		99.4	84-121			
Surrogate: Toluene-d8	62		"	62.5		98.6	85-115			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.8	84-114			

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 Project Number: 034518002  
 Project: Dow 23-28

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B9A1005 - EPA 5030B (Water)**

<b>Matrix Spike Dup (B9A1005-MSD1)</b>	<b>Source: Y901092-01</b>			<b>Prepared: 01/10/2019 Analyzed: 01/10/2019</b>						
Benzene	52.2	1.00	ug/L	50.0	ND	104	74-130	0.248	20	
Toluene	54.8	1.00	"	50.0	ND	110	73-131	0.728	20	
Ethylbenzene	55.7	1.00	"	50.0	ND	111	76-132	0.502	20	
m,p-Xylene	101	2.00	"	100	ND	101	69-139	1.41	20	
o-Xylene	53.6	1.00	"	50.0	ND	107	74-131	0.206	20	
Surrogate: 1,2-Dichloroethane-d4	61		"	62.5		98.2	84-121			
Surrogate: Toluene-d8	62		"	62.5		99.1	85-115			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		98.7	84-114			

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 Project Number: 034518002  
 Project: Dow 23-28

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B9A1005 - EPA 5030B (Water)</b>										
<b>Matrix Spike Dup (B9A1005-MSD2)</b>		<b>Source: Y901092-02</b>			Prepared: 01/10/2019 Analyzed: 01/10/2019					
Benzene	65.9	1.00	ug/L	50.0	ND	132	74-130	20.3	20	QM-07, QR-01
Toluene	59.2	1.00	"	50.0	ND	118	73-131	4.91	20	
Ethylbenzene	61.8	1.00	"	50.0	ND	124	76-132	6.98	20	
m,p-Xylene	112	2.00	"	100	ND	112	69-139	6.30	20	
o-Xylene	58.9	1.00	"	50.0	ND	118	74-131	5.48	20	
Surrogate: 1,2-Dichloroethane-d4	62		"	62.5		98.9	84-121			
Surrogate: Toluene-d8	62		"	62.5		99.0	85-115			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.2	84-114			

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Project: Dow 23-28

### Notes and Definitions

U Sample is Non-Detect.

QR-01 Analyses are not controlled on RPD values from sample concentrations less than 10 times the reporting limit. QC batch accepted based on LCS and/or LCSD QC results.

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.

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