

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

February 22, 2015

Chris Roy
LT Environmental, Inc.
4600 West 60th Avenue
Arvada, CO 80003
RE: Hoffman C2-65HN

Enclosed are the results of analyses for samples received by Summit Scientific on 02/20/15 17:33. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'Paul Shrewsbury', written in a cursive style.

Paul Shrewsbury
President



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

Project: Hoffman C2-65HN

Project Number: 008315010
Project Manager: Chris Roy

Reported:
02/22/15 20:33

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Hoffman Floor @ 7	1502144-01	Soil	02/20/15 14:30	02/20/15 17:33
Hoffman Side @ 2.5	1502144-02	Soil	02/20/15 14:30	02/20/15 17:33

Summit Scientific

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

Project: Hoffman C2-65HN

Project Number: 008315010
Project Manager: Chris Roy

Reported:
02/22/15 20:33

Summit Scientific 1502144

S₂

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

Page 1 of 1

Client: LT Environmental - 1 Project Manager: Chris Roy
Address: H600 W 60th Ave E-Mail: CROY@LTENV.COM / CG-REESE@LTENV.COM
City/State/Zip: Arvada, CO Project Name: HOFFMAN C 02-65HN
Phone: _____ Fax: _____ Project Number: _____
Sampler Name: Chris Reeson

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested						Special Instructions						
					HCl	HNO ₃	None	Other (Specify)	Groundwater	Soil	Air-Canister #	Other (Specify)	BZE	ORO	GRO	NAPL	PAH	EC		SAR					
1	Hoffman FLOOR @ 7	2/20/15	14:50	1										X	X	X	X	X	X	X					
2	Hoffman Side @ 2.5	2/20/15	14:30	1										X	X	X	X	X	X	X					
3																									
4																									
5																									
6																									
7																									
8																									
9																									
10																									
Relinquished by: <u>[Signature]</u>		Date/Time: <u>2/20/15 1641</u>	Received by: <u>[Signature]</u>		Date/Time: <u>2/20/15 1641</u>	Turn Around Time (Check)		Same Day <input checked="" type="checkbox"/> 72 hours <input type="checkbox"/>						24 hours <input type="checkbox"/> Standard <input type="checkbox"/>		48 hours <input type="checkbox"/>		Sample Integrity:		Temperature Upon Receipt: <u>8.6°C</u>		Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No		Notes:	

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

Project: Hoffman C2-65HN

Project Number: 008315010
Project Manager: Chris Roy

Reported:
02/22/15 20:33

Hoffman Floor @ 7
1502144-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 02/20/15 14:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1502224	02/20/15	02/20/15	8015M	

Date Sampled: 02/20/15 14:30

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

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 02/20/15 14:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	1502223	02/20/15	02/20/15	EPA 8260B	
Benzene	ND	0.0020	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	50	"	"	"	"	"	"	

Date Sampled: 02/20/15 14:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		106 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		97.0 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.4 %	21-167		"	"	"	"	

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Project: Hoffman C2-65HN

Project Number: 008315010
Project Manager: Chris Roy

Reported:
02/22/15 20:33

Hoffman Side @ 2.5
1502144-02 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 02/20/15 14:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1502224	02/20/15	02/20/15	8015M	

Date Sampled: 02/20/15 14:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		96.9 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 02/20/15 14:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	1502223	02/20/15	02/20/15	EPA 8260B	
Benzene	ND	0.0020	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	50	"	"	"	"	"	"	

Date Sampled: 02/20/15 14:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		100 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		91.4 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.7 %	21-167		"	"	"	"	

Soluble Nutrients by EPA 6020/Mod. USDA60 6(2, 3A) - Dry Weight Basis

Date Sampled: 02/20/15 14:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Hoffman Side @ 2.5
1502144-02 (Soil)

Summit Scientific

Soluble Nutrients by EPA 6020/Mod. USDA60 6(2, 3A) - Dry Weight Basis

Analyte	Result	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	685	mg/kg dry	1	1502217	02/20/15	02/20/15	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	163	5.37 "	"	"	"	"	"	
Sodium	110	5.37 "	"	"	"	"	"	

Date Sampled: 02/20/15 14:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.980		units	"	1502229	02/22/15	02/22/15	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: 02/20/15 14:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.316	0.0100	mmhos/cm	1	1502206	02/20/15	02/20/15	SM 2510B	

Date Sampled: 02/20/15 14:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.63	0.100	pH Units	"	1502205	"	02/20/15	EPA 9045	

Date Sampled: 02/20/15 14:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	93.1		%	"	1502222	02/20/15	02/22/15	% calculation	

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Project Number: 008315010
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Reported:
02/22/15 20:33

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 1502224 - EPA 3550A

Blank (1502224-BLK1)

Prepared & Analyzed: 02/20/15

C10-C28 (DRO)	ND	50	mg/kg								
<i>Surrogate: o-Terphenyl</i>	12.2		"	12.2		100	30-150				

LCS (1502224-BS1)

Prepared & Analyzed: 02/20/15

C10-C28 (DRO)	554	50	mg/kg	501		111	73-134				
<i>Surrogate: o-Terphenyl</i>	12.0		"	12.2		98.6	30-150				

Matrix Spike (1502224-MS1)

Source: 1502144-01

Prepared & Analyzed: 02/20/15

C10-C28 (DRO)	578	50	mg/kg	489	21.9	114	50-148				
<i>Surrogate: o-Terphenyl</i>	11.7		"	11.9		98.3	30-150				

Matrix Spike Dup (1502224-MSD1)

Source: 1502144-01

Prepared & Analyzed: 02/20/15

C10-C28 (DRO)	587	50	mg/kg	484	21.9	117	50-148	1.46		13	
<i>Surrogate: o-Terphenyl</i>	11.8		"	11.8		100	30-150				

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Project: Hoffman C2-65HN

Project Number: 008315010
Project Manager: Chris Roy

Reported:
02/22/15 20:33

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 1502223 - EPA 5030 Soil MS

Blank (1502223-BLK1)

Prepared & Analyzed: 02/20/15

Naphthalene	ND	0.010	mg/kg							
Benzene	ND	0.0020	"							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0409</i>		<i>"</i>	<i>0.0396</i>		<i>103</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0380</i>		<i>"</i>	<i>0.0400</i>		<i>95.0</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0389</i>		<i>"</i>	<i>0.0400</i>		<i>97.2</i>	<i>21-167</i>			

LCS (1502223-BS1)

Prepared & Analyzed: 02/20/15

Naphthalene	ND	0.010	mg/kg				66-138			
Benzene	0.106	0.0020	"	0.100		106	58-130			
Toluene	0.100	0.0050	"	0.100		100	61-134			
Ethylbenzene	0.101	0.0050	"	0.0992		102	74-139			
m,p-Xylene	0.198	0.010	"	0.200		99.1	73-137			
o-Xylene	0.0966	0.0050	"	0.0984		98.2	73-141			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0431</i>		<i>"</i>	<i>0.0396</i>		<i>109</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0392</i>		<i>"</i>	<i>0.0400</i>		<i>98.0</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0390</i>		<i>"</i>	<i>0.0400</i>		<i>97.6</i>	<i>21-167</i>			

Matrix Spike (1502223-MS1)

Source: 1502144-01

Prepared & Analyzed: 02/20/15

Naphthalene	0.00455	0.010	mg/kg		ND		10-158			
Benzene	0.0952	0.0020	"	0.0942	ND	101	30-131			
Toluene	0.0892	0.0050	"	0.0942	ND	94.7	30-134			
Ethylbenzene	0.0892	0.0050	"	0.0934	ND	95.4	22-153			
m,p-Xylene	0.176	0.010	"	0.188	ND	93.5	10-159			
o-Xylene	0.0867	0.0050	"	0.0927	ND	93.5	31-151			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0394</i>		<i>"</i>	<i>0.0373</i>		<i>106</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0364</i>		<i>"</i>	<i>0.0377</i>		<i>96.8</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0357</i>		<i>"</i>	<i>0.0377</i>		<i>94.9</i>	<i>21-167</i>			

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Project: Hoffman C2-65HN

Project Number: 008315010
Project Manager: Chris Roy

Reported:
02/22/15 20:33

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

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

Batch 1502223 - EPA 5030 Soil MS

Matrix Spike Dup (1502223-MSD1)	Source: 1502144-01			Prepared & Analyzed: 02/20/15						
Naphthalene	0.00515	0.010	mg/kg	ND	ND	84.9	10-158	12.4	42	
Benzene	0.0787	0.0020	"	0.0928	ND	80.2	30-131	18.9	34	
Toluene	0.0744	0.0050	"	0.0928	ND	81.3	30-134	17.5	30	
Ethylbenzene	0.0748	0.0050	"	0.0920	ND	81.6	22-153	15.1	24	
m,p-Xylene	0.151	0.010	"	0.185	ND	82.4	10-159	14.2	68	
o-Xylene	0.0752	0.0050	"	0.0913	ND		31-151		38	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0383</i>		<i>"</i>	<i>0.0367</i>		<i>104</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0362</i>		<i>"</i>	<i>0.0371</i>		<i>97.5</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0374</i>		<i>"</i>	<i>0.0371</i>		<i>101</i>	<i>21-167</i>			

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Project: Hoffman C2-65HN

Project Number: 008315010
Project Manager: Chris Roy

Reported:
02/22/15 20:33

Soluble Nutrients by EPA 6020/Mod. USDA60 6(2, 3A) - Dry Weight Basis - Quality Control
Summit Scientific

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

Batch 1502217 - General Preparation

Blank (1502217-BLK1)

Prepared & Analyzed: 02/20/15

Calcium	ND	10.0	mg/kg wet							
Magnesium	ND	5.00	"							
Sodium	ND	5.00	"							

LCS (1502217-BS1)

Prepared & Analyzed: 02/20/15

Calcium	538	10.0	mg/kg wet	500		108	80-120			
Magnesium	531	5.00	"	500		106	80-120			
Sodium	579	5.00	"	500		116	80-120			

Duplicate (1502217-DUP1)

Source: 1502142-01

Prepared & Analyzed: 02/20/15

Calcium	3400	14.1	mg/kg dry		4230			21.9	200	
Magnesium	370	7.03	"		435			16.0	200	
Sodium	2310	7.03	"		2170			6.36	200	

Matrix Spike (1502217-MS1)

Source: 1502142-01

Prepared & Analyzed: 02/20/15

Calcium	4250	11.9	mg/kg dry	596	4230	3.09	75-125			QM-07
Magnesium	982	5.96	"	596	435	91.9	75-125			
Sodium	2360	5.96	"	596	2170	32.3	75-125			QM-07

Matrix Spike Dup (1502217-MSD1)

Source: 1502142-01

Prepared & Analyzed: 02/20/15

Calcium	3880	14.1	mg/kg dry	676	4230	NR	75-125	8.99	25	QM-07
Magnesium	1010	7.03	"	676	435	85.7	75-125	3.15	25	
Sodium	1920	7.03	"	676	2170	NR	75-125	20.7	25	QM-07

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Project: Hoffman C2-65HN

Project Number: 008315010
Project Manager: Chris Roy

Reported:
02/22/15 20:33

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
Summit Scientific

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

Batch 1502205 - General Preparation

LCS (1502205-BS1)					Prepared & Analyzed: 02/20/15					
pH	7.99	0.100	pH Units	8.00	99.9	95-105				
Duplicate (1502205-DUP1)					Source: 1502142-01 Prepared & Analyzed: 02/20/15					
pH	6.83	0.100	pH Units	6.75			1.18	20		

Batch 1502206 - General Preparation

Blank (1502206-BLK1)					Prepared & Analyzed: 02/20/15					
Specific Conductance (EC)	ND	0.0100	mmhos/cm							
LCS (1502206-BS1)					Prepared & Analyzed: 02/20/15					
Specific Conductance (EC)	486	0.0100	mmhos/cm	500	97.1	90-110				
Duplicate (1502206-DUP1)					Source: 1502142-01 Prepared & Analyzed: 02/20/15					
Specific Conductance (EC)	6.79	0.0100	mmhos/cm	6.80			0.147	20		

Batch 1502222 - General Preparation

Duplicate (1502222-DUP1)					Source: 1502141-01 Prepared: 02/20/15 Analyzed: 02/22/15					
% Solids	96.5		%	88.4			8.76	20		

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Project: Hoffman C2-65HN

Project Number: 008315010
Project Manager: Chris Roy

Reported:
02/22/15 20:33

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

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