



October 08, 2014

LT Environmental, Inc.

Chris Roy

4600 West 60th Avenue

Arvada CO 80003

Project Name - Noble-Huwall-1,2

Project Number - 008314069

Attached are your analytical results for Noble-Huwall-1,2 received by Origins Laboratory, Inc. October 07, 2014. This project is associated with Origins project number X410066-01.

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

Chris Roy  
Project Number: 008314069  
Project: Noble-Huwall-1,2

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW01	X410066-01	Water	October 7, 2014 14:50	10/07/2014 17:00
SS01 @ 2'	X410066-02	Soil	October 7, 2014 13:00	10/07/2014 17:00

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.*

Ross S Hutto For Noelle Doyle Mathis, President



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

Chris Roy  
 Project Number: 008314069  
 Project: Noble-Huwall-1,2

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: X410066 Client: LTE  
 Client Project ID: Huwall-1-2  
 Checklist Completed by: Jan Pellegrini Shipped Via: Pickup  
 (UPS, FedEx, Hand Delivered, Pick-up, etc.)  
 Date/time completed: 10-7-14 Airbill #: N/A  
 Matrix(s) Received: (Check all that apply):  Soil/Solid  Water \_\_\_\_\_ Other: \_\_\_\_\_  
 Cooler Number/Temperature: 1 / 8.9 °c \_\_\_\_\_ / \_\_\_\_\_ °c \_\_\_\_\_ / \_\_\_\_\_ °c (Describe)  
 Thermometer ID: T002

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

10-7-14 17:44  
 Date/Time Reviewed

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

Chris Roy  
 Project Number: 008314069  
 Project: Noble-Huwall-1,2

**GW01**  
**10/7/2014 2:50:00PM**

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

**Origins Laboratory, Inc.**  
**X410066-01 (Water)**

**BTEX by EPA 8260C**

Benzene	1610	10.0	ug/L	10	4J07001	10/07/2014	10/07/2014	
Toluene	19900	500	"	500	"	"	10/07/2014	
Ethylbenzene	460	10.0	"	10	"	"	10/07/2014	
Xylenes, total	49700	500	"	500	"	"	10/07/2014	
Surrogate: 1,2-Dichloroethane-d4	102 %	87.3-113			"	"	"	
Surrogate: Toluene-d8	100 %	90.9-108			"	"	"	
Surrogate: 4-Bromofluorobenzene	101 %	88.6-111			"	"	"	

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

Chris Roy  
 Project Number: 008314069  
 Project: Noble-Huwall-1,2

**SS01 @ 2'**  
**10/7/2014 1:00:00PM**

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

**Origins Laboratory, Inc.**  
**X410066-02 (Soil)**

**Diesel Range Organics (DRO/TEPH) by EPA 8015C**

Diesel (C10-C28)	890	50.0	mg/kg	1	4J07008	10/07/2014	10/07/2014	
Surrogate: o-Terphenyl	93.8 %	59-131			"	"	"	

**GBTEX + Napthalene by 8260C**

Gasoline Range Hydrocarbons	215	5.00	mg/kg	25	4J06009	10/07/2014	10/07/2014	
Benzene	ND	0.05	"	"	"	"	"	
Toluene	ND	0.05	"	"	"	"	"	
Ethylbenzene	ND	0.05	"	"	"	"	"	
Xylenes, total	3.00	0.05	"	"	"	"	"	
Naphthalene	ND	0.20	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	108 %	70-130			"	"	10/07/2014	
Surrogate: Toluene-d8	108 %	70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	99.5 %	70-130			"	"	"	

Origins Laboratory, Inc.



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

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

Chris Roy  
 Project Number: 008314069  
 Project: Noble-Huwall-1,2

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

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

**Batch 4J06009 - EPA 5030 (soil)**

**Blank (4J06009-BLK1)**

Prepared: 10/06/2014 Analyzed: 10/07/2014

Gasoline Range Hydrocarbons	ND	0.20	mg/kg							
Benzene	ND	0.002	"							
Toluene	ND	0.002	"							
Ethylbenzene	ND	0.002	"							
Xylenes, total	ND	0.002	"							
Naphthalene	ND	0.008	"							
Surrogate: 1,2-Dichloroethane-d4	72		ug/kg	62.5		114	70-130			
Surrogate: Toluene-d8	64		"	62.5		102	70-130			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.8	70-130			

Origins Laboratory, Inc.



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

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

Chris Roy  
 Project Number: 008314069  
 Project: Noble-Huwall-1,2

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

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

**Batch 4J06009 - EPA 5030 (soil)**

**LCS (4J06009-BS1)**

Prepared: 10/06/2014 Analyzed: 10/07/2014

Benzene	0.10	0.002	mg/kg	0.100		99.9	70-130			
Toluene	0.11	0.002	"	0.100		107	70-130			
Ethylbenzene	0.11	0.002	"	0.100		106	70-130			
m,p-Xylene	0.21	0.004	"	0.200		105	70-130			
o-Xylene	0.11	0.002	"	0.100		107	70-130			
Naphthalene	0.11	0.008	"	0.100		113	70-130			
Surrogate: 1,2-Dichloroethane-d4	65		ug/kg	62.5		105	70-130			
Surrogate: Toluene-d8	61		"	62.5		98.1	70-130			
Surrogate: 4-Bromofluorobenzene	64		"	62.5		103	70-130			

Origins Laboratory, Inc.



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

Ross S Hutto For Noelle Doyle Mathis, President

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

Chris Roy  
 Project Number: 008314069  
 Project: Noble-Huwall-1,2

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

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

Batch 4J06009 - EPA 5030 (soil)

Matrix Spike (4J06009-MS1)	Source: X410017-01			Prepared: 10/06/2014 Analyzed: 10/07/2014						
Benzene	0.09	0.002	mg/kg	0.100	ND	91.9	70-130			
Toluene	0.10	0.002	"	0.100	ND	98.5	70-130			
Ethylbenzene	0.10	0.002	"	0.100	ND	97.9	70-130			
m,p-Xylene	0.20	0.004	"	0.200	ND	100	70-130			
o-Xylene	0.10	0.002	"	0.100	ND	98.5	70-130			
Naphthalene	0.12	0.008	"	0.100	0.002	114	70-130			
Surrogate: 1,2-Dichloroethane-d4	64		ug/kg	62.5		102	70-130			
Surrogate: Toluene-d8	63		"	62.5		101	70-130			
Surrogate: 4-Bromofluorobenzene	64		"	62.5		102	70-130			

Origins Laboratory, Inc.



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

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

Chris Roy  
 Project Number: 008314069  
 Project: Noble-Huwall-1,2

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

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

Batch 4J06009 - EPA 5030 (soil)

Matrix Spike Dup (4J06009-MSD1)	Source: X410017-01			Prepared: 10/06/2014 Analyzed: 10/07/2014						
Benzene	0.09	0.002	mg/kg	0.100	ND	90.4	70-130	1.62	20	
Toluene	0.10	0.002	"	0.100	ND	96.5	70-130	2.05	20	
Ethylbenzene	0.09	0.002	"	0.100	ND	91.2	70-130	7.04	20	
m,p-Xylene	0.18	0.004	"	0.200	ND	92.0	70-130	8.49	20	
o-Xylene	0.09	0.002	"	0.100	ND	91.7	70-130	7.11	20	
Naphthalene	0.11	0.008	"	0.100	0.002	112	70-130	1.18	20	
Surrogate: 1,2-Dichloroethane-d4	66		ug/kg	62.5		105	70-130			
Surrogate: Toluene-d8	63		"	62.5		101	70-130			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.4	70-130			

Origins Laboratory, Inc.



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

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

Chris Roy  
 Project Number: 008314069  
 Project: Noble-Huwall-1,2

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

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

**Batch 4J07001 - EPA 5030B (Water)**

**Blank (4J07001-BLK1)**

Prepared: 10/07/2014 Analyzed: 10/07/2014

Benzene	ND	1.0	ug/L							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes, total	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	63		"	62.5	101		87.3-113			
Surrogate: Toluene-d8	62		"	62.5	99.2		90.9-108			
Surrogate: 4-Bromofluorobenzene	62		"	62.5	99.8		88.6-111			

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.*

Ross S Hutto For Noelle Doyle Mathis, President

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

Chris Roy  
 Project Number: 008314069  
 Project: Noble-Huwall-1,2

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

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

**Batch 4J07001 - EPA 5030B (Water)**

**LCS (4J07001-BS1)**

Prepared: 10/07/2014 Analyzed: 10/07/2014

Benzene	59.6	1.0	ug/L	50.0		119	75-126			
Toluene	61.6	1.0	"	50.0		123	78.7-126			
Ethylbenzene	63.2	1.0	"	50.0		126	81-130			
m,p-Xylene	123	2.0	"	100		123	77.2-133			
o-Xylene	60.8	1.0	"	50.0		122	77.9-126			
Surrogate: 1,2-Dichloroethane-d4	59		"	62.5		94.8	87.3-113			
Surrogate: Toluene-d8	63		"	62.5		101	90.9-108			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		100	88.6-111			

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.*

Ross S Hutto For Noelle Doyle Mathis, President

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

Chris Roy  
 Project Number: 008314069  
 Project: Noble-Huwall-1,2

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

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

**Batch 4J07001 - EPA 5030B (Water)**

<b>Matrix Spike (4J07001-MS1)</b>	<b>Source: X410044-01</b>			<b>Prepared: 10/07/2014 Analyzed: 10/07/2014</b>						
Benzene	63.0	1.0	ug/L	50.0	ND	126	74-130			
Toluene	64.1	1.0	"	50.0	ND	128	73-131			
Ethylbenzene	66.8	1.0	"	50.0	ND	134	76-132			QM-07
m,p-Xylene	126	2.0	"	100	ND	126	69-139			
o-Xylene	60.6	1.0	"	50.0	ND	121	74-131			
Surrogate: 1,2-Dichloroethane-d4	59		"	62.5		95.1	87.3-113			
Surrogate: Toluene-d8	62		"	62.5		99.8	90.9-108			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.9	88.6-111			

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

Chris Roy  
 Project Number: 008314069  
 Project: Noble-Huwall-1,2

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

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

**Batch 4J07001 - EPA 5030B (Water)**

Matrix Spike Dup (4J07001-MSD1)	Source: X410044-01			Prepared: 10/07/2014 Analyzed: 10/07/2014						
Benzene	64.1	1.0	ug/L	50.0	ND	128	74-130	1.73	20	
Toluene	64.5	1.0	"	50.0	ND	129	73-131	0.607	20	
Ethylbenzene	67.4	1.0	"	50.0	ND	135	76-132	0.745	20	QM-07
m,p-Xylene	126	2.0	"	100	ND	126	69-139	0.0633	20	
o-Xylene	60.9	1.0	"	50.0	ND	122	74-131	0.576	20	
Surrogate: 1,2-Dichloroethane-d4	59		"	62.5		94.2	87.3-113			
Surrogate: Toluene-d8	63		"	62.5		100	90.9-108			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		98.8	88.6-111			

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

Chris Roy  
 Project Number: 008314069  
 Project: Noble-Huwall-1,2

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

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

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

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

**Batch 4J07008 - EPA 3580**

**Blank (4J07008-BLK1)**

Prepared: 10/07/2014 Analyzed: 10/07/2014

Diesel (C10-C28)	ND	50.0	mg/kg							
Surrogate: o-Terphenyl	41		g	50.0		81.5	59-131			

**LCS (4J07008-BS1)**

Prepared: 10/07/2014 Analyzed: 10/07/2014

Diesel (C10-C28)	1030	50.0	mg/kg	1000		103	64-121			
Surrogate: o-Terphenyl	44		g	50.0		87.9	59-131			

**Matrix Spike (4J07008-MS1)**

**Source: X410058-01**

Prepared: 10/07/2014 Analyzed: 10/07/2014

Diesel (C10-C28)	1320	50.0	mg/kg	1000	495	82.5	53-125			
Surrogate: o-Terphenyl	47		g	50.0		94.8	59-131			

**Matrix Spike Dup (4J07008-MSD1)**

**Source: X410058-01**

Prepared: 10/07/2014 Analyzed: 10/07/2014

Diesel (C10-C28)	1360	50.0	mg/kg	1000	495	86.1	53-125	2.72	20	
Surrogate: o-Terphenyl	45		g	50.0		90.4	59-131			

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

Chris Roy  
Project Number: 008314069  
Project: Noble-Huwall-1,2

---

**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 recovery.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference

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.*

---

Ross S Hutto For Noelle Doyle Mathis, President