

07/26/2010

Noble Energy Inc.

Todd Cullum

804 Grand Avenue

Platteville

CO

80651

Project Name- Loyd Farm 1-32

Project Number- [none]

Attached are your analytical results for Loyd Farm 1-32 received by Origins Laboratory, Inc. July 16, 2010 10:30 am. This project is associated with Origins project number X007135-01 .

The analytical results in the following report were analyzed under the guidelines of EPA Methods specified in SW-846. The analytical results apply specifically to the samples and analyses specified per the attached Chain of Custody.

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.  
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Noble Energy Inc.  
804 Grand Avenue  
Platteville CO 80651

Todd Cullum  
Project Number: [none]  
Project: Loyd Farm 1-32

**CROSS REFERENCE REPORT**

Sample ID	Laboratory ID	Matrix	Sampled	Date Received
SS-C-6	X007135-01	Soil	7/15/2010 2:20:00PM	07/16/2010 10:30

Origins Laboratory, Inc.



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\_\_\_\_\_  
Noelle E Doyle.



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 804 Grand Avenue  
 Platteville CO 80651

Todd Cullum  
 Project Number: [none]  
 Project: Loyd Farm 1-32

**SS-C-6**

7/15/2010 2:20:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
 X007135-01 (Soil)

**BTEX by EPA 8260B**

Benzene	ND	0.00400	mg/kg	1	OG16001	07/16/2010	07/17/2010	
Toluene	ND	0.00400	"	"	"	"	"	
Ethylbenzene	ND	0.00400	"	"	"	"	"	
m,p-Xylene	ND	0.00800	"	"	"	"	"	
o-Xylene	ND	0.00400	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	103 %	77.6-134			"	"	"	
Surrogate: Toluene-d8	99.6 %	81.4-121			"	"	"	
Surrogate: 4-Bromofluorobenzene	105 %	74.7-123			"	"	"	

**Conductivity by E120.1**

Conductivity	2300	2	US/CM	1	815299	07/20/2010	07/20/2010	
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**Percent Moisture by AD2216A**

Percent Moisture	22.9	1	%	1	815132	07/19/2010	07/19/2010	
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**pH by SW9045C**

pH	9.39		SU	1	815274	07/20/2010	07/20/2010	
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**Sodium Absorption Ratio (SAR) by S29B08**

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**SS-C-6**

7/15/2010 2:20:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**XENCO**

X007135-01 (Soil)

**Sodium Absorption Ratio (SAR) by S29B08**

Sodium absorption ratio	5.13			1	815744	07/22/2010	07/22/2010
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**TPH-Carbon Chain by EPA Method 8015M**

Gasoline (C6-C10)	ND	50.0	mg/kg	1	OG16003	07/16/2010	07/17/2010
Diesel (C10-C28)	51.3	50.0	"	"	"	"	"
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"
TPH - Carbon Chain Total	51.3	50.0	"	"	"	"	"

Surrogate: <i>o</i> -Terphenyl	96.0 %	65-140			"	"	"
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**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
<b>Batch OG16003 - Default Prep GC-Semi</b>										
<b>Blank (OG16003-BLK1)</b>					Prepared: 07/16/2010 Analyzed: 07/17/2010					
Gasoline (C6-C10)	ND	50.0	mg/kg							
Diesel (C10-C28)	ND	50.0	"							
Residual Range Organics (C28-C36)	ND	200	"							
TPH - Carbon Chain Total	ND	50.0	"							
<i>Surrogate: o-Terphenyl</i>	<i>52.0</i>		<i>g</i>	<i>50.0</i>		<i>104</i>	<i>65-140</i>			
<b>LCS (OG16003-BSI)</b>					Prepared: 07/16/2010 Analyzed: 07/17/2010					
Gasoline (C6-C10)	128	50.0	mg/kg				65-140			
Diesel (C10-C28)	503	50.0	"	500		101	60-140			
<i>Surrogate: o-Terphenyl</i>	<i>58.6</i>		<i>g</i>	<i>50.0</i>		<i>117</i>	<i>65-140</i>			
<b>Matrix Spike (OG16003-MS1)</b>					Source: X007112-01		Prepared: 07/16/2010 Analyzed: 07/17/2010			
Gasoline (C6-C10)	122	50.0	mg/kg		ND		65-130			
Diesel (C10-C28)	2340	50.0	"	500	1530	162	60-140			QM-05
<i>Surrogate: o-Terphenyl</i>	<i>50.7</i>		<i>g</i>	<i>50.0</i>		<i>101</i>	<i>65-140</i>			
<b>Matrix Spike Dup (OG16003-MSD1)</b>					Source: X007112-01		Prepared: 07/16/2010 Analyzed: 07/17/2010			
Gasoline (C6-C10)	131	50.0	mg/kg		ND		65-130	7.06	20	
Diesel (C10-C28)	2280	50.0	"	500	1530	151	60-140	2.35	25	QM-05
<i>Surrogate: o-Terphenyl</i>	<i>52.9</i>		<i>g</i>	<i>50.0</i>		<i>106</i>	<i>65-140</i>			

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**Volatile Organic Compounds by EPA Method 8260B - 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 OG16001 - EPA 5030B**

**Blank (OG16001-BLK1)**

Prepared: 07/16/2010 Analyzed: 07/16/2010

Benzene	ND	0.004	mg/kg							
Toluene	ND	0.004	"							
Ethylbenzene	ND	0.004	"							
m,p-Xylene	ND	0.008	"							
o-Xylene	ND	0.004	"							

Surrogate: 1,2-Dichloroethane-d4	69.1		ug/L	62.5		111	77.6-134			
Surrogate: Toluene-d8	63.5		"	62.5		102	81.4-121			
Surrogate: 4-Bromofluorobenzene	66.2		"	62.5		106	74.7-123			

**LCS (OG16001-BS1)**

Prepared: 07/16/2010 Analyzed: 07/16/2010

Benzene	0.19	0.004	mg/kg	0.200		93.8	75.2-128			
Toluene	0.18	0.004	"	0.200		90.2	76.3-130			
Surrogate: 1,2-Dichloroethane-d4	68.5		ug/L	62.5		110	77.6-134			
Surrogate: Toluene-d8	64.3		"	62.5		103	81.4-121			
Surrogate: 4-Bromofluorobenzene	63.0		"	62.5		101	74.7-123			

**Matrix Spike (OG16001-MS1)**

Source: X007131-01

Prepared: 07/16/2010 Analyzed: 07/16/2010

Benzene	0.18	0.004	mg/kg	0.200	ND	92.5	77.6-132			
Toluene	0.18	0.004	"	0.200	0.0007	89.2	74-136			
Surrogate: 1,2-Dichloroethane-d4	69.8		ug/L	62.5		112	77.6-134			
Surrogate: Toluene-d8	65.0		"	62.5		104	81.4-121			
Surrogate: 4-Bromofluorobenzene	61.8		"	62.5		98.9	74.7-123			

**Matrix Spike Dup (OG16001-MSD1)**

Source: X007131-01

Prepared: 07/16/2010 Analyzed: 07/16/2010

Benzene	0.18	0.004	mg/kg	0.200	ND	92.5	77.6-132	0.00	13.1	
Toluene	0.17	0.004	"	0.200	0.0007	86.4	74-136	3.20	20.9	
Surrogate: 1,2-Dichloroethane-d4	69.2		ug/L	62.5		111	77.6-134			
Surrogate: Toluene-d8	65.1		"	62.5		104	81.4-121			
Surrogate: 4-Bromofluorobenzene	61.6		"	62.5		98.6	74.7-123			

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**Conductivity by E120.1 - Quality Control  
 XENCO**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 815299 - NONE</b>										
<b>LCS (815299-1-BKS)</b>		Source: 815299-1-BKS			Prepared: 07/20/2010 Analyzed: 07/20/2010					
Conductivity	1420	2	US/CM	1410	+1.00	101	80-120	0	20	
<b>BLANK (815299-1-BLK)</b>		Source: 815299-1-BLK			Prepared: 07/20/2010 Analyzed: 07/20/2010					
Conductivity	ND	2	US/CM	0.00			-	0	20	

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**Percent Moisture by AD2216A - Quality Control  
XENCO**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 815132 - NONE

**BLANK (815132-1-BLK)**

Source: 815132-1-BLK

Prepared: 07/19/2010 Analyzed: 07/19/2010

Percent Moisture	ND	1	%	0.00				0	20	
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**Notes and Definitions**

- QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
- I Sample result was found between MDL and RL
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference

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