

4/9/2010

Noble Energy Inc.

Marty Faraguna

804 Grand Avenue

Platteville

CO

80651

Project Name- Swanson 1-14

Project Number- [none]

Attached are your analytical results for Swanson 1-14 received by Origins Laboratory, Inc. March 30, 2010 1:30 pm. This project is associated with Origins project number X003184-01 .

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.

303.433.1322

o-squad@oelabinc.com



Noble Energy Inc.  
804 Grand Avenue  
Platteville CO 80651

Marty Faraguna  
Project Number: [none]  
Project: Swanson 1-14

## CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Sampled	Date Received
SW	X003184-01	Soil	3/30/2010 10:00:00AM	03/30/2010 13:30
N	X003184-02	Soil	3/30/2010 10:00:00AM	03/30/2010 13:30
B1	X003184-03	Soil	3/30/2010 10:00:00AM	03/30/2010 13:30

Origins Laboratory, Inc.



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Noelle E Doyle, Laboratory Manager

Marty Faraguna  
Project Number: [none]  
Project: Swanson 1-14


X003184



page 1 of 1

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Client	Noble Energy	Project Manager	m faraguna
Address	804 Grand Ave.	Project Name	Swanson
	Platteville Co	Project Number	1-14
Telephone Number		Samples Collected by	mfe

Sample ID - Description	Date Sampled	Time Sampled	Number of Containers	Preservative					Matrix	Analysis	Sample Instructions	
				Unpreserved	HCl	HNO <sub>3</sub>	Other -	Groundwater				Soil
SW	3-30-10	10:00A	1									1
N	"	"	1								TPH, BTEX, SAR, E, P, Y	2
B1	"	"	1									3
												4
												5
												6
												7
												8
												9
												10
Requisitioned by:	Date	Time	Received by:	Date	Time	Temperature Upon Receipt:						
Misty Longman	3-30-10	1:30p										
Requisitioned by:	Date	Time	Received by:	Date	Time	Turn Around Time:						
						24 hr	Same Day					
						72 hr	48 hr					
						Standard	5					

4640 North Pecos Street Unit C Denver, Colorado 80211 Laboratory • 303.433.1322 Fax • 303.265.9645

**Origins Laboratory, Inc.**

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Noble Energy Inc.  
804 Grand Avenue  
Platteville CO 80651

Marty Faraguna  
Project Number: [none]  
Project: Swanson 1-14

SW

3/30/2010 10:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
X003184-01 (Soil)

## BTEX by EPA 8260B

Benzene	ND	0.00400	mg/kg	1	OC30003	03/30/2010	03/31/2010
Toluene	ND	0.00400	"	"	"	"	"
Ethylbenzene	ND	0.00400	"	"	"	"	"
o-Xylene	ND	0.00400	"	"	"	"	"
m,p-Xylene	ND	0.00800	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	103 %	77.6-134			"	"	"
Surrogate: Toluene-d8	107 %	81.4-121			"	"	"
Surrogate: 4-Bromofluorobenzene	116 %	74.7-123			"	"	"

## TPH-Carbon Chain by EPA Method 8015M

Gasoline (C6-C10)	ND	50.0	mg/kg	1	OC31002	03/31/2010	04/02/2010
Diesel (C10-C28)	ND	50.0	"	"	"	"	"
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"
TPH - Carbon Chain Total	ND	50.0	"	"	"	"	"

Surrogate: o-Terphenyl	94.4 %	65-140			"	"	"
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Noelle E Doyle, Laboratory Manager

Noble Energy Inc.  
804 Grand Avenue  
Platteville CO 80651

Marty Faraguna  
Project Number: [none]  
Project: Swanson 1-14

N

3/30/2010 10:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
X003184-02 (Soil)

## BTEX by EPA 8260B

Benzene	0.0598	0.00400	mg/kg	1	OC30003	03/30/2010	03/31/2010
Toluene	0.0510	0.00400	"	"	"	"	"
Ethylbenzene	ND	0.00400	"	"	"	"	"
o-Xylene	0.0373	0.00400	"	"	"	"	"
m,p-Xylene	0.0237	0.00800	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	107 %	77.6-134			"	"	"
Surrogate: Toluene-d8	103 %	81.4-121			"	"	"
Surrogate: 4-Bromofluorobenzene	115 %	74.7-123			"	"	"

## TPH-Carbon Chain by EPA Method 8015M

Gasoline (C6-C10)	ND	50.0	mg/kg	1	OC31002	03/31/2010	04/02/2010
Diesel (C10-C28)	ND	50.0	"	"	"	"	"
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"
TPH - Carbon Chain Total	ND	50.0	"	"	"	"	"

Surrogate: o-Terphenyl	94.4 %	65-140			"	"	"
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Project Number: [none]  
Project: Swanson 1-14

**B1**

**3/30/2010 10:00:00AM**

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

X003184-03 (Soil)

**Conductivity by E120.1**

Conductivity	76.3	2	US/CM	1	800970	04/02/2010	04/02/2010
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**Percent Moisture by AD2216A**

Percent Moisture	18.2	1	%	1	800471	03/31/2010	03/31/2010
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**pH by SW9045C**

pH	7.94		SU	1	800791	03/31/2010	03/31/2010
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**Sodium Absorption Ratio (SAR) by S29B08**

Sodium absorption ratio	0.161			1	801035	04/05/2010	04/05/2010 Q
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Project: Swanson 1-14

### 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 OC31002 - Default Prep GC-Semi</b>										
<b>Blank (OC31002-BLK1)</b>					Prepared: 03/31/2010 Analyzed: 04/02/2010					
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>45.6</i>		<i>g</i>	<i>50.0</i>		<i>91.3</i>	<i>65-140</i>			
<b>LCS (OC31002-BSI)</b>					Prepared: 03/31/2010 Analyzed: 03/31/2010					
Gasoline (C6-C10)	ND	50.0	mg/kg				65-140			
Diesel (C10-C28)	370	50.0	"	500		74.0	60-140			
<i>Surrogate: o-Terphenyl</i>	<i>42.9</i>		<i>g</i>	<i>50.0</i>		<i>85.8</i>	<i>65-140</i>			
<b>Matrix Spike (OC31002-MSI)</b>		Source: X003184-01			Prepared: 03/31/2010 Analyzed: 03/31/2010					
Gasoline (C6-C10)	ND	50.0	mg/kg		ND		65-130			
Diesel (C10-C28)	439	50.0	"	500	ND	87.8	60-140			
<i>Surrogate: o-Terphenyl</i>	<i>50.9</i>		<i>g</i>	<i>50.0</i>		<i>102</i>	<i>65-140</i>			
<b>Matrix Spike Dup (OC31002-MSD1)</b>		Source: X003184-01			Prepared: 03/31/2010 Analyzed: 03/31/2010					
Gasoline (C6-C10)	ND	50.0	mg/kg		ND		65-130		20	
Diesel (C10-C28)	379	50.0	"	500	ND	75.8	60-140	14.7	25	
<i>Surrogate: o-Terphenyl</i>	<i>43.0</i>		<i>g</i>	<i>50.0</i>		<i>86.1</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 OC30003 - EPA 5030B

#### Blank (OC30003-BLK1)

Prepared: 03/30/2010 Analyzed: 03/30/2010

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

Surrogate: 1,2-Dichloroethane-d4	70.9	ug/L	62.5	113	77.6-134
Surrogate: Toluene-d8	60.1	"	62.5	96.1	81.4-121
Surrogate: 4-Bromofluorobenzene	64.2	"	62.5	103	74.7-123

#### LCS (OC30003-BS1)

Prepared: 03/30/2010 Analyzed: 03/30/2010

Benzene	0.22	0.004	mg/kg	0.200	108	75.2-128
Toluene	0.22	0.004	"	0.200	109	76.3-130

Surrogate: 1,2-Dichloroethane-d4	70.0	ug/L	62.5	112	77.6-134
Surrogate: Toluene-d8	61.1	"	62.5	97.7	81.4-121
Surrogate: 4-Bromofluorobenzene	66.2	"	62.5	106	74.7-123

#### Matrix Spike (OC30003-MS1)

Source: X003143-01

Prepared: 03/30/2010 Analyzed: 03/30/2010

Benzene	0.24	0.004	mg/kg	0.200	0.03	109	77.6-132
Toluene	0.21	0.004	"	0.200	0.005	104	74-136

Surrogate: 1,2-Dichloroethane-d4	71.2	ug/L	62.5	114	77.6-134
Surrogate: Toluene-d8	63.7	"	62.5	102	81.4-121
Surrogate: 4-Bromofluorobenzene	66.7	"	62.5	107	74.7-123

#### Matrix Spike Dup (OC30003-MSD1)

Source: X003143-01

Prepared: 03/30/2010 Analyzed: 03/30/2010

Benzene	0.24	0.004	mg/kg	0.200	0.03	106	77.6-132	2.60	13.1
Toluene	0.22	0.004	"	0.200	0.005	106	74-136	2.02	20.9

Surrogate: 1,2-Dichloroethane-d4	70.5	ug/L	62.5	113	77.6-134
Surrogate: Toluene-d8	64.7	"	62.5	104	81.4-121
Surrogate: 4-Bromofluorobenzene	69.1	"	62.5	111	74.7-123

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## Conductivity by E120.1 - Quality Control GENAPURE

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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### Batch 800970 - NONE

<b>LCS (800970-1-BKS)</b>		Source: 800970-1-BKS			Prepared: 04/02/2010 Analyzed: 04/02/2010					
Conductivity	1390	2	US/CM	1410	±1.00	99	80-120	0	20	
<b>BLANK (800970-1-BLK)</b>		Source: 800970-1-BLK			Prepared: 04/02/2010 Analyzed: 04/02/2010					
Conductivity	ND	2	US/CM	0.00			-	0	20	

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Project: Swanson 1-14

## Percent Moisture by AD2216A - Quality Control GENAPURE

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 800471 - NONE

BLANK (800471-1-BLK)

Source: 800471-1-BLK

Prepared: 03/31/2010 Analyzed: 03/31/2010

Percent Moisture	ND	1	%	0.00	-	0	20
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Project Number: [none]  
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#### Notes and Definitions

Q [Undefined]

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

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