

FORM
27

Rev 6/99

State of Colorado

Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203 (303) 894-2100 Fax 894-2109



01761238



FOR OGCC USE ONLY

RECEIVED

MAY 11 2011

COGCC

SITE INVESTIGATION AND REMEDIATION WORKPLAN

This form shall be submitted to the Director for approval prior to the initiation of site investigation and remediation activities. Form 27 is intended to be used whenever possible. Additional documentation will be required when large volumes of soil and groundwater have been impacted or involve large facilities with multiple source areas. See Rule 910. Attach as many pages as needed to fully describe the proposed work.

CAUSE OF CONDITION BEING INVESTIGATED AND REMEDIATED

☒ Spill or Release ☐ Plug & Abandon ☐ Central Facility Closure ☐ Site/Facility Closure ☐ Other (describe):

OGCC Employee:

☐ Spill ☐ Complaint
☐ Inspection ☐ NOAV

Tracking No: 2213092

GENERAL INFORMATION

OGCC Operator Number: 10120		Contact Name and Telephone	
Name of Operator: Noble Energy Inc.		Todd Cullum	
Address: 804 Grand Avenue		No: 970-785-5000	
City: Platteville State: CO Zip: 80651		Fax: 970-785-5099	
API/Facility No: 05-123-31420		County: Weld	
Facility Name: Pappenheim USX AB13-99HZ		Facility Number:	
Well Name:		Well Number:	
Location (QtrQtr, Sec, Twp, Rng, Meridian): NWNW Sec. 13, 7N, 64W		Latitude: Longitude:	

TECHNICAL CONDITIONS

Type of Waste Causing Impact (crude oil, condensate, produced water, etc.): Condensate

Site Conditions: Is location within a sensitive area (according to Rule 901e)? ☐ Y ☒ N If yes, attach evaluation.

Adjacent land use (cultivated, irrigated, dry land farming, industrial, residential, etc.): Pasture

Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: Vona Sandy Loam

Potential receptors (water wells within 1/4 mi, surface waters, etc.): Water well 430' upgradient

Description of Impact (if previously provided, refer to that form or document):

Impacted Media (check):	Extent of Impact:	How Determined:
<input checked="" type="checkbox"/> Soils	60 cu yds of contaminated soils	Visual; Hanby Kit was used during excavation to guide the direction of the excavation
<input type="checkbox"/> Vegetation		
<input type="checkbox"/> Groundwater		
<input type="checkbox"/> Surface water		

REMEDIALATION WORKPLAN

Describe initial action taken (if previously provided, refer to that form or document):
See Form 19

Describe how source is to be removed: Impacted soil was excavated and hauled to the North Weld Sanitary Landfill. Field kit analysis (Hanby Kit) was used to determine the extent of excavation of contaminated soils.

Describe how remediation of existing impacts is to be accomplished, including removal and disposal at an injection well or licensed facility, land treatment on site, removal of impacted groundwater, insitu bioremediation, burning of oily vegetation, etc.:
Impacted soil was excavated and hauled to the North Weld Sanitary Landfill.

FORM

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State of Colorado

Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado

(303) 894-2100 Fax 894-2109



Tracking Number: 01761238

Name of Operator: Noble Energy Inc.

OGCC Operator No: 10120

Received Date: 5/11/11

Well Name & No:

Facility Name & No.: Pappenheim USX AB13-99HZ

REMEDATION WORKPLAN (CONT.)

OGCC Employee:

Axelson

If groundwater has been impacted, describe proposed monitoring plan (# of wells or sample points, sampling schedule, analytical methods, etc.):

N/A

Describe reclamation plan. Discuss existing and new grade recontouring; method and testing of compaction alleviation; and reseeding program, including location of new seed, seed mix and noxious weed prevention. Attach diagram or drawing. Use additional sheet for description if required.

Excavated soil was hauled off and backfilled with clean soils. The site was compacted and recontoured to preexisting grade.

Attach samples and analytical results taken to verify remediation of impacts. Show locations of samples on an onsite schematic or drawing.

Is further site investigation required? ☐ Y ☒ N If yes, describe:

N/A

Final disposition of E&P waste (landtreated and disposed onsite, name of licensed disposal facility, recycling, reuse, etc.):

Impacted soils were hauled to North Weld Sanitary Landfill.

IMPLEMENTATION SCHEDULE

Date Site Investigation Began: 3/14/2011

Date Site Investigation Completed:

Remediation Plan Submitted: 4/18/2011

Remediation Start Date: 3/14/2011

Anticipated Completion Date:

Actual Completion Date: 3/21/2011

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct, and complete.

Print Name: Todd Cullum

Signed:

Title:

Environmental Specialist

Date:

April 18, 2011

OGCC Approved:

Title:

EPS

Date:

5/11/11

804 Grand Ave.
Platteville, CO 80651

Tel: 970.785.5000
After Hours: 303.939.8585
Fax: 970.785.5099
www.nobleenergyinc.com



North America Division

April 15, 2011

Mr. John Axelson
Department Of Natural Resources
Oil & Gas Conservation Commission
1120 Lincoln St., Suite 801
Denver CO 80203-2136

RE: Form 27 and closure request letter
Pappenheim USX AB13-99HZ
COGCC spill tracking #2213092
API 05-123-31420
NWNW Sec. 13, T7N R64W
Weld County, Colorado

Dear Mr. Axelson:

The attached documentation includes a completed Form 27, laboratory analytical results from confirmation soil samples and a site diagram showing sample locations for the Pappenheim USX AB 13-99HZ. Also in reference to the COGCC inspection that resulted from the unintentional discharge that occurred on 3-14-11, the COGCC requested that Noble Energy, Inc. properly excavate and dispose of the contaminated soils at the well head in accordance with rule 907.E. This inspection also warranted the COGCC to request Noble Energy, Inc. to remove and dispose of properly, the localized oily pea gravel from the tank battery, revegetate the former burn area on the south side of the pad and to properly label all the production tanks and water vaults in accordance with rule 210.D. Please be advised that all of the action items listed above have been completed as of 4-21-11. Noble Energy, Inc. is requesting that the COGCC consider this location closed, requiring no further action.

Noble Energy Inc. would like to claim business confidentiality protection for the information submitted in this letter, the supporting materials attached and all previous and subsequent correspondence related to this matter. Please contact the Noble Energy Environmental Department at (970) 785-5000 if you have any questions or require additional information.

Sincerely,

A handwritten signature in black ink, appearing to read 'Mike Cox'.

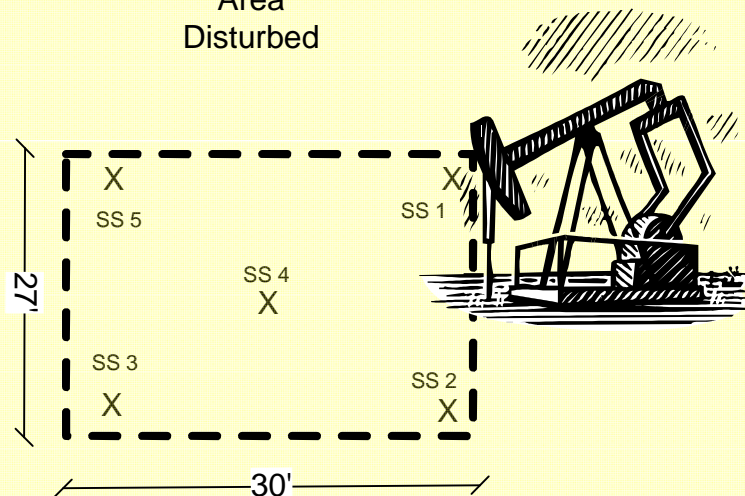
Mike Cox
Environmental Coordinator

A handwritten signature in blue ink, appearing to read 'Todd Cullum'.

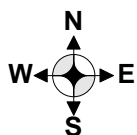
Todd Cullum
Environmental Specialist

Attachments

Area
Disturbed



Access
Road



noble
energy

NOT TO
SCALE

Pappenheim USX AB13-99HZ



March 25, 2011

Noble Energy Inc.

Todd Cullum

804 Grand Avenue

Platteville CO 80651

**Project Name - Pappenheim USX AB
13-99 HZ**

Project Number - N/A

Attached are you analytical results for Pappenheim USX AB 13-99 HZ received by Origins Laboratory, Inc. March 22, 2011. This project is associated with Origins project number X103162-01.

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

Project Number: N/A

Project Name: Pappenheim USX AB 13-99 HZ

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS-1	X103162-01	Soil	March 21, 2011 11:40	03/22/2011 15:00
SS-2	X103162-02	Soil	March 21, 2011 11:40	03/22/2011 15:00
SS-3	X103162-03	Soil	March 21, 2011 11:40	03/22/2011 15:00
SS-4	X103162-04	Soil	March 21, 2011 11:40	03/22/2011 15:00
SS-5	X103162-05	Soil	March 21, 2011 11:40	03/22/2011 15:00

Origins Laboratory, Inc.



Noelle E Doyle, President

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.

Noble Energy Inc.
804 Grand Avenue

Platteville CO 80651

Project Number: N/A

Project Name: Pappenheim USX AB 13-99 HZ

X103162
page 1 of 1



originslaboratory.com

Client: Noble Energy Inc.
Address: 804 Grand Ave.
Platteville CO 80651
Telephone Number: 970-785-5000
E-Mail Address: tcullum@nobleenergyinc.com

Project Manager: Todd Cullum
Project Name: Pappenheim USX AB 13-99 HZ
Project Number: _____
Samples Collected by: Todd C

Sample ID - Description	Date Sampled	Time Sampled	Preservative				Matrix			Analysis		Sample Instructions
			Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air - Summa Canister #	Other	TPH	
55-1	3-21-11	11:40 AM					X					1
55-2	"	"					X					2
55-3	"	"					X					3
55-4	"	"					X					4
55-5	"	"					X					5
												6
												7
												8
												9
												10

Relinquished by: Todd Cullum Date: 3-22-11 Time: 3:00 PM
Received by: [Signature] Date: 3-22-11 Time: 1:00 PM

Relinquished by: _____ Date: _____ Time: _____
Received by: _____ Date: _____ Time: _____

Turn Around Time:
Same Day _____ 48-hr _____ 72-hr X

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

Origins Laboratory, Inc.

Noelle E Doyle

Noelle E Doyle, President

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.

Noble Energy Inc.
804 Grand Avenue
Platteville CO 80651

Project Number: N/A
Project Name: Pappenheim USX AB 13-99 HZ

SS-1

3/21/2011 11:40:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X103162-01 (Soil)

BTEX by EPA 8260C

Benzene	ND	0.00400	mg/kg	1	1C23007	03/23/2011	03/23/2011
Toluene	ND	0.00400	"	"	"	"	"
Ethylbenzene	ND	0.00400	"	"	"	"	"
Xylenes, total	ND	0.00400	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	99.0 %	70-130	"	"	"
Surrogate: Toluene-d8	97.6 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	101 %	70-130	"	"	"

TPH-Carbon Chain by EPA Method 8015M

Gasoline (C6-C10)	ND	50.0	mg/kg	1	1C23008	03/23/2011	03/23/2011
Diesel (C10-C28)	ND	50.0	"	"	"	"	"
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"
TPH - Carbon Chain Total	ND	50.0	"	"	"	"	"

Surrogate: o-Terphenyl	88.3 %	65-140	"	"	"
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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.

Noelle E Doyle, President

Noble Energy Inc.
804 Grand Avenue
Platteville CO 80651

Project Number: N/A
Project Name: Pappenheim USX AB 13-99 HZ

SS-2

3/21/2011 11:40:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X103162-02 (Soil)

BTEX by EPA 8260C

Benzene	ND	0.00400	mg/kg	1	1C23007	03/23/2011	03/23/2011
Toluene	ND	0.00400	"	"	"	"	"
Ethylbenzene	ND	0.00400	"	"	"	"	"
Xylenes, total	ND	0.00400	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	115 %	70-130	"	"	"
Surrogate: Toluene-d8	103 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	105 %	70-130	"	"	"

TPH-Carbon Chain by EPA Method 8015M

Gasoline (C6-C10)	ND	50.0	mg/kg	1	1C23008	03/23/2011	03/23/2011
Diesel (C10-C28)	ND	50.0	"	"	"	"	"
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"
TPH - Carbon Chain Total	ND	50.0	"	"	"	"	"

Surrogate: o-Terphenyl	82.5 %	65-140	"	"	"
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Origins Laboratory, Inc.



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Noelle E Doyle, President

Noble Energy Inc.
804 Grand Avenue
Platteville CO 80651

Project Number: N/A
Project Name: Pappenheim USX AB 13-99 HZ

SS-3

3/21/2011 11:40:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X103162-03 (Soil)

BTEX by EPA 8260C

Benzene	ND	0.00400	mg/kg	1	1C23007	03/23/2011	03/23/2011
Toluene	ND	0.00400	"	"	"	"	"
Ethylbenzene	ND	0.00400	"	"	"	"	"
Xylenes, total	ND	0.00400	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	96.7 %	70-130	"	"	"
Surrogate: Toluene-d8	96.1 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	103 %	70-130	"	"	"

TPH-Carbon Chain by EPA Method 8015M

Gasoline (C6-C10)	ND	50.0	mg/kg	1	1C23008	03/23/2011	03/23/2011
Diesel (C10-C28)	ND	50.0	"	"	"	"	"
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"
TPH - Carbon Chain Total	ND	50.0	"	"	"	"	"

Surrogate: o-Terphenyl	85.5 %	65-140	"	"	"
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Origins Laboratory, Inc.



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Noelle E Doyle, President

Noble Energy Inc.
804 Grand Avenue
Platteville CO 80651

Project Number: N/A
Project Name: Pappenheim USX AB 13-99 HZ

SS-4

3/21/2011 11:40:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X103162-04 (Soil)

BTEX by EPA 8260C

Benzene	ND	0.00400	mg/kg	1	1C23007	03/23/2011	03/23/2011
Toluene	ND	0.00400	"	"	"	"	"
Ethylbenzene	ND	0.00400	"	"	"	"	"
Xylenes, total	ND	0.00400	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	96.9 %	70-130	"	"	"
Surrogate: Toluene-d8	96.8 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	104 %	70-130	"	"	"

TPH-Carbon Chain by EPA Method 8015M

Gasoline (C6-C10)	ND	50.0	mg/kg	1	1C23008	03/23/2011	03/23/2011
Diesel (C10-C28)	ND	50.0	"	"	"	"	"
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"
TPH - Carbon Chain Total	ND	50.0	"	"	"	"	"

Surrogate: o-Terphenyl	84.3 %	65-140	"	"	"
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Origins Laboratory, Inc.



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Noelle E Doyle, President

Noble Energy Inc.
804 Grand Avenue
Platteville CO 80651

Project Number: N/A
Project Name: Pappenheim USX AB 13-99 HZ

SS-5

3/21/2011 11:40:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X103162-05 (Soil)

BTEX by EPA 8260C

Benzene	ND	0.00400	mg/kg	1	1C23007	03/23/2011	03/23/2011
Toluene	ND	0.00400	"	"	"	"	"
Ethylbenzene	ND	0.00400	"	"	"	"	"
Xylenes, total	ND	0.00400	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	97.9 %	70-130	"	"	"
Surrogate: Toluene-d8	95.7 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	104 %	70-130	"	"	"

TPH-Carbon Chain by EPA Method 8015M

Gasoline (C6-C10)	ND	50.0	mg/kg	1	1C23008	03/23/2011	03/23/2011
Diesel (C10-C28)	ND	50.0	"	"	"	"	"
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"
TPH - Carbon Chain Total	ND	50.0	"	"	"	"	"

Surrogate: o-Terphenyl	88.1 %	65-140	"	"	"
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Origins Laboratory, Inc.



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Noelle E Doyle, President

Noble Energy Inc.
804 Grand Avenue
Platteville CO 80651

Project Number: N/A
Project Name: Pappenheim USX AB 13-99 HZ

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 1C23007 - EPA 5030B										
Blank (1C23007-BLK1)					Prepared: 03/23/2011 Analyzed: 03/23/2011					
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	62.3		ug/L	62.5		99.6	70-130			
Surrogate: Toluene-d8	60.5		"	62.5		96.8	70-130			
Surrogate: 4-Bromofluorobenzene	65.2		"	62.5		104	70-130			

Origins Laboratory, Inc.



Noelle E Doyle, President

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Noble Energy Inc.
804 Grand Avenue
Platteville CO 80651

Project Number: N/A
Project Name: Pappenheim USX AB 13-99 HZ

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 1C23007 - EPA 5030B										
LCS (1C23007-BS1)					Prepared: 03/23/2011 Analyzed: 03/23/2011					
Benzene	ND	0.004	mg/kg				70-130			
Toluene	ND	0.004	"				70-130			
Ethylbenzene	ND	0.004	"				70-130			
m,p-Xylene	ND	0.008	"				70-130			
o-Xylene	ND	0.004	"				70-130			
Surrogate: 1,2-Dichloroethane-d4	93.1		ug/L	62.5		149	70-130			QM-05
Surrogate: Toluene-d8	60.6		"	62.5		97.0	70-130			
Surrogate: 4-Bromofluorobenzene	68.5		"	62.5		110	70-130			

Origins Laboratory, Inc.



Noelle E Doyle, President

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Noble Energy Inc.
804 Grand Avenue
Platteville CO 80651

Project Number: N/A
Project Name: Pappenheim USX AB 13-99 HZ

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 1C23007 - EPA 5030B

Matrix Spike (1C23007-MS1)		Source: X103162-01			Prepared: 03/23/2011 Analyzed: 03/23/2011					
Benzene	0.20	0.004	mg/kg		ND		70-130			
Toluene	0.19	0.004	"		ND		70-130			
Ethylbenzene	0.19	0.004	"		ND		70-130			
m,p-Xylene	0.40	0.008	"		ND		70-130			
o-Xylene	0.20	0.004	"		ND		70-130			
Surrogate: 1,2-Dichloroethane-d4	64.4		ug/L	62.5		103	70-130			
Surrogate: Toluene-d8	60.9		"	62.5		97.4	70-130			
Surrogate: 4-Bromofluorobenzene	61.1		"	62.5		97.6	70-130			

Origins Laboratory, Inc.



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Noelle E Doyle, President

Noble Energy Inc.
804 Grand Avenue
Platteville CO 80651

Project Number: N/A
Project Name: Pappenheim USX AB 13-99 HZ

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 1C23007 - EPA 5030B

Matrix Spike Dup (1C23007-MSD1)		Source: X103162-01			Prepared: 03/23/2011 Analyzed: 03/23/2011					
Benzene	0.19	0.004	mg/kg		ND		70-130	4.48	20	
Toluene	0.18	0.004	"		ND		70-130	5.72	20	
Ethylbenzene	0.18	0.004	"		ND		70-130	8.63	20	
m,p-Xylene	0.36	0.008	"		ND		70-130	12.5	20	
o-Xylene	0.18	0.004	"		ND		70-130	7.03	20	
Surrogate: 1,2-Dichloroethane-d4	64.2		ug/L	62.5		103	70-130			
Surrogate: Toluene-d8	61.4		"	62.5		98.2	70-130			
Surrogate: 4-Bromofluorobenzene	61.2		"	62.5		97.9	70-130			

Origins Laboratory, Inc.



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Noelle E Doyle, President

Noble Energy Inc.
804 Grand Avenue
Platteville CO 80651

Project Number: N/A

Project Name: Pappenheim USX AB 13-99 HZ

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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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
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Batch 1C23008 - Default Prep GC-Semi

Blank (1C23008-BLK1)

Prepared: 03/23/2011 Analyzed: 03/23/2011

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	"

Surrogate: o-Terphenyl 34.6 g 50.0 69.3 65-140

LCS (1C23008-BS1)

Prepared: 03/23/2011 Analyzed: 03/23/2011

Gasoline (C6-C10)	63.1	50.0	mg/kg				65-140
Diesel (C10-C28)	414	50.0	"	500	82.7		60-140

Surrogate: o-Terphenyl 42.5 g 50.0 84.9 65-140

Matrix Spike (1C23008-MS1)

Source: X103162-02

Prepared: 03/23/2011 Analyzed: 03/23/2011

Gasoline (C6-C10)	62.8	50.0	mg/kg		ND		65-130
Diesel (C10-C28)	417	50.0	"	500	ND	83.4	60-140

Surrogate: o-Terphenyl 41.0 g 50.0 82.0 65-140

Matrix Spike Dup (1C23008-MSD1)

Source: X103162-02

Prepared: 03/23/2011 Analyzed: 03/23/2011

Gasoline (C6-C10)	71.2	50.0	mg/kg		ND		65-130	12.5	20
Diesel (C10-C28)	491	50.0	"	500	ND	98.2	60-140	16.3	25

Surrogate: o-Terphenyl 47.9 g 50.0 95.9 65-140

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.

Noelle E Doyle, President

Noble Energy Inc.
804 Grand Avenue

Platteville CO 80651

Project Number: N/A

Project Name: Pappenheim USX AB 13-99 HZ

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.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

Origins Laboratory, Inc.



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Noelle E Doyle, President