

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

August 31, 2011

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

RE: Form 27
Lilli Unit P-34
API 05-123-13991
SE/SE Sec. 34, T9N R58W
Weld County, Colorado

Dear Mr. Axelson:

Please find attached a completed Form 27, soil analytical data from one soil sample taken at the bottom of the evaporation pit and a site diagram for the Lilli Unit P-34. Based on the soil analytical results obtained, Noble Energy Inc. will remediate the existing impacts using a Soil Vapor Extraction System (SVE).

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 blue ink that reads 'Todd Cullum'.

Todd Cullum
Environmental Specialist

Attachments



01761289

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:(303)894-2109



#6095

RECEIVED
FOR OGC USE ONLY

SEP 01 2011

COGCC

OGCC Employee:

☐ Spill ☐ Complaint
☐ Inspection ☐ NOAV

Tracking No:

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): Pit Remediation Closure Plan

OGCC Operator Number: 100322

Name of Operator: Noble Energy, Inc.

Address: 804 Grand Avenue

City: Platteville State: CO Zip: 80651

Contact Name and Telephone:

Todd Cullum

No: 970-785-5000

Fax: 970-785-5099

API Number: 05-123-13991

County: Weld

Facility Name: Lilli Unit P-34 Pit

Facility Number: 112233

Well Name: Lilli Unit

Well Number: 16-34

Location: (QtrQtr, Sec, Twp, Rng, Meridian): SESE, Sec 34, T 9N, R 58W, 6th Meridian Latitude: 40.702205 Longitude: -103.842565

TECHNICAL CONDITIONS

Type of Waste Causing Impact (crude oil, condensate, produced water, etc.): Produced water in permitted pit

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.): agriculture

Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: cascajo gavelly sandy loam, 5% to 20% slopes

Potential receptors (water wells within 1/4 mi, surface waters, etc.): A stream approximately 0.5 miles southeast and a stream approximately 0.3 miles southwest.

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

Impacted Media (check):

☒ Soils☐ Vegetation☐ Groundwater☐ Surface Water

Extent of Impact:

See Attached.

How Determined:

REMEDIALATION WORKPLAN

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

A site assessment to evaluate potential soil impact from the permitted pit was conducted. A hand auger was advanced to 3 feet below ground surface. One composite soil sample was collected. The soil sample was submitted for laboratory analysis of BTEX, TPH, EC, SAR, and pH. A site map and analytical table are attached.

Describe how source is to be removed:

Analytical results indicate benzene and TPH impact exceeds COGCC standards. The pit will be backfilled to grade followed by remediation of the impacted soil using soil vapor extraction (SVE).

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.:

Remediation of existing impacts will occur using an SVE system. The SVE system will include subsurface vertical wells and above ground horizontal extraction piping connected to a vapor extraction blower. The SVE system is designed to volatilize petroleum constituents adsorbed onto soil particles and to remove petroleum vapors.

Submit Page 2 with Page 1

FORM
27
Rev 6/99

Page 2

REMEDIAL WORKPLAN (Cont.)

State of Colorado
Oil and Gas Conservation Commission
1120 Lincoln Street, Suite 801, Denver, Colorado 80203
(303)894-2100 Fax: (303)894-2109



Tracking Number: 1761289
Name of Operator: Noble Energy
OGCC Operator No: 100322
Received Date: 9/1/11
Well Name & No: LIII Unit 16-34
Facility Name & No: LIII Unit P-34 Pit 112233

Page 2

Axelsson

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

Groundwater was not encountered during assessment activities. An additional assessment during SVE installation will verify the absence of impacted groundwater.

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.

The pits will be filled and graded to match adjacent topography and reseeding will be conducted using native grasses.

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:

Soil sample laboratory results indicate that benzene and TPH concentrations exceed the COGCC standards. Further investigation is required at this site in order to design an appropriate SVE system. A Figure and table are included detailing sampling locations and results.

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

There will be no waste associated with the project. During SVE operation air emission analysis will be conducted to ensure compliance with CDPHE air emission standards.

IMPLEMENTATION SCHEDULE

Date Site Investigation Began: <u>5/31/2011</u>	Date Site Investigation Completed: <u>TBD</u>	Date Remediation Plan Submitted: <u>7/22/2011</u>
Remediation Start Date: <u>6/8/2011</u>	Anticipated Completion Date: <u>-</u>	Actual Completion Date: <u>TBD</u>

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: Todd Cullum

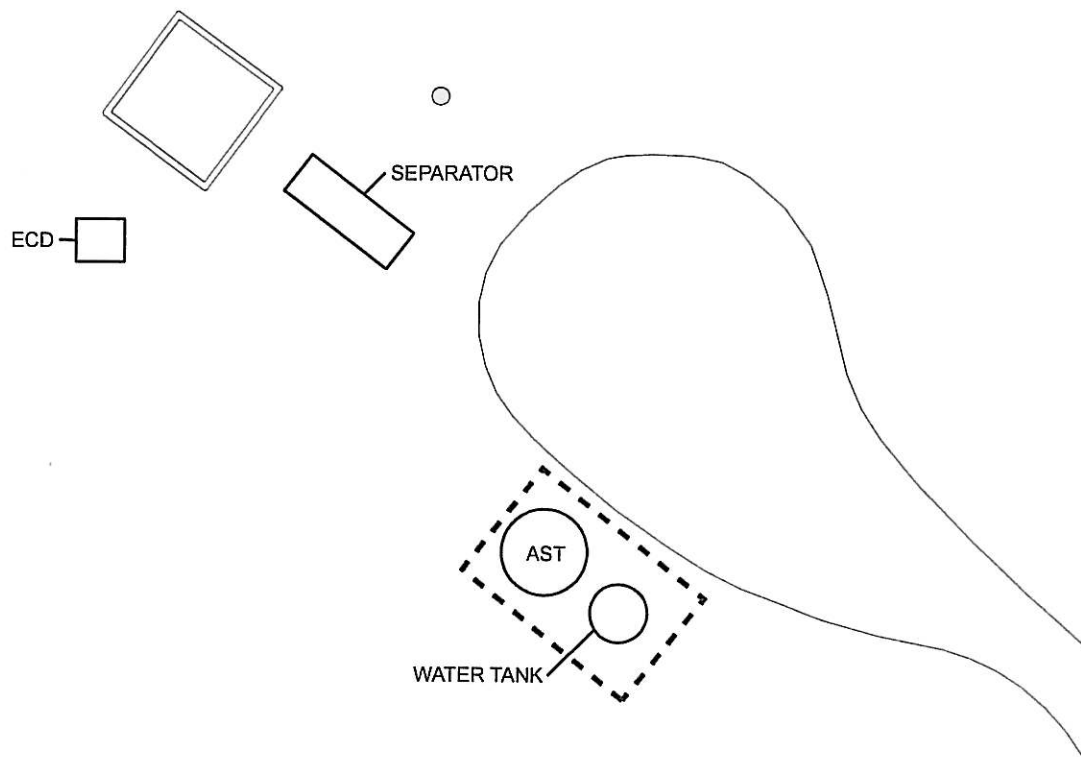
Title: Environmental Specialist

Date: 7/22/2011




OGCC Approved: Todd Cullum

Title: EPS

Date: 9/1/11



LEGEND

- OIL AND GAS WELL
- ROAD
-  PIT
-  BERM
-  CURRENT INFRASTRUCTURE

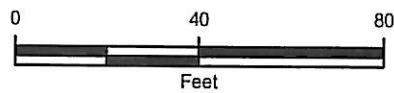


FIGURE 1
 SITE MAP
 LILLI UNIT P-34
 SESW SEC 34 T9N R58W
 WELD COUNTY, COLORADO
 NOBLE ENERGY, INC.



TABLE 1

SOIL ANALYTICAL DATA
LILLI EVAPORATION PITS
WELD COUNTY, COLORADO
NOBLE ENERGY, INC.

Sample Location	Date Sampled	Pit Number	Sample Depth (ft)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	ORO (mg/kg)	TPH (mg/kg)	EC (mmhos/cm)	SAR	pH
Lilli Unit P-34	5/31/2011	1	4	7.2	39	11	110	4,800	200	<50	5,000	0.89%	0.9	7.6
COGCC Table 210-1				0.17	85	100	175	Combined 500	500	>4	>12	6 to 9		

NOTES:

SAR - sodium adsorption ratio

EC - electrical conductivity

mg/kg - milligrams per kilogram

mmhos/cm - millimhos per centimeter

GRO - gasoline range organics analyzed by EPA Method 8260B

DRO - diesel range organics analyzed by EPA Modified Method 8015

ORO - oil range organics analyzed by EPA Modified Method 8015

< - indicates result is less than the stated laboratory reporting limit

BOLD - indicates result exceeds the applicable standard

COGCC - Colorado Oil and Gas Conservation Commission

Benzene, toluene, ethylbenzene, and total xylenes analyzed by EPA Method 8260B