

# State of Colorado Oil and Gas Conservation Commission

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10/31/2017

Report taken by:

Jason Kosola

## Site Investigation and Remediation Workplan (Supplemental Form)

This form shall be submitted to the Director for approval prior to the initiation of site investigation and remediation activities. However, this shall not preclude the Operator from taking immediate action to protect public health or safety, the environment, wildlife, or livestock.

This Form 27 describes site conditions as currently understood by the Operator; approval of this Form 27 by COGCC is based on the site conditions accurately described herein; any changes in site conditions identified during or subsequent to the performance of the approved workplan may necessitate additional investigation or remediation which shall be described on a supplemental Form 27. This Form 27 is intended to provide basic information regarding the proposed site investigation and remediation actions, but the workplan may be more fully described in attached documentation.

Refer to Rules 340, 905, 906, 907, 908, 909, and 910

### OPERATOR INFORMATION

Name of Operator: CHURCHILL ENERGY INC	Operator No: 16910	<b>Phone Numbers</b> Phone: (303) 840-7000 Mobile: (303) 618-5025
Address: 8177 SOUTH NORFOLK STREET		
City: ENGLEWOOD	State: CO Zip: 80112	
Contact Person: Gary Klukisdahl	Email: gary.kluksdahl@comcast.net	

### PROJECT, PURPOSE & SITE INFORMATION

#### PROJECT INFORMATION

Remediation Project #: 10302

Initial Form 27 Document #: 401349666

#### PURPOSE INFORMATION

- |  |  |
|--|--|
| <input type="checkbox"/> 901.e. Sensitive Area Determination                                       | <input type="checkbox"/> 909.c.(5), Rule 910.b.(4): Remediation of impacted ground water                   |
| <input checked="" type="checkbox"/> 909.c.(1), Rule 905: Pit or PW vessel closure                  | <input type="checkbox"/> Rule 909.e.(2)A.: Notice completion of remediation in accordance with Rule 909.b. |
| <input checked="" type="checkbox"/> 909.c.(2), Rule 906: Spill/Release Remediation                 | <input type="checkbox"/> Rule 909.e.(2)B.: Closure of remediation project                                  |
| <input type="checkbox"/> 909.c.(3), Rule 907.e.: Land treatment of oily waste                      | <input type="checkbox"/> Rule 906.c.: Director request   |
| <input type="checkbox"/> 909.c.(4), Rule 908.g.: Centralized E&P Waste Management Facility closure | <input checked="" type="checkbox"/> Other Requesting change in sampling and timeline for completion        |

#### SITE INFORMATION

N Multiple Facilities ( in accordance with Rule 909.c. )

Facility Type: UIC DISPOSAL	Facility ID: 150405	API #:	County Name: LINCOLN
Facility Name: CHAMPLIN LIMON 1-19		Latitude: 39.249654	Longitude: -103.712509
		** correct Lat/Long if needed: Latitude:	Longitude:
QtrQtr: NWSW	Sec: 19	Twp: 9S	Range: 56W Meridian: 6 Sensitive Area? No

#### SITE CONDITIONS

General soil type - USCS Classifications SC

Most Sensitive Adjacent Land Use Cattle pasture

Is domestic water well within 1/4 mile? No

Is surface water within 1/4 mile? No

Is groundwater less than 20 feet below ground surface? No

Other Potential Receptors within 1/4 mile

## SITE INVESTIGATION PLAN

### TYPE OF WASTE:

☒ E&P Waste

☐ Other E&P Waste

☒ Non-E&P Waste

☒ Produced Water

☐ Workover Fluids

Sand & Dirt carried off location by wind & rainwater

☒ Oil

☐ Tank Bottoms

☐ Condensate

☐ Pigging Waste

☐ Drilling Fluids

☐ Rig Wash

☐ Drill Cuttings

☐ Spent Filters

☐ Pit Bottoms

☐ Other (as described by EPA)

### DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
Yes	SOILS	Movement off location	visual
Yes	VEGETATION	No growth in spill paths	visual

### INITIAL ACTION SUMMARY

Description of initial action or emergency response measures take to abate, investigate, and/or remediate impacts associated with E&P Waste.

Oily dirt has been removed from around water tanks inside containment area on 6/27/17

### PROPOSED SAMPLING PLAN

#### Proposed Soil Sampling

☒ Will soil samples be collected as part of this investigation? ( Number, type (grab/composite), analyses, and locations of samples ):

Grab samples at 7 locations per attached map (request change from 13 original sample points per initial form 27)  
Pit & Vault pit have already been sampled.

#### Proposed Groundwater Sampling

☐ Will groundwater samples be collected as part of this investigation? ( Number, analyses, and locations of samples ):

#### Proposed Surface Water Sampling

☐ Will surface water samples be collected as part of this investigation? ( Number, analyses, and locations of samples ):

### Additional Investigative Actions

☐ Additional alternative investigative actions described in attached Site Investigation Plan ( summary ):

# SITE INVESTIGATION REPORT

## SAMPLE SUMMARY

### Soil

Number of soil samples collected 6

Number of soil samples exceeding 910-1 4

Was the areal and vertical extent of soil contamination delineated? Yes

Approximate areal extent (square feet) 2000

### NA / ND

-- Highest concentration of TPH (mg/kg) 415

-- Highest concentration of SAR 19.9

BTEX > 910-1 No

Vertical Extent > 910-1 (in feet) 8

### Groundwater

Number of groundwater samples collected 0

Was extent of groundwater contaminated delineated? No

Depth to groundwater (below ground surface, in feet) 0

Number of groundwater monitoring wells installed 0

Number of groundwater samples exceeding 910-1 0

NA Highest concentration of Benzene (µg/l) 0

NA Highest concentration of Toluene (µg/l) 0

NA Highest concentration of Ethylbenzene (µg/l) 0

NA Highest concentration of Xylene (µg/l) 0

NA Highest concentration of Methane (mg/l) 0

### Surface Water

0 Number of surface water samples collected

0 Number of surface water samples exceeding 910-1

If surface water is impacted, other agency notification may be required.

## OTHER INVESTIGATION INFORMATION

☐ Were impacts to adjacent property or offsite impacts identified?

☒ Were background samples collected as part of this site investigation?

Background samples will be collected and examined for the pit closure area when the remediation sampling work is completed.

☐ Was investigation derived waste (IDW) generated as part of this investigation?

Volume of solid waste (cubic yards) 0

Volume of liquid waste (barrels) 0

☒ Is further site investigation required?

Sampling results above are for the pit closure only. Additional samples will be collected for soil that has blown off the location. See attached map.

## REMEDIAL ACTION PLAN

Does this Supplemental Form 27A include changes to a previously approved Remedial Action Plan? Yes \_\_\_\_\_

### **SOURCE REMOVAL SUMMARY**

Describe how source is to be removed.

Source is wind and rain moving material off location downslope. Operator proposes to install crushed rock or other material berm across edge of location on east side to mitigate further soil removal.

### **REMEDICATION SUMMARY**

Describe how remediation of existing impacts to soil and groundwater is to be accomplished (i.e. summarize remedial action plan). Provide a brief narrative description including: technical justification, schedule for implementation, estimated time to attain NFA status, plus plans and specifications for the selected remedial action technology.

Pits area will be scoured out an additional 2' on the sampling sites where testing exceeds 910-1. The sites will be retested and GPS located. Per original Plan, the sampling for the soil drift areas will be reduced from 13 to 7 (see site map attached. In the Fall of 2017 after sampling and analysis, Operator proposes to disc or plow affected area and scarify with manure and/or straw to hold ground. Native seed per SCS will be drilled into affected area. Spring 2018 Operator will review progress with seed growth and soil holding, repeating operation as required.

### **Soil Remediation Summary**

☒ **In Situ**

No \_\_\_\_\_ Bioremediation ( or enhanced bioremediation )

No \_\_\_\_\_ Chemical oxidation

No \_\_\_\_\_ Air sparge / Soil vapor extraction

No \_\_\_\_\_ Natural Attenuation

Yes \_\_\_\_\_ Other mix with organic material  
(manure, straw) \_\_\_\_\_

☒ **Ex Situ**

Yes \_\_\_\_\_ Excavate and offsite disposal

If Yes: Estimated Volume (Cubic Yards) \_\_\_\_\_ 20

Name of Licensed Disposal Facility or COGCC Facility ID # \_\_\_\_\_

No \_\_\_\_\_ Excavate and onsite remediation

No \_\_\_\_\_ Land Treatment

No \_\_\_\_\_ Bioremediation (or enhanced bioremediation)

\_\_\_\_\_ Chemical oxidation

\_\_\_\_\_ Other \_\_\_\_\_

### **Groundwater Remediation Summary**

No \_\_\_\_\_ Bioremediation ( or enhanced bioremediation )

No \_\_\_\_\_ Chemical oxidation

No \_\_\_\_\_ Air sparge / Soil vapor extraction

No \_\_\_\_\_ Natural Attenuation

No \_\_\_\_\_ Other \_\_\_\_\_

### **GROUNDWATER MONITORING**

If groundwater has been impacted, describe proposed monitoring plan, including # of wells or sample points, monitoring schedule, analytical methods, points of compliance. Attach a groundwater monitoring location diagram.

Not Applicable

## REMEDATION PROGRESS UPDATE

### PERIODIC REPORTING

**Frequency:** ☒ Quarterly ☐ Semi-Annually ☐ Annually ☐ Other \_\_\_\_\_

**Report Type:** ☐ Groundwater Monitoring ☒ Land Treatment Progress Report ☐ O&M Report  
☐ Other \_\_\_\_\_

### WASTE DISPOSAL INFORMATION

Was E&P waste generated as part of this remediation? Yes \_\_\_\_\_

Describe beneficial use, if any, of E&P Waste derived from this remediation project:

None

Volume of E&P Waste (solid) in cubic yards \_\_\_\_\_ 20

E&P waste (solid) description \_\_\_\_\_ Soil not in spec to 910-1

COGCC Disposal Facility ID #, if applicable: \_\_\_\_\_

Non-COGCC Disposal Facility: \_\_\_\_\_ Lincoln County Landfill

Volume of E&P Waste (liquid) in barrels \_\_\_\_\_ 0

E&P waste (liquid) description \_\_\_\_\_ Not Applicable

COGCC Disposal Facility ID #, if applicable: \_\_\_\_\_

Non-COGCC Disposal Facility: \_\_\_\_\_

## REMEDATION COMPLETION REPORT

### REMEDATION COMPLETION SUMMARY

Is this a Final Closure Request for this Remediation Project? No \_\_\_\_\_

Do all soils meet Table 910-1 standards? \_\_\_\_\_

Does the previous reply indicate consideration of background concentrations? \_\_\_\_\_

Are the only residual soil impacts pH, SAR, or EC at depths greater than 3 feet below ground surface? \_\_\_\_\_

Does Groundwater meet Table 910-1 standards? \_\_\_\_\_

Is additional groundwater monitoring to be conducted? \_\_\_\_\_

## RECLAMATION PLAN

### RECLAMATION PLANNING

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.

Disc/plow operations will conform to existing slop and grade. Sampling sites for the land remediation will be GPS located. Seed mixture to be approved by SCS. Surface Owner has agreed with whatever SCS comes up with. Noxious weeds will be controlled by herbicide.

Is the described reclamation complete? No \_\_\_\_\_

Does the reclamation described herein constitute interim or final reclamation of the Oil and Gas Location?

☐ Interim? ☐ Final?

Did the Surface Owner approve the seed mix? Yes \_\_\_\_\_

If NO, does the seed mix comply with local soil conservation district recommendations? Yes \_\_\_\_\_

## IMPLEMENTATION SCHEDULE

### PRIOR DATES

Date of Surface Owner notification/consultation, if required. 09/15/2017

Actual Spill or Release date, if known. \_\_\_\_\_

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 06/27/2017

Date of commencement of Site Investigation. 06/21/2017

Date of completion of Site Investigation. \_\_\_\_\_

### REMEDIAL ACTION DATES

Date of commencement of Remediation. 09/30/2017

Date of completion of Remediation. \_\_\_\_\_

### SITE RECLAMATION DATES

Date of commencement of Reclamation. 11/06/2017

Date of completion of Reclamation. \_\_\_\_\_

### OPERATOR COMMENT

Operator requests an extension of time to complete the initial phase of land remediation to November 30, 2017. Sampling results submitted on table 910-1 are for the pits area only. Additional samples (with GPS locations) will commence by November 5, 2017. Background Sampling will be conducted by November 5, 2017

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

Signed: Gary Klukisdahl \_\_\_\_\_

Title: President \_\_\_\_\_

Submit Date: 10/31/2017 \_\_\_\_\_

Email: gary.klukisdahl@comcast.net \_\_\_\_\_

Based on the information provided herein, this Application for Site Investigation and Remediation Workplan complies with COGCC Rules and applicable orders and is hereby approved.

COGCC Approved: Jason Kosola \_\_\_\_\_

Date: 11/01/2017 \_\_\_\_\_

Remediation Project Number: 10302 \_\_\_\_\_

### COA Type

### Description

	There are 4 Table 910-1 exceedances. Due to exceedances the operator must ensure that remaining pit contents are covered with a minimum of 3 feet of clean backfill and soil. The soil horizons must be replaced in their original relative position, and reclaimed in accordance with 1000 Series Rules. If the exceedances cannot be buried a minimum 3 feet then operator shall further excavate pit contents as outlined in this Form 27.
	Operator requests extension of COA #6 which required work to complete the planned reclamation to be performed no later than 10/31/2017. Extension is granted to 11/30/2017. Operator must complete soil sampling, soil amendments (if needed), fencing (if needed) and seeding no later than 11/30/2017. Seeding may not be possible if soil amendments are required.  Operator requests change from 13 original sample points per initial form 27 to 7 sample points to delineate off pad releases. Change to 7 sample points is granted.  Operator must provide annual report per COA #2 by 10/31/2017. Extension granted to 11/30/2017. Operator must submit annual report documenting reclamation work performed as outlined in COA #2 no later than 11/30/2017.

### Attachment Check List

Upon approval, the approved Form 27 and all listed attachments will be indexed to the Remediation Project file. Only the approved Form 27 will also be indexed to the related Facilities.

### Att Doc Num

### Name

2100030	Table 910-1
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2100031	Table 910-1
2100032	Analytical Results
401446075	FORM 27-SUPPLEMENTAL-SUBMITTED
401446228	SOIL SAMPLE LOCATION MAP

Total Attach: 5 Files

### **General Comments**

<b><u>User Group</u></b>	<b><u>Comment</u></b>	<b><u>Comment Date</u></b>
Environmental	<p>Attached analytical results and updated Table 910-1</p> <p>Changed BTEX &gt; 910-1 from "yes" to "no". The attached analytical results and Table 910-1 indicate that Benzene, Toluene, Ethylbenzene and total Xylenes are NOT DETECTED in the samples.</p> <p>Changed number of samples exceeding 910-1 from 3 to 4 per attached Table 910-1.</p>	11/01/2017
Environmental	<p>No analytical results attached.</p> <p>Table 910-1 is incomplete and inaccurate.</p> <p>Contacted operator to submit correct attachments.</p>	10/31/2017

Total: 2 comment(s)