

State of Colorado Oil and Gas Conservation Commission

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Document Number:

401681722

Receive Date:

06/21/2018

Report taken by:

Stan Spencer

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: <u>UTAH GAS OP LTD DBA UTAH GAS CORP</u>	Operator No: <u>10539</u>	Phone Numbers Phone: <u>(970) 6971550</u> Mobile: <u>(970) 3091022</u>
Address: <u>1125 ESCALANTE DR</u>		
City: <u>RANGELY</u>	State: <u>CO</u> Zip: <u>81648</u>	
Contact Person: <u>Charlie Jensen</u>	Email: <u>cjensen@telesto-inc.com</u>	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 7437 Initial Form 27 Document #: 2231297

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 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 <u>CULVERT PIT CLOSURE</u> |

SITE INFORMATION

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

Facility Type: <u>LOCATION</u>	Facility ID: <u>316064</u>	API #: _____	County Name: <u>RIO BLANCO</u>
Facility Name: <u>LOWER HORSE DRAW UNIT-62S103W 15SESW</u>		Latitude: <u>39.877368</u>	Longitude: <u>-108.944176</u>
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SESW</u>	Sec: <u>15</u>	Twp: <u>2S</u>	Range: <u>103W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

SITE CONDITIONS

General soil type - USCS Classifications CL Most Sensitive Adjacent Land Use RANGELAND
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

NA, AN UNNAMED TRIBUTARY TO BIG HORSE DRAW 1452' W. NO WATER WELLS WITHIN 1/4 MILE OF THE PAD.

SITE INVESTIGATION PLAN

TYPE OF WASTE:

- | | | |
|--|--|--|
| <input checked="" type="checkbox"/> E&P Waste | <input type="checkbox"/> Other E&P Waste | <input type="checkbox"/> Non-E&P Waste |
| <input checked="" type="checkbox"/> Produced Water | <input type="checkbox"/> Workover Fluids | |
| <input type="checkbox"/> Oil | <input type="checkbox"/> Tank Bottoms | |
| <input checked="" type="checkbox"/> Condensate | <input type="checkbox"/> Pigging Waste | |
| <input type="checkbox"/> Drilling Fluids | <input type="checkbox"/> Rig Wash | |
| <input type="checkbox"/> Drill Cuttings | <input type="checkbox"/> Spent Filters | |
| | <input type="checkbox"/> Pit Bottoms | |
| | <input type="checkbox"/> Other (as described by EPA) | |

DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
Yes	SOILS	limited to pad surface	excavation and soil borings

INITIAL ACTION SUMMARY

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

This Form 27 is being submitted to initiate the document trail for closure of the historical culvert pit on Encana's Lower Horse Draw Unit 2166 well pad. ? Culvert pits? were installed historically as containment for well blow down liquids and consist of a 6 to 8 foot diameter steel ring (vertical corrugated culvert) approximately 4 to 8 feet deep placed in the ground with a cement bottom. The culvert pit will be replaced with an above ground storage tank set in a lined secondary

containment. A topographic location map is included with this submittal. All activities conducted in support of this pit closure project will be carried out in accordance with COGCC Rules 905, 907, and 909 for conducting a site investigation in support of pit closures. The following discussion was prepared to present general procedures for Encana's approach to pit closures and any associated remediation and documentation. This form is being submitted

prior to the initiation of pit closure activities on this location. All subsequent data gathered in support of this project will be submitted to the COGCC with in a Form 4 (Sundry Notice), and will reference the COGCC assigned Remediation Project number. With approval of this Form 27, and in compliance with COGCC rules governing the closure of pits, Encana will initiate the pit closure project with the following activities: 905.b(2) & 905.b(4) ? All fluids and/or solids will be removed from the pit and will be reused or disposed of at a permitted disposal facility or Encana owned injection well. 905.b(4) ? Discrete representative samples will be collected from below the culvert pit following removal of the tank ring and cement, and will be analyzed for compliance with

COGCC Table 910-1. One full suite (Table 910-1) discrete sample will be collected from the soil directly below the culvert pit. Additional discrete samples will be collected from the pit bottom, and if necessary pit walls, and analyzed for the organic constituents listed in Table 910-1. The number of additional samples collected will be adequate to represent the size and/or impacts present below the culvert pit. Sample results will be provided to the COGCC in supplementary submission(s) for

this remediation project. 905.c ? A Form 4 (Sundry Notice) will be submitted to document the onsite disposal of material in excess of the allowable concentrations identified in Table 910-1 or remediationon location

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):

A total of two soil borings in the vicinity were advanced and soil samples were collected from the discreet impacted interval (depth). Based on the intial assessments, the Table 910-1 compounds of concern are BTEX and TPH.

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 2

Number of soil samples exceeding 910-1 2

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

Approximate areal extent (square feet) 0

NA / ND

-- Highest concentration of TPH (mg/kg) 3649

NA Highest concentration of SAR

BTEX > 910-1 No

Vertical Extent > 910-1 (in feet) 2

Groundwater

Number of groundwater samples collected 0

Was extent of groundwater contaminated delineated? Yes

Depth to groundwater (below ground surface, in feet)

Number of groundwater monitoring wells installed

Number of groundwater samples exceeding 910-1

Highest concentration of Benzene (µg/l)

Highest concentration of Toluene (µg/l)

Highest concentration of Ethylbenzene (µg/l)

Highest concentration of Xylene (µg/l)

Highest concentration of Methane (mg/l)

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?

For arsenic quantification only.

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

Volume of solid waste (cubic yards)

Volume of liquid waste (barrels)

☒ Is further site investigation required?

Soil borings will again be advanced to track remedial progress and to demonstrate Table 910-1 Compliance prior to the request for closure. The schedule of soil borings is proposed to be a year from these recent borings (April 2019). Should Utah Gas Corp change the remedial method - The change will be proposed to the COGCC and the schedule of soil sampling may be warranted.

REMEDIAL ACTION PLAN

Does this Supplemental Form 27A include changes to a previously approved Remedial Action Plan? No _____

SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

The initial source of impacted soil was removed and land treated back in 2012. Soil samples collected demonstrated land treatment was successful and soils were compliant with Table 910-1 standards.

REMEDIATION 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.

Initial excavation activities were limited to above and below ground equipment located on the well pad. August 2013, soil borings were advanced to delineate the vertical and lateral extent of the soil impacts. Where impacts were observed, biovent (passive) wells were installed to promote enhanced bio-attenuation of the remaining hydrocarbons. In April 2018, two soil borings were advanced adjacent to the boreholes where soils impacts had historically been above Table 910-1 standards. The compounds of concern are BTEX and TPH. The Total BTEX was decreased from 147.8 ppm to 50.54 ppm; benzene decreased from 8.1 ppm to 0.814 ppm. BTEX in the other soil boring is compliant. TPH decreased from 8,600 ppm to 3,649 ppm in one borehole and decreased from 4,406 ppm to 2,404 ppm. A greater than (>) 50 % decrease in overall soil impacts.

Soil Remediation Summary

☒ In Situ

Yes Bioremediation (or enhanced bioremediation)

No Chemical oxidation

No Air sparge / Soil vapor extraction

Yes Natural Attenuation

No Other _____

☒ Ex Situ

No Excavate and offsite disposal

If Yes: Estimated Volume (Cubic Yards) _____

Name of Licensed Disposal Facility or COGCC Facility ID # _____

Yes Excavate and onsite remediation

Yes Land Treatment

No Bioremediation (or enhanced bioremediation)

No Chemical oxidation

No 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.

REMEDATION PROGRESS UPDATE

PERIODIC REPORTING

Frequency: ☐ Quarterly ☐ Semi-Annually ☐ Annually ☒ Other soil sample and remedial tracking update

Report Type: ☐ Groundwater Monitoring ☐ Land Treatment Progress Report ☐ O&M Report

☒ Other culvert pit legacy remediation

WASTE DISPOSAL INFORMATION

Was E&P waste generated as part of this remediation? No

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

Volume of E&P Waste (solid) in cubic yards _____

E&P waste (solid) description _____

COGCC Disposal Facility ID #, if applicable: _____

Non-COGCC Disposal Facility: _____

Volume of E&P Waste (liquid) in barrels _____

E&P waste (liquid) description _____

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? No

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? No

Does Groundwater meet Table 910-1 standards? Yes

Is additional groundwater monitoring to be conducted? No

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.

The footprint for the backfilled culvert pit occurs within the pad boundary for this producing well pad. The backfilled pit will become part of the pad's working surface.

Is the described reclamation complete? Yes

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. _____

Actual Spill or Release date, if known. _____

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). _____

Date of commencement of Site Investigation. 08/23/2012 _____

Date of completion of Site Investigation. 08/26/2013 _____

REMEDIAL ACTION DATES

Date of commencement of Remediation. 08/26/2013 _____

Date of completion of Remediation. _____

SITE RECLAMATION DATES

Date of commencement of Reclamation. _____

Date of completion of Reclamation. _____

OPERATOR COMMENT

Attention Stan Spencer: This is a progress report on the legacy culvert pit project specific to the Lower Horse Draw 2166 well pad on behalf of Utah Gas Corp (formerly operated by Encana). Soil samples were collected from soil borings targeting the discreet area(s) of impacts in the subsurface. Initial excavation tasks were limited to the presence of surface and subsurface equipment. Please review the attached assessment and recent report(s) and maps. In summary, BTX and TPH concentrations have decreased >50% from 2103 to 2018.

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

Signed: ` Charlie Jensen

Title: Hydrogeologist

Submit Date: ` 06/21/2018

Email: cjensen@telesto-inc.com

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: Stan Spencer

Date: 06/25/2018

Remediation Project Number: 7437

COA Type**Description**

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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**

401681722	FORM 27-SUPPLEMENTAL-SUBMITTED
401681765	MAP
401681766	ANALYTICAL RESULTS
401681769	ANALYTICAL RESULTS
401681770	ANALYTICAL RESULTS
401681772	REMEDATION PROGRESS REPORT
401681773	MAP
401681774	MAP

Total Attach: 8 Files

General Comments**User Group****Comment****Comment Date**

Environmental	Although by decreased >50%, TPH concentrations remain more than 600% > than Table 910-1 after ~ six years. If concentrations are not at or near compliance with Table 910-1 within one year, Utah Gas must undertake enhanced remediation methods to close the REM within a reasonable time frame.	06/25/2018
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Total: 1 comment(s)