

State of Colorado Oil and Gas Conservation Commission

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Receive Date:

07/06/2017

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>BARGATH LLC</u>	Operator No: <u>10128</u>	Phone Numbers
Address: <u>2717 COUNTY ROAD 215 SUITE 200</u>		Phone: <u>(970) 285-5461</u>
City: <u>PARACHUTE</u>	State: <u>CO</u>	Zip: <u>81635</u>
Contact Person: <u>Annette Garrigues</u>	Email: <u>Annette.Garrigues@Williams.com</u>	Mobile: <u>(970) 618-3329</u>

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 8268 Initial Form 27 Document #: 2147996

PURPOSE INFORMATION

- | | |
|--|--|
| <input type="checkbox"/> 901.e. Sensitive Area Determination | <input checked="" 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 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 type="checkbox"/> Other _____ |

SITE INFORMATION

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

Facility Type: <u>GAS COMPRESSOR</u>	Facility ID: <u>428642</u>	API #: _____	County Name: <u>RIO BLANCO</u>
Facility Name: <u>BLACK SULPHUR COMPRESSOR STATION</u>		Latitude: <u>0.000000</u>	Longitude: <u>0.000000</u>
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SWSW</u>	Sec: <u>19</u>	Twp: <u>2S</u>	Range: <u>97W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

SITE CONDITIONS

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

Is domestic water well within 1/4 mile? Yes Is surface water within 1/4 mile? Yes

Is groundwater less than 20 feet below ground surface? Yes

Other Potential Receptors within 1/4 mile

GROUNDWATER, BLACK SULPHUR CREEK (400'+ SOUTH).

SITE INVESTIGATION PLAN

TYPE OF WASTE:

☒ E&P Waste

☐ Other E&P Waste

☐ Non-E&P Waste

☐ Produced Water

☐ Workover Fluids

☐ 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
	GROUNDWATER	SEE ATTACHED MAP/ANALYTICAL DATA	GROUNDWATER MONITORING WELLS
	SOILS	SEE ATTACHED MAP	BOREHOLE DELINEATION

INITIAL ACTION SUMMARY

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

ON MAY 20, 2012, A BOREHOLE DELINEATION COMMENCED OF THE SUSPECTED CONTAMINATION AREA. ON JUNE 5, 2012, CONTACT WAS MADE WITH COGCC. ON JUNE 15, 2012, A FORM 19 WAS SUBMITTED. A FULL BOREHOLE DELINEATION HAS BEEN COMPLETED WITHIN THE FENCED AREA AT OUR FACILITY, AND 7 MONITORING WELLS HAVE BEEN INSTALLED. THE GROUNDWATER IN THESE WELLS HAS BEEN SAMPLED JULY-SEPT. 2012, AND JANUARY 2013-PRESENT (THE DATA GAP RESULTS FROM THE PREVIOUS CONSULTANT STOPPING WORK WITHOUT PRIOR NOTIFICATION TO BARGATH LLC). OUR GOAL NOW IS TO COMPLETE ANOTHER DELINEATION OUTSIDE OF THE FENCED AREA TO DETERMINE THE SIZE OF THE PLUME, AND COME UP WITH A PLAN FOR REMEDIATION.

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):

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 96

Number of soil samples exceeding 910-1 25

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

Approximate areal extent (square feet) 100

NA / ND

-- Highest concentration of TPH (mg/kg) 23100

NA Highest concentration of SAR

BTEX > 910-1 Yes

Vertical Extent > 910-1 (in feet) 20

Groundwater

Number of groundwater samples collected 400

Was extent of groundwater contaminated delineated? Yes

Depth to groundwater (below ground surface, in feet) 20'

Number of groundwater monitoring wells installed 15

Number of groundwater samples exceeding 910-1 80

-- Highest concentration of Benzene (µg/l) 13000

-- Highest concentration of Toluene (µg/l) 36000

-- Highest concentration of Ethylbenzene (µg/l) 3300

-- Highest concentration of Xylene (µg/l) 35000

NA Highest concentration of Methane (mg/l)

Surface Water

60 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?

☐ 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?

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.

Via Air Sparge/SVE. Unit originally started 02/2015. Shut down 5/3/2017, rebound occurred in MW-3. Started unit back up on 6/30/2017. The latest maps, analytical data, and an email discussion is attached to the supplemental form. We will reevaluate the site in September during the next quarterly groundwater monitoring event.

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.

Via Air Sparge/SVE. Unit originally started 02/2015. Shut down 5/3/2017, rebound occurred in MW-3. Started unit back up on 6/30/2017. The latest maps, analytical data, and an email discussion is attached to the supplemental form. We will reevaluate the site in September during the next quarterly groundwater monitoring event.

Soil Remediation Summary

☒ **In Situ**

No _____ Bioremediation (or enhanced bioremediation)

No _____ Chemical oxidation

Yes _____ Air sparge / Soil vapor extraction

No _____ Natural Attenuation

No _____ Other _____

☐ **Ex Situ**

_____ Excavate and offsite disposal

If Yes: Estimated Volume (Cubic Yards) _____

Name of Licensed Disposal Facility or COGCC Facility ID # _____

_____ Excavate and onsite remediation

No _____ Land Treatment

No _____ Bioremediation (or enhanced bioremediation)

No _____ Chemical oxidation

No _____ Other _____

Groundwater Remediation Summary

No _____ Bioremediation (or enhanced bioremediation)

No _____ Chemical oxidation

Yes _____ 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.

We are sampling 10 wells on a quarterly basis.

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? _____

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? _____

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.

AT THIS TIME, WE DO NOT HAVE A RECLAMATION PLAN.

Is the described reclamation complete? _____

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? _____

If NO, does the seed mix comply with local soil conservation district recommendations? _____

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. 05/30/2012

Date of completion of Site Investigation. 06/06/2012

REMEDIAL ACTION DATES

Date of commencement of Remediation. _____

Date of completion of Remediation. _____

SITE RECLAMATION DATES

Date of commencement of Reclamation. _____

Date of completion of Reclamation. _____

OPERATOR COMMENT

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

Signed: Annette Garrigues

Title: Environmental Specialist

Submit Date: 07/06/2017

Email: Annette.Garrigues@Williams.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: 07/07/2017

Remediation Project Number: 8268

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

401333400	FORM 27-SUPPLEMENTAL-SUBMITTED
401333550	MAP
401333572	MAP
401333573	ANALYTICAL RESULTS
401333578	ANALYTICAL RESULTS
401333579	CORRESPONDENCE

Total Attach: 6 Files

General Comments

User Group

Comment

Comment Date

Agency	Remediation will be considered complete when four consecutive 1/4s of groundwater monitoring result in concentrations < Table 910-1 standards after AS/SVE operations have ceased.	07/07/2017
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Total: 1 comment(s)