

State of Colorado  
Oil and Gas Conservation Commission

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Report taken by:  
John Heil

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.

Closure request is not available for an Initial Site Investigation and Remediation Workplan.

OPERATOR INFORMATION

Name of Operator: <u>BARGATH LLC</u>	Operator No: <u>10128</u>	<b>Phone Numbers</b>
Address: <u>2717 COUNTY ROAD 215 SUITE 200</u>		Phone: <u>(801) 244-1219</u>
City: <u>PARACHUTE</u> State: <u>CO</u> Zip: <u>81635</u>		Mobile: <u>( )</u>
Contact Person: <u>Aaron Galer</u>	Email: <u>aaron.galer@williams.com</u>	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 6925 Initial Form 27 Document #: 2223631

PURPOSE INFORMATION

- Rule 913.c.(1): Pit or Cuttings Trench closure.
- Rule 913.c.(2): Buried or partially buried vessel closure, which will be by removal.
- Rule 913.c.(3): Remediation of Spill and Releases pursuant to Rule 912.
- Rule 913.c.(4): Land treatment of Oily Waste pursuant to Rule 905.e.
- Rule 913.c.(5): Closure of Centralized E&P Waste Management Facilities pursuant to Rule 907.h.
- Rule 913.c.(6): Remediation of impacted Groundwater pursuant to Rule 915.e.(3).D, and the contaminant concentrations in Table 915-1.
- Rule 913.c.(7): Investigation and remediation of natural gas in soil or Groundwater.
- Rule 913.c.(8): When requested by the Director due to any potential risk to soil, Groundwater, or surface water.
- Rule 913.c.(9): Decommissioning of Oil and Gas Facilities.
- Rule 913.g: Changes of Operator.
- Rule 915.b: Request to leave elevated inorganics in situ.
- Other: \_\_\_\_\_

SITE INFORMATION

No Multiple Facilities

Facility Type: <u>GAS COMPRESSOR STATION</u>	Facility ID: <u>424530</u>	API #: _____	County Name: <u>GARFIELD</u>
Facility Name: <u>CALLAHAN COMPRESSOR STATION</u>	Latitude: <u>39.468400</u>	Longitude: <u>-108.086900</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SENE</u>	Sec: <u>3</u>	Twp: <u>7S</u>	Range: <u>96W</u> Meridian: <u>6</u> Sensitive Area? <u>No</u>

SITE CONDITIONS

General soil type - USCS Classifications SC Most Sensitive Adjacent Land Use Agricultural  
 Is domestic water well within 1/4 mile? No Is surface water within 1/4 mile? Yes  
 Is groundwater less than 20 feet below ground surface? No

## 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 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 checked="" 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	GROUNDWATER	Approx. 100'W x 230'L	Monitoring Results
Yes	SOILS	Approx. 40'L x 15'W x 30'D	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.

The broken pipeline was immediately isolated and exposed for repair. Trenching and probing was completed across the site to delineate the extent of impacts. Groundwater and surface water samples were collected to evaluate if impacts were present. Approximately 15 cubic yards of condensate impacted soil was excavated and disposed of.

### 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 ):

Six boring will be advanced to approximately 35-feet below ground surface in the locations presented in the attached scope of work, figure 4. A minimum of three samples will be collected from each boring from the depth with the highest field screening results from each ten-foot interval. Laboratory analysis will include BTEX, TPH-GRO, and TPH-DRO.

#### Proposed Groundwater Sampling

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

If soil contamination is observed to a depth at which groundwater is encountered, a monitoring well will be completed, purged, and sampled for BTEX, TPH-GRO, and TPH-DRO. In addition, quarterly sampling of six monitoring wells will continue.

#### 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 22  
Number of soil samples exceeding 915-1 2  
Was the areal and vertical extent of soil contamination delineated? Yes  
Approximate areal extent (square feet) 600

### NA / ND

-- Highest concentration of TPH (mg/kg) 956  
NA Highest concentration of SAR           
BTEX > 915-1 Yes  
Vertical Extent > 915-1 (in feet) 30

### Groundwater

Number of groundwater samples collected 833  
Was extent of groundwater contaminated delineated? Yes  
Depth to groundwater (below ground surface, in feet) 30  
Number of groundwater monitoring wells installed 17  
Number of groundwater samples exceeding 915-1 225

-- Highest concentration of Benzene (µg/l) 20000  
-- Highest concentration of Toluene (µg/l) 46000  
-- Highest concentration of Ethylbenzene (µg/l) 3100  
-- Highest concentration of Xylene (µg/l) 37000  
NA Highest concentration of Methane (mg/l)         

### Surface Water

4 Number of surface water samples collected  
0 Number of surface water samples exceeding 915-1

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?

Monitoring wells MW-6 and MW-7 were installed as background monitoring locations. MW-6 field screening indicated soil contamination present at 14'-15.5' with a PID results of 2,288 ppm, but no detections of BTEX or TPH. MW-7 field screening indicated no soil contamination and no detections of BTEX or TPH.

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? No

### SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

THE COMPROMISED PIPE FITTING HAS BEEN REPAIRED THUS PREVENTING ANY ADDITIONAL FLUID LOSS TO THE SUBSURFACE SOILS.

### 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.

The contaminated soil surrounding the leaking pipe was excavated until the depth of the excavation was determined unsafe and compromised the nearby building integrity. ORC Advanced was injected into the groundwater downgradient of the release area to form a barrier for dissolved-phase contaminants and enhance natural attenuation. Additionally, ORC Advanced was injected upgradient and within the source area to enhance natural attenuation.

### Soil Remediation Summary

In Situ

Ex Situ

No Bioremediation ( or enhanced bioremediation ) Yes Excavate and offsite disposal

No Chemical oxidation  
 No Air sparge / Soil vapor extraction  
 Yes Natural Attenuation  
 No Other \_\_\_\_\_

If Yes: Estimated Volume (Cubic Yards) \_\_\_\_\_ 15  
Name of Licensed Disposal Facility or COGCC Facility ID # \_\_\_\_\_  
 Excavate and onsite remediation  
 Land Treatment  
 Bioremediation (or enhanced bioremediation)  
 Chemical oxidation  
 Other \_\_\_\_\_

### **Groundwater Remediation Summary**

Bioremediation ( or enhanced bioremediation )  
 Chemical oxidation  
 Air sparge / Soil vapor extraction  
 Yes Natural Attenuation  
 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.

Monthly and quarterly groundwater sampling has occurred since the release was identified and investigation completed in 2012. The current monitoring plan includes six monitoring wells analyzed for BTEX, TPH, Chlorides, TDS, and sulfate.

# REMEDIATION PROGRESS UPDATE

## PERIODIC REPORTING

### Approved Reporting Schedule:

Quarterly    Semi-Annually    Annually    Other

### Request Alternative Reporting Schedule:

Semi-Annually    Annually    Other

Rule 913.e:

After initial approval of a Form 27, the Operator will provide quarterly update reports in a Supplemental Form 27 to document progress of site investigation and remediation, unless an alternative reporting schedule has been requested by the Operator and approved by the Director. The Director may request a more frequent reporting schedule based on site-specific conditions.

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

## Adequacy of Operator's General Liability Insurance and Financial Assurance

Describe the adequacy of the Operator's general liability insurance and Financial Assurance to fully address the anticipated costs of Remediation, including the estimated remaining cost for this project (below).

If this information has been provided on a Form 27 within the last 12 months, provide the Document Number of that form.

Operator anticipates the remaining cost for this project to be: \$

## 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

E&P waste (solid) description condensate contaminated soil

COGCC Disposal Facility ID #, if applicable:

Non-COGCC Disposal Facility: ECDC Environmental

Volume of E&P Waste (liquid) in barrels

E&P waste (liquid) description

COGCC Disposal Facility ID #, if applicable:

Non-COGCC Disposal Facility:

# REMEDIATION COMPLETION REPORT

## REMEDIATION COMPLETION SUMMARY

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

If YES:

- Compliant with Rule 913.h.(1).
- Compliant with Rule 913.h.(2).
- Compliant with Rule 913.h.(3).

Do all soils meet Table 915-1 standards?

Does the previous reply indicate consideration of background concentrations?

Does Groundwater meet Table 915-1 standards?

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

Operator shall comply with the COGCC 1000-Series Reclamation Requirements for all impacted and disturbed areas.

## 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.

AS THIS IS A WORKING FACILITY, THERE ARE CURRENTLY NO PLANS FOR ANY RECLAMATION ON THE FACILITY.

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 provide the seed mix? \_\_\_\_\_

If YES, does the seed mix comply with local soil conservation district recommendations? \_\_\_\_\_

Did the local soil conservation district provide the seed mix? \_\_\_\_\_

### SITE RECLAMATION DATES

Proposed date of commencement of Reclamation. \_\_\_\_\_

Proposed date of completion of Reclamation. \_\_\_\_\_

## IMPLEMENTATION SCHEDULE

Per Rule 913.d.(2): Any change from the approved implementation schedule will be requested at least 14 days in advance, and the Operator may not make the change without the Director's approval.

### PRIOR DATES

Date of Surface Owner notification/consultation, if required. \_\_\_\_\_

Actual Spill or Release date, or date of discovery. \_\_\_\_\_

### SITE INVESTIGATION DATES

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

Proposed site investigation commencement. 12/27/2011

Proposed completion of site investigation. 02/29/2012

### REMEDIAL ACTION DATES

Proposed start date of Remediation. \_\_\_\_\_

Proposed date of completion of Remediation. \_\_\_\_\_

Per Rule 913.d.(2): Any change from the approved implementation schedule will be requested at least 14 days in advance, and the Operator may not make the change without the Director's approval.

Change from approved implementation schedule per Rule 913.d.(2).

Basis for change in implementation schedule:

\_\_\_\_\_

**OPERATOR COMMENT**

MW-8 will be added back into future monitoring events based on the plume extent.

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

Signed: Aaron Galer

Title: Environmental Specialist

Submit Date: 12/05/2022

Email: aaron.galer@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: John Heil

Date: 12/29/2022

Remediation Project Number: 6925

**COA Type****Description**

	Implement removal of free product and remediate soils and groundwater to Table 915-1 concentration levels.
1 COA	

**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**

403249979	FORM 27-SUPPLEMENTAL-SUBMITTED
403249984	MONITORING REPORT

Total Attach: 2 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)