FORM 27 Rev 5/22

# State of Colorado
# Energy & Carbon Management Commission

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Document Number: 403596714
Receive Date: 11/15/2023
Report taken by: CHRIS CANFIELD

## 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 INFORMATON

Name of Operator: EXTRACTION OIL & GAS INC Operator No: 10459
Address: 555 17TH STREET SUITE 3700
City: DENVER State: CO Zip: 80202
Contact Person: Jacob Evans Email: jevans@civiresources.com

**Phone Numbers**
Phone: (303) 2947864
Mobile: (303) 8293811

## PROJECT, PURPOSE & SITE INFORMATION

### PROJECT INFORMATION

Remediation Project #: 22770 Initial Form 27 Document #: 403006796

### PURPOSE INFORMATION

- [ ] Rule 913.c.(1): Pit or Cuttings Trench closure.
- [X] Rule 913.c.(2): Buried or partially buried vessel closure, which will be by removal.
- [X] 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.
- [X] 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.
- [X] 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

Yes Multiple Facilities

Facility Type: LOCATION Facility ID: 470301 API #: County Name: BOULDER
Facility Name: CULVER MC-61N69W 17SWNE Latitude: 40.052558 Longitude: -105.138004
** correct Lat/Long if needed: Latitude: Longitude:
QtrQtr: SWNE Sec: 17 Twp: 1N Range: 69W Meridian: 6 Sensitive Area? Yes

Facility Type: SPILL OR RELEASE Facility ID: 482054 API #: County Name: BOULDER
Facility Name: Culver 5-17 Latitude: 40.052552 Longitude: -105.138026
** correct Lat/Long if needed: Latitude: Longitude:
QtrQtr: SWNE Sec: 17 Twp: 1N Range: 69W Meridian: 6 Sensitive Area? Yes

## SITE CONDITIONS

General soil type - USCS Classifications SM

Most Sensitive Adjacent Land Use Rangeland

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? Yes

**Other Potential Receptors within 1/4 mile**

Boulder Creek, Dry Creek and related wetlands are approximately 1/4 mile from the facility

# SITE INVESTIGATION PLAN

## TYPE OF WASTE:

- [X] **E&P Waste**
  - [X] Produced Water
  - [X] Oil
  - [X] Condensate
  - [ ] Drilling Fluids
  - [ ] Drill Cuttings
- [ ] **Other E&P Waste**
  - [ ] Workover Fluids
  - [ ] Tank Bottoms
  - [ ] Pigging Waste
  - [ ] Rig Wash
  - [ ] Spent Filters
  - [ ] Pit Bottoms
  - [ ] Other (as described by EPA) _____
- [ ] **Non-E&P Waste** _____

## DESCRIPTION OF IMPACT

| Impacted? | Impacted Media | Extent of Impact | How Determined |
|---|---|---|---|
| Yes | GROUNDWATER | Source | Laboratory Analysis |
| Yes | SOILS | 115' X 80' X 11'bgs | Laboratory Analysis |

## 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 has been prepared to support removal of the production equipment associated with this location. In accordance with COGCC Rule 911 and Rule 915, initial representative soil samples will be collected beneath the following equipment, if present onsite: separators, above ground surface tanks, and produced water vessels (PWV). Soil samples will be field screened utilizing a photoionization detector, as well as olfactory and visual senses, at approximately the locations indicated on the attached proposed soil sample locations diagram. Soil samples collected beneath the on-location flowline will be field-screened and submitted only if impacts are suspected. Additionally, soil samples from the flowline will be collected and submitted for laboratory analysis from specific areas of concern: where subsurface piping connects to surface equipment, where Above Ground Storage Tanks (AST), valves, pumps, compressors, or other process equipment were used on a location, and/or at joints, hammer unions, or previous repairs in above ground or subsurface pipe, if present. Grab samples will be collected and field-screened from the base and each sidewall of the PWV excavation. At least one sample, either the highest PID result or the base, will be submitted for laboratory analysis. Initial laboratory soil analysis will include BTEX, 1,2,4 and 1,3,5 Trimethylbenzene, naphthalene, TPH, pH, EC, SAR and boron. Samples will be submitted to a NELAP accredited laboratory using COGCC approved analysis methods. Any identified impacts will be reported as required for each discovery via Form 19 submittal.

## PROPOSED SAMPLING PLAN

### Proposed Soil Sampling

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

Eight grab soil samples were collected for analysis of TPH C6-36, BTEX, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, naphthalene, SAR, EC, pH, and boron. Additionally, five of the eight samples were also analyzed for Table915-1 PAH's and Metals.

### Proposed Groundwater Sampling

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

Four groundwater monitoring wells were installed during site assessment activities. Groundwater samples were collected for analysis of BTEX, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, and inorganic parameters.

### 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: 8

Number of soil samples exceeeding 915-1: 3

Was the areal and vertical extent of soil contamination delineated? No

Approximate areal extent (square feet): 100

**NA / ND**

-- Highest concentration of TPH (mg/kg): 2335.2

-- Highest concentration of SAR: 1.08

BTEX > 915-1: Yes

Vertical Extent > 915-1 (in feet): 4

**Groundwater**

Number of groundwater samples collected: 4

Was extent of groundwater contaminated delineated? No

Depth to groundwater (below ground surface, in feet): 6

Number of groundwater monitoring wells installed: 4

Number of groundwater samples exceeding 915-1: 1

-- Highest concentration of Benzene (µg/l): 10.7

ND Highest concentration of Toluene (µg/l):

ND Highest concentration of Ethylbenzene (µg/l):

ND Highest concentration of Xylene (µg/l):

NA Highest concentration of Methane (mg/l):

**Surface Water**

0 Number of surface water samples collected

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?

One background sample was collected for analysis of Table 915-1 metals, SAR, EC, pH, and boron.

☐ 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.

Source removal has occurred through excavation of impacted soil. Approximately 2290 cu/yds of impacted soil was removed and disposed of at a certified landfill. Confirmation soil samples were collected to determine the lateral and vertical extent of impacts.

## 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.

Source removal has been completed. Monitoring wells have been installed to delineate dissolved phase impacts. Active remediation will be discussed in a subsequent form 27 to treat impacted media above COGCC standards in situ. An estimated timeframe to achieve a no further action will be December 30, 2026.

## Soil Remediation Summary

☐ **In Situ**

☒ **Ex Situ**

| | | | |
|---|---|---|---|
| | Bioremediation ( or enhanced bioremediation ) | Yes | Excavate and offsite disposal |
| | Chemical oxidation | | If Yes: Estimated Volume (Cubic Yards) 2290 |
| | Air sparge / Soil vapor extraction | | Name of Licensed Disposal Facility or COGCC Facility ID # |
| | Natural Attenuation | No | Excavate and onsite remediation |
| | Other | | Land Treatment |
| | | | Bioremediation (or enhanced bioremediation) |
| | | | Chemical oxidation |
| | | | Other |

## Groundwater Remediation Summary

| | |
|---|---|
| No | Bioremediation ( or enhanced bioremediation ) |
| No | Chemical oxidation |
| No | Air sparge / Soil vapor extraction |
| Yes | 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.

Fourteen groundwater monitoring wells were installed and will be sampled on a quarterly basis. Groundwater samples will be collected and analyzed by a certified laboratory for BTEX, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1&2-methylnaphthalene, benzo(a)anthracene, dissolved lead, and inorganic parameters. Groundwater sampling will begin during the 3rd quarter 2023.

# REMEDIATION PROGRESS UPDATE

## PERIODIC REPORTING

**Approved Reporting Schedule:**

[X] 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

[X] Other Assessment Report

## 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.

The General Liability coverage within the Civitas Resources insurance program includes coverage for bodily injury, property damage, and pollution clean-up costs arising from qualifying pollution events of a sudden and accidental nature subject to a $1,000,000 per occurrence limit and $2,000,000 aggregate limit. The Civitas Resources insurance program includes Excess Liability coverage of $110,000,000 per occurrence and in the aggregate which sits over the sudden and accidental pollution within the General Liability coverage. It is the opinion of Civitas Resources that this total tower of limit is adequate to address the costs of remediation associated with any qualifying pollution event.

Operator anticipates the remaining cost for this project to be: $ 75000

## 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:

No beneficial use

Volume of E&P Waste (solid) in cubic yards 2290

E&P waste (solid) description E&P solid waste derived from excavation activities

COGCC Disposal Facility ID #, if applicable:

Non-COGCC Disposal Facility: Waste Connections/Front Range Landfill/Waste Management

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

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? No

Does the previous reply indicate consideration of background concentrations?

Does Groundwater meet Table 915-1 standards? No

Is additional groundwater monitoring to be conducted? Yes

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.

Reclamation will be in accordance with COGCC 1000 series rules.

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 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. 04/19/2022

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. 04/21/2022

Actual Spill or Release date, or date of discovery. 04/20/2022

## SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 04/06/2022

Proposed site investigation commencement. 04/19/2022

Proposed completion of site investigation. 09/16/2022

## REMEDIAL ACTION DATES

Proposed start date of Remediation. 09/16/2022

Proposed date of completion of Remediation. 12/30/2026

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

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

Signed: Jacob Evans  Title: Environmental Advisor

Submit Date: 11/15/2023  Email: jevans@civiresources.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: CHRIS CANFIELD  Date: 12/29/2023

Remediation Project Number: 22770

| COA Type | Description |
|---|---|
| | |
| 0 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 |
|---|---|
| 403596714 | FORM 27-SUPPLEMENTAL-SUBMITTED |
| 403596727 | REMEDIATION PROGRESS REPORT |

Total Attach: 2 Files

## General Comments

| User Group | Comment | Comment Date |
|---|---|---|
| | | Stamp Upon Approval |

Total: 0 comment(s)