FORM 27 Rev 5/22

# State of Colorado
# Energy & Carbon Management Commission

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Report taken by: Laurel Anderson

## 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: PETRO OPERATING COMPANY LLC Operator No: 10583
Address: 9033 E EASTER PLACE SUITE 112
City: CENTENNIAL State: CO Zip: 80112-2105
Contact Person: Alex Corey Email: alex.corey@iptwell.com

**Phone Numbers**
Phone: (713) 408-7174
Mobile: ( )

## PROJECT, PURPOSE & SITE INFORMATION

### PROJECT INFORMATION

Remediation Project #: 23474 Initial Form 27 Document #: 402977325

### 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.
- [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: WELL Facility ID: API #: 123-09092 County Name: WELD
Facility Name: DI-TA (JOHN DITIRRO) 2 Latitude: 40.110909 Longitude: -104.824469
** correct Lat/Long if needed: Latitude: Longitude:
QtrQtr: SENW Sec: 30 Twp: 2N Range: 66W Meridian: 6 Sensitive Area? Yes

Facility Type: LOCATION Facility ID: 311313 API #: County Name: WELD
Facility Name: DI-TA (JOHN DITIRRO)-62N66W 30SENW Latitude: 40.111000 Longitude: -104.824530
** correct Lat/Long if needed: Latitude: Longitude:
QtrQtr: SENW Sec: 30 Twp: 2N Range: 66W Meridian: 6 Sensitive Area? Yes

Facility Type: OFF-LOCATION FLOWLINE Facility ID: 476988 API #: County Name: WELD

Facility Name: Wellhead Line 30SENW Latitude: 40.110877 Longitude: -104.828401

** correct Lat/Long if needed: Latitude: 40.110877 Longitude: -104.828401

QtrQtr: SENW Sec: 30 Twp: 2N Range: 66W Meridian: 6 Sensitive Area? Yes

## SITE CONDITIONS

General soil type - USCS Classifications GW

Most Sensitive Adjacent Land Use Industrial Gravel Mining

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**

# 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)
- [X] **Non-E&P Waste**

  No waste generated

## DESCRIPTION OF IMPACT

| Impacted? | Impacted Media | Extent of Impact | How Determined |
|---|---|---|---|
| No | GROUNDWATER | NA | Lab analysis if encountered |
| Yes | SOILS | 41,200 | Lab 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 summarize ongoing assessment activities conducted during the plugging and abandonment of the Di-Ta 2 wellhead (Figure 1) and the permanent removal of the associated flowline. Assessment activities began on October 27, 2022. Soil assessment activities are being conducted in accordance with COGCC Rule 911.a. A photo log is attached. The Form 44 is attached.

On October 25, 2022, petroleum hydrocarbon impacted soil was discovered by field observation along the flowline near the separator. The release was reported to the COGCC in the Form 19 Initial dated October 25, 2022 (Document No. 403207907). The volume of the release is unknown. Assessment activities are ongoing.

## 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 ):

On October 27, 2022, Ensolum personnel conducted field screening with a photoionization detector (PID) and collected two impact characterization soil samples (WP01@12' and B01@5') for laboratory analysis. Soil sample WP01@12' was collected from 12 feet below ground surface (bgs) at the area where historical petroleum hydrocarbon impacted was initially identified and where field screening indicated the highest PID readings and observations of staining and odor. Soil sample B01@5' was collected from 5 feet bgs adjacent the wellhead. Assessment activities are ongoing The sample locations are depicted on the Sample Location Map provided as Figure 2. The soil analytical results are summarized in Table 1 and the laboratory reports are attached.

### Proposed Groundwater Sampling

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

Groundwater was observed in soil borings SB01 through SB15 at approximately 21 feet bgs. To facilitate groundwater sample collection and measure the hydraulic gradient at the Site, temporary groundwater monitoring wells were installed in soil borings SB01, SB03, SB06, and SB10. On December 20, 2022, groundwater samples were collected and were submitted for laboratory analysis of BTEX, naphthalene, 1,2,4-TMB, and 1,3,5-TMB by EPA Method 8260D. All groundwater analytical results were below the laboratory reporting limits and the applicable COGCC Table 915-1 Concentration Levels for all requested analyses. On January 13, 2023, all temporary monitoring wells were abandoned in accordance with EPA standards. The groundwater sample locations are shown on Figure 3. Groundwater analytical results are summarized in Table 2 and the laboratory analytical report is attached.

### 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 ):

On March 27, 2023, 17 soil borings ( BG-SB01 and BG-SB02) were advanced using a hollow stem auger drilling rig to assess background metals concentrations. Soil samples were collected from BG-SB01 at 11 feet , 15 feet, 20 feet, and 27 feet below ground surface. Soil samples were collected from BG-SB02 at 11 feet , 15 feet, 20 feet, and 22 feet below ground surface. The soil samples were submitted for analysis of BTEX, TMBs, TPH, PAHs, arsenic, barium, cadmium, and lead. The soil boring locations are shown on Figure 2. The analytical results are summarized in Table 1 and the laboratory report is attached.

# SITE INVESTIGATION REPORT

## SAMPLE SUMMARY

**Soil**

Number of soil samples collected: 43
Number of soil samples exceeeding 915-1: 43
Was the areal and vertical extent of soil contamination delineated? Yes
Approximate areal extent (square feet): 41200

**NA / ND**

Highest concentration of TPH (mg/kg):
Highest concentration of SAR:
BTEX > 915-1: No
Vertical Extent > 915-1 (in feet): 27

**Groundwater**

Number of groundwater samples collected: 4
Was extent of groundwater contaminated delineated? Yes
Depth to groundwater (below ground surface, in feet): 21
Number of groundwater monitoring wells installed: 0
Number of groundwater samples exceeding 915-1: 0

ND Highest concentration of Benzene (µg/l):
ND Highest concentration of Toluene (µg/l):
ND Highest concentration of Ethylbenzene (µg/l):
ND Highest concentration of Xylene (µg/l):
ND 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?

[X] Were background samples collected as part of this site investigation?

Two background soil samples (BG01@10' BG02@10') were submitted for laboratory analysis of electrical conductivity (EC), sodium adsorption ratio (SAR), pH, boron, and Table 915-1 metals. Eight background soil samples (BG-SB01@11', BG-SB01@15', BG-SB01@20', BG-SB01@27', BG-SB02@11', BG-SB02@20', and BG-SB02@22') were submitted for laboratory analysis of arsenic, barium, cadmium, and lead. Background soil samples were collected were located away from field evidence of impact to characterize inorganic concentrations of unimpacted material at the Site. No organic compounds were detected above the laboratory reporting limits in the samples collected from soil borings SB08, SB09, SB12, SB13, SB14, and SB15; therefore, the metals concentrations in samples obtained from these borings are considered background and are used for determining metals compliance of the remaining samples.

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

Volume of solid waste (cubic yards):
Volume of liquid waste (barrels):

[X] Is further site investigation required?

Assessment Activities are ongoing.

# 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 remedial method will be selected following completion of site assessment activities.

## 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 remedial method will be selected following completion of site assessment activities.

## Soil Remediation Summary

☐ **In Situ**

_____ Bioremediation ( or enhanced bioremediation )

_____ Chemical oxidation

_____ Air sparge / Soil vapor extraction

_____ Natural Attenuation

_____ 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

_____ Land Treatment

_____ Bioremediation (or enhanced bioremediation)

_____ Chemical oxidation

_____ Other _____

## Groundwater Remediation Summary

_____ Bioremediation ( or enhanced bioremediation )

_____ Chemical oxidation

_____ Air sparge / Soil vapor extraction

_____ 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.

# REMEDIATION PROGRESS UPDATE

## PERIODIC REPORTING

**Approved Reporting Schedule:**

☐ Quarterly ☐ Semi-Annually ☐ Annually ☒ Other One-time within 90 days of receipt of laboratory analytical analysis

☐ **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.

Petro Operating is bonded per Rule 702 and in compliance with the general liability requirements per Rule 705.

Operator anticipates the remaining cost for this project to be: $ 10000

## 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:

# 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.

The location is within an active sand and gravel mining operation. This location will be reclaimed in accordance with Surface Owner agreement to support their ongoing use.

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.

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. 10/25/2022

Actual Spill or Release date, or date of discovery. 10/25/2022

## SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 10/25/2021

Proposed site investigation commencement. 10/27/2022

Proposed completion of site investigation.

## 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

Based on the results of the assessment activities conducted to date, Petro Operating is developing a plan for onsite treatment of soils, where necessary. The plan will be submitted in a subsequent Form 27 for COGCC approval prior to commencing.

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

Signed: Alex Corey Title: Engineering Manager

Submit Date: 06/30/2023 Email: Alex.Corey@iptwell.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: Date:

Remediation Project Number: 23474

| 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 |
|---|---|
| 403449403 | FORM 27 DENIED |
| 403451528 | ANALYTICAL RESULTS |
| 403451529 | SITE MAP |
| 403451531 | ANALYTICAL RESULTS |
| 403451533 | ANALYTICAL RESULTS |
| 403553016 | FORM 27-SUPPLEMENTAL-SUBMITTED |
| 403553017 | DENIED FORM 27 DENIED |
| 403553018 | DENIED FORM 27 DENIED |

Total Attach: 8 Files

## General Comments

| User Group | Comment | Comment Date |
|---|---|---|
| Agency | ECMC has denied the subject form. The subject form was submitted prior to denial of Doc #403354617 and therefore comments have not been addressed.<br><br>Operator shall reference Doc #403354617 and address all comments and unaddressed COAs from previously approved forms prior to submitting a replacement Supplemental Form 27.<br><br>Additionally, ECMC does not approve the use of soil samples from BG-SB01 for site-specific background determination due to multiple organic contaminants of concern detected in soil samples collected from this boring. | 10/06/2023 |

Total: 1 comment(s)