

# State of Colorado Oil and Gas Conservation Commission

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Document Number:

402598030

Receive Date:

02/22/2021

Report taken by:

RICK ALLISON

## Site Investigation and Remediation Workplan (Initial 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: 8 NORTH LLC	Operator No: 10575	<b>Phone Numbers</b>
Address: 370 17TH STREET SUITE 5200		Phone: (720) 354-4616
City: DENVER State: CO Zip: 80202		Mobile: ( )
Contact Person: Nathan Bennett	Email: nbennett@extractionog.com	

### PROJECT, PURPOSE & SITE INFORMATION

#### PROJECT INFORMATION

Remediation Project #: 16943

Initial Form 27 Document #: 402598030

#### 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 checked="" 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 checked="" type="checkbox"/> Other Facility decommissioning in support of final reclamation. Well P&A. Form 6 filed and approved. |

#### SITE INFORMATION

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

Facility Type: WELL	Facility ID:	API #: 123-32493	County Name: WELD
Facility Name: Pawnee 16-13H	Latitude: 40.835220	Longitude: -103.992170	
** correct Lat/Long if needed: Latitude:		Longitude:	
QtrQtr: NWSW	Sec: 16	Twp: 10N	Range: 59W Meridian: 6 Sensitive Area? Yes
Facility Type: LOCATION	Facility ID: 420186	API #:	County Name: WELD
Facility Name: Pawnee 16-13H	Latitude: 40.835220	Longitude: -103.992170	
** correct Lat/Long if needed: Latitude: 40.835391		Longitude:	
QtrQtr: NWSW	Sec: 16	Twp: 10N	Range: 59W 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? No

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

High Priority Habitats: Mule deer severe winter range, swift fox overall range.

# 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
UNDETERMINED	SOILS	No known impacts	Investigation pending

## 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 the plugging and abandonment of an oil and gas well, as well as the removal of the production equipment associated with this location. A Form 6-Intent (Doc#402533142) has been filed and approved. In accordance with COGCC Rule 911 and Rule 915, initial representative soil samples, and groundwater samples if present, will be collected beneath the wellhead, the separator, the produced water vessel. Initial laboratory soil analysis will include only BTEX, 1,2,4 and 1,3,5 Trimethylbenzene, naphthalene, TPH and pH, EC, SAR and Boron. Other equipment such as the ECD(s), meter sheds or other qualifying equipment will be field screened, and a lab analysis submitted if impacts are identified. Identified impacts will be reported as required for each discovery, and a Form 19 will be submitted, and remedial investigation will be conducted with excavation equipment.

## 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 ):

In accordance with COGCC Rule 911 and Rule 915 soil samples will be collected during closure of each qualifying equipment type and/or field screened as described in the Initial Action Summary. Initial laboratory analysis will include only BTEX, 1,2,4 and 1,3,5 Trimethylbenzene, naphthalene, TPH and pH, EC, SAR and Boron. If impacts are confirmed, the full Table 915-1 list of analysis will be tested for and additional excavation effort may be conducted to delineate horizontal and vertical extents. Overburden stockpiles, if present, will be sampled prior to use as backfill with a frequency of 1 composite sample per 500 cubic yards of material and submitted for analysis of VOCs.

### Proposed Groundwater Sampling

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

If groundwater is encountered during excavation activities, one sample will be collected and analyzed for Table 915-1 groundwater constituents.

### 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 \_\_\_\_\_ 0  
Number of soil samples exceeding 910-1 \_\_\_\_\_  
Was the areal and vertical extent of soil contamination delineated? \_\_\_\_\_  
Approximate areal extent (square feet) \_\_\_\_\_

### NA / ND

\_\_\_\_\_ Highest concentration of TPH (mg/kg) \_\_\_\_\_  
\_\_\_\_\_ Highest concentration of SAR \_\_\_\_\_  
\_\_\_\_\_ BTEX > 910-1 \_\_\_\_\_  
\_\_\_\_\_ Vertical Extent > 910-1 (in feet) \_\_\_\_\_

### Groundwater

Number of groundwater samples collected \_\_\_\_\_ 0  
Was extent of groundwater contaminated delineated? No \_\_\_\_\_  
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  
\_\_\_\_\_ 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

## SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

If a suspected release is identified and confirmed through soil screening and/or laboratory analysis during decommissioning of this facility, soils may be removed and transported to a licensed disposal facility. Transport and disposal records will be kept on file under usual and customary practice and are available upon request. If all source material cannot be removed during excavation activities, additional methodologies will be proposed in subsequent Form 27 supplementals.

## 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.

As needed, site specific soil and/or groundwater remediation plans will be developed and submitted to COGCC via supplemental Form 27.

## 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.

## 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: \_\_\_\_\_

## 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 activities will be completed in accordance with 1000 Series Rules, in collaboration with the landowner, and reported in a Form 4 (Sundry Notice) with proper documentation to demonstrate compliance with requirements for final reclamation. After all road base or other material is removed for reclamation, Operator may submit samples for laboratory analysis for soil suitability in compliance with 915.b if impacts from inorganic constituents are indicated.

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 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. 02/04/2021

Actual Spill or Release date, if known. \_\_\_\_\_

### **SITE INVESTIGATION DATES**

Date of Initial Actions described in Site Investigation Plan (start date). 03/28/2021

Date of commencement of Site Investigation. \_\_\_\_\_

Date of completion of Site Investigation. \_\_\_\_\_

### **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**

This Form 27 was prepared for the purpose of notifying the State of the closure of the production equipment associated with the location in accordance with COGCC Rule 911 and Rule 915. Should soil or groundwater impacts be identified during the well plug and abandonment, the removal of the produced-water vessel, or while decommissioning other related production equipment at this location, required notifications will be completed for each discovery, including preparation of a Form 19.

In addition to the soil sampling described in this document, XOG will investigate the impoundments located on the eastern portion of the pad shown in the attached figure. Two borings will be attempted initially via hand auger to a minimum depth of four feet below ground surface. If the hand auger is unsuccessful at penetrating the subsurface, additional mechanical means will be coordinated. Field screening will be conducted using a Photoionization Detector and through the presence of visual/olfactory evidence. If impacts are suspected via field screening, the soil borings will be advanced further to determine the vertical extent. If no suspected impacts are identified, one sample will be collected at depth from each boring and submitted for laboratory analysis of Table 915-1 constituents. If a release is confirmed through laboratory analysis, additional excavation effort may be conducted to delineate horizontal and vertical extents. Schedule is subject to change based on rig availability, weather conditions, and/or other variables beyond the control of the Operator.

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

Signed: ` Maggie Graham

Title: Senior Project Manager

Submit Date: ` 02/22/2021

Email: Maggie.graham@apexcos.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: RICK ALLISON

Date: 03/02/2021

Remediation Project Number: 16943

**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**

402598030	FORM 27-INITIAL-SUBMITTED
402598226	SOIL SAMPLE LOCATION MAP
402598228	MAP
402606420	SITE MAP

Total Attach: 4 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)