

State of Colorado  
**Oil and Gas Conservation Commission**

1120 Lincoln Street, Suite 801, Denver, Colorado 80203 (303)894-2100 Fax:(303)894-2109



#7392

FOR OGCC USE ONLY

**SITE INVESTIGATION AND REMEDIATION WORKPLAN**

This form shall be submitted to the Director for approval prior to the initiation of site investigation and remediation activities. Form 27 is intended to be used whenever possible. Additional documentation will be required when large volumes of soil and groundwater have been impacted or involve large facilities with multiple source areas. See Rule 910. Attach as many pages as needed to fully describe the proposed work.

**CAUSE OF CONDITION BEING INVESTIGATED AND REMEDIATED**

☐ Spill or Release ☐ Plug & Abandon ☐ Central Facility Closure ☒ Site/Facility Closure ☐ Other (describe): \_\_\_\_\_

OGCC Employee:

☐ Spill ☐ Complaint  
☐ Inspection ☐ NOAV

Tracking No:

OGCC Operator Number: 96155

Name of Operator: Whiting Oil and Gas Corporation

Address: 1700 Broadway, Suite 2300

City: Denver State: CO Zip: 80209

Contact Name and Telephone:

Mike Staab

No: 970-493-2900

Fax: \_\_\_\_\_

API Number: N/A

County: Weld County

Facility Name: Terrace Compressor Station Pit

Facility Number: Pit #100035

Well Name: N/A

Well Number: N/A

Location: (QtrQtr, Sec, Twp, Rng, Meridian): NWNW 18 10N 58W 6 PM

Latitude: 40.843803

Longitude: -103.914038

**TECHNICAL CONDITIONS**

Type of Waste Causing Impact (crude oil, condensate, produced water, etc): \_\_\_\_\_

**Site Conditions:** Is location within a sensitive area (according to Rule 901e)? ☐ Y ☒ N If yes, attach evaluation.

Adjacent land use (cultivated, irrigated, dry land farming, industrial, residential, etc.): grasslands

Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: Kim-Mitchell complex, calcareous loamy alluvium

Potential receptors (water wells within 1/4 mi, surface waters, etc.): none

**Description of Impact** (if previously provided, refer to that form or document):

Impacted Media (check):

- ☒ Soils  
☐ Vegetation  
☐ Groundwater  
☐ Surface Water

Extent of Impact:

Vertical: minimum 10 fbgs; Horizontal: Undetermined

How Determined:

Field observations and analytical results

**REMEDIALTION WORKPLAN**

**Describe Initial action taken** (if previously provided, refer to that form or document):

Two test pits were advanced into the pit. Field samples were collected approximately every foot and screened with a PID. Soil samples were collected and submitted to Summit Scientific laboratory for COGCC Table 910-1 waste characterization analyses from the intervals with the highest PID readings. The soil appears to be impacted to at least a depth of 10 fbgs (maximum depth of excavator at the time of sampling). The total vertical and horizontal extent of impact is at this time unknown.

**Describe how source is to be removed:**

Impacted soil will be excavated using a track hoe.

**Describe how remediation of existing impacts is to be accomplished, including removal and disposal at an injection well or licensed facility, land treatment on site, removal of impacted groundwater, Insitu bioremediation, burning of oily vegetation, etc.:**

Impacted soil will be excavated and landfarmed at the Terrace Compressor Station/Gas Plant, located approximately 800 feet east of the pit. The impacted soils will be disked, wind-rowed, moisture and nutrients added to accelerate the biodegradation process. Confirmation soil samples will be collected from the pit after excavation. Soil samples will be collected periodically from the landfarm soils and submitted for analysis of BTEX, GRO, DRO, and ORO.



Tracking Number: \_\_\_\_\_  
Name of Operator: \_\_\_\_\_  
OGCC Operator No: \_\_\_\_\_  
Received Date: \_\_\_\_\_  
Well Name & No: \_\_\_\_\_  
Facility Name & No: \_\_\_\_\_

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**REMEDIATION WORKPLAN (Cont.)**

OGCC Employee: \_\_\_\_\_

If groundwater has been impacted, describe proposed monitoring plan (# of wells or sample points, sampling schedule, analytical methods, etc.):

A groundwater well in the vicinity of the Terrace Gas Plant has a reported static water level of 104 feet below ground surface on the boring logs. Groundwater was not encountered during the site investigation.

**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. Use additional sheet for description if required.

Once laboratory analytical results for soil samples collected from the treated soils show that COGCC Table 910-1 concentration levels have been met, the treated soils will be used onsite, the pit area will be recontoured and reseeded to conform to the surrounding grade and land use. Whiting will control weeds on the location during the land treatment activities.

Attach samples and analytical results taken to verify remediation of impacts. Show locations of samples on an onsite schematic or drawing.

Is further site investigation required? ☒ Y ☐ N If yes, describe:

Confirmation samples will be collected from the bottom and sides of the pit following excavation.

**Final disposition of E&P waste** (landtreated and disposed onsite, name of licensed disposal facility, recycling, reuse, etc.):

Excavated soil will be land farmed at Terrace Gas Plant, approximately 800 feet east of the pit. Olsson will perform environmental oversight and visit the site periodically to ensure that the impacted soils are being treated and to collect progress soil samples. It is expected that Whiting will hire K&K Oilfield Services to provide the necessary labor and equipment to disk, turn, till, or wind-row the impacted soils within the pit to meet the COGCC Table 910-1 concentration levels.

**IMPLEMENTATION SCHEDULE**

Date Site Investigation Began: _____	Date Site Investigation Completed: _____	Date Remediation Plan Submitted: _____
Remediation Start Date: _____	Anticipated Completion Date: _____	Actual Completion Date: _____

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

Print Name: Gary Lawson

Signed: \_\_\_\_\_

Title: Environmental Professional II

Date: 10/29/12

OGCC Approved: ACE for John Axelsson Title: NE Region EPS Date: 10/31/2012

Conditions of approval:

- provide GPS coordinates for actual location of pit (form appears to be in error)
- delineate horizontal & vertical extent of impacts