

State of Colorado  
Oil and Gas Conservation Commission

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



Received 01/07/2015  
REM 8855  
Document 200421274  
Pit Facility 286695

**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.

OGCC Employee:

☐ Spill ☐ Complaint  
☐ Inspection ☐ NOAV

Tracking No:

**CAUSE OF CONDITION BEING INVESTIGATED AND REMEDIATED**

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

OGCC Operator Number: 10084

Name of Operator: Pioneer Natural Resources USA, Inc.

Address: 1401 17th Street, Suite 1200

City: Denver State: CO Zip: 80202

Contact Name and Telephone:

David Castro

No: 303-298-8100

Fax: 303-298-7800

API Number: 05-071-08372

County: Las Animas

Facility Name: Silva 43-1R pit

Facility Number: 286695

Well Name: Silva R

Well Number: 43-1

Location: (QtrQtr, Sec, Twp, Rng, Meridian): NESE, Sec. 1, T33S, R68W, 6th P.M. Latitude: 37.19856 Longitude: -104.93903

**TECHNICAL CONDITIONS**

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

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.): Submitted on 2a

Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: Submitted on 2a

Potential receptors (water wells within 1/4 mi, surface waters, etc.): Nearest permitted water well - 3295' (if SEO point is accurate)

Nearest surface water - 725' (if live water is present)

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

Impacted Media (check):

☒ Soils

☐ Vegetation

☐ Groundwater

☐ Surface Water

Extent of Impact:

soil within pit

How Determined:

torn liner

**REMEDIATION WORKPLAN**

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

Produced water from this well was being stored in this lined onsite pit. The well is no longer going to the pit.

Describe how source is to be removed:

Produced water is not being sent to this lined pit and it is no longer needed.

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.:

Produced water may be surface discharged under a CDPS permit, disposed of in a Class II UIC injection well, or utilized for dust suppression.



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.):

It is not expected that produced water stored in this lined pit communicated with nor affected groundwater.

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.

Pit liner has been removed for soil sampling and properly disposed of. If back berm of pit exists, this material will be utilized to backfill pit. Native fill material may be collected from the recontouring of cut and fill slopes. Fill material will be brought onsite, if needed, to adequately backfill pit. The top 3 feet of the pit will be filled with at least 25% native soil. If topsoil exists, this material will be overlain on the fill material. Backfilled material may be contoured in a manner to be utilized as a stormwater BMP.

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:

No impact to the surrounding environment occurred from the use of this lined pit.

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

Produced water may be surface discharged under a CDPS permit, disposed of in a Class II UIC injection well, or utilized for dust suppression.

**IMPLEMENTATION SCHEDULE**

Date Site Investigation Began: \_\_\_\_\_ Date Site Investigation Completed: 1/2015 Date Remediation Plan Submitted: 1/7/2015  
Remediation Start Date: upon approval Anticipated Completion Date: 1st qtr 2015 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: David Castro

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

Title: Environmental Specialist

Date: 1/7/2015

OGCC Approved: \_\_\_\_\_ Title: \_\_\_\_\_ Date: \_\_\_\_\_

Notify COGCC when closure process is completed.

#### METALS

Analytical results demonstrate that background concentrations of arsenic (As) exceed Table 910-1 concentration levels. Analytical results demonstrate that concentrations of As in soils in the pit also exceed Table 910-1 concentration levels and the pit concentrations are less than or within analytical uncertainty of being equal to the background concentrations. The analytical results are summarized below:

METAL	BACKGROUND CONCENTRATION (MG/KG)	PIT CONTENTS, SOIL/BEDROCK BELOW PIT OR IMPACTED MEDIA (MG/KG)	TABLE 901-1 CONCENTRATION LEVELS (MG/KG)
Arsenic	3.1-3.3	2.0-61	0.39

COGCC and CDPHE have consulted and agree that operators do not need to request variances from CDPHE for instances where the concentrations of metals in impacted soils are equal to or less than background concentrations, but do not meet Table 910-1 concentration values. Operators must ensure that remaining pit contents are covered with a minimum of 3 feet of backfill and soil. The soil horizons must be replaced in their original relative position, and reclaimed in accordance with 1000 Series Rules.