

State of Colorado Oil and Gas Conservation Commission



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

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):

Spill Complaint Inspection NOAV Tracking No:

OGCC Operator Number: 10318 Name of Operator: Vaquero Energy Inc Address: 5060 California Ave, Ste 640 City: Bakersfield State: CA Zip: 93309 Contact Name and Telephone: Hector Gonzales No: 661 363-7240 Fax:

API Number: 05-081-06249 County: Moffat Facility Name: Federal1-23 pit Facility Number: 112274 Well Name: Federal Well Number: 1-23 Location: (QtrQtr, Sec, Twp, Rng, Meridian): SESE 24 9N 91W 6th PM Latitude: 40.718476 Longitude: -107.564032

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.): Rangeland Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: Styers-Pinelli-Taffom complex, 10 to 25 percent slopes Potential receptors (water wells within 1/4 mi, surface waters, etc.): ephemeral drainage 270 east of facility; no water wells within 1/4 mile Description of Impact (if previously provided, refer to that form or document): Impacted Media (check): Soils Vegetation Groundwater Surface Water Extent of Impact: not yet determined How Determined:

REMEDIALTION WORKPLAN

Describe initial action taken (if previously provided, refer to that form or document): Ownership of produced water pits transferred from previous owner to Vaquero through the submittal of From 10. Any water contained within the pits has been removed and disposed via the Blue Gravel injection well (Blue Gravel 1-35, API 05-081-06744). Describe how source is to be removed: See attached. 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.: Excavated soils will be land treated in accordance with Rule 907.e.(2) through a combination of methods including disking, tilling, aerating, or adding nutrients such as microbes, water, or other amendments. The soil may also be blended with clean soil to meet Table 910-1 standards and utilized to backfill the excavation. Excess impacted soils may be transported to a local landfill for disposal. Manifests will be prepared for all soil transported to disposal.

FORM 27 Rev 6/99

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Tracking Number: \_\_\_\_\_  
Name of Operator: VAQUERO Energy  
OGCC Operator No: 10318  
Received Date: \_\_\_\_\_  
Well Name & No: Federal 1-23  
Facility Name & No: Blue GRAVEL 1-23 pit 11227H

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**REMEDIATION WORKPLAN (Cont.)**

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

It is anticipated that groundwater will not be encountered.

**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.

The excavation will be filled with clean soil and contoured to match the surrounding topography. Reseeding will be performed using an appropriate seed mixture, which may contain the following species: Alkali sagebrush, Western wheatgrass, Bluebunch wheatgrass, Prairie Junegrass, Bottlebrush squirreltail, Wyoming big sagebrush, Needleandthread, Indian ricegrass, and Nevada bluegrass. The NRCS, BLM, or other agencies will be consulted to determine the appropriate seed mix.

Appropriate measures will be taken to prevent the establishment of noxious weeds. The reseeded area will be relatively small; therefore, it is anticipated that manual weed control will be used.

**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:

NA

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

Sampling of the excavated and treated soil will occur regularly to determine compliance with Table 910-1 standards. Once the soil meets the Table 910-1., it will be incorporated into berms or spread upon the facility.

**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: Hector Gonzales Signed: [Signature]  
Title: Production Foreman Date: 12-15-11

OGCC Approved: [Signature] Title: West Enviro. Supervisor Date: 12/20/11  
Alex Fischer

**STATE OF COLORADO  
OIL AND GAS CONSERVATION COMMISSION**

Form 27 Attachment

Vaquero Energy, Blue Gravel Pits

**REMEDIATION WORKPLAN**

Describe how source is to be removed:

The impacted soil will be excavated from the pit using a backhoe to an anticipated depth of 10 ft. The vertical and lateral extent of the excavation will be based upon visual evidence of impacted soil in conjunction with field PID headspace measurements. The excavated soil will be temporarily managed within a lined berm to prevent contamination of stormwater runoff. Soil samples will be collected from the excavated pit to confirm compliance with Table 910-1 standards. The soil samples will be analyzed for the full 910 soil list to identify constituents of concern. If the constituents of concern have been identified as part of a background sampling program on similar Blue Gravel Pits, the soil samples may only be analyzed for a specific subset of the 910 list.