

State of Colorado Oil and Gas Conservation Commission

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



received 01/29/2016 Project 9479 Spill 437690 Document #: 2211230

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

[X] Spill or Release [] Plug & Abandon [] Central Facility Closure [] Site/Facility Closure [] Other (describe):

GENERAL INFORMATION

OGCC Operator Number: 47120
Name of Operator: Kerr-McGee Oil and Gas Onshore, LP
Address: 1099 18th Street, Suite 1800
City: Denver State: CO Zip: 80202
Contact Name and Telephone: Phillip Hamlin
Name: Phillip Hamlin No: 970-336-3500 Fax: 970-336-3656
API/Facility No: 331676 437690 County: Weld
Facility Name: Wirkner-Vance Facility Number: 3C-36HZ
Well Name: Wirkner-Vance Well Number: 3C-36HZ
Location (QtrQtr, Sec, Twp, Rng, Meridian): SWSW S36 T3N R67W Latitude: 40.175510 Longitude: -104.846640

TECHNICAL CONDITIONS

Type of Waste Causing Impact (crude oil, condensate, produced water, etc.): Crude Oil
Site Conditions: Is location within a sensitive area (according to Rule 901e)? [X] Y [] N If yes, attach evaluation.
Adjacent land use (cultivated, irrigated, dry land farming, industrial, residential, etc.): Other
Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: Sandy loam and alluvial gravel
Potential receptors (water wells within 1/4 mi, surface waters, etc.): The nearest surface water is located approximately 290' north of the site. The nearest water well is located approximately 242' northeast of the release area.
Description of Impact (if previously provided, refer to that form or document):
Impacted Media (check): [] Soils [] Vegetation [X] Groundwater [] Surface water
Extent of Impact: See attached data
How Determined: Groundwater sampling and laboratory analysis

REMEDIATION WORKPLAN

Describe initial action taken (if previously provided, refer to that form or document):
On June 10, 2014, approximately 3 barrels of crude oil were released into a lined secondary containment during construction and anchoring activities at the Wirkner-Vance 3C-36HZ production facility. Approximately 2.75 barrels of oil were recovered using a vacuum truck and transferred to a licensed injection facility for disposal. Soil impacts below the liner were not encountered. Groundwater was encountered in a temporary anchor pothole at approximately 6 feet below ground surface (bgs). An Initial Form 19 was submitted to the COGCC on June 12, 2014 (COGCC Document No. 400624490), and a Supplemental Form 19 was submitted on June 21, 2014 (COGCC Document No. 400630825). The COGCC has issued Spill Tracking number 437690 for this release.
Describe how source is to be removed:
Although a liner was present at the location, it was temporarily breached to allow for tank anchor installation. The released material infiltrated the open anchor potholes and subsequently impacted groundwater, which was encountered at approximately 6 feet bgs in the temporary potholes. No soil was impacted by the release. On June 10, 2014, a groundwater sample (GW01) was collected and submitted for laboratory analysis of BTEX. Analytical results received on June 10, 2014, indicated that the benzene, toluene, and total xylenes concentrations in sample GW01 were above the applicable COGCC Table 910-1 groundwater standards. Groundwater analytical results are summarized in Table 1. Groundwater grab sample locations are illustrated on Figure 1 and laboratory analytical reports are included as Attachment A.
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.:
Additional groundwater monitoring and remediation measures are described on the following page.

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

REMEDIATION WORKPLAN (CONT.)

OGCC Employee:

If groundwater has been impacted, describe proposed monitoring plan (# of wells or sample points, sampling schedule, analytical methods, etc.): On April 30, 2015, and June 15, 2015, six temporary groundwater monitoring/remediation wells (BH01-BH06) were installed at the site to further assess the extent of groundwater impacts.

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. Kerr-McGee's tank battery remains at the site. Reclamation activities at the site will be compliant with COGCC regulations.

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? [X] Y [] N If yes, describe: No soil was impacted by the release. Temporary monitoring/remediation wells have been installed to further assess groundwater impacts and additional wells will be installed on the south side of the release location so that groundwater points of compliance may be achieved.

Final disposition of E&P waste (land treated and disposed onsite, name of licensed disposal facility, recycling, reuse, etc.): Recovered crude oil was transported to a licensed injection facility for disposal.

IMPLEMENTATION SCHEDULE

Date Site Investigation Began: 6/10/2014 Date Site Investigation Completed: Remediation Plan Submitted: Remediation Start Date: 6/10/2014 Anticipated Completion Date: 1/15/2017 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: Phillip Hamlin

Signed: [Signature] Title: Senior HSE Representative Date: 1/29/16

OGCC Approved: Title: Date: