

#8338

FORM
27
Rev 6/99State of Colorado
Oil and Gas Conservation Commission

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

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APR 14 2014

COGCC

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): Earthen Pit Closure

OGCC Employee:

☐ Spill ☐ Complaint
☐ Inspection ☐ NOAV

Tracking No:

OGCC Operator Number: <u>62340</u>	Contact Name and Telephone: <u>Andrew Busch</u>
Name of Operator: <u>National Fuel Corporation</u>	No: <u>970-858-7490</u>
Address: <u>8400 E Prentice Ave, Suite 1100</u>	Fax: <u>970-858-7490</u>
City: <u>Greenwood Village</u> State: <u>CO</u> Zip: <u>80111</u>	
API Number: <u>05-077-08079</u> County: <u>Mesa</u>	
Facility Name: <u>Bar X Unit</u> Facility Number: <u>119473</u>	
Well Name: <u>Government #34-1</u> Well Number: _____	
Location: (QtrQtr, Sec, Twp, Rng, Meridian): <u>SWSW 34 8S 104W, 6th</u> Latitude: <u>39.319646</u> Longitude: <u>-108.981961</u>	

TECHNICAL CONDITIONS

Type of Waste Causing Impact (crude oil, condensate, produced water, etc): Produced Water/blow down fluids.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.): RangelandSoil type, if not previously identified on Form 2A or Federal Surface Use Plan: Sagers-Skumpah complex, 0 to 3 % SlopesPotential receptors (water wells within 1/4 mi, surface waters, etc.): an unnamed intermittent stream ~70 feet to the west and West Salt Creek ~600 feet south.

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

Impacted Media (check):

- ☐
- Soils
-
- ☐
- Vegetation
-
- ☐
- Groundwater
-
- ☐
- Surface Water

Extent of Impact:

Unknown-Earthen pit.

How Determined:

Site Visit

REMEDIALATION WORKPLAN

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

see attached

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.:

see attached



REMEDIATION WORKPLAN (Cont.)

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

OGCC Employee: _____

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

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.
see attached

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:
see attached

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

IMPLEMENTATION SCHEDULE

Date Site Investigation Began: March 2014 Date Site Investigation Completed: TBD Date Remediation Plan Submitted: TBD
Remediation Start Date: June 2014 Anticipated Completion Date: June 2014 Actual Completion Date: TBD

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

Print Name: Andrew Busch Signed: Andrew Busch
Title: Vice President of Operations Date: 4/4/2014

OGCC Approved: _____ Title: _____ Date: _____

Legend

★ Gov. 34-1 Location

EAST TAVAPUTS
PLATEAU

Grand Junction

National Geographic, Esri,
DeLorme, NAVTEQ, UNEP-
WCMC, USGS, NASA, ESA,
METI, NRCAN, GEBCO,
MTPeale

4 Rd

Source: Esri, DigitalGlobe,
GeoEye, i-cubed, USDA,
USGS, AEX, Getmapping,
Aerogrid, IGN, IGP, swisstopo

Copyright © 2013 National Geographic Society, i-cubed

Rule Engineering, LLC
Solutions to Regulatory for Industry

0 0.25 0.5 0.75 1 Miles



National Fuel
Corporation

Date: 1/20/2014

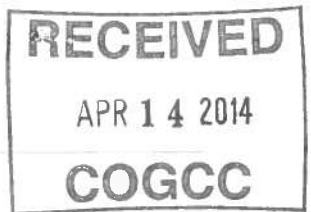
File:

Location: Gov. 34-1
QtrQtr, SWSW Sec, 34 Twp, 8s Rng 104W
Site Map

Figure: 1

**NARRATIVE ATTACHMENT
FORM 27 (SITE INVESTIGATION AND REMEDIATION WORKPLAN)**

Earthen Pit Closure (Bar X Unit Government #34-1)
Document Date – 4/4/2014



TECHNICAL CONDITIONS

Is location within a sensitive area (according to Rule 901e)?

Based on the distance to surface water this location is found in a sensitive area.

Potential receptors (water wells within ¼ mi, surface waters, etc.):

According to the COGCC GIS OnLine mapping service, there is an unnamed tributary ~70 feet to the west and West Salt Creek is ~600 feet south but, no monitoring wells or permitted water wells within ¼ mile of the well pad.

REMEDIATION WORKPLAN

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

This Form 27 is being submitted to initiate the document trail for closure of the historical earthen pit on National Fuel Corporation (NFC) Government 34-1 well pad. "Earthen pits" were installed historically as containment for well blow down liquids and consist of a 6 to 8 foot diameter berm around a 3 to 5 foot hole. The well will be plugged and abandoned (P/A) spring of 2014. The P/A permit has been submitted to the COGCC and the BLM and we are awaiting approval. A topographic location map is included with this submittal. All activities conducted in support of this pit closure project will be carried out in accordance with COGCC Rules 905, 907, and 909 for conducting a site investigation in support of pit closures.

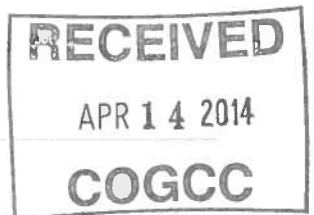
The following discussion was prepared to present general procedures for NFC's approach to pit closures and any associated remediation and documentation. This form is being submitted prior to the initiation of pit closure activities on this location. All subsequent data gathered in support of this project will be submitted to the COGCC in a Form 4 (Sundry Notice), and will reference the COGCC assigned Remediation Project number.

With approval of this Form 27, and in compliance with COGCC rules governing the closure of pits, NFC will initiate the pit closure project with the following activities:

- 905.b(2) & 905.b(4) – All fluids and/or solids will be removed from the pit and will be reused or disposed of at a permitted disposal facility.
- 905.b(4) – Discrete representative samples will be collected from below the earthen pit following removal of historic earthen pit, and will be analyzed for compliance with COGCC Table 910-1.
 - One full suite (Table 910-1) discrete sample will be collected from the soil directly below the earthen pit. Additional discrete samples will be collected from the pit bottom, and if necessary pit walls, and analyzed for the organic constituents listed

**NARRATIVE ATTACHMENT
FORM 27 (SITE INVESTIGATION AND REMEDIATION WORKPLAN)**

Earthen Pit Closure (Bar X Unit Government #34-1)
Document Date – 4/4/2014



- in Table 910-1. The number of additional samples collected will be adequate to represent the size and/or impacts present below the earthen pit.
- o Sample results will be provided to the COGCC in supplementary submission(s) for this remediation project.
- 905.c – A Form 4 (Sundry Notice) will be submitted to document the onsite disposal of material in excess of the allowable concentrations identified in Table 910-1 or remediation on location.

Describe how source is to be removed:

Any impacted material identified below the earthen pit will be evaluated upon discovery and depending upon severity would be removed using heavy equipment and remediated onsite, or disposed of offsite at a permitted disposal facility. The effectiveness of excavation efforts and removal of impacts will be verified through sample collection and laboratory analysis conducted in accordance with COGCC Rule 910, and to reflect the procedures described above. These activities would be described in the Notification of Completion for this remediation project.

Any impacts identified below the earthen pit would be documented and reported on a Form 4 following successful remediation of impacts.

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, in situ bioremediation, burning of oily vegetation, etc.:

In the event that below pit impacts are identified, the following approaches to remediation would be utilized:

- In most cases impacted material would be removed and remediated onsite through blending and natural attenuation, and then returned to the excavation upon successful remediation of impacts. Complete removal of impacted materials and successful remediation of impacts will be demonstrated through sample collection and laboratory analysis.
 - o Occasionally due to operational considerations the pit may need to be closed after impacted material has been removed. Excavated material would then need to be remediated and disposed of independently of the pit closure, and any onsite disposal of that material would be carried out in accordance with COGCC Rule 907 and documented on a Form 4 (Sundry Notice).

**NARRATIVE ATTACHMENT
FORM 27 (SITE INVESTIGATION AND REMEDIATION WORKPLAN)**

Earthen Pit Closure (Bar X Unit-Government 34-1)
Document Date – 4/4/2014



- In the event that groundwater contamination is identified, or the depth of contamination makes removal of impacted material through conventional excavation impractical, the vertical and lateral extent of contamination would be determined by a third party contractor and an appropriate insitu remediation and monitoring plan would be developed and submitted to the COGCC for prior approval.

All remediation activities are verified with sample collection and laboratory analysis, conducted in accordance with COGCC Rule 910, and when necessary under an approved monitoring plan and analytical suite. These activities would be described in the Notification of Completion for this remediation project.

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

In the event that impacts to groundwater are identified, a vertical and lateral extent would be determined by a third party contractor and an appropriate insitu remediation and monitoring plan would be prepared and submitted to the COGCC for prior approval.

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 footprint for the backfilled earthen pit occurs within the pad boundary for this producing well pad. The backfilled pit will become part of the pad's surface. Reclamation will be conducted per COA in original APD or per BLM requirements.

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? If yes, describe:

The site investigation for this project will be carried out as described above. All analytical data collected in support of this remediation project will be provided to the COGCC in the Notification of Completion. A site diagram showing the location of collected samples will also be provided in the notification of completion.

In the event that groundwater contamination is identified, or the depth of contamination makes removal of impacted material through conventional excavation impractical, the vertical and lateral extent of contamination would be determined by a third party contractor and an appropriate insitu remediation and monitoring plan would be developed and submitted to the COGCC for prior approval.

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Earthen Pit Closure (Bar X – Government 34-1)
Document Date – 4/4/2014



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

Final onsite disposition of E&P waste would be detailed in the Notification of Completion, and if necessary in a Form 4 (Sundry Notice). Documentation of offsite disposal of E&P waste generated during this project would be kept on record at NFC's Fruita Field Office and would be available upon request.

April 4, 2014

**Re: Sensitive Area Determination
Government 34-1 Well Pad
Mesa County, CO**

The Sensitive Area Determination is intended to accompany the Colorado Oil and Gas Conservation Commission Site Investigation and Remediation Work Plan (COGCC Form 27) for the National Fuel Corporation Government 34-1 well site.

The site is located approximately 12.5 miles north-northwest of Mack, Colorado in Section 34, Township 8 South, Range 104 West in Mesa County. The Sensitive Area Determination was performed following the guidelines set forth by the COGCC 900 Series Exploration and Production Waste Management rules. A desktop review of available information pertaining to the ground water, surface water, geology, and soils of the site and surrounding area was performed.

GROUNDWATER AND WATER WELLS

There is not a groundwater or water well within 3 miles of this site. The driller's notes in 1976 geological report for the Government 34-1 gas well indicates that groundwater was encountered at a depth of 135 feet below ground surface (bgs).

SURFACE WATER

Generally, a well pad location within 0.25 mile radius to a perennial drainage is required to be classified as within a sensitive area. The site is located approximately 600 feet north of West Salt Creek and approximately 70 east of an unnamed intermittent drainage that is a tributary to West Salt Creek. Although neither the intermittent tributary, nor West Salt Creek contain surface water most of the year, these water courses provide a potential conveyance of any material released from the well site.

OTHER HYDROLOGIC CONSIDERATIONS

The site is not located in a Wellhead Protection Area. The site is not in close proximity to a domestic or Public Water Supply well. It is not underlain by a designated groundwater basin and is not within a Surface Water Supply Area.

GEOLOGY

The surface geology at the site is the Mancos Formation. The Mancos formation consists of several thousand feet of predominantly dark gray shales with

interbedded sands and shales. The formation is generally considered to have low permeability.

SOIL

A review of the National Resource Conservation Service (NRCS) soil report for the site indicates that Sagers-Skumpah is the predominant soil type at the well site and in the surrounding area. Sagers-Skumpah is of alluvial fans and terraces deriving from calcareous shale and sandstone. Soil exhibits slightly saline soils (2.0 to 8.0 mmhos/cm). NRCS classifies this Ecological Site as Salt Flats.

DETERMINATION

A review of the geologic and hydrologic information indicates that groundwater at the site is relatively deep. However, the site is constructed in alluvium and therefore exhibits a potential for the infiltration of liquids to groundwater and nearby surface water. In addition, the intermittent drainage adjacent to the site provides a potential conveyance for any material spilled to the site surface.

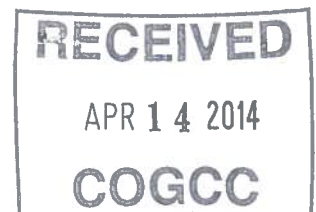
Based on this information, it is determined that the site is constructed in a sensitive area.

Rule Engineering,

Shad A. Johnson

Shad A. Johnson
Project Scientist/Manager

Cc: Andrew Busch, National Fuel Corporation



Rule