

State of Colorado
Oil and Gas Conservation Commission

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



FOR OGCC USE ONLY

Received 7/30/2010
Rifle COGCC

NOAV 200262621

Spill 2607847

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:

<input type="checkbox"/> Spill	<input type="checkbox"/> Complaint
<input type="checkbox"/> Inspection	<input checked="" type="checkbox"/> NOAV

Tracking No:

CAUSE OF CONDITION BEING INVESTIGATED AND REMEDIATED

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

GENERAL INFORMATION

OGCC Operator Number: 96850		Contact Name and Telephone	
Name of Operator: Williams Production RMT Company		Name: Karolina Blaney	
Address: 1515 Arapahoe St. Suite 1000		No: 970.683.2295	
City: Denver State: CO Zip: 80202		Fax: 970.285.9573	
API/Facility No: 05-045-10271-00		County: Garfield	
Facility Name: Clough RWF 533-22		Facility Number: 273706	
Well Name: Clough RWF 533-22 NWSE		Well Number: Clough RWF 533-22	
Location (QtrQtr, Sec, Twp, Rng, Meridian): NWNE , Sec 22, T6S, R94W, 6th PM		Latitude: 39.509369 Longitude: -107.873389	

TECHNICAL CONDITIONS

Type of Waste Causing Impact (crude oil, condensate, produced water, etc.): _____		Condensate Suspected	
Site Conditions: Is location within a sensitive area (according to Rule 901e)? <input checked="" type="checkbox"/> Y <input type="checkbox"/> N If yes, attach evaluation. Shallow Groundwater			
Adjacent land use (cultivated, irrigated, dry land farming, industrial, residential, etc.): _____		Industrial	
Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: _____		Arvada Loam, 1 to 6 percent slopes, Modern Alluvium	
Potential receptors (water wells within 1/4 mi, surface waters, etc.): _____		Colorado River is within 1/2-mile south of this location, DOE monitoring well 0172 is approximately 30 feet northwest of tank battery. Due to these receptors and shallow groundwater, this location is assumed to be a sensitive area.	
Description of Impact (if previously provided, refer to that form or document): Both the vertical and horizontal extents of impacts are unknown at this time.			
Impacted Media (check):	Extent of Impact:	How Determined:	
<input checked="" type="checkbox"/> Soils	unknown	Will be determined as part of this investigation.	
<input type="checkbox"/> Vegetation			
<input checked="" type="checkbox"/> Groundwater	See Attached analytical results from DOE 172 MW	Sampling conducted as part of the RWF 342-22 Investigation	
<input checked="" type="checkbox"/> Surface water	unknown, however not anticipated	Sample will be collected from Colorado River during Investigation	

REMEDIATION WORKPLAN

Describe initial action taken (if previously provided, refer to that form or document): During the investigation of a separate incident at the nearby RWF 342-22 location, groundwater samples were collected from the DOE #172 monitoring well located adjacent to the RWF 33-22 well pad. Analytical results (attached) indicated the presence of BTEX constituents and gasoline range hydrocarbons of which, Benzene concentrations exceeding the Table 910-1 cleanup levels. The COGCC was notified on July 8, 2010 and subsequently issued an NOAV (200262621) on July 19, 2010.
Describe how source is to be removed: A plan for source removal will be generated once delineation activities have been completed, however, at this time, it is believed that the most likely source of impact is the production tank facility and/or associated flowlines. As part of the source/impact investigation soil samples will be collected from the former underground production tank locations and associated flowlines and analyzed for the parameters listed on the attached Table - Soil Analytical List. Further detail regarding source investigation/removal and groundwater investigation activities is provided in Attachment 1 to this Form 27.
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.: The exact process for remediation of impacts is unknown at this time pending completion of delineation activities, however it is anticipated that one of the following two options will be utilized - (1) removal and off-site disposal of impacted solids followed by insitu bioremediation of groundwater; or (2) insitu bioremediation of both solids and groundwater. The final remediation or disposal of any potentially impacted soils will be determined based on laboratory analytical results and will be reported as an update to this Form 27.

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REMEDIATION WORKPLAN (CONT.)

OGCC Employee: _____

Tracking Number: _____

Name of Operator: Williams Production RMT Company

OGCC Operator No: 96850

Received Date: _____

Well Name & No: Clough RWF 33-22

Facility Name & No.: Clough RWF 33-22

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

The initial phase of the remediation will be to delineate groundwater impact. A minimum of three monitoring wells will be installed adjacent to the RWF 33-22 location (see Figure 1). It is currently anticipated that the total depth of each monitoring well will range from 15-30 feet below ground surface, depending on water table, which, during the RWF 342-22 investigation, has been determined to be highly variable. Additional borings could be advanced deeper, depending on information gathered in the field during drilling activities. During drilling activities, cuttings and groundwater will be field screened using a photo ionization detector. If practical, soil samples will be collected at 2 foot intervals and at the preseence of impact (see attached Table - soil analytical list). Indication of hydrocarbon impact will be noted and will ultimately determine the need and location of additional monitoring wells. The monitoring wells will be developed after installation activities are complete and will be sampled after development activities are complete (see attached Table - groundwater analytical list). As part of the source/impact investigation soil samples will be collected from the former underground production tank locations and associated flowlines and analyzed for the parameters listed on the attached Table - Soil Analytical List.

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.

If solid source removal is determined to be necessary (e.g. dig and haul), a reclamation plan will be generated as an update to this Form 27.

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:

Investigation is currently on going. When impact remediation begins, sample location information and analytical results will be submitted as an update to this Form 27.

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

As previously stated, remediation options will be finalized at the completion of the delineation phase of this investigation. If solid source removal is determined to be necessary an update to this Form 27 will be submitted with final disposition specifics (e.g. land treated and disposed of onsite or disposal at an off site facility).

IMPLEMENTATION SCHEDULE

Date Site Investigation Began: _____	Date Site Investigation Completed: _____	Remediation Plan Submitted: <u>7/30/10</u>
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: Karolina Blaney

Signed: Karolina Blaney Title: Environmental Spec. Date: 7/30/2010

OGCC Approved: _____ Title: NW Env. Protection Spec. Date: 1/10/2011

- COAs: 1. "This Form 27 has been reviewed for accuracy of location. Additional review of description of release and proposed actions are pending review. Conditions of Approval will be discussed with the operator at that time."
2. The QtrQtr provided on the Form 27 has been corrected to NWSE. Update your records accordingly.
3. Accurate coordinates for the soil impacts identified during the investigation must be submitted in accordance with Rule 215.