

State of Colorado
Oil and Gas Conservation Commission



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

FOR OGCC USE ONLY

02359008

OGCC Employee:

Spill Complaint
 Inspection NOAV

Tracking No: 2222753

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): _____

OGCC Operator Number: <u>10232</u>	Contact Name and Telephone: <u>Wayne Bankert</u>
Name of Operator: <u>Laramie Energy II, LLC</u>	No: <u>970.812.5310</u>
Address: <u>1512 Larimer Street, Suite 1000</u>	Fax: <u>970.683.5594</u>
City: <u>Denver</u> State: <u>CO</u> Zip: <u>80202</u>	

API Number: <u>05-057-06483</u>	County: <u>Jackson</u>
Facility Name: <u>Fuqua 18-15 Well Pad</u>	Facility Number: <u>NA location = 324766</u>
Well Name: <u>Fuqua #19-02-10-1H</u>	Well Number: <u>Fuqua #19-02-10-1H</u>
Location: (QtrQtr, Sec, Twp, Rng, Meridian): <u>SW SE Sec 18 T6N R78W 6 P.M.</u>	Latitude: <u>40.48465</u> Longitude: <u>-106.1847</u>

TECHNICAL CONDITIONS

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

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 - sage brush pasture

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

Potential receptors (water wells within 1/4 mi, surface waters, etc.): _____

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

Impacted Media (check):	Extent of Impact:	How Determined:
<input checked="" type="checkbox"/> Soils	<u>Approximately 200 ft by 450 ft</u>	<u>Visually, Samples, Tape Measure/GPS</u>
<input checked="" type="checkbox"/> Vegetation	<u>Approximately 200 ft by 450 ft</u>	<u>Visually, Samples, Tape Measure/GPS</u>
<input type="checkbox"/> Groundwater	_____	_____
<input type="checkbox"/> Surface Water	_____	_____

REMEDATION WORKPLAN

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

Laramie Energy II scraped up approximately 20 cubic yards of impacted sage brush and soils in containment near the vertical separator where the release occurred. The original plan was to burn the impacted areas, scarify the soil, and re-seed with native grasses and sage brush. A fire break was cut around the perimeter of the impact area in preparation for a controlled burn. However, a county wide burn ban was implemented two days before the controlled burn was to take place.

Describe how source is to be removed:

The release area will be fenced with 3-strand barbwire to prevent cattle and wildlife from entering the impact area. Laramie Energy II will hire a contractor to spray surfactant and nutrients over the impact area using a tractor and a boom. Additional soil samples will be collected 3 months after the application. If the impacted soils have not met the COGCC Table 910-1 standards and the burn ban is lifted, burning the impacted vegetation and/or a second application will be evaluated following receipt of soil analytical results.

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 impacted soils and vegetation, primarily sage brush, will be spread out and shredded for use as a mulch in the fire break areas. The materials will be driven over with heavy equipment to break the sage brush into smaller pieces to increase surface area and mixed with the impacted soils so that the hydrocarbons will break down more readily. The impacted materials will be treated with a surfactant, water, and nutrient mixture to enhance bioremediation of the impacted materials by native soil microbes. The impact area will be re-sampled within 3 months to assess progress.

FORM 27 Rev 6/99

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OGCC Employee:

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

Based on a review of DWR records for permitted water wells in the area there are no water wells located within Section 18. One permitted well was identified in Section 20, with a total depth listed at 100 feet. There are no permitted water wells in the immediate downgradient direction (NW) of the Fuqua 18-15 well pad, and the release was directed to the east, or away from the closest surface water (Monroe-Ottawa Ditches) and the Illinois River. Groundwater is not expected to be impacted based on the reported groundwater depth (50 ft to 100 ft) and nature of the release.

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.

Surface soil samples were collected on 04/26/2012 from the spill area to assess current site conditions and to define the nature and extent of the impacted area. The condensate/crude oil impacts are surficial since the release was from the top of a vertical separator. New grasses were observed to have germinated and cacti and forbs were observed flowering within the impact area at the time of the sampling. Using a surfactant to break down the paraffins on the vegetation and addition of nutrient to enhance biodegradation in the soil has advantages over burning since the existing vegetation is maintained and the area will recover faster than if it were brush hogged, disked, and re-seeded. Clearing the area would potentially provide an opportunity for noxious weeds to become established in the impacted area. Grading and recontouring will not be necessary, and compaction is not an issue. Samples will be collected six months after treatment to assess progress.

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:

See attached map and analytical results.

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

The E&P waste is to be landtreated and disposed onsite. The waste consists primarily of diesel range organics and oil range organics and will be treated with a surfactant and nutrient solution to help break down the heavier range hydrocarbons. Native soil microbes will further break down the hydrocarbons. Impacted vegetation and soils will be shredded and used as mulch to promote revegetation of the fire break. If subsequent analytical results indicate that petroleum hydrocarbon concentrations still do not meet the COGCC Table 910-1 standard of 500 mg/kg, then a second application of surfactant and nutrients or a controlled burn may be considered once the Jackson County fire ban is lifted.

IMPLEMENTATION SCHEDULE

Date Site Investigation Began: 01/30/2012 Date Site Investigation Completed: 04/26/2012 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: Wayne P. Bankert Signed: Wayne P. Bankert Title: Senior Regulatory and Environmental Coordinator Date: Digitally signed by Wayne P. Bankert DN: cn=Wayne P. Bankert, o=Laramie Energy II, LLC, ou, email=wbankert@laramie-energy.com, c=US Date: 2012.05.15 14:09:54 -0600

OGCC Approved: [Signature] Title: Env. Supervisor Date: 5/5/12

Provide schedule for nutrient application and sampling.