

State of Colorado
Oil and Gas Conservation Commission

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



#7726

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4/14/2013

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: _____	Contact Name and Telephone: _____
Name of Operator: _____	_____
Address: _____	No: _____
City: _____ State: _____ Zip: _____	Fax: _____
API Number: _____	County: _____
Facility Name: _____	Facility Number: _____
Well Name: _____	Well Number: _____
Location: (QtrQtr, Sec, Twp, Rng, Meridian): _____ Latitude: _____ Longitude: _____	

TECHNICAL CONDITIONS

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

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.): _____

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:
Soils	_____	_____
Vegetation	_____	_____
Groundwater	_____	_____
Surface Water	_____	_____

REMEDIALTION WORKPLAN

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

Describe how source is to be removed:

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.:

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Tracking Number: _____
Name of Operator: URSA
OGCC Operator No: _____
Received Date: Valley Padms B pad
Well Name & No: API 045 11173
Facility Name & No: Location ID # 311643

REMEDATION WORKPLAN (Cont.)

OGCC Employee: _____

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

Based on the topographical setting of the facility and the depth to groundwater, noted in the nearest well, it is not anticipated groundwater has been impacted by this 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.

No reclamation is planned as the facility is an active location.

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:

A series of boreholes are proposed to be drilled and sampled within and outside the containmnet footprint. They will be drilled and sampled as described in Attachment A. The proposed locations are included as Attachment B.

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

If treated on-site, and when soils meet Table 910-1, they will be utilized for beneficial re-use on the pad. If the impacted soils are disposed of; a Sundry Form 4 will be submitted with the name of the licensed, and permitted disposal facility

IMPLEMENTATION SCHEDULE

Date Site Investigation Began: <u>April 2013</u>	Date Site Investigation Completed: <u>April 2013</u>	Date Remediation Plan Submitted: _____
Remediation Start Date: <u>TBD</u>	Anticipated Completion Date: <u>TBD</u>	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: Robert Blei

Signed: [Signature]

Title: Manager-Regulatory and Environmental-Rockies

Date: 4-11-13

OGCC Approved: [Signature]

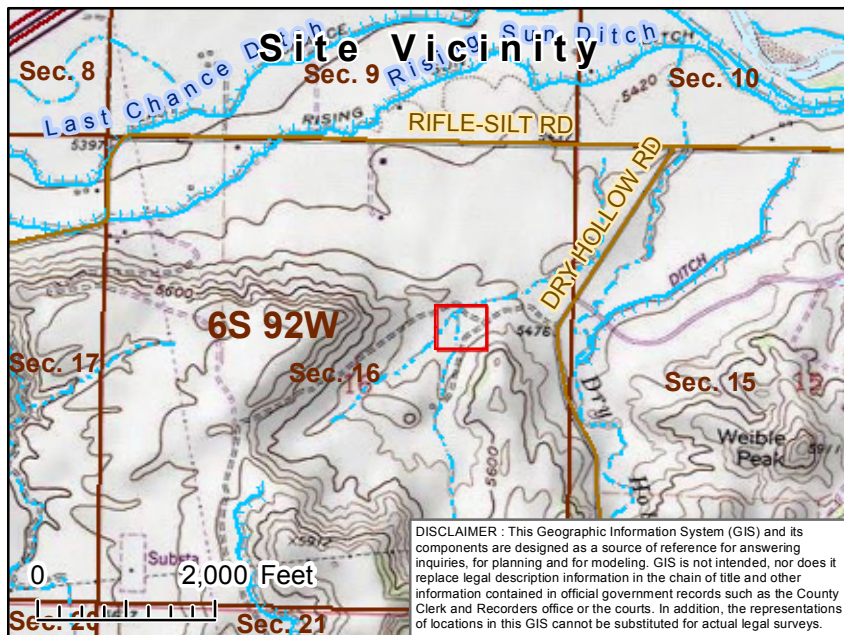
Title: EPS NW Region

Date: 04/16/2013

Further Remediation Activities Proposed

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 production water and condensate tanks will be drained of all fluids and removed from the containment structure.
- During the investigative and potential remediation activities, the wells on the location will either be shut-in or temporarily plumbed to portable tanks to continue gas production.
- The containment ring will be dismantled and the compromised liner removed.
- The liner will be disposed of at an approved permitted facility following their protocol (WAC)
- The potentially impacted soils under the liner will be investigated utilizing a track mounted auger rig.
- A series of soil borings will be drilled within and around the containment footprint to determine the lateral and vertical extent of contamination. Refer to Attachment B for the proposed soil boring locations.
- A soil sample will be collected from the interval with the highest contaminant level and analyzed for Table 910-1.
- An additional soil sample will be collected from the bottom of the boring when PID and or PetroFlag readings indicate contaminant levels below 500 ppm TPH. The sample from the bottom of the soil boring will be analyzed for Table 910-1 as well.
- Based on the vertical and lateral extent of contamination, a decision will be made as to whether or not to treat the soil in-situ with bio-remediation techniques or;
- Excavate the impacted area and, based on volume, either treat it on-site utilizing a Land Treatment Unit (LTU) or dispose of the impacted soil at an approved permitted disposal facility.
- If treated onsite; all soil, whether treated in-situ or ex-situ, will be monitored on a monthly basis.
- When field screening of the impacted soil indicates contaminant levels are below 500 ppm TPH, a confirmation sample will be collected to determine the success of the treatment.
- If excavated, the excavation footprint will be sampled on each of the four walls at the midpoint and, based on the size of the excavation; one to two samples will be collected from the bottom to ensure compliance with Table 910-1.
- The excavated area will then be backfilled and compacted and a new containment structure built.



Attachment B--Proposed Soil Boring Location Map

Location: Valley Farms B
Ursa Operating Company, LLC

Legend

- Soil Boring Location
- Affected Area
- Gas Well Head
- PLSS
 - Township
 - Section
 - Highways
 - Public Roads
- Hydrographic Features**
 - Perennial Stream
 - Intermittent Stream
 - Ditch/Canal

