

State of Colorado  
**Oil and Gas Conservation Commission**



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#8030

FOR OGCC USE ONLY

**RECEIVED**  
9/24/2013

**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.

OGCC Employee: \_\_\_\_\_

Spill	Complaint
Inspection	NOAV

Tracking No: \_\_\_\_\_

**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.:**

\_\_\_\_\_



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

REMIEDIATION WORKPLAN (Cont.)

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.

TBD - to be determined

IMPLEMENTATION SCHEDULE

Date Site Investigation Began: 06/27/2013 Date Site Investigation Completed: TBD Date Remediation Plan Submitted: 09-24-13  
Remediation Start Date: TBD Anticipated Completion Date: TBD 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: Chris Hines

Signed: \_\_\_\_\_

Title: Environmental Field Coordinator

Date: 09-24-2013

OGCC Approved: \_\_\_\_\_ Title: \_\_\_\_\_ Date: \_\_\_\_\_



**P15OU [Hyrup 15-44C] (Location #334356, Pit #414314)  
Form 27 (Site Investigation and Remediation Workplan)  
Narrative Attachment**

Document Date – 9/23/2013

This Form 27 (Site Investigation and Remediation Workplan) was prepared for the purpose of describing a site assessment conducted in support of pit closure activities on the Hyrup 15-44C (P15OU) well pad (Site) in Encana Oil & Gas (USA) Inc. (Encana's) Orchard area of operations (Grand Valley Field). In a review of records for this location it was determined that the identified pit had been closed without proper clearance sampling or permit approvals between 2009 and 2011. Encana acquired this location from another operator in the Spring of 2013, and identified this regulatory liability at that time. This document presents Encana's proposed approach to conducting an in-situ investigation for potential impacts within the pit boundary visible in 2009 aerial imagery.

A Topographic Map illustrating the location of the P15OU well pad is provided as attachment to this form. Project-specific information related to pit dimensions, associated potential impacts, and any planned remediation activities will be provided in the required Form 19 (Spill / Release Report) and/or Form 4 (Notification of Completion).

## **REMEDIATION WORKPLAN**

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

At the request of Encana, LT Environmental Inc. (LTE) prepared plans to assess the potential for impacted soil at the identified pit site by advancing soil borings using hollow stem auger. The soil borings will be logged by a LTE geologist and will be field-screened for potential petroleum hydrocarbon impacts. The soil from each boring will be characterized by visually inspecting soil samples collected in steel split spoons and screened using a photo-ionization detector (PID) to monitor the soil headspace for the presence of volatile organic vapors. Soil samples will be collected in 5 foot intervals as the boring is advanced, with field-screening results used as an indicator to select which samples will be submitted for laboratory analysis. Soil samples submitted to the lab will be analyzed for the constituents identified in COGCC Table 910-1.

### **Describe how source is to be removed:**

Any impacted material identified would be evaluated upon discovery and depending upon assessed extent would be removed using heavy equipment and remediated onsite, remediated in-situ, or disposed of offsite at a permitted disposal facility. Successful completion of remediation efforts will be demonstrated through sample collection and laboratory analysis conducted in accordance with COGCC Rule 910. These activities would be described in the Sundry Notice / Notification of Completion for this remediation project.

### **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.:**

In the event that petroleum impacts from drilling and production operations are identified, a Form 19 (Spill/Release Report) would be prepared and submitted to the COGCC.



The selected remediation approach will vary based on economic and technical feasibility. In-situ remediation is the preferred approach for most pit closure projects. However, in some situations petroleum impacted material would be removed and remediated onsite, or transported offsite to an approved disposal facility.

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. Specifics on the selected remediation approach and clearance results would be provided in a Form 4 (Sundry Notice or Notification of Completion) for this project.

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

In the event that petroleum impacts from drilling and production activities are identified in groundwater, a vertical and lateral extent would be determined, and an appropriate insitu remediation and monitoring plan would be prepared and submitted to the COGCC.

**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 surface of the pit area appears to have been reclaimed sometime after 2009. Soil borings will be backfilled to match existing grade.

**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 a Form 19, if applicable, and/or in a Form 4 (Sundry Notice or Notification of Completion). A site diagram showing the location of collected samples will also be provided.

**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 will be detailed in a Form 4 (Sundry Notice or Notification of Completion). Documentation of offsite disposal of E&P waste from this project would be kept on record at Encana's Parachute Field Office and would be available upon request.

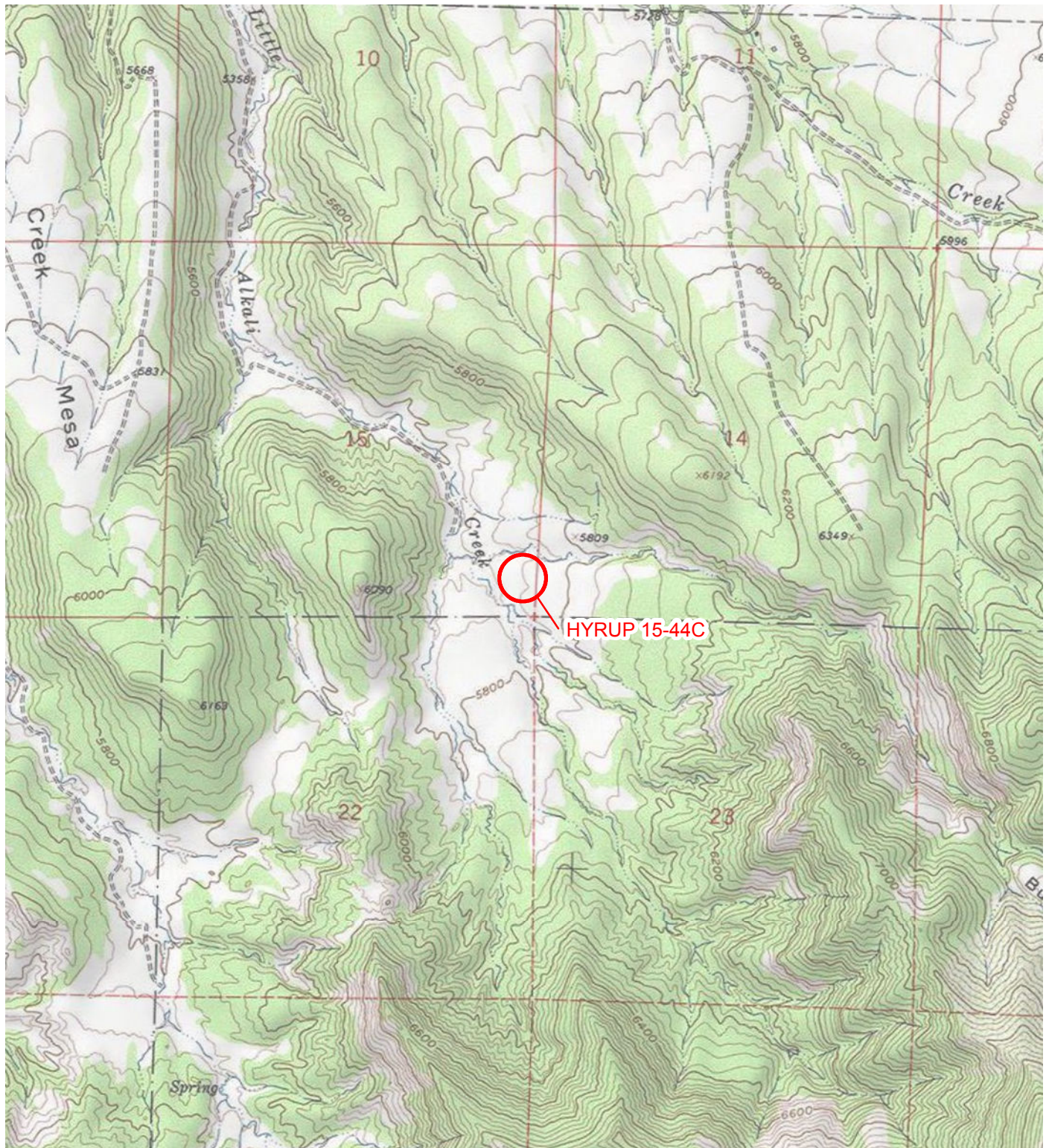
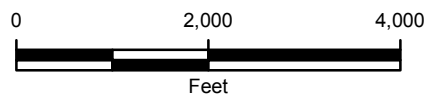


IMAGE COURTESY OF ESRI/USGS

**LEGEND**

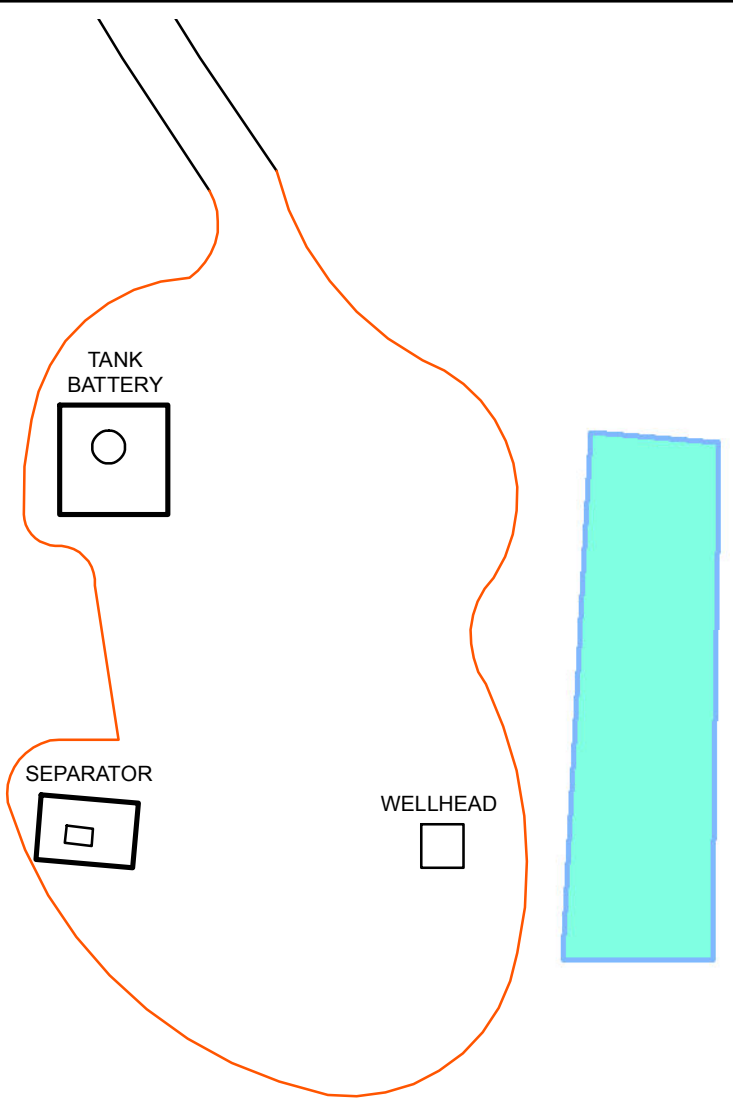
 SITE LOCATION







SITE LOCATION MAP  
HYRUP 15-44C  
MESA COUNTY, COLORADO

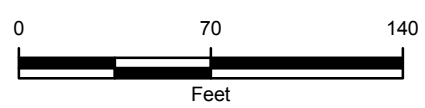


ENCANA OIL & GAS (USA) INC.



**LEGEND**

-  EDGE OF WORKING SURFACE
-  ROAD
-  BERM
-  PIT OUTLINE (2006)



**SITE DIAGRAM**  
**HYRUP 15-44C**  
**MESA COUNTY, COLORADO**  
  
**ENCANA OIL & GAS (USA) INC.**

