

# State of Colorado Oil and Gas Conservation Commission

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



#7992

FOR OGCC USE ONLY

## 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): legacy production pit; Pit ID 110518

OGCC Employee:

☐ Spill ☐ Complaint  
☐ Inspection ☐ NOAV

Tracking No:

OGCC Operator Number: 78110

Name of Operator: SWEPI LP

Address: 4582 S. Ulster Street Parkway, Suite 1400

City: Denver State: CO Zip: 80237

Contact Name and Telephone:

Charles Cornell

No: 303-222-6365

Fax: 303-222-6346

API Number: 05-081-06240

County: Moffat

Facility Name: Beaver Durham-65N90W32NWSW

Facility Number: 312930 = Location Pit = 110518

Well Name: Beaver Durham

Well Number: 12-32

Location: (QtrQtr, Sec, Twp, Rng, Meridian): NWSW, S32, T5N, R90W, 6th PM Latitude: 40.340294 Longitude: -107.524986

### TECHNICAL CONDITIONS

Type of Waste Causing Impact (crude oil, condensate, produced water, etc): unknown at this time; potentially crude oil and/or produced water

**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.): uncultivated rangeland

Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: To be investigated further

Potential receptors (water wells within 1/4 mi, surface waters, etc.): Nearest downgradient surface water measured at approx. 890 ft to the West

No water wells identified within 1/4 mile of location; nearest water well identified approx. 1590 ft to NW of location

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

Impacted Media (check):

- ☐ Soils  
☐ Vegetation  
☐ Groundwater  
☐ Surface Water

Extent of Impact:

unknown at this time

How Determined:

unknown whether GW impacted

### REMEDIALATION WORKPLAN

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

See attachment for further description of proposed initial action

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

See attachment for further description

**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 attachment for further description



Page 2  
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 attachment for further description

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 attachment for further description

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 attachment for further description

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

See attachment for further description

IMPLEMENTATION SCHEDULE

Date Site Investigation Began: Sept 2013 Date Site Investigation Completed: TBD Date Remediation Plan Submitted: TBD  
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: Charles Cornell

Signed: [Signature]

Title: Sr. Environmental & Regulatory Specialist

Date: 9/18/2013

OGCC Approved: [Signature]

Title: Env. Sup.

Date: 9/19/13

Provide the GPS coordinates for the suspected legacy pit as indicated on Figure 2.



**Beaver Durham 12-32 (Location ID - 312930)**  
**SWEPI LP (Operator – 78110)**  
**Legacy Production Pit – Pit ID 110518**  
**Form 27 (Site Investigation and Remediation Workplan)**  
**Narrative Attachment**  
**Document Date – 9/17/2013**

## **REMEDIATION WORKPLAN**

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

Using the Colorado Oil & Gas Conservation Commission (COGCC) database, site photographs provided by the COGCC, and historical aerial photographs obtained from COGCC's COGIS system, Shell has identified a production pit on the Beaver Durham 12-32 (Site) well pad that was closed without proper clearance sampling or permit approvals. The approximate pit location is illustrated on a Site Map provided as Figure 2.

At the request of SWEPI LP, LT Environmental Inc. (LTE) plans to assess the potential for impacted soil at the 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 to determine the highest PID results. Soil samples with the highest PID results will be submitted for laboratory analysis conducted in accordance with COGCC Rule 910.

### **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.

Any petroleum impacts from drilling and production operations identified during assessment activities would be documented and reported on the required COGCC forms after initial field activities gather additional information.

### **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 selected remediation approach will vary based on economic and technical feasibility. 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 in-situ 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. 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 on the required COGCC forms.. 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.):**

If generated, final onsite disposition of E&P waste will be detailed in a Form 4 (Sundry Notice or Notification of Completion).



# LEGEND

○ SITE LOCATION

IMAGE COURTESY OF ESRI/USGS

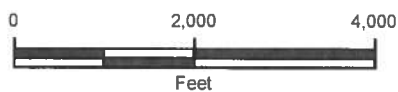


FIGURE 1  
 SITE LOCATION MAP  
 BEAVER DURHAM #12-32 PIT ASSESSMENT  
 NWSW SEC 32-T5N-R90W  
 MOFFAT COUNTY, COLORADO  
 SHELL EXPLORATION AND PRODUCTION COMPANY



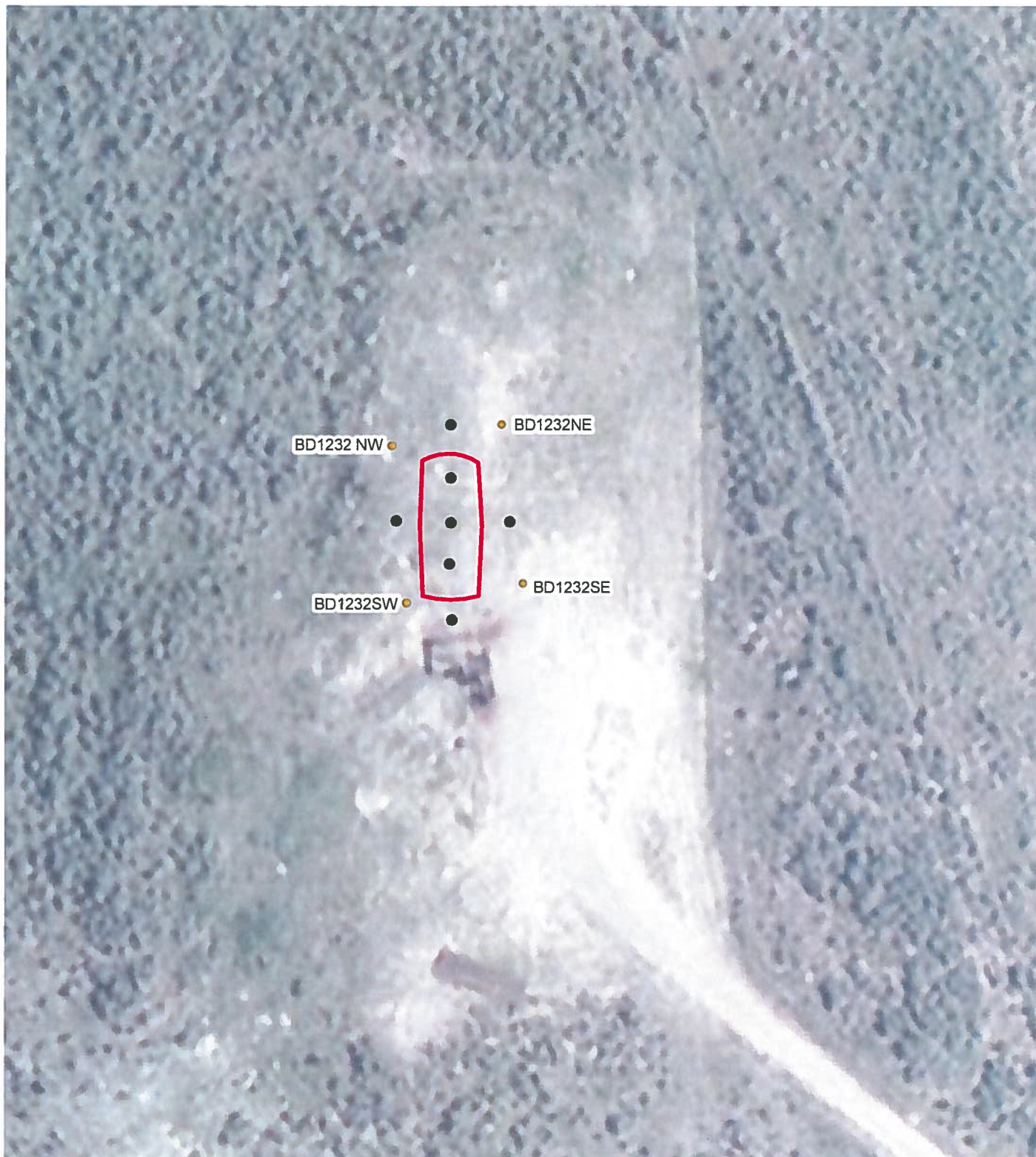


IMAGE COURTESY OF ESRI/BING MAPS

# LEGEND

- GPS PIT CORNERS
- PROPOSED SOIL BORING
- SUSPECTED LEGACY PIT

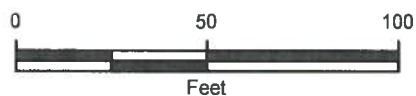


FIGURE 2  
SITE MAP  
BEAVER DURHAM #1232 PIT ASSESSMENT  
NWSW SEC 32-T5N-R90W  
MOFFAT COUNTY, COLORADO  
SHELL EXPLORATION AND PRODUCTION COMPANY





## Shell Exploration & Production

### **SWEPI LP**

4582 S. Ulster St., Suite 1400  
Stanford Place III  
Denver, Colorado 80237-2642  
United States

September 18, 2013

Attn: Alex Fischer  
Environmental Supervisor, West Region  
Colorado Oil and Gas Conservation Commission  
1120 Lincoln Street, Suite 801  
Denver, CO 80203

**RE: SWEPI LP – Beaver Durham 12-32 Production Facility**  
**API Number: 05-081-06240**  
**NWSW, S32, T5N, R90W, 6<sup>th</sup> PM**  
**Initial Form 27 Submittal – Historical Production Pit Closure Process (Facility ID 110518)**

Dear Mr. Fischer:

SWEPI LP (Shell) is providing the enclosed Colorado Oil and Gas Conservation Commission (COGCC) Form 27, Site Investigation and Remediation Workplan prior to initiation of site investigation activities. During review of COGCC's online database, SWEPI LP identified that a historical production pit previous operated at the Beaver Durham 12-32 location. This Form 27 submittal was prepared for the purpose of generating a Remediation Project Number in support of the closure of the Beaver Durham 12-32 production pits (Facility ID 110518) in the Waddle Creek field of operations.

A production pit has not existed at the Beaver Durham 12-32 location since SWEPI LP acquired the production facility from East Resources, the previous owner/operator. SWEPI LP is conducting site investigation activities to begin the process of properly closing the historical production pit that had not been closed with proper clearance sampling or permit approvals. This document presents SWEPI LP's proposed approach to conducting an investigation for potential impacts within the interpreted pit boundary. SWEPI LP is commencing soil excavation and soil sampling activities to identify the extent of impacts, if any, at the Beaver Durham 12-32 production facility as a result of the historical production pit. Review of analytical results from the soil sampling will be conducted as part of closing the production pit that is still considered open in COGCC's online database.

Enclosed is the COGCC Form 27, and a Site Location Map illustrating the general location of the Beaver Durham 12-32 location is provided as Figure 1. Project-specific information related to pit dimensions, associated potential impacts, and any planned remediation activities will be provided in the required COGCC forms after initial field activities gather additional information.

If you have any questions or require additional information, please contact me at (303) 222-6365 or via email at [charles.cornell@shell.com](mailto:charles.cornell@shell.com).

Sincerely,

Chuck Cornell  
Sr. Environmental & Regulatory Specialist

Enclosure



STATE OF  
COLORADO

Fischer - DNR, Alex <alex.fischer@state.co.us>

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## RE: SWEPI LP - Form 27 for pit closure - Beaver Durham 12-32 facility

1 message

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**Charles.Cornell@shell.com** <Charles.Cornell@shell.com>

Thu, Sep 19, 2013 at 12:50 PM

To: alex.fischer@state.co.us

Cc: kris.neidel@state.co.us

Alex,

My mistake, attached is the Figure 2 Site Map.

Thanks,

Chuck Cornell

Shell E&P Company

US Onshore, Sr. Environmental & Regulatory Specialist

4582 S. Ulster Street Parkway, Suite 1400

Denver, CO 80237-2642

Office: 303.222.6365

Cell: 720.413.7091

<mailto:charles.cornell@shell.com>

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**From:** Fischer - DNR, Alex [<mailto:alex.fischer@state.co.us>]

**Sent:** Thursday, September 19, 2013 12:40 PM

**To:** Cornell, Charles A SEPCO-UAS/E/USON

**Cc:** Kris Neidel - DNR

**Subject:** Re: SWEPI LP - Form 27 for pit closure - Beaver Durham 12-32 facility

Chuck,

Thanks. The Form 27 Remediation Work Plan references "Site Map" provided as Figure 2. Please provide

9/19/13

State.co.us Executive Branch Mail - RE: SWEPI LP - Form 27 for pit closure - Beaver Durham 12-32 facility

Office: 303.222.6365

Cell: 720.413.7091

mailto:charles.cornell@shell.com

**Alex Fischer, P.G.**

**Environmental Supervisor, Western Colorado**

State of Colorado, Oil and Gas Conservation Commission

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email: alex.fischer@state.co.us



**Fig 2- Site Map.pdf**

300K