

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



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FOR OGCC USE ONLY  
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REM 9307

**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 Employee:  
 Spill  Complaint  
 Inspection  NOAV  
Tracking No:

OGCC Operator Number: <u>100185</u>	Contact Name and Telephone: <u>Brett Middleton</u>
Name of Operator: <u>Encana Oil &amp; Gas (USA) Inc.</u>	No: <u>970-285-2739</u>
Address: <u>143 Diamond Avenue</u>	Fax: <u>brett.middleton@encana.com</u>
City: <u>Parachute</u> State: <u>CO</u> Zip: <u>81635</u>	

API Number: <u>414395 [Facility ID]</u>	County: <u>Garfield</u>
Facility Name: <u>M23</u>	Facility Number: <u>-</u>
Well Name: <u>SGU-64S96W /23SWSW [Location Name/No]</u>	Well Number: <u>335680 [Location ID]</u>
Location: (QtrQtr, Sec, Twp, Rng, Meridian): <u>SWSW 23 4S 96W</u>	Latitude: <u>39.6813</u> Longitude: <u>-108.1428</u>

**TECHNICAL CONDITIONS**

Type of Waste Causing Impact (crude oil, condensate, produced water, etc): Filtered produced water was stored in the pit.

**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

Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: Irigul-Starman channery loams, 5 to 50 percent slopes

Potential receptors (water wells within 1/4 mi, surface waters, etc.): According to COGCC GISOnline mapping service, there is one (1) stream and no (0) water wells within 1/4 mile of the storage pit.

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

Impacted Media (check):	Extent of Impact:	How Determined:
<input type="checkbox"/> Soils	<u>There are no known impacts resulting from the</u>	<u>If impacts are identified, the extent would be</u>
<input type="checkbox"/> Vegetation	<u>operation of this storage pit.</u>	<u>reported in the required Form 19 and</u>
<input type="checkbox"/> Groundwater	_____	<u>subsequent Form 4 status updates.</u>
<input type="checkbox"/> Surface Water	_____	_____

**REMEDIATION WORKPLAN**

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

This form is being submitted in accordance with Rules 905 and 909 to generate a remediation project number in support of a pit closure. With approval, a mixing bin will be located at the nearby E34 496 location (335928) to support transport staging. That proposed operation and another associated pit closure are detailed in the attached Waste Management Plan.

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

Pit fluids will be removed using existing infrastructure associated with Encana's North Parachute water treatment and storage system. The liner will be pressure washed, and above liner solids will be recovered using hydrovac trucks and/or trash pumps. Solids will be offloaded at the proposed transport staging site detailed in the attached Waste Management Plan. The liner will be removed and transported offsite for recycling/disposal. Offsite disposal records are available upon request.

**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.:**

Any identified impacts would be reported in the required Form 19 and a remediation approach would be selected based on site conditions and detailed in a subsequent Form 4 (Status Update). Onsite remediation efforts are supported by an environmental contractor using field screening techniques confirmed with laboratory results. Typically impacted materials are removed with heavy equipment and disposed of offsite, or characterized and remediated insitu. Offsite disposal records are available upon request.



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

**REMEDIATION WORKPLAN (Cont.)**

\_\_\_\_\_

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

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.

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:

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

**IMPLEMENTATION SCHEDULE**

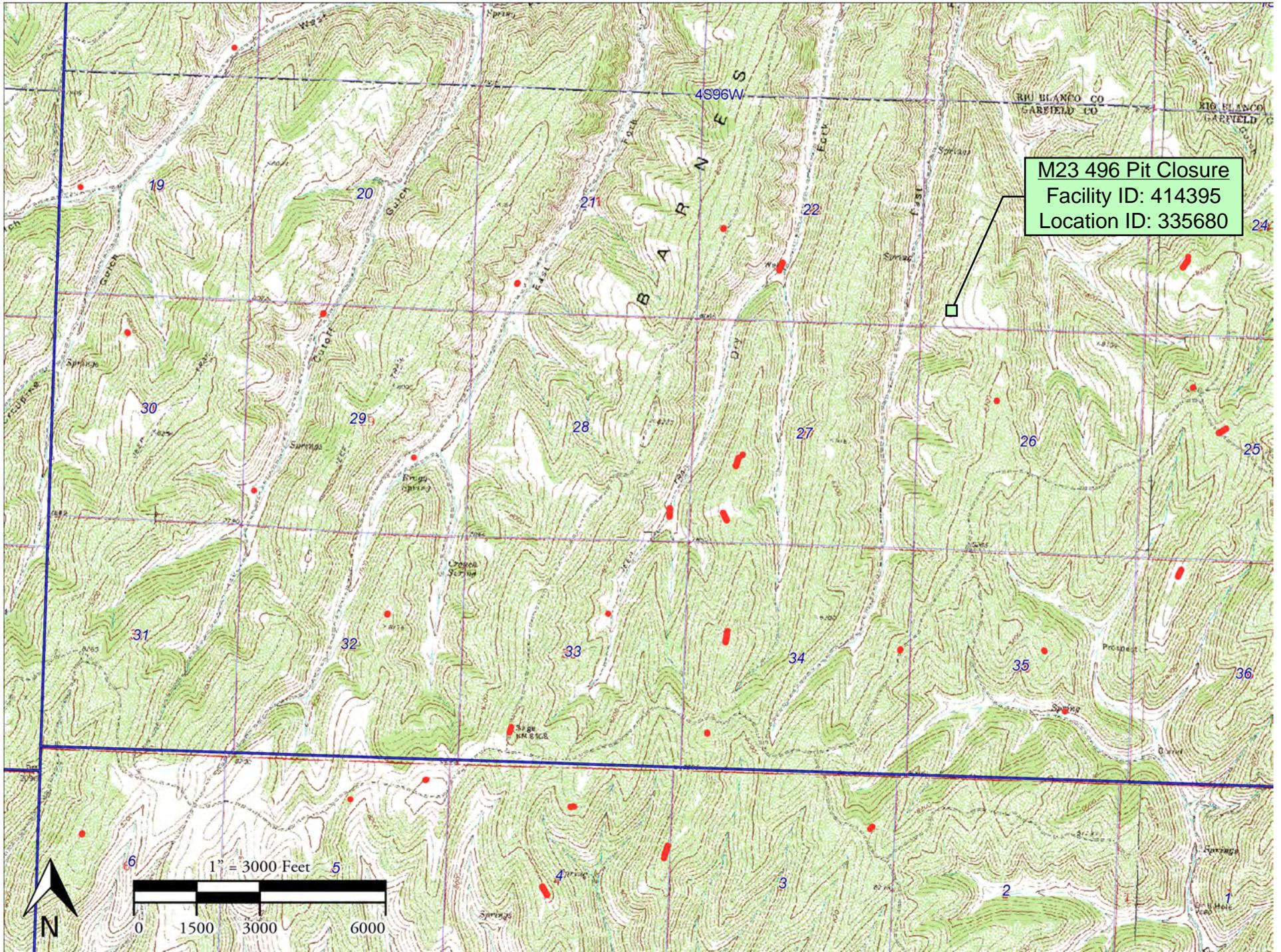
Date Site Investigation Began: \_\_\_\_\_ Date Site Investigation Completed: \_\_\_\_\_ Date Remediation Plan Submitted: \_\_\_\_\_  
Remediation Start Date: \_\_\_\_\_ Anticipated Completion Date: \_\_\_\_\_ Actual Completion Date: \_\_\_\_\_

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct, and complete.

Print Name: \_\_\_\_\_ Signed: \_\_\_\_\_

Title: \_\_\_\_\_ Date: \_\_\_\_\_

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





## **WASTE MANAGEMENT PLAN ABOVE-LINER SOLIDS PRODUCED WATER STORAGE PITS**

This Waste Management Plan (WMP) has been prepared by Apex Companies, LLC (Apex) on behalf of Encana Oil & Gas (USA), Inc. (Encana) in support of the closure of two (2) produced water storage pits on separate well pads in the North Parachute area of operations in Garfield County, Colorado. Both pits will be closed concurrently using techniques for removing above-liner material that eliminate, or minimize below-liner soil impacts during pit closure activities. To reduce material handling and offsite truck traffic from the pit closures, Encana proposes to utilize a third Encana well pad for the purpose of consolidating and staging above-liner solids prior to transport to an offsite disposal facility. Activities described in this plan will be carried out entirely on Encana operated locations and access roads, on Encana owned surface.

To assure adequate documentation of these efforts, the WMP has been included with both Site Investigation and Remediation Workplans (Form 27) prepared to document the associated pit closures, and in a Sundry (Form 4) submitted for the staging and consolidation location. The three (3) locations associated with this effort are identified in the table below and in the attached topographic location map.

<b>Location Name</b>	<b>Activity</b>	<b>Facility ID</b>	<b>Location ID</b>
A05 596	Pit closure	414392	335909
M23 496	Pit closure	414395	335680
E34 496	Transport staging	NA	335928

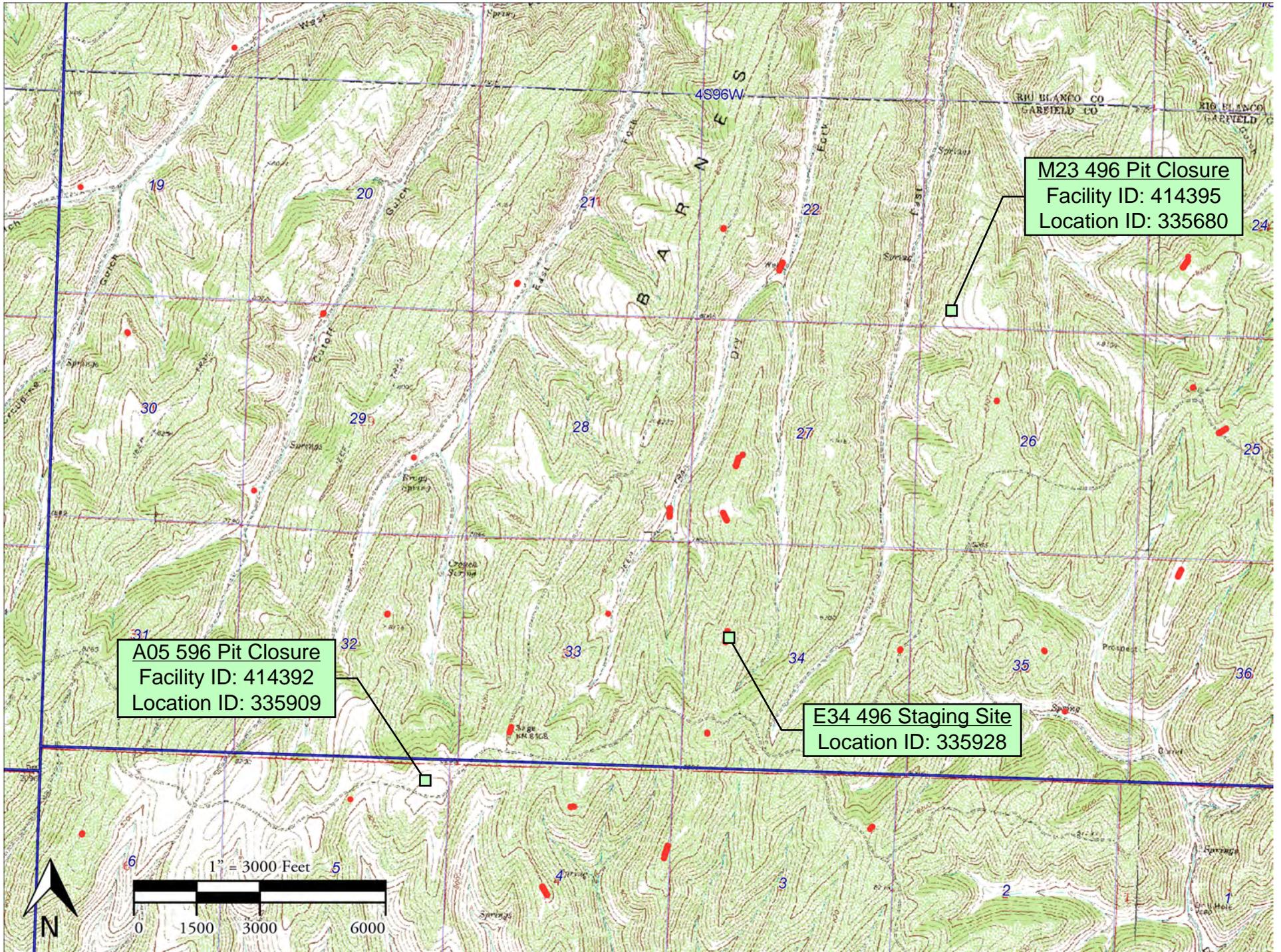
With Colorado Oil & Gas Conservation Commission (COGCC) approval of this WMP, Encana will use a combination of available equipment and personnel, and best practices to remove and dispose of above-liner solids. (equipment with similar function may be substituted):

- Using existing pipe and pump infrastructure, residual fluids will be removed from the pits;
- To maximize mobilization of above-liner solids, and assure acceptance of liner material for recycling/disposal; crews with pressure-washers will clean the liner using heated water;
- Hydrovac trucks will be used to remove mobilized solids and fluids from the pit bottom, while vacuum trucks will remove free liquids from the hydrovac truck tanks;
- When full, the hydrovac trucks will travel to the staging site and offload solids into a steel mixing bin;
- Any accumulated fluid in the mixing bin will be recovered by vacuum truck; and
- Material offloaded into the mixing bin at the staging site will be mixed with sawdust (or substitute) and loaded into a transport for offsite disposal.

Fluid waste generated during pit closure activities will be transported by pipeline or truck to an appropriate offload site associated with Encana's North Parachute Properties water system, for treatment, reuse, or disposal.

Following completion of pit closure activities on the A05 and M23, the steel mixing bin at the E34 staging site will be removed and the working surface will be assessed for staining and appropriate follow up.

Disposal records are kept on file at Encana's Parachute Field Office, and are available upon request.



M23 496 Pit Closure  
Facility ID: 414395  
Location ID: 335680

A05 596 Pit Closure  
Facility ID: 414392  
Location ID: 335909

E34 496 Staging Site  
Location ID: 335928

