

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB No. 1004-0136  
Expires July 31, 2010

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		<b>CONFIDENTIAL</b>		5. Lease Serial No. COC65557
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input checked="" type="checkbox"/> Multiple Zone		2. Name of Operator ENCANA OIL & GAS (USA) INC.		6. If Indian, Allottee or Tribe Name
Contact: JULIA M CARTER E-Mail: Julia.Carter@encana.com		3a. Address 370 17TH STREET SUITE 1700 DENVER, CO 80202		7. If Unit or CA Agreement, Name and No. BIG JIMMY UNIT CO
3b. Phone No. (include area code) Ph: 720-876-5240 Fx: 720-876-6240		4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface Lot 2 783FNL 1654FEL 39.66391 N Lat, 108.11355 W Lon At proposed prod. zone SENW 2022FNL 1972FWL 39.66050 N Lat, 108.11956 W Lon		8. Lease Name and Well No. SGU 8506B-36 B36496
14. Distance in miles and direction from nearest town or post office* 30.4 MILES FROM RIFLE POST OFFICE		15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 783'		9. API Well No.
16. No. of Acres in Lease 485.13		17. Spacing Unit dedicated to this well		10. Field and Pool, or Exploratory WILDCAT
18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft. 306'		19. Proposed Depth 13671 MD 13389 TVD		11. Sec., T., R., M., or Blk. and Survey or Area Sec 36 T4S R96W Mer 6PM
20. BLM/BIA Bond No. on file COB000235		21. Elevations (Show whether DF, KB, RT, GL, etc.) 8352 GL		12. County or Parish GARFIELD
22. Approximate date work will start 08/01/2010		23. Estimated duration 30 DAYS		13. State CO

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

- Well plat certified by a registered surveyor.
- A Drilling Plan.
- A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
- Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
- Operator certification
- Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature (Electronic Submission)	Name (Printed/Typed) JULIA M CARTER Ph: 720-876-5240	Date 07/02/2010
Title REGULATORY ANALYST		
Approved by (Signature)	Name (Printed/Typed)	Date
Title	Office	

Application approval does not warrant or certify the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.  
Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Additional Operator Remarks (see next page)

Electronic Submission #88982 verified by the BLM Well Information System  
For ENCANA OIL & GAS (USA) INC., sent to the Meeker

\*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\*

**Additional Operator Remarks:**

Please find the following attachments:

- 1.) Plat
- 2.) Deviated Drilling Plan
- 3.) 8 Point Drilling Plan
- 4.) Location Pictures
- 5.) Construction Layout Drawings
- 6.) Access Road Maps and Directions
- 7.) Topos C and D
- 8.) Sheet 7 and 7a of 11
- 9.) Liberty Pipeline System
- 10.) Surface Use Plan of Operations (SGU B36 496.SUPO.R3.7.1.10)

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**Encana Oil & Gas (USA) Inc.**  
**Federal Surface Use Plan**

**Lease No COC-65557**

<u>No.</u>	<u>Well Number</u>	<u>Bottom Hole Locations</u>
1	8501A-36 B36 496	Lot 1 Sec 36, T4S, R96W
2	8501B-36 B36 496	Lot 1 Sec 36, T4S, R96W
3	8501D-36 B36 496	Lot 1 Sec 36, T4S, R96W
4	8502B-36 B36 496	Lot 2 Sec 36, T4S, R96W
5	8503A-36 B36 496	Lot 3 Sec 36, T4S, R96W
6	8505A-36 B36 496	SWNW Sec 36, T4S, R96W
7	8505B-36 B36 496	SWNW Sec 36, T4S, R96W
8	8505C-36 B36 496	SWNW Sec 36, T4S, R96W
9	8505D-36 B36 496	SWNW Sec. 36, T4S, R96W
10	8506A-36 B36 496	SENE Sec. 36, T4S, R96W
11	8506D-36 B36 496	SWNW Sec. 36, T4S, R96W
12	8507D-36 B36 496	SWNE Sec. 36, T4S, R96W
13	8508B-36 B36 496	SENE Sec. 36, T4S, R96W
14	8508D-36 B36 496	SENE Sec. 36, T4S, R96W

**Lease No COC-61138**

15	8509B-36 B36 496	NESE Sec. 36, T4S, R96W
16	8509D-36 B36 496	NESE Sec. 36, T4S, R96W

**Lease No COC-65557**

<u>No.</u>	<u>Well Number</u>	<u>Bottom Hole Locations</u>
17	8501C-36 B36 496	NENE Sec 36 T4S, R96W
18	8502A-36 B36 496	NWNE Sec 36 T4S, R96W
19	8502C-36 B36 496	NWNE Sec 36 T4S, R96W
20	8502D-36 B36 496	NWNE Sec 36 T4S, R96W
21	8503D-36 B36 496	NENW Sec 36 T4S, R96W
22	8506B-36 B36 496	SENE Sec 36 T4S, R96W
23	8506C-36 B36 496	SENE Sec 36 T4S, R96W
24	8507A-36 B36 496	SWNE Sec 36 T4S, R96W
25	8507B-36 B36 496	SWNE Sec 36 T4S, R96W
26	8507C-36 B36 496	SWNE Sec 36 T4S, R96W
27	8508A-36 B36 496	SENE Sec 36 T4S, R96W
28	8508C-36 B36 496	SENE Sec 36 T4S, R96W
29	8511A-36 B36 496	NESW Sec 36 T4S, R96W

**Lease No COC-61138**

30	8509A-36 B36 496	NESE Sec 36 T4S, R96W
31	8509C-36 B36 496	NESE Sec 36 T4S, R96W
32	8516A-36 B36 496	SESE Sec 36 T4S, R96W

**1. EXISTING ROADS**

- A. The proposed well-site is staked and reference stakes are present as shown on attached Topo maps.
- B. Access Roads – refer to *Topo Maps “A” and “B”*.
- C. Access Roads within a one-mile radius – refer to *Topo Map “B”*.
- D. The existing roads will be maintained in the same or better condition as existed prior to the commencement of operations and said maintenance will continue until final

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abandonment and reclamation of the well location. Excessive rutting or other surface disturbance will be avoided.

- E. Proceed in a northerly, then northwesterly, then northerly direction from the post office in Rifle, Colorado along highway 13 approximately 18.5 miles to the junction of this road and Piceance Creek Road or County Road 5 to the West; turn left and proceed in a westerly, then northwesterly direction approximately 11.9 miles to the junction of this road and the existing Sprague Gulch Road to the south; turn left and proceed in a southerly, then northwesterly, then southerly direction approximately 9.7 miles to the junction of this road and existing county road 401 to the southeast; turn left and proceed in a southeasterly direction approximately 300' to the beginning of the proposed access/road re-route for the F25 496 to the south; follow road flags in a southerly, then southeasterly direction approximately 0.1 miles to the beginning of the proposed access road to the southeast; follow road flags in a southeasterly direction approximately 0.8 miles to the junction of this road and an existing County road 401 to the southeast; turn right and proceed in a southeasterly direction approximately 0.1 miles to the junction of this road and an existing road to the southwest; turn right and proceed in a southwesterly direction approximately 0.25 miles to the beginning of the proposed access road to the south; follow road flags in a southerly direction approximately 195' to the proposed location. Total distance from Rifle, Colorado to the proposed location is approximately 41.45 miles.
- F. Onsite Inspection was held on August 12, 2009 with the BLM, also CDOW was present.

## **2. PLANNED ACCESS ROADS**

Proposed access roads are shown on Topo Map "B"

- A. A Width maximum – 50 foot construction easement with an 18-20 foot road running surface, crowned and ditched and/or sloped and dipped. Proposed length of new access road is +/- 195' with approximately +/- 0.224 acres of surface disturbance. Minor upgrading is needed on +/- 300' and +/- 0.1 miles of existing road, upgrading is also needed on an existing 2-track +/- 0.25 miles. Topsoil is to be segregated during construction for replacement on new grades and seeded with appropriate seed mix.
- B. The existing road that is being re-routed 0.1 miles to F25 496 and 0.8 miles on further to the B36 496 pad a total of 0.9 miles is being re-routed so it does not go through the F25 496 pad, because there will be a lot of traffic in the area. The other re-routing is due to grade issues with the existing road and the exposure. The existing road runs along some of the north facing hills and would be very hard to maintain in the winter. The new road runs around the hills on the south facing side and will accumulate less snow and the grade is reduced for easier truck travel. Please note that the existing road that is being re-routed will be reclaimed to BLM standards.
- C. Construction standard – the access road will be constructed to the same standards as previously accepted in this area.
- D. The road will be constructed to meet the standards of the anticipated traffic flow and all weather requirements. Construction will include ditching, draining, crowning and capping or sloping and dipping the roadbed as necessary to provide a well-constructed and safe road.

Prior to construction/upgrading the roadway shall be cleared of any snow cover and allowed to dry completely.

Travelling off of the thirty (30) foot right-of-way will not be allowed.

Topsoil is only stored during the construction phase. During interim reclamation topsoil is to be placed on the new grades and seeded.

- E. Maximum grade – the average grade will be 10% or less, wherever possible. The 10% grade will only be exceeded in areas where physical terrain or unusual circumstances require it.
- F. Drainage design – the access road will be crowned and ditched or sloped and dipped, and water turnouts installed as necessary to provide proper drainage along the access road route.
- G. Turnouts will be constructed along the access route as necessary or required to allow for the safe passage of traffic.
- H. Surface materials – surfacing materials will consist of native soil whenever possible. If any additional surfacing materials are required they will preferably be purchased from a local contractor having a permitted source of materials in the area. None are anticipated at this time.
- I. Gates, cattle guards or fence cuts – none required.
- J. Road maintenance – during the drilling and production phase of operations, the road surface and shoulders will be kept in a safe and legal condition and will be maintained in accordance with the original construction standards. The access road right-of-way will be kept free of trash during operations.
- K. The proposed access road will be centerline flagged.
- L. Dust will be controlled on the roads and locations during construction and drilling by periodic watering of the roads and locations.
- M. Gravel or other surfacing may be used when necessary for “soft” road sections, steep grades, highly erosive soils, clay & silty soils, and/or where all-weather access is required.
- N. If the well is a producer, Encana will upgrade and maintain access roads as necessary to prevent soil erosion, and accommodate year around traffic.
- O. There are no major cuts & fills required on this new access road.
- P. For more information how planned access roads are handled in the Preconstruction/Construction/Interim/Final Reclamation stages please refer to Piceance Creek Stormwater Management Plan COR-039167 (June 2009), this plan is on file at the operator’s field office and is available for review and inspection upon request.

**3. LOCATION OF EXISTING WELLS WITHIN A ONE MILE RADIUS**

Please refer to *Topo Map “C”*

There are no existing wells within one mile of this location.

**4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES**

- A. At each drill location, surface disturbance will be kept to a minimum. Each drill pad will be leveled using cut and fill construction techniques as noted in the attached survey.
- B. Should drilling result in established commercial production the following will be shown:
  - 1. Proposed location and attendant lines, by flagging, if off well pad.
  - 2. Dimensions of facilities.
  - 3. Construction methods and materials.
  - 4. Protective measures and devices to protect livestock and wildlife.
  - 5. All buried pipelines will be buried to a depth of 3 feet, except at road crossing where they will be buried to a depth of 4 feet. The maximum right-of-way for the pipeline route will be 120 feet wide and will be minimized at 50 feet when possible. The right-of-way will be minimized by utilizing existing roads and existing right-of-ways when possible and when fewer pipes will be installed

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in the same trench when surrounding topography is flatter and does not require significant side cuts.

6. Pipeline location warning signs shall be installed within 90 days after construction is completed.
7. Encana shall condition pipeline right-of-ways in a manner to preclude vehicular travel upon said rights-of-way, except for access to pipeline drips and valves.
8. During the drilling, completing and production of the wells on this pad Encana will be need to install pipes in two right-of-ways:
  - i. +/- 5574' long x 120' width = 15.355 estimated acres of disturbance cross country in this ROW we will install:
    1. Up to 12 inch steel – 3-Phase line

This route has not yet been constructed. It will most likely be constructed when we drill the SGU M30 pad. Topo D, revised 12/30/09 shows this pipeline route.

- ii. +/- 2225' long x 50' width = 2.554 acres of disturbance  
Along the road from J25 496 CDP to the J25 496 Frac Pad
  1. Up to 16 inch steel water line
  2. Up to 16 inch steel Frac water line
  3. Up to 10 inch steel gas lift line

Along the road from the J25 496 Frac Pad to the B36 496 pad

1. Up to 10 inch steel gas lift line
2. Up to 16 inch steel Frac water line

The construction of this pipeline route is nearly complete. The numbers listed above have been surveyed and are represented on Topo D, revised 7/1/10.

It is our intention to bury these pipelines. All disturbances will be reclaimed according to BLM requirements. The Liberty Pipeline System narrative will be an attachment to the APD package, *along with Topo D1*.

The area used to contain the proposed production facilities will be built using native materials. If these materials are not acceptable, arrangements will be made to acquire appropriate materials from private sources.

- a. The area used to contain the proposed production facilities will be built using native materials. If these materials are not acceptable, arrangements will be made to acquire appropriate materials from private sources.
- b. A dike will be constructed completely around any production facilities which contain fluids (i.e. production tanks, produced water tanks, etc.) These dikes will be constructed of compacted subsoil, be impervious, hold 110% of the capacity of the largest tank, and be independent of the back cut.
- c. All permanent (onsite for six months or longer) above-the-ground constructed or installed, including pumping units, will be painted a flat non-reflective, earth tone color to match one of the standard environmental colors as determined by the five State Rocky Mountain Interagency committee. All production facilities will be painted within six months of installation. Facilities that are required to comply with Occupation Health and Safety Act Rules and Regulations will be excluded from this painting requirement.
- d. If different production facilities are required, a sundry notice will be submitted.

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- e. Run off and sediment Best Management Practices will be implemented and maintained according to the Piceance Creek Storm Water Management Plan.
- f. Encana Oil & Gas (USA) Inc. shall protect all survey monuments, witness corners, reference monuments and bearing trees in the affected areas against disturbance during construction, operation, maintenance and termination of the facilities authorized herein.

Encana Oil & Gas (USA) Inc. shall immediately notify the authorized officer in the event that any corners, monuments or markers are disturbed or are anticipated to be disturbed. If any monuments, corner or accessories are destroyed, obliterated or damaged during construction, operation or maintenance, Encana shall secure the services of a Registered Land Surveyor to restore the disturbed monuments, corner or accessories, at the same location, using surveying procedures found in the Manual of surveying Instructions for the Survey of the public Lands of the United States, latest edition. Encana shall ensure that the Registered Land Surveyor properly records the survey in compliance with the Colorado Revised Statutes 38-53-101 through 38-53-112 (1973) and shall send a copy to the authorized officer.

- 2. During drilling and subsequent operations, all equipment and vehicles will be confined to the access road right-of-way and any additional areas as specified in the approved Application for Permit to Drill.
- 3. Reclamation of disturbed areas no longer needed for drilling/completion operation will be accomplished by grading, leveling and seeding as recommended by the Bureau of Land Management.
- 4. Encana Oil & Gas (USA) Inc. will be responsible for road maintenance from the beginning to completion of operations.
- 5. *See Sheet 6 of 11* for proposed location of Production Facilities. The production facility may consist of 1-500 bbl water tank. Pad Sales meters and buildings (approximately 6' x 6') one building for each quad (4 wells), one building (approximately 6' x 6') for 16 Gas lift meters.

**5. LOCATION AND TYPE OF WATER SUPPLY**

- A. Water to be used for drilling Encana will be installing a temporary (approximately one year) surface line 6" in diameter/Steel and Poly. The Line will run from the M34 496 well pad to the F25 496 pad then T off to the B36 496 pad. The line will be laid along side the Divide Road and is approximately +/- 4.75 miles in length. Using this temporary line will eliminate +/- twenty (20) round trip truck loads per day. Encana will insure integrity of the water line by using fresh water to strength test (hydrostatic test) the pipe to maximum operating pressure prior to placing in-service. During the drilling operations pumps will be manned and pressures monitored at pumping locations. The pipeline will be periodically inspected during pumping operations. This surface line is expected to be operational by mid July 2010. Water to be used for the completing of these wells may be delivered to the location via (1) pumping through a +/- 16 inch diameter steel water pipeline using an approved ROW, or (2) hauling by truck over the roads described in item #1 and item #2.

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- B. The water provider is Encana. Encana maintains numerous water rights in Piceance Creek/or its tributaries. Fresh water will come from our Industrial Rights in Ryan Ditch, decree # CA-166 and CA 624, please reference Case # 04CW059.
- C. The estimated amount of water used for construction, drilling, completion, fracing and dust abatement is 5000 bbls fresh water for drilling, completions will use ~100,000 bbls of either fresh or recycled water. The routes the trucks will take if it becomes necessary to truck water would be the route indicated in the driving directions from Rifle, CO. See Section 1- E.

**6. SOURCE OF CONSTRUCTION MATERIALS**

- A. All access roads crossing Federal land are described under Item #2, and shown on *Topo Map "A"*.
- B. All construction material for these location sites and access roads shall be borrowed material accumulated during the construction of the location sites and roads. The source of this material is located in the Lot 2 Section 36, Township 4 South, and Range 96W. No additional construction material from other sources is anticipated at this time. If, in the future it is required, the appropriate actions will be taken to acquire it from private sources.
- C. All trees on the locations, access road, and proposed pipeline routes shall be purchased prior to construction from the Bureau of Land Management, White River Resource Area, and disposed of by one of the following methods:
  - 1. Trees shall be cut with a maximum stump height of six inches (6") and cut to 4-foot lengths and stacked off location. Trees will not be dozed off the location or access road, except on private surface where trees may be dozed. Trees may also be dozed on pipeline routes and then pulled back onto right-of-way as part of final reclamation.
  - 2. Limbs may be scattered off location, access road or along the pipeline, but not dozed off.
  - 3. Request to allow for use of site slash (site vegetation trees, shrubs, forbs & grasses) in preconstruction BMP's and permanent stormwater BMP's as sediment control within our limits of disturbance on access roads, pipelines and facility construction.

Root balls shall be buried or placed off location, access road, or pipeline route to be scattered back over the disturbed area as part of the final reclamation.

- D. There will be no additional fill required.

**7. METHODS OF HANDLING WASTE MATERIALS**

- A. Cuttings will be deposited in a steel cuttings bin (~45' x 10' x 12') and cuttings pile. Cuttings Management: cuttings deposited in the steel pit will be solidified with sawdust. Cuttings will be moved from the steel pit to the cutting pile. Once drilling is finished the cuttings will be buried on location and reclaimed.
- B. The completion pit, cuttings pit and flare pit will be constructed on the existing location and will not be located in natural drainages where a flood hazard exists or surface runoff will destroy or damage the pit walls. All pits will be constructed so as not to leak, break, or allow the discharge of liquids there from. All pits will be constructed, operated and maintained in accordance with the applicable BLM/COGCC rules and regulations.
- C. Prior to the commencement of drilling operations, the completion pit will include appropriate netting, or fencing and escape ramps as necessary to protect public health, safety and welfare or to prevent adverse environmental impacts resulting



- from access to a pit by wildlife, migratory birds, domestic birds, or members of the general public, in accordance with applicable BLM/COGCC rules and regulations.
- D. Drilling fluids including salts and chemicals will be contained. Upon termination of drilling and completion operations, the mud will be transferred to another drilling location for use, dewatered and recycled, or removed and disposed of at an approved waste disposal facility within ninety (90) day after termination of drilling and completion activities.
  - E. In the event that adverse weather conditions prevent removal of the fluids from the mud system within this time period, an extension may be granted by the Authorized Officer upon receipt of a written request from Encana Oil & Gas (USA) Inc.
  - F. Produced fluids – liquid hydrocarbons produced during completion operations will be gathered in flow back tanks or a completion pit on location. Produced waste water will be confined to a completion pit or flow back tanks for a period not to exceed ninety (90) days after initial production.
  - G. Produced fluids – liquid hydrocarbons produced during production operations will be confined to a pit (completion pit) or flow back tanks for a period not to exceed ninety (90) days. It may also be recycled and used for drilling, completion or fracing for another well or location. Excess water may be piped or trucked to disposal wells and/ trucked to a commercial disposal facility.
  - H. Sewage- self-contained, chemical toilets will be provided for human waste disposal. Upon completion of operations, or as needed, the toilet holding tanks will be pumped and the contents thereof disposed of in an approved, sewage disposal facility.
  - I. Garbage and other waste material – garbage, trash and other waste materials will be collected in a portable, self-contained and fully – enclosed trash cage during drilling and completion operations. Upon completion of operations (or as needed) the accumulated trash will be disposed of at an authorized sanitary landfill. No trash will be burned on location or placed in the reserve pit.
  - J. Immediately after removal of the drilling rig, all debris and other waste materials not contained in the trash cage will be cleaned up and removed from the well location. No adverse materials will be left on the location. Any open pits will be maintained until such time as the pits are backfilled.
  - K. Any spills of oil, gas, salt water or other potentially hazardous substances will be reported immediately to the BLM, and other responsible parties, and will be mitigated immediately, as appropriate, through clean up or removal to an approved disposal site.

**8. ANCILLARY FACILITIES**

Self-contained travel-type trailers may be used on site during drilling operations. Certified Colorado Department of Housing units will be provided for use in the extraction of gas on COGCC approved pads. These units will be used by Essential Personnel and will abide by Federal, State, and local regulations which directly pertain to Temporary Employee Housing (TEH) or Temporary Living Quarters (TLQ), depending on the County in which extraction will be taking place.

For more detailed information about how the construction methods of well pads, roads, and pipelines, are handled during Preconstruction/Construction/Interim/Final Reclamation refer to Piceance Creek Stormwater Management Plan COR-039167(June 2009), this plan is on file at the operator's field office. This plan is available for review and inspection upon request.

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Potable water provided by water haulers certified by the Colorado Department of Public Health & Environment.

Septic will be held in County approved engineered ISDS Vault and Haul systems.

Waste materials generated by and from these units will be contained in wildlife proof containers and will be hauled weekly, or as needed.

## 9. WELLSITE LAYOUT

- A. The attached plat specifies the drill site layout. Cross sections have been drafted to visualize the planned cuts and fills across the location. All suitable topsoil material will be stripped and stockpiled, (topsoil to be stripped from this location, including the areas of cut, fill and/or subsoil storage) and stockpiled for future reclamation of the well site. The windrowed and/or stockpiled topsoil will be seeded after construction is completed. The excess unbalance of 2630 cu yards will be screened and used to rock the pad surface for drilling and fracing. Any additional excess material will be used during the pad reclamation to provide additional cover over rocks that are unearthed during the pad construction.
- B. Topsoil conservation practices include stockpiling and/or windrowing available topsoil. The stockpiles are to be tracked walk perpendicular to contour with a convex top and concave bottom then seeded and mulched. Depth and width will vary with availability and stormwater requirements. The estimated depth of the windrowed/stockpiled topsoil may vary between 6 inches to 10 feet.
- C. Soil Unit Name: Parachute-Rhone loams, (soil map unit 53) with 5 to 30% slopes. Ecological site: mountain loam (R048AY228CO); Depth to restrictive feature 20 to 40 inches to Paralithic bedrock, Drainage class: Well Drained. Typical profile: 0 to 5 inches: loam, 5 to 18 inches: loam, 18 to 29 inches: extremely channery loam, 29 to 33 inches: un-weathered bedrock.
- D. In general, materials will be moved and returned according to a last out first in philosophy. Visually, no excessive rock was identified at the on-site. If subsurface rock is exposed the appropriate BMPs will be utilized at that time.
- E. Prior to commencement of drilling operations, the completion pit will include appropriate netting, or fencing and escape ramps as necessary to protect public health, safety and welfare or to prevent adverse environmental impacts resulting from access to a pit by wildlife, migratory birds, domestic birds, or members of the general public, in accordance with applicable BLM/COGCC rules and regulations
- F. Any accumulations of oil or hydrocarbons in the completion pit will be monitored and removed as necessary in accordance with applicable BLM/COGCC rules and regulations.
- G. The flare pit will be constructed as an unlined pit.
- H. This pad is likely to have a small amount of standing water. This pad is designed to contain stormwater.
- I. Methods of stabilization: Local factors will be evaluated to determine what BMPs are suitable and practical at the time of construction. BMPs will be employed in different combinations during construction activities and phases as conditions warrant. The following BMPs may be used: erosion control blankets, hydro seeding, terracing, vegetated buffers, topsoil stockpiles, etc. The tracked linear windrows promote topsoil stabilization because of compaction and reduced slope percent. The windrows are also seeded and hydro-mulched with a hydraulic erosion control mulch.
- J. To control drainage, Local factors will be evaluated to determine what BMPs are suitable and practical at the time of construction. BMPs will be employed in different combinations during construction activities and phases as conditions warrant. The following BMPs may be used: toe berm, level spreader, run-on protection, etc.

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- K. For sediment control, Local factors will be evaluated to determine what BMPs are suitable and practical at the time of construction. BMPs will be employed in different combinations during construction activities and phases as conditions warrant. The following BMPs may be used: stabilized construction entrance, sediment reservoirs, sediment traps, detention pond, slash, wattle, etc.
- M. For more detailed information about how well pads, roads, pipelines, topsoil and subsoil segregation are handled during: Preconstruction/Construction/Interim/Final Reclamation refer to the Piceance Creek Stormwater Management Plan COR-039167 (June 2009) this plan is on file at the operator's field office. This plan is available for review and inspection upon request.

## 10. PLANS FOR RECLAMATION OF THE SURFACE

- A. PRODUCTION (Interim/Final Reclamation): The BLM will be contacted prior to commencement of any reclamation operations.
  - a. Immediately upon well completion, the well location and surrounding areas(s) will be cleared of all debris, materials, trash and junk not required for production.
  - b. Immediately upon well completion, any hydrocarbons in the pit shall be removed in accordance with 43CFR 3162.7-1.
  - c. Upon completion of the initial 16-permitted wells on the pad, Encana will evaluate the economics of the area, there is a possibility of three different scenarios:
    - a) Assuming the area proves to be economic, Encana may return to drill the remaining 16 wells that are planned for this location; interim reclamation will be applied within 6 months of the completion of the 32nd well to all wells.
    - b) If the area is not economic enough at this time to warrant drilling the remaining 16 wells within a reasonable timeframe (1 year) then interim reclamation will be applied to the first 16 wells within the 1 year.
    - c) If the wells are not economic at all the wells may be plugged-final reclamation standards will be applied to the pad.

The pad will be reclaimed except the working area which is usually 100' off wellheads and 10-15' around production equipment. The proposed reclaimed pad with all 32 wells surface will be approximately 2.085 acres, *see sheet 6 of 11 of the survey package*.

- d. Before any dirt work to restore the location takes place, the reserve pit will be completely dry and all cans, barrels, pipe, etc. will be removed.
- Other waste and spoil materials will be disposed of immediately upon completion of drilling and work-over activities.
- e. The reserve pit and that portion of the location and access road not needed for production facility/operations will be reclaimed within six (6) months from the date of well completion, weather permitting.
      - f. If the well is a producer, Encana will upgrade and maintain access roads as necessary to prevent soil erosion, and accommodate year round traffic. Areas unnecessary to operations will have areas reshaped. Topsoil will be redistributed and disked. All areas outside

- the work area will be re-seeded according to the Bureau of Land Management recommendations for seed mixture.
- g. All cuttings/reserve pits and detention ponds will be closed as soon as possible. If netting has been installed it will remain in place until deemed appropriate to remove in order to protect migratory waterfowl.
  - h. A stormwater permit for the Piceance Creek Area has been received from the Colorado Department of Public Health and Environment, Water Quality Control Division.
  - i. Methods of stabilization: Local factors will be evaluated to determine what BMPs are suitable and practical at the time of construction. BMPs will be employed in different combinations during construction activities and phases as conditions warrant. The following BMPs may be used: revegetation, rip-rap, diversion ditch, etc.
  - j. Control drainage: Local factors will be evaluated to determine what BMPs are suitable and practical at the time of construction. BMPs will be employed in different combinations during construction activities and phases as conditions warrant. The following BMPs may be used: culverts, run on protection berm, diversion ditch, etc.
  - k. Sediment control: Local factors will be evaluated to determine what BMPs are suitable and practical at the time of construction. BMPs will be employed in different combinations during construction activities and phases as conditions warrant. The following BMPs may be used: detention pond, sediment trap, diversion ditch, etc.
  - l. During interim and final reclamation of the site, fill material will be pushed into cuts and up over the back slope. Allowance to construct sediment traps/reservoirs to maintain compliance with the state. Topsoil will be distributed evenly over the location and seeded according to the recommended seed mixture. The access road and location shall be ripped or disked prior to seeding. Perennial vegetation must be established. Additional work shall be required in case of seeding failures, etc.
  - m. For interim and final reclamation topsoil will be redistributed and disked. All areas outside the work area will be re-seeded according to the Bureau of Land Management recommendation for seed mixture.
  - n. Upon completion of backfilling, leveling and recon touring, the stockpiled topsoil will be evenly spread over the reclaimed area(s). Segregation of topsoil material and replacement of topsoil in its respective position (last out, first in) method will assist in the re-establishment of soil health and productivity. Topsoil will also be placed on its respective slopes, i.e. oakbrush shrub soil and pinyon juniper woodland soil will not be mixed. Prior to reseeded, all disturbed surfaces will be scarified and left with a rough surface. All disturbed surfaces will be re-seeded according to the Bureau of Land Management recommendation for seed mixture.

- o. Slash/brush will be pushed to the terminal edge of disturbance along probable discharge edges as vegetation sediment control and during the life span of the site and kept in place to cold compost for final reclamation
- p. There will be no additional fill required.
- q. The fill will be separated mechanically and placed in 1 to 2 foot lifts using a dozer and blade.
- r. At final reclamation all storm water management BMP's for drainage, sediment and erosion will be removed because the only remaining potential pollution source via stormwater will be runoff sediment. All sediment will be managed through revegetation practices (seeding on contour, crimping straw on contour and/or erosion control hydro-mulch, pocking and topsoil distribution. Perimeter wattles will remain until vegetation establishment meets minimum requirements.
- s. In general, materials will be moved and returned according to a last out first in philosophy. Visually, no excessive rock was identified at the on-site. If subsurface rock is exposed the appropriate BMPs will be utilized at that time.
- t. The estimated surface disturbance for this well pad, access roads and proposed pipeline:

**Approximate Acreage Disturbance**

Well disturbance	6.529
Expansion	1.718
Access Road disturbance	0.134
Pipeline disturbance	2.554
Total =	10.935

This pipeline disturbance portion of this calculation takes into account only the pipeline that is nearly complete between the J25 496 Frac pad and the B36 496 pad. This is outlined in section 4.B.8.ii.

The proposed reclaimed pad surface +/- 2.173 acres (see sheet 6 of 11)

- u. Weed Control: See Weed Control Plan

Prevention and Detection:

- a) Before entering BLM lands, all construction, heavy or off-road equipment and transport (backhoes, trackhoes, dozers, blades, rollers, lowboys, equipment trailers, etc.), pickup trucks, SUVs, vans, water trucks, pipe trucks, etc., shall be power washed to remove seeds, soil, and vegetative matter.
- b) If noxious weeds are found, they shall be treated (if timing is appropriate) or removed (if plants have formed seeds) prior to ground-disturbing activities to limit weed seed production and dispersal. If the treatment timing is not appropriate for the weed species, ground-disturbing activities may proceed.
- c) All disturbed surfaces shall be promptly revegetated with certified weed-free seed per agency policy. BLM policy is to use native species for revegetation. Exceptions may be granted under certain conditions, such as the use of non-invasive non-native forbs when native forbs are unavailable or unlikely to succeed due to adverse conditions. Also, non-native, non-persistent sterile grasses may be used to provide ground cover for soil stabilization and weed suppression during temporary reclamation.

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- d) Topsoil stockpiles shall be promptly re-vegetated to maintain soil microbe health and prevent weeds. Native or non-native, non-persistent sterile grasses may be used to seed stockpiles.
- e) Straw, hay, or other mulch used in reclamation shall be certified weed-free.

Inventory and Mapping:

- a) The center points of List A and B weed infestations (with the exception of redstem filaree and quackgrass) shall be marked with a GPS unit, or, GPS lines or polygons along or around weed infestations.
- b) A Noxious Weed Inventory record shall be completed each time a List A or B weed infestation is inventoried (with the exception of redstem filaree and quackgrass). See Appendix B for required components of a Noxious Weed Inventory record.
- c) Inventories for the presence of noxious weeds shall be conducted at least once early in the growing season for all areas disturbed by oil and gas exploration and development. Weeds shall be treated in an appropriate manner if found during inventories. Follow-up inventories and re-treatment during the same growing season may be necessary to provide additional control and/or eradication.

Weed Control:

- a) The operator shall implement the best available weed control technique(s) at the appropriate times based on the life history of the weed species.
- b) A Pesticide Use Proposal (PUP) shall be approved by the BLM prior to use of herbicides on BLM lands.
- c) Only adjuvants and herbicides approved by the BLM shall be applied to BLM lands.
- d) A Pesticide Application record shall be filled out each time pesticides are applied to BLM. The operator shall maintain these records for a minimum of three years.
- e) All List A species and those List B species designated in Appendix A shall be immediately reported to the appropriate County, BLM, and FS Weed Manager.
- e) Herbicide use shall follow application rates, restrictions and warnings listed on the label.
- f) In situations where noxious weeds have escaped from the project area into adjacent sites, the infested areas shall be treated to prevent further expansion into un-infested areas and re-infestation of the treated area.
- g) The operator shall use pesticide applicators licensed by the Colorado Department of Agriculture.
  - v. Spill Prevention Control and Countermeasure Plan (SPCC): The SPCC plan has been prepared for the project and is on file at the operator's field office and is available for review and inspection upon request. Encana is in substantial compliance with all 40 CFR part 112 rules.

B. For more detailed information about how well pads, roads, pipelines, topsoil and subsoil segregation are handled during:  
Preconstruction/Construction/Interim/Final Reclamation refer to Piceance Creek

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Stormwater Management Plan COR-039167 (June 2009), this plan is on file at the operator's field office. This plan is available for review and inspection upon request.

**C. DRY HOLE /ABANDONED LOCATIONS**

On lands administered by the BLM, abandoned well sites, roads or other disturbed areas will be restored to near their original condition.

This procedure will include:

1. Re-establishing irrigation systems where applicable,
2. Re-establishing soil conditions in irrigated field in such a way as to ensure cultivation and harvesting of crops and,
3. Ensuring revegetation of the disturbed areas to the specification of the BLM at the time of abandonment.

All disturbed surfaces will be recontoured to the approximate natural contours and re-seeded according to BLM specifications. Reclamation of the well pad and access road will be performed as soon as practical after final abandonment and reseeding operations will be performed in the fall or spring following completion of reclamation operations.

If the well is abandoned or a dry hole, Encana will restore the access road and location to approximately the original contours. During reclamation of the site, fill material will be pushed into cuts and up over the back-slope. Allowance to construct sediment traps/reservoirs to maintain compliance with the state. In Dry-land Revegetation allowance to pock sites to create micro-catchments for water containment for seed establishment. Topsoil will be distributed evenly over the location and seeded according to the recommended seed mixture. The access road and location shall be ripped or disked prior to seeding. Perennial vegetation must be established. Additional work shall be required in case of seeding failures, etc.

**11. SURFACE OWNERSHIP:**

Encana Oil & Gas (USA) Inc.  
Contact: Kirsten Orahood – Group Lead Land, 720-876-5119  
370 17<sup>th</sup> Street, Suite 1700  
Denver, CO 80202-5632

**12. OTHER INFORMATION:**

- A. A Class III (intensive) Cultural Resource Inventory of the proposed drill sites, access roads and other facilities on federal lands will be conducted and a report filed with the appropriate BLM office. Grand River Institute will file Cultural inventory. Wildlife or T&E surveys will be conducted by WestWater Engineering if required.
- B. If archaeological, historical or vertebrate fossil materials are discovered during the course of any construction activities, Encana will suspend all operations that further disturb such materials and immediately contact the appropriate BLM office. Operations in the area of discovery will not resume until written authorization to proceed has been issued by the BLM Authorized Officer (AO).
- C. Encana will be fully responsible for the actions of their subcontractors. A copy of the approved APD and Conditions of Approval will be on location during drilling and completion operations.
- D. Any construction activity in the areas shall be done with awareness that many natural gas pipelines are buried. Some are apparent as to location; some have grown over with weeds and brush. It is suggested that the contractor contact the operators in the area to locate all lines before digging.

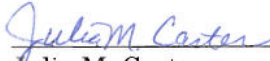
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**13. REPRESENTATIVES AND CERTIFICATION:**

The Operator will be fully responsible for the actions of its subcontractors. A complete copy of the approved Application for Permit to Drill will be furnished to the field representatives to ensure compliance and shall be on location during all construction and drilling operations.

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions that currently exist; that I have full knowledge of the State and Federal Laws applicable to this operation; that the statements made in this APD Package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD Package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for filing false statements.

Revision 3 dated 7/1/10, Executed this 1st day of July, 2010.

  
\_\_\_\_\_  
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