

State of New Mexico  
Energy, Minerals and Natural Resources Department

Susana Martinez  
Governor

David Martin  
Cabinet Secretary-Designate

Brett F. Woods, Ph.D.  
Deputy Cabinet Secretary

Jami Bailey, Division Director  
Oil Conservation Division



New Mexico Oil Conservation Division approval and conditions listed below are made in accordance with OCD Rule 19.15.7.11 and are in addition to the actions approved by BLM on the following 3160-3 APD form.

Operator Signature Date: 5/10/13

Well information;

Operator Encana, Well Name and Number Escrito E13-2407 1H

API# 30-039-31189, Section 13, Township 24 NS, Range 7 EW

Conditions of Approval:

(See the below checked and handwritten conditions)

- ☒ Notify Aztec OCD 24hrs prior to casing & cement.
- ☒ Hold C-104 for directional survey & "As Drilled" Plat
- ☒ Hold C-104 for NSL NSP, DHC
- ☐ Spacing rule violation. Operator must follow up with change of status notification on other well to be shut in or abandoned
- ☒ Regarding the use of a pit, closed loop system or below grade tank, the operator must comply with the following as applicable:
  - A pit requires a complete C-144 be submitted and approved prior to the construction or use of the pit, pursuant to 19.15.17.8.A
  - A closed loop system requires notification prior to use, pursuant to 19.15.17.9.A
  - A below grade tank requires a registration be filed prior to the construction or use of the below grade tank, pursuant to 19.15.17.8.C
- ☐ Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string
- ☐ Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils

Charlie Herron  
NMOCD Approved by Signature

8-12-2013  
Date

ca

RCVD AUG 1 '13  
OIL CONS. DIV.  
DIST. 3

Form 3160-3  
(August 2007)

CONFIDENTIAL

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

RECEIVED

FORM APPROVED  
OMB No. 1004-0137  
Expires July 31, 2010

APPLICATION FOR PERMIT TO DRILL OR REENTER 2013

|                                                                                                                                                                                                                               |  |                                                                                        |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------|--|
| 1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER                                                                                                                                  |  | Farmington Field Office<br>Bureau of Land Management                                   |  |
| 1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other                                                                                               |  | <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone |  |
| 2. Name of Operator Encana Oil & Gas (USA) Inc.                                                                                                                                                                               |  |                                                                                        |  |
| 3a. Address 370 17th Street Suite 1700<br>Denver, CO 80202                                                                                                                                                                    |  | 3b. Phone No. (include area code)<br>720-876-5331                                      |  |
| 4. Location of Well (Report location clearly and in accordance with any State requirements.)<br>At surface 1991' FNL and 225' FWL Section 13, T24N, R7W<br>At proposed prod. zone 2210' FNL and 330' FWL Section 14 T24N, R7W |  | 7. If Unit or CA Agreement, Name and No.<br>TBD                                        |  |
| 14. Distance in miles and direction from nearest town or post office*<br>+/- 74.8 miles south from intersection of US Hwy 550 and US Hwy 64 in Bloomfield, NM                                                                 |  | 8. Lease Name and Well No.<br>Escrito E13-2407 01H                                     |  |
| 15. Distance from proposed* location to nearest property or lease line, ft.<br>(Also to nearest drig. unit line, if any) BHL is 330' from west lease line                                                                     |  | 9. API Well No.<br>30-039-31189                                                        |  |
| 16. No. of acres in lease<br>NMNM 117566 - 641.86<br>NMSF 0078584 - 920 ac.                                                                                                                                                   |  | 10. Field and Pool, or Exploratory<br>Devils Fork Gallup Assc.                         |  |
| 17. Spacing Unit dedicated to this well<br>320 acres (N2 Section 14, T24N, R7W)                                                                                                                                               |  | 11. Sec., T. R. M. or Blk. and Survey or Area<br>Section 13, T24N, R7W NMPM            |  |
| 18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. MILLER A 1E is 429' east of the SHL                                                                                |  | 12. County or Parish<br>Rio Arriba                                                     |  |
| 19. Proposed Depth<br>5521' (TVD)/10,420' (MD)                                                                                                                                                                                |  | 13. State<br>NM                                                                        |  |
| 20. BLM/BIA Bond No. on file<br>COB-000235                                                                                                                                                                                    |  | 21. Elevations (Show whether DF, KDB, RT, GL, etc.)<br>6690' GL; 6703' KB              |  |
| 22. Approximate date work will start*<br>12/31/2013                                                                                                                                                                           |  | 23. Estimated duration<br>25 days                                                      |  |
| 24. Attachments                                                                                                                                                                                                               |  |                                                                                        |  |

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

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

|                                            |                                         |                    |
|--------------------------------------------|-----------------------------------------|--------------------|
| 25. Signature <i>Cash. L. L.</i>           | Name (Printed Typed)<br>Catherine Anadu | Date<br>05/10/2013 |
| Title<br>Regulatory Analyst                |                                         |                    |
| Approved by (Signature) <i>[Signature]</i> | Name (Printed Typed)<br>AFM             | Date<br>7/26/13    |
| Title<br>Office FFO                        |                                         |                    |

Application approval does not warrant or certify that 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.

(Continued on page 2)

\*(Instructions on page 2)

This action is subject to technical and procedural review pursuant to 43 CFR 3165.2 and appeal pursuant to 43 CFR 3165.4

DRILLING OPERATIONS AUTHORIZED ARE  
SUBJECT TO COMPLIANCE WITH ATTACHED  
"GENERAL REQUIREMENTS".

BLM'S APPROVAL OR ACCEPTANCE OF THIS  
ACTION DOES NOT RELIEVE THE LESSEE AND  
OPERATOR FROM OBTAINING ANY OTHER  
AUTHORIZATION REQUIRED FOR OPERATIONS  
ON FEDERAL AND INDIAN LANDS

# RECEIVED

MAY 13 2013

Form C-102  
Revised August 1, 2011

**DISTRICT I**  
1625 E. French Dr., Hobbs, N.M. 88240  
Phone: (505) 693-0101 Fax: (505) 693-0720

**DISTRICT II**  
611 E. First St., Artesia, N.M. 88210  
Phone: (505) 948-1223 Fax: (505) 948-0720

**DISTRICT III**  
1000 E. Brown Rd., Artesia, N.M. 87410  
Phone: (505) 834-0170 Fax: (505) 834-0170

**DISTRICT IV**  
1220 S. St. Francis Dr., Santa Fe, NM 87506  
Phone: (505) 670-8460 Fax: (505) 670-8460

State of New Mexico  
Energy, Minerals & Natural Resources Department

## OIL CONSERVATION DIVISION

1220 South St. Francis Dr.  
Santa Fe, NM 87605

Farmington Field Office  
Bureau of Land Management District Office

☐ AMENDED REPORT

### WELL LOCATION AND ACREAGE DEDICATION PLAT

|                                    |                                                          |                            |                                                      |
|------------------------------------|----------------------------------------------------------|----------------------------|------------------------------------------------------|
| *API Number<br><b>30-039-31189</b> |                                                          | *Pool Code<br><b>17610</b> | *Pool Name<br><b>DEVILS FORK GALLUP (ASSOCIATED)</b> |
| *Property Code<br><b>400060</b>    | *Property Name<br><b>ESCRITO E13-2407</b>                |                            | *Well Number<br><b>01H</b>                           |
| *UGRID No.<br><b>282327</b>        | *Operator Name<br><b>ENCANA OIL &amp; GAS (USA) INC.</b> |                            | *Elevation<br><b>6689.9'</b>                         |

#### 10 Surface Location

| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County     |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|------------|
| E             | 13      | 24N      | 7W    |         | 1991'         | NORTH            | 225'          | WEST           | RIO ARRIBA |

#### 11 Bottom Hole Location If Different From Surface

| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County     |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|------------|
| E             | 14      | 24N      | 7W    |         | 2210'         | NORTH            | 330'          | WEST           | RIO ARRIBA |

|                                                     |                  |                     |            |
|-----------------------------------------------------|------------------|---------------------|------------|
| *Dedicated Acres<br><b>320.00 Ac. N/2 - SEC. 14</b> | *Joint or Infill | *Consolidation Code | *Order No. |
|-----------------------------------------------------|------------------|---------------------|------------|

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED  
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

18

#### 17 OPERATOR CERTIFICATION

- |                                                                                                                        |                                                                                                                        |                                                                                                                        |
|------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| 1 LAT. 36.320171° N (NAD83)<br>LONG. 107.554141° W (NAD83)<br>LAT. 36.320159° N (NAD27)<br>LONG. 107.553534° W (NAD27) | 3 LAT. 36.320226° N (NAD83)<br>LONG. 107.536414° W (NAD83)<br>LAT. 36.320214° N (NAD27)<br>LONG. 107.535808° W (NAD27) | 5 LAT. 36.319578° N (NAD83)<br>LONG. 107.518615° W (NAD83)<br>LAT. 36.319586° N (NAD27)<br>LONG. 107.518009° W (NAD27) |
| 2 LAT. 36.305589° N (NAD83)<br>LONG. 107.554149° W (NAD83)<br>LAT. 36.305577° N (NAD27)<br>LONG. 107.553542° W (NAD27) | 4 LAT. 36.305659° N (NAD83)<br>LONG. 107.536528° W (NAD83)<br>LAT. 36.305647° N (NAD27)<br>LONG. 107.535922° W (NAD27) |                                                                                                                        |

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

*Brenda R. Linstor* 5/9/13  
Signature Date

Brenda R. Linstor, Regulatory Lead

Printed Name

brenda.linstor@encana.com

E-mail Address

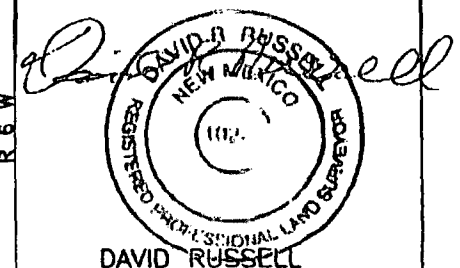
#### SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

FEBRUARY 12, 2013

Date of Survey

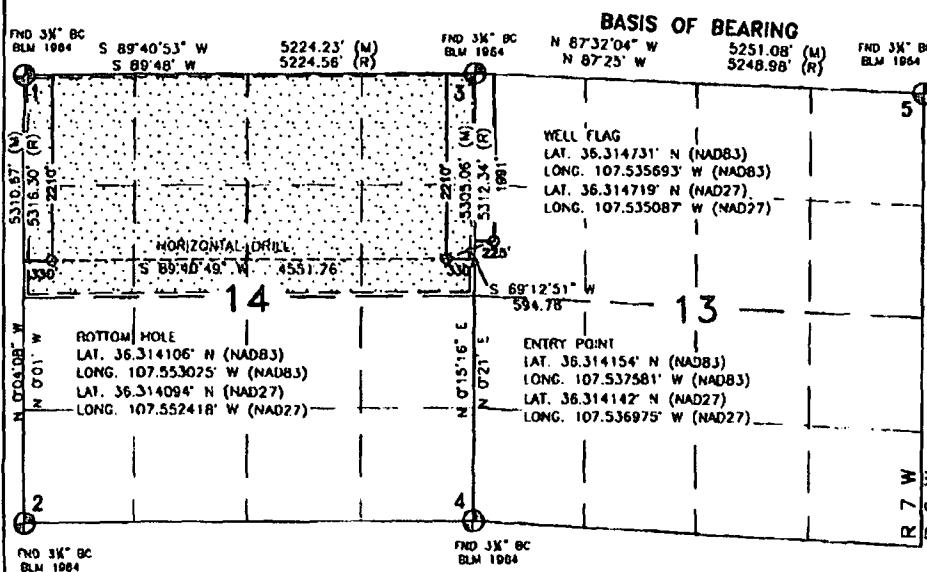
Signature and Seal of Professional Surveyor:



DAVID RUSSELL

Certificate Number

10201



**ENCANA OIL & GAS (USA) INC.**

ESCRITO E13-2407 #01H

1991' FNL & 225' FWL

LOCATED IN THE SW/4 NW/4 OF SECTION 13,

T24N, R7W, N.M.P.M.,

RIO ARriba COUNTY, NEW MEXICO

**DIRECTIONS**

- 1) FROM THE INTERSECTION OF US HWY 550 AND US HWY 64, TRAVEL SOUTH ON 550 TO STATE HWY 403 IN COUNSELOR.
- 2) TURN LEFT ON HWY 403 AND TRAVEL TO CR 378.
- 3) TURN LEFT ON CR 378 AND TRAVEL 0.4 MILES TO CR 381.
- 4) STAY RIGHT ON CR 381 AND TRAVEL 4.0 MILES.
- 5) TURN RIGHT AND GO 0.9 MILES WHERE ACCESS IS STAKED ON WEST SIDE OF EXISTING PAD.

WELL FLAG LOCATED AT LAT. 36.314731° N, LONG. 107.535693° W (NAD 83).

JOB No.: ENC053\_REV1  
DATE: 4/26/13



**Scorpion Survey &  
Consulting, L.L.C.**  
Aztec, New Mexico 87410  
(505) 334-4007



Escrito E13-2407 01H

SHL: SWNW Section 13, T24N, R7W  
1991' FNL and 225' FWL

BHL: SWNW Section 14, T24N, R7W  
2210' FNL and 330' FWL

Rio Arriba, New Mexico

Lease Number: NMNM 117566 & NMSF 0078584

**Encana Oil & Gas (USA) Inc.  
Drilling Plan**

**1. ESTIMATED TOPS OF GEOLOGICAL MARKERS (TVD)**

The estimated tops of important geologic markers are as follows:

| <b>Formation</b>    | <b>Depth (TVD) units = feet</b> |
|---------------------|---------------------------------|
| Ojo Alamo Ss.       | 1,481                           |
| Kirtland Shale      | 1,678                           |
| Fruitland Coal      | 1,901                           |
| Pictured Cliffs Ss. | 2,113                           |
| Lewis Shale         | 2,221                           |
| Cliffhouse Ss.      | 2,965                           |
| Menefee Fn.         | 3,733                           |
| Point Lookout Ss.   | 4,403                           |
| Mancos Shale        | 4,580                           |
| Mancos Silt         | 5,245                           |
| Gallup Fn.          | 5,431                           |

The referenced surface elevation is 6690', KB 6703'

**2. ESTIMATED DEPTH OF POTENTIAL WATER, OIL, GAS, & OTHER MINERAL BEARING FORMATIONS**

| <b>Substance</b> | <b>Formation</b>    | <b>Depth (TVD) units = feet</b> |
|------------------|---------------------|---------------------------------|
| Water/Gas        | Fruitland Coal      | 1,901                           |
| Oil/Gas          | Pictured Cliffs Ss. | 2,113                           |
| Oil/Gas          | Cliffhouse Ss.      | 2,965                           |
| Oil/Gas          | Menefee Fn.         | 3,733                           |
| Oil/Gas          | Point Lookout Ss.   | 4,403                           |
| Oil/Gas          | Mancos Shale        | 4,580                           |
| Oil/Gas          | Mancos Silt         | 5,245                           |
| Oil/Gas          | Gallup Fn.          | 5,431                           |

All shows of fresh water and minerals will be reported and protected.

**Escrito E13-2407 01H**

**SHL: SWNW Section 13, T24N, R7W  
1991' FNL and 225' FWL**

**BHL: SWNW Section 14, T24N, R7W  
2210' FNL and 330' FWL**

**Rio Arriba, New Mexico**

**Lease Number: NMNM 117566 & NMSF 0078584**

### **3. PRESSURE CONTROL**

- a) Pressure control equipment and configuration will be designed to meet 2M standards.
- b) Working pressure on rams and BOPE will be 3,000 psi
- c) Function test and visual inspection of the BOP will be conducted daily and noted in the IADC Daily Drilling Report.
- d) The Annular BOP will be pressure tested to a minimum of 50 percent of its rated working pressure.
- e) Blind and Pipe Rams/BOP will be tested against a test plug to 100 percent of rated working pressure.
- f) Pressure tests are required before drilling out from under all casing strings set and cemented in place.
- g) BOP controls must be installed prior to drilling the surface casing plug and will remain in use until the well is completed or abandoned.
- h) BOP testing procedures and testing frequency will conform to Onshore Order No. 2.
- i) BOP remote controls shall be located on the rig floor at a location readily accessible to the driller. Master controls shall be on the ground at the accumulator and shall have the capability to function all preventers.
- j) The kill line shall be 2-inch minimum and contain two kill line valves, one of which shall be a check valve.
- k) The choke line shall be a 2-inch minimum and contain two choke line valves (2-inch minimum).
- l) The choke and manifold shall contain two adjustable chokes.
- m) Hand wheels shall be installed on all ram preventers.
- n) Safety valves and wrenches (with subs for drill string connections) shall be available on the rig floor at all times.
- o) Inside BOP or float sub shall also be available on the rig floor at all times.

Proposed BOP and choke manifold arrangements are attached.

Escrito E13-2407 01H

SHL: SWNW Section 13, T24N, R7W  
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Rio Arriba, New Mexico

Lease Number: NMNM 117566 & NMSF 0078584

#### 4. CASING & CEMENTING PROGRAM

The proposed casing and cementing program has been designed to protect and/or isolate all usable water zones, potentially productive zones, lost circulation zones, abnormally pressured zones, and any prospectively valuable deposits of minerals. Any isolating medium other than cement shall receive approval prior to use. The casing setting depth shall be calculated to position the casing seat opposite a competent formation which will contain the maximum pressure to which it will be exposed during normal drilling operations. All indications of useable water shall be reported.

a) The proposed casing design is as follows:

| Casing           | Depth          | Hole Size | Csg Size | Weight | Grade         |
|------------------|----------------|-----------|----------|--------|---------------|
| Conductor        | 0-60'          | 30"       | 20"      | 94#    | H40, STC New  |
| Surface          | 0'-500'        | 12 1/4"   | 9 5/8"   | 36#    | J55, STC New  |
| Intermediate     | 0'-5770'MD     | 8 3/4"    | 7"       | 26#    | J55, LTC New  |
| Production Liner | 5570'-10420'MD | 6 1/8"    | 4 1/2"   | 11.6#  | B80*, LTC New |

| Casing String |                |       |            | Casing Strength Properties |             |                  | Minimum Design Factors |       |         |
|---------------|----------------|-------|------------|----------------------------|-------------|------------------|------------------------|-------|---------|
| Size          | Weight (lb/ft) | Grade | Connection | Collapse (psi)             | Burst (psi) | Tensile (1000lb) | Collapse               | Burst | Tension |
| 9 5/8"        | 36             | J55   | STC        | 2020                       | 3520        | 394              | 1.125                  | 1.1   | 1.5     |
| 7"            | 26             | J55   | LTC        | 4320                       | 4980        | 367              | 1.125                  | 1.1   | 1.5     |
| 4 1/2"        | 11.6           | B80   | LTC        | 6350                       | 7780        | 201              | 1.125                  | 1.1   | 1.5     |

\*B80 pipe specifications are attached

Casing design is subject to revision based on geologic conditions encountered.

All casing strings below the conductor shall be pressure tested to 0.22 psi per foot of casing string length or 1,500 psi, whichever is greater, but not to exceed 70 percent of the minimum internal yield. If pressure declines more than 10 percent in 30 minutes, corrective action shall be taken.



Escrito E13-2407 01H

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Rio Arriba, New Mexico

Lease Number: NMNM 117566 & NMSF 0078584

b) The proposed cementing program is as follows:

Top plugs shall be used to reduce contamination of cement by displacement fluid. A bottom plug or other acceptable technique, such as a pre-flush fluid, inner string cement method, etc. shall be utilized to help isolate the cement from contamination by the mud fluid being displaced ahead of the cement slurry.

| Casing            | Depth        | Cement Volume (sacks)                                                                        | Cement Type&Yield                                                                                                                                                                      | Designed TOC | Centralizers                                                           |
|-------------------|--------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|------------------------------------------------------------------------|
| Conductor         | 60'          | 100sk                                                                                        | Type I Neat 14.8 ppg                                                                                                                                                                   | Surface      | None                                                                   |
| Surface           | 500'         | 178sk                                                                                        | Type III Cement + 1% CaCl + 0.25lb/sk Cello Flake + 0.2% FL, 14.6ppg, 1.38cuf/sk                                                                                                       | Surface      | 1 per joint on bottom 3 joints                                         |
| Intermediate      | 5770'MD      | 30% open hole excess<br>Stage 1 Lead: 232sks<br>Stage 1 Tail: 159sks<br>Stage 2 Lead: 192sks | Lead (Stages 1 and 2): PremLite + 3% CaCl + 0.25lb/sk CelloFlake + 5lb/sk LCM, 12.1ppg 2.13cuf/sk<br>Tail (Stage 1): Type III Cmt + 1% CaCl + 0.25lb/sk Cello Flake 14.5ppg 1.38cuf/sk | Surface      | 1 per joint for bottom 3 joints, 1 every 3 joints for remaining joints |
| Production Liner* | 5570'-10420' | None – External casing packers                                                               | N/A                                                                                                                                                                                    | N/A          | N/A                                                                    |

\*Production liner clarification: Utilizing external swell casing packer system for zonal isolation will not use cement in the production liner.

Actual volumes will be calculated and determined by conditions onsite. All cement slurries will meet or exceed minimum BLM and New Mexico Oil Conservation Division requirements. Slurries used will be the slurries listed above or equivalent slurries depending on service provider selected. Cement yields may change depending on slurries selected.

All waiting on cement times shall be a minimum of 8 hours or adequate to achieve a minimum of 500 psi compressive strength at the casing shoe prior to drilling out.

Escrito E13-2407 01H

SHL: SWNW Section 13, T24N, R7W  
1991' FNL and 225' FWL

BHL: SWNW Section 14, T24N, R7W  
2210' FNL and 330' FWL

Rio Arriba, New Mexico

Lease Number: NMNM 117566 & NMSF 0078584

## 5. WELL PLAN & DIRECTIONAL DRILLING PROGRAM

The proposed horizontal well will have a kick off point of 4929'. Directional plans are attached.

| Description           | Proposed Depth<br>(TVD/MD) | Formation |
|-----------------------|----------------------------|-----------|
| Horizontal Lateral TD | 5521'/10420'               | Gallup    |

## 6. DRILLING FLUIDS PROGRAM

a) Surface through Intermediate Casing Point:

| Hole Size<br>(in) | Depth (ft)                   | Mud Type            | Density<br>(lb/gal) | Viscosity<br>(sec/qt) | Fluid Loss<br>(cc) |
|-------------------|------------------------------|---------------------|---------------------|-----------------------|--------------------|
| 30"               | 0-60' TVD                    | Fresh Water         | 8.3-9.2             | 38-100                | 4-28               |
| 12 1/4"           | 0-500' TVD                   | Fresh Water         | 8.4-8.6             | 60-70                 | NC                 |
| 8 3/4"            | 500'TVD-<br>5521'TVD/5770'MD | Fresh Water<br>LSND | 8.5-8.8             | 40-50                 | 8-10               |

b) Intermediate Casing Point to TD:

| Hole Size<br>(in) | MD (ft)      | Mud Type                   | Density<br>(lb/gal) | Viscosity<br>(sec/qt) | Fluid Loss<br>(cc) |
|-------------------|--------------|----------------------------|---------------------|-----------------------|--------------------|
| 6 1/8"            | 5770'-10420' | Synthetic Oil<br>Based Mud | 8.6-9.0             | 15-25                 | <15                |

c) There will be sufficient mud on location to control a blowout should one occur. Mud flow and volume will be monitored both visually and with electronic pit volume totalizers. Mud tests shall be performed every 24 hours after mudding up to determine, as applicable: density, viscosity, gel strength, filtration, and pH.

d) A closed-loop system will be used to recover drilling fluid and dry cuttings in both phases of the well and on all hole intervals, including fresh water and oil-based operations. Above-ground tanks will be utilized to hold cuttings and fluids for rig operations. A frac tank will be on location to store fresh water. Waste will be disposed of properly at an EPA-approved hazardous waste facility. Fresh water cuttings will be disposed of at Basin Disposal, Inc. and/or Industrial Ecosystems, Inc. The location will be lined in accordance with the Surface Use Plan of Operations.

## 7. TESTING, CORING and LOGGING

- a) Drill Stem Testing – None anticipated
- b) Coring – None anticipated.
- c) Mud Logging – Mud loggers will be on location from kick off point to TD.
- d) Logging – See Below

Cased Hole:

CBL/CCL/GR/VDL will be run as needed for perforating control

**Escrito E13-2407 01H**

**SHL: SWNW Section 13, T24N, R7W  
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**BHL: SWNW Section 14, T24N, R7W  
2210' FNL and 330' FWL**

**Rio Arriba, New Mexico**

**Lease Number: NMNM 117566 & NMSF 0078584**

**8. ABNORMAL PRESSURES & HYDROGEN SULFIDE**

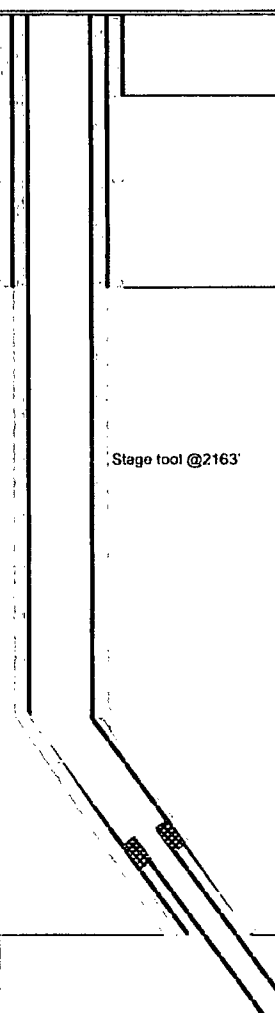
The anticipated bottom hole pressure is +/- 2591 psi based on a 9.0 ppg at 5536' TVD of the landing point of the horizontal lateral. No abnormal pressure or temperatures are anticipated.

No hydrogen sulfide gas is anticipated, however, if H<sub>2</sub>S is encountered, the guidelines in Onshore Order No. 6 will be followed.

**9. ANTICIPATED START DATE AND DURATION OF OPERATIONS**

Drilling is estimated to commence on December 31, 2013. It is anticipated that completion operations will begin within 30 days after the well has been drilled depending on fracture treatment schedules with various pumping service companies.

It is anticipated that the drilling of this well will take approximately 25 days.

| LOC: Sec 13-T24N-R7W<br>County: Rio Arriba<br>WELL: Escrito E13-2407 01H |                      |                                                                                                                         | Encana Natural Gas<br>WELL SUMMARY                                |      |                                                                                    |  |                                                                                                                                                                                | ENG: 5/9/13<br>RIG:<br>GLE: 6690<br>RKBE: 6703 |                                            |
|--------------------------------------------------------------------------|----------------------|-------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|--------------------------------------------|
| MWD<br>LWD                                                               | OPEN HOLE<br>LOGGING | FORM                                                                                                                    | DEPTH                                                             |      |                                                                                    | HOLE<br>SIZE                                                                        | CASING<br>SPECS                                                                                                                                                                | MW                                             | DEVIATION<br>INFORMATION                   |
|                                                                          |                      |                                                                                                                         | TVD                                                               | MD   |                                                                                    |                                                                                     |                                                                                                                                                                                | MUD TYPE                                       |                                            |
|                                                                          |                      |                                                                                                                         | 60                                                                | 60'  |  | 30                                                                                  | 20" 94#<br>100sx Type I Neat 48.8ppg cmt                                                                                                                                       | Fresh wtr<br>8.3-9.2                           |                                            |
| Surveys<br>After csg is run                                              | None                 |                                                                                                                         | 500                                                               | 500  |                                                                                    | 12 1/4                                                                              | 9 5/8" 36ppf J55 STC<br><br>TOC @ surface<br>178 sks Type III Cmt                                                                                                              | Fresh wtr<br>8.4-8.6                           | Vertical<br><1°                            |
| Surveys<br>every 500'                                                    | No OH logs           | Ojo Alamo<br>Kirtland<br><br>Fruitland Coal<br><br>Pictured Cliffs Ss<br>Lewis Shale<br><br>Cliffhouse Ss<br>Menelee Fn | 1481<br>1,678<br><br>1901<br><br>2113<br>2221<br><br>2965<br>3733 |      |                                                                                    | 8 3/4                                                                               | 7" 26ppf J55 LTC<br><br>TOC @ surface<br>30% OH excess: 583 sks Total.<br>Stage 1 Lead: 232sks<br>Stage 1 Tail: 159sks.<br>Stage 2 Lead: 192sks                                | Fresh Wtr<br>8.5-8.8                           | Vertical<br><1°                            |
|                                                                          | Mud logger<br>onsite | KICK OFF PT<br>Point Lookout Ss<br>Mancos Sh<br>Mancos Silt<br><br>Gallup Top                                           | 4929<br>4403<br>4580<br>5245<br><br>5431                          |      |                                                                                    |                                                                                     |                                                                                                                                                                                |                                                | KOP<br>4929<br>10 deg/100'                 |
|                                                                          |                      |                                                                                                                         | 5521                                                              | 5770 |                                                                                    |                                                                                     |                                                                                                                                                                                |                                                |                                            |
|                                                                          |                      | horz target                                                                                                             | 5536                                                              | 5920 |                                                                                    | 6 1/8                                                                               | 200' overlap at liner top                                                                                                                                                      |                                                |                                            |
|                                                                          |                      | Base Gallup                                                                                                             | 5738                                                              |      |                                                                                    |                                                                                     | 4500' Lateral                                                                                                                                                                  | 8.6-9.0 OBM                                    | 25deg upslp<br>5521' TVD<br>TD = 10420' MD |
| Surveys<br>every 500'<br>Gyro<br>at CP<br>MWD<br>Gamma<br>Directional    | No OH Logs           |                                                                                                                         |                                                                   |      |                                                                                    |                                                                                     | 4 1/2" 11.6ppf SB80 LTC<br><br>Running external swellable csg packers for<br>isolation of prod string<br>Plan on setting top packer within 100' of<br>intermediate casing shoe | Switch to OBM<br>8.6-9.0                       |                                            |

# NOTES:

- 1) Drill with 30" bit to 60', set 20" 94# conductor pipe
- 2) Drill surface to 500', R&C 9 5/8" casing
- 3) N/U BOP and surface equipment
- 4) Drill to KOP of 4929', 8 3/4" hole size
- 5) PU directional tools and start curve at 10deg/100' build rate
- 6) Drill to casing point of 5770' MD
- 7) R&C 7" casing, circ cmt to surface, switch to OBM
- 8) Land at 90deg, drill 4500' lateral to 10420', run 4 1/2" liner with external swellable csg packers



## Boomerang Tube LLC

### CASING (OR) TUBING DESCRIPTION AND PERFORMANCE PROPERTIES

|                                          |       |                 |
|------------------------------------------|-------|-----------------|
| Pipe Outside Diameter (ins)              | _____ | 4.500           |
| Pipe Wall Thickness (ins)                | _____ | 0.250           |
| Nominal Weight Per Foot (lbs)            | _____ | 11.60           |
| Thread Name                              | _____ | Long Thread CSG |
| Grade Name                               | _____ | SB-80           |
| Pipe Minimum Yield (psi)                 | _____ | 80,000          |
| Pipe Minimum Ultimate (psi)              | _____ | 90,000          |
| Coupling Minimum Yield (psi)             | _____ | 80,000          |
| Coupling Minimum Ultimate (psi)          | _____ | 100,000         |
| Coupling or Joint Outside Diameter (ins) | _____ | 5.000           |
| Drift Diameter (ins)                     | _____ | 3.875           |
| Plain End Weight per Foot (lbs)          | _____ | 11.36           |
| Joint Strength (lbs)                     | _____ | 201,000         |
| Internal Yield (psi)                     | _____ | 7,780           |
| Collapse Rating (psi)                    | _____ | 6,350           |

### MAXIMUM DEPTH/LENGTH BASED ON MUD WTS & SAFETY FACTORS

|                                       |       |        |
|---------------------------------------|-------|--------|
| Drilling Mud Weight (ppg)             | _____ | 9.625  |
| Tension Safety Factor                 | _____ | 1.80   |
| Maximum Tension Length (ft)           | _____ | 9,630  |
| Internal Yield Safety Factor          | _____ | 1.10   |
| Maximum Depth for Internal Yield (ft) | _____ | 14,150 |
| Collapse Safety Factor                | _____ | 1.125  |
| Maximum Collapse Depth (ft)           | _____ | 11,290 |

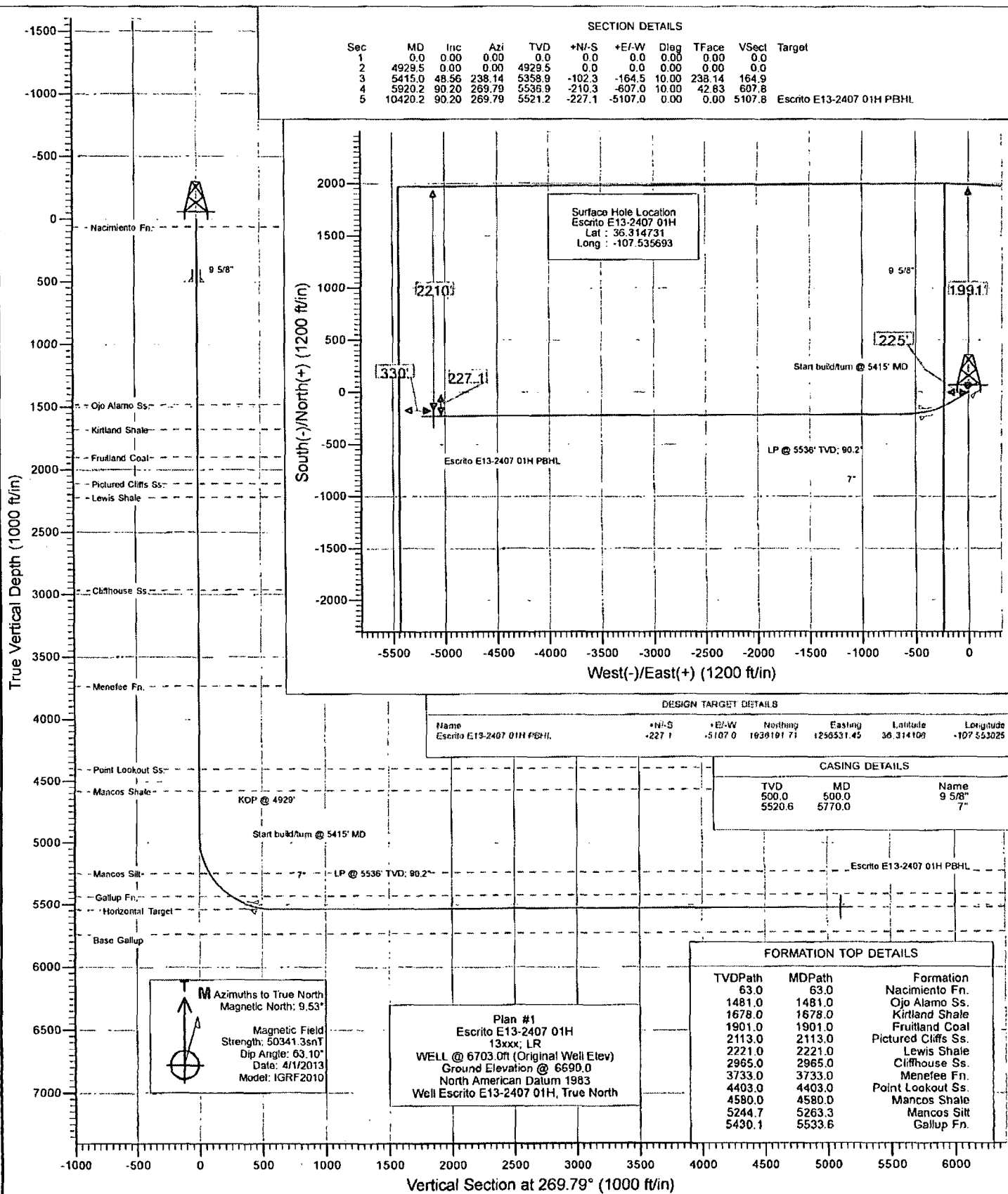
### API RELATED VALUES and INTERMEDIATE CALCULATION RESULTS

|                                             |       |         |
|---------------------------------------------|-------|---------|
| Coupling Thread Fracture Strength           | _____ | 464,000 |
| Pipe Thread Fracture Strength (lbs)         | _____ | 201,000 |
| Pipe Body Plain End Yield (lbs)             | _____ | 267,000 |
| Round Thread Pull-Out (lbs)                 | _____ | 219,000 |
| Minimum Make-up Torque (ft-lbs)             | _____ | 1,640   |
| Nominal Make-up Torque (ft-lbs)             | _____ | 2,190   |
| Maximum Make-up Torque (ft-lbs)             | _____ | 2,740   |
| Coupling Internal Yield (psi)               | _____ | 10,660  |
| Pipe Body Internal Yield (psi)              | _____ | 7,780   |
| Leak @ E1 or E7 plane (psi)                 | _____ | 17,920  |
| Pipe Hydrostatic Test Pressure @ 80 % SMYS. | _____ | 7,100   |

encana.

natural gas

Project: Rio Arriba County, NM  
Site: S13-T24N-R7W  
Well: Escrito E13-2407 01H  
Wellbore: Hz  
Design: Plan #1



# Planning Report

Database: USA EDM 5000 Multi Users DB  
 Company: EnCana Oil & Gas (USA) Inc  
 Project: Rio Arriba County, NM  
 Site: S13-T24N-R7W  
 Well: Escrito E13-2407 01H  
 Wellbore: Hz  
 Design: Plan #1

Local Co-ordinate Reference: Well Escrito E13-2407 01H  
 TVD Reference: WELL @ 6703.0ft (Original Well Elev)  
 MD Reference: WELL @ 6703.0ft (Original Well Elev)  
 North Reference: True  
 Survey Calculation Method: Minimum Curvature

|             |                           |               |                |
|-------------|---------------------------|---------------|----------------|
| Project     | Rio Arriba County, NM     |               |                |
| Map System: | US State Plane 1983       | System Datum: | Mean Sea Level |
| Geo Datum:  | North American Datum 1983 |               |                |
| Map Zone:   | New Mexico Central Zone   |               |                |

|                       |              |              |                 |                   |             |
|-----------------------|--------------|--------------|-----------------|-------------------|-------------|
| Site                  | S13-T24N-R7W |              |                 |                   |             |
| Site Position:        |              | Northing:    | 1,936,350.91 ft | Latitude:         | 36.314731   |
| From:                 | Lat/Long     | Easting:     | 1,261,640.97 ft | Longitude:        | -107.535693 |
| Position Uncertainty: | 0.0 ft       | Slot Radius: | 13.200 in       | Grid Convergence: | -0.76 °     |

|                      |                      |                     |           |                 |            |             |
|----------------------|----------------------|---------------------|-----------|-----------------|------------|-------------|
| Well                 | Escrito E13-2407 01H |                     |           |                 |            |             |
| Well Position        | +N/-S                | 0.0 ft              | Northing: | 1,936,350.91 ft | Latitude:  | 36.314731   |
|                      | +E/-W                | 0.0 ft              | Easting:  | 1,261,640.97 ft | Longitude: | -107.535693 |
| Position Uncertainty | 0.0 ft               | Wellhead Elevation: | ft        | Ground Level:   | 6,690.0 ft |             |

|           |            |             |                 |               |                     |
|-----------|------------|-------------|-----------------|---------------|---------------------|
| Wellbore  | Hz         |             |                 |               |                     |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
|           | IGRF2010   | 4/1/2013    | 9.53            | 63.10         | 50,341              |

|                   |                          |               |               |                  |
|-------------------|--------------------------|---------------|---------------|------------------|
| Design            | Plan #1                  |               |               |                  |
| Audit Notes:      |                          |               |               |                  |
| Version:          | Phase:                   | PLAN          | Tie On Depth: | 0.0              |
| Vertical Section: | Depth From (TVD)<br>(ft) | +N/-S<br>(ft) | +E/-W<br>(ft) | Direction<br>(°) |
|                   | 0.0                      | 0.0           | 0.0           | 269.79           |

| Plan Sections       |                 |             |                     |            |            |                       |                      |                     |         |                      |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|----------------------|---------------------|---------|----------------------|
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) | TFO (°) | Target               |
| 0.0                 | 0.00            | 0.00        | 0.0                 | 0.0        | 0.0        | 0.00                  | 0.00                 | 0.00                | 0.00    |                      |
| 4,929.5             | 0.00            | 0.00        | 4,929.5             | 0.0        | 0.0        | 0.00                  | 0.00                 | 0.00                | 0.00    |                      |
| 5,415.0             | 48.56           | 238.14      | 5,358.9             | -102.3     | -164.5     | 10.00                 | 10.00                | 0.00                | 238.14  |                      |
| 5,920.2             | 90.20           | 269.79      | 5,536.9             | -210.3     | -607.0     | 10.00                 | 8.24                 | 6.26                | 42.83   |                      |
| 10,420.2            | 90.20           | 269.79      | 5,521.2             | -227.1     | -5,107.0   | 0.00                  | 0.00                 | 0.00                | 0.00    | Escrito E13-2407 01H |

# Planning Report

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 Wellbore: Hz  
 Design: Plan #1

Local Co-ordinate Reference: Well Escrito E13-2407 01H  
 TVD Reference: WELL @ 6703.0ft (Original Well Elev)  
 MD Reference: WELL @ 6703.0ft (Original Well Elev)  
 North Reference: True  
 Survey Calculation Method: Minimum Curvature

## Planned Survey

| Measured<br>Depth<br>(ft) | Inclination<br>(°) | Azimuth<br>(°) | Vertical<br>Depth<br>(ft) | +N/-S<br>(ft) | +E/-W<br>(ft) | Vertical<br>Section<br>(ft) | Dogleg<br>Rate<br>(°/100ft) | Build<br>Rate<br>(°/100ft) | Comments /<br>Formations |
|---------------------------|--------------------|----------------|---------------------------|---------------|---------------|-----------------------------|-----------------------------|----------------------------|--------------------------|
| 0.0                       | 0.00               | 0.00           | 0.0                       | 0.0           | 0.0           | 0.0                         | 0.00                        | 0.00                       |                          |
| 63.0                      | 0.00               | 0.00           | 63.0                      | 0.0           | 0.0           | 0.0                         | 0.00                        | 0.00                       | Nacimiento Fn.           |
| 100.0                     | 0.00               | 0.00           | 100.0                     | 0.0           | 0.0           | 0.0                         | 0.00                        | 0.00                       |                          |
| 200.0                     | 0.00               | 0.00           | 200.0                     | 0.0           | 0.0           | 0.0                         | 0.00                        | 0.00                       |                          |
| 300.0                     | 0.00               | 0.00           | 300.0                     | 0.0           | 0.0           | 0.0                         | 0.00                        | 0.00                       |                          |
| 400.0                     | 0.00               | 0.00           | 400.0                     | 0.0           | 0.0           | 0.0                         | 0.00                        | 0.00                       |                          |
| 500.0                     | 0.00               | 0.00           | 500.0                     | 0.0           | 0.0           | 0.0                         | 0.00                        | 0.00                       | 9 5/8"                   |
| 600.0                     | 0.00               | 0.00           | 600.0                     | 0.0           | 0.0           | 0.0                         | 0.00                        | 0.00                       |                          |
| 700.0                     | 0.00               | 0.00           | 700.0                     | 0.0           | 0.0           | 0.0                         | 0.00                        | 0.00                       |                          |
| 800.0                     | 0.00               | 0.00           | 800.0                     | 0.0           | 0.0           | 0.0                         | 0.00                        | 0.00                       |                          |
| 900.0                     | 0.00               | 0.00           | 900.0                     | 0.0           | 0.0           | 0.0                         | 0.00                        | 0.00                       |                          |
| 1,000.0                   | 0.00               | 0.00           | 1,000.0                   | 0.0           | 0.0           | 0.0                         | 0.00                        | 0.00                       |                          |
| 1,100.0                   | 0.00               | 0.00           | 1,100.0                   | 0.0           | 0.0           | 0.0                         | 0.00                        | 0.00                       |                          |
| 1,200.0                   | 0.00               | 0.00           | 1,200.0                   | 0.0           | 0.0           | 0.0                         | 0.00                        | 0.00                       |                          |
| 1,300.0                   | 0.00               | 0.00           | 1,300.0                   | 0.0           | 0.0           | 0.0                         | 0.00                        | 0.00                       |                          |
| 1,400.0                   | 0.00               | 0.00           | 1,400.0                   | 0.0           | 0.0           | 0.0                         | 0.00                        | 0.00                       |                          |
| 1,481.0                   | 0.00               | 0.00           | 1,481.0                   | 0.0           | 0.0           | 0.0                         | 0.00                        | 0.00                       | Ojo Alamo Ss.            |
| 1,500.0                   | 0.00               | 0.00           | 1,500.0                   | 0.0           | 0.0           | 0.0                         | 0.00                        | 0.00                       |                          |
| 1,600.0                   | 0.00               | 0.00           | 1,600.0                   | 0.0           | 0.0           | 0.0                         | 0.00                        | 0.00                       |                          |
| 1,678.0                   | 0.00               | 0.00           | 1,678.0                   | 0.0           | 0.0           | 0.0                         | 0.00                        | 0.00                       | Kirtland Shale           |
| 1,700.0                   | 0.00               | 0.00           | 1,700.0                   | 0.0           | 0.0           | 0.0                         | 0.00                        | 0.00                       |                          |
| 1,800.0                   | 0.00               | 0.00           | 1,800.0                   | 0.0           | 0.0           | 0.0                         | 0.00                        | 0.00                       |                          |
| 1,900.0                   | 0.00               | 0.00           | 1,900.0                   | 0.0           | 0.0           | 0.0                         | 0.00                        | 0.00                       |                          |
| 1,901.0                   | 0.00               | 0.00           | 1,901.0                   | 0.0           | 0.0           | 0.0                         | 0.00                        | 0.00                       | Fruitland Coal           |
| 2,000.0                   | 0.00               | 0.00           | 2,000.0                   | 0.0           | 0.0           | 0.0                         | 0.00                        | 0.00                       |                          |
| 2,100.0                   | 0.00               | 0.00           | 2,100.0                   | 0.0           | 0.0           | 0.0                         | 0.00                        | 0.00                       |                          |
| 2,113.0                   | 0.00               | 0.00           | 2,113.0                   | 0.0           | 0.0           | 0.0                         | 0.00                        | 0.00                       | Pictured Cliffs Ss.      |
| 2,200.0                   | 0.00               | 0.00           | 2,200.0                   | 0.0           | 0.0           | 0.0                         | 0.00                        | 0.00                       |                          |
| 2,221.0                   | 0.00               | 0.00           | 2,221.0                   | 0.0           | 0.0           | 0.0                         | 0.00                        | 0.00                       | Lewis Shale              |
| 2,300.0                   | 0.00               | 0.00           | 2,300.0                   | 0.0           | 0.0           | 0.0                         | 0.00                        | 0.00                       |                          |
| 2,400.0                   | 0.00               | 0.00           | 2,400.0                   | 0.0           | 0.0           | 0.0                         | 0.00                        | 0.00                       |                          |
| 2,500.0                   | 0.00               | 0.00           | 2,500.0                   | 0.0           | 0.0           | 0.0                         | 0.00                        | 0.00                       |                          |
| 2,600.0                   | 0.00               | 0.00           | 2,600.0                   | 0.0           | 0.0           | 0.0                         | 0.00                        | 0.00                       |                          |
| 2,700.0                   | 0.00               | 0.00           | 2,700.0                   | 0.0           | 0.0           | 0.0                         | 0.00                        | 0.00                       |                          |
| 2,800.0                   | 0.00               | 0.00           | 2,800.0                   | 0.0           | 0.0           | 0.0                         | 0.00                        | 0.00                       |                          |
| 2,900.0                   | 0.00               | 0.00           | 2,900.0                   | 0.0           | 0.0           | 0.0                         | 0.00                        | 0.00                       |                          |
| 2,965.0                   | 0.00               | 0.00           | 2,965.0                   | 0.0           | 0.0           | 0.0                         | 0.00                        | 0.00                       | Cliffhouse Ss.           |
| 3,000.0                   | 0.00               | 0.00           | 3,000.0                   | 0.0           | 0.0           | 0.0                         | 0.00                        | 0.00                       |                          |
| 3,100.0                   | 0.00               | 0.00           | 3,100.0                   | 0.0           | 0.0           | 0.0                         | 0.00                        | 0.00                       |                          |
| 3,200.0                   | 0.00               | 0.00           | 3,200.0                   | 0.0           | 0.0           | 0.0                         | 0.00                        | 0.00                       |                          |
| 3,300.0                   | 0.00               | 0.00           | 3,300.0                   | 0.0           | 0.0           | 0.0                         | 0.00                        | 0.00                       |                          |
| 3,400.0                   | 0.00               | 0.00           | 3,400.0                   | 0.0           | 0.0           | 0.0                         | 0.00                        | 0.00                       |                          |
| 3,500.0                   | 0.00               | 0.00           | 3,500.0                   | 0.0           | 0.0           | 0.0                         | 0.00                        | 0.00                       |                          |
| 3,600.0                   | 0.00               | 0.00           | 3,600.0                   | 0.0           | 0.0           | 0.0                         | 0.00                        | 0.00                       |                          |
| 3,700.0                   | 0.00               | 0.00           | 3,700.0                   | 0.0           | 0.0           | 0.0                         | 0.00                        | 0.00                       |                          |
| 3,733.0                   | 0.00               | 0.00           | 3,733.0                   | 0.0           | 0.0           | 0.0                         | 0.00                        | 0.00                       | Menefee Fn.              |
| 3,800.0                   | 0.00               | 0.00           | 3,800.0                   | 0.0           | 0.0           | 0.0                         | 0.00                        | 0.00                       |                          |
| 3,900.0                   | 0.00               | 0.00           | 3,900.0                   | 0.0           | 0.0           | 0.0                         | 0.00                        | 0.00                       |                          |
| 4,000.0                   | 0.00               | 0.00           | 4,000.0                   | 0.0           | 0.0           | 0.0                         | 0.00                        | 0.00                       |                          |
| 4,100.0                   | 0.00               | 0.00           | 4,100.0                   | 0.0           | 0.0           | 0.0                         | 0.00                        | 0.00                       |                          |
| 4,200.0                   | 0.00               | 0.00           | 4,200.0                   | 0.0           | 0.0           | 0.0                         | 0.00                        | 0.00                       |                          |
| 4,300.0                   | 0.00               | 0.00           | 4,300.0                   | 0.0           | 0.0           | 0.0                         | 0.00                        | 0.00                       |                          |



# Planning Report

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 MD Reference: WELL @ 6703.0ft (Original Well Elev)  
 North Reference: True  
 Survey Calculation Method: Minimum Curvature

## Planned Survey

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Comments / Formations       |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|-----------------------------|
| 4,400.0             | 0.00            | 0.00        | 4,400.0             | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 |                             |
| 4,403.0             | 0.00            | 0.00        | 4,403.0             | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 | Point Lookout Ss.           |
| 4,500.0             | 0.00            | 0.00        | 4,500.0             | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 |                             |
| 4,580.0             | 0.00            | 0.00        | 4,580.0             | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 | Mancos Shale                |
| 4,600.0             | 0.00            | 0.00        | 4,600.0             | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 |                             |
| 4,700.0             | 0.00            | 0.00        | 4,700.0             | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 |                             |
| 4,800.0             | 0.00            | 0.00        | 4,800.0             | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 |                             |
| 4,900.0             | 0.00            | 0.00        | 4,900.0             | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 |                             |
| 4,929.5             | 0.00            | 0.00        | 4,929.5             | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 | KOP @ 4929'                 |
| 5,000.0             | 7.05            | 238.14      | 4,999.8             | -2.3       | -3.7       | 3.7                   | 10.00                 | 10.00                |                             |
| 5,100.0             | 17.06           | 238.14      | 5,097.5             | -13.3      | -21.4      | 21.4                  | 10.00                 | 10.00                |                             |
| 5,200.0             | 27.06           | 238.14      | 5,190.1             | -33.1      | -53.2      | 53.4                  | 10.00                 | 10.00                |                             |
| 5,263.3             | 33.39           | 238.14      | 5,244.7             | -49.9      | -80.3      | 80.5                  | 10.00                 | 10.00                | Mancos Silt                 |
| 5,300.0             | 37.06           | 238.14      | 5,274.7             | -61.1      | -98.3      | 98.5                  | 10.00                 | 10.00                |                             |
| 5,400.0             | 47.06           | 238.14      | 5,348.8             | -96.4      | -155.1     | 155.5                 | 10.00                 | 10.00                |                             |
| 5,415.0             | 48.56           | 238.14      | 5,358.9             | -102.3     | -164.5     | 164.9                 | 10.00                 | 10.00                | Start build/turn @ 5415' MD |
| 5,500.0             | 55.02           | 245.18      | 5,411.5             | -133.8     | -223.3     | 223.8                 | 10.00                 | 7.60                 |                             |
| 5,533.6             | 57.68           | 247.66      | 5,430.1             | -144.9     | -249.0     | 249.5                 | 10.00                 | 7.90                 | Gallup Fn.                  |
| 5,600.0             | 63.05           | 252.14      | 5,463.0             | -164.7     | -303.1     | 303.7                 | 10.00                 | 8.10                 |                             |
| 5,700.0             | 71.38           | 258.15      | 5,501.7             | -188.2     | -392.2     | 392.8                 | 10.00                 | 8.33                 |                             |
| 5,770.0             | 77.32           | 262.01      | 5,520.6             | -199.7     | -458.5     | 459.2                 | 10.00                 | 8.48                 | 7"                          |
| 5,800.0             | 79.88           | 263.60      | 5,526.5             | -203.4     | -487.7     | 488.4                 | 10.00                 | 8.54                 |                             |
| 5,900.0             | 88.46           | 268.76      | 5,536.6             | -210.0     | -586.8     | 587.6                 | 10.00                 | 8.58                 |                             |
| 5,920.2             | 90.20           | 269.79      | 5,536.9             | -210.3     | -607.0     | 607.8                 | 10.00                 | 8.60                 | LP @ 5536' TVD; 90.2°       |
| 6,000.0             | 90.20           | 269.79      | 5,536.6             | -210.6     | -686.8     | 687.6                 | 0.00                  | 0.00                 |                             |
| 6,100.0             | 90.20           | 269.79      | 5,536.2             | -210.9     | -786.8     | 787.6                 | 0.00                  | 0.00                 |                             |
| 6,200.0             | 90.20           | 269.79      | 5,535.9             | -211.3     | -886.8     | 887.6                 | 0.00                  | 0.00                 |                             |
| 6,300.0             | 90.20           | 269.79      | 5,535.5             | -211.7     | -986.8     | 987.6                 | 0.00                  | 0.00                 |                             |
| 6,400.0             | 90.20           | 269.79      | 5,535.2             | -212.1     | -1,086.8   | 1,087.6               | 0.00                  | 0.00                 |                             |
| 6,500.0             | 90.20           | 269.79      | 5,534.8             | -212.4     | -1,186.8   | 1,187.6               | 0.00                  | 0.00                 |                             |
| 6,600.0             | 90.20           | 269.79      | 5,534.5             | -212.8     | -1,286.8   | 1,287.6               | 0.00                  | 0.00                 |                             |
| 6,700.0             | 90.20           | 269.79      | 5,534.2             | -213.2     | -1,386.8   | 1,387.6               | 0.00                  | 0.00                 |                             |
| 6,800.0             | 90.20           | 269.79      | 5,533.8             | -213.6     | -1,486.8   | 1,487.6               | 0.00                  | 0.00                 |                             |
| 6,900.0             | 90.20           | 269.79      | 5,533.5             | -213.9     | -1,586.8   | 1,587.6               | 0.00                  | 0.00                 |                             |
| 7,000.0             | 90.20           | 269.79      | 5,533.1             | -214.3     | -1,686.8   | 1,687.6               | 0.00                  | 0.00                 |                             |
| 7,100.0             | 90.20           | 269.79      | 5,532.8             | -214.7     | -1,786.8   | 1,787.6               | 0.00                  | 0.00                 |                             |
| 7,200.0             | 90.20           | 269.79      | 5,532.4             | -215.0     | -1,886.8   | 1,887.6               | 0.00                  | 0.00                 |                             |
| 7,300.0             | 90.20           | 269.79      | 5,532.1             | -215.4     | -1,986.8   | 1,987.6               | 0.00                  | 0.00                 |                             |
| 7,400.0             | 90.20           | 269.79      | 5,531.7             | -215.8     | -2,086.8   | 2,087.6               | 0.00                  | 0.00                 |                             |
| 7,500.0             | 90.20           | 269.79      | 5,531.4             | -216.2     | -2,186.8   | 2,187.6               | 0.00                  | 0.00                 |                             |
| 7,600.0             | 90.20           | 269.79      | 5,531.0             | -216.5     | -2,286.8   | 2,287.6               | 0.00                  | 0.00                 |                             |
| 7,700.0             | 90.20           | 269.79      | 5,530.7             | -216.9     | -2,386.8   | 2,387.6               | 0.00                  | 0.00                 |                             |
| 7,800.0             | 90.20           | 269.79      | 5,530.3             | -217.3     | -2,486.8   | 2,487.6               | 0.00                  | 0.00                 |                             |
| 7,900.0             | 90.20           | 269.79      | 5,530.0             | -217.7     | -2,586.8   | 2,587.6               | 0.00                  | 0.00                 |                             |
| 8,000.0             | 90.20           | 269.79      | 5,529.6             | -218.0     | -2,686.8   | 2,687.6               | 0.00                  | 0.00                 |                             |
| 8,100.0             | 90.20           | 269.79      | 5,529.3             | -218.4     | -2,786.8   | 2,787.6               | 0.00                  | 0.00                 |                             |
| 8,200.0             | 90.20           | 269.79      | 5,528.9             | -218.8     | -2,886.8   | 2,887.6               | 0.00                  | 0.00                 |                             |
| 8,300.0             | 90.20           | 269.79      | 5,528.6             | -219.2     | -2,986.8   | 2,987.6               | 0.00                  | 0.00                 |                             |
| 8,400.0             | 90.20           | 269.79      | 5,528.2             | -219.5     | -3,086.8   | 3,087.6               | 0.00                  | 0.00                 |                             |
| 8,500.0             | 90.20           | 269.79      | 5,527.9             | -219.9     | -3,186.8   | 3,187.6               | 0.00                  | 0.00                 |                             |
| 8,600.0             | 90.20           | 269.79      | 5,527.5             | -220.3     | -3,286.8   | 3,287.6               | 0.00                  | 0.00                 |                             |
| 8,700.0             | 90.20           | 269.79      | 5,527.2             | -220.7     | -3,386.8   | 3,387.6               | 0.00                  | 0.00                 |                             |

# Planning Report

Database: USA EDM 5000 Multi Users DB  
 Company: EnCana Oil & Gas (USA) Inc  
 Project: Rio Arriba County, NM  
 Site: S13-T24N-R7W  
 Well: Escrito E13-2407 01H  
 Wellbore: Hz  
 Design: Plan #1

Local Co-ordinate Reference: Well Escrito E13-2407 01H  
 TVD Reference: WELL @ 6703.0ft (Original Well Elev)  
 MD Reference: WELL @ 6703.0ft (Original Well Elev)  
 North Reference: True  
 Survey Calculation Method: Minimum Curvature

## Planned Survey

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Comments / Formations                     |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|-------------------------------------------|
| 8,800.0             | 90.20           | 269.79      | 5,526.8             | -221.0     | -3,486.8   | 3,487.6               | 0.00                  | 0.00                 |                                           |
| 8,900.0             | 90.20           | 269.79      | 5,526.5             | -221.4     | -3,586.8   | 3,587.6               | 0.00                  | 0.00                 |                                           |
| 9,000.0             | 90.20           | 269.79      | 5,526.1             | -221.8     | -3,686.8   | 3,687.6               | 0.00                  | 0.00                 |                                           |
| 9,100.0             | 90.20           | 269.79      | 5,525.8             | -222.2     | -3,786.8   | 3,787.6               | 0.00                  | 0.00                 |                                           |
| 9,200.0             | 90.20           | 269.79      | 5,525.4             | -222.5     | -3,886.8   | 3,887.6               | 0.00                  | 0.00                 |                                           |
| 9,300.0             | 90.20           | 269.79      | 5,525.1             | -222.9     | -3,986.8   | 3,987.6               | 0.00                  | 0.00                 |                                           |
| 9,400.0             | 90.20           | 269.79      | 5,524.7             | -223.3     | -4,086.8   | 4,087.6               | 0.00                  | 0.00                 |                                           |
| 9,500.0             | 90.20           | 269.79      | 5,524.4             | -223.7     | -4,186.8   | 4,187.6               | 0.00                  | 0.00                 |                                           |
| 9,600.0             | 90.20           | 269.79      | 5,524.0             | -224.0     | -4,286.8   | 4,287.6               | 0.00                  | 0.00                 |                                           |
| 9,700.0             | 90.20           | 269.79      | 5,523.7             | -224.4     | -4,386.8   | 4,387.6               | 0.00                  | 0.00                 |                                           |
| 9,800.0             | 90.20           | 269.79      | 5,523.3             | -224.8     | -4,486.8   | 4,487.6               | 0.00                  | 0.00                 |                                           |
| 9,900.0             | 90.20           | 269.79      | 5,523.0             | -225.2     | -4,586.8   | 4,587.6               | 0.00                  | 0.00                 |                                           |
| 10,000.0            | 90.20           | 269.79      | 5,522.6             | -225.5     | -4,686.8   | 4,687.6               | 0.00                  | 0.00                 |                                           |
| 10,100.0            | 90.20           | 269.79      | 5,522.3             | -225.9     | -4,786.8   | 4,787.6               | 0.00                  | 0.00                 |                                           |
| 10,200.0            | 90.20           | 269.79      | 5,521.9             | -226.3     | -4,886.8   | 4,887.6               | 0.00                  | 0.00                 |                                           |
| 10,300.0            | 90.20           | 269.79      | 5,521.6             | -226.6     | -4,986.8   | 4,987.6               | 0.00                  | 0.00                 |                                           |
| 10,400.0            | 90.20           | 269.79      | 5,521.2             | -227.0     | -5,086.8   | 5,087.6               | 0.00                  | 0.00                 |                                           |
| 10,420.2            | 90.20           | 269.79      | 5,521.2             | -227.1     | -5,107.0   | 5,107.8               | 0.00                  | 0.00                 | TD at 10420.2 - Escrito E13-2407 01H PBHL |

## Targets

| Target Name                                                                                    | Dip Angle (°) | Dip Dir. (°) | TVD (ft) | +N/-S (ft) | +E/-W (ft) | Northing (ft) | Easting (ft) | Latitude  | Longitude   |
|------------------------------------------------------------------------------------------------|---------------|--------------|----------|------------|------------|---------------|--------------|-----------|-------------|
| Escrito E13-2407 01H P<br>- hit/miss target<br>- Shape<br>- plan hits target center<br>- Point | 0.00          | 0.00         | 5,521.2  | -227.1     | -5,107.0   | 1,936,191.71  | 1,256,531.45 | 36.314106 | -107.553025 |

## Casing Points

| Measured Depth (ft) | Vertical Depth (ft) | Name   | Casing Diameter (in) | Hole Diameter (in) |
|---------------------|---------------------|--------|----------------------|--------------------|
| 500.0               | 500.0               | 9 5/8" | 0.000                | 0.000              |
| 5,770.0             | 5,520.6             | 7"     | 0.000                | 0.000              |

## Planning Report

**Database:** USA EDM 5000 Multi Users DB  
**Company:** EnCana Oil & Gas (USA) Inc  
**Project:** Rio Arriba County, NM  
**Site:** S13-T24N-R7W  
**Well:** Escrito E13-2407 01H  
**Wellbore:** Hz  
**Design:** Plan #1

**Local Co-ordinate Reference:** Well Escrito E13-2407 01H  
**TVD Reference:** WELL @ 6703.0ft (Original Well Elev)  
**MD Reference:** WELL @ 6703.0ft (Original Well Elev)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature

### Formations

| Measured<br>Depth<br>(ft) | Vertical<br>Depth<br>(ft) | Name                | Lithology | Dip<br>(°) | Dip<br>Direction<br>(°) |
|---------------------------|---------------------------|---------------------|-----------|------------|-------------------------|
| 63.0                      | 63.0                      | Nacimiento Fn.      |           | -0.20      | 269.79                  |
| 1,481.0                   | 1,481.0                   | Ojo Alamo Ss.       |           | -0.20      | 269.79                  |
| 1,678.0                   | 1,678.0                   | Kirtland Shale      |           | -0.20      | 269.79                  |
| 1,901.0                   | 1,901.0                   | Fruitland Coal      |           | -0.20      | 269.79                  |
| 2,113.0                   | 2,113.0                   | Pictured Cliffs Ss. |           | -0.20      | 269.79                  |
| 2,221.0                   | 2,221.0                   | Lewis Shale         |           | -0.20      | 269.79                  |
| 2,965.0                   | 2,965.0                   | Cliffhouse Ss.      |           | -0.20      | 269.79                  |
| 3,733.0                   | 3,733.0                   | Menefee Fn.         |           | -0.20      | 269.79                  |
| 4,403.0                   | 4,403.0                   | Point Lookout Ss.   |           | -0.20      | 269.79                  |
| 4,580.0                   | 4,580.0                   | Mancos Shale        |           | -0.20      | 269.79                  |
| 5,263.3                   | 5,245.0                   | Mancos Silt         |           | -0.20      | 269.79                  |
| 5,533.6                   | 5,431.0                   | Gallup Fn.          |           | -0.20      | 269.79                  |

### Plan Annotations

| Measured<br>Depth<br>(ft) | Vertical<br>Depth<br>(ft) | Local Coordinates |               | Comment                     |
|---------------------------|---------------------------|-------------------|---------------|-----------------------------|
|                           |                           | +N/-S<br>(ft)     | +E/-W<br>(ft) |                             |
| 4,929.5                   | 4,929.5                   | 0.0               | 0.0           | KOP @ 4929'                 |
| 5,415.0                   | 5,358.9                   | -102.3            | -164.5        | Start build/turn @ 5415' MD |
| 5,920.2                   | 5,536.9                   | -210.3            | -607.0        | LP @ 5536' TVD; 90.2°       |
| 10,420.2                  | 5,521.2                   | -227.1            | -5,107.0      | TD at 10420.2               |

# WELLHEAD BLOWOUT CONTROL SYSTEM



Well name and number:

Escrito E13-2407 01H

