

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: 4/2/14

Well information;

Operator ENCLANA, Well Name and Number Escrito 507-2407 3H

API# 30-045-35535, Section 12, Township 24 N/S, Range 8 E/W

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. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system.

Charlie T. Carson
NMOCD Approved by Signature

7-29-2014
Date

CONFIDENTIAL

FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APR 14 2014

APPLICATION FOR PERMIT TO DRILL OR REENTER

Field Office
Bureau of Land Management

1a. Type of work: ☒ DRILL ☐ REENTER		5. Lease Serial No. NM 0557389
1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone		6. If Indian, Allottee or Tribe Name N/A
2. Name of Operator Encana Oil & Gas (USA) Inc.		7. If Unit or CA Agreement, Name and No. Pending
3a. Address 370 17th Street, Suite 1700, Denver, CO 80202	3b. Phone No. (include area code) 720-876-3533	8. Lease Name and Well No. Escrito E07-2407 03H
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface 1326' FNL and 29' FEL in Section 12, T24N, R8W At proposed prod. zone 1750' FNL and 330' FWL in Section 12, T24N, R8W		9. API Well No. 30-045-35535
14. Distance in miles and direction from nearest town or post office* +/- 52.1 miles from the intersection of US Hwy 64 & US Hwy 550 in Bloomfield, NM		10. Field and Pool, or Exploratory Duffers Point- Gallup Dakota
15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) SHL is 29' from East lease line	16. No. of acres in lease NM 0557389- 480 acres	11. Sec., T. R. M. or Blk. and Survey or Area Section 12, T24N, R8W NMPM
18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft. Escrito E07-2407 02H is +/- 30' SW of SHL	19. Proposed Depth 6282' TVD/ 10955' MD	12. County or Parish San Juan
21. Elevations (Show whether DF, KDB, RT, GL, etc.) GL 7323', KB 7339'	22. Approximate date work will start* 09/28/2014	13. State NM
20. BLM/BIA Bond No. on file COB-000235		17. Spacing Unit dedicated to this well 320 acres N/2 Section 12
23. Estimated duration 20 Days		

OIL CONS. DIV DIST. 3

JUL 18 2014

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. | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan. | 5. Operator certification |
| 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). | 6. Such other site specific information and/or plans as may be required by the BLM. |

25. Signature:	Name (Printed/Typed) Katie Wegner	Date
Title Regulatory Analyst		
Approved by:	Name (Printed/Typed) Mark Keiser	Date 7/16/14
Title AFM	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.

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

*(Instructions on page 2)

NMOCDA

This action is subject to technical and procedural review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4

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

Escrito E07-2407 03H
SHL: SENE 12 24N 8W
1326 FNL 29 FEL
BHL: SWNW 12 24N 8W
1750 FNL 330 FWL
Rio Arriba, New Mexico

Encana Oil & Gas (USA) Inc. Drilling Plan

1. ESTIMATED TOPS OF GEOLOGICAL MARKERS (TVD)

The estimated tops of important geologic markers are as follows:

Formation	Depth (TVD) units = feet
Ojo Alamo Ss.	1,977
Kirtland Shale	2,146
Fruitland Coal	2,397
Pictured Cliffs Ss.	2,651
Lewis Shale	2,754
Cliffhouse Ss.	3,514
Menefee Fn.	4,241
Point Lookout Ss.	4,970
Mancos Shale	5,152
Mancos Silt	5,826
Gallup Fn.	6,040
Horizontal Target	6,307

The referenced surface elevation is 7323', KB 7339'

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

Substance	Formation	Depth (TVD) units = feet
Water/Gas	Fruitland Coal	2,397
Oil/Gas	Pictured Cliffs Ss.	2,651
Oil/Gas	Cliffhouse Ss.	3,514
Gas	Menefee Fn.	4,241
Oil/Gas	Point Lookout Ss.	4,970
Oil/Gas	Mancos Shale	5,152
Oil/Gas	Mancos Silt	5,826
Oil/Gas	Gallup Fn.	6,040

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

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.

Escrito E07-2407 03H
 SHL: SENE 12 24N 8W
 1326 FNL 29 FEL
 BHL: SWNW 12 24N 8W
 1750 FNL 330 FWL
 Rio Arriba, New Mexico

- 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
- 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.

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 (MD)	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'-6489'	8 3/4"	7"	26#	J55, LTC New
Production Liner	6289'-10955'	6 1/8"	4 1/2"	11.6#	B80*, LTC New

Casing String				Casing Strength Properties			Minimum Design Factors		
Size	Weight (ppf)	Grade	Connection	Collapse (psi)	Burst (psi)	Tensile (1000lbs)	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
4.5"	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 E07-2407 03H
SHL: SENE 12 24N 8W
1326 FNL 29 FEL
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1750 FNL 330 FWL
Rio Arriba, New Mexico

b) The proposed cementing program is as follows

Casing	Depth (MD)	Cement Volume (sacks)	Cement Type & Yield	Designed TOC	Centralizers
Conductor	0'-60'	100 sks	Type I Neat 16 ppg	Surface	None
Surface	0'-500'	201 sks	Type III Cement + 1% CaCl + 0.25lb/sk Cello Flake + 0.2% FL, 16ppg, 1.38cuf/sk	Surface	1 per joint on bottom 3 joints
Intermediate	0'-6489'	30% open hole excess Stage 1 Lead: 506 sks Stage 1 Tail: 232 sks Stage 2 Lead: 251 sks	Lead (Stages 1 and 2): PremLite + 3% CaCl + 0.25lb/sk Cello Flake + 5lb/sk LCM, 12.1ppg 2.13cuf/sk Tail (Stage 1): Type III Cmt + 1% CaCl + 0.25lb/sk Cello Flake 14.5ppg 1.38cuf/sk	Surface	1 every 3 joints through water bearing zones
Production Liner	6289'-10955'	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 minimum of 500 psi compressive strength at the casing shoe prior to drilling out.

5. WELL PLAN & DIRECTIONAL DRILLING PROGRAM

The proposed horizontal well will have a kick off point of 4000'. Directional plans are attached.

Description	Proposed Depth (TVD/MD)	Formation
Horizontal Lateral TD	6282'/10955'	Gallup

6. DRILLING FLUIDS PROGRAM

a) Surface through Intermediate Casing Point:

Hole Size (in)	Depth (TVD/MD)	Mud Type	Density (ppg)	Viscosity (sec/qt)	Fluid Loss (cc)
30"	0-60'/60'	Fresh Water	8.3-9.2	38-100	4-28
12 1/4"	0'-500'/500'	Fresh Water	8.4-8.6	60-70	NC
8 3/4"	500'/500'-6276'/6489'	Fresh Water LSND	9.5-8.8	40-50	8-10

Escrito E07-2407 03H
SHL: SENE 12 24N 8W
1326 FNL 29 FEL
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Rio Arriba, New Mexico

b) Intermediate Casing Point to TD:

Hole Size (in)	Depth (TVD/MD)	Mud Type	Density (ppg)	Viscosity (sec/qt)	Fluid Loss (cc)
6 1/8"	6276'/6489'- 6282'/10955'	Synthetic Oil 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, & LOGGING

- a) Drill Stem Testing - None anticipated.
- b) Coring - None anticipated.
- c) Mudd 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

8. ABNORMAL PRESSURES & HYDROGEN SULFIDE

The anticipated bottom hole pressure is +/- 2952 psi based on a 9.0 ppg at 6307' TVD of the horizontal lateral target. No abnormal pressure or temperatures are anticipated.

No hydrogen sulfide gas is anticipated, however, if H₂S 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 January 1, 2015. 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 20 days.

LOC: SE/4 NE/4 12 24N 8W 1750 FNL 33'			Encana Natural Gas				ENG: S Kuykendall RIG: Aztec 950 GLE: 0 RKBE: 6306.9		4/2/14			
County: San Juan			WELL SUMMARY									
WELL: Escrito E07-2407 03H												
MWD	OPEN HOLE		DEPTH			HOLE	CASING	MW	DEVIATION			
LWD	LOGGING	FORM	TVD	MD		SIZE	SPECS	MUD TYPE	INFORMATION			
			60	60'		30	20" 94# 100sx Type I Neat 16.0ppg cmt	Fresh wtr 8.3-9.2				
Multi-Well pad - take survey every stand and run anti- collision report prior to spud	None					12 1/4	9 5/8" 36ppf J55 STC	Fresh wtr				
								8.4-8.6	Vertical <1°			
		Nacimiento 9 5/8" Csg	509 500		500.00		TOC Surface - 201 sks of Type III Cement					
Survey Every 60"-120", updating anticollision report after surveys. Stop operations and contact drilling engineer if separation factor approaches 1.5	No OH logs	Ojo Alamo Ss. Kirtland Shale	1,977 2,146		Stage tool @ ~ 2,804	8 3/4	7" 26ppf J55 LTC	Fresh Wtr				
		Fruitland Coal	2,397					8.5-8.8	Vertical <1°			
		Pictured Cliffs Ss. Lewis Shale	2,651 2,754									
		Cliffhouse Ss. Menefee Fn.	3,514 4,241									
		Point Lookout Ss. Mancos Shale	4,970 5,152									
		KOP	4,000	4,000								
Surveys every 30' through the curve	Mud logger onsite	Mancos Silt	5,826						TOC @ surface 30% OH excess: 739 sksTotal.			
								Stage 1 Lead: 506 sks Premium Lite FM + 3% CaCl2 + 0.25/sk Cello Flake + 5#/sk LCM-1 + 8% Bentonite + 0.4% FL- 52A + 0.4% Sodium Metasilicate. Mixed at 12.1 ppg. Yield 2.13 cuft/sk.				
								Stage 1 Tail: 232 sks Type III Cement + 1% CaCl2 + 0.25#/sk Cello Flake + 0.2% FL-52A. Mixed at 14.6 ppg. Yield 1.38 cuft/sk.				
		Gallup Fn.	6,040						Stage 2: 168 sks Premium Lite FM + 3% CaCl2 + 0.25/sk Cello Flake + 5#/sk LCM-1 + 8% Bentonite + 0.4% FL-52A + 0.4% Sodium Metasilicate. Mixed at 12.1 ppg. Yield 2.13 cuft/sk.			
		7" Csg	6,276	6,489'								
Surveys every stand to TD unless directed otherwise by Geologist	No OH Logs	Horizontal Target TD	6,307 6,282	10,955				6 1/8	200' overlap at liner top	Horizontal Inclination Horizontal TVD	90.3 6306.9	TD = 10955.3 MD
		Base Gallup	8,381					4467' Drilled Lateral	8.6-9.0 OBM			
						4 1/2" 11.6ppf SB80 LTC	Switch to OBM 8.6-9.0					
MWD Gamma Directional							Running external swellable csg packers for isolation of prod string Plan on setting top packer within 100' of intermediate casing shoe					

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 4000', 8 3/4 inch holesize
- 5) PU directional tools and start curve at 10deg/100' build rate
- 6) Drill to csg point of 6489' MD
- 7) R&C 7" csg, circ cmt to surface, switch to OBM
- 8) Land at 90 deg, drill lateral to 10955' run 4 1/2 inch 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
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Planning Report

Database: USA EDM 5000 Multi Users DB
Company: EnCana Oil & Gas (USA) Inc
Project: Rio Arriba County, NM
Site: S7-T24N-R7W
Well: Escrito E07-2407 03H
Wellbore: Hz
Design: Plan #1

Local Co-ordinate Reference: Well Escrito E07-2407 03H
TVD Reference: WELL @ 7339.0ft (Aztec)
MD Reference: WELL @ 7339.0ft (Aztec)
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	S7-T24N-R7W		
Site Position:		Northing:	1,942,819.73 ft
From:	Lat/Long	Easting:	1,235,265.85 ft
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in
		Latitude:	36.331500
		Longitude:	-107.625508
		Grid Convergence:	-0.82 °

Well	Escrito E07-2407 03H		
Well Position	+N/-S	0.0 ft	Northing: 1,942,811.22 ft
	+E/-W	0.0 ft	Easting: 1,235,224.19 ft
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft
		Latitude:	36.331475
		Longitude:	-107.625649
		Ground Level:	7,323.0 ft

Wellbore	Hz		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2010	3/19/2014	9.45
		Dip Angle (°)	63.07
		Field Strength (nT)	50,239

Design	Plan #1		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth: 0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(ft)	(ft)	(ft)
	0.0	0.0	0.0
			Direction (°)
			271.34

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	
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
4,379.7	11.39	173.84	4,377.2	-37.4	4.0	3.00	3.00	0.00	173.84	
5,757.6	11.39	173.84	5,728.0	-308.0	33.3	0.00	0.00	0.00	0.00	
6,675.3	90.30	271.34	6,304.2	-410.2	-545.0	10.00	8.60	10.62	97.30	
10,955.3	90.30	271.34	6,281.8	-310.2	-4,823.8	0.00	0.00	0.00	0.00	Escrito E07-2407 03H

Planning Report

Database: USA EDM 5000 Multi Users DB
 Company: EnCana Oil & Gas (USA) Inc
 Project: Rio Arriba County, NM
 Site: S7-T24N-R7W
 Well: Escrito E07-2407 03H
 Wellbore: Hz
 Design: Plan #1

Local Co-ordinate Reference: Well Escrito E07-2407 03H
 TVD Reference: WELL @ 7339.0ft (Aztec)
 MD Reference: WELL @ 7339.0ft (Aztec)
 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
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
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"
509.0	0.00	0.00	509.0	0.0	0.0	0.0	0.00	0.00	Nacimiento Fn.
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	
1,500.0	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	
1,700.0	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	
1,977.0	0.00	0.00	1,977.0	0.0	0.0	0.0	0.00	0.00	Ojo Alamo Ss.
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	
2,146.0	0.00	0.00	2,146.0	0.0	0.0	0.0	0.00	0.00	Kirtland Shale
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	
2,397.0	0.00	0.00	2,397.0	0.0	0.0	0.0	0.00	0.00	Fruitland Coal
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	
2,651.0	0.00	0.00	2,651.0	0.0	0.0	0.0	0.00	0.00	Pictured Cliffs Ss.
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	
2,754.0	0.00	0.00	2,754.0	0.0	0.0	0.0	0.00	0.00	Lewis Shale
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	
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	
3,514.0	0.00	0.00	3,514.0	0.0	0.0	0.0	0.00	0.00	Cliffhouse Ss.
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	
3,800.0	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	KOP @ 4000'
4,100.0	3.00	173.84	4,100.0	-2.6	0.3	-0.3	3.00	3.00	
4,200.0	6.00	173.84	4,199.6	-10.4	1.1	-1.4	3.00	3.00	
4,241.7	7.25	173.84	4,241.0	-15.2	1.6	-2.0	3.00	3.00	Menefee Fn.
4,300.0	9.00	173.84	4,298.8	-23.4	2.5	-3.1	3.00	3.00	

Planning Report

Database: USA EDM 5000 Multi Users DB
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 Project: Rio Arriba County, NM
 Site: S7-T24N-R7W
 Well: Escrito E07-2407 03H
 Wellbore: Hz
 Design: Plan #1

Local Co-ordinate Reference: Well Escrito E07-2407 03H
 TVD Reference: WELL @ 7339.0ft (Aztec)
 MD Reference: WELL @ 7339.0ft (Aztec)
 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
4,379.7	11.39	173.84	4,377.2	-37.4	4.0	-4.9	3.00	3.00	EOB; Inc=11.39°
4,400.0	11.39	173.84	4,397.1	-41.4	4.5	-5.4	0.00	0.00	
4,500.0	11.39	173.84	4,495.1	-61.0	6.6	-8.0	0.00	0.00	
4,600.0	11.39	173.84	4,593.2	-80.7	8.7	-10.6	0.00	0.00	
4,700.0	11.39	173.84	4,691.2	-100.3	10.8	-13.2	0.00	0.00	
4,800.0	11.39	173.84	4,789.2	-119.9	13.0	-15.8	0.00	0.00	
4,900.0	11.39	173.84	4,887.3	-139.6	15.1	-18.3	0.00	0.00	
4,984.5	11.39	173.84	4,970.1	-156.2	16.9	-20.5	0.00	0.00	Point Lookout Ss.
5,000.0	11.39	173.84	4,985.3	-159.2	17.2	-20.9	0.00	0.00	
5,100.0	11.39	173.84	5,083.3	-178.9	19.3	-23.5	0.00	0.00	
5,170.2	11.39	173.84	5,152.1	-192.6	20.8	-25.3	0.00	0.00	Mancos Shale
5,200.0	11.39	173.84	5,181.3	-198.5	21.4	-26.1	0.00	0.00	
5,300.0	11.39	173.84	5,279.4	-218.1	23.6	-28.6	0.00	0.00	
5,400.0	11.39	173.84	5,377.4	-237.8	25.7	-31.2	0.00	0.00	
5,500.0	11.39	173.84	5,475.4	-257.4	27.8	-33.8	0.00	0.00	
5,600.0	11.39	173.84	5,573.5	-277.0	29.9	-36.4	0.00	0.00	
5,700.0	11.39	173.84	5,671.5	-296.7	32.0	-39.0	0.00	0.00	
5,757.6	11.39	173.84	5,728.0	-308.0	33.3	-40.4	0.00	0.00	Start build/turn @ 5757' MD
5,800.0	11.63	195.17	5,769.5	-316.3	32.6	-40.0	10.00	0.56	
5,858.1	14.16	218.89	5,826.2	-327.5	26.6	-34.2	10.00	4.35	Mancos Silt
5,900.0	16.99	230.45	5,866.6	-335.4	18.6	-26.5	10.00	6.77	
6,000.0	25.29	246.26	5,959.8	-353.3	-12.2	4.0	10.00	8.30	
6,091.9	33.70	253.85	6,039.8	-368.3	-54.8	46.2	10.00	9.15	Gallup Fn.
6,100.0	34.46	254.35	6,046.5	-369.6	-59.2	50.5	10.00	9.37	
6,200.0	43.96	259.32	6,123.9	-383.7	-120.7	111.7	10.00	9.50	
6,300.0	53.61	262.81	6,189.7	-395.2	-194.9	185.6	10.00	9.65	
6,400.0	63.34	265.52	6,241.9	-403.7	-279.6	270.1	10.00	9.73	
6,488.6	72.00	267.56	6,275.6	-408.6	-361.3	351.7	10.00	9.77	7" ICP
6,500.0	73.12	267.80	6,279.0	-409.1	-372.2	362.5	10.00	9.79	
6,600.0	82.91	269.86	6,299.7	-411.0	-469.9	460.1	10.00	9.80	
6,675.3	90.30	271.34	6,304.2	-410.2	-545.0	535.3	10.00	9.81	LP @ 6304' TVD; 90.3°
6,700.0	90.30	271.34	6,304.0	-409.7	-569.7	559.9	0.00	0.00	
6,800.0	90.30	271.34	6,303.5	-407.3	-669.6	659.9	0.00	0.00	
6,900.0	90.30	271.34	6,303.0	-405.0	-769.6	759.9	0.00	0.00	
7,000.0	90.30	271.34	6,302.5	-402.6	-869.6	859.9	0.00	0.00	
7,100.0	90.30	271.34	6,302.0	-400.3	-969.6	959.9	0.00	0.00	
7,200.0	90.30	271.34	6,301.4	-398.0	-1,069.5	1,059.9	0.00	0.00	
7,300.0	90.30	271.34	6,300.9	-395.6	-1,169.5	1,159.9	0.00	0.00	
7,400.0	90.30	271.34	6,300.4	-393.3	-1,269.5	1,259.9	0.00	0.00	
7,500.0	90.30	271.34	6,299.9	-391.0	-1,369.4	1,359.9	0.00	0.00	
7,600.0	90.30	271.34	6,299.3	-388.6	-1,469.4	1,459.9	0.00	0.00	
7,700.0	90.30	271.34	6,298.8	-386.3	-1,569.4	1,559.9	0.00	0.00	
7,800.0	90.30	271.34	6,298.3	-383.9	-1,669.4	1,659.9	0.00	0.00	
7,900.0	90.30	271.34	6,297.8	-381.6	-1,769.3	1,759.9	0.00	0.00	
8,000.0	90.30	271.34	6,297.2	-379.3	-1,869.3	1,859.9	0.00	0.00	
8,100.0	90.30	271.34	6,296.7	-376.9	-1,969.3	1,959.9	0.00	0.00	
8,200.0	90.30	271.34	6,296.2	-374.6	-2,069.2	2,059.9	0.00	0.00	
8,300.0	90.30	271.34	6,295.7	-372.3	-2,169.2	2,159.9	0.00	0.00	
8,400.0	90.30	271.34	6,295.2	-369.9	-2,269.2	2,259.9	0.00	0.00	
8,500.0	90.30	271.34	6,294.6	-367.6	-2,369.2	2,359.9	0.00	0.00	
8,600.0	90.30	271.34	6,294.1	-365.2	-2,469.1	2,459.9	0.00	0.00	
8,700.0	90.30	271.34	6,293.6	-362.9	-2,569.1	2,559.9	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: S7-T24N-R7W
 Well: Escrito E07-2407 03H
 Wellbore: Hz
 Design: Plan #1

Local Co-ordinate Reference: Well Escrito E07-2407 03H
 TVD Reference: WELL @ 7339.0ft (Aztec)
 MD Reference: WELL @ 7339.0ft (Aztec)
 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	90.30	271.34	6,293.1	-360.6	-2,669.1	2,659.9	0.00	0.00	
8,900.0	90.30	271.34	6,292.5	-358.2	-2,769.0	2,759.9	0.00	0.00	
9,000.0	90.30	271.34	6,292.0	-355.9	-2,869.0	2,859.9	0.00	0.00	
9,100.0	90.30	271.34	6,291.5	-353.5	-2,969.0	2,959.9	0.00	0.00	
9,200.0	90.30	271.34	6,291.0	-351.2	-3,069.0	3,059.9	0.00	0.00	
9,300.0	90.30	271.34	6,290.4	-348.9	-3,168.9	3,159.9	0.00	0.00	
9,400.0	90.30	271.34	6,289.9	-346.5	-3,268.9	3,259.9	0.00	0.00	
9,500.0	90.30	271.34	6,289.4	-344.2	-3,368.9	3,359.9	0.00	0.00	
9,600.0	90.30	271.34	6,288.9	-341.9	-3,468.8	3,459.9	0.00	0.00	
9,700.0	90.30	271.34	6,288.3	-339.5	-3,568.8	3,559.9	0.00	0.00	
9,800.0	90.30	271.34	6,287.8	-337.2	-3,668.8	3,659.9	0.00	0.00	
9,900.0	90.30	271.34	6,287.3	-334.8	-3,768.8	3,759.9	0.00	0.00	
10,000.0	90.30	271.34	6,286.8	-332.5	-3,868.7	3,859.9	0.00	0.00	
10,100.0	90.30	271.34	6,286.3	-330.2	-3,968.7	3,959.9	0.00	0.00	
10,200.0	90.30	271.34	6,285.7	-327.8	-4,068.7	4,059.9	0.00	0.00	
10,300.0	90.30	271.34	6,285.2	-325.5	-4,168.6	4,159.9	0.00	0.00	
10,400.0	90.30	271.34	6,284.7	-323.2	-4,268.6	4,259.9	0.00	0.00	
10,500.0	90.30	271.34	6,284.2	-320.8	-4,368.6	4,359.9	0.00	0.00	
10,600.0	90.30	271.34	6,283.6	-318.5	-4,468.6	4,459.9	0.00	0.00	
10,700.0	90.30	271.34	6,283.1	-316.1	-4,568.5	4,559.9	0.00	0.00	
10,800.0	90.30	271.34	6,282.6	-313.8	-4,668.5	4,659.9	0.00	0.00	
10,900.0	90.30	271.34	6,282.1	-311.5	-4,768.5	4,759.9	0.00	0.00	
10,955.3	90.30	271.34	6,281.8	-310.2	-4,823.8	4,815.2	0.00	0.00	TD at 10955.3

Targets

Target Name

- hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Escrito E07-2407 03H P - plan hits target center - Point	0.00	0.00	6,281.8	-310.2	-4,823.8	1,942,569.72	1,230,396.49	36.330622	-107.642023
Escrito E07-2407 03H P - plan misses target center by 53.4ft at 6436.3ft MD (6257.2 TVD, -406.0 N, -312.4 E) - Point	0.00	0.00	6,305.5	-416.2	-291.9	1,942,399.27	1,234,926.35	36.330332	-107.626640

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
6,488.6	6,275.6	7" ICP	0.000	0.000
500.0	500.0	9 5/8"	0.000	0.000

Planning Report

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Wellbore: Hz
Design: Plan #1

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TVD Reference: WELL @ 7339.0ft (Aztec)
MD Reference: WELL @ 7339.0ft (Aztec)
North Reference: True
Survey Calculation Method: Minimum Curvature

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
509.0	509.0	Nacimiento Fn.		-0.30	271.34
1,977.0	1,977.0	Ojo Alamo Ss.		-0.30	271.34
2,146.0	2,146.0	Kirtland Shale		-0.30	271.34
2,397.0	2,397.0	Fruitland Coal		-0.30	271.34
2,651.0	2,651.0	Pictured Cliffs Ss.		-0.30	271.34
2,754.0	2,754.0	Lewis Shale		-0.30	271.34
3,514.0	3,514.0	Cliffhouse Ss.		-0.30	271.34
4,241.7	4,241.0	Menefee Fn.		-0.30	271.34
4,984.5	4,970.0	Point Lookout Ss.		-0.30	271.34
5,170.2	5,152.0	Mancos Shale		-0.30	271.34
5,858.1	5,826.0	Mancos Silt		-0.30	271.34
6,091.9	6,040.0	Gallup Fn.		-0.30	271.34

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
4,000.0	4,000.0	0.0	0.0	KOP @ 4000'
4,379.7	4,377.2	-37.4	4.0	EOB; Inc=11.39°
5,757.6	5,728.0	-308.0	33.3	Start build/turn @ 5757' MD
6,675.3	6,304.2	-410.2	-545.0	LP @ 6304' TVD; 90.3°
10,955.3	6,281.8	-310.2	-4,823.8	TD at 10955.3

EnCana Oil & Gas (USA) Inc

Rio Arriba County, NM

S7-T24N-R7W

Escrito E07-2407 03H

Hz

Plan #1

Anticollision Report

20 March, 2014

Anticollision Report

Company: EnCana Oil & Gas (USA) Inc
 Project: Rio Arriba County, NM
 Reference Site: S7-T24N-R7W
 Site Error: 0.0ft
 Reference Well: Escrito E07-2407 03H
 Well Error: 0.0ft
 Reference Wellbore: Hz
 Reference Design: Plan #1

Local Co-ordinate Reference: Well Escrito E07-2407 03H
 TVD Reference: WELL @ 7339.0ft (Aztec)
 MD Reference: WELL @ 7339.0ft (Aztec)
 North Reference: True
 Survey Calculation Method: Minimum Curvature
 Output errors are at: 2.00 sigma
 Database: USA EDM 5000 Multi Users DB
 Offset TVD Reference: Offset Datum

Reference	Plan #1
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria
Interpolation Method:	MD Interval 100.0ft
Depth Range:	Unlimited
Results Limited by:	Maximum center-center distance of 1,331.4ft
Warning Levels Evaluated at:	2.00 Sigma
Error Model:	Systematic Ellipse
Scan Method:	Closest Approach 3D
Error Surface:	Elliptical Conic

Survey Tool Program	Date	3/20/2014
From (ft)	To (ft)	Survey (Wellbore)
0.0	10,955.3	Plan #1 (Hz)
		Tool Name
		Geolink MWD
		Description
		Geolink MWD

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
S7-T24N-R7W						
Escrito E07-2407 01H - Hz - Plan #1	4,000.0	4,000.0	42.5	28.6	3.058	CC, ES
Escrito E07-2407 01H - Hz - Plan #1	4,100.0	4,100.0	42.9	28.6	3.008	SF
Escrito E07-2407 02H - Hz - Plan #1	4,269.7	4,268.8	23.4	8.6	1.577	CC, ES, SF
Escrito E07-2407 04H - Hz - Plan #1	3,000.0	3,000.0	29.9	19.5	2.870	CC, ES, SF

Anticollision Report

Company: EnCana Oil & Gas (USA) Inc
Project: Rio Arriba County, NM
Reference Site: S7-T24N-R7W
Site Error: 0.0ft
Reference Well: Escrito E07-2407 03H
Well Error: 0.0ft
Reference Wellbore: Hz
Reference Design: Plan #1

Local Co-ordinate Reference: Well Escrito E07-2407 03H
TVD Reference: WELL @ 7339.0ft (Aztec)
MD Reference: WELL @ 7339.0ft (Aztec)
North Reference: True
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: USA EDM 5000 Multi Users DB
Offset TVD Reference: Offset Datum

Offset Design S7-T24N-R7W - Escrito E07-2407 01H - HZ - Plan #1														Offset Site Error:	0.0 ft
Survey Program: 0-Geolink MWD														Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total		Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis				
0.0	0.0	0.0	0.0	0.0	0.0	77.64	9.1	41.5	42.5						
100.0	100.0	100.0	100.0	0.1	0.1	77.64	9.1	41.5	42.5	42.2	0.29	145.025			
200.0	200.0	200.0	200.0	0.3	0.3	77.64	9.1	41.5	42.5	41.9	0.64	66.207			
300.0	300.0	300.0	300.0	0.5	0.5	77.64	9.1	41.5	42.5	41.5	0.99	42.895			
400.0	400.0	400.0	400.0	0.7	0.7	77.64	9.1	41.5	42.5	41.2	1.34	31.724			
500.0	500.0	500.0	500.0	0.8	0.8	77.64	9.1	41.5	42.5	40.8	1.69	25.170			
600.0	600.0	600.0	600.0	1.0	1.0	77.64	9.1	41.5	42.5	40.5	2.04	20.860			
700.0	700.0	700.0	700.0	1.2	1.2	77.64	9.1	41.5	42.5	40.1	2.39	17.810			
800.0	800.0	800.0	800.0	1.4	1.4	77.64	9.1	41.5	42.5	39.8	2.74	15.538			
900.0	900.0	900.0	900.0	1.5	1.5	77.64	9.1	41.5	42.5	39.4	3.09	13.781			
1,000.0	1,000.0	1,000.0	1,000.0	1.7	1.7	77.64	9.1	41.5	42.5	39.1	3.43	12.380			
1,100.0	1,100.0	1,100.0	1,100.0	1.9	1.9	77.64	9.1	41.5	42.5	38.7	3.78	11.238			
1,200.0	1,200.0	1,200.0	1,200.0	2.1	2.1	77.64	9.1	41.5	42.5	38.4	4.13	10.289			
1,300.0	1,300.0	1,300.0	1,300.0	2.2	2.2	77.64	9.1	41.5	42.5	38.0	4.48	9.488			
1,400.0	1,400.0	1,400.0	1,400.0	2.4	2.4	77.64	9.1	41.5	42.5	37.7	4.83	8.802			
1,500.0	1,500.0	1,500.0	1,500.0	2.6	2.6	77.64	9.1	41.5	42.5	37.3	5.18	8.209			
1,600.0	1,600.0	1,600.0	1,600.0	2.8	2.8	77.64	9.1	41.5	42.5	37.0	5.53	7.691			
1,700.0	1,700.0	1,700.0	1,700.0	2.9	2.9	77.64	9.1	41.5	42.5	36.6	5.88	7.234			
1,800.0	1,800.0	1,800.0	1,800.0	3.1	3.1	77.64	9.1	41.5	42.5	36.3	6.23	6.829			
1,900.0	1,900.0	1,900.0	1,900.0	3.3	3.3	77.64	9.1	41.5	42.5	35.9	6.58	6.466			
2,000.0	2,000.0	2,000.0	2,000.0	3.5	3.5	77.64	9.1	41.5	42.5	35.6	6.93	6.140			
2,100.0	2,100.0	2,100.0	2,100.0	3.6	3.6	77.64	9.1	41.5	42.5	35.2	7.27	5.846			
2,200.0	2,200.0	2,200.0	2,200.0	3.8	3.8	77.64	9.1	41.5	42.5	34.9	7.62	5.578			
2,300.0	2,300.0	2,300.0	2,300.0	4.0	4.0	77.64	9.1	41.5	42.5	34.6	7.97	5.334			
2,400.0	2,400.0	2,400.0	2,400.0	4.2	4.2	77.64	9.1	41.5	42.5	34.2	8.32	5.110			
2,500.0	2,500.0	2,500.0	2,500.0	4.3	4.3	77.64	9.1	41.5	42.5	33.9	8.67	4.904			
2,600.0	2,600.0	2,600.0	2,600.0	4.5	4.5	77.64	9.1	41.5	42.5	33.5	9.02	4.714			
2,700.0	2,700.0	2,700.0	2,700.0	4.7	4.7	77.64	9.1	41.5	42.5	33.2	9.37	4.539			
2,800.0	2,800.0	2,800.0	2,800.0	4.9	4.9	77.64	9.1	41.5	42.5	32.8	9.72	4.376			
2,900.0	2,900.0	2,900.0	2,900.0	5.0	5.0	77.64	9.1	41.5	42.5	32.5	10.07	4.224			
3,000.0	3,000.0	3,000.0	3,000.0	5.2	5.2	77.64	9.1	41.5	42.5	32.1	10.42	4.082			
3,100.0	3,100.0	3,100.0	3,100.0	5.4	5.4	77.64	9.1	41.5	42.5	31.8	10.77	3.950			
3,200.0	3,200.0	3,200.0	3,200.0	5.6	5.6	77.64	9.1	41.5	42.5	31.4	11.11	3.826			
3,300.0	3,300.0	3,300.0	3,300.0	5.7	5.7	77.64	9.1	41.5	42.5	31.1	11.46	3.710			
3,400.0	3,400.0	3,400.0	3,400.0	5.9	5.9	77.64	9.1	41.5	42.5	30.7	11.81	3.600			
3,500.0	3,500.0	3,500.0	3,500.0	6.1	6.1	77.64	9.1	41.5	42.5	30.4	12.16	3.497			
3,600.0	3,600.0	3,600.0	3,600.0	6.3	6.3	77.64	9.1	41.5	42.5	30.0	12.51	3.399			
3,700.0	3,700.0	3,700.0	3,700.0	6.4	6.4	77.64	9.1	41.5	42.5	29.7	12.86	3.307			
3,800.0	3,800.0	3,800.0	3,800.0	6.6	6.6	77.64	9.1	41.5	42.5	29.3	13.21	3.219			
3,900.0	3,900.0	3,900.0	3,900.0	6.8	6.8	77.64	9.1	41.5	42.5	29.0	13.56	3.136			
4,000.0	4,000.0	4,000.0	4,000.0	7.0	7.0	77.64	9.1	41.5	42.5	28.6	13.91	3.058 CC, ES			
4,100.0	4,100.0	4,100.0	4,100.0	7.1	7.1	-99.66	9.1	41.5	42.9	28.6	14.26	3.008 SF			
4,200.0	4,199.6	4,199.6	4,199.6	7.3	7.3	-109.50	9.1	41.5	44.9	30.3	14.60	3.073			
4,300.0	4,298.8	4,297.0	4,297.0	7.5	7.5	-125.11	11.6	41.5	52.4	37.5	14.92	3.511			
4,400.0	4,397.1	4,391.4	4,391.1	7.7	7.6	-141.03	18.7	41.5	70.8	55.6	15.19	4.662			
4,500.0	4,495.1	4,482.6	4,481.6	7.9	7.8	-151.66	30.0	41.4	98.4	82.9	15.49	6.350			
4,600.0	4,593.2	4,570.8	4,568.5	8.2	8.0	-158.08	45.0	41.4	132.1	116.3	15.80	8.362			
4,700.0	4,691.2	4,655.8	4,651.4	8.4	8.2	-162.13	63.2	41.3	171.0	154.9	16.11	10.613			
4,800.0	4,789.2	4,737.3	4,730.3	8.7	8.4	-164.84	84.2	41.2	214.3	197.9	16.42	13.053			
4,900.0	4,887.3	4,815.4	4,804.8	8.9	8.6	-166.72	107.4	41.0	261.7	244.9	16.72	15.646			
5,000.0	4,985.3	4,890.0	4,875.1	9.2	8.9	-168.08	132.4	40.9	312.6	295.6	17.02	18.367			
5,100.0	5,083.3	4,961.2	4,941.2	9.5	9.1	-169.09	158.8	40.8	367.0	349.7	17.31	21.195			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company: EnCana Oil & Gas (USA) Inc
 Project: Rio Arriba County, NM
 Reference Site: S7-T24N-R7W
 Site Error: 0.0ft
 Reference Well: Escrito E07-2407 03H
 Well Error: 0.0ft
 Reference Wellbore: Hz
 Reference Design: Plan #1

Local Co-ordinate Reference: Well Escrito E07-2407 03H
 TVD Reference: WELL @ 7339.0ft (Aztec)
 MD Reference: WELL @ 7339.0ft (Aztec)
 North Reference: True
 Survey Calculation Method: Minimum Curvature
 Output errors are at 2.00 sigma
 Database: USA EDM 5000 Multi Users DB
 Offset TVD Reference: Offset Datum

Offset Design S7-T24N-R7W - Escrito E07-2407 01H - HZ - Plan #1													Offset Site Error: 0.0 ft
Survey Program: 0-Geolink MWD													Offset Well Error: 0.0 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,181.3	5,028.9	5,003.1	9.8	9.4	-169.86	186.2	40.6	424.4	406.8	17.60	24.113	
5,300.0	5,279.4	5,100.0	5,067.1	10.1	9.7	-170.52	217.3	40.5	484.7	466.8	17.89	27.092	
5,400.0	5,377.4	5,156.8	5,117.3	10.4	10.0	-170.95	243.8	40.4	547.5	529.3	18.16	30.149	
5,500.0	5,475.4	5,233.7	5,185.0	10.7	10.5	-171.44	280.3	40.2	611.3	592.8	18.46	33.117	
5,600.0	5,573.5	5,310.7	5,252.7	11.0	10.9	-171.84	316.9	40.0	675.1	656.4	18.76	35.990	
5,700.0	5,671.5	5,387.6	5,320.3	11.3	11.4	-172.17	353.4	39.8	739.0	719.9	19.06	38.774	
5,800.0	5,769.5	5,464.5	5,388.0	11.6	11.8	163.28	390.0	39.6	802.8	783.4	19.34	41.503	
5,900.0	5,866.6	5,540.8	5,455.2	11.9	12.3	122.02	426.3	39.4	865.9	846.1	19.81	43.711	
6,000.0	5,959.8	5,614.4	5,519.9	12.2	12.8	101.78	461.3	39.3	927.2	906.7	20.46	45.312	
6,100.0	6,046.5	5,683.1	5,580.3	12.6	13.3	90.45	493.9	39.1	986.2	965.0	21.18	46.556	
6,200.0	6,123.9	5,744.6	5,634.5	13.0	13.7	82.99	523.1	39.0	1,042.8	1,020.8	21.91	47.583	
6,300.0	6,189.7	5,797.2	5,680.8	13.7	14.1	77.43	548.2	38.8	1,097.0	1,074.4	22.65	48.435	
6,400.0	6,241.9	5,839.3	5,717.8	14.6	14.4	72.81	568.2	38.7	1,149.2	1,125.8	23.39	49.131	
6,500.0	6,279.0	5,869.6	5,744.5	15.8	14.6	68.65	582.5	38.7	1,199.1	1,175.0	24.11	49.724	
6,600.0	6,299.7	5,887.2	5,759.9	17.3	14.7	64.72	590.9	38.6	1,246.5	1,221.7	24.80	50.270	
6,700.0	6,304.0	5,891.9	5,764.0	19.0	14.7	61.89	593.1	38.6	1,291.2	1,265.5	25.70	50.239	

Anticollision Report

Company: EnCana Oil & Gas (USA) Inc
Project: Rio Arriba County, NM
Reference Site: S7-T24N-R7W
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Reference Well: Escrito E07-2407 03H
Well Error: 0.0ft
Reference Wellbore: Hz
Reference Design: Plan #1

Local Co-ordinate Reference: Well Escrito E07-2407 03H
TVD Reference: WELL @ 7339.0ft (Aztec)
MD Reference: WELL @ 7339.0ft (Aztec)
North Reference: True
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: USA EDM 5000 Multi Users DB
Offset TVD Reference: Offset Datum

Offset Design S7-T24N-R7W - Escrito E07-2407 02H - Hz - Plan #1													Offset Site Error: 0.0 ft
Survey Program: 0-Geolink MWD													Offset Well Error: 0.0 ft
Reference	Offset	Semi Major Axis		Distance		Total		Separation		Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor	
0.0	0.0	0.0	0.0	0.0	0.0	122.89	-16.4	25.3	30.2				
100.0	100.0	100.0	100.0	0.1	0.1	122.89	-16.4	25.3	30.2	29.9	0.29	102.898	
200.0	200.0	200.0	200.0	0.3	0.3	122.89	-16.4	25.3	30.2	29.5	0.64	46.975	
300.0	300.0	300.0	300.0	0.5	0.5	122.89	-16.4	25.3	30.2	29.2	0.99	30.435	
400.0	400.0	400.0	400.0	0.7	0.7	122.89	-16.4	25.3	30.2	28.8	1.34	22.509	
500.0	500.0	500.0	500.0	0.8	0.8	122.89	-16.4	25.3	30.2	28.5	1.69	17.858	
600.0	600.0	600.0	600.0	1.0	1.0	122.89	-16.4	25.3	30.2	28.1	2.04	14.800	
700.0	700.0	700.0	700.0	1.2	1.2	122.89	-16.4	25.3	30.2	27.8	2.39	12.637	
800.0	800.0	800.0	800.0	1.4	1.4	122.89	-16.4	25.3	30.2	27.4	2.74	11.025	
900.0	900.0	900.0	900.0	1.5	1.5	122.89	-16.4	25.3	30.2	27.1	3.09	9.778	
1,000.0	1,000.0	1,000.0	1,000.0	1.7	1.7	122.89	-16.4	25.3	30.2	26.7	3.43	8.784	
1,100.0	1,100.0	1,100.0	1,100.0	1.9	1.9	122.89	-16.4	25.3	30.2	26.4	3.78	7.974	
1,200.0	1,200.0	1,200.0	1,200.0	2.1	2.1	122.89	-16.4	25.3	30.2	26.0	4.13	7.300	
1,300.0	1,300.0	1,300.0	1,300.0	2.2	2.2	122.89	-16.4	25.3	30.2	25.7	4.48	6.732	
1,400.0	1,400.0	1,400.0	1,400.0	2.4	2.4	122.89	-16.4	25.3	30.2	25.3	4.83	6.245	
1,500.0	1,500.0	1,500.0	1,500.0	2.6	2.6	122.89	-16.4	25.3	30.2	25.0	5.18	5.824	
1,600.0	1,600.0	1,600.0	1,600.0	2.8	2.8	122.89	-16.4	25.3	30.2	24.6	5.53	5.457	
1,700.0	1,700.0	1,700.0	1,700.0	2.9	2.9	122.89	-16.4	25.3	30.2	24.3	5.88	5.133	
1,800.0	1,800.0	1,800.0	1,800.0	3.1	3.1	122.89	-16.4	25.3	30.2	23.9	6.23	4.845	
1,900.0	1,900.0	1,900.0	1,900.0	3.3	3.3	122.89	-16.4	25.3	30.2	23.6	6.58	4.588	
2,000.0	2,000.0	2,000.0	2,000.0	3.5	3.5	122.89	-16.4	25.3	30.2	23.2	6.93	4.357	
2,100.0	2,100.0	2,100.0	2,100.0	3.6	3.6	122.89	-16.4	25.3	30.2	22.9	7.27	4.148	
2,200.0	2,200.0	2,200.0	2,200.0	3.8	3.8	122.89	-16.4	25.3	30.2	22.5	7.62	3.958	
2,300.0	2,300.0	2,300.0	2,300.0	4.0	4.0	122.89	-16.4	25.3	30.2	22.2	7.97	3.784	
2,400.0	2,400.0	2,400.0	2,400.0	4.2	4.2	122.89	-16.4	25.3	30.2	21.8	8.32	3.626	
2,500.0	2,500.0	2,500.0	2,500.0	4.3	4.3	122.89	-16.4	25.3	30.2	21.5	8.67	3.480	
2,600.0	2,600.0	2,600.0	2,600.0	4.5	4.5	122.89	-16.4	25.3	30.2	21.2	9.02	3.345	
2,700.0	2,700.0	2,700.0	2,700.0	4.7	4.7	122.89	-16.4	25.3	30.2	20.8	9.37	3.220	
2,800.0	2,800.0	2,800.0	2,800.0	4.9	4.9	122.89	-16.4	25.3	30.2	20.5	9.72	3.105	
2,900.0	2,900.0	2,900.0	2,900.0	5.0	5.0	122.89	-16.4	25.3	30.2	20.1	10.07	2.997	
3,000.0	3,000.0	3,000.0	3,000.0	5.2	5.2	122.89	-16.4	25.3	30.2	19.8	10.42	2.897	
3,100.0	3,100.0	3,100.0	3,100.0	5.4	5.4	122.89	-16.4	25.3	30.2	19.4	10.77	2.803	
3,200.0	3,200.0	3,200.0	3,200.0	5.6	5.6	122.89	-16.4	25.3	30.2	19.1	11.11	2.715	
3,300.0	3,300.0	3,300.0	3,300.0	5.7	5.7	122.89	-16.4	25.3	30.2	18.7	11.46	2.632	
3,400.0	3,400.0	3,400.0	3,400.0	5.9	5.9	122.89	-16.4	25.3	30.2	18.4	11.81	2.554	
3,500.0	3,500.0	3,500.0	3,500.0	6.1	6.1	122.89	-16.4	25.3	30.2	18.0	12.16	2.481	
3,600.0	3,600.0	3,600.0	3,600.0	6.3	6.3	122.89	-16.4	25.3	30.2	17.7	12.51	2.412	
3,700.0	3,700.0	3,700.0	3,700.0	6.4	6.4	122.89	-16.4	25.3	30.2	17.3	12.86	2.346	
3,800.0	3,800.0	3,800.0	3,800.0	6.6	6.6	122.89	-16.4	25.3	30.2	17.0	13.21	2.284	
3,900.0	3,900.0	3,900.0	3,900.0	6.8	6.8	122.89	-16.4	25.3	30.2	16.6	13.56	2.225	
4,000.0	4,000.0	4,000.0	4,000.0	7.0	7.0	122.89	-16.4	25.3	30.2	16.3	13.91	2.170	
4,100.0	4,100.0	4,100.0	4,100.0	7.1	7.1	-55.06	-16.4	25.3	28.6	14.3	14.25	2.006	
4,200.0	4,199.6	4,199.6	4,199.6	7.3	7.3	-70.06	-16.4	25.3	24.9	10.3	14.60	1.708	
4,269.7	4,268.8	4,268.8	4,268.8	7.4	7.4	-90.00	-16.4	25.3	23.4	8.6	14.86	1.577 CC, ES, SF	
4,300.0	4,298.8	4,298.8	4,298.8	7.5	7.5	-100.75	-16.4	25.3	23.9	8.9	14.97	1.594	
4,400.0	4,397.1	4,397.1	4,397.1	7.7	7.6	-133.42	-16.4	25.3	32.6	17.3	15.23	2.138	
4,500.0	4,495.1	4,495.1	4,495.1	7.9	7.8	-150.57	-16.4	25.3	48.4	32.9	15.52	3.120	
4,600.0	4,593.2	4,593.2	4,593.2	8.2	8.0	-158.96	-16.4	25.3	66.4	50.6	15.84	4.191	
4,700.0	4,691.2	4,691.2	4,691.2	8.4	8.2	-163.73	-16.4	25.3	85.2	69.0	16.17	5.265	
4,800.0	4,789.2	4,789.2	4,789.2	8.7	8.3	-166.77	-16.4	25.3	104.3	87.8	16.51	6.316	
4,900.0	4,887.3	4,887.3	4,887.3	8.9	8.5	-168.86	-16.4	25.3	123.6	106.8	16.85	7.335	
5,000.0	4,985.3	4,985.3	4,985.3	9.2	8.7	-170.39	-16.4	25.3	143.1	125.9	17.20	8.319	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

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 Survey Calculation Method: Minimum Curvature
 Output errors are at 2.00 sigma
 Database: USA EDM 5000 Multi Users DB
 Offset TVD Reference: Offset Datum

Offset Design S7-T24N-R7W - Escrito E07-2407 02H - Hz - Plan #1														Offset Site Error:	0.0 ft
Survey Program: 0-Geolink MWD														Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance		Between		Total		Separation		Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Centres (ft)	Ellipses (ft)	Uncertainty Axis	Factor			
5,100.0	5,083.3	5,083.3	5,083.3	9.5	8.8	-171.55	-16.4	25.3	162.6	145.0	17.54	9.269			
5,200.0	5,181.3	5,181.3	5,181.3	9.8	9.0	-172.46	-16.4	25.3	182.2	164.3	17.88	10.185			
5,300.0	5,279.4	5,279.4	5,279.4	10.1	9.2	-173.20	-16.4	25.3	201.8	183.5	18.23	11.069			
5,400.0	5,377.4	5,377.4	5,377.4	10.4	9.4	-173.80	-16.4	25.3	221.4	202.8	18.57	11.920			
5,500.0	5,475.4	5,475.4	5,475.4	10.7	9.5	-174.31	-16.4	25.3	241.0	222.1	18.92	12.742			
5,600.0	5,573.5	5,598.4	5,598.4	11.0	9.7	-174.78	-19.0	25.7	259.2	239.9	19.30	13.429			
5,700.0	5,671.5	5,779.0	5,772.4	11.3	10.1	-174.37	-63.9	31.4	253.7	233.9	19.81	12.809			
5,800.0	5,769.5	5,921.6	5,895.0	11.6	10.6	168.85	-135.5	41.1	220.2	199.9	20.28	10.859			
5,900.0	5,866.6	6,004.6	5,961.6	11.9	10.9	147.86	-182.3	56.9	184.2	163.5	20.71	8.892			
5,985.8	5,946.9	6,061.6	6,005.9	12.2	11.2	148.31	-213.4	74.4	170.2	149.2	21.01	8.102			
6,000.0	5,959.8	6,069.5	6,012.0	12.2	11.3	148.86	-217.7	77.3	170.7	149.7	21.00	8.126			
6,100.0	6,046.5	6,113.7	6,045.0	12.6	11.5	151.32	-241.0	95.2	200.9	180.2	20.67	9.718			
6,200.0	6,123.9	6,139.3	6,063.6	13.0	11.7	148.02	-254.1	106.9	268.7	248.8	19.96	13.465			
6,300.0	6,189.7	6,150.0	6,071.2	13.7	11.8	134.75	-259.5	112.1	355.9	335.8	20.20	17.624			
6,400.0	6,241.9	6,150.0	6,071.2	14.6	11.8	103.73	-259.5	112.1	451.0	427.5	23.44	19.243			
6,500.0	6,279.0	6,150.0	6,071.2	15.8	11.8	66.60	-259.5	112.1	547.8	523.8	24.02	22.810			
6,600.0	6,299.7	6,126.5	6,054.4	17.3	11.6	43.11	-247.6	100.9	642.4	621.6	20.82	30.855			
6,700.0	6,304.0	6,100.0	6,034.9	19.0	11.4	35.04	-233.9	89.3	733.2	713.7	19.47	37.654			
6,800.0	6,303.5	6,100.0	6,034.9	20.9	11.4	35.04	-233.9	89.3	823.6	802.9	20.61	39.952			
6,900.0	6,303.0	6,073.2	6,014.8	22.9	11.3	35.02	-219.7	78.7	914.9	893.1	21.76	42.044			
7,000.0	6,302.5	6,050.0	5,997.0	25.0	11.2	35.01	-207.2	70.4	1,007.5	984.6	22.95	43.894			
7,100.0	6,302.0	6,050.0	5,997.0	27.1	11.2	35.01	-207.2	70.4	1,100.8	1,076.6	24.22	45.453			
7,200.0	6,301.4	6,050.0	5,997.0	29.3	11.2	35.01	-207.2	70.4	1,195.2	1,169.7	25.51	46.854			
7,300.0	6,300.9	6,025.1	5,977.7	31.6	11.0	35.00	-193.6	62.6	1,289.7	1,262.9	26.78	48.156			

Anticollision Report

Company: EnCana Oil & Gas (USA) Inc
Project: Rio Arriba County, NM
Reference Site: S7-T24N-R7W
Site Error: 0.0ft
Reference Well: Escrito E07-2407 03H
Well Error: 0.0ft
Reference Wellbore: Hz
Reference Design: Plan #1

Local Co-ordinate Reference: Well Escrito E07-2407 03H
TVD Reference: WELL @ 7339.0ft (Aztec)
MD Reference: WELL @ 7339.0ft (Aztec)
North Reference: True
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: USA EDM 5000 Multi Users DB
Offset TVD Reference: Offset Datum

Offset Design S7-T24N-R7W - Escrito E07-2407 04H - Hz - Plan #1													Offset Site Error: 0.0 ft
Survey Program: 0-Geolink MWD													Offset Well Error: 0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Total Uncertainty Axis	Separation Factor	Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)			
0.0	0.0	0.0	0.0	0.0	0.0	32.82	25.1	16.2	29.9				
100.0	100.0	100.0	100.0	0.1	0.1	32.82	25.1	16.2	29.9	29.6	0.29	101.953	
200.0	200.0	200.0	200.0	0.3	0.3	32.82	25.1	16.2	29.9	29.3	0.64	46.544	
300.0	300.0	300.0	300.0	0.5	0.5	32.82	25.1	16.2	29.9	28.9	0.99	30.155	
400.0	400.0	400.0	400.0	0.7	0.7	32.82	25.1	16.2	29.9	28.6	1.34	22.302	
500.0	500.0	500.0	500.0	0.8	0.8	32.82	25.1	16.2	29.9	28.2	1.69	17.694	
600.0	600.0	600.0	600.0	1.0	1.0	32.82	25.1	16.2	29.9	27.9	2.04	14.664	
700.0	700.0	700.0	700.0	1.2	1.2	32.82	25.1	16.2	29.9	27.5	2.39	12.521	
800.0	800.0	800.0	800.0	1.4	1.4	32.82	25.1	16.2	29.9	27.2	2.74	10.924	
900.0	900.0	900.0	900.0	1.5	1.5	32.82	25.1	16.2	29.9	26.8	3.09	9.688	
1,000.0	1,000.0	1,000.0	1,000.0	1.7	1.7	32.82	25.1	16.2	29.9	26.5	3.43	8.703	
1,100.0	1,100.0	1,100.0	1,100.0	1.9	1.9	32.82	25.1	16.2	29.9	26.1	3.78	7.900	
1,200.0	1,200.0	1,200.0	1,200.0	2.1	2.1	32.82	25.1	16.2	29.9	25.8	4.13	7.233	
1,300.0	1,300.0	1,300.0	1,300.0	2.2	2.2	32.82	25.1	16.2	29.9	25.4	4.48	6.670	
1,400.0	1,400.0	1,400.0	1,400.0	2.4	2.4	32.82	25.1	16.2	29.9	25.1	4.83	6.188	
1,500.0	1,500.0	1,500.0	1,500.0	2.6	2.6	32.82	25.1	16.2	29.9	24.7	5.18	5.771	
1,600.0	1,600.0	1,600.0	1,600.0	2.8	2.8	32.82	25.1	16.2	29.9	24.4	5.53	5.407	
1,700.0	1,700.0	1,700.0	1,700.0	2.9	2.9	32.82	25.1	16.2	29.9	24.0	5.88	5.086	
1,800.0	1,800.0	1,800.0	1,800.0	3.1	3.1	32.82	25.1	16.2	29.9	23.7	6.23	4.800	
1,900.0	1,900.0	1,900.0	1,900.0	3.3	3.3	32.82	25.1	16.2	29.9	23.3	6.58	4.546	
2,000.0	2,000.0	2,000.0	2,000.0	3.5	3.5	32.82	25.1	16.2	29.9	23.0	6.93	4.317	
2,100.0	2,100.0	2,100.0	2,100.0	3.6	3.6	32.82	25.1	16.2	29.9	22.6	7.27	4.109	
2,200.0	2,200.0	2,200.0	2,200.0	3.8	3.8	32.82	25.1	16.2	29.9	22.3	7.62	3.921	
2,300.0	2,300.0	2,300.0	2,300.0	4.0	4.0	32.82	25.1	16.2	29.9	21.9	7.97	3.750	
2,400.0	2,400.0	2,400.0	2,400.0	4.2	4.2	32.82	25.1	16.2	29.9	21.6	8.32	3.592	
2,500.0	2,500.0	2,500.0	2,500.0	4.3	4.3	32.82	25.1	16.2	29.9	21.2	8.67	3.448	
2,600.0	2,600.0	2,600.0	2,600.0	4.5	4.5	32.82	25.1	16.2	29.9	20.9	9.02	3.314	
2,700.0	2,700.0	2,700.0	2,700.0	4.7	4.7	32.82	25.1	16.2	29.9	20.5	9.37	3.191	
2,800.0	2,800.0	2,800.0	2,800.0	4.9	4.9	32.82	25.1	16.2	29.9	20.2	9.72	3.076	
2,900.0	2,900.0	2,900.0	2,900.0	5.0	5.0	32.82	25.1	16.2	29.9	19.8	10.07	2.969	
3,000.0	3,000.0	3,000.0	3,000.0	5.2	5.2	32.82	25.1	16.2	29.9	19.5	10.42	2.870 CC, ES, SF	
3,100.0	3,100.0	3,098.6	3,098.6	5.4	5.4	30.31	27.7	16.2	32.1	21.3	10.76	2.981	
3,200.0	3,200.0	3,196.7	3,196.4	5.6	5.6	24.54	35.2	16.1	38.9	27.8	11.11	3.502	
3,300.0	3,300.0	3,293.8	3,292.6	5.7	5.7	18.51	47.7	16.0	50.8	39.4	11.46	4.435	
3,400.0	3,400.0	3,389.4	3,386.7	5.9	6.0	13.70	64.7	15.8	67.9	56.1	11.80	5.752	
3,500.0	3,500.0	3,483.0	3,477.9	6.1	6.2	10.26	85.9	15.5	90.0	77.9	12.14	7.414	
3,600.0	3,600.0	3,577.0	3,568.4	6.3	6.5	7.83	111.1	15.3	116.5	104.0	12.49	9.328	
3,700.0	3,700.0	3,673.2	3,660.9	6.4	6.8	6.22	137.4	15.0	143.6	130.8	12.83	11.194	
3,800.0	3,800.0	3,769.3	3,753.4	6.6	7.1	5.13	163.7	14.7	170.9	157.7	13.18	12.968	
3,900.0	3,900.0	3,865.5	3,845.9	6.8	7.4	4.33	190.1	14.4	198.2	184.6	13.52	14.654	
4,000.0	4,000.0	3,961.7	3,938.4	7.0	7.8	3.73	216.4	14.1	225.5	211.6	13.87	16.258	
4,100.0	4,100.0	4,057.1	4,030.2	7.1	8.1	-170.52	242.6	13.8	255.3	241.1	14.16	18.030	
4,200.0	4,199.6	4,150.8	4,120.3	7.3	8.5	-170.97	268.2	13.5	290.0	275.5	14.44	20.080	
4,300.0	4,298.8	4,242.6	4,208.6	7.5	8.9	-171.41	293.4	13.3	329.5	314.8	14.69	22.429	
4,400.0	4,397.1	4,332.3	4,294.8	7.7	9.2	-171.86	317.9	13.0	373.7	358.8	14.93	25.026	
4,500.0	4,495.1	4,421.2	4,380.3	7.9	9.6	-172.39	342.3	12.7	419.4	404.1	15.25	27.492	
4,600.0	4,593.2	4,510.1	4,465.8	8.2	10.0	-172.81	366.6	12.5	465.1	449.5	15.58	29.857	
4,700.0	4,691.2	4,598.9	4,551.3	8.4	10.4	-173.16	391.0	12.2	510.8	494.9	15.90	32.126	
4,800.0	4,789.2	4,687.8	4,636.8	8.7	10.8	-173.45	415.3	11.9	556.5	540.3	16.22	34.306	
4,900.0	4,887.3	4,776.7	4,722.3	8.9	11.2	-173.70	439.7	11.7	602.3	585.7	16.55	36.401	
5,000.0	4,985.3	4,865.6	4,807.8	9.2	11.6	-173.91	464.0	11.4	648.0	631.2	16.87	38.416	
5,100.0	5,083.3	4,954.5	4,893.3	9.5	12.0	-174.09	488.4	11.1	693.8	676.6	17.19	40.355	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company: EnCana Oil & Gas (USA) Inc
 Project: Rio Arriba County, NM
 Reference Site: S7-T24N-R7W
 Site Error: 0.0ft
 Reference Well: Escrito E07-2407 03H
 Well Error: 0.0ft
 Reference Wellbore: Hz
 Reference Design: Plan #1

Local Co-ordinate Reference: Well Escrito E07-2407 03H
 TVD Reference: WELL @ 7339.0ft (Aztec)
 MD Reference: WELL @ 7339.0ft (Aztec)
 North Reference: True
 Survey Calculation Method: Minimum Curvature
 Output errors are at: 2.00 sigma
 Database: USA EDM 5000 Multi Users DB
 Offset TVD Reference: Offset Datum

Offset Design S7-T24N-R7W - Escrito E07-2407 04H - Hz - Plan #1													Offset Site Error: 0.0 ft
Survey Program: 0-Geolink MWD													Offset Well Error: 0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Total Uncertainty Axis	Separation Factor	Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)			
5,200.0	5,181.3	5,043.4	4,978.8	9.8	12.4	-174.25	512.7	10.9	739.6	722.1	17.52	42.223	
5,300.0	5,279.4	5,132.3	5,064.3	10.1	12.8	-174.39	537.1	10.6	785.3	767.5	17.84	44.024	
5,400.0	5,377.4	5,221.2	5,149.8	10.4	13.2	-174.52	561.4	10.3	831.1	812.9	18.16	45.761	
5,500.0	5,475.4	5,310.1	5,235.3	10.7	13.6	-174.63	585.8	10.1	876.9	858.4	18.49	47.437	
5,600.0	5,573.5	5,399.0	5,320.8	11.0	14.0	-174.74	610.1	9.8	922.7	903.9	18.81	49.055	
5,700.0	5,671.5	5,487.9	5,406.2	11.3	14.5	-174.83	634.4	9.5	968.4	949.3	19.13	50.620	
5,800.0	5,769.5	5,576.8	5,491.8	11.6	14.9	162.10	658.8	9.3	1,014.1	994.7	19.47	52.084	
5,900.0	5,866.6	5,665.0	5,576.5	11.9	15.3	123.73	682.9	9.0	1,058.9	1,038.9	19.96	53.059	
6,000.0	5,959.8	5,749.8	5,658.2	12.2	15.7	105.92	706.2	8.8	1,101.8	1,081.3	20.54	53.646	
6,100.0	6,046.5	5,828.9	5,734.2	12.6	16.1	96.65	727.8	8.5	1,143.0	1,121.8	21.18	53.978	
6,200.0	6,123.9	5,905.6	5,808.0	13.0	16.5	91.17	748.9	7.3	1,182.7	1,160.9	21.89	54.039	
6,300.0	6,189.7	5,996.7	5,894.5	13.7	16.9	88.01	773.8	-5.6	1,220.5	1,197.8	22.72	53.715	
6,400.0	6,241.9	6,106.3	5,994.3	14.6	17.5	86.53	803.1	-39.7	1,255.1	1,231.3	23.83	52.677	
6,500.0	6,279.0	6,247.2	6,110.0	15.8	18.2	86.66	837.8	-111.5	1,285.0	1,259.5	25.51	50.364	
6,600.0	6,299.7	6,439.1	6,233.6	17.3	19.5	88.29	876.5	-251.9	1,307.5	1,278.9	28.61	45.704	
6,700.0	6,304.0	6,697.9	6,317.0	19.0	22.1	90.55	906.1	-492.7	1,318.1	1,283.6	34.47	38.236	
6,800.0	6,303.5	6,844.6	6,320.4	20.9	24.1	90.73	910.7	-639.2	1,318.5	1,279.1	39.40	33.463	
6,900.0	6,303.0	6,944.6	6,319.9	22.9	25.7	90.73	913.0	-739.2	1,318.5	1,274.9	43.62	30.228	
7,000.0	6,302.5	7,044.6	6,319.4	25.0	27.4	90.73	915.4	-839.1	1,318.5	1,270.5	47.98	27.462	
7,100.0	6,302.0	7,144.6	6,318.9	27.1	29.3	90.73	917.7	-939.1	1,318.4	1,266.0	52.44	25.143	
7,200.0	6,301.4	7,244.6	6,318.3	29.3	31.2	90.73	920.0	-1,039.1	1,318.4	1,261.4	56.98	23.138	
7,300.0	6,300.9	7,344.6	6,317.8	31.6	33.3	90.73	922.3	-1,139.1	1,318.4	1,256.8	61.59	21.408	
7,400.0	6,300.4	7,444.6	6,317.3	33.9	35.4	90.73	924.6	-1,239.0	1,318.4	1,252.1	66.24	19.903	
7,500.0	6,299.9	7,544.6	6,316.8	36.2	37.6	90.73	926.9	-1,339.0	1,318.4	1,247.4	70.93	18.585	
7,600.0	6,299.3	7,644.6	6,316.2	38.5	39.8	90.73	929.3	-1,439.0	1,318.3	1,242.7	75.66	17.424	
7,700.0	6,298.8	7,744.6	6,315.7	40.9	42.0	90.73	931.6	-1,538.9	1,318.3	1,237.9	80.42	16.394	
7,800.0	6,298.3	7,844.6	6,315.2	43.2	44.2	90.73	933.9	-1,638.9	1,318.3	1,233.1	85.19	15.475	
7,900.0	6,297.8	7,944.6	6,314.7	45.6	46.5	90.73	936.2	-1,738.9	1,318.3	1,228.3	89.98	14.650	
8,000.0	6,297.2	8,044.6	6,314.1	48.0	48.8	90.73	938.5	-1,838.9	1,318.2	1,223.5	94.79	13.906	
8,100.0	6,296.7	8,144.6	6,313.6	50.4	51.2	90.73	940.8	-1,938.8	1,318.2	1,218.6	99.62	13.233	
8,200.0	6,296.2	8,244.6	6,313.1	52.8	53.5	90.73	943.2	-2,038.8	1,318.2	1,213.7	104.45	12.620	
8,300.0	6,295.7	8,344.6	6,312.6	55.2	55.9	90.73	945.5	-2,138.8	1,318.2	1,208.9	109.30	12.060	
8,400.0	6,295.2	8,444.6	6,312.0	57.6	58.2	90.73	947.8	-2,238.7	1,318.2	1,204.0	114.15	11.547	
8,500.0	6,294.6	8,544.6	6,311.5	60.0	60.6	90.73	950.1	-2,338.7	1,318.1	1,199.1	119.01	11.075	
8,600.0	6,294.1	8,644.6	6,311.0	62.4	63.0	90.73	952.4	-2,438.7	1,318.1	1,194.2	123.88	10.640	
8,700.0	6,293.6	8,744.6	6,310.5	64.9	65.4	90.73	954.7	-2,538.7	1,318.1	1,189.3	128.76	10.237	
8,800.0	6,293.1	8,844.6	6,309.9	67.3	67.7	90.73	957.1	-2,638.6	1,318.1	1,184.4	133.64	9.863	
8,900.0	6,292.5	8,944.6	6,309.4	69.7	70.1	90.73	959.4	-2,738.6	1,318.1	1,179.5	138.52	9.515	
9,000.0	6,292.0	9,044.6	6,308.9	72.2	72.6	90.73	961.7	-2,838.6	1,318.0	1,174.6	143.41	9.191	
9,100.0	6,291.5	9,144.6	6,308.4	74.6	75.0	90.73	964.0	-2,938.5	1,318.0	1,169.7	148.30	8.887	
9,200.0	6,291.0	9,244.6	6,307.9	77.1	77.4	90.73	966.3	-3,038.5	1,318.0	1,164.8	153.20	8.603	
9,300.0	6,290.4	9,344.6	6,307.3	79.5	79.8	90.73	968.6	-3,138.5	1,318.0	1,159.9	158.10	8.336	
9,400.0	6,289.9	9,444.6	6,306.8	81.9	82.2	90.73	971.0	-3,238.5	1,317.9	1,154.9	163.00	8.085	
9,500.0	6,289.4	9,544.6	6,306.3	84.4	84.6	90.73	973.3	-3,338.4	1,317.9	1,150.0	167.91	7.849	
9,600.0	6,288.9	9,644.6	6,305.8	86.8	87.1	90.73	975.6	-3,438.4	1,317.9	1,145.1	172.82	7.626	
9,700.0	6,288.3	9,744.6	6,305.2	89.3	89.5	90.73	977.9	-3,538.4	1,317.9	1,140.2	177.73	7.415	
9,800.0	6,287.8	9,844.6	6,304.7	91.7	91.9	90.73	980.2	-3,638.3	1,317.9	1,135.2	182.64	7.216	
9,900.0	6,287.3	9,944.6	6,304.2	94.2	94.4	90.73	982.5	-3,738.3	1,317.8	1,130.3	187.55	7.027	
10,000.0	6,286.8	10,044.6	6,303.7	96.6	96.8	90.73	984.9	-3,838.3	1,317.8	1,125.3	192.47	6.847	
10,100.0	6,286.3	10,144.6	6,303.1	99.1	99.2	90.73	987.2	-3,938.3	1,317.8	1,120.4	197.38	6.676	
10,200.0	6,285.7	10,244.6	6,302.6	101.5	101.7	90.73	989.5	-4,038.2	1,317.8	1,115.5	202.30	6.514	
10,300.0	6,285.2	10,344.6	6,302.1	104.0	104.1	90.73	991.8	-4,138.2	1,317.7	1,110.5	207.22	6.359	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company: EnCana Oil & Gas (USA) Inc
Project: Rio Arriba County, NM
Reference Site: S7-T24N-R7W
Site Error: 0.0ft
Reference Well: Escrito E07-2407 03H
Well Error: 0.0ft
Reference Wellbore: Hz
Reference Design: Plan #1

Local Co-ordinate Reference: Well Escrito E07-2407 03H
TVD Reference: WELL @ 7339.0ft (Aztec)
MD Reference: WELL @ 7339.0ft (Aztec)
North Reference: True
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: USA EDM 5000 Multi Users DB
Offset TVD Reference: Offset Datum

Offset Design S7-T24N-R7W - Escrito E07-2407 04H - Hz - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-Geolink MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
10,400.0	6,284.7	10,444.6	6,301.6	106.5	106.6	90.73	994.1	-4,238.2	1,317.7	1,105.6	212.14	6.211		
10,500.0	6,284.2	10,544.6	6,301.0	108.9	109.0	90.73	996.4	-4,338.2	1,317.7	1,100.6	217.07	6.071		
10,600.0	6,283.6	10,644.6	6,300.5	111.4	111.5	90.73	998.8	-4,438.1	1,317.7	1,095.7	221.99	5.936		
10,700.0	6,283.1	10,744.6	6,300.0	113.8	113.9	90.73	1,001.1	-4,538.1	1,317.7	1,090.7	226.91	5.807		
10,800.0	6,282.6	10,844.6	6,299.5	116.3	116.4	90.73	1,003.4	-4,638.1	1,317.6	1,085.8	231.84	5.683		
10,900.0	6,282.1	10,944.6	6,299.0	118.8	118.8	90.73	1,005.7	-4,738.0	1,317.6	1,080.9	236.77	5.565		
10,955.3	6,281.8	10,999.9	6,298.7	120.1	120.2	90.73	1,007.0	-4,793.3	1,317.6	1,078.1	239.49	5.502		

Anticollision Report

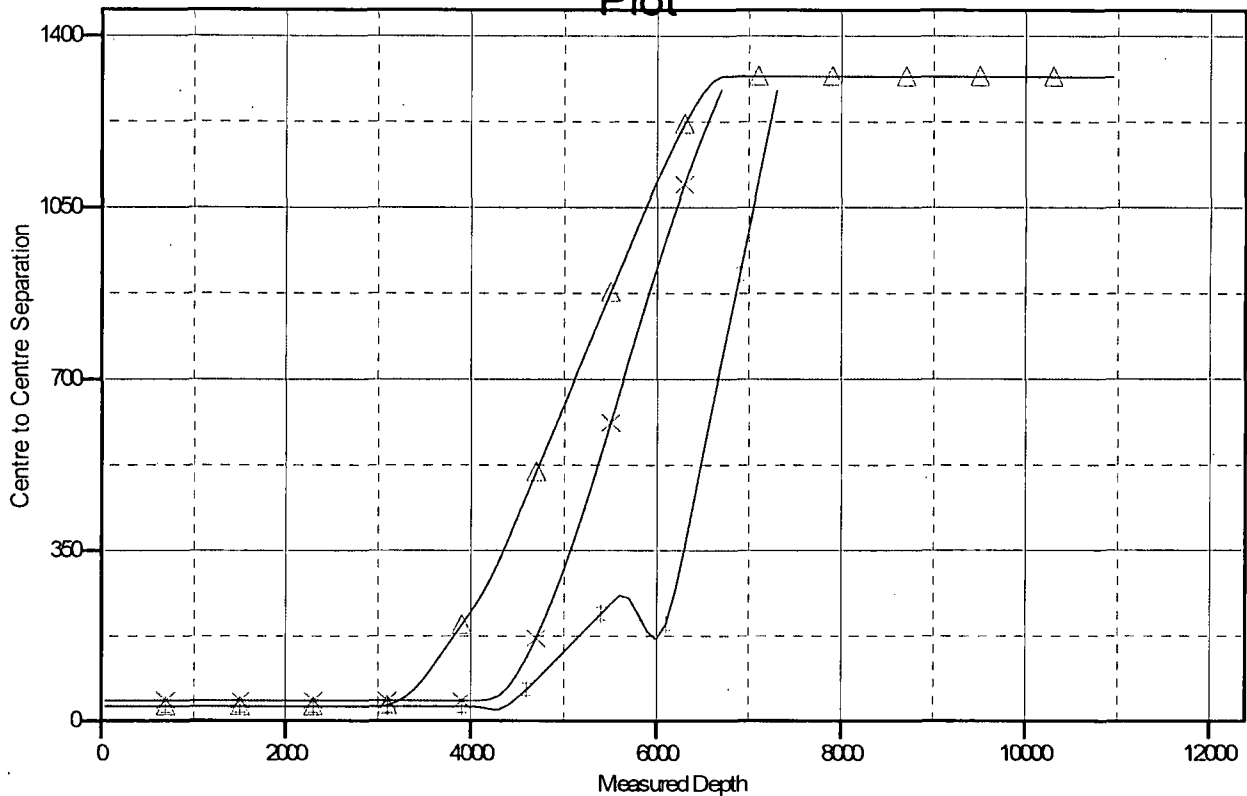
Company: EnCana Oil & Gas (USA) Inc
 Project: Rio Arriba County, NM
 Reference Site: S7-T24N-R7W
 Site Error: 0.0ft
 Reference Well: Escrito E07-2407 03H
 Well Error: 0.0ft
 Reference Wellbore: Hz
 Reference Design: Plan #1

Local Co-ordinate Reference: Well Escrito E07-2407 03H
 TVD Reference: WELL @ 7339.0ft (Aztec)
 MD Reference: WELL @ 7339.0ft (Aztec)
 North Reference: True
 Survey Calculation Method: Minimum Curvature
 Output errors are at: 2.00 sigma
 Database: USA EDM 5000 Multi Users DB
 Offset TVD Reference: Offset Datum

Reference Depths are relative to WELL @ 7339.0ft (Aztec)
 Offset Depths are relative to Offset Datum
 Central Meridian is -106.250000 °

Coordinates are relative to: Escrito E07-2407 03H
 Coordinate System is US State Plane 1983, New Mexico Central Zone
 Grid Convergence at Surface is: -0.82°

Ladder Plot



LEGEND

Escrito E07-2407 01H, Hz, Plan #1 V0 Escrito E07-2407 04H, Hz, Plan #1 V0 Escrito E07-2407 02H, Hz, Plan #1 V0

ENCANA OIL & GAS (USA) INC.
ESCRITO E07-2407 #03H
1326' FNL & 29' FEL
LOCATED IN THE SE/4 NE/4 OF SECTION 12,
T24N, R8W, N.M.P.M.,
SAN JUAN COUNTY, NEW MEXICO

DIRECTIONS

- 1) FROM THE INTERSECTION OF HWY 64 & HWY 550 IN BLOOMFIELD, GO SOUTH ON HWY 550, 42.6 MILES TO CR 7997 (M.P. 120.7).
- 2) TURN LEFT AND GO 3.1 MILES TO "Y" INTERSECTION.
- 3) TURN RIGHT AND GO 1.2 MILES TO GATE.
- 4) CONTINUE THROUGH GATE AND GO 0.7 MILES TO "Y" INTERSECTION.
- 5) TURN LEFT AND GO 2.4 MILES TO "Y" INTERSECTION.
- 6) CONTINUE LEFT AND GO 2.1 MILES WHERE ACCESS IS STAKED ON RIGHT SIDE OF ROAD.

WELL FLAG LOCATED AT LAT. 36.331475° N, LONG. 107.625649° W (NAD 83).



encana

SAN JUAN COUNTY,
NEW MEXICO

- ⊗ Abandoned
 - ⊗ Abandoned Gas
 - ⊗ Abandoned Oil
 - ⊗ Dry Hole
 - ⊗ GAS
 - ⊗ Injection
 - OIL
 - Basin Mancos Gas Pool
- 1 inch = 2,000 feet

PILGRIM 1

Escrito P25-2508 01H
Escrito P25-2508 02H

Escrito E36-2508 01H
Escrito E36-2508 02H

Escrito M36-2508 01H

Escrito M36A-2508 01H

36

31

25N
7W

24N
8W

DUFERS POINT
GALLUP
DAKOTA
POOL

GRAND GULCH 2

BASIN DAKOTA
GAS POOL
(out)

ROAD RUNNER 1

NO NAME 1

WILD HARE 1

FEDERAL-C 1

HORSEFLY 1

SHOO FLY 1

ESCRITO GALLUP
POOL

SMITH 5

SMITH 4

ESCRITO-GALLUP 21

FEDERAL 2

ELIZABETH-FEDERAL 2

ELIZABETH-FEDERAL 3

ELIZABETH-FEDERAL 4

ELIZABETH-FEDERAL 1

ESCRITO-GALLUP 22

ESCRITO-GALLUP 25

MEXICAN HAT 1

GRAND GULCH 1

24N
7W

Escrito E07-2407 01H
Escrito E07-2407 02H
Escrito E07-2407 03H
Escrito E07-2407 04H

575'
NANCY 4
NANCY 4
NANCY 4

NANCY 5

NANCY 3
NANCY 3

NANCY-FEDERAL 3
LOCO 5
LOCO 6

NANCY-FEDERAL 2

NANCY-FEDERAL 1

FEDERAL 2-7

FEDERAL 1-7
FEDERAL 1-7

13

14

18

0 0.125 0.25 0.5 Miles

encana

Well Name and Number:
Escrito E07-2407 03H

