

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: 4/13/14

Well information;

Operator ENCANA, Well Name and Number Escrito L14-2408 #03H

API# 30-045-35533, Section 14, Township 24 NS, 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.

* Pilot hole plug must cover
100' above and 100' below
top of Gallup *

Charles Perri
NMOCD Approved by Signature

7-29-2014
Date

RECEIVED

Form 3160-3
(March 2012)

APR 14 2014

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Farmington Field Office
Bureau of Land Management

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: ☒ DRILL ☐ REENTER		5. Lease Serial No. NM 16589	
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		8. Lease Name and Well No. Escrito L14-2408 03H	
3b. Phone No. (include area code) 720-876-3533		9. API Well No. 30-045-35533	
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface 1393' FSL and 29' FWL in Section 14, T24N, R8W At proposed prod. zone 430' FSL and 330' FWL in Section 15, T24N, R8W		10. Field and Pool, or Exploratory Escrito Gallup (associated) <i>Duffer's Point</i>	
11. Sec., T, R, M. or Blk. and Survey or Area SHL Section 14, T24N, R8W NMPM BHL Sec 15, T24N, R8W		12. County or Parish San Juan	
13. State NM		14. Distance in miles and direction from nearest town or post office* +/- 47.1 miles from the intersection of US Hwy 64 & US Hwy 550 in Bloomfield, NM	
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) SHL is 29' from West lease line		16. No. of acres in lease NM 16589- 1480 acres	
17. Spacing Unit dedicated to this well 320 acres S/2 Section 15		18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. Escrito L14-2408 02H is +/- 30' E of SHL	
19. Proposed Depth 5683' TVD/ 10602' MD		20. BLM/BIA Bond No. on file COB-000235	
21. Elevations (Show whether DJF, KDB, RT, GL, etc.) GL 6896' KB 6912'		22. Approximate date work will start* 09/28/2014	
23. Estimated duration 20 Days		24. Attachments	

OIL CONS. DIV DIST. 3

JUL 18 2014

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

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

25. Signature <i>Katie Wegner</i>	Name (Printed/Typed) Katie Wegner	Date 4/3/14
Title Regulatory Analyst		
Approved by (Signature) <i>[Signature]</i>	Name (Printed/Typed) AFM	Date 7/17/14
Title 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 or to knowingly make any false statement under oath.

BLM'S APPROVAL 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)

(Continued on page 2)
**DRILLING OPERATIONS
AUTHORIZED ARE SUBJECT TO
COMPLIANCE WITH ATTACHED
"GENERAL REQUIREMENTS"**

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

NMOCOPY

DISTRICT I

 1020 E. French St., Hobbs, N.M. 88240
 Phone: (505) 536-0161 Fax: (505) 533-0750

DISTRICT II

 611 E. First St., Artesia, N.M. 88210
 Phone: (505) 740-1633 Fax: (505) 740-0750

DISTRICT III

 1000 Rio Grande Rd., Aztec, N.M. 87410
 Phone: (505) 534-0170 Fax: (505) 534-0170

DISTRICT IV

 1820 E. St. Francis St., Santa Fe, N.M. 87505
 Phone: (505) 470-0469 Fax: (505) 470-0469

 State of New Mexico
 Energy, Minerals & Natural Resources Department

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Form C-108

Revised August 1, 2011

OIL CONSERVATION DIVISION

 1220 South St. Francis Dr.
 Santa Fe, NM 87505

APR 14 2014

 Submit one copy to appropriate
 District Office

 Farmington Field ☒ AMENDED REPORT
 Bureau of Land Management

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-045-35533		Pool Code 22619 19859	Pool Name ESCRITO-GALLUP (ASSOCIATED) Duffer Point
Property Code	Property Name ESCRITO L14-2408		Well Number 03H
OGHD No. 282327	Operator Name ENCANA OIL & GAS (USA) INC.		Elevation 6896.0'

10 Surface Location

UL or lot no.	Section	Township	Range	Lot	Foot from the	North/South line	Foot from the	East/West line	County
L	14	24N	8W		1503'	SOUTH	20'	WEST	SAN JUAN

11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot	Foot from the	North/South line	Foot from the	East/West line	County
M	15	24N	8W		430'	SOUTH	330'	WEST	SAN JUAN

Dedicated Acres 320.00 ACRES - S/2 SEC. 15	Joint or Infill	Consolidation Code	Order No.
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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

16

1 LAT. 36.314285° N (NAD83) LONG. 107.878228° W (NAD83) LAT. 36.314273° N (NAD27) LONG. 107.877818° W (NAD27) 2 LAT. 36.307080° N (NAD83) LONG. 107.878378° W (NAD83) LAT. 36.307046° N (NAD27) LONG. 107.877767° W (NAD27) ALL CORNERS PCD 2.5" BC OLD 1047	3 LAT. 36.313971° N (NAD83) LONG. 107.880823° W (NAD83) LAT. 36.313968° N (NAD27) LONG. 107.880813° W (NAD27) 4 LAT. 36.306821° N (NAD83) LONG. 107.880613° W (NAD83) LAT. 36.306809° N (NAD27) LONG. 107.880603° W (NAD27)	17 OPERATOR CERTIFICATION 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 undivided 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. Signature: <i>Katie Wegner</i> Date: 4/2/14 Printed Name: Katie Wegner E-mail Address: Katie.Wegner@encana.com
15 N 88°33'39" W 5201.93' (M) N 88°32' W 5204.10' (R) S 89°33'28" W 5192.88' (M) S 89°37' W 5104.20' (R) N 5°10'08" W 2251.70' (M) N 5°13' W 2250.10' (R) N 5°10'10" E 2824.10' (M) N 5°14' E 2820.10' (R) N 89°04'35" W 5237.38' (M) N 89°01' W 5233.14' (R) S 89°26'19" W 5246.09' (M) S 89°34' W 5240.40' (R) WELL FLAG LAT. 36.310848° N (NAD83) LONG. 107.880488° W (NAD83) LAT. 36.310838° N (NAD27) LONG. 107.880886° W (NAD27) ENTRY POINT LAT. 36.308017° N (NAD83) LONG. 107.881717° W (NAD83) LAT. 36.308005° N (NAD27) LONG. 107.881107° W (NAD27) BOTTOM HOLE LAT. 36.308225° N (NAD83) LONG. 107.877234° W (NAD83) LAT. 36.308212° N (NAD27) LONG. 107.876623° W (NAD27)		

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.

DECEMBER 3, 2013

Date of Survey

Signature and Seal of Professional Surveyor:

David Russell

DAVID RUSSELL
 REGISTERED PROFESSIONAL LAND SURVEYOR
 1020

DAVID RUSSELL
 Certificate Number 10201

Escrito L14-2408 03H
SHL: NWSW 14 24N 8W
1393 FSL 29 FWL
BHL: SWSW 15 24N 8W
430 FSL 330 FWL
San Juan, 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.	1,339
Kirtland Shale	1,548
Fruitland Coal	1,707
Pictured Cliffs Ss.	2,057
Lewis Shale	2,166
Cliffhouse Ss.	2,922
Menefee Fn.	3,629
Point Lookout Ss.	4,374
Mancos Shale	4,592
Mancos Silt	5,214
Gallup Fn.	5,432
Horizontal Target	5,717

The referenced surface elevation is 6896', KB 6912'

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

Substance	Formation	Depth (TVD) units = feet
Water/Gas	Fruitland Coal	1,707
Oil/Gas	Pictured Cliffs Ss.	2,057
Oil/Gas	Cliffhouse Ss.	2,922
Gas	Menefee Fn.	3,629
Oil/Gas	Point Lookout Ss.	4,374
Oil/Gas	Mancos Shale	4,592
Oil/Gas	Mancos Silt	5,214
Oil/Gas	Gallup Fn.	5,432

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

3. PRESSURE CONTROL

- Pressure control equipment and configuration will be designed to meet 2M standards.
- Working pressure on rams and BOPE will be 3,000 psi.
- Function test and visual inspection of the BOP will be conducted daily and noted in the IADC Daily Drilling Report.
- The Annular BOP will be pressure tested to a minimum of 50 percent of its rated working pressure.
- Blind and Pipe Rams/BOP will be tested against a test plug to 100 percent of rated working pressure.
- Pressure tests are required before drilling out from under all casing strings set and cemented in place.

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- 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'-6053'	8 3/4"	7"	26#	J55, LTC New
Production Liner	5853'-10602'	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.

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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'-6053'	30% open hole excess Stage 1 Lead: 397 sks Stage 1 Tail: 316 sks Stage 2 Lead: 197 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	5853'-10602'	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 well will be drilled in two phases. A pilot hole will be drilled in the first phase, followed by kicking off a horizontal lateral in the existing wellbore in the second phase. The intent of drilling a pilot hole is to obtain open hole log data. The intent of the second phase of the well is to plug back the pilot hole with cement to the kick off point. After plugging back, the plan is to drill a horizontal lateral from the kick off point in the existing wellbore to the proposed bottom hole location.

Description	Proposed Depth (TVD/MD)	Formation
Vertical Pilot Hole	6000 0'/0'	Gallup
Horizontal Lateral TD	5683'/10602'	Gallup

Proposed Plug Back Procedure: KOP 5154'

- a. Spot 500' kick plug from 4854' - 5354'
 - 209 sks of Clas A cement with salt (1.3 cuf/sk yield)
 - Spot tuned spacer

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- b. Pull uphole, reverse out, pump 2xBU
- c. Tag plug, drill ahead to KOP once cement is solid

6. DRILLING FLUIDS PROGRAM

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'-600'/500'	Fresh Water	8.4-8.6	60-70	NC
8 3/4"	600'/500'-6000'/6000'	Fresh Water LSND	9.5-8.8	40-50	8-10

- b) Surface through Intermediate Casing Point:

Hole Size (in)	Depth (TVD/MD)	Mud Type	Density (ppg)	Viscosity (sec/qt)	Fluid Loss (cc)
8 3/4"	5154'/5300'- 5681'/6053'	Fresh Water LSND	9.5-8.8	40-50	8-10

- c) Intermediate Casing Point to TD:

Hole Size (in)	Depth (TVD/MD)	Mud Type	Density (ppg)	Viscosity (sec/qt)	Fluid Loss (cc)
6 1/8"	5681'/6053'- 5683'/10602'	Synthetic Oil Based Mud	8.6-9.0	15-25	<15

- d) 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.
- e) 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

Open Hole:

Triple combo with spectral Gamma TD to surface casing

Cased Hole:

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

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8. ABNORMAL PRESSURES & HYDROGEN SULFIDE

The anticipated bottom hole pressure is +/- 2676 psi based on a 9.0 ppg at 5717' 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 October 16, 2014. 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 SE/4 15 24N 8W 430 FSL 330			Encana Natural Gas				ENG: S Kuykendall RIG: Aztec 950 GLE: 6896 RKBE: 6912			4/3/14	
County: San Juan			WELL SUMMARY								
WELL: Escrito L14-2408 03H											
MWD LWD	OPEN HOLE LOGGING	FORM	DEPTH TVDMD			HOLE SIZE	CASING SPECS	MW MUD TYPE	DEVIATION 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 TOC Surface - 201 sks of Type III Cement	Fresh wtr 8.4-8.6	Vertical <1°		
		Nacimiento 9 5/8" Csg	0 600	500.00							
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 Fruitland Coal Pictured Cliffs Ss. Lewis Shale Cliffhouse Ss. Menefee Fn. Point Lookout Ss. Mancos Shale	1,339 1,548 1,707 2,057 2,166 2,922 3,629 4,374 4,592		Stage tool @ ~ 2,216	8 3/4	7" 26ppf J55 LTC TOC @ surface 30% OH excess: 714 sksTotal. Stage 1 Lead: 397 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: 316 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. 197 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.	Fresh Wtr 8.5-8.8	Vertical <1°		
Surveys every 30' through the curve	Mud logger onsite	KOP Mancos Siit Gallup Fn. 7" Csg	5,154 5,214 5,432 5,681	5,300							
Surveys every stand to TD unless directed otherwise by Geologist	No OH Logs	Horizontal Target TD Base Gallup Pilot Hole TD	5,717 5,683 5,767 6,000	10,602		6 1/8	200' overlap at liner top 4548' Drilled Lateral	Horizontal Inclination Horizontal TVD 8.6-9.0 OBM	Horz Inc/TVD /80.4 TD = 10601.5 MD		
MWD Gamma Directional				6000			4 1/2" 11.6ppf SB80 LTC Running external swellable csg packers for isolation of prod string Plan on setting top packer within 100' of intermediate casing shoe	Switch to OBM 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 Pilot Hole TD, 8 3/4 inch hole size
- 5) PU directional tools and drill from KOP of 5300', at 10deg/100' build rate with 8 3/4 inch holesize
- 6) Drill to csg point of 6053' MD
- 7) R&C 7" csg, circ cmt to surface, switch to OBM
- 8) Land at 90 deg, drill lateral to 10602' 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

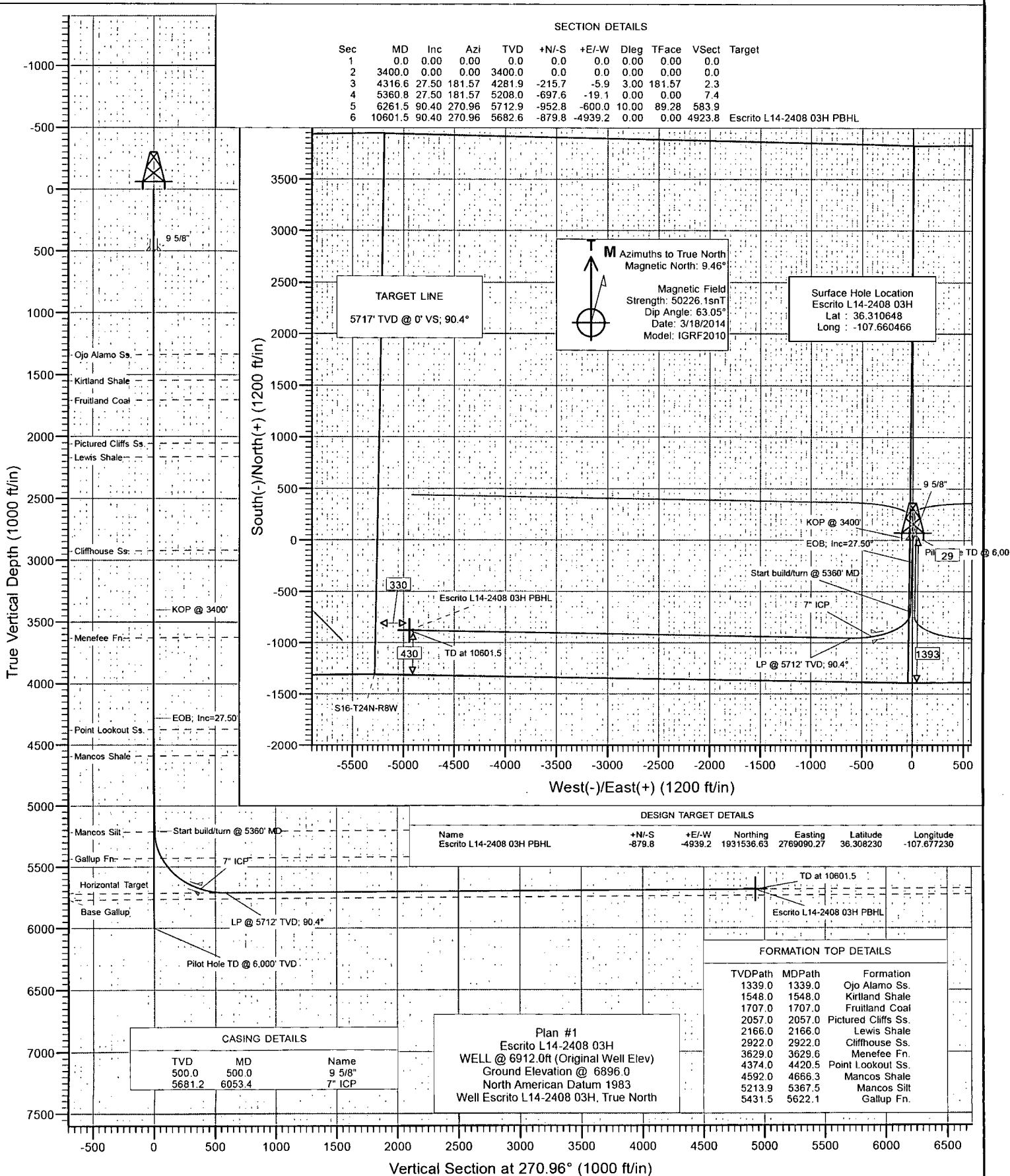
Drilling Mud Weight (ppg)	_____	9.625
Tension Safety Factor	_____	1.80
Maximum Tension Length (ft)	_____	9,630
Internal Yield Safety Factor	_____	1.10
Maximum Depth for Internal Yield (ft)	_____	14,150
Collapse Safety Factor	_____	1.125
Maximum Collapse Depth (ft)	_____	11,290

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



Project: San Juan County, NM
 Site: S14-T24N-R8W
 Well: Escrito L14-2408 03H
 Wellbore: HZ
 Design: Plan #1



Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Escrito L14-2408 03H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 6912.0ft (Original Well Elev)
Project:	San Juan County, NM	MD Reference:	WELL @ 6912.0ft (Original Well Elev)
Site:	S14-T24N-R8W	North Reference:	True
Well:	Escrito L14-2408 03H	Survey Calculation Method:	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #1		

Project	San Juan County, NM		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Western Zone		

Site		S14-T24N-R8W			
Site Position:		Northing:	1,932,462.42 ft	Latitude:	36.310750
From:	Lat/Long	Easting:	2,774,050.25 ft	Longitude:	-107.660390
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.10 °

Well	Escrito L14-2408 03H					
Well Position	+N/-S	0.0 ft	Northing:	1,932,425.25 ft	Latitude:	36.310648
	+E/-W	0.0 ft	Easting:	2,774,027.93 ft	Longitude:	-107.660466
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft	Ground Level:	6,896.0 ft	

Wellbore	HZ				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	3/18/2014	9.46	63.05	50,226

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	270.96

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	
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.00	0.00	0.00	0.00	
4,316.6	27.50	181.57	4,281.9	-215.7	-5.9	3.00	3.00	0.00	181.57	
5,360.8	27.50	181.57	5,208.0	-697.6	-19.1	0.00	0.00	0.00	0.00	
6,261.5	90.40	270.96	5,712.9	-952.8	-600.0	10.00	6.98	9.92	89.28	
10,601.5	90.40	270.96	5,682.6	-879.8	-4,939.2	0.00	0.00	0.00	0.00	Escrito L14-2408 03H

Database: USA EDM 5000 Multi Users DB
Company: EnCana Oil & Gas (USA) Inc
Project: San Juan County, NM
Site: S14-T24N-R8W
Well: Escrito L14-2408 03H
Wellbore: HZ
Design: Plan #1

Local Co-ordinate Reference: Well Escrito L14-2408 03H
TVD Reference: WELL @ 6912.0ft (Original Well Elev)
MD Reference: WELL @ 6912.0ft (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
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"
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	
1,339.0	0.00	0.00	1,339.0	0.0	0.0	0.0	0.00	0.00	Ojo Alamo Ss.
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	
1,548.0	0.00	0.00	1,548.0	0.0	0.0	0.0	0.00	0.00	Kirtland Shale
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	
1,707.0	0.00	0.00	1,707.0	0.0	0.0	0.0	0.00	0.00	Fruitland Coal
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	
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	
2,057.0	0.00	0.00	2,057.0	0.0	0.0	0.0	0.00	0.00	Pictured Cliffs Ss.
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	
2,166.0	0.00	0.00	2,166.0	0.0	0.0	0.0	0.00	0.00	Lewis 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	
2,400.0	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	
2,922.0	0.00	0.00	2,922.0	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	KOP @ 3400'
3,500.0	3.00	181.57	3,500.0	-2.6	-0.1	0.0	3.00	3.00	
3,600.0	6.00	181.57	3,599.6	-10.5	-0.3	0.1	3.00	3.00	
3,629.6	6.89	181.57	3,629.0	-13.8	-0.4	0.1	3.00	3.00	Menefee Fn.
3,700.0	9.00	181.57	3,698.8	-23.5	-0.6	0.2	3.00	3.00	
3,800.0	12.00	181.57	3,797.1	-41.7	-1.1	0.4	3.00	3.00	
3,900.0	15.00	181.57	3,894.3	-65.1	-1.8	0.7	3.00	3.00	
4,000.0	18.00	181.57	3,990.2	-93.4	-2.6	1.0	3.00	3.00	
4,100.0	21.00	181.57	4,084.4	-126.8	-3.5	1.3	3.00	3.00	
4,200.0	24.00	181.57	4,176.8	-165.1	-4.5	1.7	3.00	3.00	
4,300.0	27.00	181.57	4,267.1	-208.1	-5.7	2.2	3.00	3.00	
4,316.6	27.50	181.57	4,281.8	-215.7	-5.9	2.3	3.00	3.00	EOB; Inc=27.50°

Database: USA EDM 5000 Multi Users DB
 Company: EnCana Oil & Gas (USA) Inc
 Project: San Juan County, NM
 Site: S14-T24N-R8W
 Well: Escrito L14-2408 03H
 Wellbore: HZ
 Design: Plan #1

Local Co-ordinate Reference: Well Escrito L14-2408 03H
 TVD Reference: WELL @ 6912.0ft (Original Well Elev)
 MD Reference: WELL @ 6912.0ft (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	27.50	181.57	4,355.8	-254.2	-7.0	2.7	0.00	0.00	
4,420.5	27.50	181.57	4,374.0	-263.6	-7.2	2.8	0.00	0.00	Point Lookout Ss.
4,500.0	27.50	181.57	4,444.5	-300.3	-8.2	3.2	0.00	0.00	
4,600.0	27.50	181.57	4,533.2	-346.5	-9.5	3.7	0.00	0.00	
4,666.3	27.50	181.57	4,592.0	-377.1	-10.3	4.0	0.00	0.00	Mancos Shale
4,700.0	27.50	181.57	4,621.9	-392.6	-10.7	4.2	0.00	0.00	
4,800.0	27.50	181.57	4,710.6	-438.8	-12.0	4.7	0.00	0.00	
4,900.0	27.50	181.57	4,799.3	-485.0	-13.3	5.1	0.00	0.00	
5,000.0	27.50	181.57	4,888.0	-531.1	-14.5	5.6	0.00	0.00	
5,100.0	27.50	181.57	4,976.7	-577.3	-15.8	6.1	0.00	0.00	
5,200.0	27.50	181.57	5,065.4	-623.4	-17.1	6.6	0.00	0.00	
5,300.0	27.50	181.57	5,154.1	-669.6	-18.3	7.1	0.00	0.00	
5,360.8	27.50	181.57	5,208.0	-697.6	-19.1	7.4	0.00	0.00	Start build/turn @ 5360' MD
5,367.5	27.52	183.02	5,213.9	-700.7	-19.2	7.5	10.07	0.24	Mancos Silt
5,400.0	27.81	190.00	5,242.8	-715.7	-20.9	8.9	10.00	0.89	
5,450.0	28.91	200.28	5,286.8	-738.5	-27.1	14.8	10.00	2.21	
5,500.0	30.73	209.66	5,330.2	-761.0	-37.7	24.9	10.00	3.65	
5,550.0	33.16	217.93	5,372.6	-782.9	-52.4	39.3	10.00	4.84	
5,600.0	36.06	225.12	5,413.8	-804.1	-71.2	57.8	10.00	5.80	
5,622.1	37.46	227.97	5,431.5	-813.2	-80.8	67.2	10.00	6.36	Gallup Fn.
5,650.0	39.33	231.31	5,453.4	-824.4	-94.0	80.2	10.00	6.68	
5,700.0	42.88	236.66	5,491.1	-843.6	-120.6	106.5	10.00	7.11	
5,750.0	46.65	241.33	5,526.6	-861.7	-150.8	136.4	10.00	7.54	
5,800.0	50.59	245.44	5,559.6	-878.5	-184.4	169.6	10.00	7.88	
5,850.0	54.66	249.10	5,590.0	-893.8	-221.0	206.0	10.00	8.14	
5,900.0	58.83	252.40	5,617.4	-907.6	-260.5	245.2	10.00	8.34	
5,950.0	63.07	255.42	5,641.7	-919.6	-302.5	287.0	10.00	8.49	
6,000.0	67.38	258.23	5,662.6	-930.0	-346.6	331.0	10.00	8.61	
6,050.0	71.73	260.86	5,680.1	-938.4	-392.7	376.9	10.00	8.70	
6,053.4	72.02	261.03	5,681.2	-939.0	-395.9	380.1	10.00	8.74	7" ICP
6,100.0	76.11	263.36	5,693.9	-945.0	-440.3	424.4	10.00	8.77	
6,150.0	80.52	265.77	5,704.1	-949.7	-489.0	473.0	10.00	8.82	
6,200.0	84.95	268.12	5,710.4	-952.3	-538.5	522.5	10.00	8.85	
6,250.0	89.38	270.43	5,712.9	-952.9	-588.4	572.4	10.00	8.87	
6,261.5	90.40	270.96	5,712.9	-952.8	-599.9	583.9	10.00	8.87	LP @ 5712' TVD; 90.4°
6,300.0	90.40	270.96	5,712.6	-952.1	-638.4	622.4	0.00	0.00	
6,400.0	90.40	270.96	5,711.9	-950.5	-738.4	722.4	0.00	0.00	
6,500.0	90.40	270.96	5,711.2	-948.8	-838.4	822.4	0.00	0.00	
6,600.0	90.40	270.96	5,710.5	-947.1	-938.4	922.4	0.00	0.00	
6,700.0	90.40	270.96	5,709.8	-945.4	-1,038.4	1,022.4	0.00	0.00	
6,800.0	90.40	270.96	5,709.1	-943.7	-1,138.4	1,122.4	0.00	0.00	
6,900.0	90.40	270.96	5,708.4	-942.0	-1,238.3	1,222.4	0.00	0.00	
7,000.0	90.40	270.96	5,707.7	-940.4	-1,338.3	1,322.4	0.00	0.00	
7,100.0	90.40	270.96	5,707.0	-938.7	-1,438.3	1,422.4	0.00	0.00	
7,200.0	90.40	270.96	5,706.3	-937.0	-1,538.3	1,522.4	0.00	0.00	
7,300.0	90.40	270.96	5,705.6	-935.3	-1,638.3	1,622.4	0.00	0.00	
7,400.0	90.40	270.96	5,704.9	-933.6	-1,738.3	1,722.4	0.00	0.00	
7,500.0	90.40	270.96	5,704.2	-932.0	-1,838.2	1,822.4	0.00	0.00	
7,600.0	90.40	270.96	5,703.5	-930.3	-1,938.2	1,922.4	0.00	0.00	
7,700.0	90.40	270.96	5,702.9	-928.6	-2,038.2	2,022.4	0.00	0.00	
7,800.0	90.40	270.96	5,702.2	-926.9	-2,138.2	2,122.4	0.00	0.00	
7,900.0	90.40	270.96	5,701.5	-925.2	-2,238.2	2,222.4	0.00	0.00	

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Escrito L14-2408 03H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 6912.0ft (Original Well Elev)
Project:	San Juan County, NM	MD Reference:	WELL @ 6912.0ft (Original Well Elev)
Site:	S14-T24N-R8W	North Reference:	True
Well:	Escrito L14-2408 03H	Survey Calculation Method:	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #1		

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
8,000.0	90.40	270.96	5,700.8	-923.5	-2,338.2	2,322.4	0.00	0.00	
8,100.0	90.40	270.96	5,700.1	-921.9	-2,438.1	2,422.3	0.00	0.00	
8,200.0	90.40	270.96	5,699.4	-920.2	-2,538.1	2,522.3	0.00	0.00	
8,300.0	90.40	270.96	5,698.7	-918.5	-2,638.1	2,622.3	0.00	0.00	
8,400.0	90.40	270.96	5,698.0	-916.8	-2,738.1	2,722.3	0.00	0.00	
8,500.0	90.40	270.96	5,697.3	-915.1	-2,838.1	2,822.3	0.00	0.00	
8,600.0	90.40	270.96	5,696.6	-913.5	-2,938.1	2,922.3	0.00	0.00	
8,700.0	90.40	270.96	5,695.9	-911.8	-3,038.0	3,022.3	0.00	0.00	
8,800.0	90.40	270.96	5,695.2	-910.1	-3,138.0	3,122.3	0.00	0.00	
8,900.0	90.40	270.96	5,694.5	-908.4	-3,238.0	3,222.3	0.00	0.00	
9,000.0	90.40	270.96	5,693.8	-906.7	-3,338.0	3,322.3	0.00	0.00	
9,100.0	90.40	270.96	5,693.1	-905.0	-3,438.0	3,422.3	0.00	0.00	
9,200.0	90.40	270.96	5,692.4	-903.4	-3,538.0	3,522.3	0.00	0.00	
9,300.0	90.40	270.96	5,691.7	-901.7	-3,637.9	3,622.3	0.00	0.00	
9,400.0	90.40	270.96	5,691.0	-900.0	-3,737.9	3,722.3	0.00	0.00	
9,500.0	90.40	270.96	5,690.3	-898.3	-3,837.9	3,822.3	0.00	0.00	
9,600.0	90.40	270.96	5,689.6	-896.6	-3,937.9	3,922.3	0.00	0.00	
9,700.0	90.40	270.96	5,688.9	-895.0	-4,037.9	4,022.3	0.00	0.00	
9,800.0	90.40	270.96	5,688.2	-893.3	-4,137.9	4,122.3	0.00	0.00	
9,900.0	90.40	270.96	5,687.5	-891.6	-4,237.8	4,222.3	0.00	0.00	
10,000.0	90.40	270.96	5,686.8	-889.9	-4,337.8	4,322.3	0.00	0.00	
10,100.0	90.40	270.96	5,686.1	-888.2	-4,437.8	4,422.3	0.00	0.00	
10,200.0	90.40	270.96	5,685.4	-886.5	-4,537.8	4,522.3	0.00	0.00	
10,300.0	90.40	270.96	5,684.7	-884.9	-4,637.8	4,622.3	0.00	0.00	
10,400.0	90.40	270.96	5,684.0	-883.2	-4,737.8	4,722.3	0.00	0.00	
10,500.0	90.40	270.96	5,683.3	-881.5	-4,837.7	4,822.3	0.00	0.00	
10,601.5	90.40	270.96	5,682.6	-879.8	-4,939.2	4,923.8	0.00	0.00	TD at 10601.5

Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
Escrito L14-2407 03H PI	0.00	0.00	5,714.5	-956.7	-369.5	1,931,467.92	2,773,660.17	36.308020	-107.661720
- plan misses target center by 44.7ft at 6043.7ft MD (5678.1 TVD, -937.5 N, -386.8 E)									
- Point									
Escrito L14-2408 03H PI	0.00	0.00	5,682.6	-879.8	-4,939.2	1,931,536.63	2,769,090.27	36.308230	-107.677230
- plan hits target center									
- Point									

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
6,053.4	5,681.2	7" ICP	0.000	0.000

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Escrito L14-2408 03H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 6912.0ft (Original Well Elev)
Project:	San Juan County, NM	MD Reference:	WELL @ 6912.0ft (Original Well Elev)
Site:	S14-T24N-R8W	North Reference:	True
Well:	Escrito L14-2408 03H	Survey Calculation Method:	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #1		

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,339.0	1,339.0	Ojo Alamo Ss.		-0.40	270.96
1,548.0	1,548.0	Kirtland Shale		-0.40	270.96
1,707.0	1,707.0	Fruitland Coal		-0.40	270.96
2,057.0	2,057.0	Pictured Cliffs Ss.		-0.40	270.96
2,166.0	2,166.0	Lewis Shale		-0.40	270.96
2,922.0	2,922.0	Cliffhouse Ss.		-0.40	270.96
3,629.6	3,629.0	Menefee Fn.		-0.40	270.96
4,420.5	4,374.0	Point Lookout Ss.		-0.40	270.96
4,666.3	4,592.0	Mancos Shale		-0.40	270.96
5,367.5	5,214.0	Mancos Silt		-0.40	270.96
5,622.1	5,432.0	Gallup Fn.		-0.40	270.96

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
3,400.0	3,400.0	0.0	0.0	KOP @ 3400'	
4,316.6	4,281.8	-215.7	-5.9	EOB; Inc=27.50°	
5,360.8	5,208.0	-697.6	-19.1	Start build/turn @ 5360' MD	
6,261.5	5,712.9	-952.8	-599.9	LP @ 5712' TVD; 90.4°	
10,601.5	5,682.6	-879.8	-4,939.2	TD at 10601.5	



EnCana Oil & Gas (USA) Inc

San Juan County, NM

S14-T24N-R8W

Escrito L14-2408 03H

HZ

Plan #1

Anticollision Report

31 March, 2014

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Escrito L14-2408 03H
Project:	San Juan County, NM	TVD Reference:	WELL @ 6912.0ft (Original Well Elev)
Reference Site:	S14-T24N-R8W	MD Reference:	WELL @ 6912.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Escrito L14-2408 03H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	HZ	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference	Plan #1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	Error Model:	Systematic Ellipse
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 1,550.0ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program		Date	3/31/2014		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	10,601.5	Plan #1 (HZ)	Geolink MWD	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						
S14-T24N-R8W						
Escrito L14-2408 01H - HZ - Plan #1	3,400.0	3,400.0	42.4	30.6	3.592	CC, ES, SF
Escrito L14-2408 02H - HZ - Plan #1	3,158.2	3,158.3	29.4	18.4	2.678	CC, ES
Escrito L14-2408 02H - HZ - Plan #1	5,450.0	5,409.2	68.6	40.3	2.424	SF
Escrito L14-2408 04H - HZ - Plan #1	3,400.0	3,400.0	30.1	18.3	2.551	CC, ES, SF
S16-T24N-R8W						
Escrito D16A-2408 01H - Hz - Plan #2	10,601.8	11,816.8	669.2	454.7	3.120	CC, ES, SF

Company: EnCana Oil & Gas (USA) Inc
Project: San Juan County, NM
Reference Site: S14-T24N-R8W
Site Error: 0.0ft
Reference Well: Escrito L14-2408 03H
Well Error: 0.0ft
Reference Wellbore: HZ
Reference Design: Plan #1

Local Co-ordinate Reference: Well Escrito L14-2408 03H
TVD Reference: WELL @ 6912.0ft (Original Well Elev)
MD Reference: WELL @ 6912.0ft (Original Well Elev)
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 S14-T24N-R8W - Escrito L14-2408 01H - HZ - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-Geolink MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Total Uncertainty Axis	Separation Factor	Warning	
Reference	Offset	Reference	Offset	Reference	Offset		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
0.0	0.0	0.0	0.0	0.0	0.0	32.79	35.7	23.0	42.4					
100.0	100.0	100.0	100.0	0.1	0.1	32.79	35.7	23.0	42.4	42.1	0.29	144.726		
200.0	200.0	200.0	200.0	0.3	0.3	32.79	35.7	23.0	42.4	41.8	0.64	66.071		
300.0	300.0	300.0	300.0	0.5	0.5	32.79	35.7	23.0	42.4	41.4	0.99	42.806		
400.0	400.0	400.0	400.0	0.7	0.7	32.79	35.7	23.0	42.4	41.1	1.34	31.659		
500.0	500.0	500.0	500.0	0.8	0.8	32.79	35.7	23.0	42.4	40.7	1.69	25.118		
600.0	600.0	600.0	600.0	1.0	1.0	32.79	35.7	23.0	42.4	40.4	2.04	20.817		
700.0	700.0	700.0	700.0	1.2	1.2	32.79	35.7	23.0	42.4	40.0	2.39	17.773		
800.0	800.0	800.0	800.0	1.4	1.4	32.79	35.7	23.0	42.4	39.7	2.74	15.506		
900.0	900.0	900.0	900.0	1.5	1.5	32.79	35.7	23.0	42.4	39.4	3.09	13.752		
1,000.0	1,000.0	1,000.0	1,000.0	1.7	1.7	32.79	35.7	23.0	42.4	39.0	3.43	12.355		
1,100.0	1,100.0	1,100.0	1,100.0	1.9	1.9	32.79	35.7	23.0	42.4	38.7	3.78	11.215		
1,200.0	1,200.0	1,200.0	1,200.0	2.1	2.1	32.79	35.7	23.0	42.4	38.3	4.13	10.268		
1,300.0	1,300.0	1,300.0	1,300.0	2.2	2.2	32.79	35.7	23.0	42.4	38.0	4.48	9.468		
1,400.0	1,400.0	1,400.0	1,400.0	2.4	2.4	32.79	35.7	23.0	42.4	37.6	4.83	8.784		
1,500.0	1,500.0	1,500.0	1,500.0	2.6	2.6	32.79	35.7	23.0	42.4	37.3	5.18	8.192		
1,600.0	1,600.0	1,600.0	1,600.0	2.8	2.8	32.79	35.7	23.0	42.4	36.9	5.53	7.675		
1,700.0	1,700.0	1,700.0	1,700.0	2.9	2.9	32.79	35.7	23.0	42.4	36.6	5.88	7.219		
1,800.0	1,800.0	1,800.0	1,800.0	3.1	3.1	32.79	35.7	23.0	42.4	36.2	6.23	6.814		
1,900.0	1,900.0	1,900.0	1,900.0	3.3	3.3	32.79	35.7	23.0	42.4	35.9	6.58	6.453		
2,000.0	2,000.0	2,000.0	2,000.0	3.5	3.5	32.79	35.7	23.0	42.4	35.5	6.93	6.128		
2,100.0	2,100.0	2,100.0	2,100.0	3.6	3.6	32.79	35.7	23.0	42.4	35.2	7.27	5.833		
2,200.0	2,200.0	2,200.0	2,200.0	3.8	3.8	32.79	35.7	23.0	42.4	34.8	7.62	5.566		
2,300.0	2,300.0	2,300.0	2,300.0	4.0	4.0	32.79	35.7	23.0	42.4	34.5	7.97	5.323		
2,400.0	2,400.0	2,400.0	2,400.0	4.2	4.2	32.79	35.7	23.0	42.4	34.1	8.32	5.099		
2,500.0	2,500.0	2,500.0	2,500.0	4.3	4.3	32.79	35.7	23.0	42.4	33.8	8.67	4.894		
2,600.0	2,600.0	2,600.0	2,600.0	4.5	4.5	32.79	35.7	23.0	42.4	33.4	9.02	4.705		
2,700.0	2,700.0	2,700.0	2,700.0	4.7	4.7	32.79	35.7	23.0	42.4	33.1	9.37	4.529		
2,800.0	2,800.0	2,800.0	2,800.0	4.9	4.9	32.79	35.7	23.0	42.4	32.7	9.72	4.367		
2,900.0	2,900.0	2,900.0	2,900.0	5.0	5.0	32.79	35.7	23.0	42.4	32.4	10.07	4.215		
3,000.0	3,000.0	3,000.0	3,000.0	5.2	5.2	32.79	35.7	23.0	42.4	32.0	10.42	4.074		
3,100.0	3,100.0	3,100.0	3,100.0	5.4	5.4	32.79	35.7	23.0	42.4	31.7	10.77	3.942		
3,200.0	3,200.0	3,200.0	3,200.0	5.6	5.6	32.79	35.7	23.0	42.4	31.3	11.11	3.818		
3,300.0	3,300.0	3,300.0	3,300.0	5.7	5.7	32.79	35.7	23.0	42.4	31.0	11.46	3.702		
3,400.0	3,400.0	3,400.0	3,400.0	5.9	5.9	32.79	35.7	23.0	42.4	30.6	11.81	3.592 CC, ES, SF		
3,500.0	3,500.0	3,500.0	3,500.0	6.1	6.1	-150.48	35.7	23.0	44.7	32.5	12.15	3.678		
3,600.0	3,599.6	3,597.2	3,597.2	6.3	6.3	-155.83	38.1	22.9	53.9	41.4	12.47	4.324		
3,700.0	3,698.8	3,692.2	3,691.9	6.5	6.4	-162.38	45.3	22.7	73.0	60.3	12.75	5.724		
3,800.0	3,797.1	3,783.5	3,782.5	6.7	6.6	-167.50	56.7	22.4	102.2	89.2	13.01	7.859		
3,900.0	3,894.3	3,875.9	3,873.9	6.9	6.8	-170.99	70.5	21.9	139.2	125.9	13.23	10.518		
4,000.0	3,990.2	3,966.5	3,963.4	7.2	7.0	-173.19	84.1	21.5	181.2	167.7	13.42	13.495		
4,100.0	4,084.4	4,054.7	4,050.5	7.6	7.2	-174.66	97.3	21.2	228.0	214.4	13.59	16.779		
4,200.0	4,176.8	4,140.3	4,135.2	8.0	7.3	-175.68	110.2	20.8	279.5	265.8	13.72	20.364		
4,300.0	4,267.1	4,223.0	4,217.0	8.5	7.5	-176.42	122.6	20.4	335.4	321.6	13.83	24.254		
4,316.6	4,281.9	4,236.5	4,230.4	8.6	7.6	-176.52	124.6	20.3	345.2	331.3	13.85	24.931		
4,400.0	4,355.8	4,303.9	4,296.9	9.1	7.7	-177.06	134.7	20.0	394.2	380.1	14.10	27.953		
4,500.0	4,444.5	4,384.6	4,376.8	9.6	7.9	-177.55	146.8	19.7	453.1	438.7	14.41	31.438		
4,600.0	4,533.2	4,465.4	4,456.7	10.3	8.1	-177.93	158.9	19.3	512.0	497.3	14.72	34.777		
4,700.0	4,621.9	4,546.2	4,536.5	10.9	8.3	-178.23	171.0	19.0	570.9	555.9	15.03	37.980		
4,800.0	4,710.6	4,627.0	4,616.4	11.6	8.5	-178.47	183.2	18.6	629.8	614.5	15.34	41.055		
4,900.0	4,799.3	4,707.8	4,696.3	12.3	8.7	-178.67	195.3	18.2	688.7	673.1	15.65	44.010		
5,000.0	4,888.0	4,788.5	4,776.1	13.0	8.9	-178.84	207.4	17.9	747.6	731.7	15.96	46.851		

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	Local Co-ordinate Reference:	Well Escrito L14-2408 03H
Project:	San Juan County, NM	TVD Reference:	WELL @ 6912.0ft (Original Well Elev)
Reference Site:	S14-T24N-R8W	MD Reference:	WELL @ 6912.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Escrito L14-2408 03H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	HZ	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design S14-T24N-R8W - Escrito L14-2408 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		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning				
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)				Between Centres (ft)	Between Ellipses (ft)		
5,100.0	4,976.7	4,869.3	4,856.0	13.7	9.1	-178.99	219.5	17.5	806.5	790.3	16.27	49.584			
5,200.0	5,065.4	4,950.1	4,935.9	14.5	9.3	-179.11	231.6	17.2	865.5	848.9	16.57	52.217			
5,300.0	5,154.1	5,030.9	5,015.7	15.2	9.5	-179.22	243.7	16.8	924.4	907.5	16.88	54.755			
5,360.8	5,208.0	5,080.0	5,064.3	15.7	9.7	-179.28	251.1	16.6	960.2	943.1	17.07	56.252			
5,400.0	5,242.8	5,111.7	5,095.6	16.0	9.7	170.44	255.8	16.5	983.3	966.1	17.21	57.142			
5,450.0	5,286.8	5,151.8	5,135.3	16.3	9.8	158.10	261.9	16.3	1,012.7	995.2	17.51	57.823			
5,500.0	5,330.2	5,191.4	5,174.4	16.7	10.0	146.99	267.8	16.1	1,041.9	1,024.0	17.95	58.057			
5,550.0	5,372.6	5,226.1	5,208.7	17.1	10.0	137.24	273.0	16.7	1,070.8	1,052.3	18.48	57.955			
5,600.0	5,413.8	5,257.3	5,239.4	17.5	10.1	128.86	277.7	19.0	1,099.4	1,080.4	19.08	57.635			
5,650.0	5,453.4	5,284.7	5,266.4	17.8	10.2	121.62	281.8	22.4	1,127.9	1,108.2	19.73	57.176			
5,700.0	5,491.1	5,308.2	5,289.2	18.2	10.3	115.28	285.3	26.4	1,156.2	1,135.8	20.43	56.605			
5,750.0	5,526.6	5,327.6	5,308.0	18.6	10.3	109.63	288.2	30.4	1,184.4	1,163.3	21.15	55.992			
5,800.0	5,559.6	5,350.0	5,329.5	19.0	10.4	104.86	291.5	35.8	1,212.5	1,190.7	21.86	55.464			
5,850.0	5,590.0	5,350.0	5,329.5	19.5	10.4	99.55	291.5	35.8	1,240.4	1,217.8	22.64	54.798			
5,900.0	5,617.4	5,363.7	5,342.5	19.9	10.4	95.46	293.5	39.5	1,268.1	1,244.8	23.30	54.414			
5,950.0	5,641.7	5,369.3	5,347.9	20.4	10.4	91.42	294.3	41.1	1,295.4	1,271.5	23.92	54.145			
6,000.0	5,662.6	5,372.4	5,350.8	20.9	10.5	87.68	294.8	42.0	1,322.2	1,297.8	24.46	54.061			
6,050.0	5,680.1	5,373.3	5,351.6	21.4	10.5	84.24	294.9	42.3	1,348.4	1,323.5	24.89	54.174			
6,100.0	5,693.9	5,372.2	5,350.5	21.9	10.4	81.11	294.7	41.9	1,373.9	1,348.6	25.22	54.478			
6,150.0	5,704.1	5,369.4	5,347.9	22.5	10.4	78.29	294.3	41.1	1,398.4	1,372.9	25.45	54.954			
6,200.0	5,710.4	5,365.1	5,343.8	23.1	10.4	75.79	293.7	39.9	1,421.8	1,396.2	25.58	55.575			
6,250.0	5,712.9	5,350.0	5,329.5	23.7	10.4	73.22	291.5	35.8	1,444.0	1,418.4	25.58	56.441			
6,261.5	5,712.9	5,350.0	5,329.5	23.8	10.4	72.83	291.5	35.8	1,448.9	1,423.3	25.60	56.601			
6,300.0	5,712.6	5,350.0	5,329.5	24.3	10.4	72.83	291.5	35.8	1,465.6	1,439.2	26.36	55.607			
6,400.0	5,711.9	5,350.0	5,329.5	25.8	10.4	72.83	291.5	35.8	1,512.6	1,484.2	28.39	53.288			

Company: EnCana Oil & Gas (USA) Inc
Project: San Juan County, NM
Reference Site: S14-T24N-R8W
Site Error: 0.0ft
Reference Well: Escrito L14-2408 03H
Well Error: 0.0ft
Reference Wellbore: HZ
Reference Design: Plan #1

Local Co-ordinate Reference: Well Escrito L14-2408 03H
TVD Reference: WELL @ 6912.0ft (Original Well Elev)
MD Reference: WELL @ 6912.0ft (Original Well Elev)
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 S14-T24N-R8W - Escrito L14-2408 02H - HZ - Plan #1													Offset Site Error:	0.0 ft
Survey Program: O-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	78.14	6.2	29.5	30.1					
100.0	100.0	100.0	100.0	0.1	0.1	78.14	6.2	29.5	30.1	29.8	0.29	102.673		
200.0	200.0	200.0	200.0	0.3	0.3	78.14	6.2	29.5	30.1	29.5	0.64	46.873		
300.0	300.0	300.0	300.0	0.5	0.5	78.14	6.2	29.5	30.1	29.1	0.99	30.368		
400.0	400.0	400.0	400.0	0.7	0.7	78.14	6.2	29.5	30.1	28.8	1.34	22.460		
500.0	500.0	500.0	500.0	0.8	0.8	78.14	6.2	29.5	30.1	28.4	1.69	17.819		
600.0	600.0	600.0	600.0	1.0	1.0	78.14	6.2	29.5	30.1	28.1	2.04	14.768		
700.0	700.0	700.0	700.0	1.2	1.2	78.14	6.2	29.5	30.1	27.7	2.39	12.609		
800.0	800.0	800.0	800.0	1.4	1.4	78.14	6.2	29.5	30.1	27.4	2.74	11.001		
900.0	900.0	900.0	900.0	1.5	1.5	78.14	6.2	29.5	30.1	27.0	3.09	9.756		
1,000.0	1,000.0	1,000.0	1,000.0	1.7	1.7	78.14	6.2	29.5	30.1	26.7	3.43	8.765		
1,100.0	1,100.0	1,100.0	1,100.0	1.9	1.9	78.14	6.2	29.5	30.1	26.3	3.78	7.956		
1,200.0	1,200.0	1,200.0	1,200.0	2.1	2.1	78.14	6.2	29.5	30.1	26.0	4.13	7.284		
1,300.0	1,300.0	1,300.0	1,300.0	2.2	2.2	78.14	6.2	29.5	30.1	25.6	4.48	6.717		
1,400.0	1,400.0	1,400.0	1,400.0	2.4	2.4	78.14	6.2	29.5	30.1	25.3	4.83	6.232		
1,500.0	1,500.0	1,500.0	1,500.0	2.6	2.6	78.14	6.2	29.5	30.1	24.9	5.18	5.812		
1,600.0	1,600.0	1,600.0	1,600.0	2.8	2.8	78.14	6.2	29.5	30.1	24.6	5.53	5.445		
1,700.0	1,700.0	1,700.0	1,700.0	2.9	2.9	78.14	6.2	29.5	30.1	24.2	5.88	5.121		
1,800.0	1,800.0	1,800.0	1,800.0	3.1	3.1	78.14	6.2	29.5	30.1	23.9	6.23	4.834		
1,900.0	1,900.0	1,900.0	1,900.0	3.3	3.3	78.14	6.2	29.5	30.1	23.5	6.58	4.578		
2,000.0	2,000.0	2,000.0	2,000.0	3.5	3.5	78.14	6.2	29.5	30.1	23.2	6.93	4.347		
2,100.0	2,100.0	2,100.0	2,100.0	3.6	3.6	78.14	6.2	29.5	30.1	22.8	7.27	4.138		
2,200.0	2,200.0	2,200.0	2,200.0	3.8	3.8	78.14	6.2	29.5	30.1	22.5	7.62	3.949		
2,300.0	2,300.0	2,300.0	2,300.0	4.0	4.0	78.14	6.2	29.5	30.1	22.1	7.97	3.776		
2,400.0	2,400.0	2,400.0	2,400.0	4.2	4.2	78.14	6.2	29.5	30.1	21.8	8.32	3.618		
2,500.0	2,500.0	2,500.0	2,500.0	4.3	4.3	78.14	6.2	29.5	30.1	21.4	8.67	3.472		
2,600.0	2,600.0	2,600.0	2,600.0	4.5	4.5	78.14	6.2	29.5	30.1	21.1	9.02	3.338		
2,700.0	2,700.0	2,700.0	2,700.0	4.7	4.7	78.14	6.2	29.5	30.1	20.7	9.37	3.213		
2,800.0	2,800.0	2,800.0	2,800.0	4.9	4.9	78.14	6.2	29.5	30.1	20.4	9.72	3.098		
2,900.0	2,900.0	2,900.0	2,900.0	5.0	5.0	78.14	6.2	29.5	30.1	20.0	10.07	2.990		
3,000.0	3,000.0	3,000.0	3,000.0	5.2	5.2	78.14	6.2	29.5	30.1	19.7	10.42	2.890		
3,100.0	3,100.0	3,100.3	3,100.2	5.4	5.4	83.11	3.6	29.4	29.6	18.9	10.77	2.753		
3,158.2	3,158.2	3,158.3	3,158.2	5.5	5.5	90.72	-0.4	29.4	29.4	18.4	10.97	2.678 CC, ES		
3,200.0	3,200.0	3,200.0	3,199.6	5.6	5.6	98.29	-4.3	29.3	29.6	18.5	11.12	2.665		
3,300.0	3,300.0	3,298.6	3,297.4	5.7	5.8	120.38	-17.1	29.2	33.9	22.4	11.48	2.954		
3,400.0	3,400.0	3,395.6	3,392.8	5.9	6.0	140.11	-34.6	28.9	45.7	33.9	11.84	3.862		
3,500.0	3,500.0	3,491.2	3,485.8	6.1	6.2	-29.28	-56.6	28.7	62.8	50.6	12.17	5.158		
3,600.0	3,599.6	3,585.9	3,576.8	6.3	6.5	-22.54	-83.0	28.3	81.2	68.8	12.49	6.503		
3,700.0	3,698.8	3,679.7	3,665.5	6.5	6.8	-18.41	-113.5	27.9	100.1	87.3	12.79	7.826		
3,800.0	3,797.1	3,774.0	3,753.0	6.7	7.2	-15.65	-148.4	27.5	118.9	105.8	13.08	9.093		
3,900.0	3,894.3	3,872.7	3,844.2	6.9	7.7	-13.96	-186.2	27.0	134.2	120.9	13.35	10.053		
4,000.0	3,990.2	3,972.2	3,936.1	7.2	8.2	-13.11	-224.3	26.5	144.5	130.9	13.61	10.619		
4,100.0	4,084.4	4,072.0	4,028.3	7.6	8.7	-12.82	-262.5	26.1	149.8	135.9	13.86	10.805		
4,200.0	4,176.8	4,172.0	4,120.7	8.0	9.2	-13.03	-300.8	25.6	149.9	135.8	14.11	10.626		
4,300.0	4,267.1	4,271.8	4,212.9	8.5	9.8	-13.75	-339.0	25.1	145.0	130.6	14.37	10.092		
4,316.6	4,281.9	4,288.4	4,228.2	8.6	9.9	-13.92	-345.4	25.0	143.7	129.3	14.41	9.970		
4,400.0	4,355.8	4,371.5	4,304.9	9.1	10.3	-14.84	-377.2	24.6	136.8	122.0	14.81	9.239		
4,500.0	4,444.5	4,471.1	4,397.0	9.6	10.9	-16.07	-415.4	24.1	128.6	113.3	15.31	8.398		
4,600.0	4,533.2	4,570.7	4,489.0	10.3	11.5	-17.47	-453.5	23.7	120.4	104.6	15.86	7.592		
4,700.0	4,621.9	4,670.3	4,581.0	10.9	12.1	-19.08	-491.7	23.2	112.4	95.9	16.48	6.819		
4,800.0	4,710.6	4,770.0	4,673.0	11.6	12.7	-20.93	-529.8	22.7	104.4	87.2	17.18	6.077		
4,900.0	4,799.3	4,869.6	4,765.1	12.3	13.4	-23.08	-568.0	22.2	96.6	78.6	17.99	5.367		

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: San Juan County, NM
Reference Site: S14-T24N-R8W
Site Error: 0.0ft
Reference Well: Escrito L14-2408 03H
Well Error: 0.0ft
Reference Wellbore: HZ
Reference Design: Plan #1

Local Co-ordinate Reference: Well Escrito L14-2408 03H
TVD Reference: WELL @ 6912.0ft (Original Well Elev)
MD Reference: WELL @ 6912.0ft (Original Well Elev)
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 S14-T24N-R8W - Escrito L14-2408 02H - HZ - Plan #1														Offset Site Error:	0.0 ft
Survey Program: 0-Geolink MWD														Offset Well Error:	0.0 ft
Reference	Vertical	Offset	Vertical	Semi Major Axis		Highside	Offset Wellbore Centre		Distance		Total	Separation	Warning		
Measured Depth (ft)	Depth (ft)	Measured Depth (ft)	Depth (ft)	Reference (ft)	Offset (ft)	Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor			
5,000.0	4,888.0	4,969.2	4,857.1	13.0	14.0	-25.60	-606.1	21.7	88.9	69.9	18.95	4.689			
5,100.0	4,976.7	5,068.8	4,949.1	13.7	14.6	-28.60	-644.3	21.2	81.4	61.3	20.11	4.047			
5,200.0	5,065.4	5,168.4	5,041.1	14.5	15.3	-32.19	-682.4	20.8	74.2	52.6	21.53	3.445			
5,300.0	5,154.1	5,268.1	5,133.2	15.2	15.9	-36.53	-720.6	20.3	67.3	44.0	23.28	2.891			
5,360.8	5,208.0	5,328.1	5,188.7	15.7	16.3	-39.61	-743.6	20.0	63.4	38.9	24.54	2.583			
5,386.0	5,230.4	5,351.7	5,210.4	15.8	16.5	-46.70	-752.6	20.7	62.7	37.3	25.36	2.472			
5,400.0	5,242.8	5,364.5	5,222.2	16.0	16.5	-51.11	-757.5	21.4	63.0	37.0	25.92	2.429			
5,450.0	5,286.8	5,409.2	5,263.3	16.3	16.8	-68.48	-774.5	26.3	68.6	40.3	28.29	2.424 SF			
5,500.0	5,330.2	5,450.0	5,300.3	16.7	17.1	-85.20	-789.8	33.7	82.6	52.3	30.25	2.730			
5,550.0	5,372.6	5,487.5	5,333.9	17.1	17.3	-99.19	-803.6	43.1	105.1	73.8	31.36	3.352			
5,600.0	5,413.8	5,519.2	5,361.8	17.5	17.5	-109.70	-815.1	52.8	135.0	103.3	31.64	4.267			
5,650.0	5,453.4	5,550.0	5,388.4	17.8	17.7	-118.07	-826.1	63.9	170.8	139.4	31.42	5.436			
5,700.0	5,491.1	5,566.9	5,402.7	18.2	17.8	-122.90	-832.0	70.6	211.0	180.3	30.72	6.868			
5,750.0	5,526.6	5,583.4	5,416.6	18.6	17.9	-126.52	-837.6	77.6	254.7	224.9	29.81	8.542			
5,800.0	5,559.6	5,600.0	5,430.3	19.0	18.0	-129.07	-843.3	85.0	300.9	272.2	28.75	10.468			
5,850.0	5,590.0	5,600.0	5,430.3	19.5	18.0	-126.30	-843.3	85.0	348.9	321.3	27.59	12.646			
5,900.0	5,617.4	5,600.0	5,430.3	19.9	18.0	-115.32	-843.3	85.0	398.2	371.7	26.43	15.063			
5,950.0	5,641.7	5,611.1	5,439.3	20.4	18.1	-90.03	-847.0	90.3	447.7	423.1	24.63	18.176			
6,000.0	5,662.6	5,600.0	5,430.3	20.9	18.0	-4.04	-843.3	85.0	497.9	479.8	18.04	27.604			
6,050.0	5,680.1	5,600.0	5,430.3	21.4	18.0	12.07	-843.3	85.0	547.5	529.4	18.08	30.275			
6,100.0	5,693.9	5,600.0	5,430.3	21.9	18.0	17.51	-843.3	85.0	596.5	579.3	17.25	34.584			
6,150.0	5,704.1	5,600.0	5,430.3	22.5	18.0	20.08	-843.3	85.0	644.9	628.6	16.30	39.571			
6,200.0	5,710.4	5,600.0	5,430.3	23.1	18.0	21.57	-843.3	85.0	692.2	676.7	15.54	44.557			
6,250.0	5,712.9	5,581.2	5,414.7	23.7	17.9	22.59	-836.9	76.6	738.0	722.9	15.10	48.863			
6,261.5	5,712.9	5,579.0	5,412.9	23.8	17.9	22.79	-836.1	75.7	748.4	733.3	15.06	49.687			
6,300.0	5,712.6	5,571.9	5,406.9	24.3	17.9	22.77	-833.7	72.6	783.0	767.7	15.34	51.032			
6,400.0	5,711.9	5,550.0	5,388.4	25.8	17.7	22.73	-826.1	63.9	874.0	857.9	16.09	54.303			
6,500.0	5,711.2	5,550.0	5,388.4	27.4	17.7	22.73	-826.1	63.9	966.1	949.2	16.92	57.114			
6,600.0	5,710.5	5,526.5	5,368.1	29.1	17.6	22.69	-817.7	55.3	1,059.0	1,041.2	17.72	59.770			
6,700.0	5,709.8	5,500.0	5,345.0	31.0	17.4	22.66	-808.2	46.7	1,153.0	1,134.5	18.53	62.216			
6,800.0	5,709.1	5,500.0	5,345.0	32.9	17.4	22.66	-808.2	46.7	1,247.2	1,227.7	19.41	64.262			
6,900.0	5,708.4	5,500.0	5,345.0	35.0	17.4	22.66	-808.2	46.7	1,342.2	1,321.9	20.29	66.134			
7,000.0	5,707.7	5,500.0	5,345.0	37.1	17.4	22.66	-808.2	46.7	1,437.9	1,416.7	21.19	67.848			
7,100.0	5,707.0	5,477.8	5,325.3	39.2	17.3	22.63	-800.1	40.4	1,533.5	1,511.4	22.06	69.515			

Company: EnCana Oil & Gas (USA) Inc
Project: San Juan County, NM
Reference Site: S14-T24N-R8W
Site Error: 0.0ft
Reference Well: Escrito L14-2408 03H
Well Error: 0.0ft
Reference Wellbore: HZ
Reference Design: Plan #1

Local Co-ordinate Reference: Well Escrito L14-2408 03H
TVD Reference: WELL @ 6912.0ft (Original Well Elev)
MD Reference: WELL @ 6912.0ft (Original Well Elev)
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 S14-T24N-R8W - Escrito L14-2408 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		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	-11.85	29.5	-6.2	30.1						
100.0	100.0	100.0	100.0	0.1	0.1	-11.85	29.5	-6.2	30.1	29.8	0.29	102.752			
200.0	200.0	200.0	200.0	0.3	0.3	-11.85	29.5	-6.2	30.1	29.5	0.64	46.908			
300.0	300.0	300.0	300.0	0.5	0.5	-11.85	29.5	-6.2	30.1	29.1	0.99	30.391			
400.0	400.0	400.0	400.0	0.7	0.7	-11.85	29.5	-6.2	30.1	28.8	1.34	22.477			
500.0	500.0	500.0	500.0	0.8	0.8	-11.85	29.5	-6.2	30.1	28.4	1.69	17.833			
600.0	600.0	600.0	600.0	1.0	1.0	-11.85	29.5	-6.2	30.1	28.1	2.04	14.779			
700.0	700.0	700.0	700.0	1.2	1.2	-11.85	29.5	-6.2	30.1	27.7	2.39	12.619			
800.0	800.0	800.0	800.0	1.4	1.4	-11.85	29.5	-6.2	30.1	27.4	2.74	11.009			
900.0	900.0	900.0	900.0	1.5	1.5	-11.85	29.5	-6.2	30.1	27.0	3.09	9.764			
1,000.0	1,000.0	1,000.0	1,000.0	1.7	1.7	-11.85	29.5	-6.2	30.1	26.7	3.43	8.772			
1,100.0	1,100.0	1,100.0	1,100.0	1.9	1.9	-11.85	29.5	-6.2	30.1	26.3	3.78	7.962			
1,200.0	1,200.0	1,200.0	1,200.0	2.1	2.1	-11.85	29.5	-6.2	30.1	26.0	4.13	7.290			
1,300.0	1,300.0	1,300.0	1,300.0	2.2	2.2	-11.85	29.5	-6.2	30.1	25.6	4.48	6.722			
1,400.0	1,400.0	1,400.0	1,400.0	2.4	2.4	-11.85	29.5	-6.2	30.1	25.3	4.83	6.236			
1,500.0	1,500.0	1,500.0	1,500.0	2.6	2.6	-11.85	29.5	-6.2	30.1	24.9	5.18	5.816			
1,600.0	1,600.0	1,600.0	1,600.0	2.8	2.8	-11.85	29.5	-6.2	30.1	24.6	5.53	5.449			
1,700.0	1,700.0	1,700.0	1,700.0	2.9	2.9	-11.85	29.5	-6.2	30.1	24.3	5.88	5.125			
1,800.0	1,800.0	1,800.0	1,800.0	3.1	3.1	-11.85	29.5	-6.2	30.1	23.9	6.23	4.838			
1,900.0	1,900.0	1,900.0	1,900.0	3.3	3.3	-11.85	29.5	-6.2	30.1	23.6	6.58	4.581			
2,000.0	2,000.0	2,000.0	2,000.0	3.5	3.5	-11.85	29.5	-6.2	30.1	23.2	6.93	4.350			
2,100.0	2,100.0	2,100.0	2,100.0	3.6	3.6	-11.85	29.5	-6.2	30.1	22.9	7.27	4.142			
2,200.0	2,200.0	2,200.0	2,200.0	3.8	3.8	-11.85	29.5	-6.2	30.1	22.5	7.62	3.952			
2,300.0	2,300.0	2,300.0	2,300.0	4.0	4.0	-11.85	29.5	-6.2	30.1	22.2	7.97	3.779			
2,400.0	2,400.0	2,400.0	2,400.0	4.2	4.2	-11.85	29.5	-6.2	30.1	21.8	8.32	3.620			
2,500.0	2,500.0	2,500.0	2,500.0	4.3	4.3	-11.85	29.5	-6.2	30.1	21.5	8.67	3.475			
2,600.0	2,600.0	2,600.0	2,600.0	4.5	4.5	-11.85	29.5	-6.2	30.1	21.1	9.02	3.340			
2,700.0	2,700.0	2,700.0	2,700.0	4.7	4.7	-11.85	29.5	-6.2	30.1	20.8	9.37	3.216			
2,800.0	2,800.0	2,800.0	2,800.0	4.9	4.9	-11.85	29.5	-6.2	30.1	20.4	9.72	3.100			
2,900.0	2,900.0	2,900.0	2,900.0	5.0	5.0	-11.85	29.5	-6.2	30.1	20.1	10.07	2.993			
3,000.0	3,000.0	3,000.0	3,000.0	5.2	5.2	-11.85	29.5	-6.2	30.1	19.7	10.42	2.892			
3,100.0	3,100.0	3,100.0	3,100.0	5.4	5.4	-11.85	29.5	-6.2	30.1	19.4	10.77	2.799			
3,200.0	3,200.0	3,200.0	3,200.0	5.6	5.6	-11.85	29.5	-6.2	30.1	19.0	11.11	2.711			
3,300.0	3,300.0	3,300.0	3,300.0	5.7	5.7	-11.85	29.5	-6.2	30.1	18.7	11.46	2.628			
3,400.0	3,400.0	3,400.0	3,400.0	5.9	5.9	-11.85	29.5	-6.2	30.1	18.3	11.81	2.551 CC, ES, SF			
3,500.0	3,500.0	3,500.0	3,500.0	6.1	6.1	167.63	29.5	-6.2	32.7	20.5	12.15	2.690			
3,600.0	3,599.6	3,599.6	3,599.6	6.3	6.3	169.98	29.5	-6.2	40.4	27.9	12.47	3.239			
3,700.0	3,698.8	3,698.8	3,698.8	6.5	6.4	172.37	29.5	-6.2	53.3	40.5	12.76	4.176			
3,800.0	3,797.1	3,797.1	3,797.1	6.7	6.6	174.25	29.5	-6.2	71.4	58.4	13.02	5.482			
3,900.0	3,894.3	3,894.3	3,894.3	6.9	6.8	175.61	29.5	-6.2	94.6	81.4	13.26	7.137			
4,000.0	3,990.2	3,990.2	3,990.2	7.2	6.9	176.57	29.5	-6.2	123.0	109.5	13.47	9.130			
4,100.0	4,084.4	4,084.4	4,084.4	7.6	7.1	177.25	29.5	-6.2	156.3	142.7	13.65	11.449			
4,200.0	4,176.8	4,176.8	4,176.8	8.0	7.3	177.75	29.5	-6.2	194.5	180.7	13.81	14.090			
4,300.0	4,267.1	4,259.6	4,259.6	8.5	7.4	178.07	30.4	-6.2	238.6	224.7	13.92	17.139			
4,316.6	4,281.9	4,272.5	4,272.5	8.6	7.4	178.11	30.9	-6.2	246.7	232.8	13.94	17.703			
4,400.0	4,355.8	4,335.4	4,335.3	9.1	7.5	178.32	34.3	-6.3	289.2	275.0	14.19	20.375			
4,500.0	4,444.5	4,407.7	4,407.3	9.6	7.7	178.48	40.8	-6.5	343.1	328.6	14.49	23.674			
4,600.0	4,533.2	4,476.5	4,475.5	10.3	7.8	178.59	49.5	-6.7	400.1	385.3	14.79	27.060			
4,700.0	4,621.9	4,541.9	4,540.0	10.9	7.9	178.65	60.0	-6.9	460.0	444.9	15.07	30.517			
4,800.0	4,710.6	4,600.0	4,597.1	11.6	8.1	178.69	71.2	-7.2	522.5	507.2	15.35	34.046			
4,900.0	4,799.3	4,663.8	4,659.3	12.3	8.2	178.72	85.5	-7.5	587.4	571.8	15.63	37.586			
5,000.0	4,888.0	4,737.6	4,730.9	13.0	8.4	178.74	103.3	-7.9	653.6	637.6	15.92	41.041			

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

Company: EnCana Oil & Gas (USA) Inc
Project: San Juan County, NM
Reference Site: S14-T24N-R8W
Site Error: 0.0ft
Reference Well: Escrito L14-2408 03H
Well Error: 0.0ft
Reference Wellbore: HZ
Reference Design: Plan #1

Local Co-ordinate Reference: Well Escrito L14-2408 03H
TVD Reference: WELL @ 6912.0ft (Original Well Elev)
MD Reference: WELL @ 6912.0ft (Original Well Elev)
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 S14-T24N-R8W - Escrito L14-2408 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 (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
5,100.0	4,976.7	4,812.6	4,803.7	13.7	8.6	178.76	121.3	-8.4	719.7	703.5	16.22	44.366		
5,200.0	5,065.4	4,887.7	4,876.5	14.5	8.8	178.77	139.3	-8.8	785.8	769.3	16.52	47.572		
5,300.0	5,154.1	4,962.7	4,949.3	15.2	9.0	178.79	157.4	-9.2	852.0	835.1	16.82	50.666		
5,360.8	5,208.0	5,008.2	4,993.6	15.7	9.1	178.79	168.3	-9.5	892.1	875.1	17.00	52.494		
5,400.0	5,242.8	5,037.7	5,022.1	16.0	9.2	167.98	175.4	-9.7	918.1	900.9	17.20	53.385		
5,450.0	5,286.8	5,074.9	5,058.3	16.3	9.3	155.04	184.3	-9.9	950.9	933.3	17.61	53.993		
5,500.0	5,330.2	5,111.7	5,094.0	16.7	9.4	143.41	193.2	-10.1	983.4	965.2	18.17	54.134		
5,550.0	5,372.6	5,147.7	5,129.0	17.1	9.5	133.27	201.9	-10.3	1,015.3	996.5	18.81	53.973		
5,600.0	5,413.8	5,182.7	5,162.9	17.5	9.6	124.58	210.3	-10.5	1,046.7	1,027.2	19.51	53.658		
5,650.0	5,453.4	5,216.5	5,195.8	17.8	9.7	117.19	218.4	-10.7	1,077.3	1,057.1	20.21	53.295		
5,700.0	5,491.1	5,254.6	5,232.7	18.2	9.8	111.07	227.6	-12.3	1,107.2	1,086.3	20.90	52.984		
5,750.0	5,526.6	5,295.0	5,271.6	18.6	10.0	105.96	237.3	-16.7	1,136.1	1,114.6	21.55	52.724		
5,800.0	5,559.6	5,338.4	5,313.0	19.0	10.1	101.73	247.7	-24.6	1,163.9	1,141.7	22.16	52.519		
5,850.0	5,590.0	5,385.6	5,357.2	19.5	10.3	98.30	258.8	-36.8	1,190.2	1,167.5	22.74	52.349		
5,900.0	5,617.4	5,437.7	5,404.6	19.9	10.5	95.60	270.9	-54.6	1,215.1	1,191.8	23.29	52.167		
5,950.0	5,641.7	5,496.1	5,455.7	20.4	10.7	93.56	284.0	-79.8	1,238.1	1,214.3	23.86	51.892		
6,000.0	5,662.6	5,562.5	5,510.3	20.9	11.1	92.14	298.2	-114.7	1,259.1	1,234.6	24.50	51.383		
6,050.0	5,680.1	5,638.8	5,567.7	21.4	11.6	91.28	313.3	-162.5	1,277.7	1,252.4	25.32	50.468		
6,100.0	5,693.9	5,726.9	5,625.6	21.9	12.3	90.92	328.8	-227.0	1,293.4	1,266.9	26.46	48.886		
6,150.0	5,704.1	5,828.3	5,679.3	22.5	13.4	90.92	343.7	-311.5	1,305.7	1,277.6	28.11	46.443		
6,200.0	5,710.4	5,942.4	5,721.5	23.1	15.0	91.12	356.1	-416.6	1,314.1	1,283.6	30.44	43.164		
6,250.0	5,712.9	6,066.1	5,743.3	23.7	17.1	91.34	363.7	-537.8	1,318.0	1,284.6	33.42	39.436		
6,261.5	5,712.9	6,095.3	5,744.7	23.8	17.7	91.38	364.6	-567.0	1,318.2	1,284.0	34.17	38.582		
6,300.0	5,712.6	6,144.8	5,744.7	24.3	18.6	91.39	365.5	-616.5	1,318.2	1,282.3	35.97	36.649		
6,400.0	5,711.9	6,244.8	5,744.0	25.8	20.7	91.39	367.2	-716.4	1,318.2	1,278.0	40.19	32.799		
6,500.0	5,711.2	6,344.8	5,743.3	27.4	22.8	91.39	368.9	-816.4	1,318.2	1,273.7	44.56	29.583		
6,600.0	5,710.5	6,444.8	5,742.6	29.1	24.9	91.39	370.6	-916.4	1,318.2	1,269.2	49.04	26.881		
6,700.0	5,709.8	6,544.8	5,741.9	31.0	27.2	91.39	372.3	-1,016.4	1,318.2	1,264.6	53.60	24.593		
6,800.0	5,709.1	6,644.8	5,741.2	32.9	29.4	91.39	373.9	-1,116.4	1,318.3	1,260.0	58.23	22.639		
6,900.0	5,708.4	6,744.8	5,740.5	35.0	31.7	91.39	375.6	-1,216.4	1,318.3	1,255.4	62.90	20.957		
7,000.0	5,707.7	6,844.8	5,739.8	37.1	34.1	91.39	377.3	-1,316.3	1,318.3	1,250.6	67.62	19.496		
7,100.0	5,707.0	6,944.8	5,739.1	39.2	36.4	91.39	379.0	-1,416.3	1,318.3	1,245.9	72.36	18.218		
7,200.0	5,706.3	7,044.8	5,738.4	41.4	38.8	91.39	380.7	-1,516.3	1,318.3	1,241.1	77.13	17.092		
7,300.0	5,705.6	7,144.8	5,737.7	43.6	41.2	91.39	382.4	-1,616.3	1,318.3	1,236.3	81.92	16.092		
7,400.0	5,704.9	7,244.8	5,737.0	45.9	43.5	91.39	384.1	-1,716.3	1,318.3	1,231.5	86.73	15.200		
7,500.0	5,704.2	7,344.8	5,736.3	48.2	45.9	91.39	385.7	-1,816.3	1,318.3	1,226.7	91.55	14.399		
7,600.0	5,703.5	7,444.8	5,735.6	50.5	48.3	91.39	387.4	-1,916.2	1,318.3	1,221.9	96.39	13.677		
7,700.0	5,702.9	7,544.8	5,734.9	52.8	50.8	91.39	389.1	-2,016.2	1,318.3	1,217.0	101.23	13.022		
7,800.0	5,702.2	7,644.8	5,734.2	55.1	53.2	91.39	390.8	-2,116.2	1,318.3	1,212.2	106.09	12.426		
7,900.0	5,701.5	7,744.8	5,733.5	57.4	55.6	91.39	392.5	-2,216.2	1,318.3	1,207.3	110.95	11.881		
8,000.0	5,700.8	7,844.8	5,732.8	59.8	58.0	91.39	394.2	-2,316.2	1,318.3	1,202.5	115.82	11.382		
8,100.0	5,700.1	7,944.8	5,732.1	62.2	60.5	91.39	395.8	-2,416.2	1,318.3	1,197.6	120.70	10.922		
8,200.0	5,699.4	8,044.8	5,731.4	64.5	62.9	91.39	397.5	-2,516.1	1,318.3	1,192.7	125.58	10.497		
8,300.0	5,698.7	8,144.8	5,730.7	66.9	65.3	91.39	399.2	-2,616.1	1,318.3	1,187.8	130.47	10.104		
8,400.0	5,698.0	8,244.8	5,730.0	69.3	67.8	91.39	400.9	-2,716.1	1,318.3	1,182.9	135.36	9.739		
8,500.0	5,697.3	8,344.8	5,729.3	71.7	70.2	91.39	402.6	-2,816.1	1,318.3	1,178.0	140.26	9.399		
8,600.0	5,696.6	8,444.8	5,728.7	74.1	72.6	91.39	404.3	-2,916.1	1,318.3	1,173.1	145.16	9.082		
8,700.0	5,695.9	8,544.8	5,728.0	76.5	75.1	91.39	405.9	-3,016.1	1,318.3	1,168.2	150.06	8.785		
8,800.0	5,695.2	8,644.8	5,727.3	78.9	77.5	91.39	407.6	-3,116.0	1,318.3	1,163.3	154.96	8.507		
8,900.0	5,694.5	8,744.8	5,726.6	81.3	80.0	91.39	409.3	-3,216.0	1,318.3	1,158.4	159.87	8.246		
9,000.0	5,693.8	8,844.8	5,725.9	83.7	82.4	91.39	411.0	-3,316.0	1,318.3	1,153.5	164.78	8.000		
9,100.0	5,693.1	8,944.8	5,725.2	86.2	84.9	91.39	412.7	-3,416.0	1,318.3	1,148.6	169.69	7.769		

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: San Juan County, NM
Reference Site: S14-T24N-R8W
Site Error: 0.0ft
Reference Well: Escrito L14-2408 03H
Well Error: 0.0ft
Reference Wellbore: HZ
Reference Design: Plan #1

Local Co-ordinate Reference: Well Escrito L14-2408 03H
TVD Reference: WELL @ 6912.0ft (Original Well Elev)
MD Reference: WELL @ 6912.0ft (Original Well Elev)
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 S14-T24N-R8W - Escrito L14-2408 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			
9,200.0	5,692.4	9,044.8	5,724.5	88.6	87.4	91.39	414.4	-3,516.0	1,318.3	1,143.7	174.61	7.550			
9,300.0	5,691.7	9,144.8	5,723.8	91.0	89.8	91.39	416.0	-3,616.0	1,318.3	1,138.8	179.52	7.343			
9,400.0	5,691.0	9,244.8	5,723.1	93.4	92.3	91.39	417.7	-3,715.9	1,318.3	1,133.9	184.44	7.148			
9,500.0	5,690.3	9,344.8	5,722.4	95.9	94.7	91.40	419.4	-3,815.9	1,318.3	1,128.9	189.36	6.962			
9,600.0	5,689.6	9,444.8	5,721.7	98.3	97.2	91.40	421.1	-3,915.9	1,318.3	1,124.0	194.28	6.786			
9,700.0	5,688.9	9,544.8	5,721.0	100.7	99.6	91.40	422.8	-4,015.9	1,318.3	1,119.1	199.20	6.618			
9,800.0	5,688.2	9,644.8	5,720.3	103.2	102.1	91.40	424.5	-4,115.9	1,318.3	1,114.2	204.13	6.458			
9,900.0	5,687.5	9,744.8	5,719.6	105.6	104.6	91.40	426.2	-4,215.9	1,318.3	1,109.3	209.05	6.306			
10,000.0	5,686.8	9,844.8	5,718.9	108.1	107.0	91.40	427.8	-4,315.8	1,318.3	1,104.3	213.98	6.161			
10,100.0	5,686.1	9,944.8	5,718.2	110.5	109.5	91.40	429.5	-4,415.8	1,318.3	1,099.4	218.90	6.022			
10,200.0	5,685.4	10,044.8	5,717.5	112.9	111.9	91.40	431.2	-4,515.8	1,318.3	1,094.5	223.83	5.890			
10,300.0	5,684.7	10,144.8	5,716.8	115.4	114.4	91.40	432.9	-4,615.8	1,318.3	1,089.6	228.76	5.763			
10,400.0	5,684.0	10,244.8	5,716.1	117.8	116.9	91.40	434.6	-4,715.8	1,318.3	1,084.6	233.69	5.641			
10,500.0	5,683.3	10,344.8	5,715.4	120.3	119.3	91.40	436.3	-4,815.8	1,318.3	1,079.7	238.61	5.525			
10,601.5	5,682.6	10,446.3	5,714.7	122.8	121.8	91.40	438.0	-4,917.3	1,318.3	1,074.7	243.62	5.411			
10,601.8	5,682.6	10,446.6	5,714.7	122.8	121.8	91.40	438.0	-4,917.6	1,318.3	1,074.7	243.64	5.411			

Anticollision Report

Company: EnCana Oil & Gas (USA) Inc
Project: San Juan County, NM
Reference Site: S14-T24N-R8W
Site Error: 0.0ft
Reference Well: Escrito L14-2408 03H
Well Error: 0.0ft
Reference Wellbore: HZ
Reference Design: Plan #1

Local Co-ordinate Reference: Well Escrito L14-2408 03H
TVD Reference: WELL @ 6912.0ft (Original Well Elev)
MD Reference: WELL @ 6912.0ft (Original Well Elev)
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 S16-T24N-R8W - Escrito D16A-2408 01H - Hz - Plan #2													Offset Site Error:	0.0 ft
Survey Program: 0-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)				
9,800.0	5,688.2	11,816.8	5,720.5	103.2	133.4	-89.23	-979.0	-5,601.3	1,466.0	1,271.3	194.72	7.529		
9,900.0	5,687.5	11,816.8	5,720.5	105.6	133.4	-89.23	-979.0	-5,601.3	1,366.3	1,169.1	197.18	6.929		
10,000.0	5,686.8	11,816.8	5,720.5	108.1	133.4	-89.23	-979.0	-5,601.3	1,266.7	1,067.0	199.64	6.345		
10,100.0	5,686.1	11,816.8	5,720.5	110.5	133.4	-89.23	-979.0	-5,601.3	1,167.1	965.0	202.11	5.774		
10,200.0	5,685.4	11,816.8	5,720.5	112.9	133.4	-89.23	-979.0	-5,601.3	1,067.6	863.0	204.57	5.219		
10,300.0	5,684.7	11,816.8	5,720.5	115.4	133.4	-89.23	-979.0	-5,601.3	968.2	761.1	207.04	4.676		
10,400.0	5,684.0	11,816.8	5,720.5	117.8	133.4	-89.23	-979.0	-5,601.3	868.9	659.4	209.50	4.147		
10,500.0	5,683.3	11,816.8	5,720.5	120.3	133.4	-89.23	-979.0	-5,601.3	769.8	557.8	211.97	3.632		
10,601.5	5,682.6	11,816.8	5,720.5	122.8	133.4	-89.23	-979.0	-5,601.3	669.5	455.0	214.47	3.122		
10,601.8	5,682.6	11,816.8	5,720.5	122.8	133.4	-89.23	-979.0	-5,601.3	669.2	454.7	214.48	3.120	CC, ES, SF	



Anticollision Report

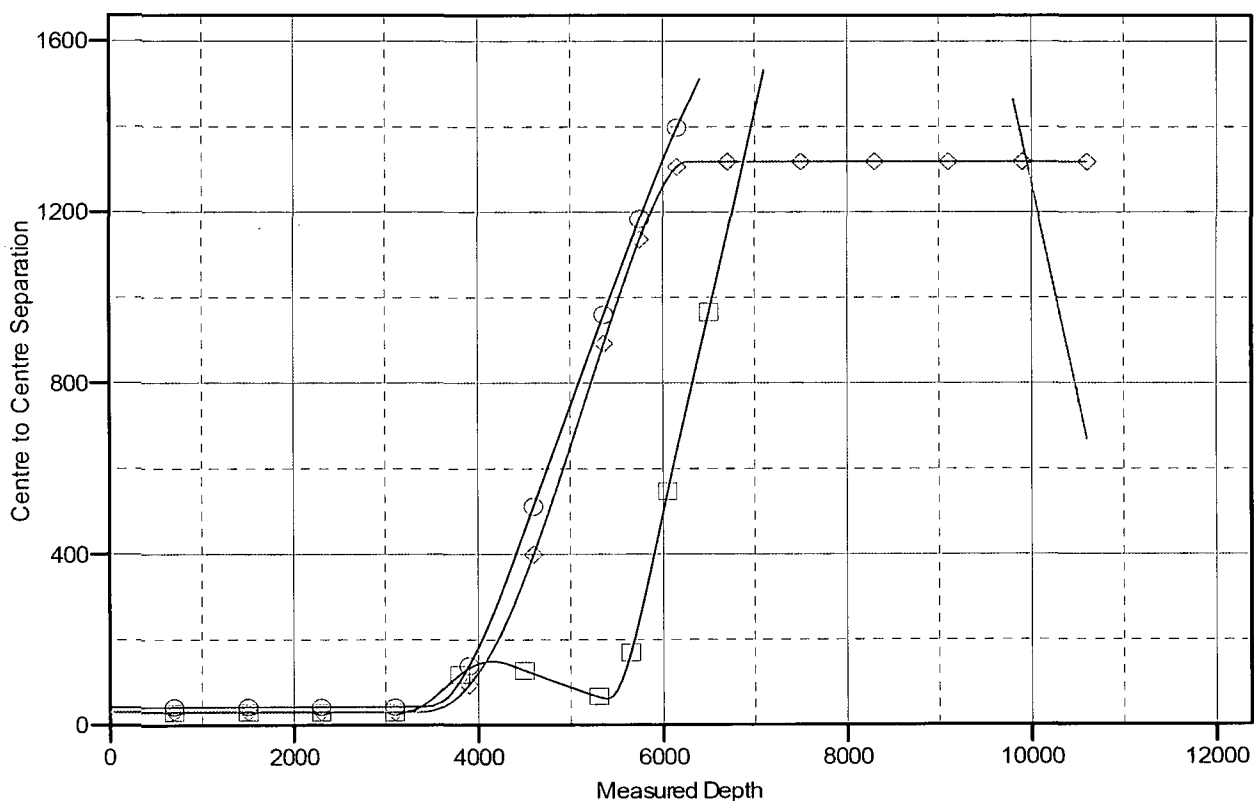
Company: EnCana Oil & Gas (USA) Inc
 Project: San Juan County, NM
 Reference Site: S14-T24N-R8W
 Site Error: 0.0ft
 Reference Well: Escrito L14-2408 03H
 Well Error: 0.0ft
 Reference Wellbore: HZ
 Reference Design: Plan #1

Local Co-ordinate Reference: Well Escrito L14-2408 03H
 TVD Reference: WELL @ 6912.0ft (Original Well Elev)
 MD Reference: WELL @ 6912.0ft (Original Well Elev)
 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 @ 6912.0ft (Original Well Elev)
 Offset Depths are relative to Offset Datum
 Central Meridian is -107.833333 °

Coordinates are relative to: Escrito L14-2408 03H
 Coordinate System is US State Plane 1983, New Mexico Western Zone
 Grid Convergence at Surface is: 0.10°

Ladder Plot



LEGEND

- Escrito D16A-2408 01H, HZ, Plan #2 V0
- Escrito L14-2408 01H, HZ, Plan #1 V0
- Escrito L14-2408 02H, HZ, Plan #1 V0
- Escrito L14-2408 04H, HZ, Plan #1 V0

ENCANA OIL & GAS (USA) INC.

ESCRITO L14-2408 #03H

1393' FSL & 29' FWL

LOCATED IN THE NW/4 SW/4 OF SECTION 14,

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 (MP 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 0.2 MILES TO ROAD THAT IS TO BE UPGRADED ON RIGHT.
- 5) FOLLOW ROAD FOR 0.5 MILES TO EXISTING PAD WHERE ACCESS IS STAKED ON NORTHEAST CORNER OF PAD.

WELL FLAG LOCATED AT LAT. 36.310648° N, LONG. 107.660466° W (NAD 83).



encana

Escrito L14-2408 03H

