

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: 7/18/13

Well information;

Operator Encana, Well Name and Number Escrito L17-2409 1H

API# 30-045-35487, Section 17, Township 24 NS, Range 9 EW

Conditions of Approval:
(See the below checked and handwritten conditions)

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


NMOCD Approved by Signature

12-3-2013
Date

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTCONFIDENTIAL
RECEIVEDFORM APPROVED
OMB No. 1004-0137
Expires July 31, 2010

APPLICATION FOR PERMIT TO DRILL OR REENTER

JUL 19 2013

1a. Type of work: ☒ DRILL ☐ REENTER		5. Lease Serial No. NMNM 16760 NMNM 36473	
1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other		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. N/A	
3a. Address 370 17th Street, Suite 1700 Denver, CO 80202		8. Lease Name and Well No. Escrito L17-2409 01H	
3b. Phone No. (include area code) 720-876-3989		9. API Well No. 3004535487	
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface 1730' FSL and 310' FWL Section 17, T24N, R9W At proposed prod. zone 2200' FSL and 330' FWL Section 18, T24N, R9W		10. Field and Pool, or Exploratory Bisti Lower-Gallup	
14. Distance in miles and direction from nearest town or post office* +/- 33.9 miles southeast of the intersection of US Hwy 550 & US Hwy 64 in Bloomfield, NM		11. Sec., T. R. M. or Blk. and Survey or Area Section 17, T24N, R9W NMPM	
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) BHL is 330' from west lease line		12. County or Parish San Juan	
16. No. of acres in lease NMNM 16760 - 1280 acres NMNM 36473 - 320 acres		13. State NM	
17. Spacing Unit dedicated to this well 160.0 acres - N/2 S/2 Section 18 159.90		18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. November 24 2 is +/-886' south of wellbore	
19. Proposed Depth 5351' TVD/10500' MD		20. BLM/BIA Bond No. on file COB-000235 RCVD NOV 25 '13	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 6792' GL, 6808' KB		22. Estimated duration 25 days OIL CONS. DIV.	
22. Approximate date work will start* 01/15/2014		23. Estimated duration 25 days OIL CONS. DIV.	

24. Attachments

DIST. 3

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

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

25. Signature <i>Holly Hill</i>	Name (Printed/Typed) Holly Hill	Date 7/18/13
Title Regulatory Analyst		
Approved by (Signature) <i>[Signature]</i>	Name (Printed/Typed) AFM	Date 11/18/13
Title AFM	Office FEO	

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 and to any matter within its jurisdiction.

(Continued on page 2)

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

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

*(Instructions on page 2)
This document is subject to technical and procedural review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4

RECEIVED

DISTRICT I
1635 N. French Dr., Hobbs, N.M. 88240
Phone: (505) 593-6181 Fax: (505) 593-0720

DISTRICT II
511 E. First St., Artesia, N.M. 88210
Phone: (505) 748-1283 Fax: (505) 748-9780

DISTRICT III
1000 Edo Branson Rd., Artesia, N.M. 87410
Phone: (505) 534-6178 Fax: (505) 534-6170

DISTRICT IV
1820 E. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3400 Fax: (505) 476-3463

State of New Mexico
Energy, Minerals & Natural Resources Department

JUL 19 2013

Form C-102
Revised August 1, 2011

OIL CONSERVATION DIVISION Farmington Field Office
1220 South St. Francis Drive Bureau of Land Management
Santa Fe, NM 87505

Submit one copy to appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-045-35487		*Pool Code 5890	*Pool Name BISTI LOWER-GALLUP
*Property Code 40267	*Property Name ESCRITO L17-2409		*Well Number 01H
*GRID No. 282327	*Operator Name ENCANA OIL & GAS (USA) INC.		*Elevation 6791.8'

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	17	24N	9W		1730'	SOUTH	310'	WEST	SAN JUAN

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	18	24N	9W	3	2200'	SOUTH	330'	WEST	SAN JUAN

*Dedicated Acres 159.90 ACRES N/2 S/2 SEC. 18	*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

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 unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Holly Hill 7/18/13
Signature Date

Holly Hill

Printed Name

holly.hill@encana.com

E-mail Address

SURVEYOR CERTIFICATION

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

MARCH 15, 2013

Date of Survey

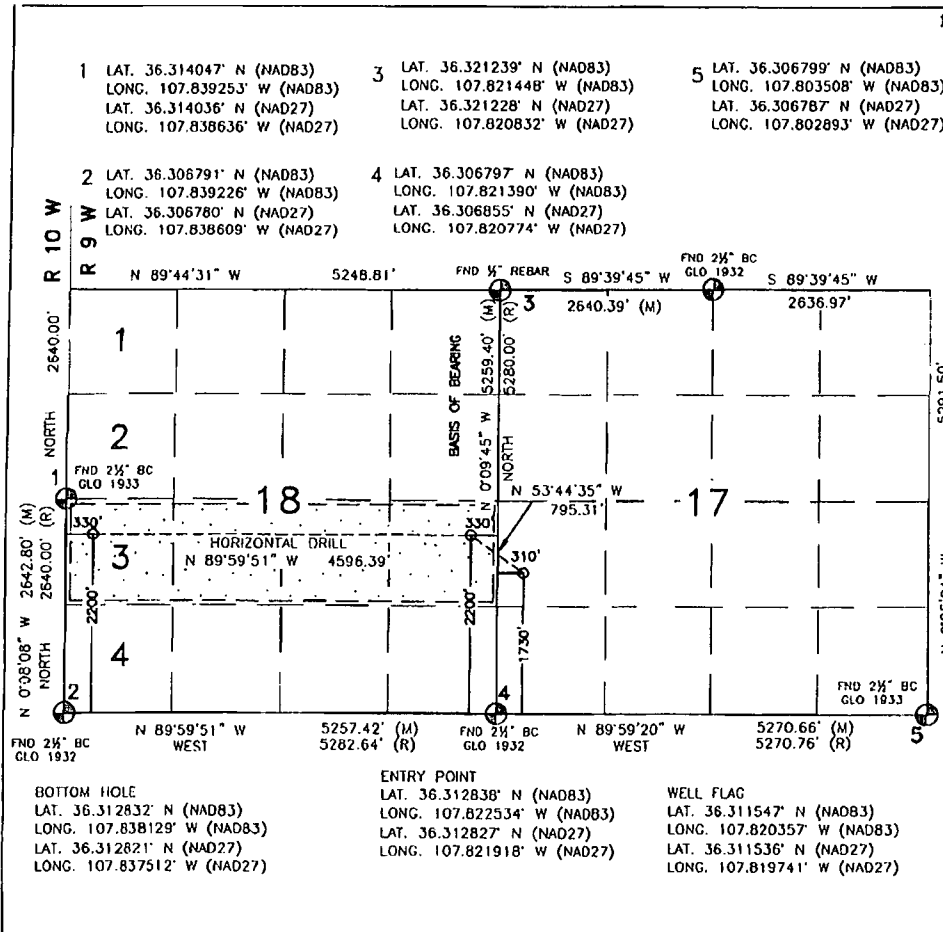
Signature and Seal of Professional Surveyor



DAVID RUSSELL

Certificate Number

10201



ENCANA OIL & GAS (USA) INC.
ESCRITO L17-2409 #01H
1730' FSL & 310' FWL
LOCATED IN THE NW/4 SW/4 OF SECTION 17,
T24N, R9W, N.M.P.M.,
SAN JUAN COUNTY, NEW MEXICO

DIRECTIONS

- 1) FROM THE INTERSECTION OF US HWY 550 & US HWY 64, TRAVEL SOUTH FOR 30.9 MILES TO MP 120.7.
- 2) TURN RIGHT AND GO 2.0 MILES "Y" INTERSECTION.
- 3) TURN LEFT AND GO 0.2 MILES TO "Y" INTERSECTION.
- 4) TURN LEFT AND GO 0.6 MILES TO GATE.
- 5) CONTINUE PAST GATE 0.2 MILES WHERE ACCESS IS STAKED ON RIGHT SIDE OF ROAD.

WELL FLAG LOCATED AT LAT. 36.311547° N, LONG. 107.820357° W (NAD 83).

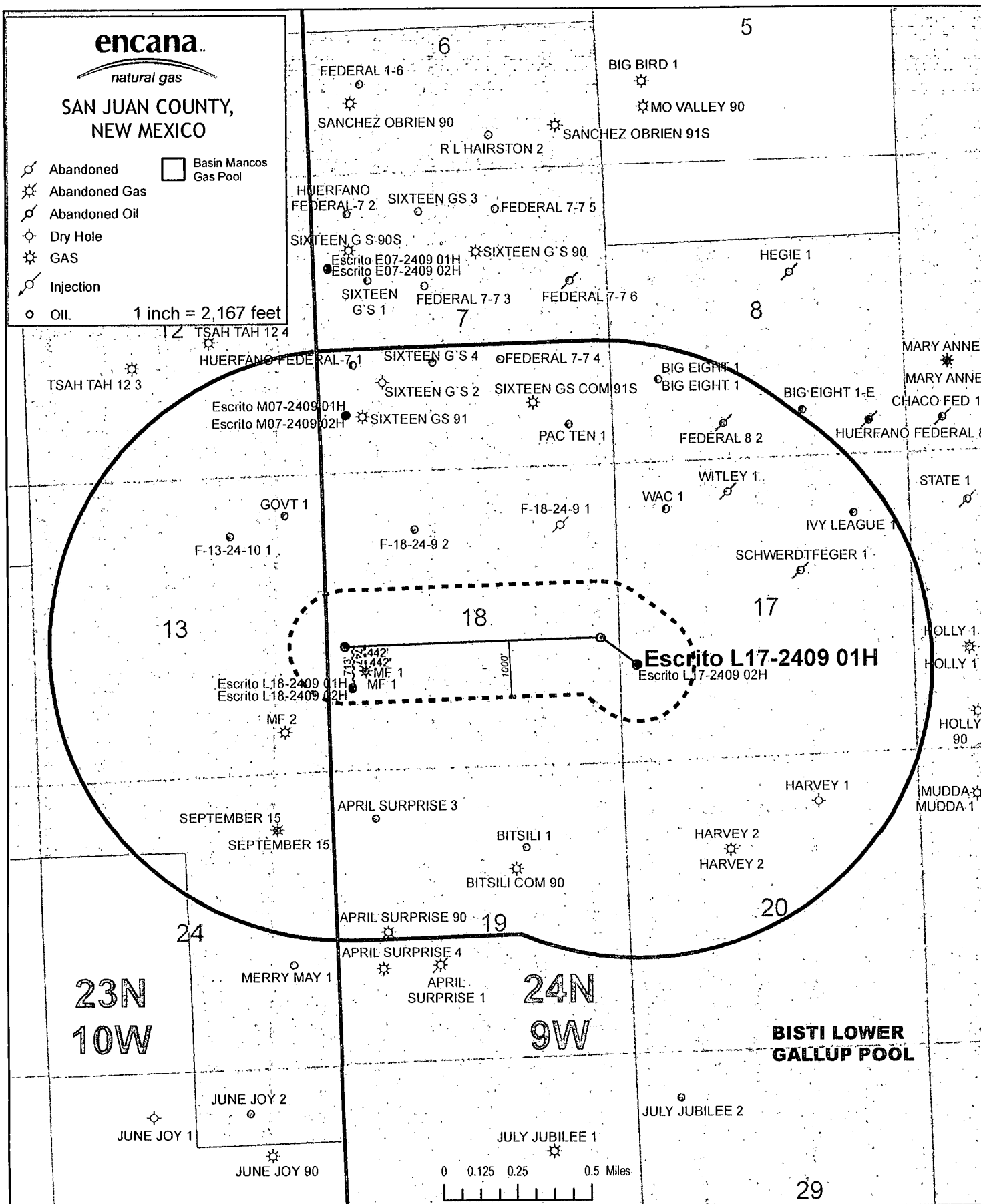


encana.

natural gas

**SAN JUAN COUNTY,
NEW MEXICO**

-  Abandoned
 -  Abandoned Gas
 -  Abandoned Oil
 -  Dry Hole
 -  GAS
 -  Injection
 -  OIL
 -  Basin Mancos Gas Pool
- 1 inch = 2,167 feet



Escrito L17-2409 01H

SHL: NWSW Section 17, T24N, R9W
1730 FSL and 310 FWL

BHL: NWSW Section 18, T24N, R9W
2200 FSL and 330 FWL

San Juan County, New Mexico

Lease Number: NMNM 16760 NMNM 36473

Encana Oil & Gas (USA) Inc. Drilling Plan

1. ESTIMATED TOPS OF GEOLOGICAL MARKERS (TVD)

The estimated tops of important geologic markers are as follows:

<u>Formation</u>	<u>Depth (TVD)</u>
Ojo Alamo Ss.	803'
Kirtland	988'
Fruitland Coal	1228'
Pictured Cliffs	1613'
Lewis	1778'
Cliffhouse	2413'
Menefee	3173'
Point Lookout	4063'
Mancos Shale	4263'
Mancos Silt	4848'
Gallup	5078'

The referenced surface elevation is 6792', KB 6808'

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

<u>Substance</u>	<u>Formation</u>	<u>Depth (TVD)</u>
Gas	Fruitland Coal	1228'
Gas	Pictured Cliffs	1613'
Gas	Cliffhouse	2413'
Gas	Point Lookout	4063'
Oil/Gas	Mancos	4263'

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.
- 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.

Escrito L17-2409 01H

**SHL: NWSW Section 17, T24N, R9W
1730 FSL and 310 FWL**

**BHL: NWSW Section 18, T24N, R9W
2200 FSL and 330 FWL**

San Juan County, New Mexico

Lease Number: NMNM 16760 NMNM 36473

- i) BOP remote controls shall be located on the rig floor at a location readily accessible to the driller. Master controls shall be on the ground at the accumulator and shall have the capability to function all preventers.
- j) The kill line shall be 2-inch minimum and contain two kill line valves, one of which shall be a check valve.
- k) The choke line shall be a 2-inch minimum and contain two choke line valves (2-inch minimum).
- l) The choke and manifold shall contain two adjustable chokes.
- m) Hand wheels shall be installed on all ram preventers.
- n) Safety valves and wrenches (with subs for drill string connections) shall be available on the rig floor at all times.
- o) Inside BOP or float sub shall also be available on the rig floor at all times.

Proposed BOP and choke manifold arrangements are attached.

4. CASING & CEMENTING PROGRAM

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

- a) The proposed casing design is as follows:

Casing	Depth	Hole Size	Csg Size	Weight	Grade
Conductor	0-60'	30"	20"	94#	H40, STC New
Surface	0'-500'	12 1/4"	9 5/8"	36#	J55, STC New
Intermediate	0'-5812'MD	8 3/4"	7"	26#	J55, LTC New
Production Liner	5612'-10500'MD	6 1/8"	4 1/2"	11.6#	B80*, LTC New

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

*B80 pipe specifications are attached

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

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

- b) The proposed cementing program is as follows:

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

Escrito L17-2409 01H

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1730 FSL and 310 FWL

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2200 FSL and 330 FWL

San Juan County, New Mexico

Lease Number: NMNM 16760 NMNM 36473

Casing	Depth	Cement Volume (sacks)	Cement Type&Yield	Designed TOC	Centralizers
Conductor	60'	100sk	Type I Neat 14.8 ppg	Surface	None
Surface	500'	178sk	Type III Cement + 1% CaCl + 0.25lb/sk Cello Flake + 0.2% FL, 14.6ppg, 1.38cuf/sk	Surface	1 per joint on bottom 3 joints
Intermediate	5812'MD	30% open hole excess Stage 1 Lead: 266sks Stage 1 Tail: 182sks Stage 2 Lead: 146sks	Lead (Stages 1 and 2): PremLite + 3% CaCl + 0.25lb/sk CelloFlake + 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 per joint for bottom 3 joints, 1 every 3 joints for remaining joints
Production Liner*	5612'-10500'	None – External casing packers	N/A	N/A	N/A

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

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

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

5. WELL PLAN & DIRECTIONAL DRILLING PROGRAM

The proposed horizontal well will have a kick off point of 4697'. Directional plans are attached.

Description	Proposed Depth (TVD/MD)	Formation
Horizontal Lateral TD	5351'/10500'	Gallup

Escrito L17-2409 01H

SHL: NWSW Section 17, T24N, R9W
1730 FSL and 310 FWL

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2200 FSL and 330 FWL

San Juan County, New Mexico

Lease Number: NMNM 16760 NMNM 36473

6. DRILLING FLUIDS PROGRAM

a) Surface through Intermediate Casing Point:

Hole Size (in)	Depth (ft)	Mud Type	Density (lb/gal)	Viscosity (sec/qt)	Fluid Loss (cc)
30"	0-60' TVD	Fresh Water	8.3-9.2	38-100	4-28
12 1/4"	0-500' TVD	Fresh Water	8.4-8.6	60-70	NC
8 3/4"	500'TVD- 5379'TVD/5812'MD	Fresh Water LSND	8.5-8.8	40-50	8-10

b) Intermediate Casing Point to TD:

Hole Size (in)	MD (ft)	Mud Type	Density (lb/gal)	Viscosity (sec/qt)	Fluid Loss (cc)
6 1/8"	5812'-10500'	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 and LOGGING

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

Cased Hole:

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

8. ABNORMAL PRESSURES & HYDROGEN SULFIDE

The anticipated bottom hole pressure is +/- 2520 psi based on a 9.0 ppg at 5384' TVD of the landing point of the horizontal lateral. 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.

Escrito L17-2409 01H

**SHL: NWSW Section 17, T24N, R9W
1730 FSL and 310 FWL**

**BHL: NWSW Section 18, T24N, R9W
2200 FSL and 330 FWL**

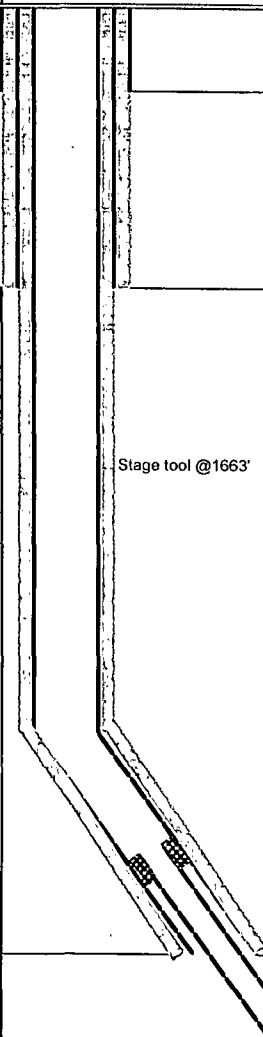
San Juan County, New Mexico

Lease Number: NMNM 16760 NMNM 36473

9. ANTICIPATED START DATE AND DURATION OF OPERATIONS

Drilling is estimated to commence on January 15, 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 25 days.

LOC: Sec 17-T24N-R09W County: San Juan WELL: Escrito L17-2409 01H			Encana Natural Gas WELL SUMMARY					ENG: 7/10/13 RIG: GLE: 6792 RKBE: 6808	
MWD LWD	OPEN HOLE LOGGING	FORM	DEPTH			HOLE SIZE	CASING SPECS	MW MUD TYPE	DEVIATION INFORMATION
			TVD	MD					
			60	60'		30	20" 94# 100sx Type I Neat 48.8ppg cmt	Fresh wtr 8.3-9.2	
Surveys After csg is run	None					12 1/4	9 5/8" 36ppf J55 STC TOC @ surface 178 sks Type III Cmt	Fresh wtr 8.4-8.6	Vertical <1°
Surveys every 500'	No OH logs	Ojo Alamo Kirtland Fruitland Coal Pictured Cliffs Ss Lewis Shale Cliffhouse Ss Menefee Fn	803 988 1228 1613 1778 2413 3173			8 3/4	7" 26ppf J55 LTC TOC @ surface 30% OH excess: 594 sks Total. Stage 1 Lead: 266sks Stage 1 Tail: 182sks. Stage 2 Lead: 146sks	Fresh Wtr 8.5-8.8	Vertical <1°
	Mud logger onsite	Point Lookout Ss Mancos Sh KICK OFF PT Mancos Silt Gallup Top 7" csg	4063 4263 4697 4848 5078 5379	5812					KOP 4697 10 deg/100'
Surveys every 500' Gyro at CP MWD Gamma Directional	No OH Logs	horz target Base Gallup	5384 5408	5905		6 1/8	200' overlap at liner top 4595' Lateral 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	8.6-9.0 OBM Switch to OBM 8.6-9.0	.25deg up dip 5351' TVD TD = 10500' MD

- 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 4697' , 8 3/4" hole size,
- 5) PU directional tools and start curve at 10deg/100' build rate
- 6) Drill to casing point of 5812' MD
- 7) R&C 7" casing, circ cmt to surface, switch to OBM
- 8) Land at 90deg, drill 4595' lateral to 10500', run 4 1/2" liner with external swellable csq packers



Boomerang Tube LLC

CASING (OR) TUBING DESCRIPTION AND PERFORMANCE PROPERTIES

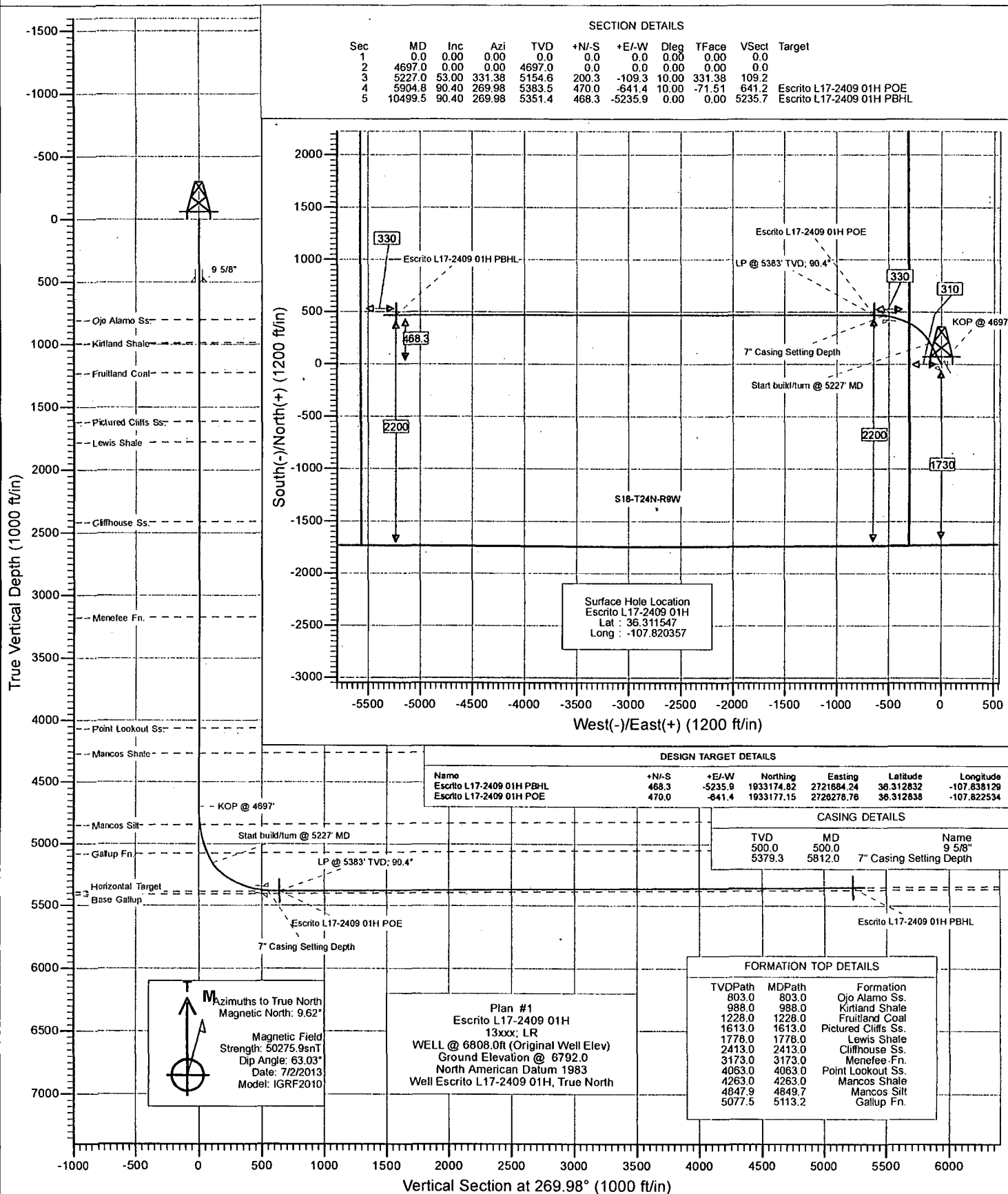
Pipe Outside Diameter (ins)	_____	4.500
Pipe Wall Thickness (ins)	_____	0.250
Nominal Weight Per Foot (lbs)	_____	11.60
Thread Name	_____	Long Thread CSG
Grade Name	_____	SB-80
Pipe Minimum Yield (psi)	_____	80,000
Pipe Minimum Ultimate (psi)	_____	90,000
Coupling Minimum Yield (psi)	_____	80,000
Coupling 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



Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Escrito L17-2409 01H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 6808.0ft (Original Well Elev)
Project:	San Juan County, NM	MD Reference:	WELL @ 6808.0ft (Original Well Elev)
Site:	S17-T24N-R9W (Escrito)	North Reference:	True
Well:	Escrito L17-2409 01H	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		S17-T24N-R9W (Escrito)			
Site Position:		Northing:		1,932,707.27 ft	
From:		Easting:		2,726,920.20 ft	
Lat/Long		Longitude:		-107.820357	
Position Uncertainty:		0.0 ft		Slot Radius:	
		13.200 in		Grid Convergence:	
				0.01 °	

Well	Escrito L17-2409 01H					
Well Position	+N/-S	0.0 ft	Northing:	1,932,707.27 ft	Latitude:	36.311547
	+E/-W	0.0 ft	Easting:	2,726,920.20 ft	Longitude:	-107.820357
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	6,792.0 ft

Wellbore:	Hz				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	7/2/2013	9.62	63.03	50,276

Design: Plan #1				
Audit Notes:				
Version:		Phase: PLAN	Tie On Depth: 0.0	
Vertical Section:	Depth From (TVD)	+N-S	+E-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.0	0.0	0.0	269.98

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	
4,697.0	0.00	0.00	4,697.0	0.0	0.0	0.00	0.00	0.00	0.00	
5,227.0	53.00	331.38	5,154.6	200.3	-109.3	10.00	10.00	0.00	331.38	
5,904.8	90.40	269.98	5,383.5	470.0	-641.4	10.00	5.52	-9.06	-71.51	Escrito L17-2409 01H
10,499.5	90.40	269.98	5,351.4	468.3	-5,235.9	0.00	0.00	0.00	0.00	Escrito L17-2409 01H

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Escrito L17-2409 01H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 6808.0ft (Original Well Elev)
Project:	San Juan County, NM	MD Reference:	WELL @ 6808.0ft (Original Well Elev)
Site:	S17-T24N-R9W (Escrito)	North Reference:	True
Well:	Escrito L17-2409 01H	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
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	
803.0	0.00	0.00	803.0	0.0	0.0	0.0	0.00	0.00	Ojo Alamo Ss.
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	
988.0	0.00	0.00	988.0	0.0	0.0	0.0	0.00	0.00	Kirtland Shale
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	
1,228.0	0.00	0.00	1,228.0	0.0	0.0	0.0	0.00	0.00	Fruitland Coal
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	
1,613.0	0.00	0.00	1,613.0	0.0	0.0	0.0	0.00	0.00	Pictured Cliffs Ss.
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	
1,778.0	0.00	0.00	1,778.0	0.0	0.0	0.0	0.00	0.00	Lewis Shale
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	
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	
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	
2,413.0	0.00	0.00	2,413.0	0.0	0.0	0.0	0.00	0.00	Cliffhouse Ss.
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	
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	
3,173.0	0.00	0.00	3,173.0	0.0	0.0	0.0	0.00	0.00	Menefee Fn.
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	
4,063.0	0.00	0.00	4,063.0	0.0	0.0	0.0	0.00	0.00	Point Lookout Ss.
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	
4,263.0	0.00	0.00	4,263.0	0.0	0.0	0.0	0.00	0.00	Mancos Shale

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Escrito L17-2409 01H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 6808.0ft (Original Well Elev)
Project:	San Juan County, NM	MD Reference:	WELL @ 6808.0ft (Original Well Elev)
Site:	S17-T24N-R9W (Escrito)	North Reference:	True
Well:	Escrito L17-2409 01H	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
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	
4,697.0	0.00	0.00	4,697.0	0.0	0.0	0.0	0.00	0.00	KOP @ 4697'
4,700.0	0.30	331.38	4,700.0	0.0	0.0	0.0	10.00	10.00	
4,800.0	10.30	331.38	4,799.4	8.1	-4.4	4.4	10.00	10.00	
4,849.7	15.27	331.38	4,847.9	17.8	-9.7	9.7	10.00	10.00	Mancos Silt
4,900.0	20.30	331.38	4,895.8	31.2	-17.0	17.0	10.00	10.00	
5,000.0	30.30	331.38	4,986.1	68.7	-37.5	37.5	10.00	10.00	
5,100.0	40.30	331.38	5,067.6	119.4	-65.1	65.1	10.00	10.00	
5,113.2	41.61	331.38	5,077.5	126.9	-69.3	69.2	10.00	10.00	Gallup Fn.
5,200.0	50.30	331.38	5,137.8	181.7	-99.1	99.1	10.00	10.00	
5,227.0	53.00	331.38	5,154.6	200.3	-109.3	109.2	10.00	10.00	Start build/turn @ 5227' MD
5,300.0	55.62	322.99	5,197.2	250.0	-141.4	141.3	10.00	3.58	
5,400.0	60.05	312.39	5,250.6	312.3	-198.4	198.3	10.00	4.43	
5,500.0	65.26	302.76	5,296.6	366.2	-268.8	268.6	10.00	5.21	
5,600.0	71.02	293.95	5,333.8	410.1	-350.4	350.2	10.00	5.77	
5,700.0	77.18	285.75	5,361.3	442.6	-440.7	440.6	10.00	6.16	
5,800.0	83.57	277.95	5,378.0	462.8	-537.1	536.9	10.00	6.40	
5,812.0	84.35	277.03	5,379.3	464.3	-548.9	548.8	10.00	6.48	7" Casing Setting Depth
5,900.0	90.09	270.34	5,383.5	470.0	-636.6	636.4	10.00	6.52	
5,904.8	90.40	269.98	5,383.5	470.0	-641.4	641.2	10.00	6.53	LP @ 5383' TVD; 90.4° - Escrito L17-2409 01H
6,000.0	90.40	269.98	5,382.9	469.9	-736.6	736.4	0.00	0.00	
6,100.0	90.40	269.98	5,382.2	469.9	-836.6	836.4	0.00	0.00	
6,200.0	90.40	269.98	5,381.5	469.9	-936.6	936.4	0.00	0.00	
6,300.0	90.40	269.98	5,380.8	469.8	-1,036.6	1,036.4	0.00	0.00	
6,400.0	90.40	269.98	5,380.1	469.8	-1,136.6	1,136.4	0.00	0.00	
6,500.0	90.40	269.98	5,379.4	469.7	-1,236.5	1,236.4	0.00	0.00	
6,600.0	90.40	269.98	5,378.7	469.7	-1,336.5	1,336.4	0.00	0.00	
6,700.0	90.40	269.98	5,378.0	469.7	-1,436.5	1,436.4	0.00	0.00	
6,800.0	90.40	269.98	5,377.3	469.6	-1,536.5	1,536.4	0.00	0.00	
6,900.0	90.40	269.98	5,376.6	469.6	-1,636.5	1,636.4	0.00	0.00	
7,000.0	90.40	269.98	5,375.9	469.6	-1,736.5	1,736.4	0.00	0.00	
7,100.0	90.40	269.98	5,375.2	469.5	-1,836.5	1,836.4	0.00	0.00	
7,200.0	90.40	269.98	5,374.5	469.5	-1,936.5	1,936.4	0.00	0.00	
7,300.0	90.40	269.98	5,373.8	469.4	-2,036.5	2,036.4	0.00	0.00	
7,400.0	90.40	269.98	5,373.1	469.4	-2,136.5	2,136.4	0.00	0.00	
7,500.0	90.40	269.98	5,372.4	469.4	-2,236.5	2,236.4	0.00	0.00	
7,600.0	90.40	269.98	5,371.7	469.3	-2,336.5	2,336.4	0.00	0.00	
7,700.0	90.40	269.98	5,371.0	469.3	-2,436.5	2,436.4	0.00	0.00	
7,800.0	90.40	269.98	5,370.3	469.3	-2,536.5	2,536.4	0.00	0.00	
7,900.0	90.40	269.98	5,369.6	469.2	-2,636.5	2,636.3	0.00	0.00	
8,000.0	90.40	269.98	5,368.9	469.2	-2,736.5	2,736.3	0.00	0.00	
8,100.0	90.40	269.98	5,368.2	469.1	-2,836.5	2,836.3	0.00	0.00	
8,200.0	90.40	269.98	5,367.5	469.1	-2,936.5	2,936.3	0.00	0.00	
8,300.0	90.40	269.98	5,366.8	469.1	-3,036.5	3,036.3	0.00	0.00	
8,400.0	90.40	269.98	5,366.1	469.0	-3,136.5	3,136.3	0.00	0.00	
8,500.0	90.40	269.98	5,365.4	469.0	-3,236.5	3,236.3	0.00	0.00	
8,600.0	90.40	269.98	5,364.7	469.0	-3,336.5	3,336.3	0.00	0.00	
8,700.0	90.40	269.98	5,364.0	468.9	-3,436.5	3,436.3	0.00	0.00	
8,800.0	90.40	269.98	5,363.3	468.9	-3,536.5	3,536.3	0.00	0.00	

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Escrito L17-2409 01H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 6808.0ft (Original Well Elev)
Project:	San Juan County, NM	MD Reference:	WELL @ 6808.0ft (Original Well Elev)
Site:	S17-T24N-R9W (Escrito)	North Reference:	True
Well:	Escrito L17-2409 01H	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
8,900.0	90.40	269.98	5,362.6	468.9	-3,636.5	3,636.3	0.00	0.00	
9,000.0	90.40	269.98	5,361.9	468.8	-3,736.5	3,736.3	0.00	0.00	
9,100.0	90.40	269.98	5,361.2	468.8	-3,836.5	3,836.3	0.00	0.00	
9,200.0	90.40	269.98	5,360.5	468.7	-3,936.5	3,936.3	0.00	0.00	
9,300.0	90.40	269.98	5,359.8	468.7	-4,036.5	4,036.3	0.00	0.00	
9,400.0	90.40	269.98	5,359.1	468.7	-4,136.5	4,136.3	0.00	0.00	
9,500.0	90.40	269.98	5,358.4	468.6	-4,236.5	4,236.3	0.00	0.00	
9,600.0	90.40	269.98	5,357.7	468.6	-4,336.5	4,336.3	0.00	0.00	
9,700.0	90.40	269.98	5,357.0	468.6	-4,436.5	4,436.3	0.00	0.00	
9,800.0	90.40	269.98	5,356.3	468.5	-4,536.5	4,536.3	0.00	0.00	
9,900.0	90.40	269.98	5,355.6	468.5	-4,636.5	4,636.3	0.00	0.00	
10,000.0	90.40	269.98	5,354.9	468.4	-4,736.5	4,736.3	0.00	0.00	
10,100.0	90.40	269.98	5,354.2	468.4	-4,836.5	4,836.3	0.00	0.00	
10,200.0	90.40	269.98	5,353.5	468.4	-4,936.5	4,936.3	0.00	0.00	
10,300.0	90.40	269.98	5,352.8	468.3	-5,036.5	5,036.3	0.00	0.00	
10,400.0	90.40	269.98	5,352.1	468.3	-5,136.5	5,136.3	0.00	0.00	
10,499.5	90.40	269.98	5,351.4	468.3	-5,235.9	5,235.7	0.00	0.00	TD at 10499.5 - Escrito L17-2409 01H PBHL

Targets									
Target Name	hit/miss target	Dip Angle (°)	Dip Dir (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude Longitude
Escrito L17-2409 01H PI	- plan hits target center	0.00	0.00	5,383.5	470.0	-641.4	1,933,177.15	2,726,278.76	36.312838 -107.822534
	- Point								
Escrito L17-2409 01H PI	- plan hits target center	0.00	0.00	5,351.4	468.3	-5,235.9	1,933,174.82	2,721,684.24	36.312832 -107.838129
	- 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	
5,812.0	5,379.3	7" Casing Setting Depth	0.000	0.000	

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Escrito L17-2409 01H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 6808.0ft (Original Well Elev)
Project:	San Juan County, NM	MD Reference:	WELL @ 6808.0ft (Original Well Elev)
Site:	S17-T24N-R9W (Escrito)	North Reference:	True
Well:	Escrito L17-2409 01H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Direction (°)	
803.0	803.0	Ojo Alamo Ss.		-0.40	269.98	
988.0	988.0	Kirtland Shale		-0.40	269.98	
1,228.0	1,228.0	Fruitland Coal		-0.40	269.98	
1,613.0	1,613.0	Pictured Cliffs Ss.		-0.40	269.98	
1,778.0	1,778.0	Lewis Shale		-0.40	269.98	
2,413.0	2,413.0	Cliffhouse Ss.		-0.40	269.98	
3,173.0	3,173.0	Menefee Fn.		-0.40	269.98	
4,063.0	4,063.0	Point Lookout Ss.		-0.40	269.98	
4,263.0	4,263.0	Mancos Shale		-0.40	269.98	
4,849.7	4,848.0	Mancos Silt		-0.40	269.98	
5,113.2	5,078.0	Gallup Fn.		-0.40	269.98	

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			Comment
		+N/-S (ft)	+E/-W (ft)		
4,697.0	4,697.0	0.0	0.0		KOP @ 4697'
5,227.0	5,154.6	200.3	-109.3		Start build/turn @ 5227' MD
5,904.8	5,383.5	470.0	-641.4		LP @ 5383' TVD; 90.4°
10,499.5	5,351.4	468.3	-5,235.9		TD at 10499.5

EnCana Oil & Gas (USA) Inc

San Juan County, NM

S17-T24N-R9W (Escrito)

Escrito L17-2409 01H

Hz

Plan #1

Anticollision Report

02 July, 2013

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Escrito L17-2409 01H
Project:	San Juan County, NM	TVD Reference:	WELL @ 6808.0ft (Original Well Elev)
Reference Site:	S17-T24N-R9W (Escrito)	MD Reference:	WELL @ 6808.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Escrito L17-2409 01H	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:	MD Interval 100.0ft	Error Model:	Systematic Ellipse
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 1,273.1ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program	Date 7/2/2013	
From (ft)	To (ft)	Survey (Wellbore)
0.0	10,499.0	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						
S17-T24N-R9W (Escrito)						
Escrito L17-2409 02H - Hz - Plan #1	4,600.0	4,600.0	30.6	14.6	1.915	CC, ES, SF

Anticollision Report

Company: EnCana Oil & Gas (USA) Inc
Project: San Juan County, NM
Reference Site: S17-T24N-R9W (Escrito)
Site Error: 0.0ft
Reference Well: Escrito L17-2409 01H
Well Error: 0.0ft
Reference Wellbore: Hz
Reference Design: Plan #1

Local Co-ordinate Reference: Well Escrito L17-2409 01H
TVD Reference: WELL @ 6808.0ft (Original Well Elev)
MD Reference: WELL @ 6808.0ft (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 S17-T24N-R9W (Escrito) - Escrito L17-2409 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 Centres		Between Ellipses		Total Uncertainty Axis	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)					
0.0	0.0	0.0	0.0	0.0	0.0	-142.73	-24.4	-18.6	30.6						
100.0	100.0	100.0	100.0	0.1	0.1	-142.73	-24.4	-18.6	30.6	30.4	0.29	104.528			
200.0	200.0	200.0	200.0	0.3	0.3	-142.73	-24.4	-18.6	30.6	30.0	0.64	47.719			
300.0	300.0	300.0	300.0	0.5	0.5	-142.73	-24.4	-18.6	30.6	29.7	0.99	30.917			
400.0	400.0	400.0	400.0	0.7	0.7	-142.73	-24.4	-18.6	30.6	29.3	1.34	22.866			
500.0	500.0	500.0	500.0	0.8	0.8	-142.73	-24.4	-18.6	30.6	29.0	1.69	18.141			
600.0	600.0	600.0	600.0	1.0	1.0	-142.73	-24.4	-18.6	30.6	28.6	2.04	15.035			
700.0	700.0	700.0	700.0	1.2	1.2	-142.73	-24.4	-18.6	30.6	28.3	2.39	12.837			
800.0	800.0	800.0	800.0	1.4	1.4	-142.73	-24.4	-18.6	30.6	27.9	2.74	11.199			
900.0	900.0	900.0	900.0	1.5	1.5	-142.73	-24.4	-18.6	30.6	27.6	3.09	9.933			
1,000.0	1,000.0	1,000.0	1,000.0	1.7	1.7	-142.73	-24.4	-18.6	30.6	27.2	3.43	8.923			
1,100.0	1,100.0	1,100.0	1,100.0	1.9	1.9	-142.73	-24.4	-18.6	30.6	26.9	3.78	8.100			
1,200.0	1,200.0	1,200.0	1,200.0	2.1	2.1	-142.73	-24.4	-18.6	30.6	26.5	4.13	7.416			
1,300.0	1,300.0	1,300.0	1,300.0	2.2	2.2	-142.73	-24.4	-18.6	30.6	26.2	4.48	6.838			
1,400.0	1,400.0	1,400.0	1,400.0	2.4	2.4	-142.73	-24.4	-18.6	30.6	25.8	4.83	6.344			
1,500.0	1,500.0	1,500.0	1,500.0	2.6	2.6	-142.73	-24.4	-18.6	30.6	25.5	5.18	5.917			
1,600.0	1,600.0	1,600.0	1,600.0	2.8	2.8	-142.73	-24.4	-18.6	30.6	25.1	5.53	5.543			
1,700.0	1,700.0	1,700.0	1,700.0	2.9	2.9	-142.73	-24.4	-18.6	30.6	24.8	5.88	5.214			
1,800.0	1,800.0	1,800.0	1,800.0	3.1	3.1	-142.73	-24.4	-18.6	30.6	24.4	6.23	4.922			
1,900.0	1,900.0	1,900.0	1,900.0	3.3	3.3	-142.73	-24.4	-18.6	30.6	24.1	6.58	4.660			
2,000.0	2,000.0	2,000.0	2,000.0	3.5	3.5	-142.73	-24.4	-18.6	30.6	23.7	6.93	4.426			
2,100.0	2,100.0	2,100.0	2,100.0	3.6	3.6	-142.73	-24.4	-18.6	30.6	23.4	7.27	4.213			
2,200.0	2,200.0	2,200.0	2,200.0	3.8	3.8	-142.73	-24.4	-18.6	30.6	23.0	7.62	4.020			
2,300.0	2,300.0	2,300.0	2,300.0	4.0	4.0	-142.73	-24.4	-18.6	30.6	22.7	7.97	3.844			
2,400.0	2,400.0	2,400.0	2,400.0	4.2	4.2	-142.73	-24.4	-18.6	30.6	22.3	8.32	3.683			
2,500.0	2,500.0	2,500.0	2,500.0	4.3	4.3	-142.73	-24.4	-18.6	30.6	22.0	8.67	3.535			
2,600.0	2,600.0	2,600.0	2,600.0	4.5	4.5	-142.73	-24.4	-18.6	30.6	21.6	9.02	3.398			
2,700.0	2,700.0	2,700.0	2,700.0	4.7	4.7	-142.73	-24.4	-18.6	30.6	21.3	9.37	3.271			
2,800.0	2,800.0	2,800.0	2,800.0	4.9	4.9	-142.73	-24.4	-18.6	30.6	20.9	9.72	3.154			
2,900.0	2,900.0	2,900.0	2,900.0	5.0	5.0	-142.73	-24.4	-18.6	30.6	20.6	10.07	3.045			
3,000.0	3,000.0	3,000.0	3,000.0	5.2	5.2	-142.73	-24.4	-18.6	30.6	20.2	10.42	2.942			
3,100.0	3,100.0	3,100.0	3,100.0	5.4	5.4	-142.73	-24.4	-18.6	30.6	19.9	10.77	2.847			
3,200.0	3,200.0	3,200.0	3,200.0	5.6	5.6	-142.73	-24.4	-18.6	30.6	19.5	11.11	2.758			
3,300.0	3,300.0	3,300.0	3,300.0	5.7	5.7	-142.73	-24.4	-18.6	30.6	19.2	11.46	2.674			
3,400.0	3,400.0	3,400.0	3,400.0	5.9	5.9	-142.73	-24.4	-18.6	30.6	18.8	11.81	2.595			
3,500.0	3,500.0	3,500.0	3,500.0	6.1	6.1	-142.73	-24.4	-18.6	30.6	18.5	12.16	2.520			
3,600.0	3,600.0	3,600.0	3,600.0	6.3	6.3	-142.73	-24.4	-18.6	30.6	18.1	12.51	2.450			
3,700.0	3,700.0	3,700.0	3,700.0	6.4	6.4	-142.73	-24.4	-18.6	30.6	17.8	12.86	2.383			
3,800.0	3,800.0	3,800.0	3,800.0	6.6	6.6	-142.73	-24.4	-18.6	30.6	17.4	13.21	2.320			
3,900.0	3,900.0	3,900.0	3,900.0	6.8	6.8	-142.73	-24.4	-18.6	30.6	17.1	13.56	2.261			
4,000.0	4,000.0	4,000.0	4,000.0	7.0	7.0	-142.73	-24.4	-18.6	30.6	16.7	13.91	2.204			
4,100.0	4,100.0	4,100.0	4,100.0	7.1	7.1	-142.73	-24.4	-18.6	30.6	16.4	14.26	2.150			
4,200.0	4,200.0	4,200.0	4,200.0	7.3	7.3	-142.73	-24.4	-18.6	30.6	16.0	14.60	2.099			
4,300.0	4,300.0	4,300.0	4,300.0	7.5	7.5	-142.73	-24.4	-18.6	30.6	15.7	14.95	2.050			
4,400.0	4,400.0	4,400.0	4,400.0	7.7	7.7	-142.73	-24.4	-18.6	30.6	15.3	15.30	2.003			
4,500.0	4,500.0	4,500.0	4,500.0	7.8	7.8	-142.73	-24.4	-18.6	30.6	15.0	15.65	1.958			
4,600.0	4,600.0	4,600.0	4,600.0	8.0	8.0	-142.73	-24.4	-18.6	30.6	14.6	16.00	1.915 CC, ES, SF			
4,700.0	4,700.0	4,696.2	4,696.0	8.2	8.2	-117.88	-29.0	-19.2	35.0	18.7	16.34	2.143			
4,800.0	4,799.4	4,785.1	4,782.9	8.4	8.3	-131.34	-48.9	-21.6	60.0	43.4	16.60	3.615			
4,900.0	4,895.8	4,857.7	4,851.2	8.6	8.5	-139.41	-71.3	-25.0	112.1	95.6	16.58	6.761			
5,000.0	4,886.1	4,910.2	4,898.3	8.8	8.7	-139.99	-94.2	-28.1	185.3	168.9	16.42	11.266			
5,100.0	5,067.6	4,950.0	4,932.5	9.3	8.8	-134.95	-114.3	-30.8	272.1	255.6	16.45	16.536			

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 L17-2409 01H
Project:	San Juan County, NM	TVD Reference:	WELL @ 6808.0ft (Original Well Elev)
Reference Site:	S17-T24N-R9W (Escrito)	MD Reference:	WELL @ 6808.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Escrito L17-2409 01H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at:	2.00 sigma
Reference Wellbore:	H2	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

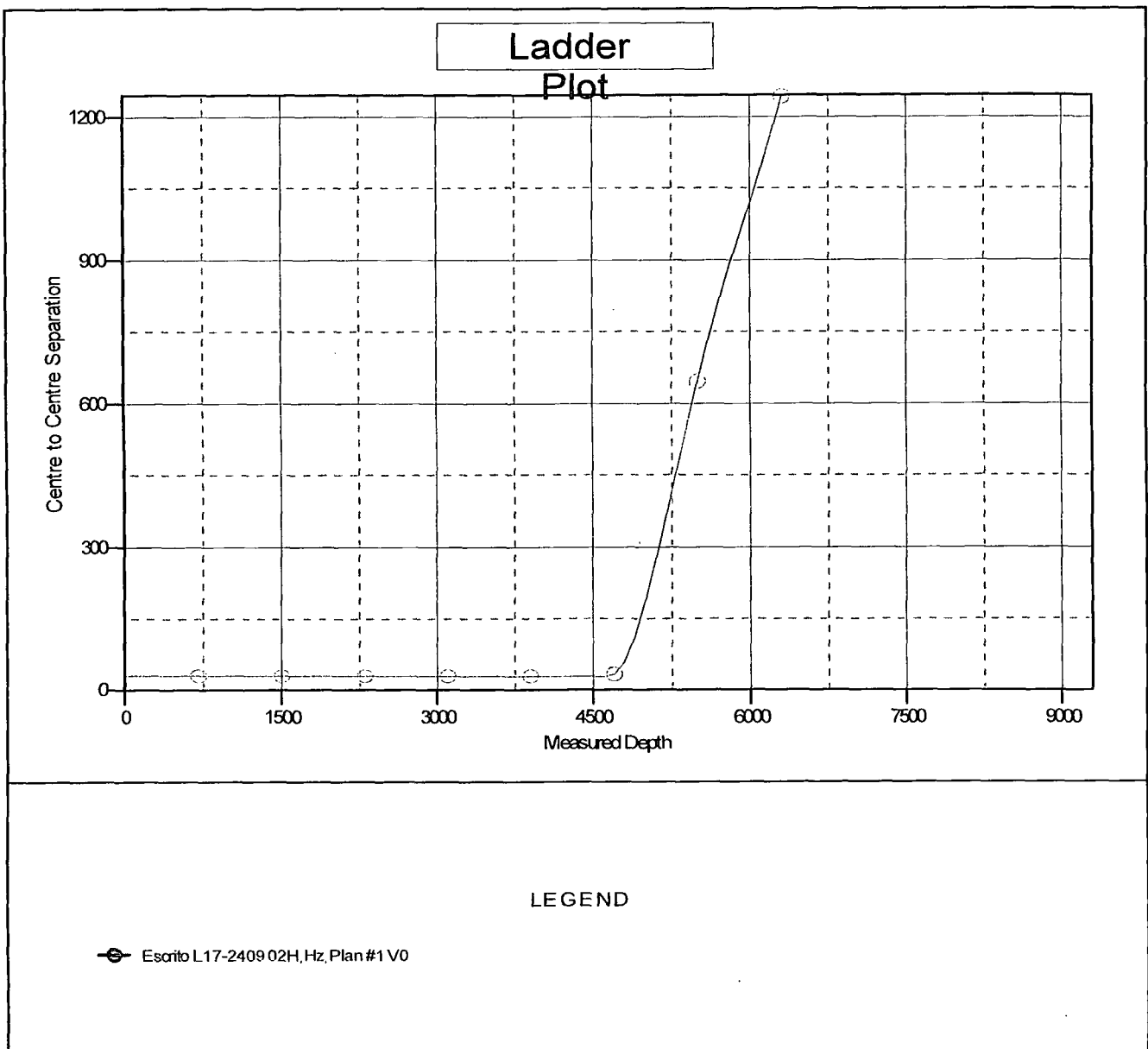
Offset Design S17-T24N-R9W (Escrito) - Escrito L17-2409 02H - H2 - Plan #1												Offset Site Error:	0.0 ft
Survey Program: 0-Geolink MWD												Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre N/S	E/W	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,137.8	4,962.0	4,942.6	9.9	8.9	-115.04	-120.9	-31.7	366.4	348.5	17.87	20.506	
5,300.0	5,197.2	4,970.4	4,949.5	10.8	8.9	-90.81	-125.6	-32.3	462.9	443.4	19.54	23.694	
5,400.0	5,250.6	4,977.3	4,955.1	11.9	8.9	-77.84	-129.5	-32.9	556.6	536.3	20.37	27.332	
5,500.0	5,296.6	4,983.3	4,960.0	13.2	8.9	-69.43	-133.0	-33.3	646.4	625.4	20.99	30.798	
5,600.0	5,333.8	5,000.0	4,973.4	14.7	9.0	-65.23	-142.9	-34.7	731.7	710.0	21.71	33.699	
5,700.0	5,361.3	5,000.0	4,973.4	16.3	9.0	-60.52	-142.9	-34.7	811.3	789.1	22.13	36.658	
5,800.0	5,378.0	5,000.0	4,973.4	18.1	9.0	-57.57	-142.9	-34.7	884.8	862.4	22.49	39.339	
5,900.0	5,383.5	5,000.0	4,973.4	19.9	9.0	-55.99	-142.9	-34.7	951.9	929.1	22.79	41.762	
6,000.0	5,382.9	5,000.0	4,973.4	21.8	9.0	-55.95	-142.9	-34.7	1,017.8	993.3	24.49	41.564	
6,100.0	5,382.2	5,000.0	4,973.4	23.8	9.0	-55.95	-142.9	-34.7	1,088.9	1,062.5	26.31	41.382	
6,200.0	5,381.5	5,000.0	4,973.4	25.9	9.0	-55.95	-142.9	-34.7	1,164.2	1,136.0	28.18	41.312	
6,300.0	5,380.8	5,016.2	4,986.0	28.0	9.1	-57.19	-152.9	-36.0	1,242.8	1,212.3	30.47	40.793	

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Escrito L17-2409 01H
Project:	San Juan County, NM	TVD Reference:	WELL @ 6808.0ft (Original Well Elev)
Reference Site:	S17-T24N-R9W (Escrito)	MD Reference:	WELL @ 6808.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Escrito L17-2409 01H	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 Depths are relative to WELL @ 6808.0ft (Original Well Elev)
Offset Depths are relative to Offset Datum
Central Meridian is -107.833333 °

Coordinates are relative to: Escrito L17-2409 01H
Coordinate System is US State Plane 1983, New Mexico Western Zone
Grid Convergence at Surface is: 0.01°



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

WELLHEAD BLOWOUT CONTROL SYSTEM

encana

Well name and number:

Escrito L17-2409 01H

