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: 9-16-14
Well information;
Operator Encana, Well Name and Number Escrito D19 2409 #01H

API# 30-045-35590, Section 19, Township 24 (N)S, Range 9 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
- o Spacing rule violation. Operator must follow up with change of status notification on other well to be shut in or abandoned
- o 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
- o 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
- ✓ Regarding Hydraulic Fracturing, review EPA Underground Injection Control Guidance 84
- ✓ 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.
- ✓ Well-bore communication is regulated under 19.15.29 NMAC. This requires well-bore Communication to be reported in accordance with 19.15.29.8.

NMOCD Approved by Signature

11-3-2014
Date KE

1220 South St. Francis Drive • Santa Fe, New Mexico 87505
Phone (505) 476-3460 • Fax (505) 476-3462 • www.emnrd.state.nm.us/ocd

Form 3160-3
(March 2012)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SEP 18 2014

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NM 62973 and NM 54983

6. If Indian, Allotee or Tribe Name
N/A

1a. Type of work: ☑ DRILL ☐ REENTER

7. If Unit or CA Agreement, Name and No.
NA

1b. Type of Well: ☐ Oil Well ☑ Gas Well ☐ Other ☐ Single Zone ☐ Multiple Zone

8. Lease Name and Well No.
Escrito D19-2409 01H

2. Name of Operator Encana Oil & Gas (USA) Inc.

9. API Well No.
30-045-35590

3a. Address 370 17th Street, Suite 1700
Denver, CO 80202

3b. Phone No. *(include area code)*
720-876-5994

10. Field and Pool, or Exploratory
Basin Mancos Gas/Bisti Lower Gallup

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface D 715' FNL and 325' FWL Section 19, T24N, R9W
At proposed prod. zone D 400' FNL and 330' FWL Section 24, T24N, R10W

11. Sec., T. R. M. or Blk. and Survey or Area
Section 24, T24N, R10W NMPM

14. Distance in miles and direction from nearest town or post office*
+/- 32.64 miles south from intersection of US Hwy 550 and US Hwy 64 in Bloomfield, NM

12. County or Parish
San Juan

13. State
NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)
BHL is 330' FWL Section 24, T24N, R10W

16. No. of acres in lease
NM 54983 - 80 acres
NM 62973 - 240 acres

17. Spacing Unit dedicated to this well
320.0 acres - N/2 Section 24, T24N, R10W

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.
SHL is +/- 30' S of Escrito D19-2409 02H

19. Proposed Depth
5386' TVD/ 10,441' MD

20. BLM/BIA Bond No. on file
COB-000235

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
6983' GL; 6999' KB

22. Approximate date work will start*
03/01/2015

23. Estimated duration
20 days

OIL CONS. DIV DIST. 3
NOV 03 2014

24. Attachments

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

1. Well plat certified by a registered surveyor.
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	Name *(Printed/Typed)*	Date
	Shannon Turk	9/16/14

Title
Regulatory Analyst

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
		10/30/14

Title	Office
AFM	FFO

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

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

(Continued on page 2)

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

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

*(Instructions on page 2)

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

NMOCD

District I
1625 N. French Drive, Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First Street, Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Drive, Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
1220 South St. Francis Drive
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011

Submit one copy to
Appropriate District Office

☐ AMENDED REPORT

SEP 18 2014

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-045-35590	5890 / 97232	BISTI-LOWER GALLUP / BASIN MANCOS

[4] Property Code	[5] Property Name	[6] Well Number
313859	ESCRITO D19-2409	01H

[7] OGRID No.	[8] Operator Name	[9] Elevation
282327	ENCANA OIL & GAS (USA) INC.	6983'

[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
D	19	24N	9W	1	715	NORTH	325	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
D	24	24N	10W		400	NORTH	330	WEST	SAN JUAN

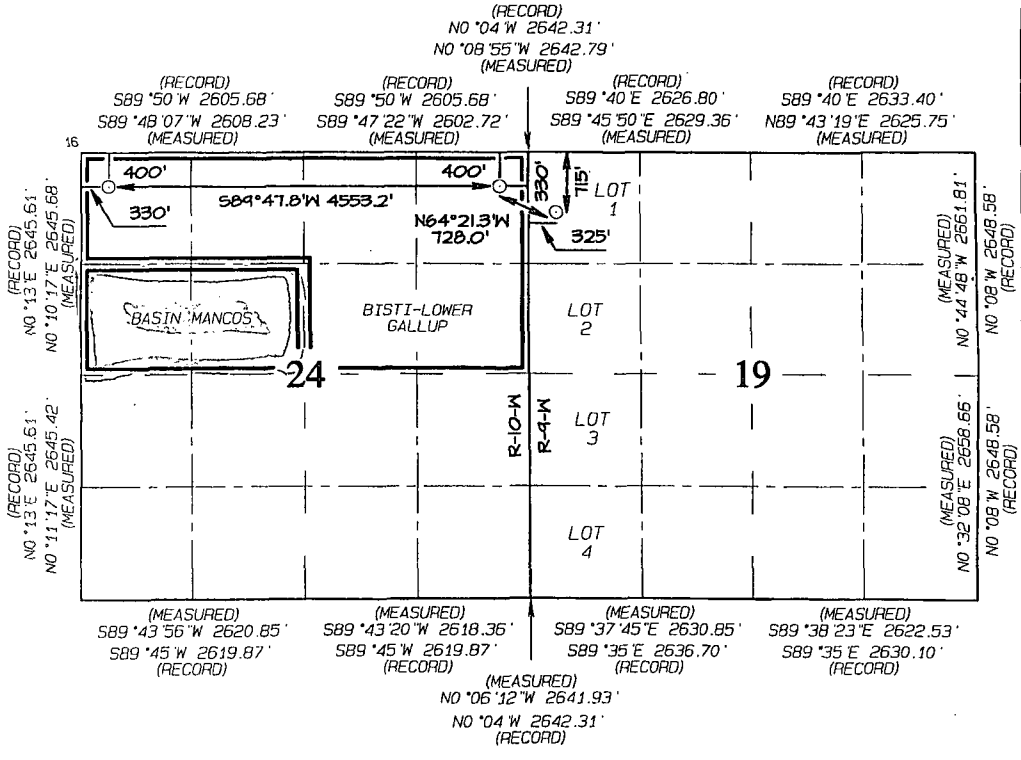
[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
S/2 NE/4, N/2 N/2 - GALLUP 320.0 S/2 NW/4 - BASIN MANCOS			

80 mancos 240 Gallup

OIL CONS. DIV DIST. 3

NOV 03 2014

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



END-OF-LATERAL
400' FNL 330' FWL
SECTION 24, T24N, R10W
LAT: 36.30563 °N
LONG: 107.85518 °W
DATUM: NAD1927

LAT: 36.30565 °N
LONG: 107.85580 °W
DATUM: NAD1983

POINT-OF-ENTRY
400' FNL 330' FEL
SECTION 24, T24N, R10W
LAT: 36.30568 °N
LONG: 107.83973 °W
DATUM: NAD1927

LAT: 36.30569 °N
LONG: 107.84034 °W
DATUM: NAD1983

SURFACE LOCATION
715' FNL 325' FWL
SECTION 19, T24N, R9W
LAT: 36.30481 °N
LONG: 107.83750 °W
DATUM: NAD1927

LAT: 36.30483 °N
LONG: 107.83812 °W
DATUM: NAD1983

[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.

Shannon Turk 9/12/14
Signature Date

Shannon Turk
Printed Name

shannon.turk@encana.com
E-mail Address

[18] 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.

Date Revised: AUGUST 31, 2014
Survey Date: OCTOBER 16, 2012

Signature and Seal of Professional Surveyor

JASON C. EDWARDS
NEW MEXICO
15269
REGISTERED PROFESSIONAL SURVEYOR

JASON C. EDWARDS
Certificate Number 15269

Escrito D19-2409 01H
SHL: 715' FNL & 325' FWL Sec 19 T24N R09W
BHL: 400' FNL & 330' FWL Sec T24N R10W
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
San Jose Fn.	n/a
Nacimiento Fn.	surface
Ojo Alamo Ss.	922
Kirtland Shale	1,104
Fruitland Coal	1,416
Pictured Cliffs Ss.	1,703
Lewis Shale	1,857
Cliffhouse Ss.	2,469
Menefee Fn.	3,222
Point Lookout Ss.	4,175
Mancos Shale	4,344
Mancos Silt	4,927
Gallup Fn.	5,197
Base Gallup	5,503

The referenced surface elevation is 6983', KB 6999'

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

Substance	Formation	Depth (TVD) units = feet
Water/Gas	Fruitland Coal	1,416
Oil/Gas	Pictured Cliffs Ss.	1,703
Oil/Gas	Cliffhouse Ss.	2,469
Gas	Menefee Fn.	3,222
Oil/Gas	Point Lookout Ss.	4,175
Oil/Gas	Mancos Shale	4,344
Oil/Gas	Mancos Silt	4,927
Oil/Gas	Gallup Fn.	5,197

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

Escrito D19-2409 01H
SHL: 715' FNL & 325' FWL Sec 19 T24N R09W
BHL: 400' FNL & 330' FWL Sec T24N R10W
San Juan, New Mexico

3. PRESSURE CONTROL

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

Proposed BOP and choke manifold arrangements are attached.

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'	26"	16"	42.09#	
Surface	0'-500'	12 1/4"	9 5/8"	36#	J55, STC New
Intermediate	0'-5358'	8 3/4"	7"	26#	J55, LTC New
Production Liner	5258'-10441'	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

Escrito D19-2409 01H
SHL: 715' FNL & 325' FWL Sec 19 T24N R09W
BHL: 400' FNL & 330' FWL Sec T24N R10W
San Juan, New Mexico

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

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'	276 sks	Type III Cement + 1% bwoc Calcium Chloride + 0.25 lbs/sack Cello Flake + 0.2% bwoc FL-52A + 58.9% Fresh Water	Surface	1 per joint on bottom 3 joints
Intermediate	0'-5358'	100% open hole excess Stage 1 Lead: 710 sks Stage 1 Tail: 540 sks	Lead: PremLite + 3% CaCl + 0.25lb/sk CelloFlake + 5lb/sk LCM, 12.1ppg 2.13cuft/sk Tail: Type III Cmt + 1% CaCl + 0.25lb/sk Cello Flake 14.5ppg 1.38cuft/sk	Surface	1 every 3 joints through water bearing zones
Production Liner	5258'-10441'	50% OH excess Stage 1 Blend Total: 279sks	Blend: Premium Lite High Strength FM + 0.7% bwoc R-3 + 3% bwow Potassium Chloride + 0.25lbs/sack Cello Flake + 0.5% bwoc CD-32 + 1.15% bwoc FL-52A + 60 lbs/sack Calcium Carbonate + 124.4% Fresh Water. Yield 2.63 cuft/sk	Liner Hanger	N/A

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

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

5. WELL PLAN & DIRECTIONAL DRILLING PROGRAM

The proposed horizontal well will have a kick off point of 4808'. Directional plans are attached.

Description	Proposed Depth (TVD/MD)	Formation
Horizontal Lateral TD	5386'/10441'	Gallup

Escrito D19-2409 01H
SHL: 715' FNL & 325' FWL Sec 19 T24N R09W
BHL: 400' FNL & 330' FWL Sec T24N R10W
San Juan, New Mexico

6. DRILLING FLUIDS PROGRAM

a) Surface through Intermediate Casing Point:

Hole Size (in)	Depth (TVD/MD)	Mud Type	Density (ppg)	Viscosity (sec/qt)	Fluid Loss (cc)
30"	0-60'/60'	Fresh Water	8.3-9.2	38-100	4-28
12 1/4"	0'-500'/500'	Fresh Water	8.3-10	60-70	NC
8 3/4"	500'/500'-5277'/5358	Fresh Water LSND	8.3-10	40-50	8-10

b) Intermediate Casing Point to TD:

Hole Size (in)	Depth (TVD/MD)	Mud Type	Density (ppg)	Viscosity (sec/qt)	Fluid Loss (cc)
6 1/8"	5277'/5358'-5386'/10441'	Fresh Water LSND	8.3-10	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. Above-ground tanks will be utilized to hold cuttings and fluids for rig operations. A frac tank will be on location to store fresh water. Waste will be disposed of properly at an EPA-approved hazardous waste facility. Fresh water cuttings will be disposed of at Basin Disposal, Inc. and/or Industrial Ecosystems, Inc. The location will be lined in accordance with the Surface Use Plan of Operations.

7. TESTING, CORING, & LOGGING

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

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

8. ABNORMAL PRESSURES & HYDROGEN SULFIDE

The anticipated bottom hole pressure is +/- 2542 psi based on a 9.0 ppg at 5431' TVD of the horizontal lateral target. No abnormal pressure or temperatures are anticipated.

No hydrogen sulfide gas is anticipated, however, if H_2S 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 March 1, 2015. It is anticipated that completion operations will begin within 30 days after the well has been drilled depending on fracture treatment schedules with various pumping service companies.

It is anticipated that the drilling of this well will take approximately 20 days.

LOC: 715' FNL & 325' FWL Sec 19 T24N R09W
County: San Juan
WELL: Escrito D19-2409 01H

Encana Natural Gas

WELL SUMMARY

ENG: Michael Sanch 9/16/14
RIG: Unassigned
GLE: 6983
RKBE: 6999

MWD LWD	OPEN HOLE LOGGING	FORM	DEPTH TVD	DEPTH MD	HOLE SIZE	CASING SPECS	MW MUD TYPE	DEVIATION INFORMATION
			60	60'	26	16" 42.09# 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	San Jose Fn.	0		12 1/4	9 5/8" 36ppf J55 STC TOC Surface with 100% OH Excess: 276 sks Type III Cement + 1% bwoc Calcium Chloride + 0.25 lbs/sack Cello Flake + 0.2% bwoc FL-52A + 58.9% Fresh Water.	Fresh wtr 8.3-10	Vertical <1°
		Nacimiento Fn.	surface					
		9 5/8" Csg	500	500.00				
		Ojo Alamo Ss.	922					
		Kirtland Shale	1,104					
	No OH logs	Fruitland Coal	1,416			7" 26ppf J55 LTC	Fresh Wtr	
Survey Every 60'-120', updating anticollision report after surveys. Stop operations and contact drilling engineer if separation factor approaches 1.5		Pictured Cliffs Ss.	1,703			TOC @ surface (100% OH excess - 70% Lead 30% Tail) Stage 1 Total: 1250sks	8.3-10	Vertical <1°
		Lewis Shale	1,857		8 3/4			
		Cliffhouse Ss.	2,469					
		Menefee Fn.	3,222			Stage 1 Lead: 710 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.		
		Point Lookout Ss.	4,175					
		Mancos Shale	4,344					
	Mud logger onsite	KOP	4,808	4,808		Stage 1 Tail: 540 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.		
Surveys every 30' through the curve		Mancos Silt	4,927					
		Gallup Fn.	5,197					
		7" Csg	5,277	5,358'				
					6 1/8	100' overlap at liner top		Horz Inc/TVD 90.5deg/5431ft
Surveys every stand to TD unless directed otherwise by Geologist		Horizontal Target	5,431					
		TD	5,386	10,441		5084' Drilled Lateral		TD = 10441.3 MD
	No OH Logs	Base Gallup	5,503				WBM	
MWD Gamma Directional						4 1/2" 11.6ppf SB80 LTC TOC @ hanger (50% OH excess) Stage 1 Total: 279sks Stage 1 Blend: 279 sks Premium Lite High Strength FM + 0.7% bwoc R-3 + 3% bwow Potassium Chloride + 0.25lbs/sack Cello Flake + 0.5% bwoc CD-32 + 1.15% bwoc FL-52A + 60 lbs/sack Calcium Carbonate + 124.4% Fresh Water. Yield 2.63 cuft/sk.	8.3-10	

NOTES:

1) Drill with 26" bit to 60', set 16" 42.09ppf 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 4808', 8 3/4 inch holesize
5) Start curve at 10deg/100' build rate
6) Drill to csg point of 5358' MD
7) R&C 7" csg, circ cmt to surface
8) Land at ~90 deg, drill lateral to 10441' run 4 1/2 inch cemented liner

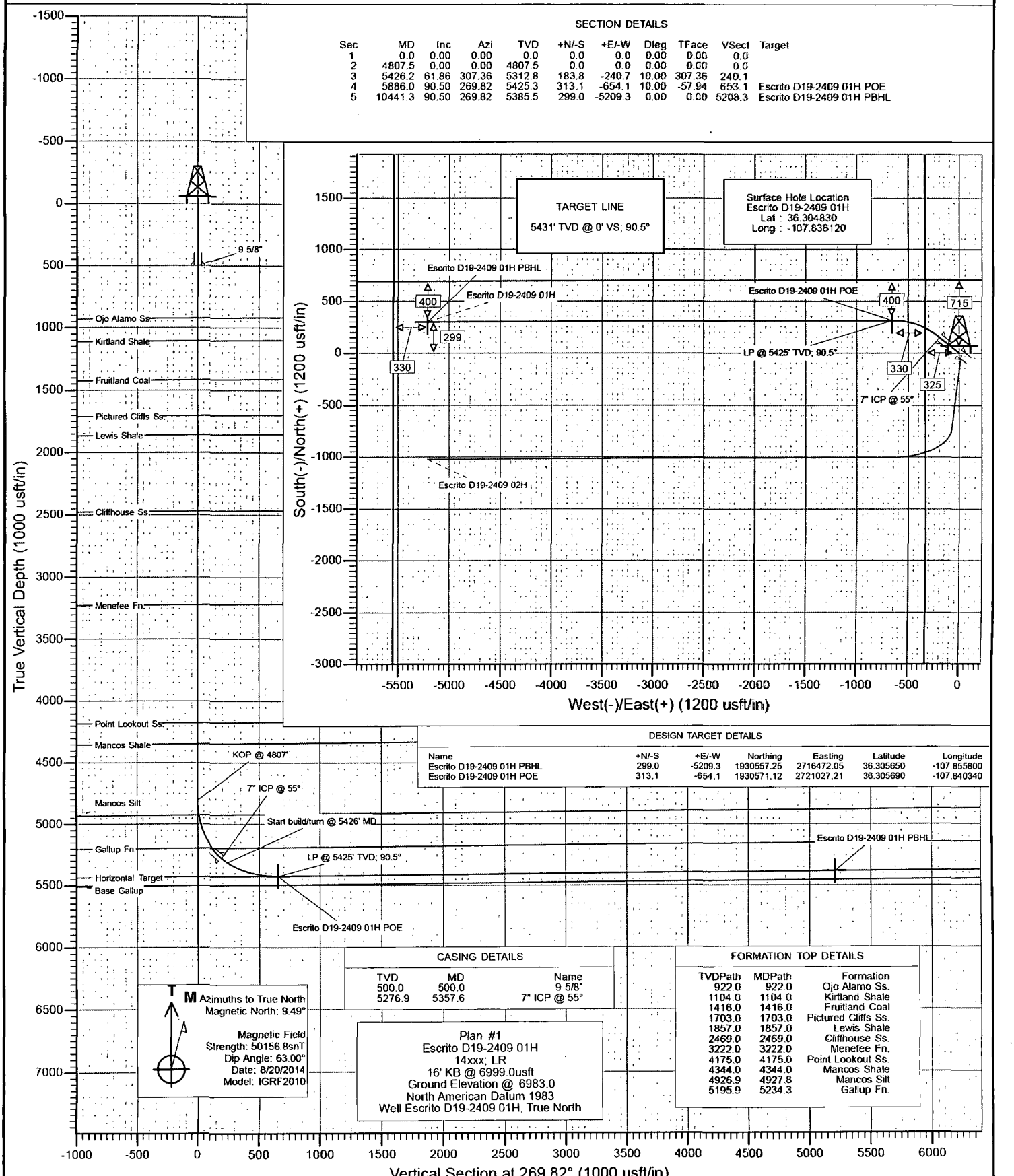
encana

Project: San Juan County, NM
Site: S19-T24N-R9W
Well: Escrito D19-2409 01H
Wellbore: HZ
Design: Plan #1

CATHEDRAL

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	4807.5	0.00	0.00	4807.5	0.0	0.0	0.00	0.00	0.0	
3	5426.2	61.86	307.36	5312.8	183.8	-240.7	10.00	307.36	240.1	
4	5886.0	90.50	269.82	5425.3	313.1	-654.1	10.00	-57.94	653.1	Escrito D19-2409 01H POE
5	10441.3	90.50	269.82	5385.5	299.0	-5209.3	0.00	0.00	5208.3	Escrito D19-2409 01H PBHL



DESIGN TARGET DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Escrito D19-2409 01H PBHL	299.0	-5209.3	1930557.25	2716472.05	36.305650	-107.855800
Escrito D19-2409 01H POE	313.1	-654.1	1930571.12	2721027.21	36.305690	-107.840340

CASING DETAILS

TVD	MD	Name
500.0	500.0	9 5/8"
5276.9	5357.6	7" ICP @ 55°

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
922.0	922.0	Ojo Alamo Ss.
1104.0	1104.0	Kirtland Shale
1416.0	1416.0	Fruitland Coal
1703.0	1703.0	Pictured Cliffs Ss.
1857.0	1857.0	Lewis Shale
2469.0	2469.0	Cliffhouse Ss.
3222.0	3222.0	Menefee Fm.
4175.0	4175.0	Point Lookout Ss.
4344.0	4344.0	Mancos Shale
4926.9	4927.8	Mancos Silt
5195.9	5234.3	Gallup Fn.

T M Azimuths to True North
Magnetic North: 9.49°

Magnetic Field
Strength: 50156.8snT
Dip Angle: 63.00°
Date: 8/20/2014
Model: IGRF2010

Plan #1
Escrito D19-2409 01H
14xxx; LR
16' KB @ 6999.0usft
Ground Elevation @ 6983.0
North American Datum 1983
Well Escrito D19-2409 01H, True North

Planning Report

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Escrito D19-2409 01H
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	16' KB @ 6999.0usft
Project:	San Juan County, NM	**MD Reference:**	16' KB @ 6999.0usft
Site:	S19-T24N-R9W	**North Reference:**	True
Well:	Escrito D19-2409 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	S19-T24N-R9W				
Site Position:		**Northing:**	1,930,258.01 usft	**Latitude:**	36.304830
From:	Lat/Long	**Easting:**	2,721,681.30 usft	**Longitude:**	-107.838120
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16"	**Grid Convergence:**	0.00 °

Well	Escrito D19-2409 01H				
Well Position	**+N/-S** 0.0 usft	**Northing:**	1,930,258.01 usft	**Latitude:**	36.304830
	+E/-W 0.0 usft	**Easting:**	2,721,681.30 usft	**Longitude:**	-107.838120
Position Uncertainty	0.0 usft	**Wellhead Elevation:**	0.0 usft	**Ground Level:**	6,983.0 usft

Wellbore	HZ			
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2010	8/20/2014	9.49	63.00	50,157

Design	Plan #1			
Audit Notes:				
Version:	**Phase:**	PLAN	**Tie On Depth:**	0.0

Vertical Section:	**Depth From (TVD) (usft)**	**+N/-S (usft)**	**+E/-W (usft)**	**Direction (°)**
	0.0	0.0	0.0	269.82

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
4,807.5	0.00	0.00	4,807.5	0.0	0.0	0.00	0.00	0.00	0.00	
5,426.2	61.86	307.36	5,312.8	183.8	-240.7	10.00	10.00	0.00	307.36	
5,886.0	90.50	269.82	5,425.3	313.1	-654.1	10.00	6.23	-8.16	-57.94	Escrito D19-2409 01H
10,441.3	90.50	269.82	5,385.5	299.0	-5,209.3	0.00	0.00	0.00	0.00	Escrito D19-2409 01H

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Escrito D19-2409 01H
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	16' KB @ 6999.0usft
Project:	San Juan County, NM	**MD Reference:**	16' KB @ 6999.0usft
Site:	S19-T24N-R9W	**North Reference:**	True
Well:	Escrito D19-2409 01H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft	Build Rate (°/100u	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	
922.0	0.00	0.00	922.0	0.0	0.0	0.0	0.00	0.00	Ojo Alamo Ss.
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	
1,104.0	0.00	0.00	1,104.0	0.0	0.0	0.0	0.00	0.00	Kirtland Shale
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	
1,416.0	0.00	0.00	1,416.0	0.0	0.0	0.0	0.00	0.00	Fruitland Coal
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	
1,703.0	0.00	0.00	1,703.0	0.0	0.0	0.0	0.00	0.00	Pictured Cliffs Ss.
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	
1,857.0	0.00	0.00	1,857.0	0.0	0.0	0.0	0.00	0.00	Lewis Shale
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	
2,469.0	0.00	0.00	2,469.0	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	
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	
3,222.0	0.00	0.00	3,222.0	0.0	0.0	0.0	0.00	0.00	Menefee Fn.
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	
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	
4,175.0	0.00	0.00	4,175.0	0.0	0.0	0.0	0.00	0.00	Point Lookout Ss.
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	

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Project:	San Juan County, NM	**MD Reference:**	16' KB @ 6999.0usft
Site:	S19-T24N-R9W	**North Reference:**	True
Well:	Escrito D19-2409 01H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft	Build Rate (°/100u	Comments / Formations
4,344.0	0.00	0.00	4,344.0	0.0	0.0	0.0	0.00	0.00	Mancos Shale
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	
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	
4,807.5	0.00	0.00	4,807.5	0.0	0.0	0.0	0.00	0.00	KOP @ 4807'
4,900.0	9.25	307.36	4,899.6	4.5	-5.9	5.9	10.00	10.00	
4,927.8	12.03	307.36	4,926.9	7.6	-10.0	10.0	10.00	10.00	Mancos Silt
5,000.0	19.25	307.36	4,996.4	19.4	-25.5	25.4	10.00	10.00	
5,100.0	29.25	307.36	5,087.5	44.3	-58.1	57.9	10.00	10.00	
5,200.0	39.25	307.36	5,170.0	78.4	-102.7	102.5	10.00	10.00	
5,234.3	42.68	307.36	5,195.9	92.1	-120.6	120.3	10.00	10.00	Gallup Fn.
5,300.0	49.24	307.36	5,241.6	120.7	-158.1	157.7	10.00	10.00	
5,357.6	55.00	307.36	5,276.9	148.3	-194.2	193.8	10.00	10.00	7" ICP @ 55°
5,400.0	59.24	307.36	5,299.9	169.9	-222.5	222.0	10.00	10.00	
5,426.2	61.86	307.36	5,312.8	183.8	-240.7	240.1	10.00	10.00	Start build/turn @ 5426' MD
5,500.0	65.95	300.52	5,345.3	220.7	-295.6	294.9	10.00	5.53	
5,600.0	71.92	291.92	5,381.3	261.7	-379.3	378.5	10.00	5.98	
5,700.0	78.25	283.91	5,407.0	291.3	-471.1	470.2	10.00	6.33	
5,800.0	84.80	276.26	5,421.8	308.5	-568.4	567.4	10.00	6.54	
5,886.0	90.50	269.82	5,425.3	313.1	-654.1	653.1	10.00	6.63	LP @ 5425' TVD; 90.5° - Escrito D19-2409 01H
5,900.0	90.50	269.82	5,425.2	313.0	-668.1	667.1	0.00	0.00	
6,000.0	90.50	269.82	5,424.3	312.7	-768.1	767.1	0.00	0.00	
6,100.0	90.50	269.82	5,423.4	312.4	-868.1	867.1	0.00	0.00	
6,200.0	90.50	269.82	5,422.6	312.1	-968.1	967.1	0.00	0.00	
6,300.0	90.50	269.82	5,421.7	311.8	-1,068.1	1,067.1	0.00	0.00	
6,400.0	90.50	269.82	5,420.8	311.5	-1,168.1	1,167.1	0.00	0.00	
6,500.0	90.50	269.82	5,419.9	311.2	-1,268.1	1,267.1	0.00	0.00	
6,600.0	90.50	269.82	5,419.1	310.9	-1,368.1	1,367.1	0.00	0.00	
6,700.0	90.50	269.82	5,418.2	310.6	-1,468.1	1,467.1	0.00	0.00	
6,800.0	90.50	269.82	5,417.3	310.2	-1,568.1	1,567.1	0.00	0.00	
6,900.0	90.50	269.82	5,416.4	309.9	-1,668.1	1,667.1	0.00	0.00	
7,000.0	90.50	269.82	5,415.6	309.6	-1,768.1	1,767.1	0.00	0.00	
7,100.0	90.50	269.82	5,414.7	309.3	-1,868.1	1,867.1	0.00	0.00	
7,200.0	90.50	269.82	5,413.8	309.0	-1,968.0	1,967.1	0.00	0.00	
7,300.0	90.50	269.82	5,412.9	308.7	-2,068.0	2,067.1	0.00	0.00	
7,400.0	90.50	269.82	5,412.1	308.4	-2,168.0	2,167.1	0.00	0.00	
7,500.0	90.50	269.82	5,411.2	308.1	-2,268.0	2,267.1	0.00	0.00	
7,600.0	90.50	269.82	5,410.3	307.8	-2,368.0	2,367.1	0.00	0.00	
7,700.0	90.50	269.82	5,409.5	307.5	-2,468.0	2,467.0	0.00	0.00	
7,800.0	90.50	269.82	5,408.6	307.1	-2,568.0	2,567.0	0.00	0.00	
7,900.0	90.50	269.82	5,407.7	306.8	-2,668.0	2,667.0	0.00	0.00	
8,000.0	90.50	269.82	5,406.8	306.5	-2,768.0	2,767.0	0.00	0.00	
8,100.0	90.50	269.82	5,406.0	306.2	-2,868.0	2,867.0	0.00	0.00	
8,200.0	90.50	269.82	5,405.1	305.9	-2,968.0	2,967.0	0.00	0.00	
8,300.0	90.50	269.82	5,404.2	305.6	-3,068.0	3,067.0	0.00	0.00	
8,400.0	90.50	269.82	5,403.3	305.3	-3,168.0	3,167.0	0.00	0.00	
8,500.0	90.50	269.82	5,402.5	305.0	-3,268.0	3,267.0	0.00	0.00	
8,600.0	90.50	269.82	5,401.6	304.7	-3,368.0	3,367.0	0.00	0.00	
8,700.0	90.50	269.82	5,400.7	304.4	-3,468.0	3,467.0	0.00	0.00	
8,800.0	90.50	269.82	5,399.8	304.1	-3,568.0	3,567.0	0.00	0.00	

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Site:	S19-T24N-R9W	**North Reference:**	True
Well:	Escrito D19-2409 01H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft	Build Rate (°/100u	Comments / Formations
8,900.0	90.50	269.82	5,399.0	303.7	-3,668.0	3,667.0	0.00	0.00	
9,000.0	90.50	269.82	5,398.1	303.4	-3,768.0	3,767.0	0.00	0.00	
9,100.0	90.50	269.82	5,397.2	303.1	-3,868.0	3,867.0	0.00	0.00	
9,200.0	90.50	269.82	5,396.3	302.8	-3,968.0	3,967.0	0.00	0.00	
9,300.0	90.50	269.82	5,395.5	302.5	-4,068.0	4,067.0	0.00	0.00	
9,400.0	90.50	269.82	5,394.6	302.2	-4,168.0	4,167.0	0.00	0.00	
9,500.0	90.50	269.82	5,393.7	301.9	-4,267.9	4,267.0	0.00	0.00	
9,600.0	90.50	269.82	5,392.9	301.6	-4,367.9	4,367.0	0.00	0.00	
9,700.0	90.50	269.82	5,392.0	301.3	-4,467.9	4,467.0	0.00	0.00	
9,800.0	90.50	269.82	5,391.1	301.0	-4,567.9	4,567.0	0.00	0.00	
9,900.0	90.50	269.82	5,390.2	300.7	-4,667.9	4,667.0	0.00	0.00	
10,000.0	90.50	269.82	5,389.4	300.3	-4,767.9	4,767.0	0.00	0.00	
10,100.0	90.50	269.82	5,388.5	300.0	-4,867.9	4,867.0	0.00	0.00	
10,200.0	90.50	269.82	5,387.6	299.7	-4,967.9	4,966.9	0.00	0.00	
10,300.0	90.50	269.82	5,386.7	299.4	-5,067.9	5,066.9	0.00	0.00	
10,400.0	90.50	269.82	5,385.9	299.1	-5,167.9	5,166.9	0.00	0.00	
10,441.3	90.50	269.82	5,385.5	299.0	-5,209.3	5,208.3	0.00	0.00	TD at 10441.3 - Escrito D19-2409 01H PBHL

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Escrito D19-2409 01H P - plan hits target center - Point	0.00	0.00	5,385.5	299.0	-5,209.3	1,930,557.25	2,716,472.05	36.305650	-107.855800
Escrito D19-2409 01H P - plan hits target center - Point	0.00	0.00	5,425.3	313.1	-654.1	1,930,571.12	2,721,027.21	36.305690	-107.840340

500.0	500.0	9 5/8"	0	0
5,357.6	5,276.9	7" ICP @ 55°	0	0

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
922.0	922.0	Ojo Alamo Ss.		-0.50	269.82
1,104.0	1,104.0	Kirtland Shale		-0.50	269.82
1,416.0	1,416.0	Fruitland Coal		-0.50	269.82
1,703.0	1,703.0	Pictured Cliffs Ss.		-0.50	269.82
1,857.0	1,857.0	Lewis Shale		-0.50	269.82
2,469.0	2,469.0	Cliffhouse Ss.		-0.50	269.82
3,222.0	3,222.0	Menefee Fn.		-0.50	269.82
4,175.0	4,175.0	Point Lookout Ss.		-0.50	269.82
4,344.0	4,344.0	Mancos Shale		-0.50	269.82
4,927.8	4,927.0	Mancos Silt		-0.50	269.82
5,234.3	5,197.0	Gallup Fn.		-0.50	269.82

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Site:	S19-T24N-R9W	**North Reference:**	True
Well:	Escrito D19-2409 01H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #1		

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
4,807.5	4,807.5	0.0	0.0	KOP @ 4807'
5,426.2	5,312.8	183.8	-240.7	Start build/turn @ 5426' MD
5,886.0	5,425.3	313.1	-654.1	LP @ 5425' TVD; 90.5°
10,441.3	5,385.5	299.0	-5,209.3	TD at 10441.3

EnCana Oil & Gas (USA) Inc

San Juan County, NM
S19-T24N-R9W
Escrito D19-2409 01H
HZ
Plan #1

Anticollision Report

20 August, 2014

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Escrito D19-2409 01H
Project:	San Juan County, NM	**TVD Reference:**	16' KB @ 6999.0usft
Reference Site:	S19-T24N-R9W	**MD Reference:**	16' KB @ 6999.0usft
Site Error:	0.0usft	**North Reference:**	True
Reference Well:	Escrito D19-2409 01H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0usft	**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 100.0usft	**Error Model:**	Systematic Ellipse
Depth Range:	Unlimited	**Scan Method:**	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 1,236.6usft	**Error Surface:**	Elliptical Conic
Warning Levels Evaluated at:	2.00 **Sigma**		

Survey Tool Program **Date** 8/20/2014

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	10,440.4	Plan #1 (HZ)	Geolink MWD	Geolink MWD

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
S19-T24N-R9W						
Escrito D19-2409 02H - HZ - Plan #1	2,900.0	2,900.0	31.0	20.9	3.081	CC, ES, SF

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Escrito D19-2409 01H
Project:	San Juan County, NM	**TVD Reference:**	16' KB @ 6999.0usft
Reference Site:	S19-T24N-R9W	**MD Reference:**	16' KB @ 6999.0usft
Site Error:	0.0usft	**North Reference:**	True
Reference Well:	Escrito D19-2409 01H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0usft	**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 S19-T24N-R9W - Escrito D19-2409 02H - HZ - Plan #1 — **Offset Site Error:** 0.0 usft

Survey Program: 0-Geolink MWD — **Offset Well Error:** 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	145.25	-25.5	17.7	31.0				
100.0	100.0	100.0	100.0	0.1	0.1	145.25	-25.5	17.7	31.0	30.7	0.29	105.772	
200.0	200.0	200.0	200.0	0.3	0.3	145.25	-25.5	17.7	31.0	30.4	0.64	48.287	
300.0	300.0	300.0	300.0	0.5	0.5	145.25	-25.5	17.7	31.0	30.0	0.99	31.285	
400.0	400.0	400.0	400.0	0.7	0.7	145.25	-25.5	17.7	31.0	29.7	1.34	23.138	
500.0	500.0	500.0	500.0	0.8	0.8	145.25	-25.5	17.7	31.0	29.3	1.69	18.357	
600.0	600.0	600.0	600.0	1.0	1.0	145.25	-25.5	17.7	31.0	29.0	2.04	15.214	
700.0	700.0	700.0	700.0	1.2	1.2	145.25	-25.5	17.7	31.0	28.6	2.39	12.990	
800.0	800.0	800.0	800.0	1.4	1.4	145.25	-25.5	17.7	31.0	28.3	2.74	11.333	
900.0	900.0	900.0	900.0	1.5	1.5	145.25	-25.5	17.7	31.0	27.9	3.09	10.051	
1,000.0	1,000.0	1,000.0	1,000.0	1.7	1.7	145.25	-25.5	17.7	31.0	27.6	3.43	9.029	
1,100.0	1,100.0	1,100.0	1,100.0	1.9	1.9	145.25	-25.5	17.7	31.0	27.2	3.78	8.196	
1,200.0	1,200.0	1,200.0	1,200.0	2.1	2.1	145.25	-25.5	17.7	31.0	26.9	4.13	7.504	
1,300.0	1,300.0	1,300.0	1,300.0	2.2	2.2	145.25	-25.5	17.7	31.0	26.5	4.48	6.920	
1,400.0	1,400.0	1,400.0	1,400.0	2.4	2.4	145.25	-25.5	17.7	31.0	26.2	4.83	6.420	
1,500.0	1,500.0	1,500.0	1,500.0	2.6	2.6	145.25	-25.5	17.7	31.0	25.8	5.18	5.987	
1,600.0	1,600.0	1,600.0	1,600.0	2.8	2.8	145.25	-25.5	17.7	31.0	25.5	5.53	5.609	
1,700.0	1,700.0	1,700.0	1,700.0	2.9	2.9	145.25	-25.5	17.7	31.0	25.1	5.88	5.276	
1,800.0	1,800.0	1,800.0	1,800.0	3.1	3.1	145.25	-25.5	17.7	31.0	24.8	6.23	4.980	
1,900.0	1,900.0	1,900.0	1,900.0	3.3	3.3	145.25	-25.5	17.7	31.0	24.4	6.58	4.716	
2,000.0	2,000.0	2,000.0	2,000.0	3.5	3.5	145.25	-25.5	17.7	31.0	24.1	6.93	4.478	
2,100.0	2,100.0	2,100.0	2,100.0	3.6	3.6	145.25	-25.5	17.7	31.0	23.7	7.27	4.263	
2,200.0	2,200.0	2,200.0	2,200.0	3.8	3.8	145.25	-25.5	17.7	31.0	23.4	7.62	4.068	
2,300.0	2,300.0	2,300.0	2,300.0	4.0	4.0	145.25	-25.5	17.7	31.0	23.0	7.97	3.890	
2,400.0	2,400.0	2,400.0	2,400.0	4.2	4.2	145.25	-25.5	17.7	31.0	22.7	8.32	3.727	
2,500.0	2,500.0	2,500.0	2,500.0	4.3	4.3	145.25	-25.5	17.7	31.0	22.3	8.67	3.577	
2,600.0	2,600.0	2,600.0	2,600.0	4.5	4.5	145.25	-25.5	17.7	31.0	22.0	9.02	3.438	
2,700.0	2,700.0	2,700.0	2,700.0	4.7	4.7	145.25	-25.5	17.7	31.0	21.6	9.37	3.310	
2,800.0	2,800.0	2,800.0	2,800.0	4.9	4.9	145.25	-25.5	17.7	31.0	21.3	9.72	3.191	
2,900.0	2,900.0	2,900.0	2,900.0	5.0	5.0	145.25	-25.5	17.7	31.0	20.9	10.07	3.081	CC, ES, SF
3,000.0	3,000.0	2,999.2	2,999.1	5.2	5.2	147.30	-27.2	17.5	32.3	21.9	10.41	3.103	
3,100.0	3,100.0	3,098.1	3,097.9	5.4	5.4	152.52	-32.3	16.8	36.4	25.7	10.76	3.385	
3,200.0	3,200.0	3,196.6	3,196.0	5.6	5.6	158.93	-40.7	15.7	43.8	32.7	11.11	3.941	
3,300.0	3,300.0	3,294.3	3,293.1	5.7	5.8	164.89	-52.3	14.1	54.7	43.2	11.46	4.769	
3,400.0	3,400.0	3,391.2	3,388.8	5.9	6.0	169.71	-67.1	12.2	69.1	57.3	11.82	5.850	
3,500.0	3,500.0	3,486.9	3,482.8	6.1	6.2	173.38	-84.9	9.8	87.2	75.0	12.19	7.152	
3,600.0	3,600.0	3,581.3	3,574.9	6.3	6.4	176.13	-105.4	7.1	108.6	96.0	12.57	8.640	
3,700.0	3,700.0	3,674.2	3,664.8	6.4	6.7	178.18	-128.6	4.1	133.4	120.4	12.97	10.283	
3,800.0	3,800.0	3,765.5	3,752.4	6.6	7.0	179.73	-154.1	0.7	161.3	147.9	13.39	12.047	
3,900.0	3,900.0	3,855.0	3,837.4	6.8	7.4	-179.07	-181.8	-2.9	192.3	178.5	13.83	13.906	
4,000.0	4,000.0	3,942.6	3,919.8	7.0	7.7	-178.14	-211.5	-6.9	226.3	212.0	14.29	15.833	
4,100.0	4,100.0	4,028.3	3,999.3	7.1	8.2	-177.41	-242.9	-11.0	263.2	248.4	14.78	17.805	
4,200.0	4,200.0	4,111.8	4,076.0	7.3	8.6	-176.82	-275.8	-15.3	302.8	287.5	15.29	19.805	
4,300.0	4,300.0	4,193.2	4,149.7	7.5	9.1	-176.34	-310.0	-19.8	345.1	329.2	15.82	21.812	
4,400.0	4,400.0	4,272.5	4,220.6	7.7	9.6	-175.94	-345.2	-24.5	389.9	373.5	16.37	23.809	
4,500.0	4,500.0	4,349.5	4,288.4	7.8	10.1	-175.61	-381.3	-29.2	437.1	420.1	16.94	25.798	
4,600.0	4,600.0	4,431.0	4,359.3	8.0	10.7	-175.32	-421.2	-34.5	486.3	468.8	17.56	27.701	
4,700.0	4,700.0	4,517.8	4,434.8	8.2	11.3	-175.06	-463.8	-40.1	535.8	517.6	18.21	29.419	
4,800.0	4,800.0	4,604.7	4,510.3	8.3	12.0	-174.84	-506.5	-45.7	585.3	566.4	18.88	30.995	
4,900.0	4,899.6	4,689.4	4,583.8	8.5	12.6	-117.67	-548.1	-51.2	638.1	621.5	16.60	38.446	
5,000.0	4,996.4	4,767.4	4,651.6	8.7	13.2	-112.80	-586.4	-56.3	697.8	680.8	16.95	41.164	
5,100.0	5,087.5	4,836.4	4,711.5	9.0	13.8	-107.43	-620.3	-60.8	763.6	746.0	17.60	43.381	

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

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Escrito D19-2409 01H
Project:	San Juan County, NM	**TVD Reference:**	16' KB @ 6999.0usft
Reference Site:	S19-T24N-R9W	**MD Reference:**	16' KB @ 6999.0usft
Site Error:	0.0usft	**North Reference:**	True
Reference Well:	Escrito D19-2409 01H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0usft	**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 S19-T24N-R9W - Escrito D19-2409 02H - HZ - Plan #1

Offset Site Error: 0.0 usft

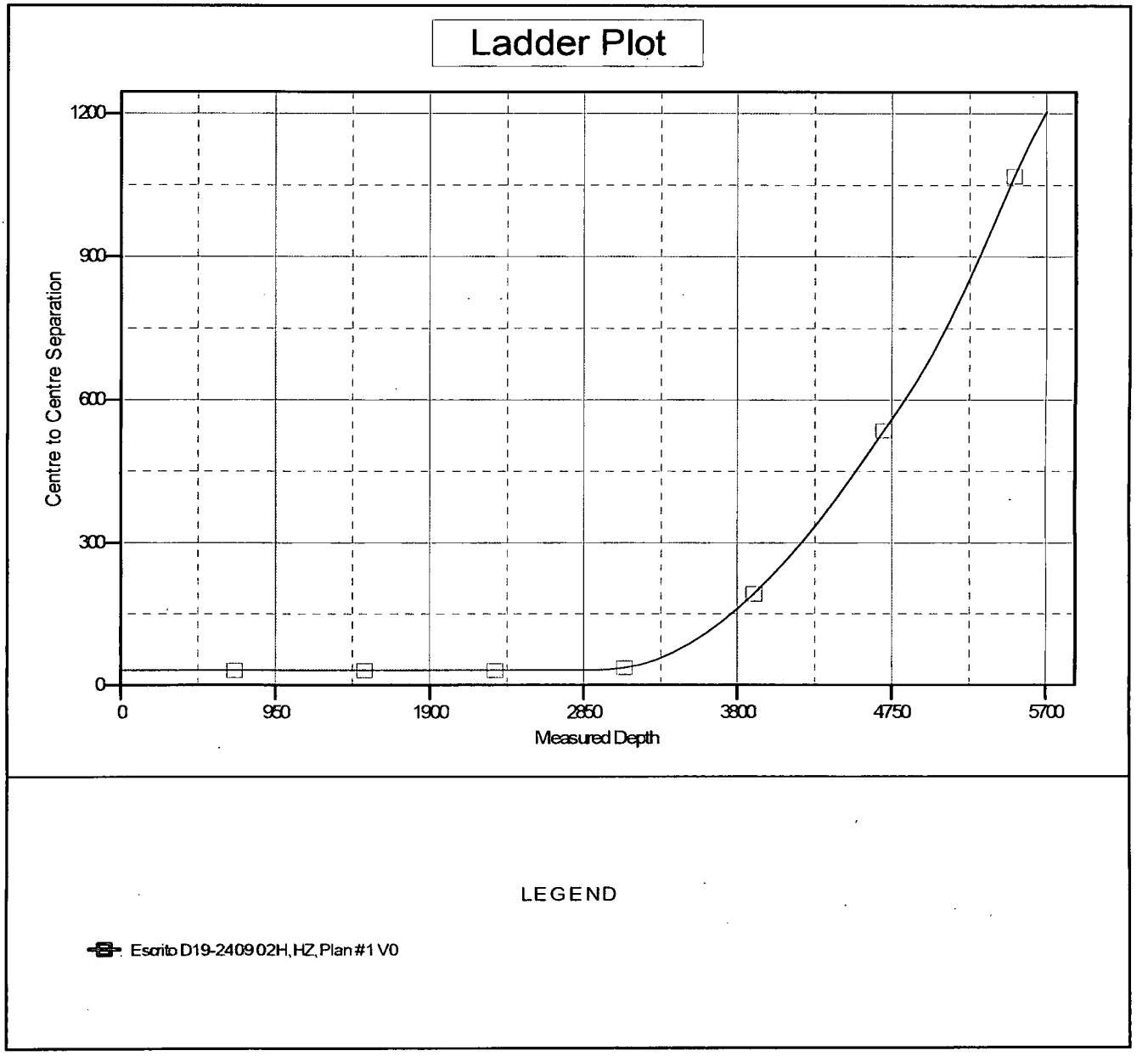
Survey Program: 0-Geolink MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,170.0	4,894.3	4,761.8	9.4	14.2	-100.92	-648.7	-64.5	834.8	816.0	18.72	44.600	
5,300.0	5,241.6	4,939.3	4,800.9	10.1	14.6	-92.67	-670.8	-67.4	910.5	890.2	20.29	44.862	
5,400.0	5,299.9	4,970.0	4,827.5	11.1	14.8	-82.42	-685.9	-69.4	989.4	967.5	21.95	45.079	
5,500.0	5,345.3	4,989.2	4,844.2	12.4	15.0	-74.35	-695.3	-70.6	1,068.0	1,045.5	22.49	47.482	
5,600.0	5,381.3	5,005.7	4,858.6	13.9	15.1	-69.20	-703.4	-71.7	1,139.8	1,117.1	22.76	50.074	
5,700.0	5,407.0	5,019.5	4,870.6	15.6	15.2	-65.60	-710.2	-72.6	1,204.0	1,180.8	23.18	51.948	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Escrito D19-2409 01H
Project:	San Juan County, NM	**TVD Reference:**	16' KB @ 6999.0usft
Reference Site:	S19-T24N-R9W	**MD Reference:**	16' KB @ 6999.0usft
Site Error:	0.0usft	**North Reference:**	True
Reference Well:	Escrito D19-2409 01H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0usft	**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 16' KB @ 6999.0usft	Coordinates are relative to: Escrito D19-2409 01H
Offset Depths are relative to Offset Datum	Coordinate System is US State Plane 1983, New Mexico Western Zone
Central Meridian is -107.833333 °	Grid Convergence at Surface is: 0.00°



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

3. All construction materials for the well pad will consist of native borrow and subsoil accumulated during well pad construction. If additional fill or surfacing material is required, it will be obtained from existing permitted or private sources and will be hauled in by trucks over existing access roads.

   The maximum cut will be approximately 13 feet on corner 1 and the maximum fill will be approximately 16 feet on corner 5.

4. As determined during the onsite on July 8, 2014 the following best management practices will be implemented:
   a. Water will be diverted around the pad from corner 1 toward corner 6 and from corner 1 toward corner 2.
   b. Silt traps will be installed as needed upon interim reclamation.
   c. 24-inch culverts will be installed where needed upon interim reclamation.

5. Construction equipment may include chain saws, a brush hog, scraper, maintainer, excavator, and dozer. Construction for the access road and well pad will take approximately 3 weeks.

C. Pipeline
A Surface Owner Agreement is required and will cover any details about pipeline ROW on private surface.

See Initial Standard SF-299 Application for authorization to construct, operate, maintain and terminate a 539 foot, up to 6-inch outside diameter, buried steel well connect pipeline that was submitted to the Bureau of Land Management.

7. METHODS FOR HANDLING WASTE

A. Cuttings

1. A closed-loop system will be used. Cuttings will be moved through a shaker system on the drill rig that separates drilling fluids from the cuttings. Cuttings will be stored onsite in above-ground storage tanks. Cuttings will be pulled from the storage tanks, mixed with saw dust or similar absorbent material, and disposed of at the Envirotech, Inc. and/or Industrial Ecosystem, Inc. waste disposal facilities.

2. The closed-loop system storage tanks will be adequately sized to ensure confinement of all fluids and will provide sufficient freeboard to prevent uncontrolled releases.

3. A 20-mil liner will be installed under tanks, pumps, ancillary facilities, and truck loading/unloading areas associated with the closed-loop system.

B. Drilling Fluids

1. A closed-loop system will be used. Drilling fluids will be stored onsite in above-ground storage tanks. Upon termination of drilling operations, the drilling fluids will be recycled and transferred to other permitted closed-loop systems or returned to the vendor for reuse, as practical. Residual fluids will be vacuumed from the storage tanks and disposed of at Basin Disposal, Inc. and/or Industrial Ecosystem, Inc. waste disposal facilities.

2. The closed-loop system storage tanks will be adequately sized to ensure confinement of all fluids and will provide sufficient freeboard to prevent uncontrolled releases.

3. The closed-loop system storage tanks will be placed in bermed secondary containment sized to accommodate a minimum of 110 percent of the volume of the largest storage tank.

4. A 20-mil liner will be installed under tanks, pumps, ancillary facilities, and truck loading/unloading areas associated with the closed-loop system.

C. Flowback Water
1. The water-based solution that flows back to the surface during and after completion operations will be placed in storage tanks on the location.

2. Flowback water will be confined to a storage tank for a period not to exceed 90 days after initial production and will be disposed of at Basin Disposal, Inc. and/or Industrial Ecosystem, Inc. waste disposal facilities.

D. Spills – any spills of non-freshwater fluids will be immediately cleaned up and removed to an approved disposal site.

E. Sewage – self-contained, chemical toilets will be provided for human waste disposal. The toilet holding tanks will be pumped, as needed, and the contents thereof disposed of in an approved sewage disposal facility. The toilets will be onsite during all operations.

F. Garbage and other waste material – garbage, trash and other waste materials will be collected in a portable, self-contained and fully-enclosed trash container during drilling and completion operations. The accumulated trash will be removed, as needed, and will be disposed of at an authorized sanitary landfill. No trash will be buried or burned on location.

G. Immediately after removal of the drilling rig, all debris and other waste materials not contained in the trash container will be cleaned up and removed from the well location.

H. No chemicals subject to reporting under SARA Title III in an amount equal to or greater than 10,000 pounds will be used, produced, stored, transported, or disposed of annually in association with the drilling, testing or completing of this well.

I. No extremely hazardous substances, as defined in 40 CFR 355, in threshold planning quantities, will be used, produced, stored, transported, or disposed of in association with the drilling, testing, or completing of this well.

8. ANCILLARY FACILITIES

A. Standard drilling operation equipment that will be on location includes: drilling rig with associated equipment, temporary office trailers equipped with sleeping quarters for essential company personnel, toilet facilities, and trash containers.

9. WELL SITE LAYOUT

A. The proposed well pad layout is shown on Sheets F-1, F-2, G-1, and G-2. Cross sections have been drafted to visualize the planned cuts and fills across the location. Refer to Item 6 for construction materials and methods.

B. No permanent living facilities are planned. Office trailers equipped with living quarters will be provided on location during drilling and completions operations.

C. The production facility layout is being deferred until the Facility and Reclamation onsite with the BLM Representative.

Directions from the Intersection of US Hwy 550 & US Hwy 64

in Bloomfield, NM to Encana Oil & Gas (USA) Inc. Escrito D19-2409 01H

715' FNL & 325' FWL, Section 19, T24N, R9W, N.M.P.M., San Juan County, NM

Latitude: 36.30483°N Longitude: 107.83812°W Datum: NAD1983

From the intersection of US Hwy 550 & US Hwy 64 in Bloomfield, NM, travel Southerly on US Hwy 550 for 27.9 miles to State Hwy #57 @ Mile Marker 123.4;

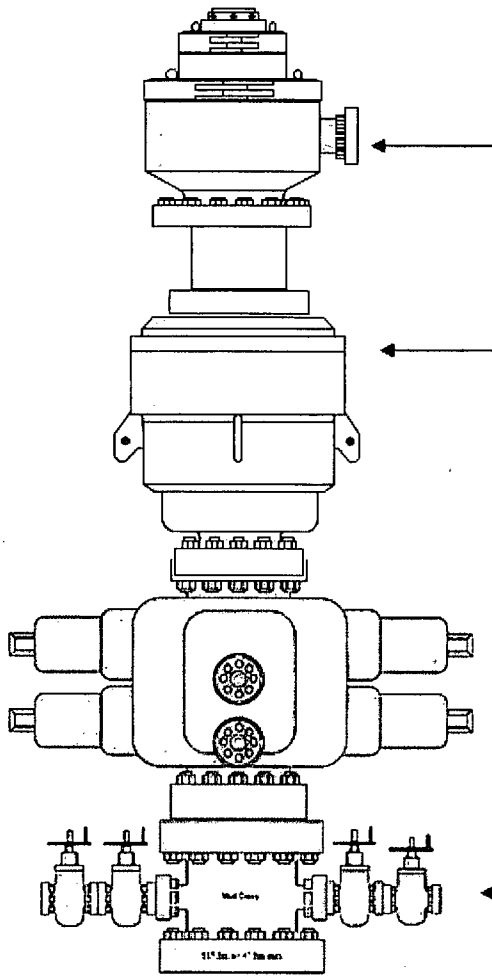
Go Right (South-westerly) on State Hwy #57 for 3.1 miles to fork in road;

Go Left (Southerly) exiting State Hwy #57 for 1.7 miles to new access on left-hand side of existing roadway which continues for 22.3' to staked Encana Escrito D19-2409 01H location.

WELLHEAD BLOWOUT CONTROL SYSTEM

encana

Well Name and Number:
Escrito D19-2409 01H



11" 3K Rotating Head

11" 3K Annular

3K Double Ram
Top: Pipe Ram
Bottom: Blind Ram
3" Outlets Below Ram

3K Mud Cross 3" gate valves