State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

David Martin
Cabinet Secretary

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

David R. Catanach 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: 3-2-15
Well information;
Operator Encana, Well Name and Number Escrito M19 2408 #2H

API# 30-045-35651, Section 19, Township 24 (N)S, Range 08 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), 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.

APD Held for corrected C-102 recd on 1-27-16

NMOCD Approved by Signature

2-5-2016
Date

KC

OIL CONS. DIV DIST. 3

SEP 23 2015

Form 3160-3
(March 2012)

RECEIVED
MAR 03 2015
Farmington Field Office
Bureau of Land Management

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NM 54981, NM 54980

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

1a. Type of work: ☑ DRILL ☐ REENTER

7. If Unit or CA Agreement, Name and No.
~~Pending~~ NMNM130591

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

8. Lease Name and Well No.
Escrito N19-2408 02H

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

9. API Well No.
30-045-35651

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

3b. Phone No. *(include area code)*
720-876-3533

10. Field and Pool, or Exploratory
Basin Mancos

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface N 1085' FSL, 2065' FWL, Section 19, T24N, R8W SESW

At proposed prod. zone P 1305' FSL, 330' FEL, Section 30, T24N, R8W SESE

11. Sec., T. R. M. or Blk. and Survey or Area
Section 19, T24N, R8W NMPM

Sec 30, T24N, R8W

14. Distance in miles and direction from nearest town or post office*
+/- 37.3 miles South from the intersection of HWY 64 & US HWY 550 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)	16. No. of acres in lease	17. Spacing Unit dedicated to this well
BHL is 330 FEL Section 30, T24N, R8W	NM 54981- 321.16 acres NM 54980- 320 acres	641.16 acres- Section 30, T24N, R8W
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	**19. Proposed Depth**	**20. BLM/BIA Bond No. on file**
SHL is +/- 30' West of Escrito N19-2408 01H	5075' TVD, 10925' MD	COB-000235
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	**22. Approximate date work will start***	**23. Estimated duration**
6792' GL; 6808' KB	08/25/2015	20 days

24. Attachments

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

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

25. Signature	Name *(Printed/Typed)*	Date
Katie Wegner	Katie Wegner	3/2/15

Title
Regulatory Analyst

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
Matthew Kade AFM		9/17/15
Title	**Office**	
	FFO	

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

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

(Continued on page 2)

*(Instructions 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"

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

NMOCD

OIL CONS. DIV DIST. 3

JAN 27 2016

District I
1625 N. French Dr., Hobbs, NM 88240
Phone (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., 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 Dr., 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 Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number	2 Pool Code	3 Pool Name
30-045-35051	97232	BASIN MANCOS GAS

4 Property Code	5 Property Name	6 Well Number
315289	ESCRITO N19-2408	02H

7 OGRID No.	8 Operator Name	9 Elevation
282327	ENCANA OIL & GAS (USA) INC.	6792.4'

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
N	19	24N	8W		1085	SOUTH	2065	WEST	SAN JUAN

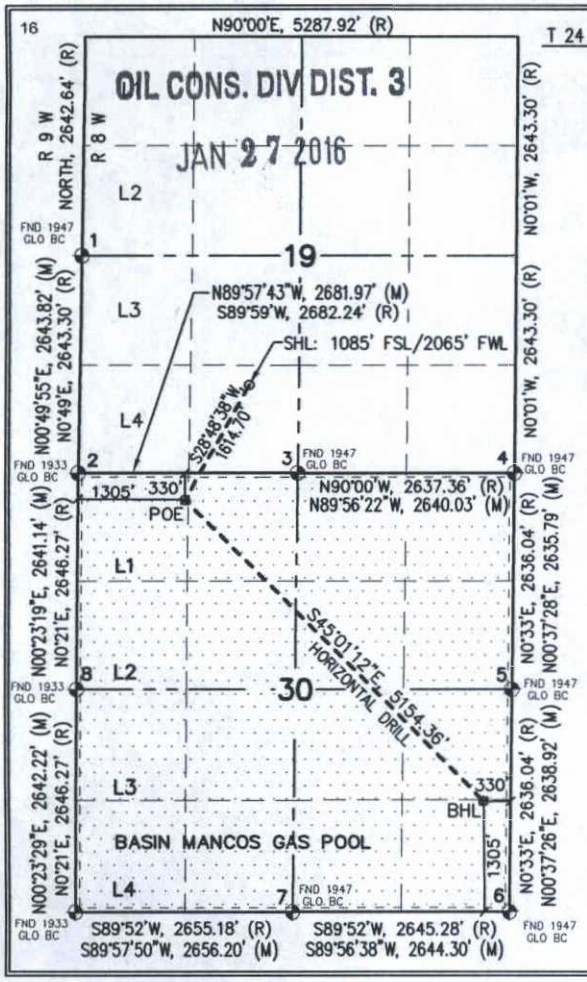
11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West Line	County
P	30	24N	8W		1305	SOUTH	330	EAST	SAN JUAN

12 Dedicated Acres	PROJECT AREA	13 Joint or Infill	14 Consolidation Code	15 Order No.
641.76 ~~640~~ ACRES – ALL SECTION 30				

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.

KP



ESCRITO N19-2408 02H WELL
SHL (WELL FLAG)
LAT. 36.295559°N (NAD83)
LONG. 107.724921°W (NAD83)
LAT. 36.295547°N (NAD27)
LONG. 107.724309°W (NAD27)
POE (POINT OF ENTRY)
LAT. 36.291672°N (NAD83)
LONG. 107.727556°W (NAD83)
LAT. 36.291660°N (NAD27)
LONG. 107.726943°W (NAD27)
BHL (BOTTOM HOLE LOCATION)
LAT. 36.281677°N (NAD83)
LONG. 107.715177°W (NAD83)
LAT. 36.281665°N (NAD27)
LONG. 107.714565°W (NAD27)

SECTION CORNERS
1 LAT. 36.299836°N (NAD83)
LONG. 107.731856°W (NAD83)
LAT. 36.299824°N (NAD27)
LONG. 107.731243°W (NAD27)
2 LAT. 36.292577°N (NAD83)
LONG. 107.731976°W (NAD83)
LAT. 36.292565°N (NAD27)
LONG. 107.731363°W (NAD27)
3 LAT. 36.292580°N (NAD83)
LONG. 107.722879°W (NAD83)
LAT. 36.292567°N (NAD27)
LONG. 107.722266°W (NAD27)
4 LAT. 36.292579°N (NAD83)
LONG. 107.713924°W (NAD83)
LAT. 36.292567°N (NAD27)
LONG. 107.713312°W (NAD27)
5 LAT. 36.285342°N (NAD83)
LONG. 107.714013°W (NAD83)
LAT. 36.285329°N (NAD27)
LONG. 107.713401°W (NAD27)
6 LAT. 36.278096°N (NAD83)
LONG. 107.714102°W (NAD83)
LAT. 36.278083°N (NAD27)
LONG. 107.713490°W (NAD27)
7 LAT. 36.278082°N (NAD83)
LONG. 107.723070°W (NAD83)
LAT. 36.278069°N (NAD27)
LONG. 107.722457°W (NAD27)
8 LAT. 36.285324°N (NAD83)
LONG. 107.732027°W (NAD83)
LAT. 36.285312°N (NAD27)
LONG. 107.731414°W (NAD27)

17 OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or 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.

Katie Wegner 1/19/16
Signature Date

Katie Wegner
Printed Name

Katie.Wegner@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.

January 12, 2016
Date of Survey

Signature and Seal of Professional Surveyor:

RICHARD L. MULLIKEN
NEW MEXICO
16873
1-13-16
PROFESSIONAL SURVEYOR

RICHARD L. MULLIKEN
Certificate Number 16873

Escrito N19-2408 02H
SHL: 1085' FSL, 2065' FWL, Sec 19, T24N R8W
BHL: 1305' FSL, 330' FEL, Sec 30, T24N R8W
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.	962
Kirtland Shale	1,189
Fruitland Coal	1,444
Pictured Cliffs Ss.	1,728
Lewis Shale	1,822
Cliffhouse Ss.	2,565
Menefee Fn.	3,232
Point Lookout Ss.	4,129
Mancos Shale	4,352
Mancos Silt	4,769
Gallup Fn.	5,047
Base Gallup	5,378

The referenced surface elevation is 6792', KB 6808'

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

Substance	Formation	Depth (TVD) units = feet
Water/Gas	Fruitland Coal	1,444
Oil/Gas	Pictured Cliffs Ss.	1,728
Oil/Gas	Cliffhouse Ss.	2,565
Gas	Menefee Fn.	3,232
Oil/Gas	Point Lookout Ss.	4,129
Oil/Gas	Mancos Shale	4,352
Oil/Gas	Mancos Silt	4,769
Oil/Gas	Gallup Fn.	5,047

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

Escrito N19-2408 02H
SHL: 1085' FSL, 2065' FWL, Sec 19, T24N R8W
BHL: 1305' FSL, 330' FEL, Sec 30, T24N R8W
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'-5344'	8 3/4"	7"	26#	J55, LTC New
Production Liner	5244'-10925'	6 1/8"	4 1/2"	11.6#	B80*, LTC New

Casing String				Casing Strength Properties			Minimum Design Factors		
Size	Weight (ppf)	Grade	Connection	Collapse (psi)	Burst (psi)	Tensile (1000lbs)	Collapse	Burst	Tension
9 5/8"	36	J55	STC	2020	3520	394	1.125	1.1	1.5
7"	26	J55	LTC	4320	4980	367	1.125	1.1	1.5
4.5"	11.6	B80	LTC	6350	7780	201	1.125	1.1	1.5

*B80 pipe specifications are attached

Casing design is subject to revision based on geologic conditions encountered

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

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'	228 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'-5344'	100% open hole excess Stage 1 Lead: 497 sks Stage 1 Tail: 380 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	5244'-10925'	50% OH excess Stage 1 Blend Total: 320sks	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 600'. Directional plans are attached.

Description	Proposed Depth (TVD/MD)	Formation
Horizontal Lateral TD	5075'/10925'	Gallup

Escrito N19-2408 02H
SHL: 1085' FSL, 2065' FWL, Sec 19, T24N R8W
BHL: 1305' FSL, 330' FEL, Sec 30, T24N R8W
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'-4994'/5344'	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"	4994'/5344'-5075'/10925'	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 +/- 2398 psi based on a 9.0 ppg at 5124' 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 August 25, 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: 1085' FSL, 2065' FWL, Sec 19, T24N R8W County: San Juan WELL: Escrito N19-2408 02H	Encana Natural Gas WELL SUMMARY		ENG: 0 RIG: Unassigned GLE: 6792.4 RKBE: 6808.4	3/2/15

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 LTC TOC Surface with 100% OH Excess: 228 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				
Survey Every 60'-120', updating anticollision report after surveys. Stop operations and contact drilling engineer if separation factor approaches 1.5	No OH logs	Ojo Alamo Ss. Kirtland Shale Fruitland Coal Pictured Cliffs Ss. Lewis Shale Cliffhouse Ss. Menefee Fn. Point Lookout Ss. Mancos Shale	962 1,189 1,444 1,728 1,822 2,565 3,232 4,129 4,352		8 3/4	7" 26ppf J55 LTC TOC @ surface (100% OH excess - 70% Lead 30% Tail) Stage 1 Total: 878sks Stage 1 Lead: 497 sks Premium Lite FM + 3% CaCl2 + 0.25/sk Cello Flake + 5#/sk LCM-1 + 8% Bentonite + 0.4% FL-52A + 0.4% Sodium Metasilicate. Mixed at 12.1 ppg. Yield 2.13 cuft/sk.	Fresh Wtr 8.3-10	Vertical <1°
	Mud logger onsite	KOP	600	600				
Surveys every 30' through the curve		Mancos Silt	4,769			Stage 1 Tail: 380 sks Type III Cement + 1% CaCl2 + 0.25#/sk Cello Flake + 0.2% FL-52A. Mixed at 14.6 ppg. Yield 1.38 cuft/sk.		
		Gallup Fn.	5,047					
		7" Csg	4,994	5,344'				
Surveys every stand to TD unless directed otherwise by Geologist MWD Gamma Directional	No OH Logs	Horizontal Target TD Base Gallup	5,124 5,075 5,378	10,925	6 1/8	100' overlap at liner top 5581' Drilled Lateral 4 1/2" 11.6ppf SB80 LTC TOC @ hanger (50% OH excess) Stage 1 Total: 320sks Stage 1 Blend: 320 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.	WBM 8.3-10	Horz Inc/TVD 90.52deg/5124.4ft TD = 10925.2 MD

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 600', 8 3/4 inch holesize
5) Start curve at 10deg/100' build rate
6) Drill to csg point of 5344' MD
7) R&C 7" csg, circ cmt to surface
8) Land at ~55 deg, drill lateral to 10925' run 4 1/2 inch cemented liner

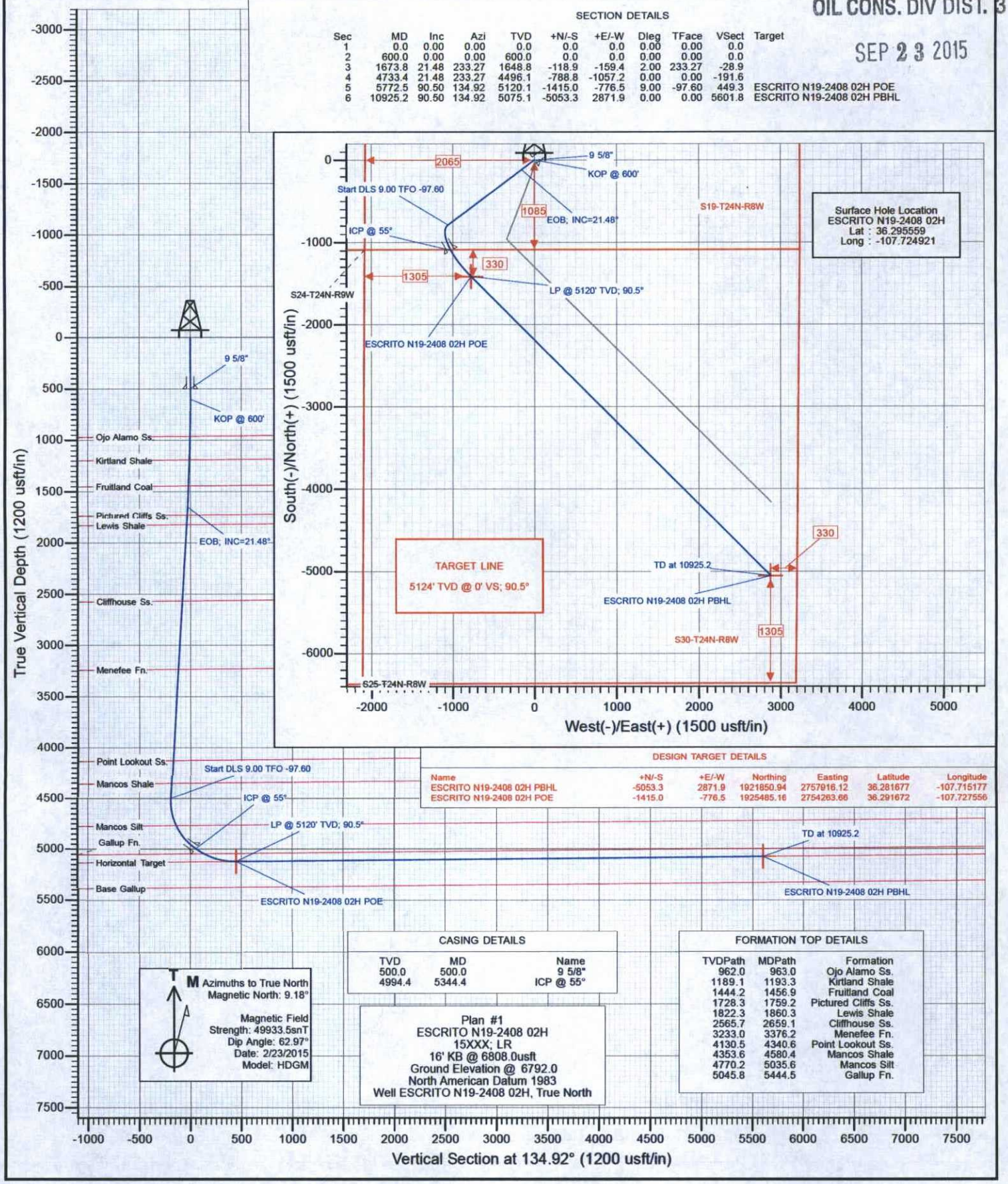
encana

Project: San Juan County, NM
Site: S19-T24N-R9W
Well: ESCRITO N19-2408 02H
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	600.0	0.00	0.00	600.0	0.0	0.0	0.00	0.00	0.0	
3	1673.8	21.48	233.27	1648.8	-118.9	-159.4	2.00	233.27	-28.9	
4	4733.4	21.48	233.27	4496.1	-788.8	-1057.2	0.00	0.00	-191.6	
5	5772.5	90.50	134.92	5120.1	-1415.0	-776.5	9.00	-97.60	449.3	ESCRITO N19-2408 02H POE
6	10925.2	90.50	134.92	5075.1	-5053.3	2871.9	0.00	0.00	5601.8	ESCRITO N19-2408 02H PBHL



DESIGN TARGET DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
ESCRITO N19-2408 02H PBHL	-5053.3	2871.9	1921850.94	2757916.12	36.281677	-107.715177
ESCRITO N19-2408 02H POE	-1415.0	-776.5	1925485.16	2754263.66	36.291672	-107.727556

CASING DETAILS

TVD	MD	Name
500.0	500.0	9 5/8"
4994.4	5344.4	ICP @ 55°

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
962.0	963.0	Ojo Alamo Ss.
1189.1	1193.3	Kirtland Shale
1444.2	1456.9	Fruitland Coal
1728.3	1759.2	Pictured Cliffs Ss.
1822.3	1860.3	Lewis Shale
2565.7	2659.1	Cliffhouse Ss.
3233.0	3376.2	Menefee Fn.
4130.5	4340.6	Point Lookout Ss.
4353.6	4580.4	Mancos Shale
4770.2	5035.6	Mancos Silt
5045.8	5444.5	Gallup Fn.

Azimuths to True North
Magnetic North: 9.18°

Magnetic Field
Strength: 49933.5snT
Dip Angle: 62.97°
Date: 2/23/2015
Model: HDGM

Plan #1
ESCRITO N19-2408 02H
15XXX; LR
16' KB @ 6808.0usft
Ground Elevation @ 6792.0
North American Datum 1983
Well ESCRITO N19-2408 02H, True North

Planning Report

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well ESCRITO N19-2408 02H
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	16' KB @ 6808.0usft
Project:	San Juan County, NM	**MD Reference:**	16' KB @ 6808.0usft
Site:	S19-T24N-R9W	**North Reference:**	True
Well:	ESCRITO N19-2408 02H	**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 N19-2408 02H				
Well Position	**+N/-S**	0.0 usft	**Northing:**	1,926,900.99 usft	**Latitude:**	36.295559
	+E/-W	0.0 usft	**Easting:**	2,755,038.59 usft	**Longitude:**	-107.724921
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	0.0 usft	**Ground Level:**	6,792.0 usft

Wellbore	HZ			
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	HDGM	2/23/2015	9.18	62.97	49,934

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	134.92	

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	
600.0	0.00	0.00	600.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,673.8	21.48	233.27	1,648.8	-118.9	-159.4	2.00	2.00	0.00	233.27	
4,733.4	21.48	233.27	4,496.1	-788.8	-1,057.2	0.00	0.00	0.00	0.00	
5,772.5	90.50	134.92	5,120.1	-1,415.0	-776.5	9.00	6.64	-9.47	-97.60	ESCRITO N19-2408 (
10,925.2	90.50	134.92	5,075.1	-5,053.3	2,871.9	0.00	0.00	0.00	0.00	ESCRITO N19-2408 (

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well ESCRITO N19-2408 02H
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	16' KB @ 6808.0usft
Project:	San Juan County, NM	**MD Reference:**	16' KB @ 6808.0usft
Site:	S19-T24N-R9W	**North Reference:**	True
Well:	ESCRITO N19-2408 02H	**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	KOP @ 600'
700.0	2.00	233.27	700.0	-1.0	-1.4	-0.3	2.00	2.00	
800.0	4.00	233.27	799.8	-4.2	-5.6	-1.0	2.00	2.00	
900.0	6.00	233.27	899.5	-9.4	-12.6	-2.3	2.00	2.00	
963.0	7.26	233.27	962.0	-13.7	-18.4	-3.3	2.00	2.00	Ojo Alamo Ss.
1,000.0	8.00	233.27	998.7	-16.7	-22.3	-4.0	2.00	2.00	
1,100.0	10.00	233.27	1,097.5	-26.0	-34.9	-6.3	2.00	2.00	
1,193.3	11.87	233.27	1,189.1	-36.6	-49.1	-8.9	2.00	2.00	Kirtland Shale
1,200.0	12.00	233.27	1,195.6	-37.4	-50.2	-9.1	2.00	2.00	
1,300.0	14.00	233.27	1,293.1	-50.9	-68.2	-12.4	2.00	2.00	
1,400.0	16.00	233.27	1,389.6	-66.4	-88.9	-16.1	2.00	2.00	
1,456.9	17.14	233.27	1,444.2	-76.1	-101.9	-18.5	2.00	2.00	Fruitland Coal
1,500.0	18.00	233.27	1,485.3	-83.8	-112.4	-20.4	2.00	2.00	
1,600.0	20.00	233.27	1,579.8	-103.3	-138.5	-25.1	2.00	2.00	
1,673.8	21.48	233.27	1,648.8	-118.9	-159.4	-28.9	2.00	2.00	EOB; INC=21.48°
1,700.0	21.48	233.27	1,673.2	-124.7	-167.1	-30.3	0.00	0.00	
1,759.2	21.48	233.27	1,728.3	-137.6	-184.5	-33.4	0.00	0.00	Pictured Cliffs Ss.
1,800.0	21.48	233.27	1,766.3	-146.6	-196.4	-35.6	0.00	0.00	
1,860.3	21.48	233.27	1,822.3	-159.8	-214.1	-38.8	0.00	0.00	Lewis Shale
1,900.0	21.48	233.27	1,859.3	-168.5	-225.8	-40.9	0.00	0.00	
2,000.0	21.48	233.27	1,952.4	-190.4	-255.1	-46.2	0.00	0.00	
2,100.0	21.48	233.27	2,045.4	-212.3	-284.5	-51.6	0.00	0.00	
2,200.0	21.48	233.27	2,138.5	-234.1	-313.8	-56.9	0.00	0.00	
2,300.0	21.48	233.27	2,231.6	-256.0	-343.2	-62.2	0.00	0.00	
2,400.0	21.48	233.27	2,324.6	-277.9	-372.5	-67.5	0.00	0.00	
2,500.0	21.48	233.27	2,417.7	-299.8	-401.8	-72.8	0.00	0.00	
2,600.0	21.48	233.27	2,510.7	-321.7	-431.2	-78.2	0.00	0.00	
2,659.1	21.48	233.27	2,565.7	-334.7	-448.5	-81.3	0.00	0.00	Cliffhouse Ss.
2,700.0	21.48	233.27	2,603.8	-343.6	-460.5	-83.5	0.00	0.00	
2,800.0	21.48	233.27	2,696.8	-365.5	-489.9	-88.8	0.00	0.00	
2,900.0	21.48	233.27	2,789.9	-387.4	-519.2	-94.1	0.00	0.00	
3,000.0	21.48	233.27	2,883.0	-409.3	-548.6	-99.4	0.00	0.00	
3,100.0	21.48	233.27	2,976.0	-431.2	-577.9	-104.7	0.00	0.00	
3,200.0	21.48	233.27	3,069.1	-453.1	-607.2	-110.1	0.00	0.00	
3,300.0	21.48	233.27	3,162.1	-475.0	-636.6	-115.4	0.00	0.00	
3,376.2	21.48	233.27	3,233.0	-491.6	-658.9	-119.4	0.00	0.00	Menefee Fn.
3,400.0	21.48	233.27	3,255.2	-496.9	-665.9	-120.7	0.00	0.00	
3,500.0	21.48	233.27	3,348.2	-518.8	-695.3	-126.0	0.00	0.00	
3,600.0	21.48	233.27	3,441.3	-540.6	-724.6	-131.3	0.00	0.00	
3,700.0	21.48	233.27	3,534.4	-562.5	-754.0	-136.7	0.00	0.00	
3,800.0	21.48	233.27	3,627.4	-584.4	-783.3	-142.0	0.00	0.00	
3,900.0	21.48	233.27	3,720.5	-606.3	-812.6	-147.3	0.00	0.00	
4,000.0	21.48	233.27	3,813.5	-628.2	-842.0	-152.6	0.00	0.00	
4,100.0	21.48	233.27	3,906.6	-650.1	-871.3	-157.9	0.00	0.00	
4,200.0	21.48	233.27	3,999.6	-672.0	-900.7	-163.2	0.00	0.00	
4,300.0	21.48	233.27	4,092.7	-693.9	-930.0	-168.6	0.00	0.00	

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well ESCRITO N19-2408 02H
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	16' KB @ 6808.0usft
Project:	San Juan County, NM	**MD Reference:**	16' KB @ 6808.0usft
Site:	S19-T24N-R9W	**North Reference:**	True
Well:	ESCRITO N19-2408 02H	**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
4,340.6	21.48	233.27	4,130.5	-702.8	-941.9	-170.7	0.00	0.00	Point Lookout Ss.
4,400.0	21.48	233.27	4,185.8	-715.8	-959.4	-173.9	0.00	0.00	
4,500.0	21.48	233.27	4,278.8	-737.7	-988.7	-179.2	0.00	0.00	
4,580.4	21.48	233.27	4,353.6	-755.3	-1,012.3	-183.5	0.00	0.00	Mancos Shale
4,600.0	21.48	233.27	4,371.9	-759.6	-1,018.0	-184.5	0.00	0.00	
4,700.0	21.48	233.27	4,464.9	-781.5	-1,047.4	-189.8	0.00	0.00	
4,733.4	21.48	233.27	4,496.1	-788.8	-1,057.2	-191.6	0.00	0.00	Start DLS 9.00 TFO -97.60
4,800.0	21.48	216.86	4,558.0	-805.8	-1,074.3	-191.7	9.00	0.01	
4,900.0	24.30	194.73	4,650.3	-840.5	-1,090.5	-178.7	9.00	2.82	
5,000.0	29.56	178.49	4,739.6	-885.1	-1,095.1	-150.5	9.00	5.26	
5,035.6	31.81	174.01	4,770.2	-903.2	-1,093.9	-136.8	9.00	6.32	Mancos Silt
5,100.0	36.21	167.25	4,823.6	-938.7	-1,087.9	-107.5	9.00	6.83	
5,200.0	43.61	159.24	4,900.3	-999.9	-1,069.2	-51.1	9.00	7.40	
5,300.0	51.44	153.20	4,967.8	-1,067.1	-1,039.3	17.6	9.00	7.83	
5,344.4	55.00	150.94	4,994.4	-1,098.5	-1,022.6	51.6	9.00	8.02	ICP @ 55°
5,400.0	59.51	148.37	5,024.5	-1,138.9	-998.9	96.8	9.00	8.12	
5,444.5	63.16	146.48	5,045.8	-1,171.8	-977.9	135.0	9.00	8.19	Gallup Fn.
5,500.0	67.74	144.29	5,068.9	-1,213.3	-949.2	184.6	9.00	8.25	
5,600.0	76.06	140.66	5,099.9	-1,288.5	-891.4	278.7	9.00	8.32	
5,700.0	84.42	137.30	5,116.9	-1,362.8	-826.7	376.9	9.00	8.37	
5,772.5	90.50	134.92	5,120.1	-1,415.0	-776.5	449.3	9.00	8.38	LP @ 5120' TVD; 90.5° - ESCRITO N19-2408 C
5,800.0	90.50	134.92	5,119.8	-1,434.4	-757.0	476.8	0.00	0.00	
5,900.0	90.50	134.92	5,119.0	-1,505.0	-686.2	576.8	0.00	0.00	
6,000.0	90.50	134.92	5,118.1	-1,575.6	-615.4	676.8	0.00	0.00	
6,100.0	90.50	134.92	5,117.2	-1,646.2	-544.6	776.8	0.00	0.00	
6,200.0	90.50	134.92	5,116.3	-1,716.8	-473.8	876.8	0.00	0.00	
6,300.0	90.50	134.92	5,115.5	-1,787.4	-403.0	976.8	0.00	0.00	
6,400.0	90.50	134.92	5,114.6	-1,858.0	-332.2	1,076.8	0.00	0.00	
6,500.0	90.50	134.92	5,113.7	-1,928.6	-261.4	1,176.8	0.00	0.00	
6,600.0	90.50	134.92	5,112.8	-1,999.3	-190.6	1,276.7	0.00	0.00	
6,700.0	90.50	134.92	5,112.0	-2,069.9	-119.8	1,376.7	0.00	0.00	
6,800.0	90.50	134.92	5,111.1	-2,140.5	-49.0	1,476.7	0.00	0.00	
6,900.0	90.50	134.92	5,110.2	-2,211.1	21.8	1,576.7	0.00	0.00	
7,000.0	90.50	134.92	5,109.4	-2,281.7	92.6	1,676.7	0.00	0.00	
7,100.0	90.50	134.92	5,108.5	-2,352.3	163.4	1,776.7	0.00	0.00	
7,200.0	90.50	134.92	5,107.6	-2,422.9	234.2	1,876.7	0.00	0.00	
7,300.0	90.50	134.92	5,106.7	-2,493.5	305.0	1,976.7	0.00	0.00	
7,400.0	90.50	134.92	5,105.9	-2,564.1	375.8	2,076.7	0.00	0.00	
7,500.0	90.50	134.92	5,105.0	-2,634.7	446.6	2,176.7	0.00	0.00	
7,600.0	90.50	134.92	5,104.1	-2,705.4	517.5	2,276.7	0.00	0.00	
7,700.0	90.50	134.92	5,103.2	-2,776.0	588.3	2,376.7	0.00	0.00	
7,800.0	90.50	134.92	5,102.4	-2,846.6	659.1	2,476.7	0.00	0.00	
7,900.0	90.50	134.92	5,101.5	-2,917.2	729.9	2,576.7	0.00	0.00	
8,000.0	90.50	134.92	5,100.6	-2,987.8	800.7	2,676.7	0.00	0.00	
8,100.0	90.50	134.92	5,099.8	-3,058.4	871.5	2,776.7	0.00	0.00	
8,200.0	90.50	134.92	5,098.9	-3,129.0	942.3	2,876.7	0.00	0.00	
8,300.0	90.50	134.92	5,098.0	-3,199.6	1,013.1	2,976.7	0.00	0.00	
8,400.0	90.50	134.92	5,097.1	-3,270.2	1,083.9	3,076.7	0.00	0.00	
8,500.0	90.50	134.92	5,096.3	-3,340.8	1,154.7	3,176.7	0.00	0.00	
8,600.0	90.50	134.92	5,095.4	-3,411.5	1,225.5	3,276.7	0.00	0.00	
8,700.0	90.50	134.92	5,094.5	-3,482.1	1,296.3	3,376.7	0.00	0.00	
8,800.0	90.50	134.92	5,093.6	-3,552.7	1,367.1	3,476.7	0.00	0.00	

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well ESCRITO N19-2408 02H
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	16' KB @ 6808.0usft
Project:	San Juan County, NM	**MD Reference:**	16' KB @ 6808.0usft
Site:	S19-T24N-R9W	**North Reference:**	True
Well:	ESCRITO N19-2408 02H	**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	134.92	5,092.8	-3,623.3	1,437.9	3,576.7	0.00	0.00	
9,000.0	90.50	134.92	5,091.9	-3,693.9	1,508.7	3,676.7	0.00	0.00	
9,100.0	90.50	134.92	5,091.0	-3,764.5	1,579.5	3,776.6	0.00	0.00	
9,200.0	90.50	134.92	5,090.2	-3,835.1	1,650.3	3,876.6	0.00	0.00	
9,300.0	90.50	134.92	5,089.3	-3,905.7	1,721.2	3,976.6	0.00	0.00	
9,400.0	90.50	134.92	5,088.4	-3,976.3	1,792.0	4,076.6	0.00	0.00	
9,500.0	90.50	134.92	5,087.5	-4,046.9	1,862.8	4,176.6	0.00	0.00	
9,600.0	90.50	134.92	5,086.7	-4,117.6	1,933.6	4,276.6	0.00	0.00	
9,700.0	90.50	134.92	5,085.8	-4,188.2	2,004.4	4,376.6	0.00	0.00	
9,800.0	90.50	134.92	5,084.9	-4,258.8	2,075.2	4,476.6	0.00	0.00	
9,900.0	90.50	134.92	5,084.0	-4,329.4	2,146.0	4,576.6	0.00	0.00	
10,000.0	90.50	134.92	5,083.2	-4,400.0	2,216.8	4,676.6	0.00	0.00	
10,100.0	90.50	134.92	5,082.3	-4,470.6	2,287.6	4,776.6	0.00	0.00	
10,200.0	90.50	134.92	5,081.4	-4,541.2	2,358.4	4,876.6	0.00	0.00	
10,300.0	90.50	134.92	5,080.6	-4,611.8	2,429.2	4,976.6	0.00	0.00	
10,400.0	90.50	134.92	5,079.7	-4,682.4	2,500.0	5,076.6	0.00	0.00	
10,500.0	90.50	134.92	5,078.8	-4,753.0	2,570.8	5,176.6	0.00	0.00	
10,600.0	90.50	134.92	5,077.9	-4,823.7	2,641.6	5,276.6	0.00	0.00	
10,700.0	90.50	134.92	5,077.1	-4,894.3	2,712.4	5,376.6	0.00	0.00	
10,800.0	90.50	134.92	5,076.2	-4,964.9	2,783.2	5,476.6	0.00	0.00	
10,900.0	90.50	134.92	5,075.3	-5,035.5	2,854.0	5,576.6	0.00	0.00	
10,925.2	90.50	134.92	5,075.1	-5,053.3	2,871.9	5,601.8	0.00	0.00	TD at 10925.2 - ESCRITO N19-2408 02H 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 N19-2408 02ł - plan hits target center - Point	0.00	0.00	5,075.1	-5,053.3	2,871.9	1,921,850.94	2,757,916.12	36.281677	-107.715177
ESCRITO N19-2408 02ł - plan hits target center - Point	0.00	0.00	5,120.1	-1,415.0	-776.5	1,925,485.16	2,754,263.66	36.291672	-107.727556

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
500.0	500.0	9 5/8"	0	0
5,344.4	4,994.4	ICP @ 55°	0	0

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well ESCRITO N19-2408 02H
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	16' KB @ 6808.0usft
Project:	San Juan County, NM	**MD Reference:**	16' KB @ 6808.0usft
Site:	S19-T24N-R9W	**North Reference:**	True
Well:	ESCRITO N19-2408 02H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #1		

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
963.0	962.0	Ojo Alamo Ss.		-0.50	134.92
1,193.3	1,189.0	Kirtland Shale		-0.50	134.92
1,456.9	1,444.0	Fruitland Coal		-0.50	134.92
1,759.2	1,728.0	Pictured Cliffs Ss.		-0.50	134.92
1,860.3	1,822.0	Lewis Shale		-0.50	134.92
2,659.1	2,565.0	Cliffhouse Ss.		-0.50	134.92
3,376.2	3,232.0	Menefee Fn.		-0.50	134.92
4,340.6	4,129.0	Point Lookout Ss.		-0.50	134.92
4,580.4	4,352.0	Mancos Shale		-0.50	134.92
5,035.6	4,769.0	Mancos Silt		-0.50	134.92
5,444.5	5,047.0	Gallup Fn.		-0.50	134.92

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
600.0	600.0	0.0	0.0	KOP @ 600'
1,673.8	1,648.8	-118.9	-159.4	EOB; INC=21.48°
4,733.4	4,496.1	-788.8	-1,057.2	Start DLS 9.00 TFO -97.60
5,772.5	5,120.1	-1,415.0	-776.5	LP @ 5120' TVD; 90.5°
10,925.2	5,075.1	-5,053.3	2,871.9	TD at 10925.2

An existing fence line will be cut and braced for the pipeline installation. H-braces will be installed prior to cutting the fence. The H-braces will be constructed in accordance with the BLM Gold Book standard.

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. Encana will also notify the BLM within 24 hours of any spill.

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

ENCANA OIL & GAS (USA) INC.

ESCRITO N19-2408 #02H
1085' FSL & 2065' FWL
LOCATED IN THE SE/4 SW/4 OF SECTION 19
T24N, R08W, N.M.P.M.
SAN JUAN COUNTY, NEW MEXICO
1,580' +/- RE-ROUTE OF EXISTING ROAD ACROSS BLM LANDS
155' +/- OF NEW ACCESS ACROSS BLM LANDS

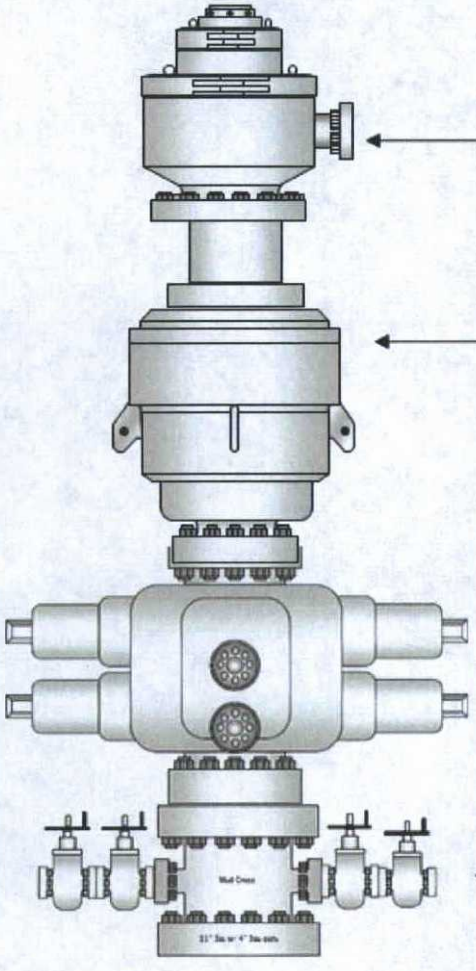
DIRECTIONS

1. Beginning in Bloomfield, N.M., follow Hwy 550 south for 35.1 miles to Indian Service Road 459.
2. Turn left (east) and follow Indian Service Road 459 for 0.7miles to an intersection.
3. Turn left (north) staying on Indian Service Road 459 and follow for 1.4 miles to the proposed reroute of this road (ISR 459) around the proposed pad.
4. Follow the proposed reroute northeast for 0.1 mile to the proposed pad access road.
5. Follow the proposed access road for 155' to the edge of the N19 pad.
6. Well Flag Located at : LATITUDE: 36.295559° N, LONGITUDE: 107.724921° W (NAD 83)

WELLHEAD BLOWOUT CONTROL SYSTEM

encana

Well Name and Number:
Escrito N19-2408 02H



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