Form 3160-5
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

CONFIDENTIAL
RECEIVED

FORM APPROVED
OMB No. 1004-0137
Expires: July 31, 2010

SUNDRY NOTICES AND REPORTS ON WELLS

APR 15 2

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

Farmington Field Office
Bureau of Land Management

SUBMIT IN TRIPLICATE – *Other instructions on page 2.*

1. Type of Well ☑ Oil Well ☐ Gas Well ☐ Other	5. Lease Serial No. NMNM 112955
	6. If Indian, Allottee or Tribe Name N/A
	7. If Unit or CA/Agreement, Name and/or No. N/A
	8. Well Name and No. Escrito M07-2409 02H
2. Name of Operator Encana Oil & Gas (USA) Inc.	9. API Well No. 30-045-35434
3a. Address 370 17th Street, Suite 1700 Denver, CO 80202 3b. Phone No. *(include area code)* 720-876-5353	10. Field and Pool or Exploratory Area Bisti Lower - Gallup
4. Location of Well *(Footage, Sec., T.,R.,M., or Survey Description)* SHL: 1017' FSL and 475' FWL Sec 7, T24N, R9W BHL: 400' FSL and 330' FWL Sec 12, T24N, R10W	11. Country or Parish, State San Juan, NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☑ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Subsequent Report	☐ Casing Repair	☐ New Construction	☐ Recomplete	☐ Other
	☑ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
☐ Final Abandonment Notice	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.)

Encana Oil & Gas (USA) Inc. (Encana) would like to revise the BHL, horizontal target, and intermediate hole size for the Escrito M07-2409 02Hwell. Encana would like to change: BHL from 660' FSL and 330' FWL to 400' FSL and 330' FWL, horizontal target from 5455' TVD to 5519' TVD, intermediate hole size from 8 1/2" to 8 3/4", and intermediate cementing plans to accomidate the larger hole. Please see attached 10 point drilling plan, wellbore diagram, directional plans, and C-102.

RCVD APR 25 '13
OIL CONS. DIV.
DIST. 3

Hold C104 for Directional Survey and "As Drilled" plat

CONDITIONS OF APPROVAL
Adhere to previously issued stipulations.

CONDITIONS OF APPROVAL
Adhere to previously issued stipulations.

Hold C104
for Directional Survey
and "As Drilled" plat

DLM'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

14. I hereby certify that the foregoing is true and correct. Name *(Printed/Typed)* Amie Weis	Title Operations Engineer
Signature Amie Weis	Date 4/12/2013

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by William Tambekou	Title Petroleum Engineer	Date 04/16/2013
Conditions of approval, if any, are attached. Approval of this notice 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.	Office FFO	

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.

(Instructions on page 2)

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

RCVD APR 30 '13
OIL CONS. DIV.
DIST. 3

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number	2 Pool Code	3 Pool Name
	5890	BISTI LOWER - GALLUP

4 Property Code	5 Property Name	6 Well Number
	ESCRITO M07-2409	02H

7 OGRID No.	8 Operator Name	9 Elevation
282327	ENCANA OIL & GAS (USA) INC.	6910'

10 Surface Location

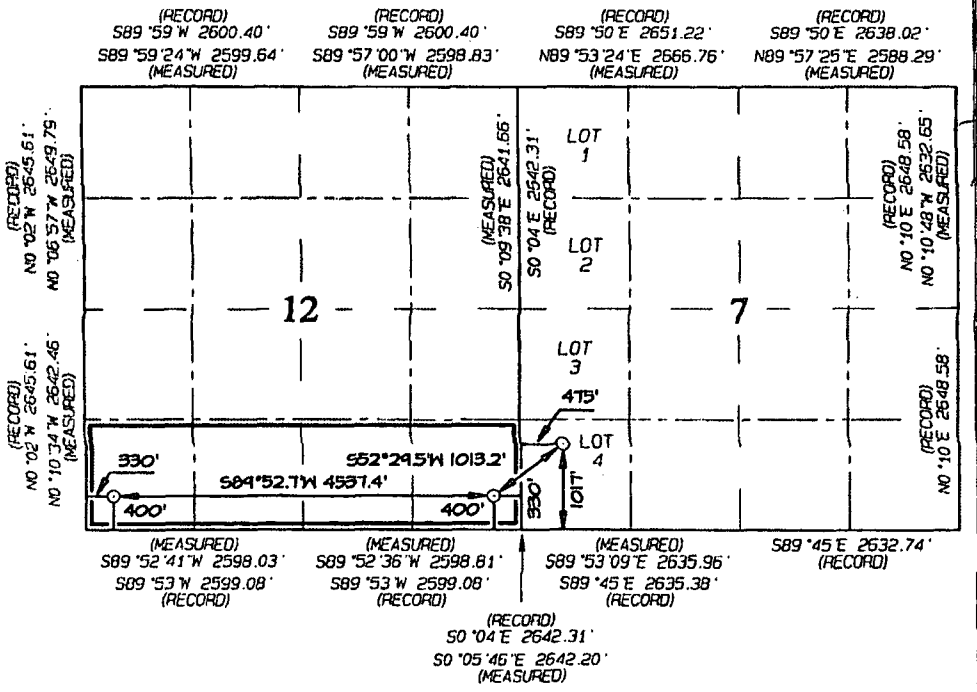
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	7	24N	9W	4	1017	SOUTH	475	WEST	SAN JUAN

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
M	12	24N	10W		400	SOUTH	330	WEST	SAN JUAN

12 Dedicated Acres	13 Joint or Infill	14 Consolidation Code	15 Order No.
160.0 Acres S/2 S/2 - Section 12			

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' FSL 330' FWL
SECTION 12, T24N, R10W
LAT: 36.32236 'N
LONG: 107.85516 'W
DATUM: NAD1927

LAT: 36.32237 'N
LONG: 107.85578 'W
DATUM: NAD1983

POINT-OF-ENTRY
400' FSL 330' FEL
SECTION 12, T24N, R10W
LAT: 36.32239 'N
LONG: 107.83976 'W
DATUM: NAD1927

LAT: 36.32240 'N
LONG: 107.84038 'W
DATUM: NAD1983

SURFACE LOCATION
1017' FSL 475' FWL
SECTION 7, T24N, R9W
LAT: 36.32409 'N
LONG: 107.83703 'W
DATUM: NAD1927

LAT: 36.32410 'N
LONG: 107.83765 '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.

Signature 04/29/13 Date

Brenda R. Linster
Printed Name
brenda.linster@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: APRIL 3, 2013
Survey Date: OCTOBER 10, 2012

Signature and Seal of Professional Surveyor

JASON C. EDWARDS
NEW MEXICO
15269
REGISTERED PROFESSIONAL SURVEYOR

JASON C. EDWARDS
Certificate Number 15269

LOC: **Sec 7-T24N-R9W**
County: **San Juan**
WELL: **Escrito M07-2409 02H**

Encana Natural Gas

WELL SUMMARY

encana natural gas

ENG: J. Fox/ A. **4/12/13**
RIG:
GLE: **6910**
RKBE: **6923**

MWD LWD	OPEN HOLE LOGGING	FORM	DEPTH TVD	DEPTH MD		HOLE SIZE	CASING SPECS	MW MUD TYPE	DEVIATION INFORMATION
			60	60'		**30**	**20" 94#** 100sx Type I Neat 48.8ppg cmt	**Fresh wtr** 8.3-9.2	
Surveys After csg is run	None		**500**	**500**		**12 1/4**	**9 5/8" 36ppf J55 STC** TOC @ surface 178 sks Type III Cmt	**Fresh wtr** 8.4-8.6	Vertical <1°
Surveys every 500'	No OH logs	Ojo Alamo Kirtland Fruitland Coal Pictured Cliffs Ss Lewis Shale Cliffhouse Ss	945 1128 1508 1775 1929 2583		Stage Tool @ 1825'	**8 3/4**	**7" 26ppf J55 LTC** TOC @ surface 30% OH excess: Total 610 sks Stage 1 Lead 267 sks Stage 1 Tail 183 sks Stage 2 Lead 161 sks	**Fresh Wtr** 8.5-8.8	Vertical <1°
	Mud logger onsite	Menefee Fn Point Lookout Ss **KICK OFF PT** Mancos Sh Mancos Silt Gallup Top	3303 4230 4400 4442 5018 5223						KOP 4400 10 deg/100'
			5514	**5978**					
		horz target	**5519**	**6072**		**6 1/8**	200' overlap at liner top		.25deg updip 5488'TVD TD = 10609' MD
							4537' Lateral	8.6-9.0 OBM	
Surveys every 500' Gyro at CP MWD Gamma Directional	No OH Logs	Base Gallup	5543				**4 1/2" 11.6ppf SB80 LTC** Running external swellable csg packers for isolation of prod string Plan on setting top packer within 100' of intermediate casing shoe.	Switch to OBM 8.6-9.0	

NOTES:

1) Drill with 30" bit to 60', set 20" 94# conductor pipe
2) Drill surface to 500', R&C 9 5/8" casing
3) N/U BOP and surface equipment
4) Drill to KOP of 4400' , 8 3/4" hole size,
5) PU directional tools and start curve at 10deg/100' build rate
6) Drill to casing point of 5978' MD
7) R&C 7" casing, circ cmt to surface, switch to OBM
8) Land at 90deg, drill 4537' lateral to 10609', run 4 1/2" liner with external swellable csg packers

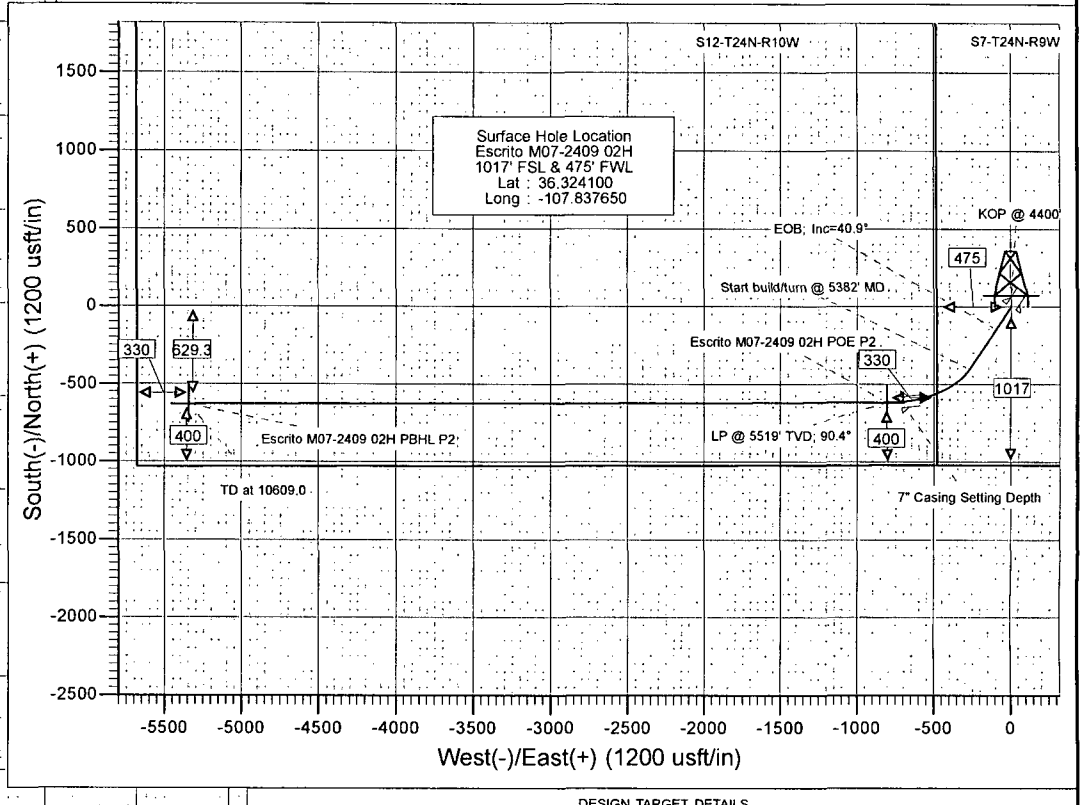
encana natural gas

Project: San Juan County, NM
Site: S7- T24N-R9W
Well: Escrito M07-2409 02H
Wellbore: Hz
Design: Plan #2

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	4400.0	0.00	0.00	4400.0	0.0	0.0	0.00	0.00	0.0	
3	4912.0	40.96	213.60	4869.5	-146.1	-97.1	8.00	213.60	97.4	
4	5382.7	40.96	213.60	5224.9	-403.0	-267.8	0.00	0.00	268.7	
5	6072.4	90.40	269.87	5519.4	-618.8	-804.2	10.00	62.99	805.6	Escrito M07-2409 02H POE P2
6	10609.0	90.40	269.87	5487.7	-629.3	-5340.7	0.00	0.00	5342.1	Escrito M07-2409 02H PBHL P2



DESIGN TARGET DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Escrito M07-2409 02H PBHL P2	-629.3	-5340.7	1936643.78	2716479.35	36.322370	-107.855780
Escrito M07-2409 02H POE P2	-618.8	-804.2	1936654.00	2721015.87	36.322400	-107.840380

T M Azimuths to True North
Magnetic North: 9.71°

Magnetic Field
Strength: 50347.4snT
Dip Angle: 63.06°
Date: 10/24/2012
Model: IGRF2010

Plan #2
Escrito M07-2409 02H
12xxx; LR
WELL @ 6923.0usft (Original Well Elev)
Ground Elevation @ 6910.0
North American Datum 1983
Well Escrito M07-2409 02H, True North

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
945.0	945.0	Ojo Alamo Ss.
1128.0	1128.0	Kirtland Shale
1508.0	1508.0	Fruitland Coal
1775.0	1775.0	Pictured Cliffs Ss.
1929.0	1929.0	Lewis Shale
2583.0	2583.0	Cliffhouse Ss.
3303.0	3303.0	Menefee Fn.
4230.0	4230.0	Point Lookout Ss.
4442.0	4442.0	Mancos Shale
5016.8	5107.1	Mancos Silt
5221.1	5377.7	Gallup Fn.

Planning Report

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Escrito M07-2409 02H
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	WELL @ 6923.0usft (Original Well Elev)
Project:	San Juan County, NM	**MD Reference:**	WELL @ 6923.0usft (Original Well Elev)
Site:	S7- T24N-R9W	**North Reference:**	True
Well:	Escrito M07-2409 02H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #2		

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	S7- T24N-R9W				
Site Position:		**Northing:**	1,939,901.08 usft	**Latitude:**	36.331320
From:	Lat/Long	**Easting:**	2,721,602.25 usft	**Longitude:**	-107.838390
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16"	**Grid Convergence:**	0.00 °

Well	Escrito M07-2409 02H					
Well Position	**+N/-S**	0.0 usft	**Northing:**	1,937,272.80 usft	**Latitude:**	36.324100
	+E/-W	0.0 usft	**Easting:**	2,721,820.10 usft	**Longitude:**	-107.837650
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	usft	**Ground Level:**	6,910.0 usft

Wellbore	Hz				
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2010	10/24/2012	9.71	63.06	50,347

Design	Plan #2				
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	269.87	

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	
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.00	0.00	0.00	0.00	
4,912.0	40.96	213.60	4,869.5	-146.1	-97.1	8.00	8.00	0.00	213.60	
5,382.7	40.96	213.60	5,224.9	-403.0	-267.8	0.00	0.00	0.00	0.00	
6,072.4	90.40	269.87	5,519.4	-618.8	-804.2	10.00	7.17	8.16	62.99	Escrito M07-2409 02H
10,609.0	90.40	269.87	5,487.7	-629.3	-5,340.7	0.00	0.00	0.00	0.00	Escrito M07-2409 02H

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Escrito M07-2409 02H
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	WELL @ 6923.0usft (Original Well Elev)
Project:	San Juan County, NM	**MD Reference:**	WELL @ 6923.0usft (Original Well Elev)
Site:	S7- T24N-R9W	**North Reference:**	True
Well:	Escrito M07-2409 02H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #2		

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	
945.0	0.00	0.00	945.0	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	
1,128.0	0.00	0.00	1,128.0	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	
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	
1,508.0	0.00	0.00	1,508.0	0.0	0.0	0.0	0.00	0.00	Fruitland Coal
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	
1,775.0	0.00	0.00	1,775.0	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	
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	
1,929.0	0.00	0.00	1,929.0	0.0	0.0	0.0	0.00	0.00	Lewis Shale
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	
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	
2,583.0	0.00	0.00	2,583.0	0.0	0.0	0.0	0.00	0.00	Cliffhouse Ss.
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	
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	
3,303.0	0.00	0.00	3,303.0	0.0	0.0	0.0	0.00	0.00	Menefee Fn.
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	
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	
4,230.0	0.00	0.00	4,230.0	0.0	0.0	0.0	0.00	0.00	Point Lookout Ss.
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	

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Well:	Escrito M07-2409 02H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #2		

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
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	KOP @ 4400'
4,442.0	3.36	213.60	4,442.0	-1.0	-0.7	0.7	8.00	8.00	Mancos Shale
4,500.0	8.00	213.60	4,499.7	-5.8	-3.9	3.9	8.00	8.00	
4,600.0	16.00	213.60	4,597.4	-23.1	-15.4	15.4	8.00	8.00	
4,700.0	24.00	213.60	4,691.3	-51.6	-34.3	34.4	8.00	8.00	
4,800.0	32.00	213.60	4,779.5	-90.6	-60.2	60.4	8.00	8.00	
4,900.0	40.00	213.60	4,860.4	-139.5	-92.7	93.0	8.00	8.00	
4,912.0	40.96	213.60	4,869.5	-146.1	-97.1	97.4	8.00	8.00	EOB; Inc=40.9°
5,000.0	40.96	213.60	4,935.9	-194.1	-129.0	129.4	0.00	0.00	
5,100.0	40.96	213.60	5,011.4	-248.7	-165.3	165.8	0.00	0.00	
5,107.1	40.96	213.60	5,016.8	-252.6	-167.8	168.4	0.00	0.00	Mancos Silt
5,200.0	40.96	213.60	5,087.0	-303.3	-201.5	202.2	0.00	0.00	
5,300.0	40.96	213.60	5,162.5	-357.9	-237.8	238.6	0.00	0.00	
5,377.7	40.96	213.60	5,221.1	-400.3	-266.0	266.9	0.00	0.00	Gallup Fn.
5,382.7	40.96	213.60	5,224.9	-403.0	-267.8	268.7	0.00	0.00	Start build/turn @ 5382' MD
5,400.0	41.77	215.92	5,237.9	-412.4	-274.3	275.3	10.00	4.68	
5,500.0	47.25	227.89	5,309.3	-464.2	-321.2	322.3	10.00	5.48	
5,600.0	53.76	237.75	5,373.0	-510.4	-382.7	383.9	10.00	6.51	
5,700.0	60.94	246.02	5,427.0	-549.8	-457.0	458.2	10.00	7.19	
5,800.0	68.57	253.18	5,469.6	-581.1	-541.7	543.0	10.00	7.63	
5,900.0	76.47	259.61	5,499.7	-603.4	-634.3	635.6	10.00	7.90	
5,978.0	82.75	264.33	5,513.7	-614.1	-710.2	711.6	10.00	8.04	7" Casing Setting Depth
6,000.0	84.53	265.63	5,516.2	-616.0	-732.0	733.4	10.00	8.09	
6,059.2	89.33	269.10	5,519.3	-618.7	-791.0	792.4	10.00	8.11	Escrito M07-2409 02H POE
6,072.4	90.40	269.87	5,519.4	-618.8	-804.2	805.6	10.00	8.12	LP @ 5519' TVD; 90.4° - Escrito M07-2409 02H
6,100.0	90.40	269.87	5,519.2	-618.9	-831.8	833.2	0.00	0.00	
6,200.0	90.40	269.87	5,518.5	-619.1	-931.8	933.2	0.00	0.00	
6,300.0	90.40	269.87	5,517.8	-619.4	-1,031.8	1,033.2	0.00	0.00	
6,400.0	90.40	269.87	5,517.1	-619.6	-1,131.8	1,133.2	0.00	0.00	
6,500.0	90.40	269.87	5,516.4	-619.8	-1,231.8	1,233.2	0.00	0.00	
6,600.0	90.40	269.87	5,515.7	-620.0	-1,331.8	1,333.2	0.00	0.00	
6,700.0	90.40	269.87	5,515.0	-620.3	-1,431.8	1,433.2	0.00	0.00	
6,800.0	90.40	269.87	5,514.3	-620.5	-1,531.8	1,533.2	0.00	0.00	
6,900.0	90.40	269.87	5,513.6	-620.7	-1,631.8	1,633.2	0.00	0.00	
7,000.0	90.40	269.87	5,512.9	-621.0	-1,731.8	1,733.2	0.00	0.00	
7,100.0	90.40	269.87	5,512.2	-621.2	-1,831.8	1,833.2	0.00	0.00	
7,200.0	90.40	269.87	5,511.5	-621.4	-1,931.8	1,933.2	0.00	0.00	
7,300.0	90.40	269.87	5,510.8	-621.7	-2,031.8	2,033.2	0.00	0.00	
7,400.0	90.40	269.87	5,510.1	-621.9	-2,131.8	2,133.2	0.00	0.00	
7,500.0	90.40	269.87	5,509.4	-622.1	-2,231.7	2,233.2	0.00	0.00	
7,600.0	90.40	269.87	5,508.7	-622.3	-2,331.7	2,333.2	0.00	0.00	
7,700.0	90.40	269.87	5,508.0	-622.6	-2,431.7	2,433.2	0.00	0.00	
7,800.0	90.40	269.87	5,507.3	-622.8	-2,531.7	2,533.1	0.00	0.00	
7,900.0	90.40	269.87	5,506.6	-623.0	-2,631.7	2,633.1	0.00	0.00	
8,000.0	90.40	269.87	5,505.9	-623.3	-2,731.7	2,733.1	0.00	0.00	
8,100.0	90.40	269.87	5,505.2	-623.5	-2,831.7	2,833.1	0.00	0.00	
8,200.0	90.40	269.87	5,504.5	-623.7	-2,931.7	2,933.1	0.00	0.00	
8,300.0	90.40	269.87	5,503.8	-624.0	-3,031.7	3,033.1	0.00	0.00	
8,400.0	90.40	269.87	5,503.1	-624.2	-3,131.7	3,133.1	0.00	0.00	
8,500.0	90.40	269.87	5,502.4	-624.4	-3,231.7	3,233.1	0.00	0.00	
8,600.0	90.40	269.87	5,501.7	-624.6	-3,331.7	3,333.1	0.00	0.00	
8,700.0	90.40	269.87	5,501.0	-624.9	-3,431.7	3,433.1	0.00	0.00	

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Escrito M07-2409 02H
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	WELL @ 6923.0usft (Original Well Elev)
Project:	San Juan County, NM	**MD Reference:**	WELL @ 6923.0usft (Original Well Elev)
Site:	S7- T24N-R9W	**North Reference:**	True
Well:	Escrito M07-2409 02H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #2		

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
8,800.0	90.40	269.87	5,500.3	-625.1	-3,531.7	3,533.1	0.00	0.00	
8,900.0	90.40	269.87	5,499.6	-625.3	-3,631.7	3,633.1	0.00	0.00	
9,000.0	90.40	269.87	5,498.9	-625.6	-3,731.7	3,733.1	0.00	0.00	
9,100.0	90.40	269.87	5,498.2	-625.8	-3,831.7	3,833.1	0.00	0.00	
9,200.0	90.40	269.87	5,497.5	-626.0	-3,931.7	3,933.1	0.00	0.00	
9,300.0	90.40	269.87	5,496.8	-626.3	-4,031.7	4,033.1	0.00	0.00	
9,400.0	90.40	269.87	5,496.1	-626.5	-4,131.7	4,133.1	0.00	0.00	
9,500.0	90.40	269.87	5,495.4	-626.7	-4,231.7	4,233.1	0.00	0.00	
9,600.0	90.40	269.87	5,494.7	-626.9	-4,331.7	4,333.1	0.00	0.00	
9,700.0	90.40	269.87	5,494.0	-627.2	-4,431.7	4,433.1	0.00	0.00	
9,800.0	90.40	269.87	5,493.3	-627.4	-4,531.7	4,533.1	0.00	0.00	
9,900.0	90.40	269.87	5,492.6	-627.6	-4,631.7	4,633.1	0.00	0.00	
10,000.0	90.40	269.87	5,492.0	-627.9	-4,731.7	4,733.1	0.00	0.00	
10,100.0	90.40	269.87	5,491.3	-628.1	-4,831.7	4,833.1	0.00	0.00	
10,200.0	90.40	269.87	5,490.6	-628.3	-4,931.7	4,933.1	0.00	0.00	
10,300.0	90.40	269.87	5,489.9	-628.6	-5,031.7	5,033.1	0.00	0.00	
10,400.0	90.40	269.87	5,489.2	-628.8	-5,131.7	5,133.1	0.00	0.00	
10,500.0	90.40	269.87	5,488.5	-629.0	-5,231.7	5,233.1	0.00	0.00	
10,600.0	90.40	269.87	5,487.8	-629.2	-5,331.7	5,333.1	0.00	0.00	
10,609.0	90.40	269.87	5,487.7	-629.3	-5,340.7	5,342.1	0.00	0.00	TD at 10609.0 - Escrito M07-2409 02H PBHL P

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 M07-2409 02H P - plan hits target center - Point	0.00	0.00	5,519.4	-618.8	-804.2	1,936,654.00	2,721,015.87	36.322400	-107.840380
Escrito M07-2409 02H P - plan hits target center - Point	0.00	0.00	5,487.7	-629.3	-5,340.7	1,936,643.78	2,716,479.35	36.322370	-107.855780
Escrito M07-2409 02H P - plan misses target center by 270.1usft at 10609.0usft MD (5487.7 TVD, -629.3 N, -5340.7 E) - Point	0.00	0.00	5,422.6	-367.2	-5,343.6	1,936,905.88	2,716,476.47	36.323090	-107.855790
Escrito M07-2409 02H P - plan misses target center by 270.1usft at 6069.9usft MD (5519.4 TVD, -618.8 N, -801.7 E) - Point	0.00	0.00	5,454.2	-356.7	-804.2	1,936,916.10	2,721,015.89	36.323120	-107.840380

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
5,978.0	5,513.7	7" Casing Setting Depth	0	0
500.0	500.0	9 5/8"	0	0

Escrito M07-2409 02H
SHL: SWSW Section 7, T24N, R9W
1017 FSL and 475 FWL
BHL: SWSW Section 12, T24N, R10W
400 FSL and 330 FWL
San Juan County, New Mexico
Lease Number: NMNM 112955

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)
Ojo Alamo Ss.	945'
Kirtland	1128'
Fruitland Coal	1508'
Pictured Cliffs	1775'
Lewis	1929'
Cliffhouse	2583'
Menefee	3303'
Point Lookout	4230'
Mancos Shale	4442'
Mancos Silt	5018'
Gallup	5223'

The referenced surface elevation is 6910', KB 6923'

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

Substance	Formation	Depth (TVD)
Gas	Fruitland Coal	1508'
Gas	Pictured Cliffs	1775'
Gas	Cliffhouse	2583'
Gas	Point Lookout	4230'
Oil/Gas	Mancos	4442'

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

3. PRESSURE CONTROL

a) Pressure control equipment and configuration will be designed to meet 2M standards.
b) Working pressure on rams and BOPE will be 3,000 psi
c) Function test and visual inspection of the BOP will be conducted daily and noted in the IADC Daily Drilling Report.
d) The Annular BOP will be pressure tested to a minimum of 50 percent of its rated working pressure.
e) Blind and Pipe Rams/BOP will be tested against a test plug to 100 percent of rated working pressure.
f) Pressure tests are required before drilling out from under all casing strings set and cemented in place.
g) BOP controls must be installed prior to drilling the surface casing plug and will remain in use until the well is completed or abandoned.
h) BOP testing procedures and testing frequency will conform to Onshore Order No. 2.

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

Proposed BOP and choke manifold arrangements are attached.

4. CASING & CEMENTING PROGRAM

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

a) The proposed casing design is as follows:

Casing	Depth	Hole Size	Csg Size	Weight	Grade
Conductor	0-60'	30"	20"	94#	H40, STC New
Surface	0'-500'	12 1/4"	9 5/8"	36#	J55, STC New
Intermediate	0'-5978'MD	8 3/4"	7"	26#	J55, LTC New
Production Liner	5778'-10609'MD	6 1/8"	4 1/2"	11.6#	B80*, LTC New

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

*B80 pipe specifications are attached

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

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

b) The proposed cementing program is as follows:

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

Escrito M07-2409 02H
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San Juan County, New Mexico
Lease Number: NMNM 112955

Casing	Depth	Cement Volume (sacks)	Cement Type&Yield	Designed TOC	Centralizers
Conductor	60'	100sk	Type I Neat 14.8 ppg	Surface	None
Surface	500'	178sk	Type III Cement + 1% CaCl + 0.25lb/sk Cello Flake + 0.2% FL, 14.6ppg, 1.38cuf/sk	Surface	1 per joint on bottom 3 joints
Intermediate	5978'MD	30% open hole excess Lead:267sk Tail: 183sk Lead: 161sk	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 per joint for bottom 3 joints, 1 every 3 joints for remaining joints
Production Liner*	5778'MD-10609'MD	None – External casing packers	N/A	N/A	N/A

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

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

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

5. WELL PLAN & DIRECTIONAL DRILLING PROGRAM

The proposed horizontal well will have a kick off point of 4400'. Directional plans are attached.

Description	Proposed Depth (TVD/MD)	Formation
Horizontal Lateral TD	5488'/10609'	Gallup

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San Juan County, New Mexico
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6. DRILLING FLUIDS PROGRAM

a) Surface through Intermediate Casing Point:

Hole Size (in)	Depth (ft)	Mud Type	Density (lb/gal)	Viscosity (sec/qt)	Fluid Loss (cc)
30"	0-60' TVD	Fresh Water	8.3-9.2	38-100	4-28
12 1/4"	0-500' TVD	Fresh Water	8.4-8.6	60-70	NC
8 3/4"	500'TVD-5514'TVD/5978'MD	Fresh Water LSND	8.5-8.8	40-50	8-10

b) Intermediate Casing Point to TD:

Hole Size (in)	MD (ft)	Mud Type	Density (lb/gal)	Viscosity (sec/qt)	Fluid Loss (cc)
6 1/8"	5978'-10609'	Synthetic Oil Based Mud	8.6-9.0	15-25	<15

c) There will be sufficient mud on location to control a blowout should one occur. Mud flow and volume will be monitored both visually and with electronic pit volume totalizers. Mud tests shall be performed every 24 hours after mudding up to determine, as applicable: density, viscosity, gel strength, filtration, and pH.

d) A closed-loop system will be used to recover drilling fluid and dry cuttings in both phases of the well and on all hole intervals, including fresh water and oil-based operations. Above-ground tanks will be utilized to hold cuttings and fluids for rig operations. A frac tank will be on location to store fresh water. Waste will be disposed of properly at an EPA-approved hazardous waste facility. Fresh water cuttings will be disposed of at Basin Disposal, Inc. and/or Industrial Ecosystems, Inc. The location will be lined in accordance with the Surface Use Plan of Operations.

7. TESTING, CORING and LOGGING

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

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

8. ABNORMAL PRESSURES & HYDROGEN SULFIDE

The anticipated bottom hole pressure is +/- 2583 psi based on a 9.0 ppg at 5519' TVD of the landing point of the horizontal lateral. 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.

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San Juan County, New Mexico
Lease Number: NMNM 112955

9. ANTICIPATED START DATE AND DURATION OF OPERATIONS

Drilling is estimated to commence on July 18, 2013. It is anticipated that completion operations will begin within 30 days after the well has been drilled depending on fracture treatment schedules with various pumping service companies.

It is anticipated that the drilling of this well will take approximately 25 days.