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

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 3160-4 or 3160-5 form.

Operator Signature Date: 9-25-2014
Well information:

API WELL #	Well Name	Well #	Operator Name	Type	Stat	County	Surf_Owner	UL	Sec	Twp	N/S	Rng	W/E
30-045-35521-00-00	ESCRITO M32 2408	001H	ENCANA OIL & GAS (USA) INC.	G	N	San Juan	F	M	32	24	N	8	W

Application Type:

☐ P&A ☒ Drilling/Casing Change ☐ Location Change

☐ Recomplete/DHC (For hydraulic fracturing operations review EPA Underground injection control Guidance #84)

☐ Other:

Conditions of Approval:

Notify NMOCD 24hrs prior to beginning operations, casing & cement

Hold C-104 for directional survey, "As Drilled" Plat and NSL

See APD Conditions of approval regarding Hydraulic Fracturing, Oil base muds and Well-bore communication.

Charlie T. Perrin

NMOCD Approved by Signature

10/7/14
Date

7

Form 3160-5
(March 2012)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SEP 29 2014

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

SUNDRY NOTICES AND REPORTS ON WELLS

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

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

5. Lease Serial No.
NMNM 118133

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

RCVD OCT 2'14

7. If Unit of CA/Agreement, Name and/or No.
N/A

OIL CONS. DIV.

1. Type of Well
☐ Oil Well ☑ Gas Well ☐ Other

8. Well Name and No.
Escrito M32-2408 01H

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

9. API Well No.
30 045 35521

DIST. 3

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 Area
Basin Mancos Gas Pool

4. Location of Well *(Footage, Sec., T.,R.,M., or Survey Description)*
SHL:413' FSL and 60' FWL Section 32, T24N, R8W
BHL: 400' FSL and 330'FWL Section 31, T24N, R8W

11. County or Parish, State
San Juan County

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. wishes to modify the drilling plan for the Escrito M32-2408 01H well to cement the 4 1/2" production liner, instead of running open hole swell packers, as previously planned. Please find attached an updated 10-Point Drilling Plan and Wellbore Diagram. Please note, the Directional Drilling Plan did NOT change for this well.

CONDITIONS OF APPROVAL

Adhere to previously issued stipulations

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

14. I hereby certify that the foregoing is true and correct. Name *(Printed/Typed)*
Katie Wegner

Title Regulatory Analyst

Signature

Date 09/25/2014

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by
William Tambekou

Title Petroleum Engineer

Date 9/30/2014

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

Escrito M32-2408 01H
SHL: SW/4 SW/4 32 24N 8W 413 FSL 60 FWL
BHL: SW/4 SW/4 31 24N 8W 400 FSL 330 FWL
San Juan, New Mexico

Encana Oil & Gas (USA) Inc.
Drilling Plan

1. ESTIMATED TOPS OF GEOLOGICAL MARKERS (TVD)

The estimated tops of important geologic markers are as follows:

Formation	Depth (TVD) units = feet
Nacimiento	0
Ojo Alamo Ss.	945
Kirtland Shale	1,170
Fruitland Coal	1,375
Pictured Cliffs Ss.	1,675
Lewis Shale	1,830
Cliffhouse Ss.	2,457
Menefee Fn.	3,190
Point Lookout Ss.	4,070
Mancos Shale	4,260
Mancos Silt	4,820
Gallup Fn.	5,078
Horizontal Target	5,347

The referenced surface elevation is 6914', KB 6930'

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

Substance	Formation	Depth (TVD) units = feet
Water/Gas	Fruitland Coal	1,375
Oil/Gas	Pictured Cliffs Ss.	1,675
Oil/Gas	Cliffhouse Ss.	2,457
Gas	Menefee Fn.	3,190
Oil/Gas	Point Lookout Ss.	4,070
Oil/Gas	Mancos Shale	4,260
Oil/Gas	Mancos Silt	4,820
Oil/Gas	Gallup Fn.	5,078

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

Escrito M32-2408 01H
SHL: SW/4 SW/4 32 24N 8W 413 FSL 60 FWL
BHL: SW/4 SW/4 31 24N 8W 400 FSL 330 FWL
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'-5697'	8 3/4"	7"	26#	J55, LTC New
Production Liner	5597'-10335'	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 M32-2408 01H
SHL: SW/4 SW/4 32 24N 8W 413 FSL 60 FWL
BHL: SW/4 SW/4 31 24N 8W 400 FSL 330 FWL
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'-5697'	100% open hole excess Stage 1 Lead: 758 sks Stage 1 Tail: 571 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	5597'-10335'	50% OH excess Stage 1 Blend Total: 269sks	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 3500'. Directional plans are attached.

Description	Proposed Depth (TVD/MD)	Formation
Horizontal Lateral TD	5321'/10335'	Gallup

Escrito M32-2408 01H
SHL: SW/4 SW/4 32 24N 8W 413 FSL 60 FWL
BHL: SW/4 SW/4 31 24N 8W 400 FSL 330 FWL
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'-5345'/5697'	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"	5345'/5697'-5321'/10335'	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 +/- 2502 psi based on a 9.0 ppg at 5347' 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 November 5, 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: Escrito M32-2408 01H
County: San Juan
WELL: Escrito M32-2408 01H

Encana Natural Gas

WELL SUMMARY

ENG: Drew Tschach 9/25/14
RIG: Aztec 1099
GLE: 6913.5
RKBE: 6929.5

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.	#N/A					
		9 5/8" Csg	500	500.00				
		Ojo Alamo Ss.	945					
		Kirtland Shale	1,170					
	No OH logs	Fruitland Coal	1,375			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.	1,675		8 3/4	TOC @ surface (100% OH excess - 70% Lead 30% Tail) Stage 1 Total: 1330sks	8.3-10	Vertical <1°
		Lewis Shale	1,830					
		Cliffhouse Ss.	2,457					
		Menefee Fn.	3,190			Stage 1 Lead: 758 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.	4,070					
		Mancos Shale	4,260					
	Mud logger onsite	KOP	3,500	3,500		Stage 1 Tail: 571 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	4,820					
		Gallup Fn.	5,078					
		7" Csg	5,345	5,697'				
					6 1/8	100' overlap at liner top		Horz Inc/TVD 90.3deg/5346.5ft
Surveys every stand to TD unless directed otherwise by Geologist		Horizontal Target	5,347					
		TD	5,321	10,335		4638' Drilled Lateral		TD = 10334.9 MD
	No OH Logs	Base Gallup	5,405			4 1/2" 11.6ppf SB80 LTC TOC @ hanger (50% OH excess) Stage 1 Total: 269sks Stage 1 Blend: 269 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	
MWD Gamma Directional								

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 3500', 8 3/4 inch holesize
5) Start curve at 10deg/100' build rate
6) Drill to csg point of 5697' MD
7) R&C 7" csg, circ cmt to surface
8) Land at ~90 deg, drill lateral to 10335' run 4 1/2 inch cemented liner