State of New Mexico
Energy, Minerals and Natural Resources Department

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: 2-5-15
Well information;
Operator Encana, Well Name and Number Gallo Canyon Unit 25 2306 #1H

API# 30-043-21255, Section 25, Township 23 (N)/S, Range 6 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
- Spacing rule violation. Operator must follow up with change of status notification on other well to be shut in or abandoned
- Regarding the use of a pit, closed loop system or below grade tank, the operator must comply with the following as applicable:
  - A pit requires a complete C-144 be submitted and approved prior to the construction or use of the pit, pursuant to 19.15.17.8.A
  - A closed loop system requires notification prior to use, pursuant to 19.15.17.9.A
  - A below grade tank requires a registration be filed prior to the construction or use of the below grade tank, pursuant to 19.15.17.8.C
- Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string
- ✓ 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.

Charles T Perrin
NMOCD Approved by Signature

8-12-2015
Date

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

OIL CONS. DIV DIST. 3

JUN 12 2015

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FEB 06 2015

Farmington Field Office
Bureau of Land Management

Form 3160-3
(March 2012)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: ☑ DRILL ☐ REENTER	5. Lease Serial No. Gallo Canyon Unit NMNM 131017X
1b. Type of Well: ☑ Oil Well ☐ Gas Well ☐ Other ☑ Single Zone ☐ Multiple Zone	6. If Indian, Allotee or Tribe Name N/A
2. Name of Operator Encana Oil & Gas (USA) Inc.	7. If Unit or CA Agreement, Name and No. Gallon Canyon Unit NMNM 131017X
3a. Address 370 17th Street, Suite 1700 Denver, CO 80202	3b. Phone No. *(include area code)* 720-876-3740
4. Location of Well *(Report location clearly and in accordance with any State requirements.*)* At surface 1427' FSL and 655' FWL Section 25, T23N, R6W NWSW SHL At proposed prod. zone 2040' FSL and 330' FEL Section 36, T23N, R6W NESE BHL Sec 36, T23N, R6W	8. Lease Name and Well No. Gallo Canyon Unit L25-2306 01H 9. API Well No. 30-043-21255 10. Field and Pool, or Exploratory Counselors Gallup-Dakota 11. Sec., T. R. M. or Blk. and Survey or Area Section 25 T23N, R6W NMPM
14. Distance in miles and direction from nearest town or post office* +/- 57.1 miles South from the intersection of HWY 64 and HWY 550 in Bloomfield, NM	12. County or Parish Sandoval 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' FEL Section 36, T23N, R6W	16. No. of acres in lease NMNM 131017X- 5,120 acres 17. Spacing Unit dedicated to this well 5,120 acres- Sections 22-26 and 34-36, T23N, R6W
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. SHL +/-30' N Gallo Canyon Unit L25-2306 02H	19. Proposed Depth 5,413' TVD; 11,698' MD 20. BLM/BIA Bond No. on file COB-000235
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 6,888' GL 6,904' KB	22. Approximate date work will start* 07/01/2015 23. Estimated duration 20 Days

AP

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 Rosalie Thim	Name *(Printed/Typed)* Rosalie Thim	Date 2/5/15
Title Regulatory Analyst		
Approved by *(Signature)* D Mankiewicz	Name *(Printed/Typed)*	Date 6/10/15
Title AFM	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.

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

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)

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

NMOCD AV

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

DISTRICT I
1625 N. French Dr., Hobbs, N.M. 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

DISTRICT II
811 S. First St., Artesia, N.M. 88210
Phone: (575) 748-1283 Fax: (575) 748-9720

DISTRICT III
1000 Rio Brazos Rd., Aztec, N.M. 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

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Farmington Field Office
Bureau of Land Management

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
30-043-21255	13379	COUNSELORS GALLUP-DAKOTA

[4] Property Code	[5] Property Name	[6] Well Number
315083	GALLO CANYON UNIT ~~L25-2306~~	201H ~~01H~~

[7] OGRID No.	[8] Operator Name	[9] Elevation
282327	ENCANA OIL & GAS (USA) INC.	6887.9'

[10] Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	25	23N	6W		1427'	SOUTH	655'	WEST	SANDOVAL

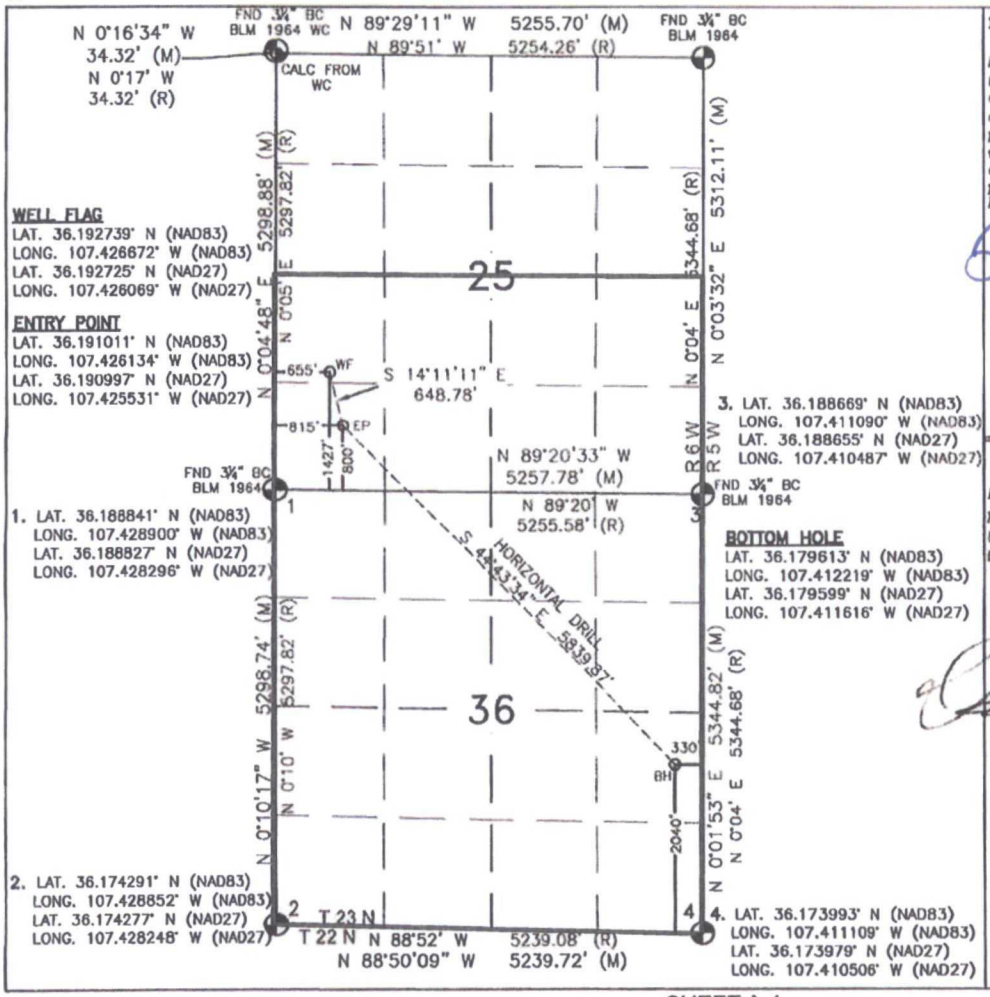
[11] Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
I	36	23N	6W		2040'	SOUTH	330'	EAST	SANDOVAL

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
PENETRATED SPACING UNITS: S/2 SEC.25, ALL of SEC. 36, T23N, R6W, 920 Acres 5,120 ACRES – ALL OF SEC 22-26; 34-36 T23N R6W – UNDIVIDED UNIT			R-13718-A (5,120 acres)

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

16



[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.

Rosalie Thim 2/5/15
Signature Date

Rosalie Thim
Printed Name

rosalie.thim@encana.com
E-mail Address

SURVEYOR CERTIFICATION

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

MARCH 14, 2014
Date of Survey

Signature and Seal of Professional Surveyor:

DAVID RUSSELL
NEW MEXICO
10201
REGISTERED PROFESSIONAL LAND SURVEYOR

DAVID RUSSELL
Certificate Number 10201

SHEET A-1

DISTRICT I
1625 N. French Dr., Hobbs, N.M. 88240
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Energy, Minerals & Natural Resources Department

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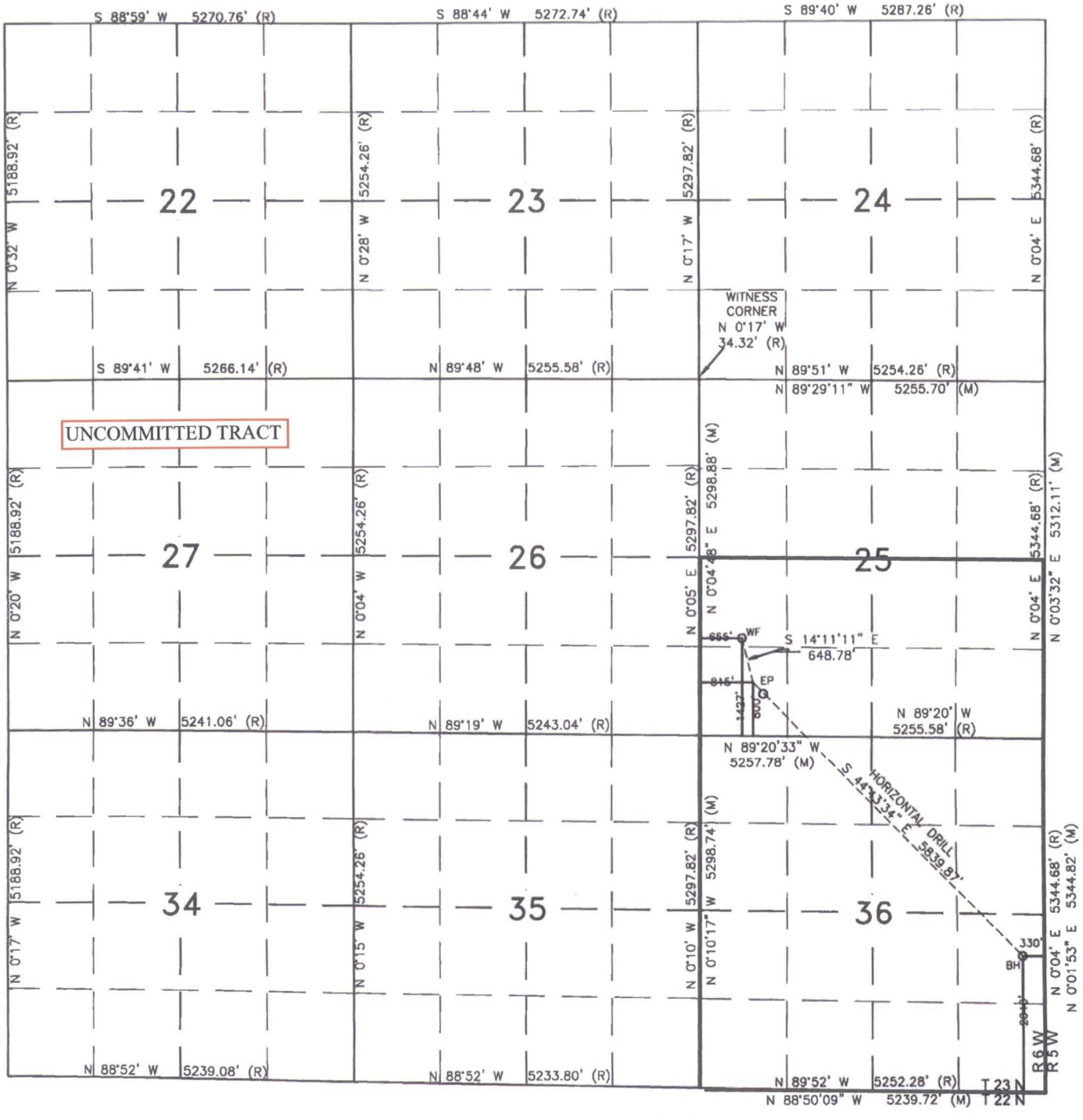
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011

Submit one copy to appropriate District Office

☐ AMENDED REPORT

ENCANA OIL & GAS (USA) INC.
GALLO CANYON UNIT L25-2306 #01H



BOTTOM HOLE
LAT. 36.184424° N (NAD83)
LONG. 107.412213° W (NAD83)
LAT. 36.184410° N (NAD27)
LONG. 107.411610° W (NAD27)

ENTRY POINT
LAT. 36.191011° N (NAD83)
LONG. 107.426134° W (NAD83)
LAT. 36.190997° N (NAD27)
LONG. 107.425531° W (NAD27)

BOTTOM HOLE
LAT. 36.179613° N (NAD83)
LONG. 107.412219° W (NAD83)
LAT. 36.179599° N (NAD27)
LONG. 107.411616° W (NAD27)

GCU L25-2306 01H
SHL: 1427' FSL, 655' FWL Sec 25 23N 06W
BHL: 2040' FSL, 330' FEL Sec 36 23N 06W
Sandoval, 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.	1,377
Kirtland Shale	1,485
Fruitland Coal	1,649
Pictured Cliffs Ss.	1,926
Lewis Shale	2,042
Cliffhouse Ss.	2,716
Menefee Fn.	3,438
Point Lookout Ss.	4,142
Mancos Shale	4,341
Mancos Silt	4,937
Gallup Fn.	5,178
Base Gallup	5,503

The referenced surface elevation is 6888', KB 6904'

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

Substance	Formation	Depth (TVD) units = feet
Water/Gas	Fruitland Coal	1,649
Oil/Gas	Pictured Cliffs Ss.	1,926
Oil/Gas	Cliffhouse Ss.	2,716
Gas	Menefee Fn.	3,438
Oil/Gas	Point Lookout Ss.	4,142
Oil/Gas	Mancos Shale	4,341
Oil/Gas	Mancos Silt	4,937
Oil/Gas	Gallup Fn.	5,178

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

GCU L25-2306 01H
SHL: 1427' FSL, 655' FWL Sec 25 23N 06W
BHL: 2040' FSL, 330' FEL Sec 36 23N 06W
Sandoval, 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'-5442'	8 3/4"	7"	26#	J55, LTC New
Production Liner	5342'-11698'	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

GCU L25-2306 01H
SHL: 1427' FSL, 655' FWL Sec 25 23N 06W
BHL: 2040' FSL, 330' FEL Sec 36 23N 06W
Sandoval, 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'-5442'	100% open hole excess Stage 1 Lead: 722 sks Stage 1 Tail: 547 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	5342'-11698'	50% OH excess Stage 1 Blend Total: 356sks	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 4370'. Directional plans are attached.

Description	Proposed Depth (TVD/MD)	Formation
Horizontal Lateral TD	5413'/11698'	Gallup

GCU L25-2306 01H
SHL: 1427' FSL, 655' FWL Sec 25 23N 06W
BHL: 2040' FSL, 330' FEL Sec 36 23N 06W
Sandoval, 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'-5309'/5442'	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"	5309'/5442'-5413'/11698'	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 +/- 2544 psi based on a 9.0 ppg at 5435' 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 July 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: 1427' FSL, 655' FWL Sec 25 23N 06W County: Sandoval WELL: GCU L25-2306 01H	Encana Natural Gas WELL SUMMARY		ENG: Michael Sanch 2-2-15 RIG: Aztec 950 GLE: 6888 RKBE: 6904

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**				
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.	1,377		8 3/4	**7" 26ppf J55 LTC** TOC @ surface (100% OH excess - 70% Lead 30% Tail) Stage 1 Total: 1270sks Stage 1 Lead: 722 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. Stage 1 Tail: 547 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.	Fresh Wtr 8.3-10	Vertical <1°
		Kirtland Shale	1,485					
		Fruitland Coal	1,649					
		Pictured Cliffs Ss.	1,926					
		Lewis Shale	2,042					
		Cliffhouse Ss.	2,716					
		Menefee Fn.	3,438					
		Point Lookout Ss.	4,142					
		Mancos Shale	4,341					
	Mud logger onsite	**KOP**	**4,370**	**4,370**				
Surveys every 30' through the curve		Mancos Silt	4,937					
		Gallup Fn.	5,178					
		7" Csg	**5,309**	**5,442'**				
Surveys every stand to TD unless directed otherwise by Geologist MWD Gamma Directional	No OH Logs	Horizontal Target	5,435		6 1/8	100' overlap at liner top		Horz Inc/TVD 90.2deg/5435ft
		TD	**5,413**	**11,698**		6256' Drilled Lateral		TD = 11697.8 MD
		Base Gallup	5,503			**4 1/2" 11.6ppf SB80 LTC** TOC @ hanger (50% OH excess) Stage 1 Total: 356sks Stage 1 Blend: 356 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	

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 4370', 8 3/4 inch holesize
5) Start curve at 10deg/100' build rate
6) Drill to csg point of 5442' MD
7) R&C 7" csg, circ cmt to surface
8) Land at ~90 deg, drill lateral to 11698' run 4 1/2 inch cemented liner

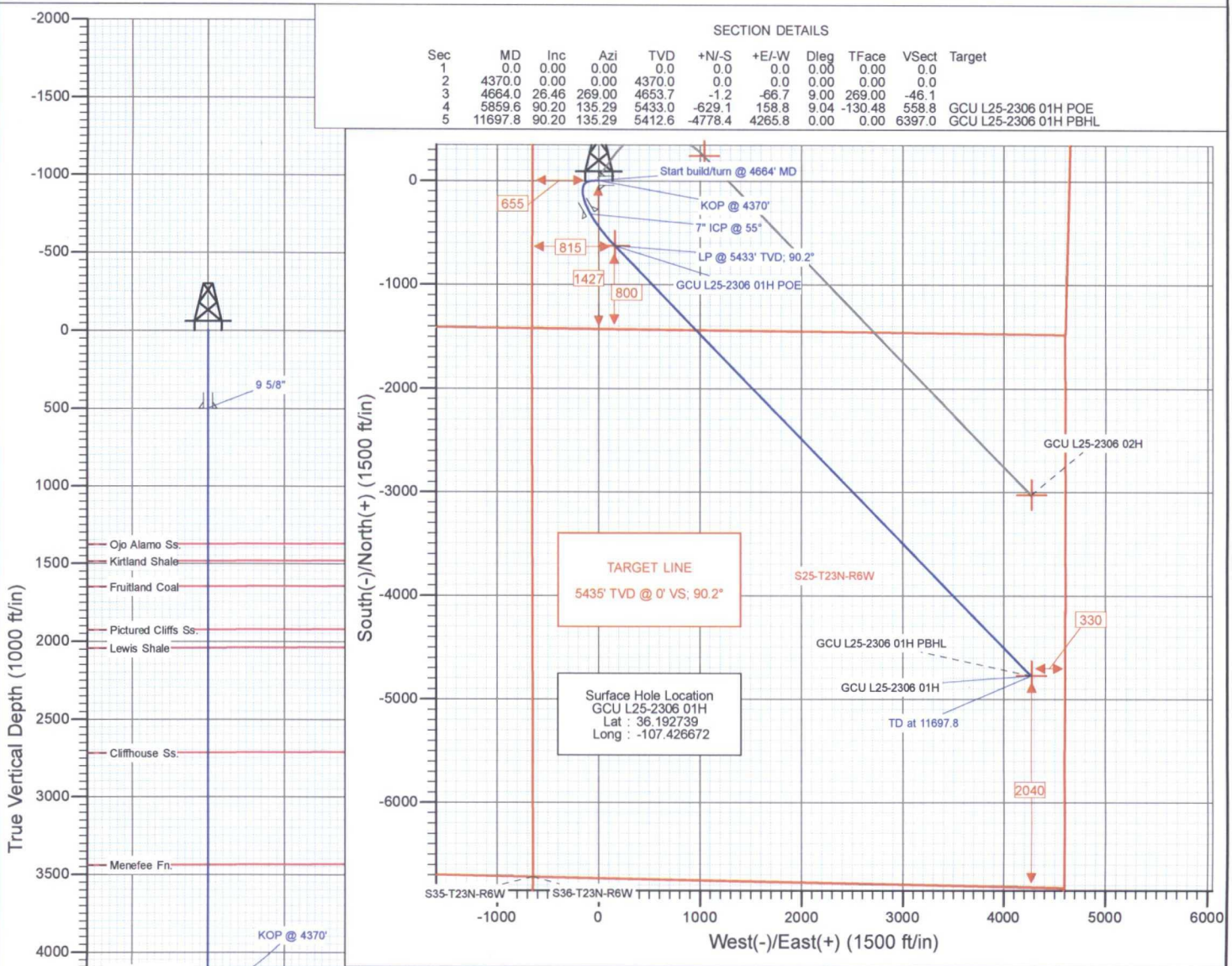
encana natural gas

Project: Sandoval County, NM
Site: S25-T23N-R6W
Well: GCU L25-2306 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	4370.0	0.00	0.00	4370.0	0.0	0.0	0.00	0.00	0.0	
3	4664.0	26.46	269.00	4653.7	-1.2	-66.7	9.00	269.00	-46.1	
4	5859.6	90.20	135.29	5433.0	-629.1	158.8	9.04	-130.48	558.8	GCU L25-2306 01H POE
5	11697.8	90.20	135.29	5412.6	-4778.4	4265.8	0.00	0.00	6397.0	GCU L25-2306 01H PBHL



DESIGN TARGET DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
GCU L25-2306 01H PBHL	-4778.4	4265.8	1886702.25	1297429.29	36.179613	-107.412219
GCU L25-2306 01H POE	-629.1	158.8	1890901.02	1293372.86	36.191011	-107.426134

CASING DETAILS

TVD	MD	Name
500.0	500.0	9 5/8"
5309.4	5441.8	7" ICP @ 55°

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1377.0	1377.0	Ojo Alamo Ss.
1485.0	1485.0	Kirtland Shale
1649.0	1649.0	Fruitland Coal
1926.0	1926.0	Pictured Cliffs Ss.
2042.0	2042.0	Lewis Shale
2716.0	2716.0	Cliffhouse Ss.
3438.0	3438.0	Menefee Fn.
4142.0	4142.0	Point Lookout Ss.
4341.0	4341.0	Mancos Shale
4937.2	4969.1	Mancos Silt
5177.9	5247.8	Gallup Fn.

Azimuths to True North
Magnetic North: 9.30°

Magnetic Field
Strength: 50144.9snT
Dip Angle: 62.98°
Date: 8/29/2014
Model: IGRF2010

Plan #1
GCU L25-2306 01H
14xxx; LR
16' KB @ 6904.0ft
Ground Elevation @ 6888.0
North American Datum 1983
Well GCU L25-2306 01H, True North

Planning Report

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well GCU L25-2306 01H
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	16' KB @ 6904.0ft
Project:	Sandoval County, NM	**MD Reference:**	16' KB @ 6904.0ft
Site:	S25-T23N-R6W	**North Reference:**	True
Well:	GCU L25-2306 01H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #1		

Project	Sandoval County, NM		
Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Central Zone		

Site	S25-T23N-R6W				
Site Position:		**Northing:**	1,891,532.00 ft	**Latitude:**	36.192739
From:	Lat/Long	**Easting:**	1,293,221.73 ft	**Longitude:**	-107.426672
Position Uncertainty:	0.0 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	-0.69 °

Well	GCU L25-2306 01H					
Well Position	**+N/-S**	0.0 ft	**Northing:**	1,891,532.00 ft	**Latitude:**	36.192739
	+E/-W	0.0 ft	**Easting:**	1,293,221.73 ft	**Longitude:**	-107.426672
Position Uncertainty		0.0 ft	**Wellhead Elevation:**	0.0 ft	**Ground Level:**	6,888.0 ft

Wellbore	HZ				
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2010	8/29/2014	9.30	62.98	50,145

Design	Plan #1				
Audit Notes:					
Version:		**Phase:**	PLAN	**Tie On Depth:**	0.0
Vertical Section:	**Depth From (TVD) (ft)**	**+N/-S (ft)**	**+E/-W (ft)**	**Direction (°)**	
	0.0	0.0	0.0	135.29	

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
4,370.0	0.00	0.00	4,370.0	0.0	0.0	0.00	0.00	0.00	0.00	
4,664.0	26.46	269.00	4,653.7	-1.2	-66.7	9.00	9.00	0.00	269.00	
5,859.6	90.20	135.29	5,433.0	-629.1	158.8	9.04	5.33	-11.18	-130.48	GCU L25-2306 01H F
11,697.8	90.20	135.29	5,412.6	-4,778.4	4,265.8	0.00	0.00	0.00	0.00	GCU L25-2306 01H F

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well GCU L25-2306 01H
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	16' KB @ 6904.0ft
Project:	Sandoval County, NM	**MD Reference:**	16' KB @ 6904.0ft
Site:	S25-T23N-R6W	**North Reference:**	True
Well:	GCU L25-2306 01H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	9 5/8"
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	
1,377.0	0.00	0.00	1,377.0	0.0	0.0	0.0	0.00	0.00	Ojo Alamo Ss.
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	
1,485.0	0.00	0.00	1,485.0	0.0	0.0	0.0	0.00	0.00	Kirtland Shale
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	
1,649.0	0.00	0.00	1,649.0	0.0	0.0	0.0	0.00	0.00	Fruitland Coal
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	
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	
1,926.0	0.00	0.00	1,926.0	0.0	0.0	0.0	0.00	0.00	Pictured Cliffs Ss.
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	
2,042.0	0.00	0.00	2,042.0	0.0	0.0	0.0	0.00	0.00	Lewis Shale
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	
2,600.0	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	
2,716.0	0.00	0.00	2,716.0	0.0	0.0	0.0	0.00	0.00	Cliffhouse Ss.
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	
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	
3,438.0	0.00	0.00	3,438.0	0.0	0.0	0.0	0.00	0.00	Menefee Fn.
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	
4,142.0	0.00	0.00	4,142.0	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	

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well GCU L25-2306 01H
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	16' KB @ 6904.0ft
Project:	Sandoval County, NM	**MD Reference:**	16' KB @ 6904.0ft
Site:	S25-T23N-R6W	**North Reference:**	True
Well:	GCU L25-2306 01H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
4,341.0	0.00	0.00	4,341.0	0.0	0.0	0.0	0.00	0.00	Mancos Shale
4,370.0	0.00	0.00	4,370.0	0.0	0.0	0.0	0.00	0.00	KOP @ 4370'
4,400.0	2.70	269.00	4,400.0	0.0	-0.7	-0.5	9.00	9.00	
4,500.0	11.70	269.00	4,499.1	-0.2	-13.2	-9.1	9.00	9.00	
4,600.0	20.70	269.00	4,595.0	-0.7	-41.1	-28.4	9.00	9.00	
4,664.0	26.46	269.00	4,653.7	-1.2	-66.7	-46.1	9.00	9.00	Start build/turn @ 4664' MD
4,700.0	24.46	263.01	4,686.2	-2.2	-82.1	-56.2	9.04	-5.55	
4,800.0	20.56	241.52	4,778.7	-13.1	-118.2	-73.8	9.04	-3.90	
4,900.0	20.10	215.32	4,872.7	-35.6	-143.6	-75.7	9.04	-0.46	
4,969.1	21.97	198.63	4,937.2	-57.5	-154.6	-67.9	9.04	2.71	Mancos Silt
5,000.0	23.28	192.22	4,965.7	-69.0	-157.7	-61.9	9.04	4.25	
5,100.0	28.93	176.04	5,055.6	-112.5	-160.2	-32.8	9.04	5.65	
5,200.0	35.90	165.22	5,140.0	-165.1	-151.1	11.0	9.04	6.97	
5,247.8	39.49	161.29	5,177.9	-193.0	-142.6	36.9	9.04	7.52	Gallup Fn.
5,300.0	43.55	157.64	5,217.0	-225.4	-130.4	68.4	9.04	7.77	
5,400.0	51.57	151.97	5,284.4	-292.0	-98.9	137.9	9.04	8.03	
5,441.8	55.00	149.98	5,309.4	-321.3	-82.6	170.2	9.04	8.19	7" ICP @ 55°
5,500.0	59.82	147.46	5,340.7	-363.1	-57.1	217.9	9.04	8.28	
5,600.0	68.19	143.65	5,384.6	-437.1	-6.3	306.2	9.04	8.37	
5,700.0	76.64	140.27	5,414.7	-512.1	52.5	400.8	9.04	8.45	
5,800.0	85.13	137.12	5,430.6	-586.2	117.6	499.3	9.04	8.49	
5,859.6	90.20	135.29	5,433.0	-629.1	158.8	558.8	9.04	8.51	LP @ 5433' TVD; 90.2°
5,900.0	90.20	135.29	5,432.9	-657.8	187.2	599.2	0.00	0.00	
6,000.0	90.20	135.29	5,432.5	-728.9	257.6	699.2	0.00	0.00	
6,100.0	90.20	135.29	5,432.2	-800.0	327.9	799.2	0.00	0.00	
6,200.0	90.20	135.29	5,431.8	-871.0	398.3	899.2	0.00	0.00	
6,300.0	90.20	135.29	5,431.5	-942.1	468.6	999.2	0.00	0.00	
6,400.0	90.20	135.29	5,431.1	-1,013.2	538.9	1,099.2	0.00	0.00	
6,500.0	90.20	135.29	5,430.8	-1,084.3	609.3	1,199.2	0.00	0.00	
6,600.0	90.20	135.29	5,430.4	-1,155.3	679.6	1,299.2	0.00	0.00	
6,700.0	90.20	135.29	5,430.1	-1,226.4	750.0	1,399.2	0.00	0.00	
6,800.0	90.20	135.29	5,429.7	-1,297.5	820.3	1,499.2	0.00	0.00	
6,900.0	90.20	135.29	5,429.4	-1,368.5	890.7	1,599.2	0.00	0.00	
7,000.0	90.20	135.29	5,429.0	-1,439.6	961.0	1,699.2	0.00	0.00	
7,100.0	90.20	135.29	5,428.7	-1,510.7	1,031.4	1,799.2	0.00	0.00	
7,200.0	90.20	135.29	5,428.3	-1,581.8	1,101.7	1,899.2	0.00	0.00	
7,300.0	90.20	135.29	5,428.0	-1,652.8	1,172.1	1,999.2	0.00	0.00	
7,400.0	90.20	135.29	5,427.6	-1,723.9	1,242.4	2,099.2	0.00	0.00	
7,500.0	90.20	135.29	5,427.3	-1,795.0	1,312.8	2,199.2	0.00	0.00	
7,600.0	90.20	135.29	5,426.9	-1,866.0	1,383.1	2,299.2	0.00	0.00	
7,700.0	90.20	135.29	5,426.6	-1,937.1	1,453.5	2,399.2	0.00	0.00	
7,800.0	90.20	135.29	5,426.2	-2,008.2	1,523.8	2,499.2	0.00	0.00	
7,900.0	90.20	135.29	5,425.9	-2,079.2	1,594.2	2,599.2	0.00	0.00	
8,000.0	90.20	135.29	5,425.5	-2,150.3	1,664.5	2,699.2	0.00	0.00	
8,100.0	90.20	135.29	5,425.2	-2,221.4	1,734.9	2,799.2	0.00	0.00	
8,200.0	90.20	135.29	5,424.8	-2,292.5	1,805.2	2,899.2	0.00	0.00	
8,300.0	90.20	135.29	5,424.5	-2,363.5	1,875.6	2,999.2	0.00	0.00	
8,400.0	90.20	135.29	5,424.1	-2,434.6	1,945.9	3,099.2	0.00	0.00	
8,500.0	90.20	135.29	5,423.8	-2,505.7	2,016.3	3,199.2	0.00	0.00	
8,600.0	90.20	135.29	5,423.4	-2,576.7	2,086.6	3,299.2	0.00	0.00	
8,700.0	90.20	135.29	5,423.1	-2,647.8	2,157.0	3,399.2	0.00	0.00	
8,800.0	90.20	135.29	5,422.7	-2,718.9	2,227.3	3,499.2	0.00	0.00	

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Site:	S25-T23N-R6W	**North Reference:**	True
Well:	GCU L25-2306 01H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
8,900.0	90.20	135.29	5,422.4	-2,790.0	2,297.6	3,599.2	0.00	0.00	
9,000.0	90.20	135.29	5,422.0	-2,861.0	2,368.0	3,699.2	0.00	0.00	
9,100.0	90.20	135.29	5,421.7	-2,932.1	2,438.3	3,799.2	0.00	0.00	
9,200.0	90.20	135.29	5,421.3	-3,003.2	2,508.7	3,899.2	0.00	0.00	
9,300.0	90.20	135.29	5,421.0	-3,074.2	2,579.0	3,999.2	0.00	0.00	
9,400.0	90.20	135.29	5,420.6	-3,145.3	2,649.4	4,099.2	0.00	0.00	
9,500.0	90.20	135.29	5,420.3	-3,216.4	2,719.7	4,199.2	0.00	0.00	
9,600.0	90.20	135.29	5,419.9	-3,287.5	2,790.1	4,299.2	0.00	0.00	
9,700.0	90.20	135.29	5,419.6	-3,358.5	2,860.4	4,399.2	0.00	0.00	
9,800.0	90.20	135.29	5,419.2	-3,429.6	2,930.8	4,499.2	0.00	0.00	
9,900.0	90.20	135.29	5,418.9	-3,500.7	3,001.1	4,599.2	0.00	0.00	
10,000.0	90.20	135.29	5,418.5	-3,571.7	3,071.5	4,699.2	0.00	0.00	
10,100.0	90.20	135.29	5,418.2	-3,642.8	3,141.8	4,799.2	0.00	0.00	
10,200.0	90.20	135.29	5,417.8	-3,713.9	3,212.2	4,899.2	0.00	0.00	
10,300.0	90.20	135.29	5,417.5	-3,784.9	3,282.5	4,999.2	0.00	0.00	
10,400.0	90.20	135.29	5,417.1	-3,856.0	3,352.9	5,099.2	0.00	0.00	
10,500.0	90.20	135.29	5,416.8	-3,927.1	3,423.2	5,199.2	0.00	0.00	
10,600.0	90.20	135.29	5,416.4	-3,998.2	3,493.6	5,299.2	0.00	0.00	
10,700.0	90.20	135.29	5,416.1	-4,069.2	3,563.9	5,399.2	0.00	0.00	
10,800.0	90.20	135.29	5,415.7	-4,140.3	3,634.3	5,499.2	0.00	0.00	
10,900.0	90.20	135.29	5,415.4	-4,211.4	3,704.6	5,599.2	0.00	0.00	
11,000.0	90.20	135.29	5,415.0	-4,282.4	3,775.0	5,699.2	0.00	0.00	
11,100.0	90.20	135.29	5,414.7	-4,353.5	3,845.3	5,799.2	0.00	0.00	
11,200.0	90.20	135.29	5,414.3	-4,424.6	3,915.6	5,899.2	0.00	0.00	
11,300.0	90.20	135.29	5,414.0	-4,495.7	3,986.0	5,999.2	0.00	0.00	
11,400.0	90.20	135.29	5,413.6	-4,566.7	4,056.3	6,099.2	0.00	0.00	
11,500.0	90.20	135.29	5,413.3	-4,637.8	4,126.7	6,199.2	0.00	0.00	
11,600.0	90.20	135.29	5,412.9	-4,708.9	4,197.0	6,299.2	0.00	0.00	
11,697.8	90.20	135.29	5,412.6	-4,778.4	4,265.8	6,397.0	0.00	0.00	TD at 11697.8

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
GCU L25-2306 01H PBH - plan hits target center - Point	0.00	0.00	5,412.6	-4,778.4	4,265.8	1,886,702.25	1,297,429.29	36.179613	-107.412219
GCU L25-2306 01H POI - plan hits target center - Point	0.00	0.00	5,433.0	-629.1	158.8	1,890,901.02	1,293,372.86	36.191011	-107.426134

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
500.0	500.0	9 5/8"	0.000	0.000
5,441.8	5,309.4	7" ICP @ 55°	0.000	0.000

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well GCU L25-2306 01H
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	16' KB @ 6904.0ft
Project:	Sandoval County, NM	**MD Reference:**	16' KB @ 6904.0ft
Site:	S25-T23N-R6W	**North Reference:**	True
Well:	GCU L25-2306 01H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #1		

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,377.0	1,377.0	Ojo Alamo Ss.		-0.20	135.29
1,485.0	1,485.0	Kirtland Shale		-0.20	135.29
1,649.0	1,649.0	Fruitland Coal		-0.20	135.29
1,926.0	1,926.0	Pictured Cliffs Ss.		-0.20	135.29
2,042.0	2,042.0	Lewis Shale		-0.20	135.29
2,716.0	2,716.0	Cliffhouse Ss.		-0.20	135.29
3,438.0	3,438.0	Menefee Fn.		-0.20	135.29
4,142.0	4,142.0	Point Lookout Ss.		-0.20	135.29
4,341.0	4,341.0	Mancos Shale		-0.20	135.29
4,969.1	4,937.0	Mancos Silt		-0.20	135.29
5,247.8	5,178.0	Gallup Fn.		-0.20	135.29

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
4,370.0	4,370.0	0.0	0.0	KOP @ 4370'
4,664.0	4,653.7	-1.2	-66.7	Start build/turn @ 4664' MD
5,859.6	5,433.0	-629.1	158.8	LP @ 5433' TVD; 90.2°
11,697.8	5,412.6	-4,778.4	4,265.8	TD at 11697.8

Any trees smaller than 3-inches in diameter, slash and brush will be chipped, shredded or mulched and incorporated into the topsoil for later use in interim reclamation.

Remaining brush will be brush-hogged or scalped at ground-level prior to ground disturbance.

2. After removal of vegetation, topsoil will be segregated and windrowed on the edge of the well pad in the construction zone. Topsoil will be defined as the top six (6) inches of soil. The stockpiled topsoil will be free of brush and tree limbs, trunks and root balls, but may include chipped or mulched material so long as it is incorporated into the topsoil stockpile.

   Topsoil will be stockpiled separate from subsoil with a noticeable gap left between the stockpiles. Vehicle/equipment traffic will be prevented from crossing topsoil stockpiles.

   Topsoil will not be stripped when soils are moisture-saturated or frozen below the stripping depth.

   If the location becomes prone to wind or water erosion, Encana will take appropriate measures to prevent topsoil loss from wind. Such measures may include using tackifiers or water to wet the topsoil stockpile so that a crust is created across the exposed soil to prevent soil loss.

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 16.2 feet on the north (between corners 2 and 3) and the maximum fill will be approximately 15.0 feet on the east (between corners 5 and 6).

4. As determined during the onsite on July 23, 2014, the following best management practices will be implemented:
   Water will be diverted around the well pad from corner 2 toward corner 3 and around to corner 4. Water will also be diverted from corner 2 toward corner 1.
   Construct silt traps in EOD at corner 4 and corner 1 as per drawing on plat.

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 4 weeks.

C. Pipeline
See Standard SF-299 Application for authorization to construct, operate, maintain and terminate a 3163 foot, up to 6-inch outside diameter, buried steel well connect pipeline that was submitted to the Bureau of Land Management on July 9, 2014.

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.

ENCANA OIL & GAS (USA) INC.

GALLO CANYON UNIT L25-2306 #01H
1427' FSL & 655' FWL
LOCATED IN THE NW/4 SW/4 OF SECTION 25,
T23N, R6W, N.M.P.M.,
SANDOVAL COUNTY, NEW MEXICO

DIRECTIONS

1) FROM THE INTERSECTION OF HWY 64 & HWY 550 IN BLOOMFIELD, GO SOUTH ON HWY 550, 54.5 MILES TO ISR 471 (M.P. 97.1).
2) TURN RIGHT ONTO ISR 471 AND GO 2.0 MILES TO ACCESS ROAD ON LEFT.
3) FOLLOW ACCESS ROAD FOR 0.6 MILES TO WHERE ACCESS IS STAKED.

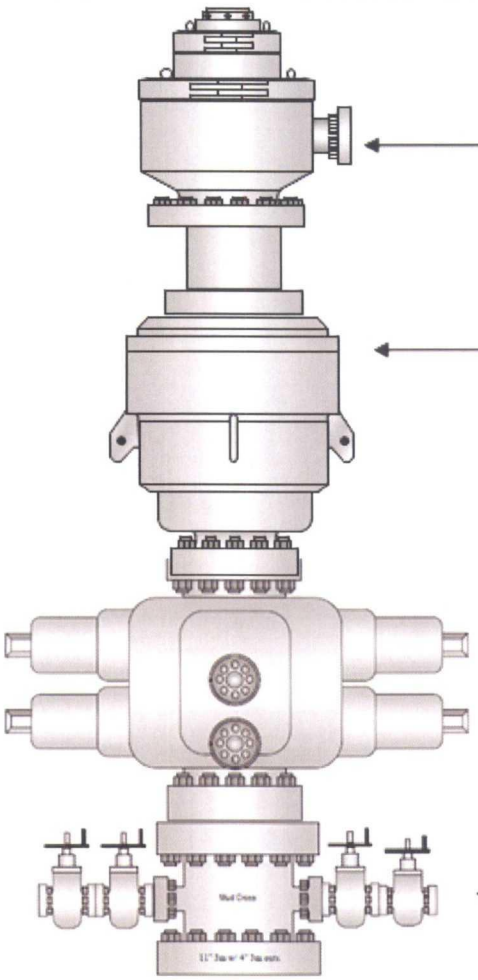
WELL FLAG LOCATED AT LAT. 36.192739° N, LONG.107.426672° W (NAD 83).

Scorpion Survey & Consulting, L.L.C.
302 S. Ash
Aztec, New Mexico 87410
(505) 334-4007

WELLHEAD BLOWOUT CONTROL SYSTEM

encana

Well Name and Number:
GCU L25-2306 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